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Supporting Documents

A1073 Spalding to Eye Route Improvement - Scheme Assessment

A Bus Strategy for Lincolnshire

Executive Summary

The Local Transport Plan

1. One of the key proposals within the Government's 1998 Transport White Paper "A New Deal for Transport : Better for Everyone" was the introduction of Local Transport Plans (LTPs), whereby local authorities are required to draw up a 5 year integrated transport strategy for their area. These Plans replaced the annual Transport Policies and Programme (TPP) documents as the system for bidding for funding for local transport capital projects. The Transport Bill currently before Parliament will place authorities under a statutory duty to produce and implement a Local Transport Plan.

2. This document is Lincolnshire's first full Local Transport Plan and covers the period 2001/02 to 2005/06. It builds upon the provisional Local Transport Plan submitted in July last year.

Key Issues

3. In developing a Local Transport Plan for Lincolnshire, there are many key issues relating to transport which have been taken into account. These include :

   • the geographic size of the county and its predominantly rural and small town character, but also its diversity from the larger urban areas to the sparsely populated and remote areas

   • the importance of transport to the county - both in terms of its economy which is heavily reliant on agriculture/food processing and tourism, and the distances which have to be travelled by many residents to reach services

   • the extensive highway network (almost 9000 kms), but with no motorway and only 60 kms of dual carriageway, and the backlog in maintenance of highways

   • the problems of social exclusion, both in some areas in the larger urban centres and also in the rural areas where 90% of parishes have no daily bus services and local facilities continue to decline

   • rising levels of traffic, growing numbers of fatal and serious accidents and deteriorating community environments from the increasing volume, speed and weight of vehicles

   • limited rail network and services away from the East Coast Main Line

   • outside of Lincoln, Grantham and Skegness (during the holiday season), an under developed bus service with many rural services that do exist having irregular and unconnected services

Developing the Strategy

4. The overall Vision for Lincolnshire which the LTP will seek to attain is :

> *An economically successful, accessible county with a network of inclusive communities and an enviable quality of life, which is an integral part of the wider region through well-developed economic and communications connections.*

5. There are many objectives that the LTP will need to meet; not just the corporate objectives of Lincolnshire County Council, but also those of local and regional partners and of the Government as set out in the national integrated transport policy. These have been incorporated into three fundamental objectives, based around the above Vision :

- to create an economically successful county
- to develop inclusive communities
- to improve quality of life

6. The LTP seeks to address the above issues through a strategic approach encompassing both spatial and cross-cutting elements as shown below

7. The Vision and objectives of the Local Transport Plan are being pursued through six key integrated strategies :

Spatial Themes :
• Develop Strategic Networks
• Integrate Approaches in the Major Urban Areas
• Integrate Approaches in the Large Market Towns
• Serving the Rural Heartlands
Cross-Cutting Themes :
• Widen Travel Choices
• Promote Safe and Inclusive Communities and a Better Quality of Life
• Manage Transport and Related Resources in an Efficient Way

- ***Economy and Regeneration Schemes -*** a multi-modal approach to develop the county's economy in a number of high priority areas for regeneration, through approaches which are fully integrated with land-use planning and which, where appropriate, support the redevelopment of brownfield land.

- ***Asset Protection -*** the active management of a rapidly deteriorating highway network, targeting intervention, which will major on trying to ensure that classified roads do not get worse over the next 5 years, planning for a continued deterioration in the extensive unclassified network, whilst seeking to keep the majority of bridges open to HGV traffic.

- ***Staying Alive -*** a pro-active approach to tackle the exceptionally high and rising levels of fatal and serious accidents on the county's roads through high profile enforcement, skilful engineering and intensive education and information which together reduce the risks being taken by road users; to be undertaken in partnership with Lincolnshire Police and Lincolnshire Health.

- ***InterConnect -*** the definition and implementation of a full public transport network for the county, based on primary inter-urban corridors, either bus or rail as best fits the situation, with key hubs on the corridors, usually small market towns and villages, which provide managed interchange options, guaranteed connections and integrated ticketing, with very local bus and community transport services.

- ***Community Travel Zones -*** an intensive programme to reduce car use for very local journeys in the urban areas of the county through new walking, cycling and bus networks in the towns, integrating the full "toolbox" (e.g. green travel plans, safe routes to schools) into a comprehensive zonal approach within the towns.

- ***Rural Priorities Initiative -*** an active strategy to reduce the blight of heavy through traffic in rural communities, including the definition and implementation of a selective HGV network and highway measures which switch priority from through traffic to pedestrians, cyclists and residents.

8. The Local Transport Plan also sets out the County Council's policy in respect of other transport issues, including :

- **Demand Management -** in particular car parking, travel plans, Safer Routes to School and School Travel Plans, Road User Charging and Workplace Parking Levy

- **Transport and the Disabled -** outlines the approach the County Council is taking to help the disabled overcome the accessibility problems they face

- **Transport and the Environment -** sets out the policies that the Council is pursuing to reduce the impact of transport on the environment

9. In developing the Local Transport Plan, the County Council has put great emphasis on public consultation and partnership, working with organisations such as District Councils, Town and Parish Councils, adjacent Authorities, the Police, Health Authorities, transport operators and many other groups with an interest in Transport. This will continue as the proposals within the LTP are taken forward.

Targets and Monitoring

10. The implementation of the strategies outlined above will be measured against a series of targets and performance indicators (including national Best Value Performance Indicators where appropriate) which have been developed for the Local Transport Plan. These transport targets also feature in the County Council's overall Performance Plan. Suitable monitoring systems have also been developed and results will be reported through the annual progress report.

Resources and Programme

11. Lincolnshire's overall bid for funding contained within the Local Transport Plan is summarised below :

Strategy/Scheme	2001/02	2002/03	2003/04	2004/05	2005/06	Total
Economy and Regeneration Schemes (less than £5m)	1882	1233	1058	1453	673	6299
Asset Protection : Principal Roads	3895	3815	3855	3805	3880	19250
Asset Protection : Bridges	1250	1306	1340	1200	1265	6361
Staying Alive	1000	1000	1000	1000	1000	5000
InterConnect	400	400	400	400	400	2000
Community Travel Zones	1500	1600	1600	1600	1600	7900
Rural Priorities Initiative	1300	1300	1300	1300	1300	6500
Sub - Total	11227	10654	10553	10758	10118	53310
Major Scheme Priority 1 A1073 Spalding -Eye Improvement	150*	2085	7850	12000	2000	23935
Major Scheme Priority 2 A52 Grantham East-West Improvement	120*	100*	90*	50*	2000	2000
Major Scheme Priority 3 A158/C541 Coastal Access Improvement	85*	60*	60*	60*	2230	2230
Total	11227	12739	18403	22758	16348	81475

Advanced design fees already included in Economy & Regeneration Schemes block above

12.   The County Council's top priority major scheme for which LTP funding is sought is the A1073 Spalding - Eye Improvement. LTP funding is not being sought for the Boston Southern Link as it is intend to fund this project through other methods. After the A1073, the County Council is committed to finding effective solutions to the existing problems in Grantham and on the access route to the coast. Hence, the A52 Grantham East-West Improvement is identified as the Council's second priority and the A158/C541 Coastal Access Improvement as third priority.

13.   The Plan also indicates the impact that a settlement below the bid level would have and the priority areas which would be expanded if additional resources over and above the bid level were to become available.

1 Introduction

1.1 Transport is an issue that affects everyone in many ways. Nationally, the Government has been discussing transport and its effect on the environment, the problems of traffic congestion, and the importance of making sure that everyone and every business has proper access to the services and facilities they need. In July 1998, the Government published its integrated transport paper "A New Deal for Transport - Better for Everyone", the first comprehensive transport White Paper for twenty years.

1.2 A core part of the proposals in the White Paper is the introduction of Local Transport Plans. Local authorities are now required to draw up a five year integrated transport strategy for their area, covering all modes of urban and rural transport and linking them together. Subject to Parliamentary approval of the Transport Bill currently before Parliament, authorities will be under a statutory duty to produce and implement a Local Transport Plan. Through the use of transitional provision in regulations, Local Transport Plans submitted in July 2000 will be treated as Local Transport Plans made under the provisions of the Bill. The Local Transport Plan also replaces the Transport Policy and Programme system for allocating resources for local transport capital expenditure.

1.3 The introduction of Local Transport Plans is a major development for local authorities. The government therefore decided on a two-stage implementation approach with Provisional Local Transport Plans submitted in July last year forming the first stage of this process.

1.4 This is Lincolnshire's first Full Local Transport Plan, covering the period 2001-02 to 2005-06. The Plan will be assessed by government and used as the basis for a firm allocation of funding for 2001-02 and an indicative allocation for each of the remaining four years of the plan. These indicative allocations will be reviewed annually and actual funding will be dependent upon the amount of resources available within the Local Transport Plan system, the progress on major transport schemes and the performance of individual authorities, as measured through annual progress reports.

1.6 Annual progress reports are the means whereby the County Council can demonstrate the success of the Local Transport Plan, measured by how well the Authority is meeting the targets and objectives that it has set itself at the start of the plan period and report on actual expenditure. The first such report will be required in July 2001.

1.7 The Lincolnshire Local Transport Plan is based on a realistic view of what can be achieved over the next 5 years, given available resources and the starting point of the county. The Plan:

- clearly identifies the problems it is seeking to address

- sets clear and accountable outcome targets based on what will be different in Lincolnshire at the end of the Plan

* sets out locally-owned strategies to meet those targets

2 The Context for a Lincolnshire Local Transport Plan

2.1 RATIONALE

A realistic plan........

2.1.1   In preparing its Local Transport Plan, Lincolnshire is seeking to develop policies and programmes that:

- respond to the Government's White Paper on Integrated Transport, whilst acknowledging that the earlier "golden age" of road building seemed to miss out on Lincolnshire leaving a highly substandard road network

- recognise the county's predominantly rural and small town character, but also its diversity from relatively larger urban areas to very sparsely populated and remote areas

- appreciate the current poverty of all types of infrastructure - road, rail, ports, pedestrian facilities, cycling provision, sites and premises - with a long history of limited investment and improvement from private or public sectors

- acknowledge the importance of transport to the county - in terms of most of its markets (e.g. food or tourism or manufacturing) relying on road transport and the long distances which have to be travelled in the county by many residents to access services

- identify and deal with the massive backlog in maintenance of highways

- cope with rising traffic, growing accident rates and deteriorating community environments from the increasing volume, speed and weight of traffic

- grasp the opportunity for a leap in the success of transport planning - better integration with land-use planning, stronger partnerships, bold and rigorous targets and performance measurement, alongside improved investment from all sectors in all modes of transport

- acknowledge that the availability of resources for transport over the next 5 years, as well as Government priorities for such resources, will require some hard choices to be made about the best balance of spending overall to meet transport needs.

Helping to deliver an ambitious level of growth and diversification........

2.1.2   In addition to, but in keeping with, the statutory plans which provide context for the LTP, Lincolnshire partners have prepared the "Lincolnshire Agenda". This document sets out an ambitious strategic vision for the County's development, at a time when key regional strategies (economic, spatial and the Integrated Regional Strategy) have a similar, aspirational tone. The lack of past investment in its infrastructure, and rural character, give an imperative in Lincolnshire to the delivery of vital transport projects and initiatives. These improvements play a fundamental role in underpinning the increasingly integrated approach to economic, social and community development.

........through innovation in approach

2.1.3   The "Lincolnshire Agenda" provokes the need for concerted action to deliver sustainable growth and support inclusive communities in the county.   Whilst much innovation is being applied nationally, regionally, and locally to facilitate and support change, we draw attention to the pilot Rural Action Zone (RAZ) approach in South Holland District area. Being developed by regional and local partners, this aims to respond holistically to the major challenges affecting rural areas. The intention is that the lessons learnt from this approach can be transferred elsewhere. Again, with ambition, it aims to shape a positive future for rural life. Key objectives are:

- to facilitate high value jobs, skills and enterprise

- raise expectations of individuals and communities

- improve and protect the natural and built environment

- to improve accessibility - better access to the area and to high quality services in the area.

2.1.4   Transport is fundamentally important accessibility. Cross-cutting initiatives, joint service delivery and pooling of budgets to increase efficiency are some of the early outcomes from the initiative. The LDP is a key delivery tool in the Rural Action Zone approach

2.2 KEY FACTS ABOUT LINCOLNSHIRE

2.2.1   The following paragraphs set out some of the key facts about the county which have influenced the development of the Local Transport Plan.

- Lincolnshire's population has grown to 623,000 (1998) from 504,000 in 1971 and will rise to 677,000 by 2011. The Structure Plan allocates 66,900 more dwellings between 1991 and 2011

- Lincolnshire is a large county - its 2,300 square miles covering 5% of England - but sparsely populated with just 1 person per hectare, less than one-third the England/Wales average. Very approximately, one-third of the population live in settlements of less than 3,000, one-third live in small to medium urban settlements of 3,000 to 20,000 and one-third live in the larger (but still small in national terms) towns of Lincoln, Boston and Grantham. Lincoln, the county's largest population centre, is only the 7th largest urban area in the East Midlands region.

- The county's economy has a low GDP at 91% of the national average and low wages at 85 % of the national average. The most recent EM Regional Economic Assessment comparing competitiveness showed that Lincolnshire was 7th out of 7 in the region for the quality of its infrastructure and human capital and 6th out of 7 for economic performance and small business success. The county has set 2 major targets for its economy by 2011 - to increase GDP by 20% to equal the regional average and to increase employment by 40,000 jobs in named sectors.

- The economy is heavily dependent on transport - with over 15m tourist visitors each year, a quarter of the nation's vegetables grown in the county and the biggest contribution to GDP coming from engineering companies which are a long way from their markets.

- Car ownership at 75% is higher than the national average of 67%, but it ranges from Lincoln with 38% of homes not having cars to South Holland where just 20% of homes do not have cars. However, these averages mask the range of positions, with some wards in Lincoln having 50% ownership and some rural Parishes having 100% ownership.

- Social exclusion is manifest in urban areas - with Lincoln City being in the top 50 most deprived districts in the country and most of the other towns in northern and central Lincolnshire including Gainsborough, Boston and Skegness being identified as regional priority areas. Social exclusion in terms of physical isolation is also a major problem in the rural areas - 90% of parishes having no

daily bus service, over half of jobs being unskilled and outward migration of young people. The majority of the county has eligibility for economic and community assistance, including Objective 2, Rural Development Area and Assisted Area 2nd and 3rd tier status, along with areas covered by SRB.

- The county has a very extensive highway network - totalling 8,965 km (5,572 miles) - which is 14.4 km per 1000 population, a rate which is 2.5 times the national average and 70% higher than the English shire average. In this network, there are no motorways, only 60 km of dual carriageway- predominantly the A1: there is 311 km of trunk road, to be reduced to 49 km after detrunking. Much of the network comprises narrow, tortuous roads and country lanes - 80% being C class or unclassified. Of the 55 settlements with more than 500 people on the Primary Route Network, less than half have the benefit of a bypass for through traffic. The majority of the Strategic Road Network falls well short of current design standards, leading to low average speeds and safety problems. (Figures 2.1 and 2.2 show the vehicle flows on the strategic road network)

- The rail network is just 207 miles (see Figure 2.3) - only Grantham is on the inter city network and of the 22 defined towns in the Structure Plan only 9 have any rail link at all and 57% of people live in communities not served by rail. Recent years have seen improvements to the rail services in the county, with some now running to an hourly service. Similarly, many stations have been improved through Railtrack's Station Regeneration Programme. However, further improvements to local rail services are now limited due to poor infrastructure, particularly signalling and low line speeds. Little rail freight originates within Lincolnshire - with the main uses being the Port of Boston moving steel to the West Midlands and oil being moved from Reepham.

- Outside Lincoln, Grantham and Skegness (in the holiday season), much of the rural bus network remains in decline following deregulation and the increasing rise in car ownership and use. Many rural services that do exist have irregular and unconnected services. The powers currently held by local authorities limits what can be achieved. Figure 12.1 shows the bus network where a 2 hourly service or better operates Monday to Friday.

- The ports of Boston, Sutton Bridge and Fosdyke (see Figure 2.3) are well placed facing continental Europe - with Boston and Sutton Bridge each handling about 1m tonnes and 700 ships per year. There are no major airports in the county, although Humberside Airport is on the northern border, but other airports with international destinations are an average of 1.5 to 2 hours drive away.

ALL VEHICLE FLOWS

A18

A1084

A1173

CAISTOR

A46

A46

B1225

A159

A15

A1103

A631

GAINSBOROUGH

A631

A631

A631

A18

A16

A18

A1031

LOUTH

MABLETHORPE

A156

A1500

A46

MARKET
RASEN

A157

A157

A153

A16

A52

A57

A158

B1225

ALFORD

A15

LINCOLN

A158

A1028

A16

A46

B1188

A158

HORNCASTLE

A158

A16

SPILSBY

A158

A158

SKEGNESS

A607

A15

A153

A155

A16

A16

**1999 24 Hour
Annual
Average
Flows**

A17

CONINGSBY/
TATTERSHALL

A153

B1192

A52

A607

A17

A153

A1121

BOSTON

>15,000

A1

A153

SLEAFORD

A17

A52

A16

10,000-15,000

A52

A607

A52

A52

A52

A15

A52

A17

5,000-10,000

GRANTHAM

A16

<5,000

A151

A15

A151

A16

A17

HOLBEACH

LONG SUTTON

A6121

A151

SPALDING

A1073

A17

BOURNE

A16

A1101

CROWLAND

MARKET
DEEPING

A1073

STAMFORD

A16

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Figure 2.2

COMMERCIAL VEHICLE FLOWS

1999 24 Hour Annual Average Flows

▬	>1200
▬	600-1200
▬	300-600
▬	<300

CROWN COPYRIGHT RESERVED

Strategic Road Network

Commercial Vehicles
(over 3.5T max vehicle wt.)
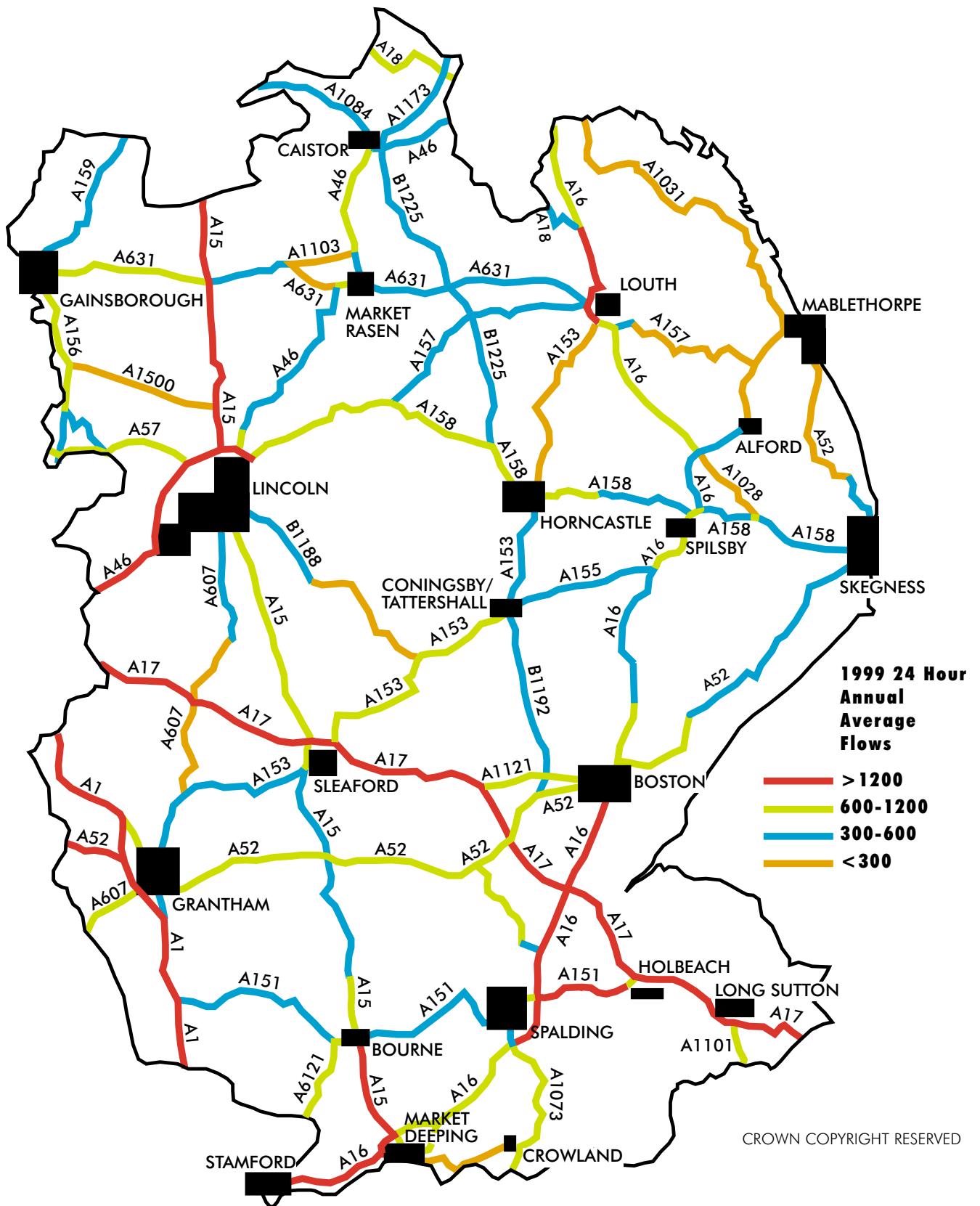
Figure 2.3

COUNTY TRANSPORT INFRASTRUCTURE

Trunk Roads - Core Network
Trunk Roads - To be Detrunked
County Roads
Other Strategic Roads
Primary Route Network
County Rail Network
County Ports
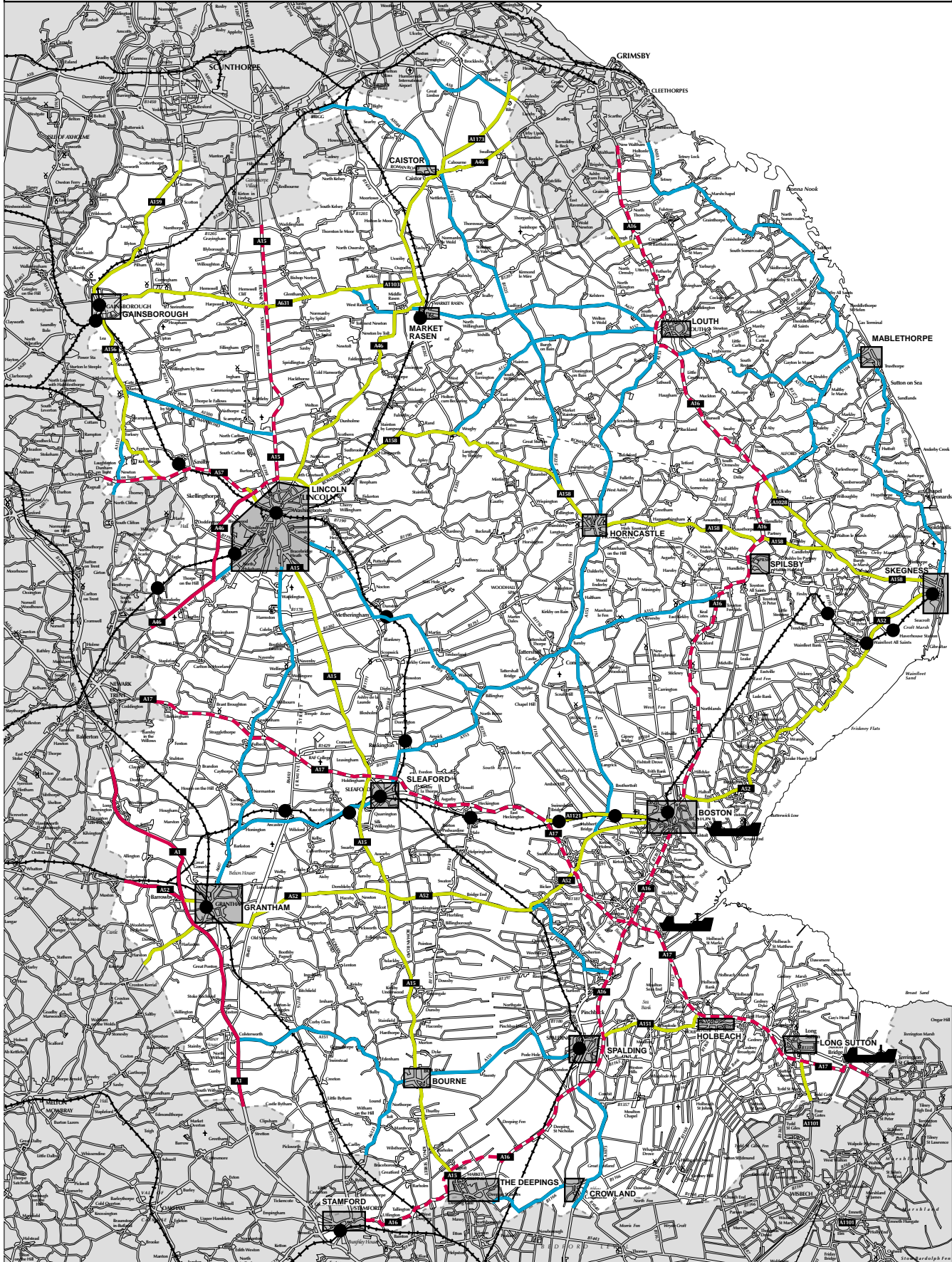
3 Vision, Objectives and Policy Framework

3.1 BACKGROUND

3.1.1 As stressed through highlighting its fit with key new initiatives, such as the "Lincolnshire Agenda" and Rural Action Zone (RAZ), the Local Transport Plan will not simply be a Plan for transport in Lincolnshire. To have such a Plan would imply that transport is an end in itself, but this is rarely so; rather it is a Plan for how transport can contribute to the future economic and social well being of the county.

3.1.2 For it to do this, however, the strategy for the LTP acknowledges the policy framework in which a transport strategy for Lincolnshire has to be prepared and the objectives of the County Council and its other partners that need to be met.

3.1.3 These policy frameworks and objectives are wider than those directly related to transport: most are to do with economic development and regeneration, which needs to be promoted across all of Lincolnshire if the county's economy and its GDP is not to fall further behind the regional and national averages, and to address issues of social inclusion and lack of access to services, which owing to the sparcity of population is rarely concentrated to the extent seen in some parts of the UK, but is present in all parts of the county.

3.2 THE VISION

3.2.1 The development of the LTP and in particular of its strategic element will be aided by the acknowledgement of the policy frameworks that impact upon the Plan and on the corporate and other objectives that need to be met. There is also a need to express an overarching vision that the LTP along with other Lincolnshire plans and strategies can seek to bring to fruition.

3.2.2 The Vision for Lincolnshire, which the LTP will fundamentally seek to attain, is:

> An economically successful, accessible county with a network of inclusive communities and an enviable quality of life, which is an integral part of the wider region through well-developed economic and communications connections.

3.3 OBJECTIVES

3.3.1 The Local Transport Plan will need to meet not only the corporate objectives of Lincolnshire County Council but also if ensuring a genuine partnership approach to addressing transport needs in the county, those of local and regional partners as well. It also has to be consistent with the national integrated policy for transport and its over-arching objectives.

National Objectives

3.3.2   The Government's over-arching objectives for transport are set out in the White Paper on Integrated Transport. They are:

- to protect and enhance the built and natural environment
- to improve safety for all travellers
- to contribute to an efficient economy, and to support economic growth in appropriate locations
- to promote accessibility to everyday facilities for all, especially those without a car
- to promote the integration of all forms of transport and land use planning, leading to a better, more efficient transport system

County Council Corporate Objectives

3.3.3   Five of the County Council's six corporate objectives (as expressed in the Performance and Budget Plan) can help to be addressed through the LTP, these being:

- to campaign for Investment in Lincolnshire roads and infrastructure
- to build a network of strong, self-sufficient, rural communities
- to secure safer, more confident communities
- striving for excellence in education
- to work in partnership with others to provide better services to the public
- to manage the Council's resources in a business like way

Partner Objectives

3.3.4   The LTP can also contribute to meeting the objectives of county and regional partners. These can be summarised as:

- to improve economic performance to create a vibrant economy
- to enhance infrastructure
- to achieve social inclusion through healthy, safe, diverse and inclusive communities
- to conserve and improve environmental quality
- to distribute and locate activities in a sustainable way
- to promote linkages and partnerships

LTP Objectives

3.3.5   Whilst the above objectives are consistent and widely shared, there can be a danger of objective overload from the complex array of strategies which shape the LTP. To prevent this, the objectives above have been streamlined into three fundamental ones. These are based around the vision:

- to create an economically successful county
- to develop inclusive communities
- to improve quality of life

3.4 THE POLICY FRAMEWORK

3.4.1   The LTP Strategy will also need to take account of the policy frameworks at european, national, regional and of course county level. These are many and varied, but some of the key ones and why they are particularly influential are highlighted in the table below.

POLICY FRAMEWORK	POLICY FUNCTION	LTP ROLE
European Level		
European Spatial Development Perspective	EU and Member State approved development guidance that seeks balanced and sustainable development and which is supportive of infrastructure improvement to increase accessibility.	*The LTP needs to develop at a county level the ESDP themes, particularly those related to increasing accessibility and improving infrastructure.*

POLICY FRAMEWORK	POLICY FUNCTION	LTP ROLE
National Level		
Local Government Act	Gives a statutory role to local authorities to promote the social, economic and environmental well being of their communities.	*Transport can contribute to this well-being and the LTP should illustrate how and why.*
A New Deal for Transport	Sets the context for integrated transport in the UK.	*The LTP has to rise to the challenge of developing an integrated approach to transport across this large, relatively sparsely populated county.*
PPG13 Transport	Guidance to Planning Authorities such as Lincolnshire County Council to promote transport choices and development in sustainable locations.	*The LTP will have to accord with this guidance.*
Road Traffic Act 1991	Allows the designation of Special Parking Areas and decriminalisation of parking where these were established.	*The LTP will need to examine how it will deal with parking and parking-related matters.*
The National Air Quality Strategy - Working Together for Clean Air	Requires local authorities to periodically review air quality and to take action if statutory air quality objectives are not met.	*The LTP needs to set out how it will deal with this issue.*
UK Climate Change Programme	Sets a goal of reducing CO2 emissions.	*The LTP needs to set out how the proposed measures contribute towards this goal.*
Road Traffic Reduction Act 1997	Requires local authorities to assess existing traffic levels, forecast future levels and set targets for reducing the level of traffic or its rate of growth, where appropriate.	*Statutory Road Traffic Reduction Reports are required as part of the LTP process.*
Disability Discrimination Act 1995	Requires service providers such as local authorities to make their services available to disabled people.	*The LTP needs to understand where this Act affects transport providers. It also needs to ensure that the disabled in Lincolnshire are not excluded from access to transport.*
Transport Act 1985	Deregulated the bus industry and gave County Councils a duty to secure necessary public transport services that would not otherwise be provided without its support.	*The LTP will need to set the policy context for travel by bus in the county and through which decisions on bus route support will be made.*
Transport Bill (Subject to Parliamentary approval)	Requires local authorities to produce and implement a LTP and to produce and consult on a Bus Strategy. Gives authorities powers to enter into quality bus/contract partnership schemes, to implement road user charging and workplace levy schemes, and introduces a mandatory travel concession.	*Transitional provisions are being made to treat plans produced this year as LTPs made under the provisions of the Bill. Hence, the LTP will need to take these provisions into account.*
Bringing Britain Together	A National Strategy for Neighbourhood Renewal developed by the Social Exclusion Unit.	*The LTP will need to consider and bring in the policy framework for how transport can assist in reducing social exclusion in the county.*
Towards an Urban Renaissance	Report of the Urban Task Force on revitalising urban areas.	*Transport and the effect it can have on the environment has an important impact in towns and the LTP will need to set out how it can strengthen and enhance the roles of, and life in, Lincolnshire's many towns.*

POLICY FRAMEWORK	POLICY FUNCTION	LTP ROLE
Crime and Disorder Act 1998	Places a duty on the Police and local authorities to work together with other agencies to develop and implement a crime and disorder strategy.	*Transport has an impact in this arena most prominently in relation to issues of safety - e.g. car parking, movement on public transport at night and safe routes to school. The LTP needs to acknowledge the contribution it can make in this area.*
Regional Level		
Draft RPG for the Spatial Development of the East Midlands	Guides the location of development in the region and sets the context for Structure Plan preparation.	*The LTP needs to acknowledge that its proposals will need to be developed within the context of regional land-use policy.*
Prosperity Through People - Regional Economic Strategy	Prepared by the Regional Development Agency (emda) this is the strategy for East Midlands economic development to 2010.	*The LTP will need to ensure that transport plays a full role in contributing to the future success of the Lincolnshire, and therefore regional, economy.*
Interim Regional Transport Strategy	Strategy linking transport with other land use aspects contained in the draft RPG.	*The development and implementation of the LTP will need to be undertaken in conjunction with the development and implementation of the RTS.*
County/Sub-Regional Level		
Lincolnshire Agenda	The partnership driven sub-regional strategy for the long-term development of Lincolnshire's economy within the East Midlands region.	*This strategy has the need for transport and infrastructure investment in the county as a fundamental element. The LTP needs to ensure it is consistent with, and helps deliver, the priorities of the Lincolnshire Agenda.*
Lincolnshire Structure Plan	Sets out the key strategic policies for future land use in Lincolnshire and provides the framework for the content of Local Plans.	*Together the Structure Plan and the LTP will need to set the context for future transport and land use integration in Lincolnshire.*
Rural Action Zone	A pilot, integrated approach to economic, social and community development is being promoted and implemented in South Holland district	*The LTP is fundamentally important in shaping and delivering transport initiatives which improve accessibility - both access to the area, and to high quality services within the area*
Lifelong Learning Development Plan	The Plan to widen participation in learning for adults and to promote the development of learning communities across Lincolnshire.	*County residents and businesses need to have access to education and training opportunities. The LTP will need to facilitate this.*
Health Improvement Programme	The process under which statutory and non-statutory agencies in the county are required to work together to create the conditions that will enhance the well-being of the people of Lincolnshire.	*The LTP will need to make a clear and unequivocal link between health and transport and how transport policies and initiatives will contribute to a healthier Lincolnshire.*
Community Safety Plan	Each District within Lincolnshire has a duty to produce a plan which indicates priorities established by a Crime and Safety Audit. In five districts, Road Casualty Reduction has been identified as a key issue.	*The LTP sets out a strategy to reduce road accidents and casualities.*
Lincolnshire County Council Performance & Budget Plan	Sets out the County Council's corporate priorities, specific commitments and tragets for service improvements.	*The LTP will need to support these priorities and commitments where they relate to transport and accessibility, as well as helping to point the way for improvements in service delivery related to them.*

3.4.2   Although the LTP is a county-wide document, it will have distinct impacts at sub-area and district level in Lincolnshire. It therefore requires a close association in relation to sub-area and District level policy and strategy. Of most importance are the Local Plans prepared by the District Councils which set out detailed policies and proposals for the development and use of land. Local Plan reviews are currently being undertaken and the LTP will need to guide, in conjunction with the Structure Plan, transport and land use integration within these emerging plans (see also paragraph 6.2.1 and the District Council Statements in Appendix B of the Plan).

3.4.2   During the period of this first LTP for Lincolnshire, it will be the intention to work more closely with District level partners over the development of other sub-area strategies - for example, District Council Economic Development Strategies and the Plans of the new Primary Care Trusts - to ensure that addressing transport and accessibility issues become integral to their strategy approach.

3.5 THE TRANSPORT POLICY FRAMEWORK FOR LINCOLNSHIRE

3.5.1   In preparing Local Transport Plans, it is advisable if local authorities have developed a number of strategies either for full incorporation within the Plan or as discrete strategies to be included as supporting documents to it.

3.5.2   The situation in respect of these strategies within Lincolnshire is as follows:

Strategy	Current Position
Bus Strategy	A Bus Strategy for Lincolnshire was formally adopted this June. The bus elements of the InterConnect section of the LTP are based upon that Strategy.
Rail Strategy	No formal strategy exists except that stated in policy reports and the Provisional Plan. The Council recognises the important role played by rail services in the County, and the need for a clear strategy at a time of great flux in the railway industry as current franchises are renegotiated, and Railtrack develops its investment programme. It is intended to prepare and publish a draft strategy document within the next six months covering both passenger and freight which will reflect the issues, programme and targets set out in the Full LTP.
Cycling Strategy	A Cycling Strategy for the county was consulted upon in 1998. However, whilst the final document was approved in January 1999, it was never published due to the advent of the LTP system which resulted in a fundamental review of all transport issues across the county. It is intended that a revised Cycling Strategy reflecting the issues, themes and targets set out in the Full LTP will be developed in due course.
Walking Strategy	No formal Walking Strategy exists at present. It is the County Council's intention to develop such a Strategy reflecting the theme and targets set out in the Full LTP, particularly those relating to Community Travel Zones and the Rural Priority Initiative. The Strategy will be guided by the DETR advice "Encouraging Walking" issued in March this year.
Road Safety Strategy	The Road Safety Strategy - which is a key element of the LTP - sets out the County Council's programme to reduce road collisions and casualties during the next 10 years. In order to support the National Road Safety Strategy a Best Value Review recommends that the Strategy would be best delivered by developing partnerships with Lincolnshire Police and Lincolnshire Health being the key partners.

Strategy	Current Position
Public Transport Information Strategy	There is no formal strategy adopted by the Council though it has for many years provided a range of comprehensive information services. The Transport Bill currently before Parliament proposes to place a duty on local authorities to provide such services, and a power to recover reasonable costs from operators. In these circumstances, it will be important for the County Council to consult widely on, and adopt a formal strategy on how it intends to respond to the new situation. In doing so, it will draw on the issues, programme and targets contained in the Full Plan.
Road Maintenance Strategy	The strategy for principal road maintenance will be to target maintenance on lengths of the network which have reached the point at which repairs to prolong their future life should be considered. Full details of the strategy, targets and monitoring are included in Section 13.3 of the LTP.
Bridge Strengthening Strategy	The County Council has adopted a Bridge Strengthening Strategy which covers assessments, weight limits, strengthening and maintenance of all structures, including culverts, footbridges and retaining walls. The Strategy is included in Section 13.6 of the LTP.
Freight Strategy	Whilst no formal Freight Strategy currently exists, the County Council recognises that road transport will continue to be the predominant mode for freight in the county for the time being and is looking to develop Freight Quality Partnerships with the industry and those affected by HGVs. In addition, the Council is also keen to explore the opportunities for moving freight by other modes, in particular by rail. These elements, along with others, will be drawn together to form a more formal strategy in due course.

4 Issues and Strategic Themes

4.1 THE ISSUES

4.1.1 The LTP's role is to set out how transport and related topic areas can contribute to the future economic and social well-being of Lincolnshire. To do this effectively it will need to address a number of key issues. These issues are highlighted below, grouped around the vision-led fundamental objectives.

4.1.2 The issues that need to be addressed to create an economically successful county are related to:

- improving access to markets, sources of supply and labour/skills
- improving access to the wider region and to the rest of the UK and Europe
- enhancing the role of the main towns as a focus for their rural hinterlands
- expanding the strategic role of urban centres, particularly Lincoln
- improving the local economy, including through mobile investment
- strengthening secondary transport networks to tie them into key strategic trunk networks
- promoting partnership based co-operation between small and medium sized towns
- co-ordinating spatial development policy and land use planning with transport and telecommunications planning
- co-ordinating and integrating infrastructure planning
- making the most efficient use of existing transport infrastructure

4.1.3 The issues that need to be addressed to develop inclusive communities are related to:

- improving access to jobs, services, facilities and learning opportunities
- providing support for social networks
- reducing community severance due to transport
- improving public transport

4.1.4 The issues that need to be addressed to improve quality of life are related to:

- strengthening small and medium sized towns as focal points for their rural hinterlands
- ensuring a basic supply of services and public transport in small towns
- increasing accessibility for all
- making communities a safer place in which to live
- ensuring that community inclusion is increased and that social exclusion and deprivation is reduced
- minimising the effect of traffic on peoples lives
- reducing exhaust emissions
- reducing adverse impact on the environment and on natural resources
- reducing adverse impact on health and promote healthier living
- improving personal safety

4.2 THE STRATEGIC THEMES

4.2.1 The LTP seeks to address the above issues through a strategic approach encompassing both spatial and cross-cutting elements.

4.2.2   The spatial themes seek to:

- Develop Strategic Networks

- Integrate Approaches in the Major Urban Areas

- Integrate Approaches in the Large Market Towns

- Serve the Rural Heartlands

4.2.3   The cross-cutting themes seek to:

- Widen Travel Choices

- Promote Safe and Inclusive Communities and a Better Quality of Life

- Manage Transport and Related Resources in an Efficient Way

4.3 SPATIAL THEME: DEVELOPING STRATEGIC NETWORKS

4.3.1   Lincolnshire is a large, sparsely populated county with a traditional settlement structure which includes over 20 free-standing towns. It is also relatively remote from the main routes of communications. The development of Strategic Networks to encourage linkages between the towns and with the national trunk networks for both residents, businesses and visitors is therefore fundamentally important for accessing services and for the encouragement of economic development and regeneration.

4.3.2   Development of these Networks will relate not only to step change in the quality of public transport provision - a network of fast, reliable and high-quality InterConnect bus routes with encouragement of similar in relation to the rail network - but to a continued and long-term programme for upgrading the key strategic roads in the county, particularly where these will increase linkages to adjacent areas and therefore to the trunk road network.

4.3.3   This theme will help to address the key issues by:

- increasing accessibility
- sustaining the strategic role of the urban centres
- strengthening secondary transport networks to tie them into the key strategic trunk networks
- strengthening the small to medium sized towns as focal points
- improving the local economy and encouraging mobile investment
- improving public transport

4.3.4   A concentration of resouces on a strategic network, with the encouragement of bypasses where appropriate, should help to minimise the effect of traffic on people lives and make communities a safer place in which to live. Concentrating land use development and activity at the towns in association with this theme will be a clear co-ordination of spatial development policy and land use planning with transport planning.

4.4 SPATIAL THEME: INTEGRATING APPROACHES IN THE MAJOR URBAN AREAS

4.4.1   The first theme aims to improve key connections across Lincolnshire and to tie these in to centres of activity outside of the County. This theme, along with the following relating to the Large Market Towns, seeks to integrate transport in Greater Lincoln and the main towns of the county, which are the main transport nodes on the strategic network.

4.4.2   The Major Urban Areas (see Figure 4.1) comprise Greater Lincoln, Grantham and Boston. Because of its major role as a key tourist destination during the summer months, Skegness has to deal with many of

Figure 4.1

THREE TIER APPROACH

Gainsborough

Louth

Skegness

Lincoln

Sleaford

Boston

Grantham

Spalding

Stamford

CROWN COPYRIGHT RESERVED

Major Urban Areas   **Large Market Towns**   **Rural Heartlands**
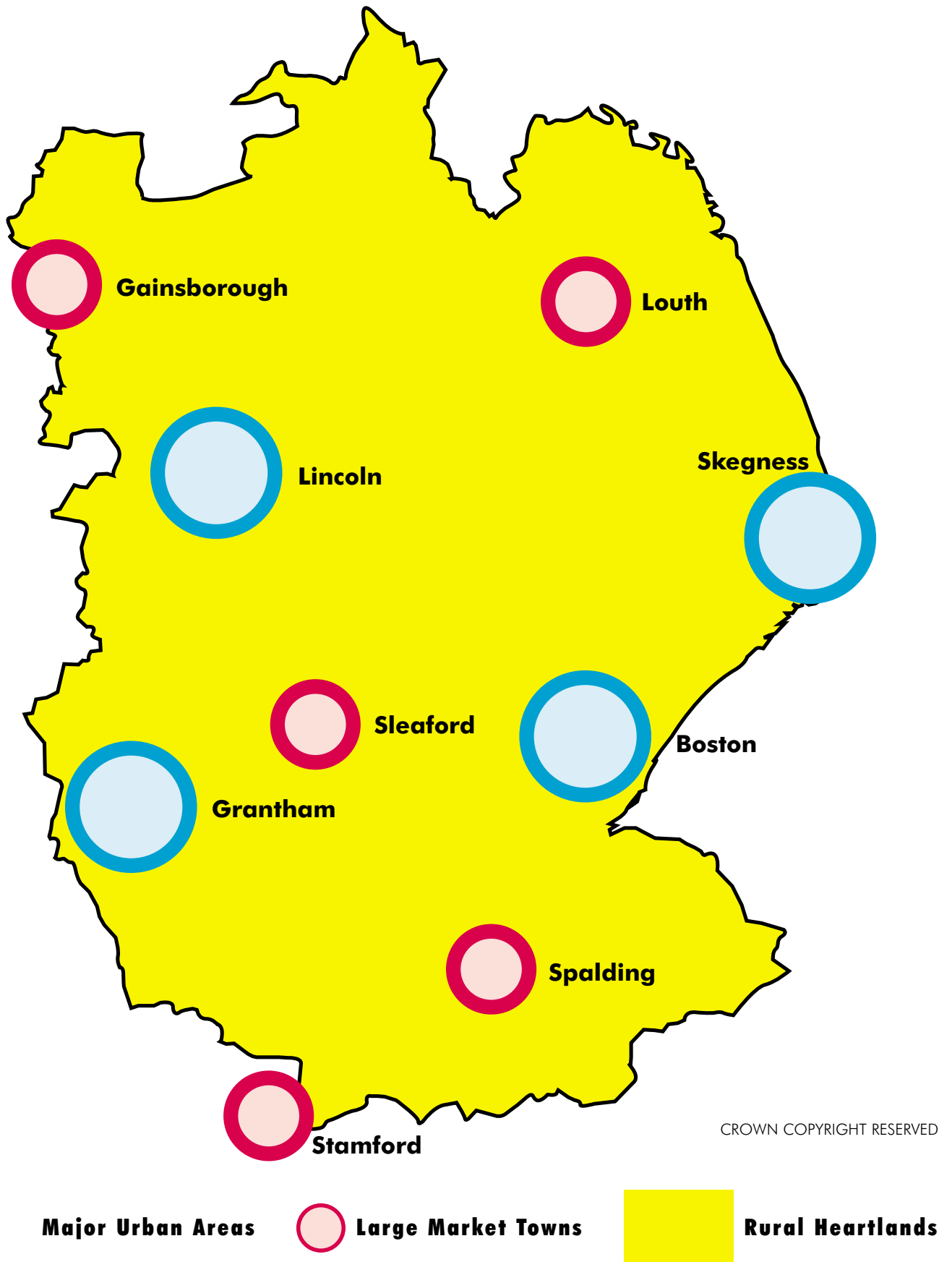
the same issues as the other three locations during this period, and is therefore regarded as falling within this category during the summer.

4.4.3   **Greater Lincoln -** Lincoln is an historic cathedral city with an urban area population (Greater Lincoln) of approximately 100,000, which includes the suburban town of North Hykeham. It is an important sub-regional centre for the East Midlands and provides significant employment, business, education, retail, leisure, health and cultural services to a growing urban population and an extensive rural hinterland of approximately two hundred thousand people. Over 75% of the jobs available in the Lincoln Travel to Work Area (TTWA) are located in the City.

4.4.4   **Grantham -** Grantham is situated in the south east of the county, adjacent to the A1. The town of Grantham has a population of around 33,500, which rises to 37,500 when the urban fringe settlements of Belton, Manthorpe and Londonthorpe are included. Employment in the town is centred mainly around the engineering and food industries

4.4.5   **Boston -** The market town of Boston lies on the River Witham in the north of the fens. The population of the town itself is some 27,000, although this rises to 36,000 when the adjacent villages of Fishtoft and Wyberton are included. The highly fertile fenlands mean that agriculture is the dominant employment sector, along with the associated food production and processing. The town also has a significant engineering base.

4.4.6   **Skegness -** The holiday facilities of the Lincolnshire Coast in the Skegness and Ingoldmells area attract up to 3 million visitors a year, both day trippers and persons staying overnight. The area generates very substantial traffic flows from throughout the East Midlands and Yorkshire and Humberside regions during the summer months. On a typical August night the resident population swells from 21,200 to 75,000. As well as catering for the large numbers of holidaymakers, the area is faced with a rising indigenous population. This not only puts incredible pressure on the routes to the coast but also on the local road network and the car parks within the resorts.

4.4.7   Lincoln is defined as a Regional Centre in the Structure Plan, with Boston and Grantham being the two Sub-Regional Centres in the county. Skegness is identified as one of six Main District Centres. The characteristics of these Major Urban Areas is that they:

   •   have large populations in the Lincolnshire context (the population of Skegness and Ingoldmells rises fourfold during the summer due to overnight visitors)
   •   are affected by traffic congestion, particularly at peak times
   •   have large numbers of mostly slight injury accidents
   •   are served by reasonable commercial bus networks
   •   have access to the rail network
   •   have low levels of car ownership in some areas
   •   experience high levels of cycling and walking
   •   are attracting significant planned land-use development

4.4.8   In all of the areas, there is seen to be a realistic opportunity to widen travel choices and encourage people to use the more sustainable ways of travelling, the overall aim being to reduce the predicted level of car usage. An integrated approach will seek within these urban locations an increase in transport choice and further development of these locations as transport hubs through better interchange facilities.

4.4.9   This theme will address the key issues by:

   •   enhancing the role of Greater Lincoln and the main towns
   •   strengthening the towns as focal points for their rural hinterlands
   •   increasing local accessibility
   •   improving public transport
   •   co-ordinating and integrating infrastructure planning
   •   making the most efficient use of existing transport infrastructure.

4.4.10   Integrated action within the towns will also be targeted towards making communities a safer place in which to live, increasing community inclusion and attempting to minimise the effect of traffic on peoples lives. There will also be a greater co-ordination and integration of development and land use planning with transport planning.

4.5 SPATIAL THEME: INTEGRATING APPROACHES IN THE LARGE MARKET TOWNS

4.5.1   The Large Market Towns (see Figure 4.1) comprise those towns in the next level of Lincolnshire's settlement hierarchy below the major urban areas. These are Gainsborough, Louth, Sleaford, Spalding and Stamford, and are those towns designated as Main District Centres in the Lincolnshire Structure Plan.

4.5.2   The population of these towns range from 10,500 (Sleaford) to 20,000 (Spalding), although they all act as service centres for many smaller villages and other adjacent communities. The Large Market Towns can generally be characterised as having:

- poor bus networks
- limited or no rail services
- significant numbers of mostly slight injury accidents
- town centre regeneration issues
- town centre conflict between road users
- relatively high car ownership, but some areas with limited access to a car
- high levels of cycling and walking
- further land-use development planned
- locally centred travel patterns, still being self sufficient towns (each of the towns is the centre of a Travel To Work Area)

4.5.3   The Local Transport Plan will encourage people to make greater use of walking, cycling and public transport, so reducing predicted traffic growth. However, due to the size of the Large Market Towns and the scope for large scale enhancements within them, opportunities for a step change in modal shift is likely to be restricted. Nevertheless it is intended this theme will address the key issues by:

- enhancing the role of the main towns
- strengthening the towns as focal points for their rural hinterlands
- increasing local accessibility
- improving public transport
- co-ordinating and integrating infrastructure planning
- making the most efficient use of existing transport infrastructure

4.5.4   Integrated action within the towns will also be targeted towards making communities a safer place in which to live, increasing community inclusion and attempting to minimise the effect of traffic on peoples lives. There will also be a greater co-ordination and integration of development and land use planning with transport planning.

4.6 SPATIAL THEME: SERVING THE RURAL HEARTLANDS

4.6.1   The Rural Heartlands consist of all of the county outside of the Major Urban Areas and Large Market Towns, being its Small Towns and Rural Areas (see Figure 4.1). Although it is in many respects a diverse area, comprising isolated rural dwellings and small scattered rural hamlets through to commuter settlements and small towns, the characteristics of this area is typified by the following:

- under-developed bus and community transport networks
- scarce access to the rail network
- extensive highway maintenance problems
- very high levels of fatal and serious road accidents
- high levels of car ownership
- rapidly growing conflicts between through-traffic and communities (particularly relating to speed and HGVs)
- a historic lack of integration between land-use and transport planning decisions
- declining social facilities (e.g. schools, health services, shops), so reducing the self-sufficiency of communities and increasing the need to travel

4.6.2   This theme is intended to improve accessibility, whilst at the same time ameliorating the adverse effects of existing traffic movements, for those who live and work in the rural heartlands, i.e. away from the key strategic networks and the main towns. The intentions will be, firstly, to bring access to services for those in the Heartlands, either by improving connections to the nearest service centres or by bringing those services back to the local community; the second will be to work towards making life in those communities which suffer from the adverse effects of transport more pleasant and more safer, through traffic management and safety initiatives.

4.6.3   This theme will help to address the key issues by:

- increasing local accessibility
- improving public transport
- making communities a safer place in which to live
- increasing community inclusion
- help minimise the effect of traffic on peoples lives.

4.6.4   It should also assist in strengthening small and medium sized towns as focal points for their rural hinterlands, help ensure a basic supply of services and public transport in small towns and possibly promote partnership based co-operation between the small and medium sized towns.

4.7 CROSS-CUTTING THEME: WIDENING TRAVEL CHOICES

4.7.1   National and regional policy has become very strong on promoting transport choice and this needs to be achieved through more integration between travel modes and between transport and land use planning. This approach echoes the concerns of Lincolnshire residents over walking, cycling and public transport facilities in the county and their wish to have a public transport network that connects services together.

4.7.2   This theme therefore seeks to promote transport choice, and will seek to extend this wherever possible to all of the county's communities. In many parts of the county, particularly the large urban areas and market towns, where real transport choice has the potential to be achieved, this will be encouraged through increasing the relative advantage of travel modes other than the private car.

4.7.3   This theme will help to address the key issues by:

- increasing accessibility for all
- improving public transport
- improving access to jobs, services, facilities and learning opportunities
- making our communities a safer place in which to live
- ensuring we increase community inclusion and reduce social exclusion and deprivation
- minimising the effect of traffic on peoples lives

4.7.4   The successful implementation of this theme will require the co-ordination and integration of land use and transport planning.

4.8 CROSS-CUTTING THEME: SAFE AND INCLUSIVE COMMUNITIES AND A BETTER QUALITY OF LIFE

4.8.1   Community well-being is now acknowledged as a fundamental issue that needs addressing. The LTP can help to achieve this, and thus be a major contributor to the role local authorities are required to play in promoting the social, economic and environmental well-being of their communities as enshrined in the recent Local Government Act.

4.8.2   The concept of transport choice outlined in the above cross-cutting theme will play a key role here. Too many Lincolnshire residents are disadvantaged through not having access to a car especially as public transport alternatives are too often not present. This exclusion from services needs addressing. Being

without a car in Lincolnshire, as is the reality for the county's many elderly and its younger people, should not lead to a second class existence.

4.8.3   Anther important element is that of encouraging safer and healthier communities. Transport choice has a role to play here too, for example, encouragement of walking and cycling as healthy alternative modes of travel and contributing to the reduction of CO_2 emissions. Cycling, walking and other modes of travel do need, however, to be made safer. Measures will include preventative action at accident black spots and initiatives such as Safer Routes to School.

4.8.4   The final element of this cross-cutting theme is that related to using transport investment to encourage economic development and regeneration, thereby using the subsequent improvement of the Lincolnshire economy to help to combat social exclusion and create a better quality of life. This theme will help to address the key issues by:

- increasing accessibility for all
- improving public transport
- making communities a safer place in which to live
- improving access to jobs, services, facilities and learning opportunities
- ensuring a basic supply of services and public transport in small towns
- providing support for social networks
- reducing community severance due to transport
- ensuring that community inclusion is increased and that social exclusion and deprivation are decreased

4.8.5   It should also assist in:

- minimising the effect of traffic on peoples lives
- reducing exhaust emissions
- reducing adverse impact on the environment and on natural resources
- reducing adverse impact on health and promote healthier living
- improving personal safety

4.8.6   The successful implementation of this theme will also require the co-ordination and integration of land use and transport planning.

4.9   CROSS-CUTTING THEME: MANAGING TRANSPORT AND RELATED RESOURCES IN AN EFFICIENT WAY

4.9.1   The resources for transport that this LTP is intended to realise for Lincolnshire requires to be managed in a cost effective manner. The Best Value regime that local authorities now have to be a part of, with its concentration on Performance Indicators that need to be exceeded year on year, will be a key driver to achieve this.

4.9.2   The LTP, however, seeks to be a catalyst in achieving genuine partnerships and cross-cutting activity and it is hoped that through this wider economies of scale can present themselves; these will be on top of the widely accepted existing correlations whereby County Council spending can help other agencies - for example, new street lighting reducing accidents and thus reducing costs for the Police and Health Trusts.

4.9.3   This theme will help to address the key issues of making the most efficient use of existing transport infrastructure and co-ordinating and integrating infrastructure planning. A sustainable approach to land use planning should also over time help to influence the location of activities in a way that should reduce the need to spend transport related resources on ameliorating the effects of non-sustainable development.

5 *The Strategy*

5.1 FROM THEMES TO KEY STRATEGIES

5.1.1   The LTP's four spatial themes and three cross-cutting themes will drill downwards into a six pronged strategy to realise the LTP vision and its three fundamental objectives, as represented diagrammatically in Figure 5.1.

5.1.2   The six elements of the LTP strategy are:

- to develop strategic networks for public transport and widen travel choice through the *InterConnect* strategy

- to widen travel choice and promote safe and inclusive communities, integrating approaches in the major urban areas and large market towns, through the development of *Community Travel Zones*

- to serve the rural heartlands, widen travel choice, promote safe and inclusive communities and manage resources more efficiently through the *Rural Priorities Initiative*

- to promote safe and inclusive communities through *Staying Alive*, a concerted road safety strategy

- to manage the county's transportation and highways resources and assets more efficiently through the *Asset Protection* strategy

- to bring all four spatial themes and all three cross-cutting themes together through support of key *Economy and Regeneration Schemes*

5.2 THE KEY STRATEGIES

- *InterConnect -* the definition and implementation of a full public transport network for the county, based on primary inter-urban corridors, either bus or rail as best fits the situation, with key hubs on the corridors, usually small market towns and villages, which provide managed interchange options, guaranteed connections and integrated ticketing, with very local bus and community transport services.

- *Community Travel Zones -* an intensive programme to reduce car use for very local journeys in the urban areas of the county through new walking, cycling and bus networks in the towns, integrating the full "toolbox" (e.g. green travel plans, safe routes to schools) into a comprehensive zonal approach within the towns.

- *Rural Priorities Initiative -* an active strategy to reduce the blight of heavy through traffic in rural communities, including the definition and implementation of a selective HGV network and highway measures which switch priority from through traffic to pedestrians, cyclists and residents.

- ***Staying Alive -*** a pro-active approach to tackle the exceptionally high and rising levels of fatal and serious accidents on the county's roads through high profile enforcement, skilful engineering and intensive education and information which together reduce the risks being taken by road users; to be undertaken in partnership with Lincolnshire Police and Lincolnshire Health.

- ***Asset Protection -*** the active management of a rapidly deteriorating highway network, targeting intervention, which will major on trying to ensure that classified roads do not get worse over the next 5 years, planning for a continued deterioration in the extensive unclassified network, whilst seeking to keep the majority of bridges open to HGV traffic.

- ***Economy and Regeneration Schemes -*** a multi-modal approach to develop the county's economy in a number of high priority areas for regeneration, through approaches which are fully integrated with land-use planning and which, where appropriate, support the redevelopment of brownfield land.

5.3 INTEGRATION BETWEEN THE KEY STRATEGIES

5.3.1   The strategies themselves are fully integrated as shown in Figure 5.1. Some examples of the integration are:-

- between ***Community Travel Zones*** and ***Staying Alive*** - One of the contributions in recent years to reduced accident rates has been the decline in cycling and walking. It is critical that if cycling and walking are to be increased that safety is paramount and that accident rates are reduced not increased.

- between the ***Rural Priorities Initiative*** and ***Community Travel Zones*** - One of the key objectives in the RPI will be to improve conditions for pedestrians and cyclists in rural areas allowing, for example, safer routes to school in some of the larger villages.

- between the ***Rural Priorities Initiative*** and ***Staying Alive*** - One of the joint priorities between the two strategies will be to reduce the speed of vehicles in rural areas.

- between the ***Economy and Regeneration Schemes*** and the ***Rural Priorities Initiative*** - One of the key aspects of the RPI will be to define a selective HGV network, which can then be the subject of greater, more focused investment which will assist the movement of freight.

- between the ***Economy and Regeneration Schemes*** and ***InterConnect*** - InterConnect will prioritise the areas of greatest rural need for public transport for early implementation and this will allow better access for rural residents to employment and services in the county's regeneration areas.

- between ***InterConnect*** and ***Community Travel Zones*** - The improved inter-urban services through InterConnect offer new choices to commuters into the urban areas to reduce car use for their journeys and to contribute to traffic reduction targets.

- between ***InterConnect*** and ***Rural Priorities Initiative*** - There are opportunities to link the rural bus feeder services being provided as part of the InterConnect initiative with proposals within the Rural Priorities Initiatives, for example, new footways to enable easier access to bus stops, the provision of secure cycle parking at bus stops to encourage bike and ride.

- between ***Asset Protection*** and all the other Strategies - The maintenance of the highway network is vital for all of the other strategies (e.g. good footways for pedestrians, accessible bridges for freight, good surfaces and markings for safety, etc.) and, in turn, the other strategies can reduce the deterioration of the network (e.g. HGV routeing, investment in key corridors, traffic reduction in urban areas, etc.)

Figure 5.1

DEVELOPING THE LTP

Figure 5.1 — Developing the LTP

NATIONAL, CORPORATE AND PARTNERS OBJECTIVES

POLICY FRAMEWORKS (EUROPEAN, NATIONAL, REGIONAL, COUNTY-WIDE & SUB-AREA)

VISION

THE KEY ISSUES

ADDRESSING THE KEY ISSUES THROUGH BOTH A CROSS-CUTTING & SPATIAL APPROACH

SPATIAL THEMES

- DEVELOPMENT OF STRATEGIC NETWORKS
- INTEGRATING APPROACHES IN THE MAJOR URBAN AREAS
- INTEGRATING APPROACHES IN THE LARGE MARKET TOWNS
- SERVING THE RURAL HEARTLANDS

CROSS-CUTTING THEMES

- WIDENING TRAVEL CHOICES
- PROMOTING SAFE AND INCLUSIVE COMMUNITIES AND A BETTER QUALITY OF LIFE
- EFFICIENT RESOURCE MANAGEMENT

- RAIL STRATEGY
- BUS STRATEGY
- WALKING STRATEGY
- CYCLING STRATEGY
- ROAD SAFETY STRATEGY
- PARKING STRATEGY
- PUBLIC TRANSPORT INFORMATION STRATEGY
- PRINCIPAL ROAD MAINTENANCE STRATEGY
- BRIDGE STRENGTHENING STRATEGY
- FREIGHT STRATEGY

DEVELOPING AN IMPLEMENTATION STRATEGY FOR THE CROSS-CUTTING AND SPATIAL ISSUES

- ECONOMY AND REGENERATION SCHEMES
- INTERCONNECT
- ASSET PROTECTION
- COMMUNITY TRAVEL ZONES
- STAYING ALIVE
- RURAL PRIORITIES INITIATIVE

6 Public Participation, Partnership
and Cross Boundary Working

6.1 PUBLIC PARTICIPATION IN THE LOCAL TRANSPORT PLAN

6.1.1　There have been many years of active public participation on transport planning issues in Lincolnshire - there are highly developed civic networks, e.g. with over 500 parish and town councils and active local chambers of trade and commerce; there are active campaigning groups in cycling, road haulage, rail usage, disability access; there are action groups in towns and on specific roads to improve safety and the environment; there has been extensive consultation on specific projects and initiatives, many of which are still awaited; more recently, transport forums were established in many areas to devise Transport Packages to suit the areas. However, in putting the provisional LTP together, there was a special and extensive process of participation for partners and the public.

6.1.2　The participation was based on the principles that:

- people should be well-informed, with good data, an evaluation of the current situation and realistic expectations of what can be achieved

- initial participation would lead to a Provisional LTP with the main issues and approaches defined, followed by further, more focused consultation for the Full Plan to be submitted in 2000 - with the Provisional LTP being the key consultation document for this second stage

- the individual strategies identified in the Provisional LTP would themselves be based on participation as a key part of their refinement and implementation

6.1.3　The consultation process for the Provisional Local Transport Plan included :

- 6 high profile launch events held in March 1999 to mark the start of an eight week　consultation period. Representatives from all District Councils and Parish Councils were invited, along with transport operators, the Police, health services and other organisations with an interest in transport. At these events, the new LTP process was outlined to those present and initial thoughts on the way forward in Lincolnshire outlined. Copies of the consultation documents (see below) were also handed out

- over 4,000 consultation documents were published and distributed around the county. These were produced in the form of 6 separate publications each targeted at a separate sub-area of the county. Each document set out information, issues and ideas relating to transport in that area and invited people to make comments and suggestions either in writing, by fax or by e-mail

- a full month of roadshows was held during April/May 1999 covering 22 towns around the county using 2 mobile exhibition units. The length of stay in each location varied from 3 days in Lincoln to a morning or afternoon in the smaller towns. The roadshow was manned by County Council staff who explained the background to the LTP process and invited members of the public to make comments, including a simple questionnaire on their general priorities for spending (e.g. road maintenance, cycling measures, footways, etc.)

- an active Public Relations campaign during the consultation period which led to a high profile for the LTP, both in the local press and radio

- an exhibition as part of the County Council's stand at the Lincolnshire County Show held in June 1999, again inviting comments from the public

6.1.4   Following on from the publication of the Provisional LTP in July 1999, further consultation has taken place in the development of the Full LTP, including :

- a widespread distribution of the published Provisional LTP around all District and Parish Councils, and transport, community and commercial groups, inviting their comments on the Plan

- a copy of the Provisional LTP was placed in every library in the county

- a summary of the Provisional LTP was placed on the County Council's web site, giving information as to how get hold of a full copy and how to respond either in writing or by e-mail

- further consultation with the groups mentioned above through a document entitled "Toward a Full Local Transport Plan for Lincolnshire - An Outline for Consultation". This short document outlined the progress made since the Provisional LTP was submitted and the major changes that the County Council were looking to make in producing the Full LTP

6.1.5   The whole process elicited several thousand contributions which have substantially driven and refined the Lincolnshire Local Transport Plan. The key messages derived from the participation process to date are:

- there are clearly three types of transport need in the county - the larger towns of Lincoln, Boston, Grantham and Skegness (in the summer) with typical urban problems (of congestion, pressure to develop brownfield land, many slight injury accidents, commercial bus networks) ; the larger market towns of Louth, Gainsborough, Spalding, Stamford and Sleaford with smaller scale urban issues; the small towns and rural area with a very different rural agenda (of peripherality, many fatal and serious injury accidents, crumbling infrastructure, dependency on freight movements and unviable commercial public transport)

- there has been a sea-change in expectations about the degree of road improvements which could be realistically achieved and the benefits they would bring, but there is still a recognition that a more selective programme of road improvements is essential for Lincolnshire

- there is extensive anxiety about the Lincolnshire problem with fatal and serious accidents - which are recently rising, against the national trend

- there is growing concern about walking, cycling and public transport facilities and there is a recognition that a public transport network must be about connecting services together if it is to meet the needs of most people

- there are really good opportunities for partnership investment in the next 5 years - across rail, buses, ports, regeneration funding and new developments

- there is a need to take a stronger role in managing what happens on the highway networks in terms of traffic management - to set priorities between road users and to focus investment across a very large network, which is not likely to be radically improved in the near future.

6.2   PARTNERSHIPS

6.2.1   The County Council can achieve relatively little on its own - it needs to work with partners to address the key issues and to devise and implement effective strategies. The Council is involved in a wide range of partnerships including:-

- with District Councils - as Local Planning Authorities on Local Plans and development control, as providers of off-street car parking, on joint schemes to improve the environment in town centres and as partners in economic development

- with the bus industry - through the Bus Operators Partnership, which meets quarterly and has provided ideas and feedback on proposals taken forward through the Rural Bus Grant and Challenge. The Partnership has also helped develop the proposals in this Plan and address a range of operational issues. Various operators are also partners in the InterConnect bus initiative.

- with the rail industry - through the Lincolnshire and Humberside Rail Forum and direct work with individual operators and Railtrack, that has led to joint funding of station enhancements with Railtrack, developing and promoting new services, instigation of a jointly-funded Community Rail Development Officer and the preparation of a Rail Passenger Partnership Scheme, amongst many other proposals. Such partnerships with train operators, and also with the Strategic Rail Authority, are now being used to try and influence plans for the replacement rail franchises in order to achieve, as far as possible, the County's rail aspirations

- with the Police - on road safety and enforcement issues, including the joint speed camera programme, the Driver Improvement Scheme and the new Staying Alive programme which has resulted in the setting up of a new multi-organisation road safety unit with officers from the County Council, Police and Health Authority

- with others involved in community transport - through the Rural Transport Partnerships administered by the Countryside Agency and involving the District Councils, Health Authority, the Community Council for Lincolnshire and bus operators

- with the Health Authority - as partners in road safety and the joint strategies with the Police and as a major service provider in innovative schemes to reduce travel, such as a new multi-purpose, SRB-assisted service centre in a large village. Also in a pilot project to look at the joint commissioning of transport of health, social services and community transport

- with cyclists - through local groups to develop the CTZ and RPI strategies and with SUSTRANS in implementing the National Cycle Network

- with businesses - through involvement in economic development proposals and initiatives to improve communications for business

- with adjacent authorities - through various forums or specific projects (see below for further information)

- with the Highways Agency - as highway authority for the trunk road network

6.2.2   In pulling together these separate partnerships, a Partnership Forum was established to develop the Provisional LTP as the best response to the key issues coming out of participation - it involved a full range of partners from Friends of the Earth, CBI, Railtrack, Police, District Councils to Community Transport providers.

6.2.3   As well as meetings of the overall Partnership Forum, other seminars have been organised for partners dealing with specific issues, in particular :

- developing Community Travel Zones
- the Best Value review of Road Safety
- the Best Value review of Highway Maintenance

These more focused meetings have enabled partners to gain a more in depth understanding of the issues and problems faced and how they might best contribute to achieving the overall aims.

6.3 CROSS BOUNDARY WORKING

6.3.1   The issues around transport are not constrained by administrative boundaries. There are many examples of situations where travel patterns within Lincolnshire are effected by external factors, for example, the impact of Peterborough on the south of the county or Grimsby in the north-east. Therefore the County Council works closely with adjacent authorities to ensure that, wherever possible, a complementary approach is adopted on cross boundary issues. Examples of this work include :

- the development of the Interim Regional Transport Strategy through the East Midlands Regional Assembly

- co-operation on cross boundary bus issues, with services with North Lincolnshire, Nottinghamshire, Norfolk and Cambridgeshire being joint funded

- joint working on the Passenger Transport Information 2000 project to develop a regional telephone timetable service

- the joint bid with Peterborough City Council for the major improvement for the A1073 between Spalding and Eye Green included within this LTP

- the successful Rural Bus Challenge bid made jointly with Norfolk for the expansion of the InterConnect project to services on the Spalding - Kings Lynn route

- discussions through the Officer Rail Working Group including representatives from Nottinghamshire, North Lincolnshire, North East Lincolnshire and the District Councils

- various cross boundary agreements on maintenance and winter gritting to improve efficiency

- a local authority Freight Partnership Forum in the south of the county, involving Leicestershire, Rutland, Northamptonshire, Peterborough City, Cambridgeshire and Norfolk

- various Best Value groups dealing with a wide range of issues

- liaison with adjacent strategic and local planning authorities and regional planning bodies over transportation and land use integration issues, particularly in respect of reviews to Regional Planning Guidance and Structure and Local Plans

7 *Targets and Monitoring*

7.1 INTRODUCTION TO THE LTP APPROACH

7.1.1   The previous chapters have set out the strategy development process for the LTP, including outlining the key strategies which have a bearing on the Council's transport planning and operations. This chapter presents a parallel 'cascade' which shows how the chosen performance indicators and targets have come to be adopted.

7.1.2   Lincolnshire's targets in the Provisional LTP were considered to be well ahead of most of its contemporaries, both in terms of the indicators themselves and the ambitious nature of some of the targets. In setting the targets for the full LTP we would obviously not wish to move too far away from this approach. A review of the indicators and targets contained within the Provisional LTP has, however, been undertaken. Lincolnshire received a settlement substantially lower than bid through the provisional LTP and as a consequence the targets contained within it can not now be met in full, as they would have been if the settlement had matched the bid level. This has therefore led in some instances to the adoption of revised targets.

7.2 DEVELOPING THE INDICATORS

7.2.1   The derivation of the various strategies set out in the Local Transport Plan is set out overleaf, and by linkages back to the over-arching objectives helps to justify the performance indicators used to measure the success of implementation. The result is the set of performance indicators for the Lincolnshire LTP. The targets and output measures will be used to assess whether the Local Transport Plan is delivering its stated objectives. Each of the targets have measurable outcomes to be achieved over the 5 year life of the plan and progress will be monitored annually. The first annual Local Transport Plan Progress Report will be produced in 2001. Targets established in the Local Transport Plan and performance against them will also be audited annually through the Best Value Local Performance Plan.

7.2.2   Many of the ideal transport indicators identified in the table overleaf are, however, expensive to measure and may also prove unreliable, and hence difficult to justify as performance indicators to be used in the Local Transport Plan. Therefore, a parallel set of indicators has been developed which provides a good fit with the absolute indicators. Where national targets exist, these have also been taken into account, along with appropriate Best Value Performance Indicators. The adopted targets are set out overleaf.

THE VISION			
An *economically successful*, accessible county with a network of *inclusive communitie*s and an *enviable quality of life*, which is an integral part of the wider region through well-developed economic and communications connections			
OVERALL OBJECTIVES	To create an economically successful county	To develop inclusive communities	To improve quality of life
AIM	To increase GDP and employment	To reduce deprivation	To improve community well-being
TRANSPORT ISSUES	Improving access to markets, sources of supply and labour/skills	Improving access to jobs, services, facilities and learning opportunities	Reducing emissions
	Enhancing the role of the main towns as focus of hinterland	Providing support for social networks	Reducing impact on environment and natural resources
	Improving access to regional facilities and Europe	Reducing community severance	Reducing health impact and promote healthier living
			Improving personal safety
TRANSPORT INDICATORS	Transport costs on strategic networks	Cost of travel to essential facilities	Congestion
	Reliability of strategic networks	Opportunities for travel to essential facilities	Traffic volume, nature and speed
	Accessibility of regional facilities	Accessibility of other communities	Personal safety
	Access to Europe		

TRANSPORT CHOICES

TT1 - To contain peak hour traffic congestion in Greater Lincoln, Boston, Grantham and Skegness* to 2000 levels by 2006.

*Skegness - summer season only

Output Measures to achieve Target	Total Increase by 2006
TM1 Increase bus ridership through the implementation of Quality Bus Partnerships: • TM1a Beacon Park, Skegness • TM1b Brant Road, Lincoln • TM1c Boston Town • TM1d Hykeham Road, Lincoln	 5% 10% 10% 10%
TM2 Increase rail ridership into Lincoln	20%
TM3 Increase the amount of cycling on routes or within areas where measures are implemented	50%
TM4 Increase in the amount of walking on routes or within areas where measures are implemented	50%
TM5 Reduce single car occupancy	-10%

TT2 - To contain the growth in peak hour car traffic in Gainsborough, Louth, Sleaford, Spalding and Stamford to 6% between 2000 and 2006.

Output Measures to achieve Target	Total Increase by 2006
TM6 Increase bus ridership on town services: • TM6a Gainsborough • TM6b Louth • TM6c Stamford	10% 20% 10%
TM7 Increase the amount of cycling on routes or within areas where measures are implemented	50%
TM8 Increase in the amount of walking on routes or within areas where measures are implemented	50%
TM9 Increase rail ridership into: • TM9a Sleaford • TM9b Spalding	20% 20%

TT3 - To reduce the proportion of unmet travel needs to employment and services in rural areas from 18% to 12% between 2000 and 2006.

Output Measures to achieve Target	Total Increase by 2006
TM10 Increase bus ridership through implementation of InterConnect: • TM10a Grantham/Lincoln • TM10b Gainsborough/Lincoln • TM10c Lincoln/Grimsby	15% 30% 30%
TM11 Increase the usage of community transport across the county	60%
TM12 Increase rail ridership through the implementation of InterConnect: • TM12a Gainsborough - Lincoln • TM12b Lincoln - Grimsby • TM12c Lincoln - Sleaford • TM12d Sleaford - Spalding	20% 20% 40% 100%

ROAD SAFETY

ST1 - To reduce fatal and serious road casualties by 20% (a reduction of 151 over the 5 year LTP period) from an average annual number of 757 (in 1994/98) to no more than 606 per annum and to contain slight casualties overall at their average 1994/98 level of 3049 per annum in spite of the growth in rural traffic.

ST2 - To reduce fatal and serious road casualties involving children by 25% (a reduction of 19 over the 5 year LTP period) from an average annual number of 76 (in 1994/98) to no more than 57 per annum.

ST3 - To reduce injury casualties amongst vulnerable road users, notably cyclists, pedestrians, motorcyclists, young and elderly drivers by 2006 as shown below.

Vulnerable Road User Group	Current Level of Casualties (94/98)		Total Reduction by 2006	
	KSI	Slight	KSI	Slight
SM1 Pedal Cyclists	45	249	13	54
SM2 Pedestrians (involving vehicles)	79	243	7	14
SM3 Motorcyclists	110	194	22	32
SM4 Car Users	463	2079	109	150
SM5 Elderly Drivers	67	257	Included within the above categories	
SM6 Young Drivers	306	1278		

MAINTENANCE

Carriageways

Target	Current length of c/way below zero residual life	Projected length of c/way below zero residual life	2006 Intervention Target length	Impact on current levels by 2006	Resultant Level of carriageway below zero residual life for 2006
MT1 To reduce the projected 113 km (14.1%) on the Principal Road Network which have reached the point at which repairs to prolong their future life should be considered to 68 km (8.5%) by reconstructing 45 km (5.6%) by 2006	69 km (8.6%)	113 km (14.1%)	45 km (5.6%)	-1 km (1.4% reduction on current level)	68 km (8.5%)

Target	Current length of c/way above CIWL	Projected length of c/way above CIWL (without intervention)	2006 intervention Target length	Impact on current levels by 2006	Resultant Level of carriageway above CIWL by 2006
MT2 To reduce the length of carriageways on Hierarchy 1 Roads above the condition index warning level by 1% per annum	99 km (19.5%)	174 km (34.2%)	81 km (15.9%)	-6 km (6% reduction of current level)	93 km (18.3%)
MT3 To reduce the length of carriageways on Hierarchy 2 Roads above the condition index warning level by 1% per annum	86 km (16.7%)	161 km (31.7%)	81 km (16%)	-6 km (6% reduction of current level)	80 km (15.7%)
MT4 To reduce the length of carriageways on Hierarchy 3 Roads above the condition index warning level by 1% per annum	328 km (23.6%)	533 km (38.4%)	225 km (16.2%)	-20 km (6% reduction of current level)	308 km (22.2%)
MT5 To reduce the projected level of length of carriageways on Hierarchy 4 Roads above the condition index warning level by 1.65% per annum	341 km (7.8%)	1039 km (23.8%)	436 km (10%)	+263 km (77% increase on current level)	604 km (13.9%)
MT6 To reduce the projected level of length of carriageways on Hierarchy 5 Roads above the condition index warning level by 0.6% per annum	165 km (11.5%)	413 km (28.8%)	51 km (3.5%)	+197 km (119% increase on current level)	362 km (25.3%)

CIWL - Conditional Index Warning Level

Footways

Target	Current length of footway above CIWL	Projected length of footway above CIWL (without intervention)	2006 intervention Target length	Impact on current levels by 2006	Resultant Level of footway above CIWL by 2006
MT7 To reduce the projected length of Hierarchy 1 footways above the condition index warning level by 16.5%	8.1km (28.4%)	12.3km (43.2%)	4.7km (16.5%)	-0.5km (6.1% reduction of current level)	7.6km (26.7%)
MT8 To reduce the projected length of Hierarchy 2 footways above the condition index warning level by 16.4%	41.5km (32.3%)	60km (46.8%)	21km (16.4%)	-2.5km (6.0% reduction of current level)	39km (30.4%)
MT9 To reduce the projected length of Hierarchy 3 footways above the condition index warning level by 16%	137.7km (18.6%)	248km (33.4%)	118km (16%)	-8.7km (6.3% reduction of current level)	129km (17.4%)
MT10 To reduce the projected length of Hierarchy 4 footways above the condition index warning level by 12.9%	64.5km (2.7%)	435km (18.1%)	310km (12.9%)	+60.5km (93.8% increase on current level)	125km (5.2%)

CIWL - Conditional Index Warning Level

MT11 - Not assigned

MT12 - To improve access to the County's network by 5% by increasing the number of bridges eligible for assessment, capable of taking 40 tonne lorries from 88% (986 bridges) at the end of 1999/2000 to 93% (1030 bridges) by 2006

MT13 - To improve the structural integrity of the County owned bridges by reducing the number of bridges with severity 1 and 2 defects from 7.3% (95) at the end of 1999/2000 to 3.5% (45) by 2006

MT14 - To improve the structural integrity of the County's culvert / footbridges with severity 1 and severity 2 defects from 6.1% (118) at the end of 1999/2000 to 4.5% (87) by 2006

MT15 - To replace/refurbish 20% (10,140) columns from the county lighting stock of 50,700 units by 2006

MT16 - To make 95% of all Priority 1 and 2 public rights of way and 50% of Priority 3 public rights of way open and available for use by 2006

MT17 - To signpost 84% of all footpaths and other rights of way where they leave a road by 2006

ENVIRONMENT

> **ENT1 -** To ensure that the national Air Quality Objectives are met at locations in Lincolnshire which are declared as Air Quality Management Areas due to emissions from road traffic following assessment under the Local Air Quality Management system
>
> **ENT2 -** To improve the environment of 100 communities by promoting measures which reduce the damaging effects of traffic, promote transport choice and improve access to local services
>
> **ENT3 -** To define an HGV network which removes through traffic from at least 100 communities

ECONOMY

> **ECT1 -** To contribute towards the target of 20% sustainable growth in Gross Domestic Product and 40,000 new jobs by 2011 as set out in the Lincolnshire Agenda

Output Measures Through the LTP to Achieve Targets
ECM1 Promoting Freight - To increase rail freight usage by 20% by 2006
ECM2 Regeneration - By implementing measures in the County's areas of priority for regeneration
ECM3 Reducing Peripherality - To reduce peripherality by providing quicker and more convenient access

7.3 MONITORING

Transport Choices

7.3.1   The target to contain congestion in the major urban areas will be monitored using a combination of data available from the SATURN models currently being developed for Lincoln, Grantham and Boston, and the ASTRID database which stores traffic information from the SCOOT traffic signal control system. Further details on the methodology to be adopted can be found in the Road Traffic Reduction Report.

7.3.2   In Skegness, which doesn't have the benefit of either of the above systems, journey time information will be recorded on a number of strategic routes in the area during the peak summer season. These will be repeated on an annual basis to monitor change.

7.3.3   The growth in peak hour car traffic in the larger market towns will be monitored using a series of cordon surveys around the town centres. Vehicle categories will be recorded in accordance with NRTF 1997 for 6 hours per day (0700-1000 and 1500-1800). Supplementary longer term validation data will be collected in the town centres using ATC's or information from traffic signal remote monitoring systems as appropriate.

7.3.4   Updated information on meeting unmet travel needs will be provided from the SONATA database. Records will be maintained on the take up of community transport and regular surveys will be required to measure the level of new facilities provided in villages.

7.3.5   The use of the InterConnect services (and the % increase in patronage compared to previous services) will be monitored through ticket sales. Ticketing data will also be supplied by the train companies. This will enable trends in rail patronage to be determined.

Road Safety - Staying Alive

7.3.6   The Stats. 19 accident reports recorded by the police at the scene of a collision will continue to form the database from which information will be extracted to monitor progress in achieving the targets.

7.3.7   The formation of the new integrated road safety unit will focus attention on a 'data led approach'. Full regard of the latest software developments, such as GIS and Internet based technology, will be employed in conjunction with the 'Wings' software currently used. The remit will be to provide a clear, current, accurate and concise reporting format on a monthly basis to all those partners responsible for contributing to the implementation of the strategy in order that measures can be directed to maximum effect and regard taken of new and emerging trends in the nature of the problem.

7.3.8   In addition, data for benchmarking comparisons will be shared with the authorities selected for the derivation of targets for the vulnerable road user categories. Initially such data will be used for diagnostic purposes, however the aim will be to move eventually to a form of process benchmarking in order to identify and utilise further best practice measures.

Maintenance - Asset Protection

7.3.9   **Principal Roads -** The current condition of principal roads is measured by visual condition and machine based surveys by:

- structural condition (residual life - deflectograph)
- surface condition, including structural defects (coarse visual inspection - CVI)
- surface skidding resistance (SCRIM)

7.3.10   The condition trends of the network are assessed using National Best Value Performance Indicators (BVPI) and data supplied for the annual National Road Maintenance Condition Survey (NRMCS) as follows:

- *length of principal roads with less than zero years residual life (BVPI 96) -* This Indicator will be measured twice a year to assess performance against the 5 year target. Figures will be available on 1 April and 1 October following the autumn and spring deflectograph seasons using the Pandef software.

- *length of principal roads with CVI defect index > 70 benchmarked (BVPI 96 alternative) -* This Indicator will be measured annually on completion of the CVI surveys on all principal roads. There is no current target for the Indicator as no historic data is available, however performance will be compared with the above alternative BVPI96, using the Hermis 2000 maintenance management system

- *length of principal roads with skidding resistance at or below investigatory level supplied annually for NRMCS report -* The length of principal roads with skidding resistance at or below investigatory level will be supplied annually for the NRMCS report, from the SKID software package. No target has been set as no trend information is yet available

7.3.11   **Other Roads And Footways -** The current condition of other roads and footways are also measured by visual condition and machine based surveys recorded on HERMIS 2000, Pandef and SKID with reports on a regular basis.

7.3.12   **Routine and Winter Maintenance -** The current routine targets are reported and monitored quarterly from the respective central database systems for each functional specialism.

7.3.13   **Bridges -** The three performance indicators for this specialism will be monitored and reported on either a quarterly or annual basis as appropriate using information held on a central database updated daily with inspection reports.

7.3.14   ***Street Lighting -*** Statistical data will be reported and monitored monthly using the Mayrise contracts management system and Mapinfo GIS to develop works programmes.

7.3.15   ***Public Rights of Way -*** Reporting and monitoring will be on an annual basis by survey sampling and interrogation of databases relating to the ordering of works.

Environment

7.3.16   The County Council will continue to assist the District Councils in carrying out their responsibilities with regard to air quality in their areas. Where air quality management areas are declared, the Council will help develop strategies to ensure air quality objectives are met.

Economy

7.3.17   The Research Team at Lincolnshire Development monitor the County's economic strength and prosperity on a continuous basis from a variety of original data sources. Monitoring of the target and progress in achievement of the support measures will rely on a composite analysis and collation from sources such as the Annual Employment Survey, Labour Force Survey, ONS in Regional Trends, ONS Annual Census of Production (Business Competitiveness Indicators) as well as journey time surveys to the areas of principal regeneration.

8 Resources

8.1 BACKGROUND

8.1.1   The Provisional Local Transport Plan for Lincolnshire identified a resource plan totalling £67m over the five year Plan period which was based upon Lincolnshire receiving a proportion of the total budget available which was in line with its proportion of the national population. However, in the settlement letter received from the Government Office for the East Midlands in December 1999 it was made clear that this bid was considered to be unrealistic in relation to the resources available nationally.

8.1.2   This year's bid reflects the advice given in the settlement letter but also takes into account the increase in national resources from £755m last year to £1,016m assumed for each year of this full Plan. Last year's settlement was £5.888m, representing 0.78% of the total sum available. This basic bid of £10.66m per year, £53.3m over the five year period, represents 1% of the total sum available, significantly less than the £67m or 1.3% bid included in the Provisional Local Transport Plan.

8.1.3   Lincolnshire as a highly rural county has transport problems which differ significantly from those of more urban areas but also from those of many other rural counties. Whilst these are described in some detail elsewhere in the Plan it is worth highlighting that:

- Lincolnshire has the worst ratio of road fatalities per capita in the country and one which in Europe is exceeded only in Greece and Portugal

- Lincolnshire has 2.5 times more highway per capita than the national average

- Not only is Lincolnshire sparsely populated but also that population is spread more thinly than in many other rural counties. This is because Lincolnshire does not have the large areas of zero population characteristic of those counties with significant upland areas such as the moors of Devon or North Yorkshire. The impact of such a widespread small population is illustrated by the analysis of unmet travel needs per parish.

- When detrunking is complete, Lincolnshire will have taken over a greater length of non-core trunk road than any other authority in the country. Adequate funding for these roads once transferred is vital and is reflected in a significant change in resources anticipated to be available to the authority once detrunking is completed.

8.2 THE BID

8.2.1   The County Council's highest priority major scheme bid is the A1073 Spalding to Eye Improvement. This scheme is a strategic improvement which lies approximately two thirds in Lincolnshire and one third in Peterborough City. Peterborough City have given their full support to the scheme. As Peterborough City lies in a different Government Office region from Lincolnshire, discussions have taken place between the two authorities and the two Government Offices to determine how the bid for the scheme should be submitted. It has been agreed that the entire bid should be made by Lincolnshire to the Government Office for the East Midlands although some minor preparatory costs are reflected in Peterborough City's Local Transport Plan. The figures quoted within this Local Transport Plan therefore cover the costs of the

A1073 Improvement within Peterborough City Council's boundaries as well as within Lincolnshire. Further information on this scheme in included in Chapter 9 and a full appraisal accompanies the submitted LTP.

8.2.2   After the A1073, the County Council is committed to finding effective solutions to the existing problems in Grantham and on the access route to the coast. Hence, the A52 Grantham East-West Improvement is identified as the Council's second priority and the A158/C541 Coastal Access Improvement as third priority. Work is continuing on progressing these schemes in order that they may proceed should funding be made available.

8.2.3   The overall bid excluding major schemes is for some £53.310m over the five year plan period. Including the major schemes, this rises to almost £81.475m. The breakdown of the bid by year and by theme is set out below.

Strategy/Scheme	2001/02	2002/03	2003/04	2004/05	2005/06	Total
Economy and Regeneration Schemes (less than £5m)	1882	1233	1058	1453	673	6299
Asset Protection : Principal Roads	3895	3815	3855	3805	3880	19250
Asset Protection : Bridges	1250	1306	1340	1200	1265	6361
Staying Alive	1000	1000	1000	1000	1000	5000
InterConnect	400	400	400	400	400	2000
Community Travel Zones	1500	1600	1600	1600	1600	7900
Rural Priorities Initiative	1300	1300	1300	1300	1300	6500
Sub - Total	11227	10654	10553	10758	10118	53310
Major Scheme Priority 1 A1073 Spalding -Eye Improvement	150*	2085	7850	12000	2000	23935
Major Scheme Priority 2 A52 Grantham East-West Improvement	120*	100*	90*	50*	2000	2000
Major Scheme Priority 3 A158/C541 Coastal Access Improvement	85*	60*	60*	60*	2230	2230
Total	11227	12739	18403	22758	16348	81475

Advanced design fees already included in Economy & Regeneration Schemes block above

8.2.4   In addition to the funding through the LTP system, the County Council is also expecting to receive further funding during the 5 year LTP period as a result of the extensive detrunking which is proposed across the county. Over the 3 year period from April 2002 when the detrunking is scheduled to come into effect, the sum anticipated is in excess of £45m. This is further explained in Chapter 19.

8.2.5   The bid is considered to be realistic but information is given to indicate the changes which would be necessary to the Plan if the level of settlement were to be 20% below that of the bid. Equally, information is given to indicate the high priorities which could be addressed if extra resources were to become available nationally which enabled the settlement to be 33% above the bid level.

8.2.6   The major impacts of a reduction in settlement level by 20% would be:

• the assumption that the only Major Scheme to proceed will be the A1073 Improvement
• elimination of LTP contribution to the Lincoln Railway Corridor Regeneration Zone
• a reduction of £4.9m over the 5 year period in Community Travel Zones, leading to a much longer overall implementation programme
• a reduction of £0.25m per year in Bridge Strengthening
• a reduction of £0.75m per year in PRN maintenance

8.2.7   The major impacts of an increase in settlement by 33% would be:

- an increase of £0.65m per year in Principal Road maintenance
- an increase in the Staying Alive budget of £1m per year
- an increase in the InterConnect budget of £1m per year
- an increase of £3.8m over the 5 year period in Community Travel Zones
- an increase of £0.7m per year for the Rural Priorities Initiative

8.2.8   The list in paragraph 8.2.7 above is given in priority order i.e. the County Council's top priority should additional funding become available is principal road maintenance, followed by Staying Alive. However, the precise amount allocated to each area would depend upon the level of additional funding received. Similarly, the list in paragraph 8.2.6 shows the priority order in which the County Council would look to reduce funding should the bid not be met in full.

8.2.9   Additional resources for transport have been identified from a number of sources including the European Union, District Councils, Developers, other Government funds (e.g. Bus Challenge) and, most significantly, the resources to be transferred from the Highways Agency on detrunking mentioned above. These additional resources have been identified as "Other" within the bid but a full analysis of them will be provided to the Government Office.

9 *Economy and Regeneration Schemes*

9.1 STRATEGY FOR THE ECONOMY AND REGENERATION SCHEMES

9.1.1   One of the fundamental objectives of the Lincolnshire Local Transport Plan is to create an economically successful county. Lincolnshire has in many respects a fragile economy and one that needs the necessary investment in economic infrastructure to succeed. It has unfortunately been particularly lacking in transport infrastructure investment, with its poor quality roads cited as a major barrier to investment by both existing Lincolnshire firms and companies looking to relocate. In addition, opportunities for new development or the redevelopment of brownfield sites within the urban areas are being stifled by the lack of appropriate transport infrastructure.

9.1.2   The Economy and Regeneration Schemes element of the LTP Strategy is the part that concentrates on building economic success through infrastructure investment and is where the county's bids for major scheme funding lies. It is very much concerned with progressing the LTPs spatial theme of Developing Strategic Networks and has a particular, but not sole, concentration on new road infrastructure.

9.1.3   The County Council and its partners have a long term aim to upgrade its key road corridors, most notably expressed through the Lincolnshire Agenda, Lincolnshire Structure Plan and the County Council's own Performance Plan, Serving the Community. The County Council is fully committed to such a strategy as it is considered to be key to the county's future, but this strategy is not being pursued to the detriment of other approaches. The need to encourage transport choice across the county and to create a distinct modal shift in the larger towns is fully acknowledged and supported - the other elements of the LTP Strategy picking up on these themes. However, it is still the County Council's strong contention that Lincolnshire requires upgraded roads for it to remain economically competitive.

9.1.4   Over the past year and a half the County Council has reviewed its position with regard to major schemes and larger multi-modal projects in the county (no major scheme being bid for in the Provisional LTP as this review was under way). This followed guidance issued by Government last year that, given the overall resources available, it was not expected that a large number of major schemes (now classified as over £5m gross cost) would be approved over the 5 year period of the LTP. On this basis pursuing the strategic road corridor upgrades across the county will be long term, and in consequence the LTP has prioritised those areas where we would wish to see such infrastructure investment concentrated in the short term. In a county where the need for upgrading is long and the resources short, this has not been easy. The proposals in the first LTP period are therefore concentrating on those areas of greatest economic fragility - those areas that are likely to be particularly prone to economic decline if an increase in economic infrastructure investment is not forthcoming.

9.1.5   The County Council wishes to concentrate major transport investment on the following parts of the strategic network:

• around South Eastern Lincolnshire - notably the key strategic link south to Peterborough and the A1(M).

• on key links in Eastern Lincolnshire to improve access to the coastal holiday resorts.

9.1.6   The transport investment in these two priority areas will be predominantly based on safeguarding and then expanding two of the county's key employment sectors: Food and Distribution (The Freight Hub) and Tourism (Coastal Access). The Major Schemes (over £5m) associated with each area being:

- **The Freight Hub:** the A1073 Spalding to Eye Improvement, the Boston Southern Link and the A52 Grantham East-West Improvement

- **Coastal Access:** the A158/C541 Improvements involving bypasses for the villages of Burgh Le Marsh, Orby and Partney in Eastern Lincolnshire.

9.1.7   The County Council's top priority major scheme for which LTP funding is sought is the A1073 Spalding - Eye Improvement. LTP funding is not being sought for the Boston Southern Link as it is intend to fund this project through other methods. After the A1073, the County Council is committed to finding effective solutions to the existing problems in Grantham and on the access route to the coast. Hence, the A52 Grantham East-West Improvement is identified as the Council's second priority and the A158/C541 Coastal Access Improvement as third priority. The rest of this section details the rationale behind the bid for support for the major schemes above, and how they tie in to other elements of the LTP strategy, as well as the related multi-modal and smaller schemes (less than £5m) that will also significantly assist the local economy.

9.2 THE FREIGHT HUB

Issues

9.2.1   The ease of movement of goods into, out of and around the county is vital to Lincolnshire's economy. This is perhaps most important in the south of the county, where the food industry is pivotal to the economy of that part of Lincolnshire.   This part of the county has been identified in the LTP as the Freight Hub.

Transport and The Food Supply Chain

9.2.2   A crucial factor in the continued growth and sustained competitiveness of the food industry is the food supply chain. For the most part, this is heavily dependant in terms of transport and distribution upon the road haulage industry, which offers the flexibility to meet the time-scales set by major retailers and has already invested heavily in refrigeration vehicles and warehouse and cold store facilities. Added to this is the transport needs of general industry in the area, particularly those associated with the Wash ports of Boston, Sutton Bridge and Fosdyke.

9.2.3   The agriculture and horticulture industries have developed during the last two decades, often around small, isolated farms. Some of these have evolved to become major players in the national industry. Their initial development seemed innocuous, in respect of their effect on the environment and road infrastructure, but the more recent rapid growth has created unacceptable demands upon some communities and roads. In more recent years, expansion has also been related to a change of sourcing of products, as locally grown produce is supplemented by that grown overseas imported into the county to be packaged, thereby maintaining a year round supply and providing new, more exotic lines to the major supermarket chains.

9.2.4   Many of the roads, particularly the many minor roads that provide access to agricultural and food processing related sites, are narrow and pass through the numerous small settlements. The sub-standard nature of these roads in relation to the volume of HGV traffic they carry results in poor levels of safety, increased freight transportation time, costs and fuel, unacceptably high negative impacts on the environment and local communities and demands upon the road structure for which they were not designed, resulting in extremely high levels of deterioration that maintenance budgets cannot address.

9.2.5   The County Council is therefore seeking to develop an overall strategy for freight movement in this area which will support the local economy whilst protecting the environment within the local rural communities, particularly from the impact of the many large HGVs. This issue of the impact of the large lorries is being tackled primarily through the proposed HGV Routeing proposals being pursued as part of the Rural Priorities Initiative. Further information on this can be found in Chapter 14 of the Plan. The opportunities for encouraging the use of other forms of freight movement, in particular rail, are also being explored and further details are contained in Section 18.3. Figure 9.1 illustrates the differing issues associated with the freight industry in the south of the county.

9.2.6   However, it must be recognised that for many companies in Lincolnshire, road haulage will remain the principal method of moving goods for the time being. The County Council is therefore pursuing several initiatives which will support the freight industry by assisting the movement of goods by road whilst ameliorating the impact of HGVs on communities. Further details of these schemes, in particular the key A1073 improvement, are given in later paragraphs of this section.

The South Holland Rural Action Zone

9.2.7   A large part of the Freight Hub falls within the local authority area of South Holland. Lincolnshire County Council, along with South Holland District Council and other partners, have designated this area as a Rural Action Zone. This has been done to make a concerted effort to address the particular issues within the South Holland Rural Action Zone area (all of which are also present to the same or similar extent in other parts of the Freight Hub area), being:

- a poor communications network, particularly in respect of road infrastructure
- a low wage, low skill economy
- a location at the fringe of the economic hub of the East Midlands
- an over dependency on one economic sector
- an area where service provision is complicated and made expensive by rurality
- a shortage of young people
- a large elderly population
- a major deficiency in voluntary sector infrastructure

9.2.8   On the positive side, however:

- there is some of the best agricultural land in the country
- a number of world class names with food production interests in the area (including Geest, Northern Foods, Marks & Spencers and George Adams).
- a strong tradition of self sufficiency in the area, evidenced by the low unemployment rate and agricultural heritage of the area
- a proximity to the regional growth location of Greater Peterborough, enabling advantage to be taken of its economic multiplier effect.

9.2.9   The purpose of the Rural Action Zone is therefore to address the emerging gap between economic circumstance and the areas potential to become a thriving modern community. To achieve this will require:

- an increase in skills and wage rates through diversifying the local economy with an emphasis on added value activities within the food sector and more broadly whilst improving links between schools and employers
- creating a stable community environment, to enable the district to retain its young talent and provide a good quality of life for its most vulnerable members, through measures to develop sustainable community capacity and build social inclusion

but most importantly in respect of the LTP:

- tackling the negative effects of rurality in terms of accessibility and service provision

9.2.10   The untapped economic potential of the area means that it is intended that the return arising from the regeneration proposals within the Rural Action Zone will be significant.

A151 Weston Bypass (Ongoing Scheme)

9.2.11   This £3.300m scheme will improve the strategically important A151 route, and allow development of existing and new businesses. Village facilities will be safeguarded and land will be opened up for residential development. The scheme will remove the vast majority of the current 11,200 vehicles using the existing road through the village, and will deliver complementary environmental improvements to the village centre. The scheme is being funded through a combination of :

-        European Objective 5b support
-        developer contributions, and
-        County Council funding.

Figure 9.1

THE FREIGHT HUB

The North

to Grimsby

to Skegness

NEWARK

to Lincoln

A15

A17

SLEAFORD

A16

A52

BOSTON

Sea Freight from
Europe and Scandinavia

A1

A17

to Nottingham

A52

GRANTHAM

A17

to Leicester

A16

A15

SPALDING

A17

A1

to Kings Lynn
& East Coast Ports

A16

STAMFORD

MARKET
DEEPING

A15

A1073

A43

A1

A47

PETERBOROUGH

Northampton

The South
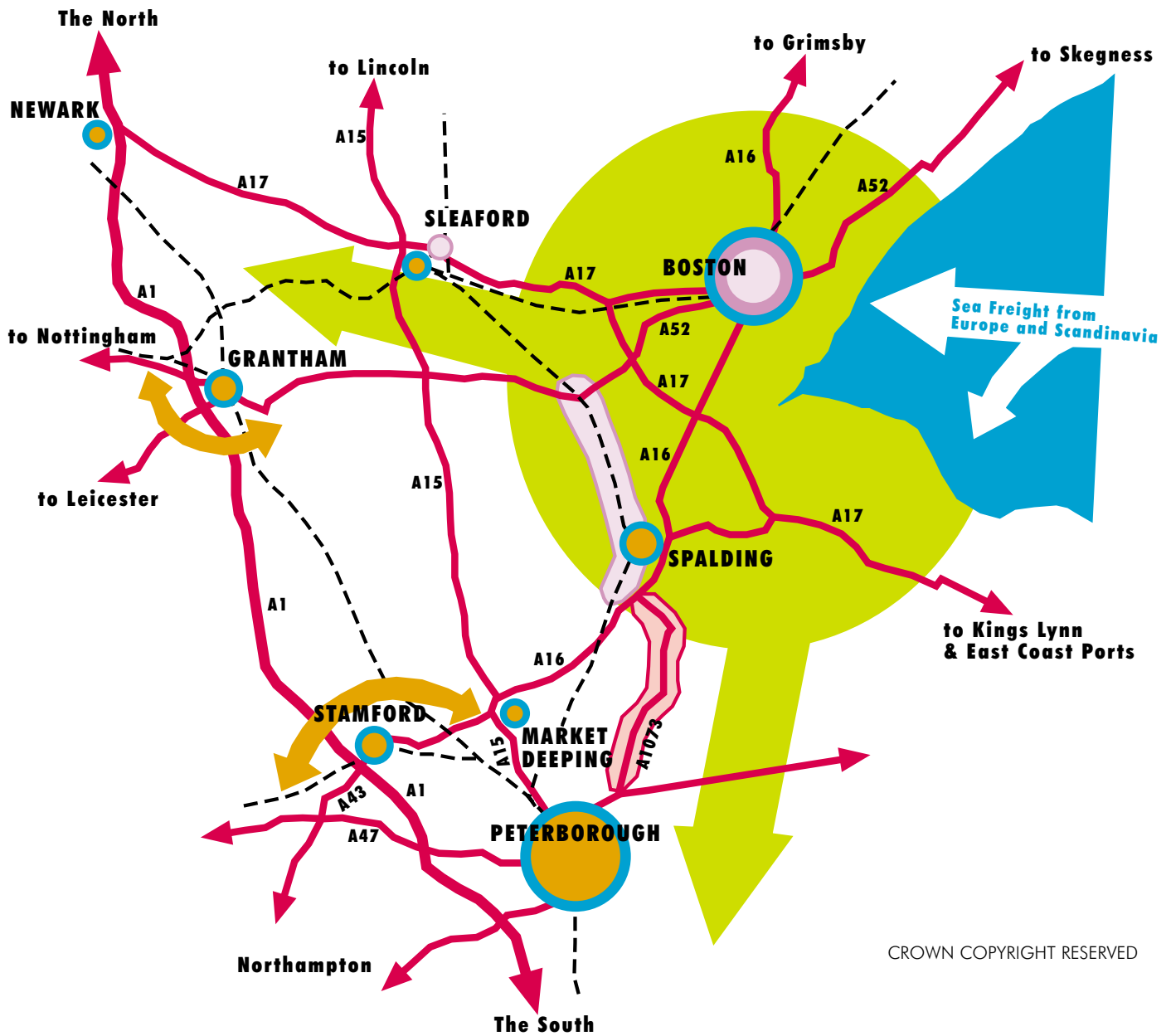
KEY

Rail Freight Opportunities

A1073 Route Improvement Scheme

HGV Impact Issues

Freight Hub

– – – – Rail Network

9.2.12   At the time of writing, the Secretary of State for the Environment, Transport and the Region has called in the planning application for the residential development which will help fund the proposed bypass. An Inquiry is anticipated in November 2000 and subject to a satisfactory outcome, a start on the scheme is expected early in 2001/02.

A1073 Spalding - Eye Improvement (LTP Major Scheme Bid - First Priority)

9.2.13   **Issues -** The A1073 is approximately 19.5 kilometres in length and extends between the A16 Trunk Road at Spalding to the north and the A47 trunk road at Eye to the south. The southernmost 5.5 kilometres lie within Peterborough City. Up to 12,400 vehicles per day use the route of which 8% are HGVs.

9.2.14   The existing route is deficient in a number of respects:

- poor alignment over significant lengths, with numerous sub-standard bends;
- width standards for both carriageway and verges are not met;
- poor accident record;
- inadequate construction on weak soils and in part is carried by a five metre high flood bank. The route requires a further £2 million of capital maintenance over the next five years with an additional £50,000 per annum for routine repairs; and
- the route passes through the village of Eye Green.

9.2.15   The A1073 offers a more direct alternative to the A16 Trunk Road for traffic moving to the A1 and the south of England. Furthermore, rail industry proposals to increase rail freight on the joint line (Sleaford to Peterborough) and to increase the number of passenger trains on the main line will increase gate closures at level crossings on the A16 at Tallington and Deeping St Nicholas.

9.2.16   The Highways Agency's decision to abandon plans for an A16 bypass for Stamford and the consequential current proposal to introduce a weight limit through Stamford will result in significant increases in eastbound HGV traffic exiting the A1 at Peterborough; offering the A1073 as a more direct route. It is proposed to de-trunk the A16 in 2002.

9.2.17   At present, 130,000 tonnes of freight is carried per week along the A1073, and the opportunities for rail freight use, described in Section 18.3, have been examined as an alternative. The difficulties in marketing rail transport for the food industry in particular, is that it has historically been unable to provide the type of "point-to-point" distribution and flexibility, which road transport offers at present.

9.2.18   Specifically for the A1073, surveys have shown that approximately half the freight traffic in fact travels away from the areas served by the railway between Spalding and Peterborough. Even with improvements to rail facilities between Spalding and Peterborough, a large proportion of food and food products will still require to be transported by road, via the A1073.

9.2.19   The Joint Line, which runs from Doncaster to Peterborough via Lincoln, Sleaford and Spalding has the potential to carry a proportion of this trade and serves the midst of the agricultural production and processing area. Although the line has spare capacity, the main issues influencing a switch from road to rail are:-

- the condition of the track and signalling infrastructure;
- the 'single-shift' eight operating day available between Sleaford and Spalding;
- the lack of loading/unloading facilities;
- the high start-up costs of freight operations, including refrigeration;
- competitiveness of road freight; and
- lack of confidence of local industry in rail meeting its operational needs, e.g. reliable just-in-time delivery.

9.2.20   **Strategy -** Whilst in the long term, the County Council will continue to work towards the development of the necessary rail freight handling facilities that the food industry requires, the transport of food will be almost totally reliant on road transport over the short and medium term. It is for this reason that the A1073 plays a vital role in meeting the transport needs of the food industry in part of Lincolnshire, both in terms of local producers and the movement of finished, processed food. Given the future conditions expected for the A16 as described above, the importance of the A1073 as a strategic route is further enhanced. In addition, the HGV Routeing proposals described at Section 9.2.4 require quality routes, meeting the stated objectives, in order to be successful.

9.2.21   Accordingly a strategy is proposed that will upgrade both the quality and status of the A1073 route, with a corresponding reduction in status of the A16 following its de-trunking. The strategy and the proposals described below have been prepared in partnership with Peterborough City Council.

9.2.22   **Proposals -** A number of improvement options have been considered for the A1073 ranging from continuation of current maintenance regimes, through on-line improvements, to full upgrade of the route to dual carriageway standards. From these options, two have been selected as the best alternatives and will be the subject of public consultation later this summer.

9.2.23   The options selected; to upgrade the route to full single carriageway standards and constructed predominantly off line; will offer:

> •   adequate widths, alignment and junctions;
> •   a well engineered road, capable of carrying the traffic loads imposed; and
> •   bypass relief for the village of Eye Green and other properties fronting the existing route.

9.2.24   The two routes follow the same general alignment. They depart the existing A16 at Spalding via a new roundabout, following the line of the disused railway before bypassing Cowbit village to the east. The difference comes in the vicinity of Crowland and Eye Green. The "on-line" alternative would involve improving the existing A1073 past Crowland and down to Masons Bridge before passing to the west of Eye Green to join the A47 trunk road at a new roundabout. The "off-line" option would remain to the east of the A1073, passing well away from Crowland village before crossing the existing route south of Crowland to pass to the west of Eye Green village, again joining the A47 Trunk Road at a new roundabout. These routes are shown in Figure 9.2.

9.2.25   The "on-line" option is approximately 18.7 kms in length and is expected to cost some £24.8 m. The "off-line" option is slightly longer at 19.0 kms and is estimated to cost £24.0 m. For the purpose of the bid the higher estimate has been used.

9.2.26   **Benefits -** The proposed route improvement offers good value for money, and provides the necessary support to the local economy, particularly the food industry, through improved road access for businesses and hauliers in the area, as well as expansion of key sites identified in Local Plans.

9.2.27   Specifically the scheme will bring the following benefits :

- considerably improved journey times and journey time reliability which will both assist the freight industry and bus services operating between Spalding and Peterborough (including future InterConnect implementation for this corridor)

- a significant reduction in accident numbers

- a reduction in the deterioration of the highway network thereby achieving the maintenance objectives

- a reduction in noise levels and improved air quality in affected communities and at other properties on the existing route

- reduced severance and community impact at Eye Green

- engineered drainage systems with pollution collection facilities will reduce the risk of damage to the local water environment

- the possible use of parts of the existing route for dedicated non-vehicular usage

- minimised disruption to existing traffic flows and communities during the period that the works are carried out by the construction of the route off-line

9.2.28   The full assessment for the scheme is presented in the "A1073 Spalding to Eye Improvement" document which accompanies the Local Transport Plan.

9.2.29   **Funding -** It is considered that the success of the project is dependant on other strategies set out in the Local Transport Plan, ie. Rail Freight Movement and HGV Routeing which are outside the control of potential PFI partners. Furthermore, the peripherality of the location of the scheme in relation to

Figure 9.2 **A1073 SPALDING TO EYE IMPROVEMENT**
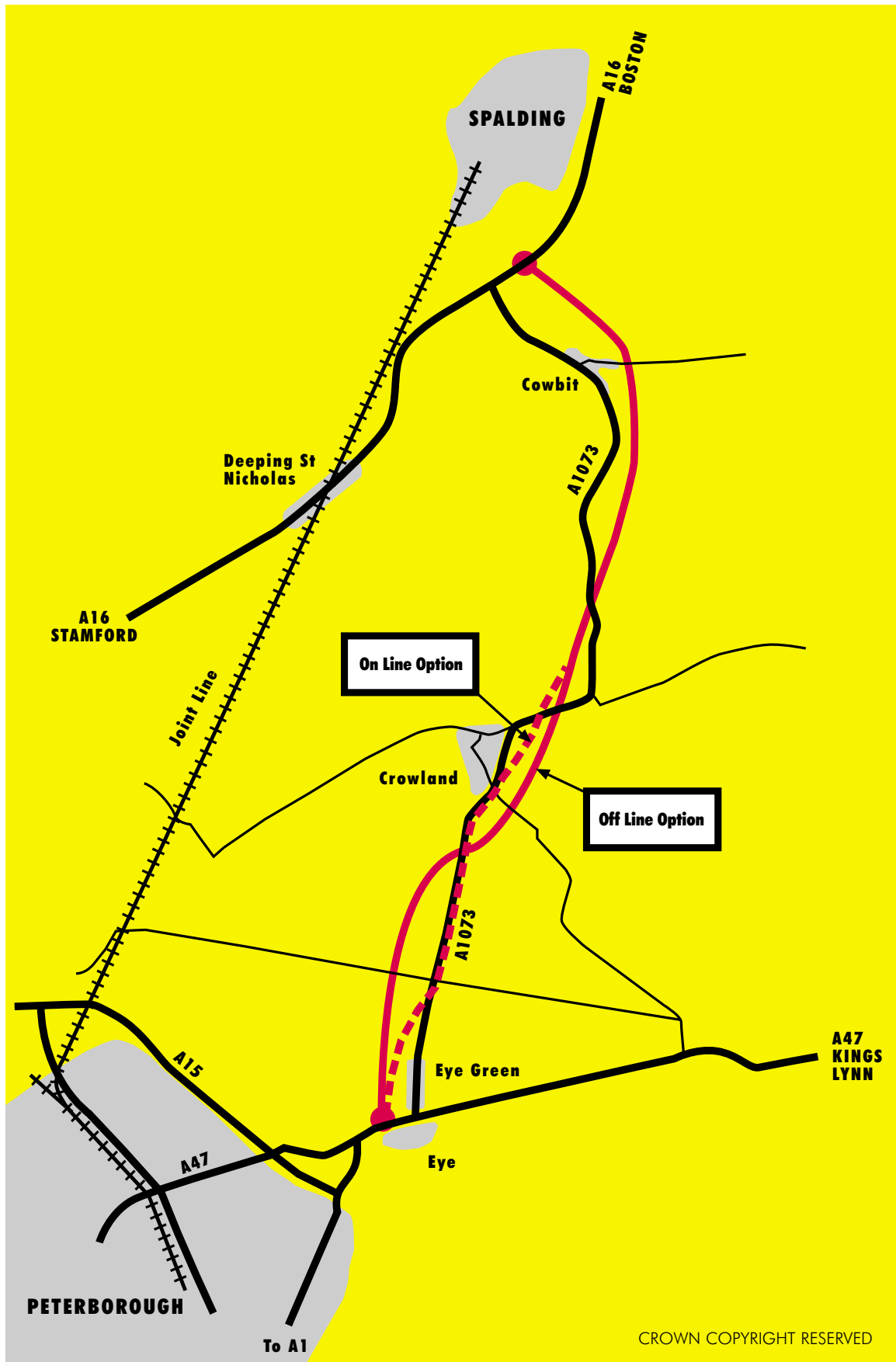
nationally important routes leads the County Council to believe that there would be a low level of market interest for PFI procurement. Accordingly, it is proposed that this scheme should be accepted for conventional funding.

9.2.30 Given the strategic needs for the scheme solely in terms of Lincolnshire's Economy, it is accepted by the County Council and Peterborough City Council, that the proposals are unlikely to form a high regional priority in the latter's (Eastern) region. Therefore, funding for the entire scheme is bid for within Lincolnshire County Council's Local Transport Plan, with the exception of limited funding to enable Peterborough City Council to provide sufficient resources on the development of the scheme proposals.

9.2.31 **Timetable -** Work on the scheme is expected to start in Autumn 2002, with construction expected to last some 2 years. A full programme is included in the accompanying assessment report. The timetable set out reflects the uncertainties allied to major road schemes; allowing sufficient time for all statutory processes and consultations, together with the often protracted delivery of public inquiry decisions.

9.2.32 However, the County Council and Peterborough City Council are committed to early completion of the scheme, in order to secure the benefits without unnecessary delay, and in any event, development of the scheme will continue despite the uncertainty of the outcome of the approval and bid process. In support of the ambitious timetable proposed for the scheme, the County Council have considerable experience in recent years of the delivery of major highway schemes, which have required the full range of statutory processes, within 'fast-track' programmes.

9.2.33 In conclusion, the scheme is programmed to be delivered within the period of this Local Transport Plan.

Boston Southern Link

9.2.34 **Issues -** Since the proposal to construct a Boston Bypass failed to progress in the mid 1990's, there have been a number of substantial developments within Boston and a number of significant alterations to the highway network which have influenced the way in which traffic circulates within and passes through the town. These include :

- Expansion of the Riverside Industrial Estate to the south of the town
- Development of the Enterprise Park to the west of the town (Currently in progress)
- Expansion of the port and reintroduction of rail freight
- Redevelopment of Queen Street (Currently in progress)
- Installation of a SCOOT traffic signal system
- Trunk Road signalisation at Bargate roundabout and Liquorpond Street roundabout
- Construction of new A16 route from Liquorpond Street towards Spalding.

9.2.35 The layout of Boston, with the Port and Riverside Industrial Estate to the east and south east means that access to and from the rest of the Midlands is predominantly via the A1121/A52 (Sleaford Road). This results in business traffic being directed through both major residential areas and the key access points into the town centre before continuing enroute to/from its destination.

9.2.36 The A52 is a major holiday traffic route from the Midlands to the Skegness area. Through traffic is forced to travel along Sleaford Road, Liquorpond Street, Haven Bridge, John Adams Way and Spilsby Road exacerbating existing problems on these links.

9.2.37 Based upon work being undertaken by consultants air pollution levels are expected to exceed government defined thresholds at Haven Bridge, Sleaford Road, Liquorpond Street and Spalding Road.

9.2.38 **Strategy -** Boston Borough Council has recently commenced a review of its Local Plan and has produced an issues paper as the first step in this process. Among the matters to be addressed prior to the publication of the Deposit Plan is the relative strategic merits of different development/highway/transport options.

9.2.39 With regard to the allocation of new housing land in the town, the Borough Council has identified two possible options: -

- a concentrated strategy - effectively a single large allocation of land in an appropriate location.
- a dispersed strategy - a greater number of small sites located throughout the town.

10 *Maintenance : Asset Protection*
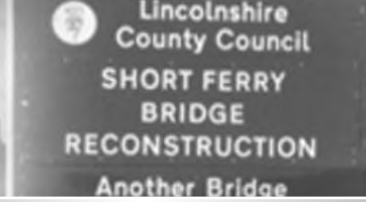
10.1 INTRODUCTION

10.1.1   As local highway authority, the County Council is responsible for the maintenance of the vast majority of the highway network in Lincolnshire. This comprises :

- 8,965 kms (5,572 miles) of road
- around 1,425 bridges and 2,500 known smaller culverts, footbridges and other structures
- some 3,300 kms (2,000 miles) of footways and cycleways
- 3900 kms of public rights of way

10.1.2   In addition, there are 311 kms (193 miles) of trunk road, including a further 115 bridges, which are currently the responsibility of the Highways Agency. However, the Government is currently proposing that the majority of this network be handed over to the County Council in the near future (See chapter 19). Finally, there are some 180 bridges that are owned and maintained by other bodies such as British Rail Property Board, Railtrack, British Waterways, the Environment Agency and the various Drainage Boards.

10.1.3   The estimated replacement value of the County Council's element of this network is some £5,000 million. Currently, about £20 million is spent every year on maintaining this highway network, representing just 0.4% of the value of the asset, with only half of this figure being allocated to the structural layers of carriageways and footways. Hence, there is a major backlog with regard to the maintenance of roads and bridges. The level of recent Government funding settlements means that the County Council has to firmly prioritise the spending of the available money.

10.1.4   The County Council's objectives for maintenance are :

- *To maintain an effective highway network.*

- *To maintain the long-term structural integrity of highways throughout the county.*

- *To maintain the long-term structural integrity of all bridges and other highway structures.*

10.1.5   Maintenance activities in the county are broken down into five headings, as described below and shown in Figure 10.1:

Structural Maintenance - This is further divided into capital and revenue elements. Capital expenditure covers all bridges and principal roads (A roads). Maintenance expenditure on the rest of the road network, on footways and cycleways, and on culverts, retaining walls, etc. is classified as revenue.

Figure 10.1

Typical Annual Maintenance Expenditure

Structural 66% · Roadside 4% · Safety 20% · Winter 9% · Other 1%
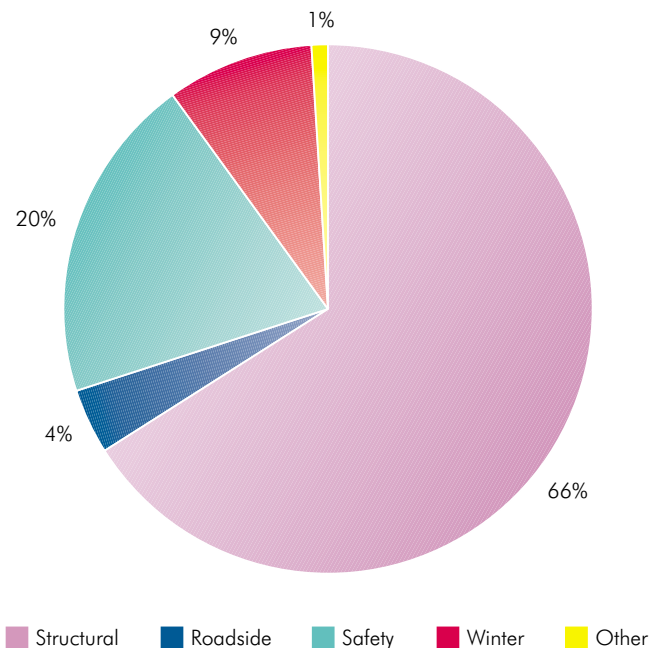
Structural maintenance is important to preserve the value of the highway network. Early preventative maintenance is far more cost effective than waiting until failure occurs.

Roadside (Environmental) Maintenance - This covers grass cutting, weed control, verges and roadside trees and shrubs. Much of the work is of a cyclic nature, but contributes little to the preservation of the network, although weeds can damage paved footways and carriageway edges.

Safety Maintenance - Safety aspects of maintenance include signs, road markings and studs, drain cleaning and gulley emptying, street lighting, traffic signals and other traffic management costs.

Winter Maintenance - Winter maintenance covers precautionary salting to prevent ice forming, and snow clearance. The variability of winter weather from year to year means that the annual expenditure incurred varies.

Other Maintenance Expenditure - This small budget covers specialist machine surveys, bridge inspections and visual condition surveys. The results are used to help make decisions on budget allocations and priorities.

10.1.6   Only those elements of expenditure relating to capital expenditure on bridge strengthening and maintenance of principal roads are eligible for funding support through the Local Transport Plan process. The remainder will continue to be funded through revenue support as in the past. The following sections of this chapter set out the County Council's strategy for specific areas of highway maintenance.

10.1.7   All of the County Council's maintenance programmes are restrained financially, and proposals to improve access, safety and the condition of the network have to compete for their place alongside the Council's other community responsibilities. Whilst the Council's budget management and allocation illustrate the high priority placed on maintaining transport infrastructure in Lincolnshire, protecting both past investment and future accessibility will remain under-resourced activities in the current financial framework. The Council is therefore investigating the components of an asset management strategy focusing on the management and improvement of the network, and based on substantial private sector involvement. These plans will be brought forward for consideration during this first full Local Transport Plan and may involve a formal bid under the Private Finance Initiative.

Key Maintenance Issues

10.1.8   The key areas of maintenance requiring strategically targeted funding include:

- principal road structural maintenance
- non principal road and footway structural maintenance
- routine road maintenance
- winter maintenance
- bridge strengthening
- street lighting
- public rights of way

10.1.9   On principal roads, the key issue to be addressed is the increasing lengths of carriageway which have reached the point at which repairs to prolong their future life should be considered. Funding levels cannot prevent a continuing deterioration of the network as a whole, but careful targeting of allocations will be made to repair those sections with zero residual life to minimise the outstanding critical lengths.

10.1.10   On other roads and footways the issue is the inability of current funding levels to match the rate of deterioration of the network, where targeting spending on the main classified network (A, B and C roads) and urban footways will aim to improve these routes and reduce the length with unacceptable defect levels.

10.1.11   In routine maintenance, safety is the major issue, where more efficient and effective spending on repair of urgent defects and cyclic activities will be targeted. For winter maintenance, the issues are related to precautionary salting in terms of treatment times, route efficiency and new initiatives, which will be used to ensure routes are completed cost effectively within a 4 hour target time.

10.1.12   Bridge maintenance requirements have been seriously hit with the change of maximum vehicle weights affecting the ageing bridge stock, and funding will be targeted at increasing the number of bridges

capable of taking 40 tonne lorries together with reducing the number of bridges, culverts and footbridges with severity 1 and 2 defects.

10.1.13 The main street lighting issue is the condition of much of old stock concrete and non root protected steel columns, future funding will be targeted particularly at 10 metre high concrete columns and a programme of replacement of the highest severity defect steel columns.

10.1.14 Public rights of way funding will targeted at bridge maintenance on inter village and other important local routes.

10.2 BEST VALUE REVIEW - STRUCTURAL MAINTENANCE

Background

10.2.1 A Best Value Review of Structural Maintenance has been undertaken for 3 main reasons:

- surveys had shown that the condition of roads and footways were a major public concern
- visual condition assessment surveys carried out over the whole network revealed a maintenance backlog of nearly £40 million to bring the whole network up to an acceptable standard
- recognising this, the service was selected as a high priority for a fundamental service review in the first year of the County Council Performance and Budget Plan.

Review Group

10.2.2 A review group was set up to oversee the review and included County Council Highways and Planning staff as well as representatives from GOEM, LCR Highways, Norfolk CC and the Freight Transport Association

10.2.3 Under the review group a project team was set up using both internal resources and external input from:

- other local authorities
- consultants (Babtie, Oscar Faber, OPUS)
- contractors and suppliers (LCR, RMC, Tarmac)
- local freight transport association members

Programme

10.2.4 The review commenced in October 1999 and has been programmed for substantial completion in time for input into this Plan. In compliance with Best Value guidelines, the following processes were undertaken.

Compare

10.2.5 In establishing a benchmark to ascertain Lincolnshire's position in comparison with other authorities and as a base to measure improvements in service delivery, data was obtained for:

- historical expenditure
- network and inventory data
- coarse visual inspection data (see Figure 10.2)
- machine based data (see Figure 10.3)
- utility openings
- staff resources
- maintenance backlog (see Figure 10.4)

10.2.6 This data was then compared with data from other shire counties of a similar rural nature and in the same audit family. Initially data was sought from 17 counties and more detailed information from 5 counties, namely Norfolk, Cumbria, Northamptonshire, Suffolk and Shropshire.

Figure 10.2

National Road Maintenance Condition Data, 1993-99

Legend:
- Lincolnshire
- East Midlands Average
- National Average

Figure 10.3

Principal Roads with Zero Residual Life

Legend:
- Lincolnshire
- Average

Figure 10.4

Current Spendings on Carriageways

Legend:
- Maintenance Backlog
- Expenditure
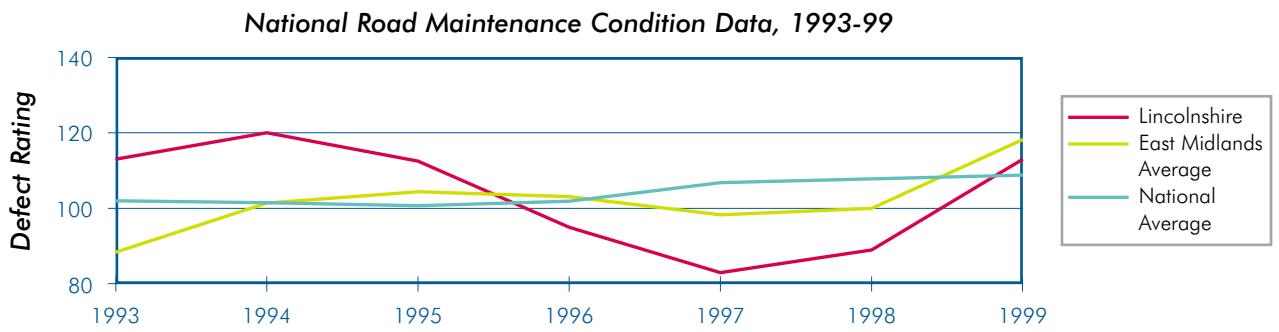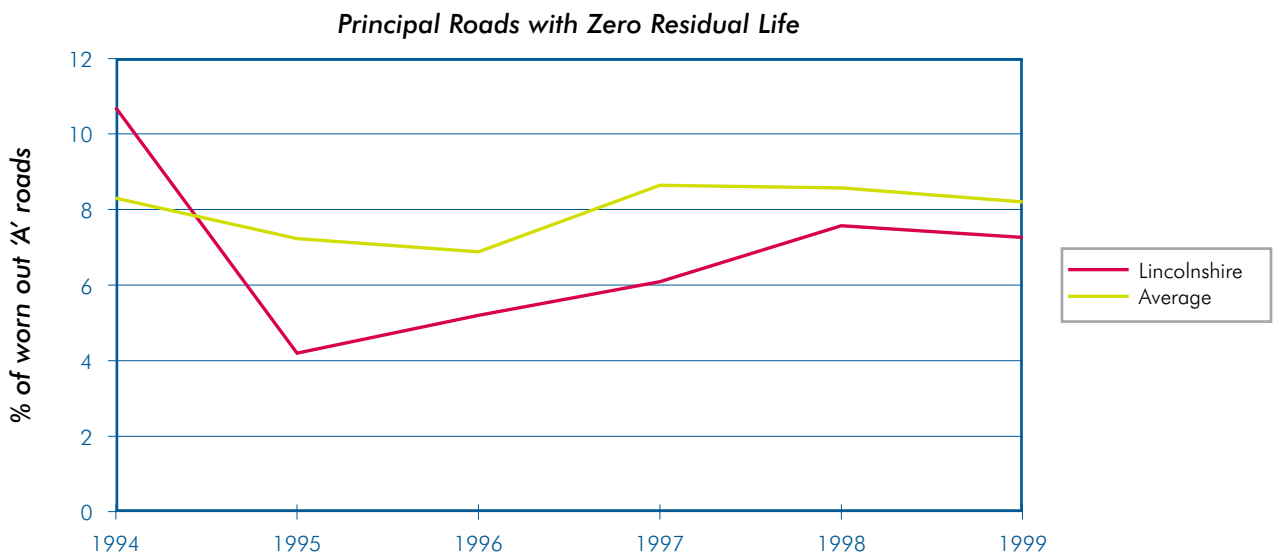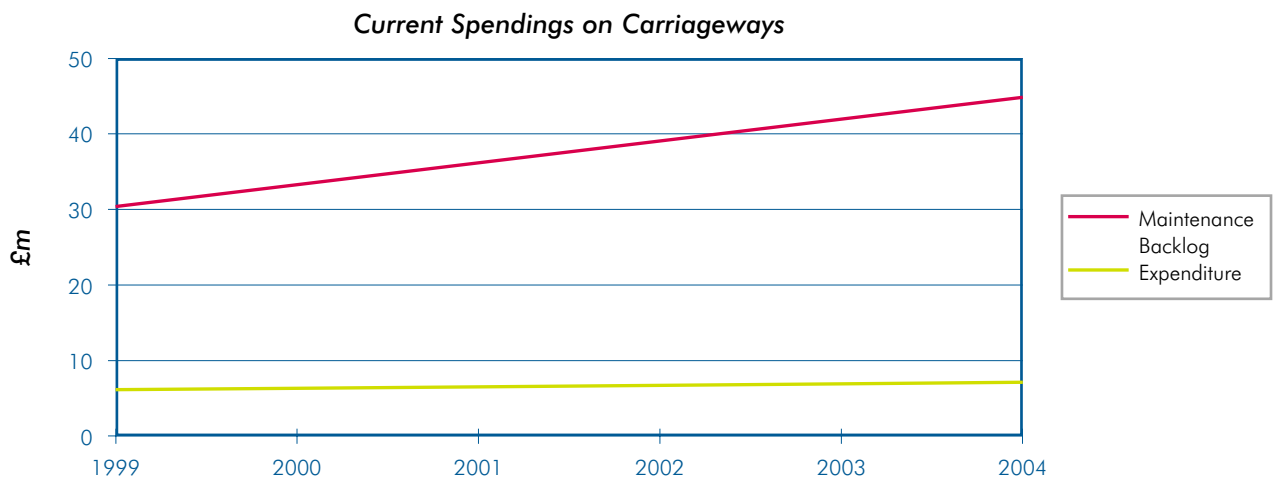
10.2.7   Three years ago Lincolnshire externalised its Direct Labour Organisation and has for a number of years let all of its works competitively, most of which is provided through a Term Maintenance Contract, with design and laboratory services being provided by an " in-house" Technical Services Group in partnership with consultants, Babtie. As part of the review alternative service delivery has been investigated, including:

- design, supervise and construct
- partnership (shared savings)
- flexible contracts (new DETR initiative)

10.2.8   Lincolnshire has already moved towards better planning and targeting of maintenance and has searched world-wide for a suitable Asset Management approach for the Lincolnshire road network. In seeking this OPUS International were commissioned to investigate the applicability of the system they have developed in New Zealand to Lincolnshire's roads. In addition, discussions were held with Babtie and Oscar Faber who both have asset management experience in the UK.

10.2.9   Examples from the analysis of the comparison data has shown Lincolnshire in the following light :

- good historic works and financial records
- low level of third party claims
- excellent visual and machine survey coverage (showing deterioration of network condition)
- budget below average
- well prepared for Best Value Performance Indicators
- very low population per kilometre of highway
- average condition of the maintainable network

Challenge and Compete

10.2.10   The County Council is tasked with providing a good quality carriageway and footway network for the safe passage of the public. The challenge was to find better ways of providing the service and the competition being to seek out who can best provide the service.

10.2.11   The challenge phase of the review concentrated on a number of major themes :

- development of a UKPMS (United Kingdom Pavement Management System) compliant Maintenance Management System   (HERMIS 2000 was purchased in 1999 and is now available to 100 users countywide) to provide -

  - accurate network and inventory data
  - work priorities for future planned maintenance programmes
  - work and cost history for each road and footway
  - safety inspection planning and historic records
  - visual and machine based condition survey data

- using data from the HERMIS system both HQ (strategic) and local area staff will be better equipped to :

  - better target and plan maintenance and reduce the amount of reactive maintenance
  - regularly assess performance against national Best Value Performance Indicators and county Performance Plan targets
  - assess trends in condition of the network
  - assess future budget requirements
  - use the quality data available in national surveys and for future LTP bids

- traffic routeing, in particular HGVs (heavy goods vehicles) causing the most damage to the network, is an issue in Lincolnshire due to the food supply and distribution chain, and the quarrying industry. Working on the experiences of Leicestershire and Norfolk, a trial area around Stamford is being investigated. Future work is covered in this document under the Rural Priorities Initiatives and long term it is hoped that as much HGV traffic as possible can be attracted to the better maintained classified network to in turn relieve the burden on many unclassified roads not designed to carry HGVs.

- in order to ensure that cost effective treatments are used for future maintenance a review of the county's Maintenance Design Manual is planned. In order to ensure best value the manual will cover:

  - site investigation to ensure cost effective designs
  - treatment options (Lincolnshire's soil conditions vary dramatically across the county)
  - use of new alternative materials (e.g. thin surfacings)
  - recycling options and initiatives
  - follow up testing to ensure treatments achieve design life
  - short design life treatments (5 to 10 years where appropriate)

10.2.12 In considering who can best provide the service options, different types of contracts will need to be trialled before a decision on the type of contract to replace the existing Term Maintenance Contract which ends in May 2003. The options discussed in 10.2.6 must address best value and are likely to follow an asset management approach.

Consult

10.2.13 The consultation process has considered the 3 main groups affected by the service:

- users (public, parish councils, Council Members)
- providers (operational staff)
- stakeholders (partners, contractors, consultants, suppliers, freight transport)

10.2.14 The main concerns of the users are:

- potholes
- patching/ utility reinstatements
- HGV damage and lorry routeing
- footway condition
- carriageway edge failure and vehicle overrun
- more money for maintenance

10.2.15 Staff consultation raised :

- budget disaggregation process
- practices in the identification of work
- prioritisation of work
- selection of treatments
- work procedures and documentation
- pressures and constraints (internal and external)

10.2.16 A consultation workshop for staff and stakeholders concentrated on 3 main themes :

- traffic and road use
- procurement
- asset management

10.2.17 The workshop also raised a number of topics for areas of improvement :

- reducing duplication of CVI (Coarse Visual Inspection) surveys with local condition surveys
- reducing disruption to the public
- maintaining a network that is fit for purpose
- robust intervention policy based on structural integrity and risk
- procurement based on outcomes or outputs

10.2.18 Progress seminars have been held for the benefit of council members, which have helped them to become better informed of the processes and problems facing the structural maintenance service.

Recommendations Emerging From The Review

10.2.19 The final report is expected to be completed by the end of July 2000. Recommendations are expected to be phased in over a number of year and include :

- A move towards better planned and targeted maintenance leading to a full Asset Management approach to supplying the structural maintenance service (already commenced during 2000/01)
- HGV routeing - to ease the maintenance burden on much of the unclassified network and dealt with more extensively through the Rural Priority Initiative
- A more frequent and thorough regime of visual inspection surveys (CVI) - to monitor performance against LTP and Performance Plan targets as well as providing up-to-date data for National Best Value Performance Indicators (to be commenced during 2000/01)
- Service standard levels for each road and footway (to be developed in conjunction with local Members and Parish Councils), which in turn will lead to a review of the maintenance hierarchy
- An alternative Service Delivery following the end of the current Term Maintenance Contract in 2003
- A rewrite of the Maintenance Design Manual, to incorporate alternative designs, use of modern materials, use of recycling techniques and other treatments
- The development of partnerships to ensure that as well as providing an efficient and cost effective service road users and frontagers needs are considered
- Developing closer relationships with Utility Companies to minimise disruption to road users

10.3 PRINCIPAL ROADS

Issues

10.3.1   Using efficient and effective targeting and treatments, the current bid/funding levels cannot prevent a continuing deterioration of the principal road network. To repair all sections with zero residual life over the next 20 yrs, it is anticipated that the funding for principal road maintenance would need to be in the region of £4.3 million per annum.

10.3.2   Coarse Visual Inspections (CVIs) have been carried out on the entire principal road network since January 2000 and the raw data has been used in helping to prioritise work in the 5 year programme. However, a figure for the percentage of the principal road network with Structural Condition Index equal to or greater than 70 will not be available until later this year. Once established, it is intended that CVI will be carried out annually on the principal road network to provide up to date information on its condition. This will assist in establishing the effectiveness of treatments and overall indication of the trend in its condition in accordance with the alternative visual survey BVPI 96.

10.3.3   The bid level of £3.85 million if fully funded will be targeted to reduce the deterioration of the principal road network in terms of length with less than zero residual life. Although it is not anticipated that this level of funding will halt the deterioration, over the next 5 years improved survey techniques, better asset management and maintenance history records and achievements of targets will enable Lincolnshire to submit a more soundly justified bid to reduce the length of zero residual life on the network for the second LTP for the period 2006/11.

Current Condition

10.3.4   The current condition of principal roads is measured by visual condition and machine based surveys by:

- structural condition (residual life - deflectograph)
- surface condition, including structural defects (coarse visual inspection - CVI)
- surface skidding resistance (SCRIM)

10.3.5   The condition trends of the network are assessed using National Best Value Performance Indicators (BVPI) and data supplied for the annual National Road Maintenance Condition Survey (NRMCS) as follows:

- length of principal roads with less than zero years residual life deteriorating (BVPI 96)
  - *8.95% at 1 April 2000*

- length of principal roads with CVI defect index > 70 benchmarked (BVPI 96 alternative)
  - *Figure available later in 2000*

- length of principal roads with skidding resistance at or below investigatory level supplied annually for NRMCS report
  - *9.62% of length surveyed in 1999*

Strategy

10.3.6   In order to provide a high quality, efficient and cost effective service on principal roads, the following strategy is in place. The effectiveness of this strategy will be monitored using BVPIs and NRMCS returns. The strategy has been implemented under three main areas:

- structural - restoring 20 year life to lengths of principal roads with less than zero years residual life and having the lowest residual life factor. To target maintenance at structurally failed lengths of carriageway and to reduce the percentage of principal roads which have reached the point at which repairs to prolong their future life should be considered in line with BVPI 96. As some sections (e.g. crushed concrete or slag sub-base on a wet mix roadbase) cannot be modelled in PANDEF, the low deflections can lead to unrealistically high residual lives. As failing sites with this type of construction are identified, the need to repair these sections may be given a higher priority than some sites with zero residual life.

- surface condition - carrying out surface treatments to the lengths of principal roads with the highest surface defects, but having acceptable residual life. To seal the carriageway surface and provide a cost effective way of maximising residual life by preventing ingress of water into the structural layers

- surface skidding resistance - resurface sites with the highest cost/benefit rate of return in accident savings. To reduce both the number of accidents and the potential for road surface condition being a contributory factor to future accidents. On these sites the structural condition is also assessed for repairs to maximise the life of the surface treatment and reduce the disruption of the surface for structural repairs in the short term

10.3.7   The development of the 5 year programme on the principal road network relates investment in maintenance to other LTP themes :

- Rural Priority Initiative for rerouteing HGV traffic from minor roads
- Improving the environment of rural communities by resurface schemes with porous asphalt (reduces spray from vehicles in wet weather) and low noise surfacing treatments
- The needs of strategic local transport routes (e.g. the Lincoln to Skegness InterConnect bus initiative)
- Access to main transport interchanges (e.g. bus and train stations)
- Initiatives within the Staying Alive strategy (e.g. surface skidding resistance treatments and higher specification for road markings and studs)

2000/01 Programme

10.3.8   The programme of work identified in the first year of the provisional LTP has been reviewed to include A52 Wharf Road, Grantham following the poor condition revealed from the latest deflectograph and the need to incorporate this maintenance work in with the Grantham Town Centre Improvement. As a result, the lowest priority scheme for 2000/01 (A52 Skegness - Burgh Road Fork to Roman Bank) has been deferred. The revised programme is shown in Table 10.1 including details of the lengths of carriageway with below zero residual life to be repaired. This programme is targeted to repair 4.4 km of principal road with a residual life below zero.

Targets

10.3.9   The target for the LTP has been set as follows, but is based on full funding of an average annual bid of £3.85 million for the next 5 years :

> **MT1 - *To reduce the projected 113 km (14.1%) on the Principal Road Network which have reached the point at which repairs to prolong their future life should be considered to 68km (8.5%) by reconstructing 45km (5.6%) by 2006***

Table 10.1

2000/01 Principal Road Maintenance Programme

SCHEMES	Original Budget £	Length of zero Residual life repaired Km
Maintenance Schemes above £150,000		
A18 LUDBOROUGH C615 Salters Ln to Cty Bdry	230,000	1.10
A1104 MABLETHORPE High St (Victoria Rd to A1031)	220,000	0.75
A1031 MABLETHORPE Meers Bridge to A1104	245,000	1.00
A52 GRANTHAM South Parade to Speed Limits	170,000	0.40
Maintenance Schemes £75,000 to £150,000		
A1031 NORTH COATES B1201 to Thoresby Bridge	115,000	0.45
A157 TOTHILL C528 Authorpe to New Lane (C534)	95,000	0.35
A1073 CROWLAND Queensbank to Hulls Drove	100,000	0.15
A52 GRANTHAM Wharf Road	135,000	0.20
Maintenance Schemes below £75,000	188,000	
Surface Treatments	277,504	
SCRIM Treatments	150,114	
Retentions	24,382	
TOTAL	1,950,000	4.40

10.3.10   The calculation of the length of Principal Road which has reached the point at which repairs to prolong their future life should be considered is in accordance with national BVPI 96 guidance. However, the indicator does not take into account lengths of the network treated after the latest deflectograph survey took place. In order to have a complete picture of the network these sections have been included as having a residual life greater than zero to enable total network coverage to be considered in the 5 year target.

10.3.11   The 5 year programme of schemes with low residual life will target stability in the network and aim to retain the proportion of the network with zero residual life at between 8.5 and 9.5% during the period of the Local Transport Plan as shown below. Although at a slightly lower standard, this is in line with the Highway Agency Business Plan target to retain the percentage of the trunk road network requiring planned maintenance at between 7 and 8%. The Highways Agency also use similar survey techniques to assess the condition of the trunk road network. However, the development of a machine based survey to replace visual condition surveys on trunk roads is well advanced and it is likely that Lincolnshire will look to introduce machine based surveys to replace CVI on principal roads to provide a more consistent and safer method of survey within the next 5 years.

YEAR	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
% Zero Residual Life at year end	8.62	9.07	9.09	8.79	8.55	8.69	8.52
Km Zero Residual Life at year end	69.05	72.66	72.86	70.45	68.52	69.63	68.26
Km Zero life repaired during year	2.2	4.4	7.8	10.4	9.9	6.9	9.4
Budget/Bid (£000's)	2,392	1,950	3,895	3,815	3,855	3,805	3,880

Estimated figures for 2000/01 onwards

10.3.12   Increased funding levels would enable the length of principal road with residual life less than zero to be reduced and 2 scenarios have been considered with a target of repairing all lengths with residual life less than zero based on current trend data :

- To target the repair of all principal roads over a 20 year period taking into account current deterioration trends, would require annually 11.6 km of repair and a budget of £4.3 million. This would result in Lincolnshire having no roads with residual life less than zero by April 2021.

- To target the repair of all principal roads over a 10 year period taking into account current deterioration trends, would require annually 15.4 km of repair and a budget of £5.7 million. This would result in Lincolnshire having no roads with residual life less than zero by April 2011.

Implementation

10.3.13   The implementation of the 5 year principal road maintenance programme as shown in Table 10.2 will be guided by the following :

- a maintenance programme carefully targeted at the sections with past critical residual life
- an asset management approach restoring full 20 year design life to reconstructed sections
- accident reduction contribution from highest priority SCRIM treatment sites
- prolonging the life of sections with high surface defects and acceptable structural residual life by surface treatments
- the use of modern surface treatments, including porous asphalt to reduce spray in wet weather (potential accident risk) and reduced traffic noise treatments (environmentally beneficial to adjacent frontages)
- lorry routing - good quality principal road network will encourage HGVs away from less suitable sections of the non principal road network
- the use of recycling techniques will continue to be considered where appropriate, following the full depth recycling trial as part of the A1031 Saltfleet scheme of 1999/00, which is continuing to be monitored.

10.4 OTHER ROADS AND FOOTWAYS

Issues

10.4.1   The extensive highway network in Lincolnshire (with 2.5 times as much highway per capita as the national average) and the limited levels of funding over a long period combine to present an enormous financial problem for the county. £5 billion of assets in the highway network currently receive just £10 million for the structural layers of carriageways and footways (0.2% of the asset value). There are £40 million of urgent works and spending would need to be doubled to stabilise the rate of deterioration (currently estimated at 3% per annum). The maintenance backlog figures have been produced from the old HERMIS maintenance management system using visual inspection data for every carriageway and footway in the county and current term maintenance contract rates. The rate of deterioration has been estimated from limited visual inspection trend data. The current funding rate will not keep pace with deterioration and it is estimated that the backlog will reach £50 million by April 2006.

10.4.2   The complete county road network has been inspected and Coarse Visual Inspection defect (HERMIS - SMART) have been recorded. From this data, sections of carriageway and footway with the highest Condition Defect Index can be selected for maintenance treatment. This data has now been converted into CVI data and loaded into the Pavement Management System module within the new HERMIS2000 system. This data is now being made directly accessible to operational staff. Visual inspections carried out during 2000 have been in accordance with UKPMS rules and parameters and the data for principal roads is being used in updating the 5 year programme.

Table 10.2

Principal Road Maintenance Five Year Programme 2001-2005

Road No	HERMIS Section No	Location	Residual Life Factor (Note 1)	Length with <= zero residual life Carriageway km	Total maintenance length Carriageway km	Coarse Visual Inspection Rating (Note 2)	2001 /02 £000's	2002 /03 £000's	2003 /04 £000's	2004 /05 £000's	2005 /06 £000's
A1031	687	Theddlethorpe St Helen	-2.96	0.870	1.120	2.5	260				
A52	552, 566, 568	Mumby, Hogsthorpe	-0.57	0.638	0.990	2.83	150				
A15	328, 330, 332	Ashby de la Launde, Brauncewell	-0.33	-.949	1.750	2.00	290				
A151	469	Bourne North Fen	0.12	0.936	1.370	2.50	325				
A52	477	Grantham	0.13	0.200	0.400	2.5	160				
A15	383, 388	Osbournby, Aswarby	1.09	0.950	1.770	2.50	300				
A52	513	Trusthorpe	2.31	0.250	0.670	2.50	105				
A151	308	Colsterworth	2.46	0.450	1.150	2.50	135				
A1101	858, 707	Tydd St Mary, Sutton Crosses	2.77	0.850	1.950	2.00	410				
A631	114, 123, 132	Gainsborough	3.09	0.435	1.590	1.00	605				
A1031	515	Tetney	4.00	0.650	1.870	2.50	175				
A156	125, 194	Gainsborough, Marton	4.15	0.365	0.610	2.50	210				
A158	269, 274	Rand	4.51	0.300	0.680	1.50	120				
		Totals		7.843	15.920		3,245				
A157	679, 680	Tothill, Withern	-7.77	1.087	1.140	3.00		195			
A52	540, 548, 551	Anderby, Mumby, Huttoft	-3.96	1.016	1.320	2.67		210			
A15	484	Baston, Langtoft	-2.29	0.769	1.040	3.00		215			
A15	343, 347	Leasingham	-2.14	0.808	1.000	3.00		240			
A607	495	Denton	-1.28	1.300	1.770	3.00		335			
A157	544	East Barkwith, Hainton	-0.28	1.350	1.750	3.00		265			
A158	237	Newball	-0.22	0.450	0.700	2.00		145			
A52	644, 690, 736	Leverton, Friskney, Croft	0.63	0.646	1.080	2.83		230			
A1031	560, 605	Marshchapel, North Somercotes	1.32	0.826	1.530	2.75		190			
A46	200 to 209 inc.	Middle Rasen	1.92	0.640	1.560	2.58		435			
A15	318, 320, 324	Ashby de la Launde	2.04	0.900	1.940	2.50		305			
A151	835, 841	Weston	3.63	0.400	1.280	3.00		280			
A158	523, 527	Langton by Wragby, Hatton	4.83	0.200	0.600	2.25		110			
		Totals		10.392	16.710			3,155			
A1031	656	Saltfleetby All Saints	-8.92	1.283	1.470	3.50			335		
A157	690	Withern	-6.25	1.150	1.550	3.50			225		
A52	539, 536	Huttoft	-4.19	1.350	1.570	3.25			230		
A151	437, 457	Bourne	-2.74	1.618	2.220	3.00			605		
A6121	475	Stamford	-1.06	0.487	0.840	3.00			220		
A15	379, 399	Aswarby, Folkingham	-0.97	0.358	0.540	2.75			115		
A1031	532	North Thoresby, Tetney	-0.85	0.450	0.900	3.00			155		
A156	112, 159	Gainsborough, Knaith	0.83	0.423	0.750	3.00			220		
A6121	332	Lound	0.85	1.000	1.750	3.00			275		
A15	456, 460	Bourne	1.48	0.615	1.430	2.75			345		
A158	135, 149, 188	Greetwell, Reepham, Sudbrooke	1.60	0.800	1.320	3.00			305		
A153	689	Tattershall	2.35	0.400	1.210	3.00			155		
		Totals		9.934	15.550				3,185		
A607	462	Grantham	-6.49	0.515	0.770	3.50				455	
A1073*	705, 785	Cowbit, Peak Hill	-3.83	2.444	3.290	3.50				1045	
A153	677, 688	Tattershall, Coningsby	-2.09	1.084	1.470	3.50				405	
A15	925, 948, 957, 995	Lincoln City	-0.46	1.223	1.310	3.29				615	
A52	824, 840, 842	Swineshead	0.52	0.313	0.580	2.33				135	
A1133	295	Girton	0.75	0.283	0.580	1.50				115	
A52	519, 528	Sutton-on-Sea	0.78	1.043	1.840	3.25				355	
		Totals		6.905	9.740					3,125	
A1137	857	Boston	-6.88	0.272	0.320	3.50					110
A607	446, 454	Grantham	-4.43	0.940	1.290	3.50					385
A153	312	Tattershall Bridge	-4.21	0.800	1.130	3.50					290
A15	393, 397	Walcot, Threekingham	-1.26	0.817	1.220	3.50					235
A1104	550	Mablethorpe, Maltby Le Marsh	-0.76	0.620	1.220	3.50					270
A1073*	860, 890	Crowland	-0.14	1.024	1.570	3.00					545
A151	404, 412, 428	Grimsthorpe, Edenham	0.07	1.765	3.070	3.50					245
A52	533	Sandilands	0.81	0.500	0.790	3.50					145
A151	759, 788, 791, 797	Pinchbeck West and Spalding	1.50	0.948	1.540	3.40					415
A46	215	Market Rasen	1.74	0.295	0.590	2.00					110
A15	465, 467, 473, 476	Bourne, Thurlby, Obthorpe, Baston	2.29	1.000	2.050	3.25					325
A1084	260, 285	Caistor, Audleby	2.44	0.400	0.800	2.75					115
		Totals		9.381	15.590						3,190
		Surface Treatment					600	610	620	630	640
		Retentions					50	50	50	50	50
		Totals		44.455	73.610		3,895	3,815	3,855	3,805	3,880

Reserve List (Note 3)

Road No	HERMIS Section No	Location	Residual Life Factor (Note 1)	Length with <= zero residual life Carriageway km	Total maintenance length Carriageway km	Coarse Visual Inspection Rating (Note 2)	2001 /02 £000's
A151	815, 834	Spalding Weston	1.30	0.650	1.068	3.50	240
A155	543, 592	Tumby, Revesby	3.85	1.099	2.549	3.25	255
A153	388, 383, 382, 372	Anwick	0.79	0.731	1.220	3.10	240
A159	166, 173, 274	Laughton, Morton	1.20	0.650	1.712	3.50	260
A151	844, 852, 855	Weston, Moulton	2.75	0.442	1.164	3.33	250
A152	186, 192	Knaith, Gate Burton, Marton	3.55	0.350	1.426	3.50	195
A156	403	Carlby, Manthorpe	3.78	0.378	1.428	3.50	150
		Totals		4.300	10.567		1,590

NOTES:
1. Residual Life factors have been determined for the year proposed for the works using data rerived from HA's PANDEF v3.
2. CVI Rating, derived from a UKPMS CVI survey, relates to the pavement's visual condition during the winter/spring 1999/2000. The rating scale realtes to the structural defect(s) extent (cracking, rutting & settlement); 1 = high defects & 4 = low defects.
3. These reserve schemes will replace the two A1073 renewal projects (*) in 2004/5 and 2005/6 if the route improvement is funded.

10.4.3   The county structural maintenance budget is disaggregated to operational divisional areas on an annual basis, this year by proportion of the network having a Condition Defect Index greater than a predetermined acceptable warning level condition and requiring to be repaired to meet the first year targets set in the provisional Local Transport Plan for each road and footway type. The performance of each operational area against their local targets will be monitored.

Current Condition

10.4.4   This is measured by visual condition and machine based surveys :

- surface condition, including structural defects (coarse visual inspection - CVI) all carriageways and footways
- structural condition (residual life - deflectograph) - Hierarchy 1 and 2 carriageways only
- surface skidding resistance (SCRIM) - Hierarchy 1 and 2 carriageways only

10.4.5   The condition trends for other roads are as follows :

- length of non principal classified roads with CVI structural condition index >or=85, or CVI edge condition index >or=50, or CVI wearing course condition index >or= 60 benchmarked (BVPI 97)
  - *Figure available for 2000/01 in April 2001*

- length of non principal classified roads with skidding resistance at or below investigatory level supplied annually for NRMCS report
  - *15.33 % of length surveyed in 1999*

- length of total non principal carriageway and footway network with defect index not to acceptable standard
  - *Figures tabulated by Hierarchy in Targets section below*

Strategy

10.4.6   The non principal roads make up about 90% of the overall county network. Given the scarcity of resources, the backlog of maintenance and the rate of deterioration of the network, the County Council is targeting from 2000/01 spending in its Performance Plan on lengths of carriageway with the highest Condition Defect Indices, on type 1,2 and 3 roads (the remaining classified network and some busier unclassified routes forming 30% of the county network). The investment in this strategy will also relate to rerouteing as much as possible of HGV movements to the same road network, and could influence the long term bridge strengthening strategy.

10.4.7   The county footway network is over 3,300 km in length and given the scarcity of resources, the backlog of maintenance and the rate of deterioration of the network, the County Council is targeting from 2000/01 spending in its Performance Plan on lengths of footway with the highest Condition Defect Indices on type 1,2 and 3 footways (main shopping, busy urban and less busy urban and busy rural, forming 28% of the county network)

10.4.8   Type 4 and 5 carriageways (lesser used unclassified) and Type 4 footways (little used rural) are being maintained to a lower standard, but sections with the highest defect ratings, together with other urgent and emergency safety maintenance will be treated as a priority. However as shown in the table of targets these 70% of carriageways and 72% of footways will continue to deteriorate as current funding levels cannot meet the needs of the whole network, despite the County Council continuing to spend on highways at a level above the Government Standard Spending Assessment figure.

10.4.9   For carriageways, the condition index warning level for each type is derived from a combination of rutting, wheel track cracking and edge deterioration defects, together with their severity. In order to maintain busier roads to a higher standard, the acceptable warning levels are lower (i.e. the lower the condition index the better the condition of the carriageway). The condition index warning levels and the typical defects for each type of carriageway are given in Table 10.3.

Table 10.3

Condition Index Warning Level and Typical Defects for Carriageway Type

Carriageway Type	Condition Index Warning Level	Typical Defects
1 and 2	35	8 to 20 mm rutting continuously in one wheel track **and** single coarse cracking intermittently in one or more wheel tracks
3	49	8 to 20 mm rutting continuously in more than one wheel track **or** >20 mm rutting intermittently in one or more wheel tracks **and** single coarse cracking intermittently in one or more wheel tracks
4 and 5	69	>20 mm rutting continuously in one wheel track **and** multiple coarse cracking intermittently in one wheel track

10.4.10   For footways, the condition index warning level for each type is derived from a combination of uneven surface, surface cracking and failure, and trips, together with their severity. In order to maintain busier footways to a higher standard, the acceptable warning levels are lower (i.e. the lower the condition index the better the condition of the footway). The condition index warning levels and the typical defects for each type of footway are given in Table 10.4.

Table 10.4

Condition Index Warning Level and Typical Defects for Footway Type

Footway Type	Condition Index Warning Level	Typical Defects
1	55	Even and defective footway surface with limited cracking or broken flags
2	60	Even and defective footway surface with moderate cracking or broken flags
3	65	Uneven footway surface with moderate cracking or broken flags
4	75	Uneven and hazardous footway surface with occasional cracking or broken flags

10.4.11   This strategy - whilst providing cost effective maintenance and long term improvement to the condition of the higher hierarchy carriageway and footways - must not overlook important local needs, which cannot be assessed by condition defects alone.

10.4.12   The implementation of the HERMIS Maintenance Management System, which includes a UKPMS compatible Pavement Management System module, means that the current Condition Indices will be replaced by Indices derived through CVI (coarse visual inspection) surveys data being processed through the UKPMS. The condition of the overall network will be assessed in accordance with Best Value Performance Indicator BVPI97 and will be sub divided by carriageway type to reassess targets. The same approach will be taken for footways, where although there is no national indicator, overall condition will be reported in the County Council Performance Plan and with updated targets for each footway type.

10.4.13 The County Council's targets for carriageway and footway structural maintenance are :

> ### *Carriageways*
>
> **MT2 Type 1 -** reduce the projected 174 km (34%) above the condition index warning level from a current 99km (20%) to 93km (18%) by treating 81km (16%)
>
> **MT3 Type 2 -** reduce the projected 161 km (32%) above the condition index warning level from a current 86km (17%) to 81km (16%) by treating 81km (16%)
>
> **MT4 Type 3 -** reduce the projected 533km (38%) above the condition index warning level from a current 328km (24%) to 308km (22%) by treating 225km (16%)
>
> **MT5 Type 4 -** reduce the projected 1039km (24%) above the condition index warning level to 604km (14%) by treating 436km (10%)
>
> **MT6 Type 5 -** reduce the projected 413km (29%) above the condition index warning level to 362km (25%) by treating 51km (4%)
>
> ### *Footways*
>
> **MT7 Type 1 -** reduce the projected 12km (43%) above the condition index warning level from a current 8km (28%) to 8km (27%) by treating 4.7km (17%)
>
> **MT8 Type 2 -** reduce the projected 60km (47%) above the condition index warning level from a current 42km (32%) to 39km (30%) by treating 21km (16%)
>
> **MT9   Type 3 -** reduce the projected 248km (33%) above the condition index warning level from a current 138km (19%) to 129km (17%) by treating 118km (16%)
>
> **MT10 Type 4 -** reduce the projected 435km (18%) above the condition index warning level to 125km (5%) by treating 310km (13%)

Implementation

10.4.14 The move towards UKPMS should improve the quality of data collected by Coarse Visual Inspection surveys, and local access to data by late 2000 will assist in work planning and programming. As more survey data becomes available and the recommendations of the Best Value Review are implemented a more accurate picture of the true rate of deterioration of the network and achievement of performance against targets will emerge. From this data will emerge a true level of funding required to restore the network to an acceptable standard using an efficient and cost effective service.

10.5 ROUTINE ROAD MAINTENANCE

Issues

10.5.1 The major routine maintenance issues are associated with environmental concerns:

- weed spraying - since the ban on the use of residual herbicides on environmental grounds, the frequency of spraying has been increased to 2 treatments per year. This increased frequency has not prevented a high level of public dissatisfaction, particularly in urban areas. Uncontrolled weed growth can also have a long-term detrimental effect on the structure of carriageways and footways.
- the increased need to concentrate on the environmental issues of verge management

10.5.2 The repair of urgent defects, together with drain cleansing and grass cutting are very important routine activities, but the current performance measures in these areas do not cause any major safety issues.

Options

10.5.3 For weed spraying, the options are to search for alternative approved spray chemicals or to reconsider the number of spray cycles per year, particularly in urban areas.

10.5.4 Verge maintenance options lie between the need to cut grass for visibility purposes and overhang into footways and carriageways, and the environmental approach of reduced verge management.

Strategy

10.5.5 The goal to improve the standard of weed control should be developed by continuing to search for alternative approved residual spray chemicals to avoid the extra cost of increasing the number of spray cycles, particularly in urban areas.

10.5.6 A balanced verge maintenance strategy is being developed in conjunction with the Lincolnshire Trust for Nature Conservation and the Farming Wildlife Advisory Group for eventual wider consultation.

Targets

10.5.7 The county Performance Plan targets are :

- ***To ensure that 99% of notified defects which need to be repaired or made safe within 24 hours are treated within 24 hours of notification***

- ***To ensure that 99% of street lighting faults are repaired within 10 days hours of notification***

- ***To ensure that all cyclic activities are carried out at the frequency stated in the annual Highway Maintenance Plan***

Implementation

10.5.8 The quest to improve standards in roadside and safety maintenance is already being actioned to achieve the targets set and to promote new ideas and methods to provide more efficient and effective maintenance in these areas.

10.6 WINTER MAINTENANCE

Issues

10.6.1 The standards for winter maintenance relates to a network of priority routes, which include the main traffic routes, and connect all the County's towns and main villages to the Strategic network. These routes make up 2,200 km (26%) of the County's total of 8,965 km. For precautionary salting, the current response times are 1 hour to start treatment and a further 4 hours maximum treatment time.

10.6.2 The loss of the Trunk Road Agency required a re-optimisation of salting routes for the winter of 1999/00. However, this may be a short-term measure depending on the speed and scale of detrunking in Lincolnshire.

10.6.3 A Best Value Review of the Winter Maintenance service has commenced and a number of initiatives are being considered within the scope of the review:

- review of operational bases
- extended use of pre-wetted salt
- use of brine

- salt management
- use of GPS (Global Positioning System) in gritters
- addition of detrunked routes
- extension of treated network to include school bus routes

Options

10.6.4   The long-term options for future delivery of the winter maintenance service are heavily dependent on the recommendations of the review

Strategy

10.6.5   The county is committed to delivering a high quality, cost effective winter maintenance service, using modern methods and new technological innovations. This comprises the two main operations of precautionary salting and snow clearing. The former is usually carried out in response to forecast conditions, while the latter is more a response to actual conditions, although weather forecasting information is used to predict snowfall.

10.6.6   The need for winter maintenance is twofold. Precautionary salting is carried out to prevent ice forming and remove the risk of accidents, whereas snow clearance is carried out to keep roads open as well as safe.

10.6.7   The need for both operations fluctuates depending on weather conditions. To assess the need for precautionary salting in particular, the County Council (with the Highways Agency) has invested in seven local weather stations in different climatic zones within the county. The data from these stations is fed to the Meteorological Office to improve the accuracy of forecasting for Lincolnshire's roads.

Targets

10.6.8   The county targets for Winter Maintenance is:

- ***to complete treatment of 99% of precautionary salting routes within 4 hours of required start time***

Implementation

10.6.9   The first phase of implementation for the winter of 1999/00 included the extension of the pre-wetted salt trial to three routes from the operational base at Spalding and the introduction of the first fully operational brine spreader in the UK, following close liaison with operational staff in Denmark and Sweden. This development is being closely monitored by TRL and interest is being shown by a number of other local authorities.

10.7 BRIDGE STRENGTHENING STRATEGY

Issues

10.7.1   Lincolnshire County Council own 1425 bridges and 2475 culverts, footbridges, gantries and retaining walls on County roads. In addition, there are another 180 privately owned bridges on County roads, primarily consisting of Railtrack, Rail Property Board, Environment Agency and Drainage Boards. This data is based on the new proposed national definition of a bridge as a structure with a span greater than 1.5m as opposed to the previous Lincolnshire County Council definition of 1.8m. This change in definition increases the bridge stock owned by Lincolnshire by 225. The geographical size of the County combined with its rural nature and extensive drainage systems means that the structures stock is one of the largest in the country.

10.7.2   It is estimated that there are over 2000 structures on Public Rights of way based on a 13% sample survey carried out in 1999 of which a number of the footbridges have spans up to 20m.

10.7.3   A high proportion of the bridges and culverts in Lincolnshire consist of brick arches, many in excess of 100 years old. Approximately 60% of the bridge stock was built prior to 1922. National regulations for vehicle weights were first introduced in 1904 in the form of an 8 ton limit for an axle and 12 ton for a vehicle. National changes have permitted a steady increase in maximum vehicle weights bringing the present day limit to 11.5 tonne axle and 40 tonne gross vehicle introduced on 1 January 1999.

10.7.4   In 1998/99 the County Council committed an additional £140,000 of resources to the strengthening programme in recognition of the importance it attached to bridges. In late 1998 Lincolnshire County Council were successful in securing a 25% European Grant for Rural Bridges with a £1.32M Objective 5b package bid. The County Council have supported this 5b programme over the last three financial years with £989,000 of its own funds. Table 10.5 shows the historic capital funding for bridges in Lincolnshire, which include the additional resources committed by Lincolnshire County Council.

10.7.5   The County Council have allocated £225,000 of revenue funds for 2000/01 to replace and strengthen culverts, footbridges, retaining walls and gantries. This level of revenue funding has been provided on an annual basis over the last ten years.

Table 10.5

Historic Capital Funding For Bridges

Financial Year	Settlement
1991/92	£2.373m
1992/93	£2.937m
1993/94	£2.900m
1994/95	£2.600m
1995/96	£1.080m
1996/97	£1.261m
1997/98	£1.171m
1998/99	£1.287m
1999/00	£1.330m
2000/01	£1.400m

Bridge Assessments

10.7.6   All bridge assessments have now been commissioned on the 950 bridges eligible using the original Lincolnshire definition of a bridge. The change in bridge definition will produce an additional 160 bridges that are eligible for assessment at an estimated cost of £180,000. The proposal is that these bridges will be assessed during 2001/02. Table 10.6 and Figures 10.5 and 10.6 show the progress at 1 May 2000 taking into account the additional bridge stock to be assessed.

10.7.7   The failure rate from the bridge assessment programme to date is 21%. Over 50% of the failures are not capable of sustaining commercial vehicles and HGVs.

Weight Restrictions

10.7.8   The County Council has currently weight restricted 36 bridges on C and unclassified roads which includes Horseshoe Bridge, Spalding which has been closed to all traffic due to concerns about the safety of the structure, whilst a scheme is being prepared to the satisfaction of English Heritage. Weight restrictions are often ignored and the police, who are responsible for enforcement, do not have the resources to enforce them. Thus prohibition cannot be assumed to provide long term protection and in any case the damage inflicted on highway verges and the cost incurred by those who obey the diversion signs/ routes cannot justify the long term imposition of these weight restrictions. The County Council does not consider that weight restrictions are an acceptable long term solution on 22 of these bridges and these are referred to as temporary weight restrictions.

Table 10.6

Bridge Assessment Programme at 1 June 1999

Passed Assessment	725
Strengthened/ Reconstructed	111
Permanent Weight Restrictions	14
Temporary Weight Restrictions	22
Other Failures Awaiting Funds	46
Re-Assessments In Progress	12
Assessment Results Awaited	19
Outstanding Assessments	160
Total	**1109**

Figure 10.5   Figure 10.6

Completed Bridge Assessments

21%

79%

Pass   Fail
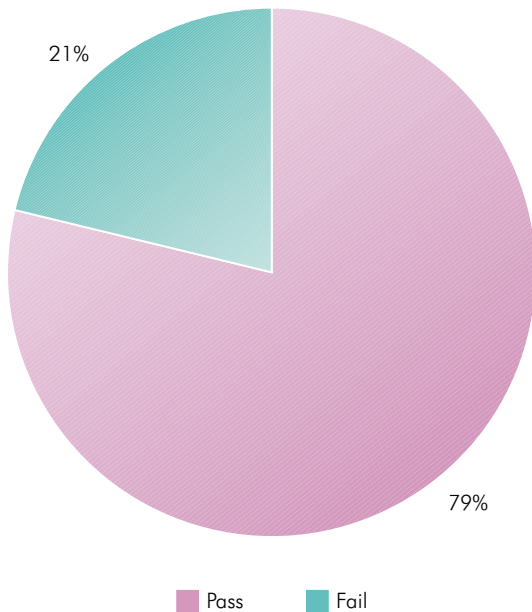
**Treatment of Failed Bridges and
The Ongoing Assessment Programme**

12%
6%
10%
29%
4%
39%

Strengthened/
Reconstructed

Permanent Weight
Restriction

Projected Passes (79%
of ongoing assessments)

Projected Failures (21%
of ongoing assessments)

Temporary Weight
Restriction

Other Failures
Awaiting Funds
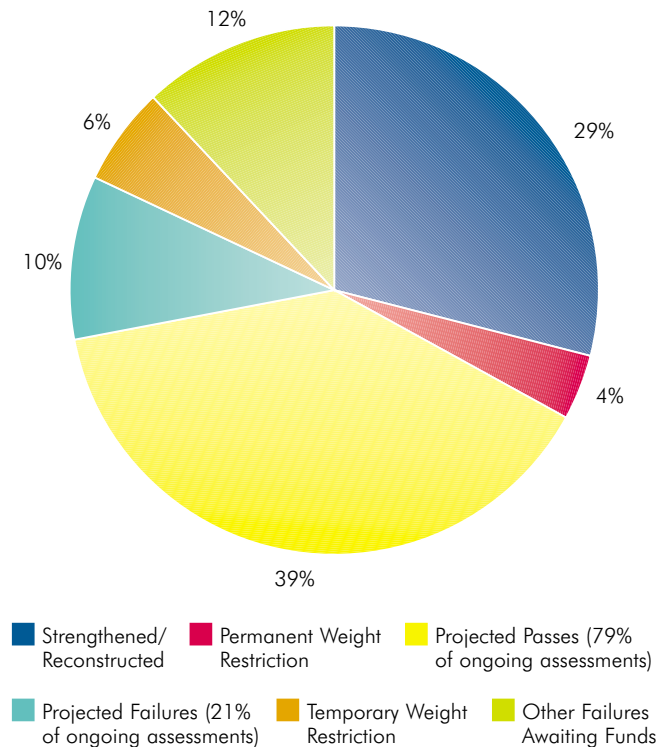
10.7.9   There are a certain number of weight restrictions which are considered acceptable which include 'listed' structures and cases where the costs of strengthening or replacement are extremely high for the benefits provided or where there is a convenient suitable alternative route which is acceptable. The intention is to retain 14 permanent weight restrictions on these grounds.

Bridge Strengthening

10.7.10 The County Council has completed all known outstanding strengthening work on all bridges on the Primary Route Network (PRN) with the exception of one Rail Property bridge on the A15 in Lincoln which has been propped as a temporary measure, awaiting funding. The two known outstanding failures on principal roads will be addressed with the 2000/01 Bridges Capital Programme.

10.7.11 The County Council has been successful in securing European funding for the strengthening of rural bridges in the Objective 5b eligible area, which is generally the east and south of the county. The £1.32 million programme stretching over three financial years which started in 1998/1999 will attract a 25% grant from the European Regional Development Fund. This programme to strengthen over 24 bridges will protect the employment in the rural economy by recognising the dependency of the agricultural and food industries on access for HGVs throughout the area.

10.7.12 Since 1991/92, 111 bridges have been strengthened / reconstructed with an output of 10 - 12 bridges per annum at an average unit cost of strengthening/ reconstruction assessed at £150,000. It is anticipated that the average cost of reconstruction of a Railtrack bridge will be £400,000, to cover their onerous project management, track possession and safety costs. All but one of the Railtrack bridges meet their operational requirements and hence the reconstruction of these bridges would have to be funded by the County Council. Railtrack reconstructed one of the bridges that failed to meet their statutory obligations in 1999 following identification thorough the assessment process.

Bridge Maintenance

10.7.13 All structures deteriorate with age due to the exposure to weathering action and pollutants or from the fatigue and vibration of traffic action. In addition, all bridges situated on winter maintenance routes suffer further attack from chlorides on salted routes.

10.7.14 Structural maintenance consists of a combination of

- Preventative maintenance to slow down the rate of deterioration to allow the structure to achieve its design life. These works consist of waterproofing, joint replacement, cyclic painting, minor concrete repairs and scour protection.
- Essential maintenance which is rehabilitation work to replace structurally inadequate components. These works consist of major concrete repairs, steelwork replacement and scour repairs.

Failure to carry out planned preventative maintenance will inevitably lead to a reduced design life and increased whole life costs.

10.7.15 Modern bridges are assumed to have a nominal design life of 120 years as quoted in BS5400. The 1981 OECD Road Research Report assumed bridges have a useable life of 200 years, which is possibly optimistic since modern bridges are assumed to have a nominal design life of 120 years, as quoted in BS5400. Certainly an optimistic lifespan of 200 years could only be achieved by ensuring planned preventive maintenance programmes are in place for the life of the structure. In reality, the lack of effective maintenance funding has not allowed Lincolnshire to embark on planned maintenance programmes and a backlog of maintenance work has accrued. The current bridge assessment programme whilst initiated to determine ability of bridges to sustain the 40 tonne vehicle, has in fact highlighted the inability of many bridges to sustain loads well below the 40 tonne, due in part to insufficient maintenance over the years. The current bridge strengthening programme is therefore addressing years of neglect due to inadequate financial resources.

10.7.16 The national average replacement cost of Local Authority owned bridges is £215,000 which if applied to Lincolnshire County Council owned bridges would give an asset value of £306 million. The estimation of replacement cost is very subjective and there will inevitably be variations between authorities. The average Lincolnshire replacement cost is considered to be lower than the national average since there are very few expensive urban flyovers and consequently less associated Statutory Undertakers costs and therefore has been estimated at £150,000 which would give a total asset value of £213 million.

10.7.17 The CSS Bridges Group Report on Funding for Bridge Maintenance dated February 2000 recommends that the annual cost of maintenance should be 0.5% of the replacement cost. Applied to the 1425 County owned bridges on County Maintained Highway the annual required maintenance funding for bridges would be £1.07 million (based on a 200 year useable life)

10.7.18 The County Council has in recent years allocated £350,000 per annum (0.16% of the cost of replacement) towards major maintenance. The additional 225 bridges, acquired through the span definition change, will require an additional £50,000 to maintain, extrapolating the existing funding profile. An increasing amount of capitalised maintenance funds has had to be diverted to the replacement of aluminium parapets lost due to theft or unrecoverable accident damage. The current annual cost is estimated at £35,000

10.7.19 The bridges which passed their bridge assessment or were not eligible for assessment out of the total stock of 1425, will even if maintained to the standard identified under 10.7.14, require replacement when they reach the end of their useful life. These bridges could be identified in future through a 15 year cyclic ongoing assessment programme commencing after the end of the five year bridges LTP . Until a cyclic bridge assessment programme is established there needs to be some allowance for the replacement of 'maintenance failures'. Assuming an optimistic 200 year useable life on all bridges which have passed or are projected to pass their initial assessment, then an additional allowance of 4 'maintenance failures' should be made per annum. The 1109 bridges eligible for assessment were all built prior to 1974 and the majority of the remaining 316 bridges maintained by the County were designed to modern standards.

10.7.20 A recent survey of Highway Authorities by the CSS Bridges Group has revealed a backlog of maintenance works which is equivalent to 3.2% of the average replacement cost. Assuming a 10 year programme to overcome this backlog, the annual bridge maintenance funding would need to increase by 0.3% of the replacement cost over and above that normally required.

10.7.21 The conclusion is that the County would require a minimum expenditure of £2.14 million per annum for the maintenance and replacement of bridges (1.0% of replacement cost) once the failures from the current assessment programme and the backlog of maintenance are addressed to keep pace with the expected deterioration.

Culvert / Footbridge / Retaining Wall Maintenance

10.7.22   There are 2475 known structures under this category owned by the County Council and the list increases every year as additional culverts are uncovered, often as a result of a failure or a problem with flooding. A number of recent culverts that have been uncovered have consisted of long brick structures running under lengths of road up to 100m in length.

10.7.23   The majority of the culverts are brick arches over a 100 years old. The average replacement cost is approximately £25,000 giving a total asset value of £62 million. Using the 200 year design criteria over 12 replacements would be required annually at an annual cost of £300,000.

10.7.24   All walls greater than 0.6m in height are classified as retaining walls. Retaining walls that support the highway and some that support land above the highway are the responsibility of the County Council. The County Council has records of 63 retaining walls of which 51 appear to be owned by the County Council. Two of these walls support the PRN. It is believed that only a small percentage of the retaining wall stock is currently recorded on the inventory.

10.7.25   Included in the above total are 220 highway footbridges (recreational footbridges excluded), the spans of which vary enormously. Replacement costs vary from £8,000 for simple wooden footbridges to £35,000 for larger span steel footbridges. Approximately two replacements are required per annum.

Options

Bridge Assessments

10.7.26   The County Council has been extremely vigilant in ensuring that the bridge assessment failure rate is kept as low as possible by reviewing all assessments at regular intervals and authorising more rigorous/refined analysis wherever possible or adopting independent re- assessments. A précis of the approach and options considered follow:

- Extensive testing has been carried out to verify known records and identify details where not known to ensure assessments are based on correct information.
- Rigorous analysis has been undertaken for every simple assessment failure where there has been the chance of an improved capacity even if the prospect of achieving 40 tonne capacity looked remote.
- The majority of assessments have been carried out by external consultants whose general approach tends to be conservative. The County have vigorously pursued in house re-assessments by staff trained in plastic analysis techniques, particularly yield line analysis, where the results provided by Consultants could perceivably be improved.
- Many assessments carried out in earlier years have been re-assessed to take advantage of the more beneficial clauses and assessment codes introduced since their original assessment.

Bridge Strengthening

10.7.27   The County Council have long recognised that bridge strengthening funds would not fully meet expectations and have endeavoured to obtain value for money to maximise benefits of the scarce funds available. The scope for exploring savings from bridge strengthening options tend to become more limited with small rural bridges due to their size, particularly width, which eliminates solutions that restrict the width. A summary of some of the main examples of policies adopted to derive value for money are:

- Width restrictions have been applied to four bridges on B roads with traffic permanently controlled by demand activated traffic signals. A further scheme is proposed for 2000/01 at the site of a listed structure.
- One new bridge has been reconstructed with a single way carriageway and traffic signals to avoid a carriageway realignment and reduce the cost of the bridge
- A brick arch bridge has been strengthened by innovative stainless steel grouted anchors to avoid a costly reconstruction. A further scheme is planned for 2000/01
- The strength of brick arches have been increased by placing additional fill where the condition of the bridge does not warrant demolition.
- Plate bonding techniques have been used as low cost strengthening option
- Safety fencing has been used extensively to reduce the number of edge beam/parapet failures

Strategy

Bridge Assessments

10.7.28 The assessment programme for County Council owned bridges is now planned to be completed at the end of 2001/02 due to the additional 160 bridges that become eligible thorough the span definition change. The estimated cost of this programme is £180,000 to be incurred during the first year of the full LTP.

10.7.29 The County Council has entered a Joint Venture Agreement with Railtrack for the County to assess 20 Railtrack owned bridges. The appointment of Consulting Engineers to act as reviewing engineers has delayed progress on the assessments but it is anticipated that these assessments will be completed during 2000/01. A Deed of Agreement was signed with Rail Property Board in late 1998 and all 14 of these assessments are now complete.

Weight Restrictions

10.7.30 The County Council may need to impose temporary weight restrictions to protect bridges which have failed the assessment and continue to deteriorate or give cause for concern, whilst awaiting strengthening funds. The situation will need to be reviewed on an regular basis in relation to the revised priorities and the level of financial support secured by the County Council.

10.7.31 The long-term aim is to remove all interim weight restrictions. The rate of progress will be determined by the level of financial support from Central Government through the LTP system

Bridge Strengthening

10.7.32 The County Council have strengthened all known County Council bridge failures emanating from the assessment programme that lie on the PRN. Any failures emanating from the outstanding assessment programme that lie on the PRN will receive first priority followed by those on principal roads. There are six bridges that lie on the PRN within the span range 1.5m - 1.8m still to be assessed.

10.7.33 The County Council ranking system will be used to determine the priorities for strengthening/reconstruction of bridges on all other routes. To ensure that limited funds are directed to the most needy cases, namely those deficient bridges which do not lie on principal roads, a method of prioritising strengthening works has been developed taking into account the following factors:

- Theoretical strength as determined by assessment
- Bridge condition
- Traffic flow
- Length and suitability of diversion route
- Consequence of bridge failure
- Measures taken to date
- Grants/contributions from external sources
- Value for money
- Negotiations with private owners

10.7.34 The works programme will undoubtedly be influenced by external factors and updated with the ongoing receipt and review of outstanding bridge assessments.

10.7.35 There are five known Railtrack owned bridge failures to date which require reconstruction/re- decking. All these bridges satisfy Railtrack's BE4 liability and the Council will be financially liable for their replacement. However, it is anticipated that progress with Railtrack will be slow, with the requirement to obtain a Works Agreement and track possessions, and it is unlikely that more than one bridge will be addressed per year commencing 2001/02 at the earliest. Realistically the County Council accept that despite high ratings there is little likelihood of these bridges being reconstructed to programme and have allowed for at least one not to be addressed within the five year plan. Further slippage will be accommodated by the highest ranked bridges from the projected 64 additional bridges from outstanding assessments and maintenance failures.

10.7.36   The long-term aim is to strengthen/reconstruct all County Council owned bridge failures with the exception of a 14 permanent weight restrictions. The rate of progress will be determined by the level of support from Central Government through the LTP system. Another long term aim is to strengthen/reconstruct all Railtrack/Rail Property Board bridges. The rate of progress will be governed by the level of support from Central Government and negotiations with the owners.

10.7.37   The County Bridge Assessment Programme is projected to identify another 40 failures from the outstanding assessments extrapolating the 21% failure rate through the additional bridge stock to be assessed due to the change in span definition. The total failures still to be addressed would then stand at 123 of which at least 9 would be Railtrack/ Rail Property Board bridges.

10.7.38   The 2000/01 Bridges Capital Programme supplemented by the European Grant for Rural Bridges will strengthen/reconstruct 23 bridge failures. This will leave 91 County Council owned and 9 Railtrack/Rail Property bridges still to be strengthened/reconstructed after 2001/02.

Bridge Maintenance

10.7.39   Structural deterioration of all bridges and other highway structures will be monitored by a cyclic system of inspection. This comprises a General Inspection, the frequency of which depends on span but for bridges with a span greater than 5m carried out every two years by a dedicated inspector and a Principal Inspection every 6 or 10 years, depending upon span, carried out by a senior structural engineer. These inspections are supplemented by Special Inspections which include diving inspections on those bridges considered at risk and monitoring of weak bridges which are awaiting strengthening funds but have not been weight restricted.

10.7.40   Structural maintenance works on bridges and other highway structures will be assigned a severity rating which will be used to prioritise and manage all maintenance works. The rating will reflect the severity of the identified defects and the operational, financial and safety consequences of delaying remedial works. 7.3% of the current bridge stock have Severity 1 (very urgent) and Severity 2 (urgent) defects.

Culvert / Footbridge/ Retaining Wall Maintenance

10.7.41   Structural maintenance works on culverts, footbridges and retaining walls will be assigned a severity rating which will be used to prioritise and manage all maintenance works. The rating will reflect the severity of the identified defects and the operational, financial and safety consequences of delaying remedial works. The scope for remedial work will be severely restrained by the ability to gain access for repairs. 6.1% of the current culvert/ footbridge stock have Severity 1 (very urgent) and Severity 2 (urgent) defects. (Culverts will not attract a Severity 1 rating since a failure would not be considered catastrophic)

Targets

10.7.42   The County Council's Best Value Performance Indicators for bridges which include the 5 year period of the Local Transport Plan are as follows:

> **MT 12 -   To improve access to the County's network by 5% by increasing the number of bridges capable of taking 40 tonne lorries from 88% (986 bridges) at the end of 1999/2000 to 93% (1030 bridges) by 2006.**
>
> **MT 13 -   To improve the structural integrity of the County's bridges by reducing the number of bridges with Severity 1 and Severity 2 defects from 7.3% (95) at the end of 1999/2000 to 3.5% (45) over the next 6 years.**
>
> **MT 14 -   To improve the structural integrity of the County's culvert/ footbridges with severity 1 and Severity 2 defects from 6.1% (118) to 4.56% (87) by 2006.**

10.7.43   The County Council's long term targets are reflected in the following aims under each Performance Indicator :

- To allow 99% of the bridges on the County's network to carry the 40 tonne lorry, leaving only bridges with permanent weight restrictions
- To eliminate all Severity 1 and 2 defects on County owned bridges
- To eliminate all Severity 1 and 2 defects on County owned culverts/footbridges

10.7.44   The above targets as reflected by the Performance Indicators are challenging in that to achieve all the targets the available funds must be balanced between :

- Strengthening/Reconstruction on bridges of all owners (Capital)
- Major Maintenance on County owned bridges (Capital)
- Specified maintenance on County owned (Revenue)

The County Council would seek to balance any additional Capital resources available through the LTP process to:

- Removing the weak bridges on the County network by reconstructing/ strengthening outstanding bridge assessment failures to increase access to 40 tonne vehicles
- Addressing the major maintenance backlog on County owned bridges (referred to under 10.7.20)

Implementation

10.7.45   The proposed 5 year plan for bridgework's is shown in Table 10.7 with a bid of £1.25 million in the first year which will allow the completion of Vauxhall Bridge, Boston with a £370,000 financial commitment as a carry over from 2000/01 and the strengthening/ reconstruction of three further bridges. One of these bridges is the Railtrack owned bridge at Metheringham and the County Council are currently in negotiations with Railtrack and a track possession has been booked for the summer of 2001 . If progress is delayed on the Railtrack bridge then the next schemes in the County ranking list shown in Table 10.7 will be addressed. The schemes in the 5 year plan have been prioritised using the County Council ranking system and adjusted to reflect the following constraints:

- Schemes on principal roads will receive top priority
- Only one Railtrack scheme programmed per year commencing 2001/02
- Schemes which attract grant will receive a higher priority than those schemes which do not qualify
- Bridges on routes with no suitable alternative access will receive priority where there is a legal obligation

10.7.46   Included in each of the five years within the Plan is a core £400,000 per annum (0.19% of replacement cost) to address major maintenance. In addition £35,000 per annum has been included for the replacement of aluminium parapets lost due to theft and unrecoverable accident damage.

10.7.47   The five year Plan submitted if executed will address all failures with the exception of 92 bridges as shown in Figure 10.7. These remaining failures will comprise:

- 1 Known Railtrack owned assessment failure
- 14 bridges with permanent weight restrictions
- 40 projected assessment failures
- 24 projected maintenance failures

10.7.48   The 64 projected failures are expected to be processed from the outstanding assessments and future maintenance failures and will be added to the ranking process. The inclusion of these additional failures within the programme may well affect the priority of the bridges in the programme appended with this bid. The lowest ranked bridges, for which insufficient funds are likely to be available within the next five years, will be either weight restricted or monitored, until funds become available. Not all bridges lend themselves to monitoring (those prone to sudden failure such as cast iron) but generally where the mode of failure is progressive over a period of time (such as brick arches) the regular inspection by a structural engineer is proposed. This option would only be adopted where it is feasible and economic to establish the necessary inspection regime, otherwise it would become difficult to resource the burden of monitoring weak bridges.

Table 10.7

Five Year Bridges Plan

	Road	Area	Bridge Name	Parish	Owner	Cap	Weight res/ Temp meas	Comment	Est Scheme Cost	LTP Rating
2001/02 BRIDGES CAPITAL PROGRAMME										
2000/01 Carry Over			Vauxhall Br	Boston	LCC	7.5t		2000/01 financial committment	£ 370,000	
1	C339	RUR	Railtrack Br. No. 20	Metheringham	Railtrack	7.5t	9t 1967	Cast iron	£ 195,000	420
2	C007	RUR	Neslam Br	Pointon & Sempringham	LCC	Zero	Temp barriers		£ 50,000	282
3	B1360	MUA	Dixon Street Br	Lincoln	LCC	Zero		Edge beam weakness	£ 20,000	248
								Parapet replacements	£ 35,000	
								Other major maintenance	£ 400,000	
								Bridge assessments	£ 180,000	
									£ 1,250,000	
2002/03 BRIDGES CAPITAL PROGRAMME										
2001/02 Carry over			Neslam Br	Pointon & Sempringham	LCC			2001/02 financial commiiment	£ 75,000	
4	C440	RUR	Stenwith Rail Br	Woolsthorpe	BRPB	3t	3t 1995	Fill in	£ 150,000	210
5	B1394	RUR	Red Bridge	Helpringham	LCC	10t			£ 200,000	209
6	u/c	LMT	Carre Street Br (2)	Sleaford	LCC	Zero			£ 100,000	200
7	u/c	RUR	Huttoft Rail Br	Huttoft	BRPB	3t	3t 1999	Emergency 3t GVW	£ 80,000	159
8	u/c	RUR	Gorse Lane Br	Silk Willoughby	LCC	7.5t	7.5t 1999		£ 50,000	146
9	u/c	RUR	Sluice Br	Wainfleet All Saints	LCC	3t	Monitor		£ 90,000	127
10	u/c	RUR	Boardings Br	Pinchbeck		Zero	CLOSED 1997		£ 50,000	122
11	u/c	RUR	Bottom Meadow Br	Braceboro' & Wilsthorpe	LCC	17t	25t 1996		£ 20,000	115
12	C791	RUR	Sea Bank Sluice Br	Wyberton	LCC	7.5t			£ 56,000	112
								Parapet replacements	£ 35,000	
								Other major maintenance	£ 400,000	
									£ 1,306,000	
2003/04 BRIDGES CAPITAL PROGRAMME										
13	u/c	RUR	Railtrack Br	Stainton by Langworth	Railtrack	3t	3t 08/11/91	Cast iron	£ 400,000	340
14	C326	RUR	Gorse Hill Br	Caythorpe	LCC	7.5t	13t 1996		£ 50,000	106
15	A15	MUA	Cross O'Cliffe Rail Br	Lincoln	BRPB	3t	Propped to 24t		£ 300,000	206
16	u/c	LMT	Bone Mill Bridge	Sleaford	LCC	7.5t		No alternative route	£ 50,000	116
17	u/c	RUR	Braceborough Culv (1)	Braceboro' & Wilsthorpe	LCC	13t			£ 45,000	102
18	U/C	RUR	Sand Lane Br	West Rasen	LCC	17t	17t 1994		£ 60,000	102
								Parapet replacements	£ 35,000	
								Other major maintenance	£ 400,000	
									£ 1,340,000	

Table 10.7 (continued)

Five Year Bridges Plan

	Road	Area	Bridge Name	Parish	Owner	Cap	Weight res/ Temp meas		Comment	Est Scheme Cost	LTP Rating
2004/05 BRIDGES CAPITAL PROGRAMME											
19	C113	RUR	Bracken Hill Rail Br	Heighington	Railtrack	7.5t	7.5t	1995	Cast iron	£ 400,000	290
20	C219	RUR	Laughton Br	Laughton	LCC	7.5t			Scour & Edge slab failure	£ 85,000	102
21	C483	RUR	Liittle Ponton Br	Little Ponton & Stroxton	LCC	7.5t				£ 70,000	96
22	u/c	RUR	Riverhead Br	Louth	LCC	17t			Plate Bonding	£ 150,000	94
23	C228	RUR	Beck Lane Br	Scotton	LCC	10t				£ 60,000	88
									Parapet replacements	£ 35,000	
									Other major maintenance	£ 400,000	
										£ 1,200,000	
2005/06 BRIDGES CAPITAL PROGRAMME											
24	C782	RUR	Ings Bridge	Freiston	WFIDB	25t	25t	1999	Suitable for monitoring	£ 25,000	115
25	u/c	RUR	Hall Drive Br	Blankney	LCC	25t			Suitable for monitoring/ No alt route	£ 55,000	107
26	C123	RUR	Bassingham Rd Br	Thurlby (NK)	LCC	7.5t			Suitable for monitoring	£ 15,000	86
27	u/c	RUR	Linga Lane Br	Bassingham	LCC	13t	17t	1999		£ 75,000	84
28	u/c	RUR	Low Wood Br	Upton	LCC	13t	13t	1999		£ 75,000	78
29	u/c	RUR	Scothern Br	Stainton by Langworth	LCC	Zero	Propped 1994		Temporary propping in place	£ 125,000	75
30	u/c	RUR	Wath's Br	Bourne	LCC	12.5t				£ 55,000	74
31	C350	RUR	Packhouse Br (2)	Scredington	LCC	7.5t			Suitable for monitoring	£ 35,000	74
32	C503	RUR	Massey's Br	Waddingworth	LCC	Zero			Safety fence most economical solution	£ 35,000	72
33	C108	RUR	Saxilby Rd Br	Skellingthorpe	LCC	7.5t			Suitable for monitoring	£ 15,000	72
34	C053	RUR	School Br	Stapleford	LCC	10t			Suitable for monitoring	£ 35,000	68
35	C223	RUR	Rylands Br	Welton	LCC	3t			Suitable for monitoring	£ 30,000	66
36	C385	RUR	West Sprites Culv	Digby	WFIDB	3t			Reconstruction	£ 55,000	55
37	B1202	RUR	Lissington Br	Lissington	LCC	38t			Suitable for monitoring	£ 20,000	53
38	C257	RUR	Scothern Br	Scothern	LCC	17t			Resurface most economical solution	£ 15,000	52
39	u/c	RUR	Red Lion Br	Ruskington	LCC	10t			Suitable for monitoring	£ 25,000	52
40	C699	RUR	Northgate Culvert	Pinchbeck	LCC	38t			Suitable for monitoring	£ 12,000	47
41	C431	RUR	West Glen Br	Carlby	LCC	3t			Suitable for monitoring	£ 30,000	46
42	C009	RUR	South Meadow Br	Baston	LCC	7.5t			Suitable for monitoring	£ 35,000	46
43	u/c	MUA	Monson Street Br	Lincoln	LCC	7.5t			Edge Slab failure/Bollards	£ 6,500	28
44	u/c	MUA	Scorer Street Br	Lincoln	LCC	7.5t			Edge slab failure/ Bollards	£ 6,500	28
45	C222	RUR	Washdyke Br	Faldingworth	LCC	38t			Suitable for monitoring	£ 50,000	20
									Parapet replacements	£ 35,000	
									Other major maintenance	£ 400,000	
										£ 1,265,000	

Table 10.7 (continued)

Five Year Bridges Plan

	Road	Area	Bridge Name	Parish	Owner	Cap	Weight res/ Temp meas			Comment	Est Scheme Cost	LTP Rating
MONITORING / PROPPING												
FROM THE OUTSTANDING ASSESSMENTS AND PROJECTED 'MAINTENANCE FAILURES' 64 ADDITIONAL BRIDGES ARE ANTICIPATED TO BE ADDED UNDER THIS CATEGORY												
THE BRIDGES WILL BE RANKED AND THE LOWEST PRIORITY SUITABLE FOR PROPPING / MONITORING WILL BE INCLUDED IN THIS SECTION												
46	C355	RUR	Railtrack Lowfields	Metheringham	Railtrack	7.5t	13t	1967		Cast iron / No alt route	£ 400,000	230
47	C440	RUR	Stenwith Br	Woolsthorpe	BWB	13t	3t	1995		Permanent weight restriction	N/A	0
48	u/c	RUR	Mexican Br	Midville	LCC	17t	17t	1996		Permanent weight restriction	N/A	0
49	C847	RUR	Northlands Br	Sibsey	EA	17t	17t	1996		Permanent weight restriction	N/A	0
50	u/c	RUR	Fox Covert	Broxholne	LCC	7.5t	7.5t	1993		Permanent weght restriction	N/A	0
51	B1162	RUR	Deeping St. James Br	Deeping St. James	CAM CC		7.5t	1988		Permanent weight restriction	N/A	0
52	u/c	RUR	West Lane Br	Revesby	EA	3t	17t	1999		Permanent weight restriction	N/A	0
53	C563	RUR	Lud Br	Hallington	LCC	10t	7.5t	1995		Permanent weight restriction	N/A	0
54	C648	RUR	Stickford Br	Stickford	EA	17t	17t	1998		Permanent weght restriction	N/A	0
55	u/c	RUR	Cosy Cottage	Tetford	LCC	7.5t	7.5t	1993		Permanent weight restriction	N/A	0
45	u/c	RUR	Old Leake Station Bridge	Old Leake	WFIDB	7.5t	CLOSED 1999			Permanent weight restriction	N/A	0
57	C779	RUR	Freiston Br	Freiston Br	LCC	7.5t	7.5t	1999		Permanent weight restriction	N/A	0
58	C123	RUR	Thurlby Br	Thurlby (NK)	LCC	17t	17tt	1995		Permanent weight restriction	N/A	0
59	C685	RUR	Rawson's Br	Fishtoft	EA	17t	10t	1995		Permanent weight restriction	N/A	0
60	C438	RUR	Ford Bridge	Aslackby & Laughton	LCC	17t	17tt	1999		Permanent weight restriction	N/A	0

MUA = Major Urban Areas   LMT = Large Market Towns   RUR = Rural Heartlands

Figure 10.7

Bridge Strengthening Programme

Number of Bridges (y-axis, 0 to 130)

End of Financial Year (x-axis: 99/00, 00/01, 01/02, 02/03, 03/04, 04/05, 05/06)

Full LTP period (00/01 to 05/06)

Legend:
- Total Projected Failures
- Total Projected Assessment Failures
- Projected 'Maintenance Failures'
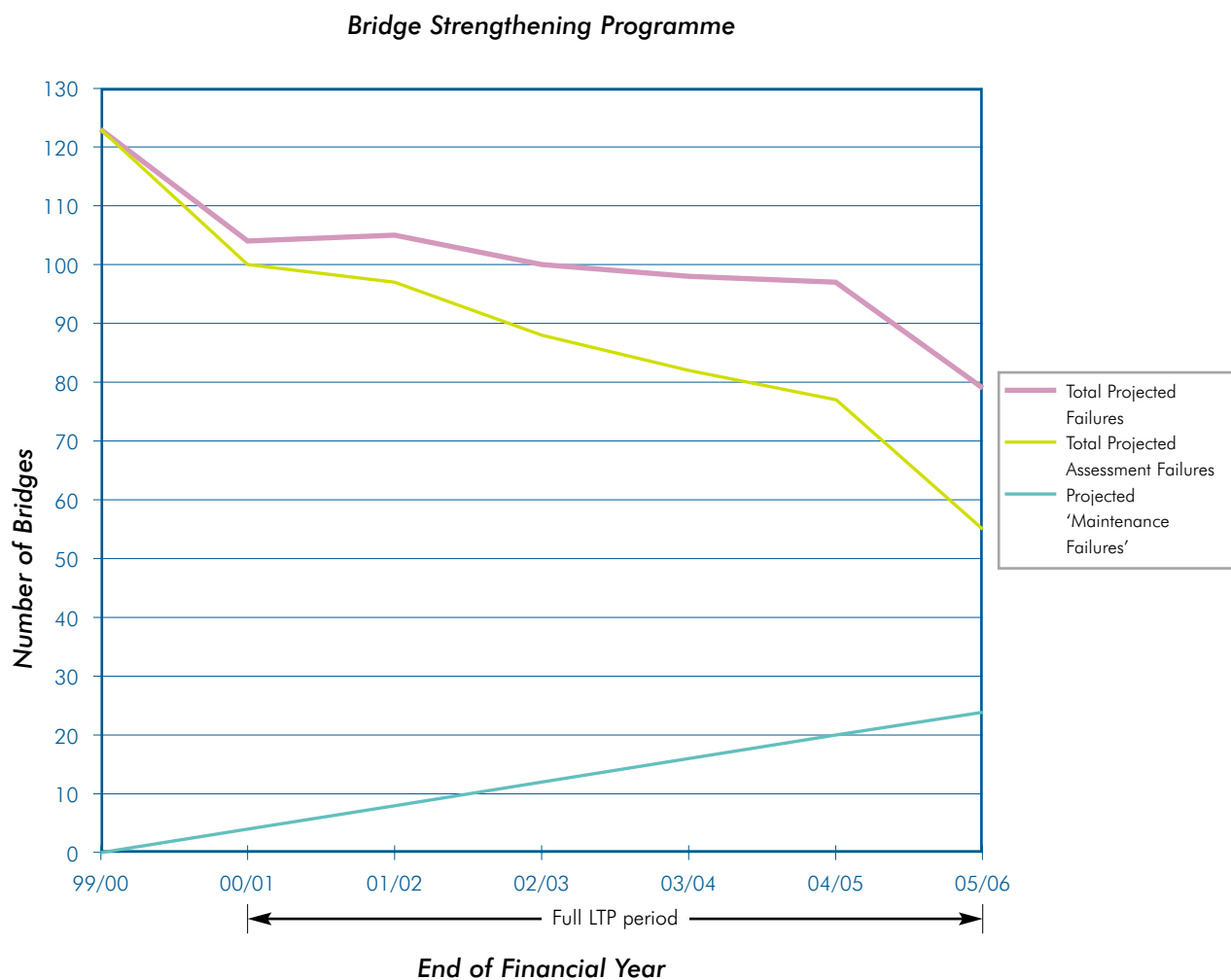
10.7.49   A summary of the effect that the 5 year plan will have on the bridges programme is shown in Table 10.8. The projected maintenance failures will be confirmed by either re-assessment using revised condition factors or in the case of brick arches by re-evaluation of the assessment in combination with a qualitative assessment considering the significance of the recorded defects.

Table 10.8

Summary of Five Year Bridge Strengthening Plan

	Start of 5 Year Plan	After First Year of Plan	End of 5 Year Plan	Change
Passed Assessment	874	874	874	0
Strengthened/ Reconstructed	134	137	179	+45
Permanent Weight Restrictions	14	14	14	0
Outstanding Assessment Failures	87	84	42	-45
Total	**1109**	**1109**	**1109**	**0**
Projected Maintenance Failures	4	8	24	+20

Issues

10.8.1   The need to encourage modal shift away from the reliance on the car requires support, which includes creating and maintaining a safe environment for the public. The County Council believes that an essential asset contributing to this shift is an efficient and well managed lighting stock.

10.8.2   The County County's Best Value Performance Indicator (BVPI98 – the percentage of street lights not working as planned) is one of the lowest of any county and average costs (BVPI95) are amongst the lowest in the region. This has been achieved through good asset management providing the resources to maintain and replace the existing stock.

10.8.3   The County Council maintains a detailed inventory and fault history of its street lighting stock which ranges from modern installations to some 50 year old concrete columns. The rate of deterioration of columns is influenced by type of column and geographical location. An assessment of the inventory has shown all concrete columns are between 25 and 50 years old. Some need urgent attention, due to salt attack on internal steel in coastal areas and other air borne chemicals in larger urban areas. These cause expansion of the reinforcing bars and subsequent spalling and collapse of the concrete. All should be replaced or steel sleeved over the next 20 years. Steel G1(root protected from the environment) columns are all less than 25 years old, but require refurbishment after 20 years to extend the installation's life. Steel non-G1 columns are generally painted mild steel, but many show signs of severe corrosion and are in urgent need of replacement. All should be replaced in the next 20 years. All other columns are in varying states of repair and rates of deterioration, but will all require replacing over the next 20 years.

Options

10.8.4   There are a number of options :

- to react to the current condition reports from the routine maintenance programme
- to concentrate on the individual aspects to the exclusion of others
- to instigate a planned programme of route based inspections, testing and reporting to derive the replacement programme

Strategy

10.8.5   Table 10.9 below shows the total cost of replacing the entire column stock over the next 20 years. The total cost equates to an annual replacement budget of £875,000. Currently, this budget is £780,000,

Table10.9

20 year Street Lighting Specified Maintenance Needs

Road Type	Column Type	Column Size	No. Of Columns	Cost/Unit £	Total Cost £
Principal	Concrete/Steel Sleeve	10/12 metre	700	110	77,000
Non-Principal	Concrete/Steel Sleeve	5/6/8 metre	2,700	75	202,500
Principal	Concrete	10/12 metre	400	760	304,000
Non-Principal	Concrete	5/6/8 metre	10,950	545	5,967,750
Principal	Steel G1	10/12 metre	300	300	90,000
Non-Principal	Steel G1	5/6/8 metre	19,500	200	3,900,000
Principal	Steel Non-G1	10/12 metre	2,850	730	2,080,500
Non-Principal	Steel Non-G1	5/6/8 metre	7,800	520	4,056,000
Principal	Others	10/12 metre	500	175	87,500
Non-Principal	Others	5/6/8 metre	5,000	150	750,000
Total			50,700		17,515,250

but by carefully planning the replacement programme, savings can be made in routine and non-routine maintenance, together with energy cost reductions through competitive supply. These savings will be used to enhance the replacement programme to the required budget.

10.8.6   The strategic priorities will be :

- 10 metre Concrete replacement
- Steel non-G1 replacement
- Concrete replacement or sleeving
- Steel G1 refurbishment
- Replacement of other types of columns

10.8.7   Assessments will be carried out to quantify the severity of defects and determine the rate of deterioration for each column type to target urgent repairs and prioritise the replacement/ refurbishment programme.

Targets

10.8.8   The county 5 year Performance Plan targets for street lighting is:

> **MT15 -   To replace/refurbish 20% (10140) columns from the County lighting stock of 50,700 units over the next 5 years.**

Implementation

10.8.9   The budget for column replacement and refurbishment for 2000/01 will be increased to £875,000 to meet the requirements of the Performance Plan.

10.9 PUBLIC RIGHTS OF WAY

Issues

10.9.1   The public rights of way network in Lincolnshire comprises over 3900 km of Footpaths, Bridleways, Byways Open to All Traffic (BOATs) and Roads Used as Public Paths (RUPPs), spread over a very large area. These represent the single most important means of recreational access into the Lincolnshire countryside, as well as providing vital routes within and between communities, in particular for pedestrians, cyclists and horseriders.

10.9.2   The majority of Lincolnshire is very low-lying, with a requirement for an extensive drainage system. This in turn impacts on the needs of the public rights of way network, with the necessity to provide and maintain a large number of bridges on these routes. The fertile nature of the land means that there is normally a high level of seasonal natural vegetation growth, necessitating an extensive cutting programme to keep paths in a useable condition. With such a large network, the statutory duty to signpost paths where they leave a metalled road, places a substantial burden on resources. Deterioration rates of signposts and structures mean that considerable resources are required to maintain the present level of provision. Furthermore, a very substantial proportion of the network is without existing provision.

10.9.3   Information gathered from a 13% sample survey carried out in 1999, together with estimated achievements and deterioration rates since that survey, suggests that the situation as at the end of March 2000 was as shown below:

1. For Priority 1 & 2 routes (Countywide)

- Of an estimated 847 necessary bridges, some 10% require construction or repair.
- Of an estimated 3866 necessary signposts, some 11.8% require installation or repair.

2. For Priority 3 routes (Countywide)

- Of an estimated 1270 necessary bridge, some 57.5% require construction or repair.
- Of an estimated 4005 necessary signposts, some 34.4% require installation or repair.

10.9.4　Significant proportions of public rights of way in Lincolnshire are affected by arable farming. It is estimated that some 17% of the network run across arable land which is regularly cultivated, with a further 10.5% passing alongside arable land. Breaches of the Rights of Way Act which protects routes from illegal disturbance of field-edge paths and which requires reinstatement and marking out of cross-field paths subject to cultivation are widespread, as is encroachment/obstruction by growing crops. The County Council has a robust policy for enforcement in these cases but this action provides a further burden on resources.

Strategy

10.9.5　In 1987, the Countryside Commission set the following National Target for rights of way :-

"All Rights of Way should be legally defined, properly maintained and well publicised by the end of the century"

10.9.6　In 1993, whilst acknowledging that it might not be possible to achieve the elements of the National Target in all cases by the year 2000, the Commission introduced the "Milestones" approach to assist authorities in setting timetables for achieving the target. Only those authorities with an approved Milestones Statement would be eligible for grant aid for public rights of way work. The County Council approved Lincolnshire's first Milestones Statement in June 1996. A commitment was made that a full review of the Statement would be made in 1999.

10.9.7　A sample survey was carried out during 1999 in order to provide baseline information on the current condition of rights of way in Lincolnshire. This survey provided information on several issues crucial to the task of attaining County targets. This included estimates of the total number of some key components e.g. bridges and signposts, together with estimates of the number of those in satisfactory condition and the number that required construction or repair.

10.9.8　Drawing on this information, and following a period of consultation, a revised Milestones Statement "Milestones 2000" was approved by the County Council to guide work on rights of way over the next five years. New County Targets were set for this period, together with a number of specific targets for individual elements of the work required.

10.9.9　In order to most effectively use available resources, all routes have been placed in a specific priority category, and targets within the Milestones strategy are set in relation to these priority categories. This will ensure that the County Target will first be met for those routes falling into the higher priority categories (priority 1 & 2) and will be followed on by those routes perceived as being of generally lesser importance (priority 3). Work on these higher priority promoted, inter village and important local routes will continue, as reported, within agreed timescales, with proactive work being carried out in accordance with availability of resources. Work on lower priority (priority 3) paths will be carried out when resources are available .

10.9.10　Breaches of the Rights of Way Act where paths are adversely affected by arable farming continue to substantially affect access along paths and action will continue to be taken to resolve these infringements, with emphasis on the higher priority routes.

10.9.11　The Parish Paths Partnership scheme currently operated in the county, in which, at present, over 80 Parishes and Local Groups are supported in their involvement in the management of the local network, will continue, although funding support from the Countryside Agency has now been withdrawn. This scheme has proved to be popular and successful, supporting local people in improving the condition of their local routes, keeping them open, in use and promoted and contributing to the achievement of county targets.

10.9.12 The County targets for rights of way are :

> **MT16 -** **To make 95% of Priority 1 & 2 public rights of way and 50% of Priority 3 public rights of way open and available for use by 2006**
>
> **MT17 -** **To signpost 84% of all footpaths and other rights of way where they leave a road by 2006**

Implementation

10.9.13 Work will be carried out as prioritised above, in accordance with the strategy set out in the Milestones Statement, assuming that current level of resourcing is maintained.

11 Safety : Staying Alive

11.1 ISSUES

11.1.1 A comparison with a number of other shire counties shows that Lincolnshire has one of the poorer records in relation to collisions which occur on the roads, as shown by the following statistics:

- Between 1994 and 1998, the annual average number of casualties in Lincolnshire increased 19.5% (nationally 3%). However, 1999 saw a decrease of 4% on 1998, compared with a 2% fall nationally. This is shown in Figure 11.1.

- The County has one of the highest number of road deaths per head of population in Great Britain and Europe (see Figures 11.2 and 11.3) and the percentage of casualties which are fatal is double that of the national average.

- The proportion of personal injury collisions which result in fatal or serious injuries is about 20% higher in Lincolnshire than in Great Britain generally.

- The principal cause of injury collisions in Lincolnshire is driver error, as shown in Table 11.1.

- During the 5 year period 1994-98, 12,819 road collisions were recorded in Lincolnshire. Whilst there are clusters of road traffic collisions, this is a problem throughout the whole of the County's road network.

- There are, on average, 80 fatal and 520 serious collisions on Lincolnshire's roads per annum, costing the economy in excess of an estimated £150m. However, in 1999 the number of fatal casualties was 104 with a corresponding increase in cost to the community.

Figure 11.1

Comparison of Road Casualty Trends
Lincolnshire vs National - All Casualties
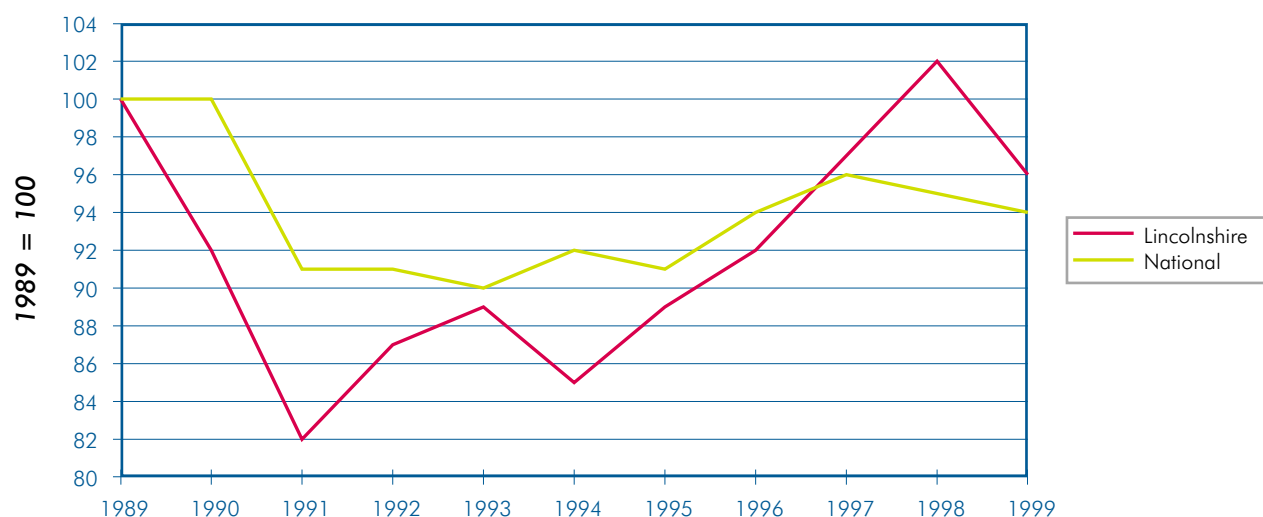
Figure 11.2

Comparison of Road Casualty Trends
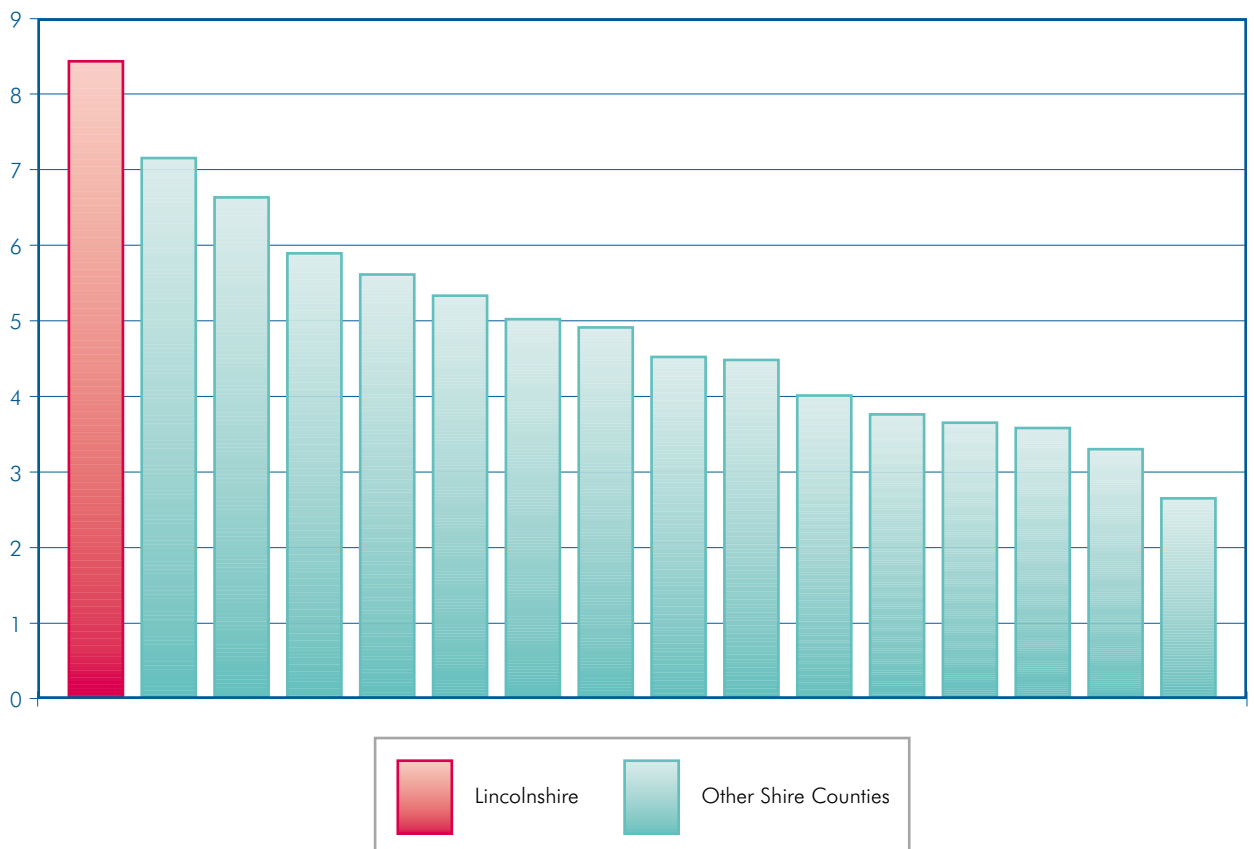### Lincolnshire vs National - Fatal Casualties
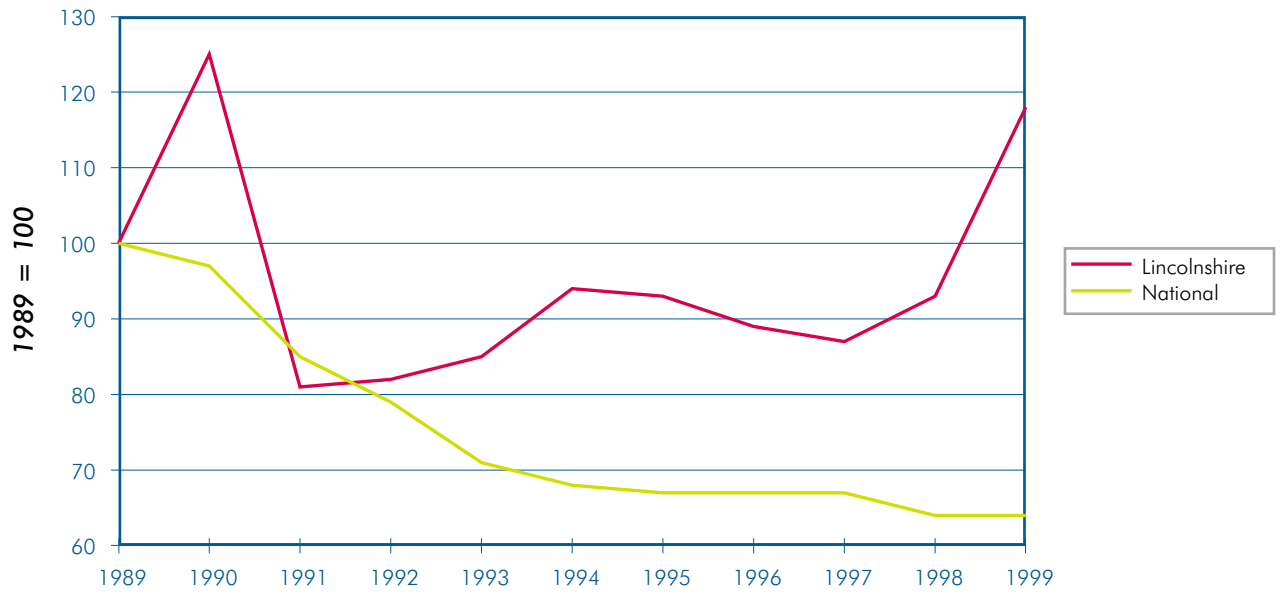
Figure 11.3

Car Deaths per 100,000 Head of Population

11.2 THE NEED FOR REVIEW

11.2.1 Recognising Lincolnshire's poor performance in Road Safety, this service was selected as a high priority for a fundamental service review in the first year of the County Council Performance and Budget Plan 2000-1 to 2002-3. This action was reinforced by the following factors: -

- High level of public concern identified through 1999 Citizens Panel which identified Road Safety as second only in importance to reducing crime as a personal safety issue.

- Road Safety was identified as a key issue in 5 out of 7 District Crime and Disorder Audits undertaken by Community Safety Groups in Lincolnshire.

- Road Safety is a major issue in one of the County Council 6 main objectives in the Performance Plan under the heading "Securing safer more confident communities."

- The new Government Targets for casualty reductions set out in the Road Safety Strategy, "Tomorrow's Roads - Safer for Everyone", are even more onerous than indicated previously.

11.3 STAYING ALIVE PARTNERSHIP

11.3.1 In carrying out the review, it was recognised that responsibility for Road Safety in Lincolnshire does not just rest with the County Council but both the Police and Health Authority play a major part in delivering this service.

11.3.2 It was therefore agreed as part of a wider initiative of joint working under Lincolnshire in Partnership (LiP) that the "Staying Alive" Partnership should be formed with the core Partners being

- Lincolnshire County Council
- Lincolnshire Police
- Lincolnshire Health Authority

11.3.3 It was clearly recognised that all these organisations had a joint responsibility for road safety in Lincolnshire: -

- The County Council has a statutory duty to provide safe roads and to take practical steps to reduce road traffic accidents and casualties
- The Police are responsible for speed enforcement and for dealing with road traffic collisions on site, as they occur.
- The Health Authority role is to improve health and tackle inequalities and ensure effective health care services are commissioned and provided
- All the parties recognised the benefits of joint working to improve road safety.

The Review Team

11.3.4 The Review Team had representation from all three partners plus the Highways Agency (as 31% of fatal accidents in Lincolnshire are on the Trunk Roads), the Government Office for East Midlands and a Coroner, for independent scrutiny.

The Project Team

11.3.5 A full Project Team has been set up with two seconded staff (a Police Inspector and an AIP Engineer) along with part-time input from a public health officer of Lincolnshire Health Authority.

The Programme

11.3.6   The review commenced in October 1999 and has been programmed for substantial completion in time for input into this Plan. In compliance with Best Value Guidelines, the following processes were undertaken:-

Compare

11.3.7   This has involved:-

- A number of comparisons with the following 16 similar Shire Counties:
  Cheshire, Cornwall, Cumbria, Derbyshire, Devon, Gloucestershire, Hereford and Worcester, Leicestershire, Norfolk, Northamptonshire, Northumberland, North Yorkshire, Nottinghamshire, Shropshire, Suffolk, Warwickshire

- More detailed comparison with 3 authorities that have been successful in reducing accidents - Gloucestershire, Suffolk and Shropshire County Councils

- Problems identified specific to Lincolnshire

11.3.8   From this work, certain specific problems were identified which appear to be greater than in the comparison authorities

- **Elderly drivers.** The number of accidents involving elderly drivers has doubled over the last ten years as shown in Figure 11.4.
- **12-15 year old pedestrians.** Lincolnshire has a worse record than all the comparison authorities in this category (see Figure 11.5)
- **Car drivers.** 51% of all fatal and serious casualties in Lincolnshire in the five years 1994-98 were car drivers (see Figure 11.6) and this is another area in which Lincolnshire compares badly with the other authorities. The principal cause of injury accidents in Lincolnshire are driver errors, with the top reasons being misjudging speed/distance, being on the wrong course or in the wrong position, turning right injudiciously, driving too close, crossing the road heedlessly and going too fast. Overtaking, misjudging bends and injudicious emergence from minor roads are lesser but significant causes of accidents (see Table 11.1).
- **Single carriageway derestricted roads.** 85% of fatal accidents and 69% of serious accidents are on unrestricted roads - the rural single carriageways (see Table 11.2), where the main cause of serious and fatal accidents is the speed of vehicles.
- **Crashes on Ice/Frost/Snow.** Lincolnshire has the third worst accident record in relation to the comparison group where ice/frost/snow was a contributory factor. Further analysis is being undertaken as part of the Best Value Review into Winter Maintenance to investigate the reasons for this.

Figure 11.4

Drivers over 70
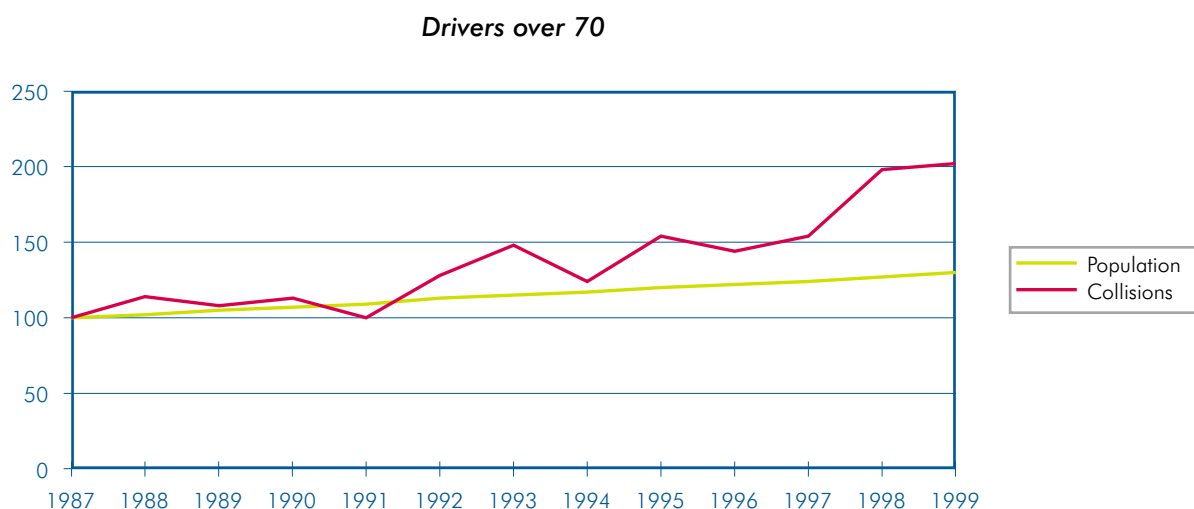
Figure 11.5

Accidents per 100,000 Head of Total Population involving Pedestrians aged 12-15

Lincolnshire

Other Shire Counties
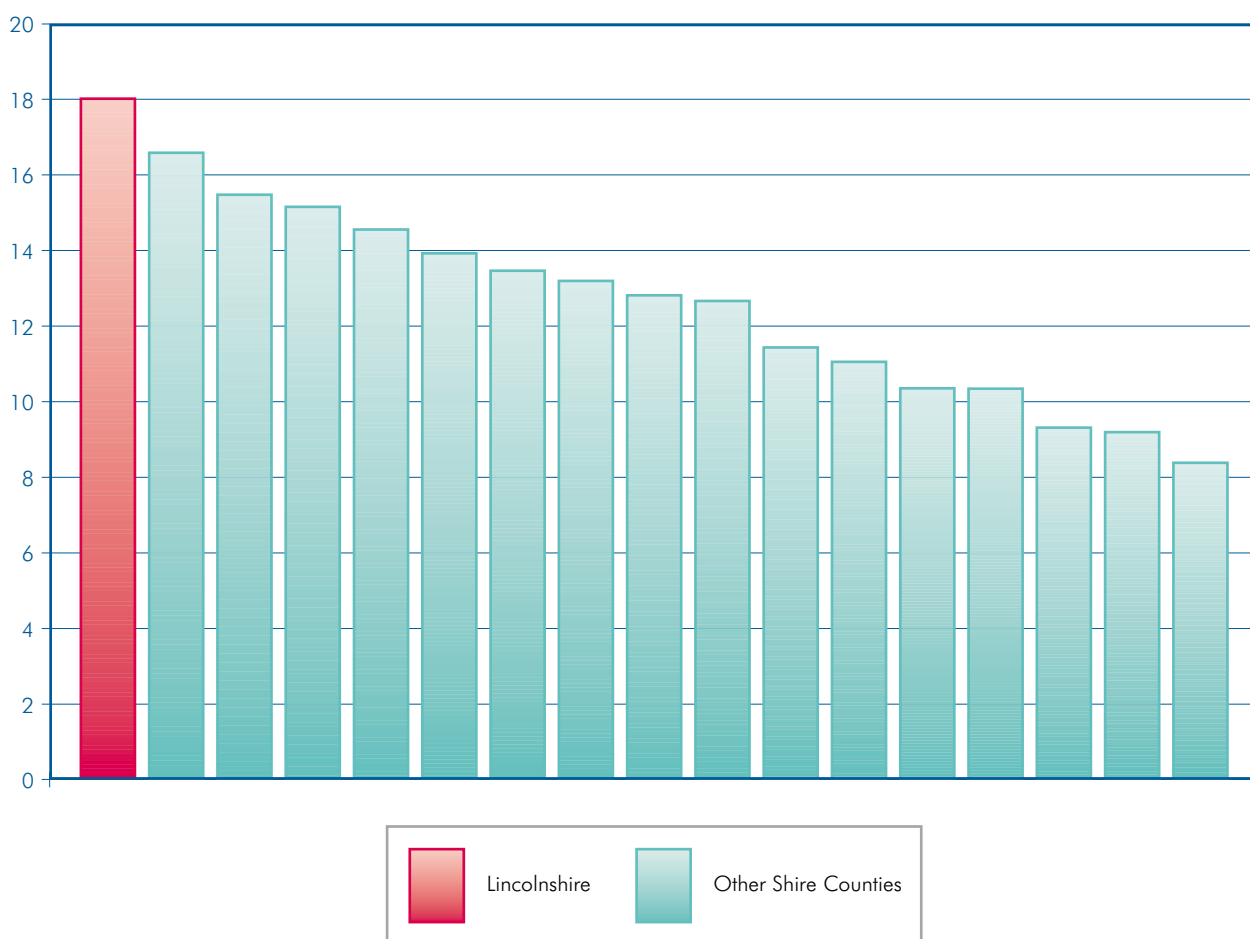
Figure 11.6

Fatal and Serious Casualties, 1994–98

Car Drivers

Vehicle Passengers

Motor Cyclists

Pedal Cyclists

Pedestrians

Table 11.1
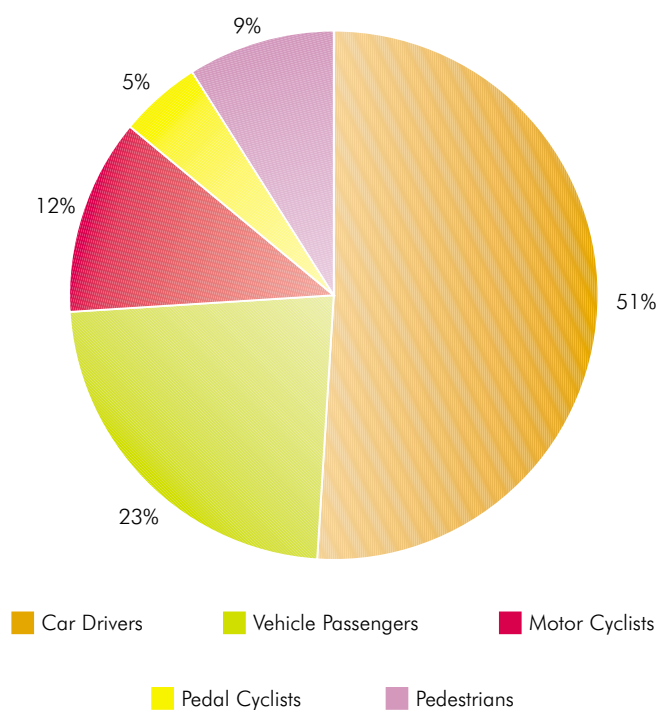
Primary Causes of Fatal & Injury Accidents in Lincolnshire

	CAUSE	%
1	Misjudged speed/distance	12.1%
2	Wrong course/position	10.7%
3	Turning right injudiciously	6.8%
4	Going too fast	6.7%
5	Crossing road heedless of traffic	6.1%
6	Driving too close	5.2%
7	Overtaking	4.6%
8	Bend	3.9%
9	Ice, Frost, Snow	3.7%
10	Injudicious emergence minor road	2.9%
	Total Top Ten categories	**62.7%**

Table 11.2

Other areas of concern

11.3.9   These are also serious road safety problems but when compared with other comparison authorities we are no better or worse than the rest of the country.

Speed limit	Fatal	Serious	Slight
50 mph or less	18%	33%	50%
60 mph	82%	67%	50%
Total	100%	100%	100%

- **Young drivers (aged 17 - 25 years) -** current level of accidents 1052 per annum
- **Motorcyclists -** There is evidence from a number of other counties, particularly North Yorkshire, Cheshire and Derbyshire, that recent increases in sales of high-powered motor cycles have led to an increase in casualties amongst the riders of these vehicles and their passengers. In Lincolnshire the long term downward trend in casualties was reversed in 1998, across all age groups and there has been a 4% increase in casualties. In 1999 the number of motor cycle riders killed in Lincolnshire was 17 which could be a sign of an upward trend and which will be monitored closely.

Consult

11.3.10   There has been wide ranging consultation as part of the review :

- Two County Conferences for County Council Members and key community stakeholders in February and April 2000
- Three staff seminar/workshops and more general staff briefings
- Ongoing presentations to District and Parish Councils
- Feedback through a hypothecation leaflet - delivered to every household in Lincolnshire - and the Citizens Panel

11.3.11   In general, there has been unanimous support for the review and its initial findings. Additional requests and ideas have been followed up.

Challenge & Compete

11.3.12   This has involved:

- A review of traditional methods of service delivery, including the provision of the Education, Training and Publicity aspects of the service
- Identifying initiatives from those authorities that have achieved significant overall casualty reductions such as Gloucestershire, Suffolk and Shropshire.
- Benchmarking costs of service delivery with other authorities and our private sector partner, Babtie.

11.4 INITIAL OUTCOMES OF THE REVIEW

11.4.1   The review has identified a number of key issues to date which are:-

- A lack of overall strategy to determine priorities
- The need for a data led approach to service delivery
- A lack of overall co-ordination of the service between the partners which has led to duplication of work
- Lincolnshire County Council has fewer resources to carry out the road safety service than other local authorities
- Comparison with other local authorities shows that those that are achieving significant casualty reductions are operating within a structured partnership with the Police and other agencies.

11.4.2   The final Best Value review report will be completed in July 2000 and an action plan will be prepared. A number of activities within the road safety service will need further investigation and action following the completion of the review. These include:-

- school crossing patrols
- speed limit policy
- signs and carriageways marking policy
- the level and scale of resources required to deliver a road safety strategy

11.5 NATIONAL FIRST – THE LINCOLNSHIRE ROAD SAFETY PARTNERSHIP

11.5.1   The review has highlighted that those authorities that are successful in reducing accident and casualty rates are operating within a structured partnership. The need to take urgent action has been exacerbated by worsening rates of road collisions and it was agreed that where the review identified good practice, proposals should be implemented as soon as possible rather than waiting for the findings to be published.

11.5.2   Therefore, a new experimental central road safety unit which will integrate the Traffic Support Section of Lincolnshire Police with the County Council's Accident Investigation and Prevention team, the Health Authority and the Highways Agency, will be established. The Unit will operate initially for 12 months and will be managed and co-ordinated by the partners as part of the Lincolnshire In Partnership. The aim of the Unit will be to reduce fatal and serious road accidents in Lincolnshire using a data led approach in developing road safety strategies.

11.5.3   In addition to the new Unit and in order to address the low level of resources, two Accident Investigation and Prevention engineers will be recruited as well as an additional resource for data management.

11.5.4   This combined road safety group is believed to be the first of its kind nationally. The Unit will be based in a high profile central location at Witham House, adjacent to Pelham Bridge in Lincoln and it will be jointly funded by the County Council, Police, Health Authority and Highways Agency. The Unit will involve bringing together approximately 25 County Council, Police and Health authority employees and will be fully operational from July 2000. The group will also provide data, co-ordination and guidance to other groups whose activities support road casualty reduction such as Community and Rural Beat officers, Mobile Police Stations, Highways Divisions, Community Safety Partnerships, Health Professionals as well as voluntary groups. It is felt that the potential for success is considerable and that it will provide a positive image and a focus which will demonstrate that Lincolnshire is making every effort to improve road safety for its residents and visitors.

11.6 DATA LED APPROACH

11.6.1   In order that all of those involved have a clear idea of the Road Safety problems which need to inform the development of their Casualty Reduction Strategies, a central data team will aim to provide clear and concise information about the nature of the problems to be addressed. Initially this will involve:

- Processing of new Stats 19 data
- Analysis of data
- Supply of data
- Research projects
- Production and maintenance of NALAMS (Node and Link Accident Monitoring System).

11.6.2   It is hoped that improved knowledge of the real issues rather than perceived issues will give people ownership of the problems and ensure both professional and community support.

11.7 INVEST TO SAVE

11.7.1   A bid was submitted to Central Government in November 1999. This was a joint bid involving members of the Staying Alive Partnership, the Highways Agency and the Lincolnshire Echo. Unfortunately the bid

"Taking the Risk of our Roads" was unsuccessful but the Government has advised that it should be resubmitted with some modification for Round 3 in 2001. This revised bid is for £500,000 for initiatives additional to those included in this Plan

11.8 TARGETS

11.8.1   The Government has recently set new national Road Safety targets to achieve by December 2010. These are (compared to the average for 1994-98) :

- *To reduce by 40% the number of people killed or seriously injured in road accidents*

- *To reduce by 50% the number of children (under the age of 16) killed or seriously injured in road accidents*

- *To reduce by 10% the slight casualty rate (expressed as the number of people slightly injured per 100 million vehicle kilometres)*

11.8.2   The County Council has adopted its own Road Safety targets for the Local Transport Plan period, in support of the Government's targets. Because of the poor performance in the last few years, Lincolnshire will have considerable difficulty in meeting the three National Targets as well as the Best Value Targets. Therefore, we do not propose, at the present time to set more rigorous targets than those outlined below.

> **ST1**   *To reduce fatal and serious road casualties by 20% (a reduction of 151 over the 5 year LTP period) from an average annual number of 757 (in 1994/98) to no more than 606 per annum and to contain slight casualties overall at their average 1994/98 level of 3049 per annum in spite of the growth in rural traffic.*
>
> **ST2**   *To reduce fatal and serious road casualties involving children by 25% (a reduction of 19 over the 5 year period) from an average annual number of 76 (in 1994/98) to no more than 57 per annum.*
>
> **ST3**   *To reduce injury casualties amongst vulnerable road users, notably cyclists, pedestrians, motorcyclists, young and elderly drivers by 2006 as shown below.*

Vulnerable Road User Group	Current Level of Casualties (94/98)		Total Reduction by 2006	
	KSI	Slight	KSI	Slight
SM1 Pedal Cyclists	45	249	13	54
SM2 Pedestrians (involving vehicles)	79	243	7	14
SM3 Motorcyclists	110	194	22	32
SM4 Car Users	463	2079	109	150
SM5 Elderly Drivers	67	257	Included within the above categories	
SM6 Young Drivers	306	1278		

11.8.3   There are also close links between the Lincolnshire Local Transport Plan and the Road Accident Reduction Strategy contained in the Lincolnshire Health Improvement Programme ("Lincolnshire's Vision for Health Improvement 1992/2002") in which the County Council has made a significant contribution and most of which will be delivered by the County Council and the "Staying Alive" Partnership.

11.9 STRATEGY

11.9.1   The Best Value Review has identified the key issues to be addressed in the delivery of a road safety strategy. The first step has been the setting up of the single unit. Proper detailed analysis of the data has yet to be undertaken to determine key issues which will then become priorities in the implementation of the overall strategy. As a result of this work there may be changes in various approaches.

11.9.2   The Plan's targets will be achieved by through three main approaches :

- Engineering Measures
- Speed Management
- Education, Training and Publicity

11.10 ENGINEERING MEASURES

11.10.1   The County Council intends to develop a "safety culture" which ensures that the need to reduce the number of road collisions guides all it's road engineering and planning decisions.

Multi-Measure Local Safety Schemes

11.10.2   Since 1991, Lincolnshire has been successful in identifying and implementing schemes that have been effective in reducing casualties. Table 11.3 summarises the performance of schemes undertaken since 1995/6.

Table 11.3

Performance of Local Safety Schemes since 1995/96

Year	Number of Schemes	Cost £	Accidents Per Annum For Preceding 3 Years				Accidents Per Annum After Scheme				Annual Accidents Savings			
			Fatal	Serious	Slight	Total	Fatal	Serious	Slight	Total	Fatal	Serious	Slight	Total
95/6	29	471000	3.33	10.67	49.33	63.33	0.22	6.13	31.0	37.35	3.11	4.54	18.0	25.65
96/7	60	483000	7.00	42.00	172.33	221.33	4.69	24.7	118.0	147.39	2.31	17.3	54.33	73.94
97/8	36	497000	3.00	16.00	52.00	71.00	0.57	6.2	28.9	35.67	2.43	9.8	23.1	35.33
98/9	43	560000	3.00	17.00	57.00	77.00	1.45	2.83	18.5	22.78	1.55	14.17	38.5	54.22

	Fatal	Serious	Slight	Total
Average Annual Savings	2.35	11.45	33.48	47.28

11.10.3   These schemes were essentially low cost/high value engineering measures, designed to deal with accident cluster sites where an established pattern of accidents could be effectively treated. The majority were site specific schemes but in recent years have been supplemented by Route Action Schemes focusing on clusters on primary routes with the highest accident rates.
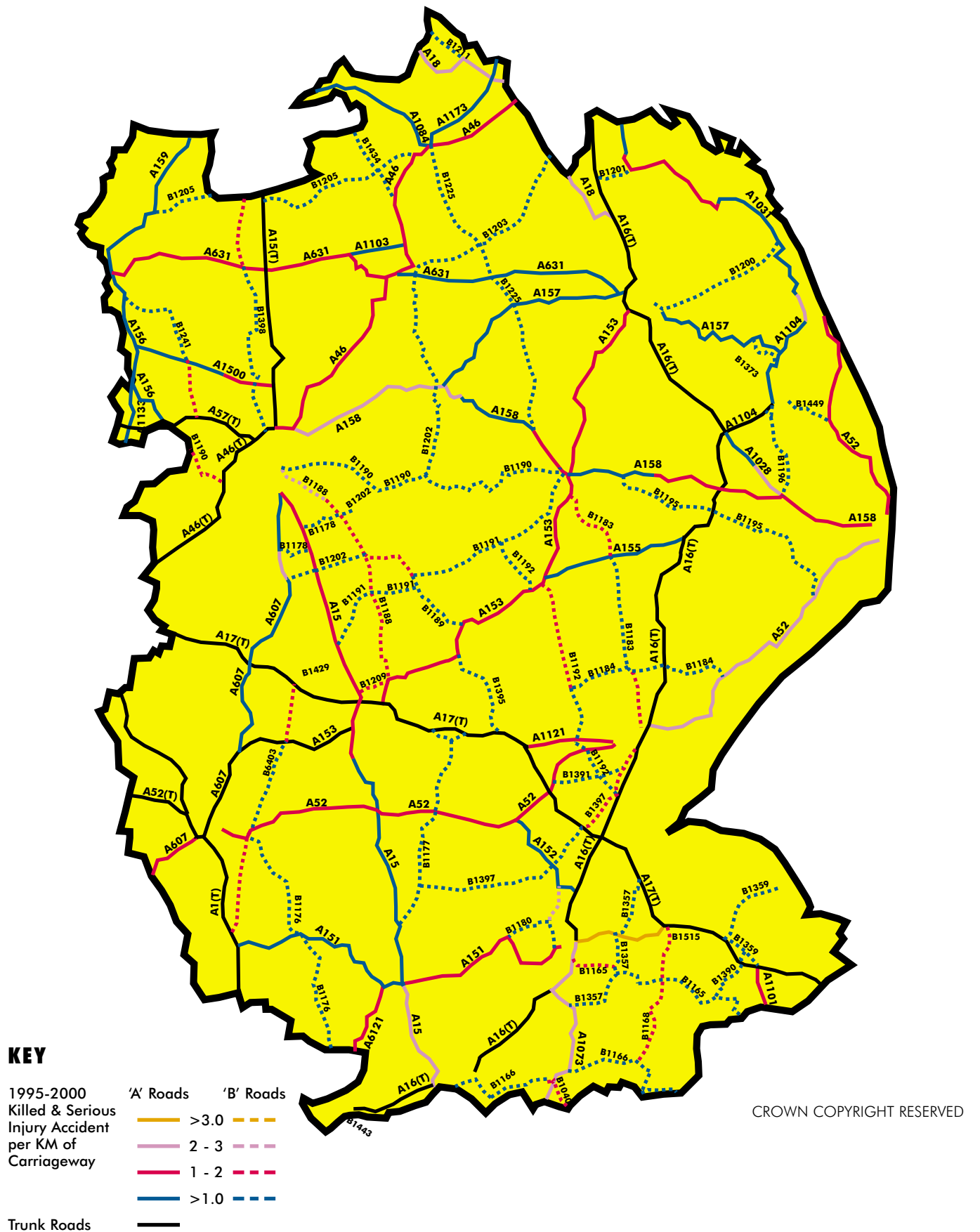
11.10.4   Local Safety Schemes have proved effective in reducing the numbers of clusters suitable for treatment, but it is recognised that fatal and serious accidents are now dispersed throughout the network and not focused at specific locations.

11.10.5   The treatment of cluster sites will continue to form a significant contribution to casualty reduction, particularly in urban areas. The current policy of investigating sites with 4 or more accidents in the previous 3 years and tackling those sites with a treatable pattern of accidents will continue with priority given to those schemes having the greatest first year rate of return. This will however be reviewed to take account of the Best Value Review and the views of the new road safety group.

11.10.6   A new strategy is being developed to target killed and seriously injured (KSI) accidents on rural A and B roads which over the last 5 years have contributed 55% of all fatal and serious casualties with trunk roads contributing a further 19%. Every A and B class rural road has been individually assessed to determine its KSI accident rate per kilometre. Roads containing sections with significantly different accident rates have been sectionalised. The results are shown in Figure 11.7.

11.10.7   These routes have been prioritised and it is proposed to target those with the highest accident rates as shown in Table 11.4. For each route, it also shows the discrete sections that have been identified for possible Local Safety Schemes.

11.10.8   The route will be treated as follows:

a)   The discrete sections will be treated with Local Safety Schemes as appropriate following detailed investigation.

b)   A comprehensive audit of the whole route will be undertaken to identify any further works. This audit will review the carriageway alignment, all signing and road markings to assess both there effectiveness and consistency throughout the route and surrounding network, visibility standards, surfacing and maintenance standards etc.

11.10.9   It is envisaged that the review will be undertaken by county council accident investigators but will also involve accident investigators and traffic officers from the police and highways divisional staff who are familiar with each particular route. This approach, and the prioritisation of the routes and sections that have been identified will be further developed when the new road safety group is formed and will take account of the findings of the recent Best Value review.

11.10.10   The measures set out above to target reductions in fatal and serious casualties will have a knock on effect of reducing slight injury accidents at sites where works are undertaken. In addition to these measures, schemes will be implemented to treat sites with predominantly slight injury casualties, where they can be justified with particular emphasis on vulnerable road users.

11.10.11   From the prioritised list of route improvements in Table 11.4, it should be noted that route studies on the A46, A15 and A1073 had previously been identified for investigation and are in the 2000/01 programme. Table 11.7 (in Section 11.13) shows the proposed list of sites for further investigation in 2001/02. The programme of Local Safety Schemes will be subject to change depending on the accident patterns prior to the implementation of the plan to ensure that casualty reduction is maximised.

Regeneration Zones

11.10.12   During the period of the plan, it is proposed that a number of schemes will be constructed. These include

- A151 Weston Bypass
- A1073 Spalding to Eye Improvement
- Boston Southern Link
- Skegness Package
- C541 Orby to Ingoldmells
- A158/C541 Coastal Access Improvements

Figure 11.7   **ACCIDENT RATES ON A & B CLASS RURAL ROADS**

KEY

1995-2000 Killed & Serious Injury Accident per KM of Carriageway

	'A' Roads	'B' Roads
>3.0		
2 - 3		
1 - 2		
>1.0		

Trunk Roads

Table 11.4

Prioritised Route Improvements

Priority	Route	Route Description	Link KSi/km	Possible Local Safety Schemes
1	A151	A16 SPALDING BYPASS TO A17 HOLBEACH	3.61	- MOULTON TO HOLBEACH - SPALDING BYPASS TO WESTON
2	A607	HARMSTON TO BOOTHBY GRAFFOE	2.85	- HARMSTON TO BOOTHBY GRAFFOE
3	A18	RIBY TO KIRMINGTON	2.83	- KEELBY TO KIRMINGTON
4	A52	BOSTON TO SKEGNESS	2.82	- FRISKNEY, HOLLAND END TO THE ROOKERY - WRANGLE - CROFT
5	B1188	LINCOLN TO BRANSTON VILLAGE	2.73	
6	A1031	MABLETHORPE TO HARP'S BRIDGE	2.53	- A1104 MABLETHORPE TO HARPS BRIDGE
7	A15	BOURNE TO MARKET DEEPING	2.42	- MORTON TO BOURNE
8	B1356	A152 ROUNDABOUT TO PINCHBECK	2.22	- PINCHBECK CROSSGATE
9	A158	A46 LINCOLN TO LANGTON BY WRAGBY	2.13	- LANGTON BY WRAGBY TO LANGTON BENDS - NEWBALL GRANGE TO BULLINGTON
10	A1073	A16 SPALDING BYPASS TO CROWLAND	2.06	- CROWLAND, B1166 TO B1040 - COWBIT - A16 ROUNDABOUT TO COWBIT - DECOY FARM TO B1166 CROWLAND
11	B1398	A631 HEMSWELL TO GRAYINGHAM	1.85	- WILLOUGHTON CLIFF TO BLYBOROUGH
12	A1031	TETNEY TO CONISHOLME	1.82	- GRAINTHORE TO CONISHOLME
13	A158	HAGWORTHINGHAM TO SKEGNESS	1.73	- CANDLESBY TO A1028 ROUNDABOUT - PARTNEY, WEST OF SCREMBY CROSSROADS - HAGWORTHINGHAM
14	A46	A15 LINCOLN TO A631 MIDDLE RASEN	1.67	- NETTLEHAM - DUNHOLME TO WELTON HILL - NETTLEHAM HEATH TO DUNHOLME LODGE
15	A15	A607 BRACEBRIDGE HEATH TO A17 SLEAFORD	1.59	- ASHBY LODGE TO B1191
16	A46	A631 MIDDLE RASEN TO SWALLOW	1.58	- CAISTOR ROAD, NORTH OF MARKET RASEN - A1173 CAISTOR TO CABOURNE - NETTLETON - SWALLOW BYPASS - USSELBY TO CLAXBY MOOR
17	B1183	A153 HORNCASTLE TO A155 REVESBY	1.58	- MOORBY BENDS THROUGH VILLAGE
18	A6121	A151 BOURNE TO CARLBY	1.56	- TOFT TO MANTHORPE CROSSROADS
19	A631	GAINSBOROUGH TO MARKET RASEN	1.48	- CORRINGHAM VILLAGE - HEMSWELL CLIFF
20	B1189	B1188 METHERINGHAM TO B1191 TIMBERLAND	1.37	- METHERINGHAM, BARFF FARM BENDS
21	B6403	A17 CRANWELL TO A153 ANCASTER	1.33	- A17 BYARDS LEAP TO RAUCEBY JUNCTION
22	B1241	A57 SAXILBY TO A1500 STURTON BY STOW	1.25	- BRANSBY CROSSROADS TO STURTON - INGLEBY BENDS
23	B1168	A17 HOLBEACH TO B1166 HOLBEACH DROVE	1.22	- HOLBEACH SAINT JOHNS - HOLBEACH TO BARRINGTON HOUSE CROSSROADS
24	B6403	A52 COLD HARBOUR TO A1 COLSTERWORTH	1.18	- A52 ROUNDABOUT TO WOODNOOK
25	B1192	A153 CONINGSBY TO B1184 LANGRICK	1.08	- A153 CONINGSBY TO NEW YORK
26	A153	HONINGTON TO SLEAFORD	1.07	- A631 HONINGTON FORK TO HONINGTON MAIN STREET - NORTH KYME TO BILLINGHAY
27	B1188	BRANSTON TO A153 RUSKINGTON	1.00	- SCOPWICK - DUNSTON TO METHERINGHAM
28	B1398	A1500 SCAMPTON TO A631 HEMSWELL	0.74	- FILLINGHAM TO GLENTWORTH
29	B1202	B1190 BARDNEY TO A158 WRAGBY	0.70	- KINGTHOPRE
30	B1225	A157 BURGH ON BAIN TO A46 CAISTOR	0.66	- LUDFORD, 400 YDS SOUTH OF A631 - CAISTOR TO NETTLETON CROSSROADS
31	B1184	B1192 LANGRICK TO A52 OLD LEAKE	0.50	- SIBSEY TO LEAKE GRIDE

11.10.13 It is anticipated that these schemes will make a significant contribution to reducing KSI casualties, particularly the A151 and A1073 schemes which have some of the highest accident rates in the county. In addition, the dualling of the A46 South of Lincoln and the improvement of the A16 at Fotherby by the Highways Agency will also serve to reduce casualties in Lincolnshire.

Other Measures

11.10.14 In addition, other measures will continue to make a significant contribution to road safety. These include carriageway surface treatments identified by SCRIM (Sideways Coefficient Routine Investigation Machine), street lighting schemes, road signing and carriageway marking improvements.

Future Strategy

11.10.15 In 2002 it is planned that the A15, A16 and A17 will be detrunked. The County Council has continued to monitor accidents on all trunk roads since loosing the agency and are aware of the current cluster sites. Prior to detrunking, sections of the network will be identified using the same new criteria as described above in consultation with Opus International.

11.10.16 The development of NALAMS, possibly using the HERMIS link network will provide the opportunity to explore new initiatives to co-ordinate and link accident reduction with divisional maintenance programmes.

11.11 SPEED MANAGEMENT

Speed Limits

11.11.1 The County Council has recently adopted a policy of introducing a 30mph at the location of every school in Lincolnshire where previously there was a range of speed limits. Consideration will now be given to the appropriateness of 20mph zones in the vicinity of schools. A more detailed review of speed limit policy is to be undertaken as an outcome of the Best Value Review. This will include consideration of the appropriateness of 20 mph zones in the vicinity of schools.

Traffic Calming

11.11.2 Over recent years, as part of an overall strategy to reduce vehicle speeds in villages, many Lincolnshire villages have been treated with traffic calming measures, most often in the form of count down markers, "gates", bar markings, speed limit roundels and other appropriate signs and road markings. These measures will in future be incorporated as part of Rural Priorities Initiatives and Community Travel Zones.

Speed Camera Sites

11.11.3 A further initiative has been progressed through the Staying Alive Partnership, Highways Agency and Magistrates' Court. Lincolnshire has successfully bid to be one of eight selected highway authorities to carry out Camera Hypothecation trials. These began in April 2000 and are due to run for up to two years. This is a welcome initiative, which, if implemented nationally, will undoubtedly have a significant effect in reducing casualties.

11.11.4 Research in Lincolnshire has shown that when considering the direction of catchment of the camera, the existing sites have reduced all casualties by 62% and KSI casualties by 19% on county road camera sites. Savings on the trunk road sites were 48 and 61% respectively.

11.11.5 Prior to 2000, there were 26 speed cameras sites on both county and trunk roads. A further 10 sites (5 county and 5 trunk road) have been installed this year and it is planned to install an additional 14 sites in 2001/02 (8 county, 6 trunk).

11.11.6 An overall Speed Management Policy for Lincolnshire will be developed, taking into account "New Directions in Speed Management" (DETR March 2000)

Children

11.12.1 Child Road Safety has been identified as the highest priority by Central Government. (Children are defined as all those who have not yet reached their 16th birthday). The specific, child-related Casualty Reduction Target - to reduce KSI by 50% by December 31st 2010 is particularly challenging to local authorities such as Lincolnshire which, in common with a number of other shire counties, has a low annual number of child casualties when compared with those identified above as vulnerable road user groups.

Child Road Safety Audit

11.12.2 **The Problem -** During the baseline period 1994 – 1998, the average annual number of child casualties was:

Pedestrians	141
Pedal Cyclists	114
Vehicle Passengers	241
Total	***496***

11.12.3 Within the overall number of child casualties, however, the average annual spread of casualties is shown in Table 11.5 :

11.12.4 Where children are injured in Lincolnshire - Over the three years 1997 - 1999 1259 road collisions involved death or injury to schoolchildren. In 535 (42%) of these collisions the child was a vehicle passenger. The vast majority of these collisions were in urban areas with speed limits of 30mph or 40mph. Indeed well over 50% of these collisions occurred in 18 large towns and market towns. The vast majority of communities rarely have an accident involving a child.

Table 11.5

Child Casualties 1994-98

Age Group	Killed	Serious	Slight	Total
0 - 4 years	2	8	60	70
5 - 7 years	1	12	67	79
8 - 11 years	1	20	127	148
12 - 15 years	3	31	166	199

11.12.5 Of the collisions which occurred when children were cycling or walking, 257 (35%) happened on Saturday or Sunday or during the school summer holidays while 467 occurred between Monday and Friday and during the school term. 535 collisions involved death or injury to children while they were passengers in vehicles - mainly private cars. Of these 181 (34%) occurred during school summer holidays or at weekends.

11.12.6 From the above it could be deduced that children were particularly at risk during summer holidays or at weekends on roads subject to 30mph and 40mph speed limits. Clearly further research is needed in this particular area of concern.

11.12.7 **The Targets for Child Casualty Reduction -** The average annual number of children killed and seriously injured on the roads of Lincolnshire was 76. The target, therefore, is to reduce this number by 19 (25%), to 57 by 31 December 2005 and by a further reduction of 19 by 31 December 2010. In addition, during the same period, we will seek to reduce the number of children slightly injured by 50 (10%) per annum

11.12.8 The headline targets are:

- *to reduce the number of children killed and seriously injured to no more than 38 per annum by 31 December 2010.*

- *to reduce the number of children slightly injured to no more than 446 per annum by 31 December 2010.*

11.12.9 The Strategy for Child Casualty Reduction - The strategy takes account of the vulnerability of older children as pedestrians, the vulnerability of all children as car passengers (48.5% of all child casualties) and the increased risk of injury as more children walk or cycle to school.

11.12.10 The principal aims of the strategy are:

- To ensure that parents, carers and children understand the risks involved in using the roads as pedestrians, cyclists and vehicle passengers and are helped to develop coping strategies which minimise these risks.

- To ensure that drivers and riders are aware of the risks children face in using the roads and modify their driving to take account of children's likely behaviour and physical limitations.

11.12.11 The most vulnerable group of children in Lincolnshire identified from the Best Value Review is pedestrians aged 11 - 15 years. This is the group that is about to, or has made, the transition from Primary to Secondary Education. The length of the school journey may have increased and the mode of travel may also have changed from car to walking. This age group also makes more independent social journeys. They will be targeted with the help of parents, schools and the children themselves. We look to DETR to bring forward teaching resources developed as a result of the recent research, in which a number of Lincolnshire schools were involved, into this particular problem.

11.12.12 Additionally the problem will be addressed as part of Safer Routes to School initiatives, in the developing programme of Community Travel Zones and the Rural Priorities Initiative. School Travel Plans are being developed on a countywide basis. These will build on the existing "Safer Routes to School" programme and will provide a link between transport, education and health issues. A template will be developed through which it is hoped to maximise the opportunities to encourage parents and children to walk and cycle to schools.

11.12.13 The Healthy Schools initiative is also being developed by a partnership of Lincolnshire Education Service and Lincolnshire Health Authority. This will stress the health benefits of walking and cycling.

11.12.14 There will be considerable further publicity, aimed at all parents and children, with the objective of increasing the rate of seat belt wearing by children, particularly in the rear seats. It is hoped that this will be allied to sympathetic enforcement - particularly on the school journey by car, which will continue to be a favoured option for some parents

11.12.15 In relation to other age groups, various strategies will continue or will be developed as shown below. Strategies which have common objectives with the Health Improvement Plan (HImP) are indicated.

Pre-School Children (0-4 years)
• A Teaching Resource - "The Big Road Safety Bag" is available on loan to Playgroups and Nurseries.
• A Programme will be introduced which targets information on risk, road crossing strategies and early years training at the parents of pre-school children. It is hoped that Primary Care Groups, who employ Health Visitors, will play a major role in facilitating this programme.

Primary School Children (5-11 years) - Key Stages 1 & 2 (KS1 & 2)
Walking
• The programme of Urban Traffic Trails - in which groups of children, many from rural communities, are given the opportunity to experience urban traffic and formal crossing facilities - will continue.
• A Pedestrian Skills Training Programme will be developed in line with established good practice. (HImP)
• Road Safety Resource Boxes containing a range of resources - which allow road safety teaching to be delivered through the National Curriculum as part of a child's Personal, Social and Health Education - are available to teachers on loan. (HImP)
• The "Walking Bus" which has been successfully introduced at a number of Primary Schools will be extended.

Cycling

- The Lincolnshire "Bikewise" Training Scheme has for many years provided "on road" training for more than 5000 children at KS2 each year, i.e. just prior to the transition from Primary to Secondary education. This training, allied to the fact that many children rarely use the bicycles on the highway, has ensured the number of child cyclist casualties is extremely low. However, unless a robust training programme is sustained, this number is likely to increase as successful Travel Plans and Safer Routes to School initiatives encourage more cycling. Indeed, if there is evidence that this is so, we will look to extend the training scheme to 7 and 8 year old children who will receive basic instruction off the highway. (HImP)

- We will promote the benefits of cycle helmet wearing and we look to School Nurses and Health Visitors for support. (HImP)

- A similar programme to the "Walking Bus", but where a number of children cycle the same route to school accompanied by at least two adults - named the "Bike Train" has been instigated at a Primary School. We will seek to extend this initiative.

Secondary School Children (12-15 years) - Key Stage 3 (KS3)

- This is the most vulnerable group of pedestrians while there is also increased cycling activity.

- As mentioned later, under the sub-heading "Pedestrians", their changing travel patterns increase their vulnerability. They will be targeted with the help of parents, schools and the children themselves. (HImP)

- We look to introduce an educational resources developed through recent DETR commissioned research on this age group which will be based on Lifeskills and Choices for young people at KS3.

- We will provide, where appropriate, cycle training programmes where cycling is a principal mode of school travel as well as continuing to promote the benefits of cycle helmet wearing. (HImP)

- We will introduce young people to the skills, knowledge and attitudes needed to cope with the demands of driving a powered vehicle through a programme of Pre-Driver Education.

11.12.16 A summary of the Child Safety programmes is shown in Table 11.6 below and will in future be co-ordinated through the new Road Safety partnership.

Table 11.6

Child Safety Programmes

SCHEME	Pre School	KS1	KS2	KS3	KS4
Early Years	●				
"The Big Road Safety Bag"	●				
Pedestrian Skills Training		●			
The Walking Bus		●	●		
Urban Traffic Trails		●	●		
Road Safety Resource Box		●	●		
Basic Cycling Skills		●	●		
Lincolnshire Bikewise			●	●	
The Bike Train			●	●	
Cycle Safety Helmets	●	●	●	●	●
Lifeskills and Choices				●	●
Road Safety NVQs				●	●
Pre Driver Training				●	●

Drivers

11.12.17 Drivers are the single most vulnerable group of road user in Lincolnshire, forming 40% of all road casualties. The most vulnerable groups are those aged 17 - 25 years and those aged over 70 years. The following programmes are being pursued :

Pre-Driver Training - Young people will be introduced to the skills, knowledge and attitudes needed to cope with the demands of driving a powered vehicle through a programme of Pre-Driver Education.

Driver Improvement Scheme - Lincolnshire County Council will continue to support the National Driver Improvement Scheme. This course, of 12 hours duration, provides theoretical and practical training, as an alternative to prosecution, and on payment of the appropriate fee, for clients who have been referred by Police Forces following minor collisions or traffic offences. 850 clients have been referred since April 1998.This course will be made available to non offenders as part of the overall strategy to improve driving standards generally. (HImP)

Speed Reduction Seminars - Drivers who have been detected driving in excess of the posted Speed Limit may be offered the opportunity, as an alternative to prosecution, and on payment of the appropriate fee, to attend a Speed Reduction Seminar of 4 hours duration. (HImP)

Drink/Drive Rehabilitation Courses - Lincolnshire Probation Service currently organises Rehabilitation Courses for drink/drive offenders who are referred to the course by the Courts. (HImP)

Drugs/Driving - Three years ago Lincolnshire County Council together with Lincolnshire Health hosted a National Conference on the Use of Medicinal Drugs while Driving. More recently, the problems associated with illegal drugs, particularly while use in conjunction with alcohol have been the subject of national research. This is a major health issue. We will continue to use all means to publicise the dangers associated with both types of drugs through the Partnership.

Driving while suffering from Fatigue - This is another problem which has recently received considerable publicity and is known to have been a factor in a number of prominent fatal accidents in the County. This issue will be addressed via publicity and education managed through the Partnership.

Management of Occupational Road Risk (Work-related Road Safety) - Lincolnshire County Council has provided seminars for Employers to raise awareness of the need to manage the risks faced by their employees who drive during the course of the working day. This programme will continue. In addition, the County Council is currently, and will continue to, address the needs of its own employees with a range of driving seminars similar to the Driver Improvement Scheme and through providing all its employees with a Drivers Handbook. It is hoped to extend this programme to other partners and to other employers. (HImP)

Advanced Training for Drivers - Lincolnshire County Council will provide support and assistance to organisations, such as the Institute of Advanced Motorists, who provide driver training to a level above that of the DSA Driving Test. It is hoped that this will increase the number of drivers taking part in such schemes. In addition, we will seek to support DSA Approved Driving Instructors who provide Pass Plus for new drivers in the hope that the uptake for this scheme will also increase. (HImP)

Elderly Drivers - When elderly drivers have been referred to the Driver Improvement Scheme it has been found most satisfactory to provide them with instruction on a one to one basis. (HImP) This will continue to be the standard. Elderly drivers have also take part in Speed Reduction Seminars. Despite these initiatives, however, the collision involvement of the increasing number of elderly drivers in Lincolnshire is a cause for concern. Very often, there is a necessity in rural communities to continue to drive to an advanced age to maintain lifestyles. We will seek to introduce initiatives which not only help elderly drivers to continue to use their vehicles in safety but which also help them reach the correct decision in relation to surrendering their licences. Lincolnshire Health Authority, through Primary Care Groups, has a vital role while Parish Councils and the voluntary sector will be part of a centrally co-ordinated publicity campaign to focus attention on the problem.

Pedestrians

11.12.18 The most vulnerable group of pedestrians in Lincolnshire is the age group 11- 15 years. Measures to address this are described earlier in paragraph 11.12.11.

11.12.19 The following programmes are also being pursued :

- A programme will be introduced, in partnership with Lincolnshire Health Authority, which will target information on road crossing strategies and early years training to the parents of pre-school children.

- A Pedestrian Skills Training Programme which will include practical pedestrian training at the roadside will be introduced in Primary Schools.

- The programme of Urban Traffic Trails through which children, many of whom are from rural communities, are given the opportunity to experience urban traffic and formal crossing facilities will be supported.

- The "Walking Bus" initiative which has been successfully introduced at a small number of primary schools will be extended.

- Measures aimed at elderly pedestrians involve offering suitable advice through those in regular contact with this section of the community including health visitors and social workers.

Motor Cyclists

11.12.20 While there is widespread and increasing use of powered two wheeled vehicles for leisure purposes, there is a potential for these vehicles to provide a suitable alternative where public transport is not available and where journeys too long for walking or cycling. If this modal shift occurs and the recent increases in sales are sustained there is likely to be an increased number of casualties as experienced in adjacent rural counties.

11.12.21 Professional Training is widely available in Lincolnshire both for newcomers to motorcycling and for those seeking to improve their riding skills. Motor cyclists will be encouraged by publicity to seek training to improve their defensive riding. We will also provide information and advice for those taking up or returning to motorcycling. We will use publicity to make drivers aware of the vulnerability of motor cyclists.

11.12.22 Motor cyclists may be offered the Driver Improvement Course and the Speed Reduction Seminar as an alternative to prosecution for riding offences and as a result of their involvement in collisions.

Pedal Cyclists

11.12.23 The introduction of new travel initiatives such as "Safer Routes to School", Community Travel Zones and School Travel Plans is likely to see an increase in the number of people who choose to use a cycle for commuting, other short journeys and for leisure purposes. It will be necessary to implement measures aimed at ensuring that this does not lead to an increased number of cyclist casualties. The following programmes will also be pursued :

- The Lincolnshire "Bikewise" Training Scheme

- A Training Package aimed at family cycling will be developed and it is hoped to take advantage of initiatives developed by DETR in partnership with the Cyclists Touring Club.

- The use of Cycle Safety Helmets will be promoted by publicity.

- A similar programme to the "Walking Bus" but where a number of children cycle the same route to school accompanied by at least two adults - named the "Bike Train" has been instigated at a Primary School. We will seek to extend this initiative.

Media Campaigns

11.12.24 Lincolnshire County Council will continue to support the themed publicity campaigns which are part of DETR's rolling programme including the use of the "THINK" logo on a wide range of material.

11.12.25 In addition we will, as part of the partnerships outlined above and in support of the programme outlined previously, develop and support specific local media campaigns, sometimes on general themes, sometimes targeted specifically at road user groups or behaviour patterns

11.12.26 Publicity will also be used to ensure that road users understand the purpose of safety engineering measures and are able to use them successfully and in safety.

11.13 IMPLEMENTATION

11.13.1 Table 11.7 shows the proposed list of sites for further investigation for possible local safety schemes during 2001/02.

11.13.2 Table 11.8 summarises the predicted level of revenue expenditure on safety related projects during the LTP period.

Table 11.7

Provisional List of Local Safety Schemes 2001/02

Route	Location	Possible Measures	Est. Cost £	Annual Accidents To Be Treated		Est. Annual Accident Savings	
				KSi	Slight	KSi	Slight
B1183	Moorby	Surface - Signs and Markings	20,000	2.33	0.67	0.93	0.27
B1398	Fillingham, Middle Street	Resurface	8,000	0.67	1.33	0.27	0.53
A158	Bullington/B1399	Resurface	15,000	0.67	0.67	0.27	0.27
A157	East Barkwith, Louth Road	Surfacing	15,000	0.67	1.00	0.27	0.40
A1101	Tydd St Mary, Common Way	Surface/Sign	15,000	0.67	0.67	0.27	0.27
A158	Greetham, A158/B1195 Scrafield Fork	Signs and Markings	6,000	0.33	1.67	0.11	0.22
U/C	Heighington Moor Lane Junction	Surface - Signs and Markings	8,000	0.33	2.00	0.13	0.80
B1262	Lincoln, High Street/St Marks	Investigate Pedestrian Facilities	5,000	0.33	1.67	0.11	0.22
A15	Baston, junction King Street	Junction Improvement	15,000	0.33	1.67	0.13	0.67
A158/A46	Lincoln, Nettleham Rd Roundabout	Reactive Signing	15,000	0.67	3.67	0.27	0.88
U/C	Skegness, Lincoln Rd / Dorothy Avenue	Signs and Markings	15,000	0.33	1.33	0.25	0.50
B1262	Lincoln, High Street/Portland Street	Signs	4,000	0.00	2.33	0.00	0.93
U/C	Ingoldmells, Roman Bank and Sea Lane	Traffic Calming / Ped Facilities	60,000	2.33	6.33	0.50	2.00
A18	Ludborough, Barton Street	Resurface	20,000	0.33	2.33	0.13	0.93
A158	Skegness - Burgh/Lincoln Road	Signals	60,000	1.00	1.67	0.66	0.66
B1190	Lincoln, Doddington Rd / Whisby Road	Signs and Markings	4,000	0.00	1.67	0.00	0.50
A1500	Scampton, A1500/B1398 Junction	Signals?	65,000	0.67	1.00	0.30	0.50
A151	Spalding to Holbeach	Route Improvement					
	- Moulton to Holbeach		180,000	4.00	6.40	2.00	3.20
	- Spalding to Weston		85,000	1.20	3.20	0.60	1.60
A607	Harmston to Boothby Graffoe	Route Improvement	60,000	1.40	2.60	0.70	1.30
A18	Riby to Kirmington	Route Improvement	90,000	2.00	2.00	1.00	1.00
A52	Boston to Skegness	Route Improvement (Year 1)					
	- Croft, South of Village		20,000	0.67	0.67	0.27	0.27
	- Wrangle		45,000	1.20	3.40	0.48	1.36
Various	Scrim Program (Estimated)		100,000	7.50	20.00	3.00	8.00
	Capitalised Staff Time		70,000				
		Totals	1,000,000	29.63	69.93	12.65	27.28

Table 11.8

Revenue Expenditure on Safety

ACTIVITY	2001/02	2002/03	2003/04	2004/05	2005/06
	£	£	£	£	£
Lincolnshire "Staying Alive Partnership"	100,000*	100,000*	100,000*•	110,000*•	120,000*•
Lincolnshire Bikewise	5,500	6,000	6,500	7,000	7,500
Adult Cycle Training	1,000	1,500	2,000	2,500	3,000
Schools Road Safety Programmes	5,500	6,000	6,500	7,000	7,500
Multi-Agency Projects; Cycle Safety Helmets; Drink and Driving; Drugs and Driving; Carer Training.	3,500	4,000	4,500	5,000	5,500
Defensive Driving; Management of Occupational Road Risk	3,500	4,000	4,500	5,000	5,500
Driving Advantage (Elderly Drivers)	750	1,000	1,250	1,500	1,750
Pedestrian Skills Training	2,000	2,500	3,000	3,500	4,000
Media Campaigns	8,500	£9,000	9,500	10,000	10,500
Leaflets, Posters.	3,000	3,500	4,000	4,500	5,000
Purchase of Equipment	2,000	2,500	3,000	3,000	3,500
Local Road Safety Co-ordination	259,000	266,000	274,000	283,000	291,000
TOTAL	**394,250**	**407,000**	**418,750**	**442,000**	**464,750**
Other Safety Related Expenditure:					
School Crossing Patrols (including additional points as part of "Safer Routes to School")	210,000	220,500	231,500	243,000	254,500
Driver Improvement Scheme	44,050	46,250	48,560	51,000	52,500

* includes contributions from: Lincolnshire Police, Lincolnshire Health, Highways Agency
• provisional pending reviews in 2002/2003 and may be increased

11.14 INTEGRATION

11.14.1 There is considerable overlap between safety issues and other areas in the Local Transport Plan. Lincolnshire County Council will seek to ensure that the development of Cycling and Walking Strategies will not compromise the safety of these vulnerable road users. The most vulnerable groups are cyclist and pedestrians of school age - particularly during and after the transition from primary secondary education - as well as the elderly.

11.14.2 An important element of encouraging people to walk or to cycle is the provision of a safer environment in which to do so. Measures such as the provision of pedestrian crossing facilities or cycle routes contribute to achieving both the safety targets by helping to reduce the number of casualties among vulnerable users and the aim of reducing predicted car growth by encouraging more use of alternative modes.

11.14.3 Community Travel Zones will be a major source of future funding. Many of the measures taken in creating these zones will not directly reduce accidents or casualties, but will have an environmental impact.

11.14.4 Many elements of routine maintenance are aimed at improving safety. For example, the provision of facilities for the disabled at existing traffic signals as part of an on-going maintenance programme, the replacement of worn out white lines, and the cleaning of traffic signs, carried out to a high standard, will contribute to road safety. Coloured road surfaces could also enhance road safety by adding to the information available to the driver.

12 InterConnect

12.1 SCOPE

12.1.1   InterConnect is the name given to the Council's strategy for widening travel choice across all public passenger transport modes, and encompasses the following service areas:

- local bus services
- rail services
- community transport schemes
- public transport information
- public transport interchange.

12.1.2   In all these areas, emphasis will be given to the contribution that public transport can make in the policy areas of:

- sustainable alternative to the car
- social inclusion, particularly in rural areas
- integration across modes
- access for the disabled;

and its linkage with other transport initiatives on:

- community travel zones
- rural priority initiatives
- walking and cycling
- travel plans.

12.1.3   The County Council has adopted and published a Bus Strategy following wide consultation on it. The Bus Strategy is provided as a supporting document to this Plan and offers a more detailed exploration of the issues, current levels of bus service provision, and basis for the Council's strategy for bus services. It is intended to prepare a similar document for rail when the uncertainties arising from the current renegotiations of passenger rail franchises have been clarified.

12.2 ISSUES

12.2.1   The disparate nature of Lincolnshire does not readily lend itself to public transport operations. Outside the major urban areas, public transport can be characterised as having:

- low bus and rail service frequencies;
- lack of coordination between operators and between modes;
- patchy provision of community transport such as social car and dial-a-ride;
- bus and rail stations of generally modest quality, and without the full range of facilities;
- inadequate and inconsistent coverage of information;
- limited concessions for the elderly and disabled.

The relatively poor network of bus and rail services is demonstrated in Figure 12.1 which shows only a handful operating at a frequency of roundly one bus every two hours or better.

12.2.2   The dominant mode is bus with an 88% share of the public transport market in the County. The main issues affecting bus travel are:

- high dependency on statutory school transport which underpins bus network;
- low levels of investment by operators generally, reflected in ageing fleets;
- high proportion of high step entry vehicles, and few accessible vehicles;
- frequent bus timetable changes;
- bus stops, shelters, timetable cases are either lacking or in a generally poor condition;
- and in urban areas, unreliability caused by increasing traffic levels.

12.2.3   Since 1986, the amount of bus services operating in Lincolnshire (as measured by vehicle kilometres) has increased by 19%; as shown in Figure 12.2. However, over the same period, there has been a continuing downward trend in bus use amounting to 10% (see Figure 12.3), largely from the impact of rising car ownership and use, and the cost of bus travel relative to the perceived cost of car travel. Other factors such as the frequency of timetable changes and lack of coordination between bus operators, and between bus and rail operators have contributed to this.

Figure 12.2

Local Bus Services – vehicle kilometres, 1987/88 – 1998/99
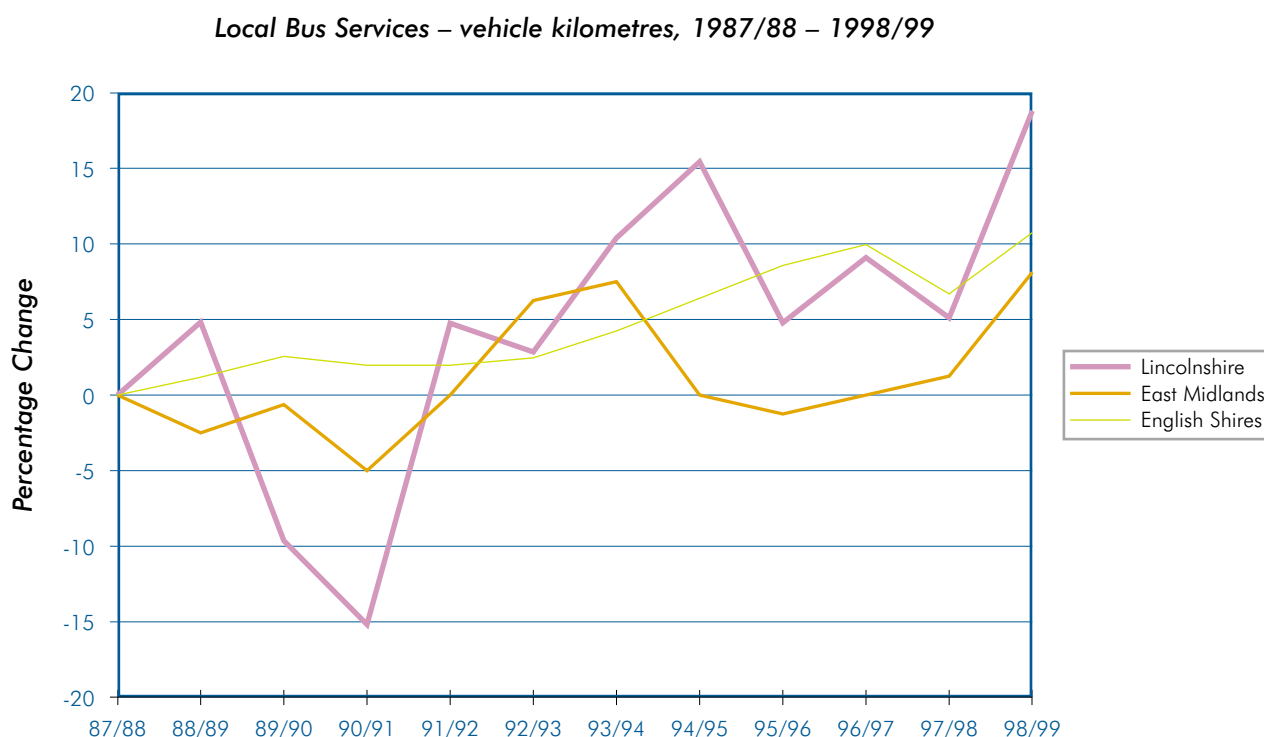
12.2.4   Similar issues are highlighted in a study commissioned by the County Council to look at unmet travel needs of people living in rural areas (see Table 12.1). This shows that frequency, timing of services, waiting facilities and information are the main areas of dissatisfaction.

12.2.5   The quality of vehicles operating on local bus services in Lincolnshire varies considerably, and until recent years, there had been limited investment by operators in new vehicles. Much of this was due to damaging competition between bus operators in the period following deregulation. However, the past few years have seen the investment levels steadily improve, particularly in the major urban areas and in the south of the County.

12.2.6   The condition and extent of bus stops, shelters, and termini in the County is generally poor. The extent of bus priority measures in place is modest, and currently limited to Lincoln and Skegness.

Figure 12.1

BUS AND RAIL ROUTES WITH 2 HOURLY OR BETTER SERVICE MONDAY–FRIDAY

Caistor

Gainsborough

Market Rasen

Louth

Lincoln

Horncastle

Skegness

Sleaford

Boston

Grantham

Bourne

Spalding

Stamford

The Deepings

— Bus Services

--- Railway Lines

Figure 12.3

Local Bus Services – passenger journeys, 1987/88 – 1998/99
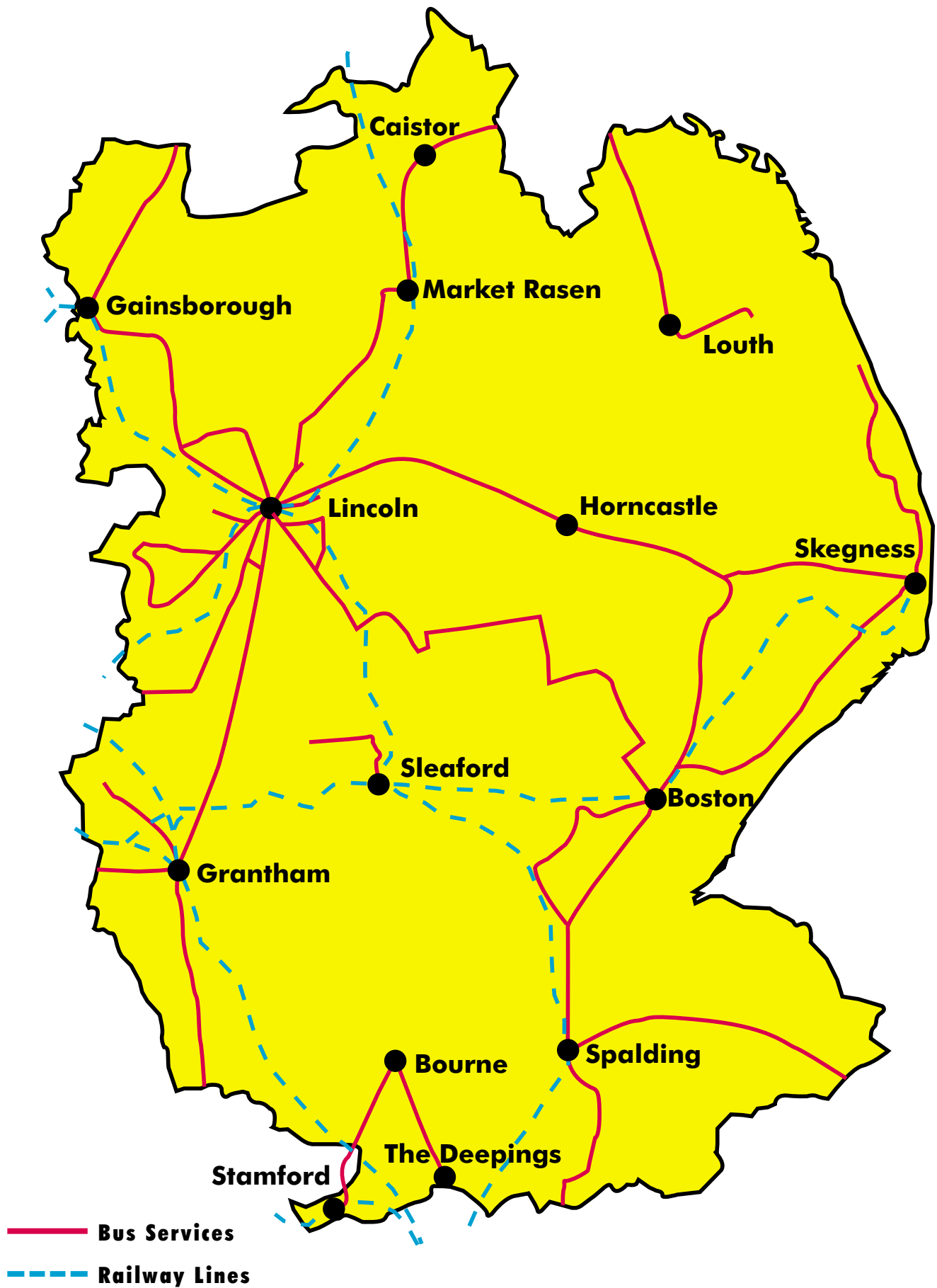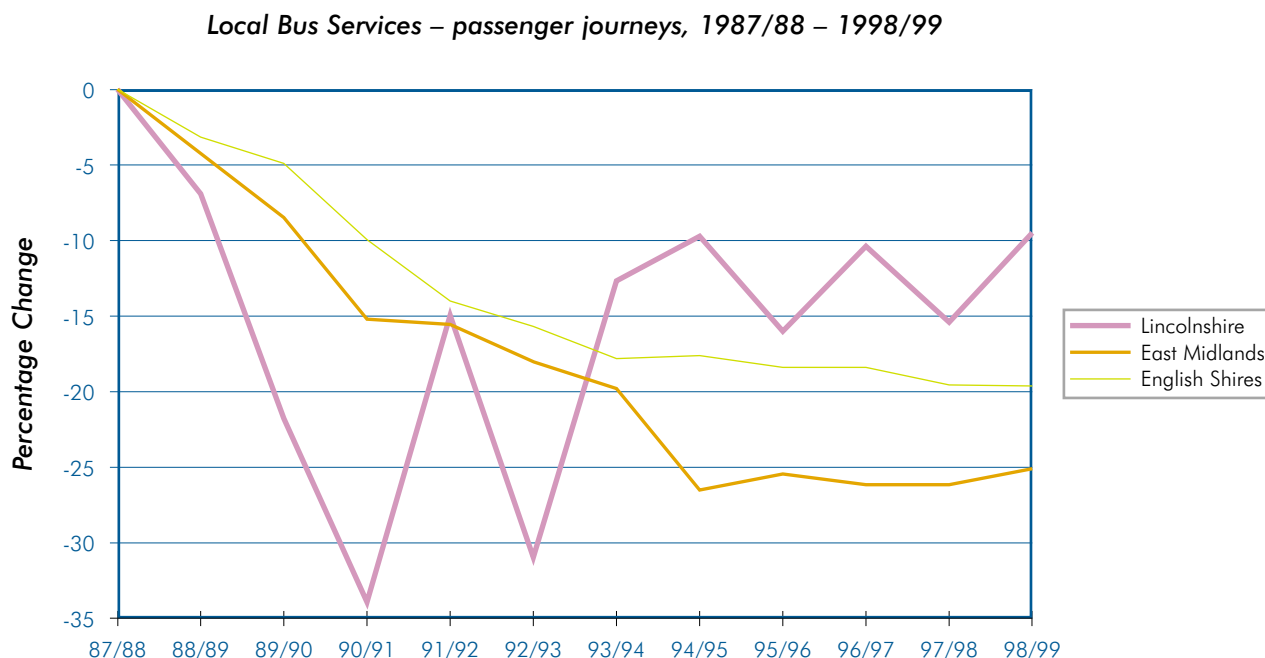
Table 12.1

Level of dissatisfaction with bus service features in rural areas (%)

	Aged 17 years to Retirement Age	Retirement Age	Total
Frequency	47	41	46
Times of operation	47	39	45
Waiting facilities	42	37	41
Information	31	22	30
Cost	25	27	25
On-board comfort	18	17	18
Punctuality	17	10	15
Interchanging	14	18	14
Distance to stop	15	7	13
Boarding/alighting	7	10	7
Drivers	7	4	6

12.2.7   About 2.5 million rail passenger trips per annum begin or end within Lincolnshire, with its modal share of all public transport trips being 12%. The main issues affecting rail are:

• lack of a direct service between Lincoln and London;
• low levels of service on some key routes;
• absence of staffing at stations generally;
• lack of secure car parking and facilities for cyclists;
• ageing signalling infrastructure;
• inadequate passenger information at stations, including real time systems;
• cost of rail travel generally.

12.2.8 Much of the railway infrastructure is old and in poor condition and, though Railtrack has completed a £7 million programme of work at the County's stations as part of its Station Regeneration Programme, considerable expenditure is still required to improve signalling infrastructure and remove line speed restrictions.

12.2.9 A wide variety of community transport is provided in the rural areas of Lincolnshire (see Figure 12.4), though the level and coverage of provision in some parts of the county remains inadequate or non-existent.

12.2.10 An extensive range of publicity material is published by the County Council encompassing both contracted and commercial services but that provided by bus operators varies widely from good to some producing little or nothing. There is a marked absence of information at bus stops.

12.3 OPTIONS

12.3.1 In developing its public transport strategy, the County Council has considered how best it can address these issues. In doing so, the following elements have been taken into account:

- level and extent of commercial operation in each of the three spatial themes;
- allocation of revenue and capital resources between the three themes and between modes;
- availability of additional rural transport funding opportunities;
- potential for partnership with operators, District Councils, and other organisations.

12.3.2 Under the Transport Act 1985, the County Council's duty is to secure public passenger transport services which it believes are necessary but would not be provided without its support. In this role, the Council has been largely reactive to changes in the commercial market, and been constrained from taking a planned and structured approach to local bus provision. The Government's proposals in its Transport Bill currently before Parliament present other options.

12.3.3 To do nothing or continue to react to demands for new or revised services, and to changes in commercial operations on an ad hoc basis is unsustainable. On the other hand, a planned and proactive approach in partnership with operators and funding agencies offers the opportunity to shape the network of public transport services. Such an option offers the opportunity to:

- reverse the decline in public transport use;
- provide a sustainable alternative to car travel;
- redirect revenue support more effectively;
- invest in quality infrastructure;
- address the barriers inhibiting the use of public transport e.g. security, timed connections, etc.;
- encourage integration between services and between modes;
- work in partnership with operators, District Councils, voluntary and community groups, and other agencies.

12.3.4 This approach has been adopted for each of the service areas identified in Paragraph 12.1.1. These are considered in turn before drawing together the individual strands to present the Council's overall strategy for public passenger transport integration.

12.4 LOCAL BUS SERVICES

12.4.1 The County Council subsidises local bus services which are not considered to be commercially viable by operators but which the Council believes are socially necessary in accordance with its duty under the Transport Act 1985; in 1999/2000, this amounted to £1.60 million. Statutory constraints has meant that the Council's role has been largely reactive to changes made to commercial operations. The trend in subsidy payments since deregulation both within Lincolnshire and for English shire counties as a whole is shown in Figure 12.5.
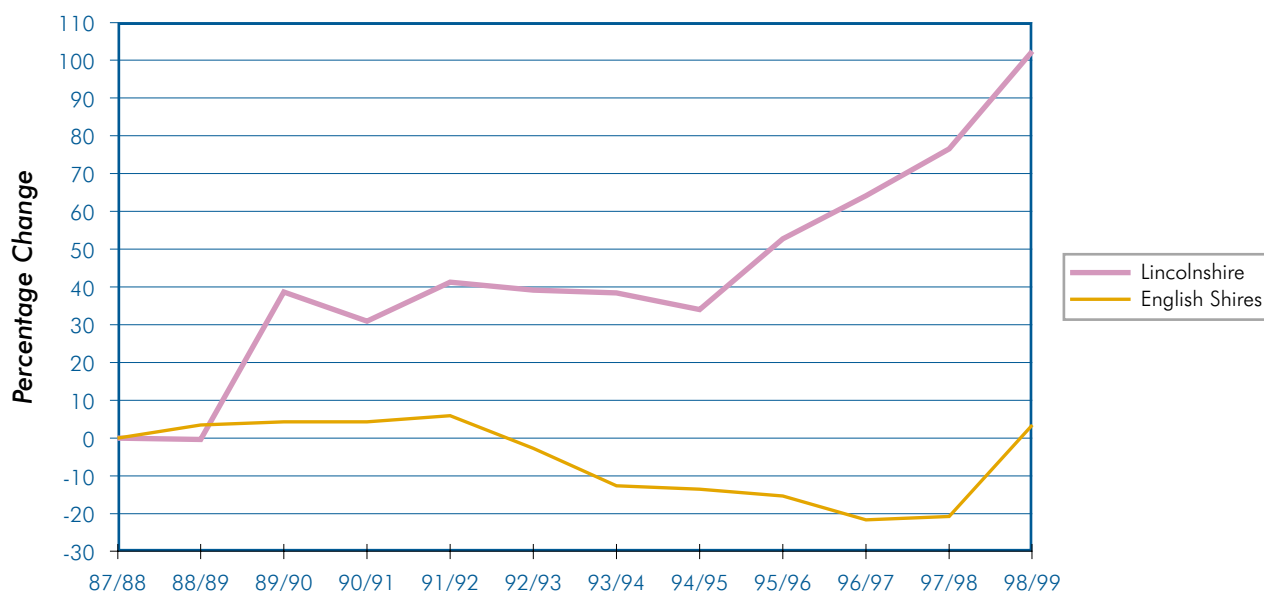
**Figure 12.4** **EXISTING COMMUNITY TRANSPORT SCHEMES**

Gainsborough

Market Rasen

Louth

Mablethorpe

Alford

Lincoln

Horncastle

Spilsby

Skegness

Sleaford

Boston

Grantham

Holbeach

Spalding

Sutton Bridge

Bourne

The Deepings

Stamford

CROWN COPYRIGHT RESERVED

AREA NOT AT PRESENT COVERED BY COMMUNITY TRANSPORT SCHEMES

Dial-A-Ride

Postbus

Social Car Scheme

Wolds Community Bus

Figure 12.5
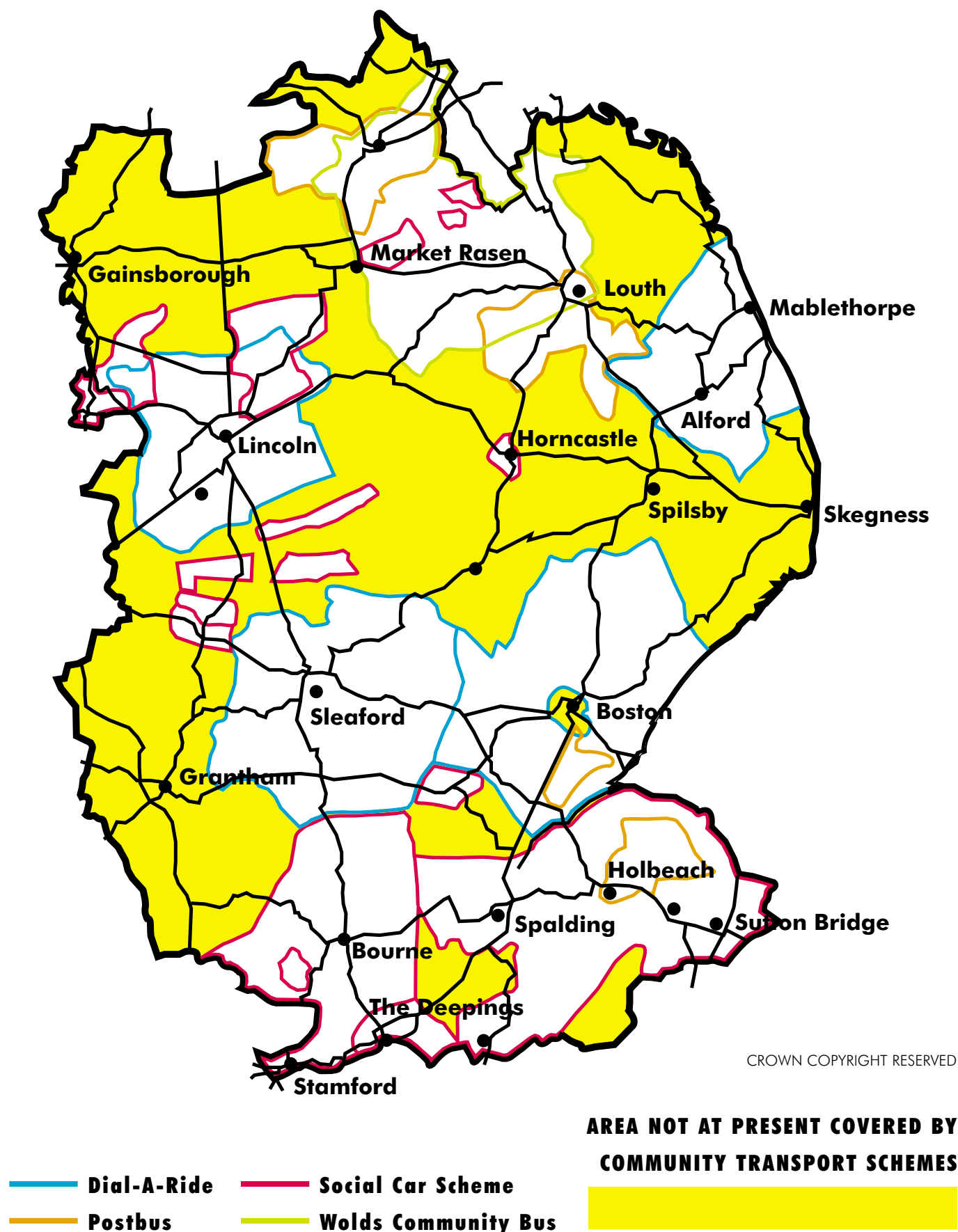
Trend in Bus Subsidy Payments, 1987/88 – 1998/99

Figure 12.6

12.4.2 A large proportion of the subsidised services, amounting in value to £0.86 million in 1999/2000, is provided essentially for the carriage of entitled schoolchildren but, by registering them as local bus services, they offer the opportunity for fare paying passengers to be carried in situations where, given the low numbers and high subsidy, a separate service could not be justified. In 1999/2000, the net subsidy in Lincolnshire (i.e. excluding expenditure on schoolchildren) amounted to £0.74 million distributed as shown in Figure 12.6. The high subsidy in rural areas reflects the much reduced commercial viability of rural services compared to urban operations.

Distribution of Bus Subsidy 1999/2000
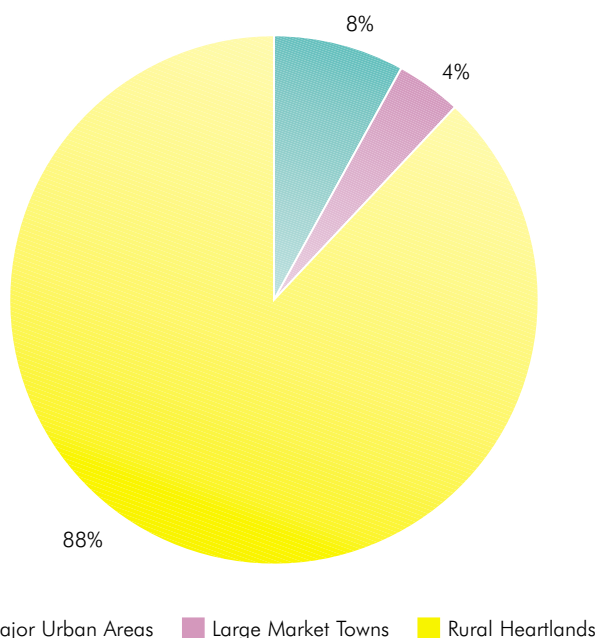
12.4.3 The County Council uses a formula to assess the value of existing subsidised local bus services, and services which have been withdrawn by commercial operators to determine whether these services should be retained. The formula is based on the following factors:

- average number of passengers per bus journey;
- subsidy per passenger trip;
- main purpose of the service eg. to access employment, education, shopping, etc.

The score derived from the formula is applied on a consistent and objective basis to individual services to ensure best value is obtained from the subsidies expended.

12.4.4 In 1998/99, the County Council was allocated £1.2 million of Rural Bus Grant under the Government's £50 million initiative which enabled it to introduce more rural services running in the more remote rural areas than would otherwise be the case. Over 140 experimental services were introduced in November 1998 following extensive consultation with parish councils and bus operators. The most successful of these, amounting to about 66 services, were extended from 1 April 1999, for a further two years. Rural

Bus Grant is also used to support the Council's successful rural bus challenge project. The Council welcomes the Government's commitment to maintain Rural Bus Grant until at least March 2004, which offers the opportunity of longer term security for their operation.

12.4.5   The Council is keen to encourage the introduction of more accessible bus services in the county, and is a key objective of the InterConnect strategy. In order to facilitate this, the Council is prepared to consider making grants to operators, under Section 106 of the Transport Act 1985, as a contribution towards the cost of improving existing vehicles or replacing vehicles which provide greater accessibility for persons who are disabled.

12.4.6   The Government has proposed a national scheme for half price fares for the elderly and disabled.   Currently, the position in Lincolnshire is that concessionary fares schemes are operated in all the Districts, with the exception of South Holland, in the form of passes, tokens or vouchers to a value ranging from £10 to £22 at a total cost of over £1million (see Table 12.2). In addition, Lincolnshire Road Car sells a concessionary pass at a cost of £19 which permits holders to travel at half fare for journeys which start or end within Lincoln. The County Council is currently advising a countywide grouping of District Councils as they undertake preparatory work on the implementation of half fare schemes.

Table 12.2

Concessionary Fare Schemes in Lincolnshire

District	Type of Scheme	Value of Concession	Budget 1998/1999
Boston	Pass	Half Price	£2,650
East Lindsey	Vouchers	£10/person	£210,000
Lincoln	Tokens	£22/person	£192,000
North Kesteven	Vouchers	£17/person	£189,000
South Kesteven	Tokens	Up to £20/person	£315,000
West Lindsey	Tokens	£18/person	£213,000

12.4.7   The County Council works closely with the operators wherever possible and within the current statutory constraints. Last year, a partnership was established with local bus operators to encourage a better dialogue both between operators and with the Council. This has proved to be invaluable both in identifying and introducing rural bus grant funded services, and developing new initiatives under rural bus challenge.

12.4.8   As the dominant public transport mode, bus services can make a major contribution to the objective of widening choice for all sections of the community. However, its role and impact in contributing towards the Council's overall objectives differs within each of the three spatial groupings of major urban areas, large market towns, and small towns and rural areas. The strategy addresses the different characteristics in each of these whilst at the same time recognising the linkages between services in those areas.

Major Urban Areas

12.4.9   The extent of the current provision within each of the four major urban areas varies considerably as summarised in Table 12.3. This demonstrates that Lincoln and Grantham, and Skegness in the summer season, have a high level of bus operation. By comparison, Boston has a very limited town operation operating in the off-peak period only.
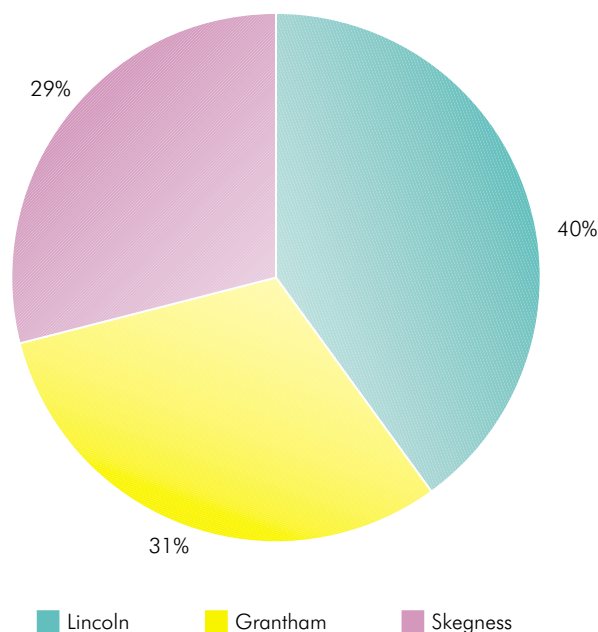
12.4.10   Additional urban bus services are subsidised by the County Council amounting to £53,000 in 1999/2000; its distribution between the four urban areas is shown in Figure 12.7.

Table 12.3

Local Bus Services in the Major Urban Areas

Major Urban Area	Morning Peak Buses (0800–0900)	Daily Buses (Mon–Fri)
Boston	0	24
Grantham	18	200
Lincoln	38	417
Skegness (Summer)	7	180

12.4.11   During the past few years investment in new vehicles has steadily improved as demonstrated by the introduction of low floor buses in Lincoln, Grantham and Skegness coastal strip. More low floor buses are planned for introduction in Lincoln and Grantham this year.

Figure 12.7

12.4.12 Greater cooperation between the County Council and operators is now evident, for example, in the preparation of the transport packages for Greater Lincoln and Skegness, and the successful InterConnect project along the Lincoln-Skegness corridor. The first phase of a Quality Bus Initiative has been implemented along Roman Bank between Skegness and Ingoldmells, and discussions are progressing with operators on implementing Quality Bus Partnerships for urban corridors in Lincoln and Grantham in the current financial year.

12.4.13 The Roman Bank Quality Bus Initiative includes bus priority measures on the approaches to new traffic signals at the junctions of Roman Bank with Winthorpe Avenue and Walls Lane. All of the new traffic signals will include facilities for pedestrians. These measures will give buses a competitive edge over other vehicles, and will help to persuade more of the holidaymakers who arrive by car to leave their cars at their holiday accommodation for daily trips within the resort.

Distribution of Subsidy between Major Urban Areas 1999/2000

29%
40%
31%

Lincoln   Grantham   Skegness

12.4.14 Accessible stops have been constructed at key stops, including the Bus Station, on the new low floor bus route serving the Ermine area in the north of Lincoln by raising kerbs and protecting stops from parked vehicles.

12.4.15 The Council has for a number of years supported a Saturdays-only park-and-ride service in Lincoln. From April this year, Lincolnshire Road Car has introduced on a commercial basis a weekday service on a 15 minute frequency for a trial period. The Council, together with Road Car and the City Council, will assess the outcome of the experiment in terms of the level of ridership, and the origin, purpose and previous mode of passengers.

12.4.16 The County Council believes that bus services can continue to play a major role in reducing congestion in the urban areas. The main means for achieving this will be Quality Bus Partnerships with the County Council and bus operators working together to improve services along specific bus corridors through:

- the introduction of accessible buses with low floor, combined with raised kerbs at bus stops, to help the elderly, disabled and infirm, and people with pushchairs get aboard;
- increased frequency of bus service;
- better coordination of bus times to tie in with other bus services or rail times;
- improved facilities at bus stops, with shelters, seating and, possibly 'real time' information giving details of when the next bus will arrive;
- measures to give buses priority on the roads, for example, bus lanes or at busy junctions;
- interavailability of tickets so that, for journeys encompassing the services of two operators, only one ticket need be bought;
- driver training including customer care and disability awareness.

12.4.17 In the current financial year, 2000/01, the County Council will be undertaking a programme of infrastructure works as part of the Quality Bus Partnerships for the Birchwood corridor, Lincoln, and Alma Park, Grantham. In the following five years of the Local Transport Plan period, the following programme of Quality Bus Partnerships is planned:

2001/2002 :	Beacon Road, Skegness
2002/2003 :	Hykeham Road, Lincoln
	Boston Town
2004/2005 :	Boston Town
2005/2006 :	Brant Road, Lincoln

12.4.18 The targets within the five year LTP period are:

> **TM1** **To increase bus ridership through the implementation of Quality Bus Partnership by:**
>
> **TM1a** **Beacon Park, Skegness** **5%**
> **TM1b** **Brant Road, Lincoln** **10%**
> **TM1c** **Boston Town** **10%**
> **TM1d** **Hykeham Road, Lincoln** **10%**

12.4.19 Further work will be undertaken to measure service reliability on these corridors or networks and to identify jointly with operators targets for improving bus punctuality.

12.4.20 In addition, the strategy over the Plan period will:

- provide additional bus services in Lincoln, Grantham and Skegness to meet needs not satisfied by commercial operations, and where these meet the Council's criteria for support;
- introduce a new local service, the 'Hykeham Hoppa', in North Hykeham as part of the Council's Community Travel Zones initiative;
- improve bus shelter infrastructure in conjunction with shelter advertising companies and the local councils;
- explore the scope for improving or relocating Lincoln Bus Station as part of the Railway Corridor Study;
- explore the scope for an Uphill/Downhill bus link in Lincoln
- integration of bus and rail services.

Large Market Towns

12.4.21 Generally, public transport plays a more limited role in the Large Market Towns. Only in Gainsborough, where two operators run commercially, is there a peak town service. In Louth, Sleaford, Spalding and Stamford, the level of bus service operating wholly within these towns is low, and generally confined to the period between the morning and evening peaks, as summarised in Table 12.4. The services in Louth and Sleaford are operated commercially but, elsewhere, it is a mix of commercial and contracted operation. County Council subsidy amounts currently to £20,000 per annum.

Table 12.4

Local Bus Services in the Large Market Towns

Large Market Town	Morning Peak Buses (0800–0900)	Daily Buses (Mon–Fri)
Gainsborough	6	62
Louth	0	32
Sleaford	0	19
Spalding	0	4*
Stamford	0	16

* Tuesdays, Fridays and Saturdays only

12.4.22 Journey distances are relatively short within the towns and many could be made by bus instead of car. The strategy for bus services in the large market towns is closely integrated with that for the Community Travel Zones initiative and is aimed at providing a realistic and attractive alternative to private car travel within the towns. As in the major urban areas, this will be delivered primarily through Quality Bus Partnerships though recognising that subsidy will be required if the desired frequency and coverage is to be achieved.

12.4.23 In conjunction with the implementation of the Community Travel Zone programme, work is planned in the current financial year, 2000/01, to improve the town bus networks in Sleaford and Spalding with the introduction of improved services, stop infrastructure and information.

12.4.24 Over the following five years of Local Transport Plan, the programme will be extended to improve the town networks and infrastructure in Gainsborough, Louth and Stamford. The targets for increasing bus ridership in these towns by the end of the Plan period are:

12.4.25   Overall, the strategy will seek to deliver:

- a comprehensive bus network in each of the towns;
- a minimum of hourly frequency of service;
- small, accessible vehicles throughout the day;
- improved stop and shelter infrastructure in all towns;
- improvement to Stamford Bus Station;
- improved bus interchange facilities at Sleaford Railway Station;
- co-ordination of bus and rail services;
- integration with the Community Travel Zones initiative.

Rural Heartlands

12.4.26   Much of the rural bus network is operated commercially, underpinned by income of £5million which operators receive annually from providing statutory education transport. Excluding expenditure on local bus contracts provided essentially for schoolchildren, the County Council spent £670,000 in 1999/2000 subsidising rural bus services. This was enhanced by £1.2million of support for bus services from Rural Bus Grant. A further £40,000 was spent on support for community transport schemes, giving total revenue support of public transport in rural areas of roundly £1.9million.

12.4.27   The level and extent of the public transport network, and the centralisation of much of the employment and services in the urban areas together make it very difficult to satisfy travel needs for those without access to a car. A study commissioned by the County Council last year and reported in March 2000, showed that 18% of travel needs in rural Lincolnshire were not being satisfied by the local bus and rail network (see Figure 12.8).

12.4.28   The methodology used in the needs study is contained in a software package called SONATA which calculates the distribution of travel needs across a given area and assesses the degree to which the public transport network of services is able to meet these travel needs. Minimum access criteria are defined in terms of departure times and length of stay for each journey purpose. A travel need is met if a public transport service goes to a suitable destination, at a suitable time and at a level of frequency in accordance with defined access criteria. More details can be found in the Bus Strategy which accompanies the submitted LTP.

12.4.29   The County Council has based its strategy for reducing the proportion of unmet needs in rural areas by:

- strengthening the primary routes on the interurban bus and rail network;
- providing feeder services to connect at key intermediate hubs on that network;
- quality interchange facilities at the hubs;
- through ticketing between feeder and primary services;
- quality shelters and information at stops and stations;
- partnership with bus and rail operators.

12.4.30   A primary route network of bus and rail routes has been defined as shown in Figure 12.9 with a total of 20 interchange hubs at key points on the network.

12.4.31   The above approach will be delivered through Quality Bus and Rail Partnerships. The County Council bid successfully to trial this strategy on the corridor between Lincoln and Skegness when £1.2 million was awarded under the Government's 1998 Rural Bus Challenge. Branded as 'InterConnect' and illustrated in Figure 12.10 the two year project has attracted total funding of £2.4 million. Essential features of InterConnect 6 are:

- primary Quality Bus Partnership with four operators;
- doubling of the frequency of the route with alternate buses being low floor;
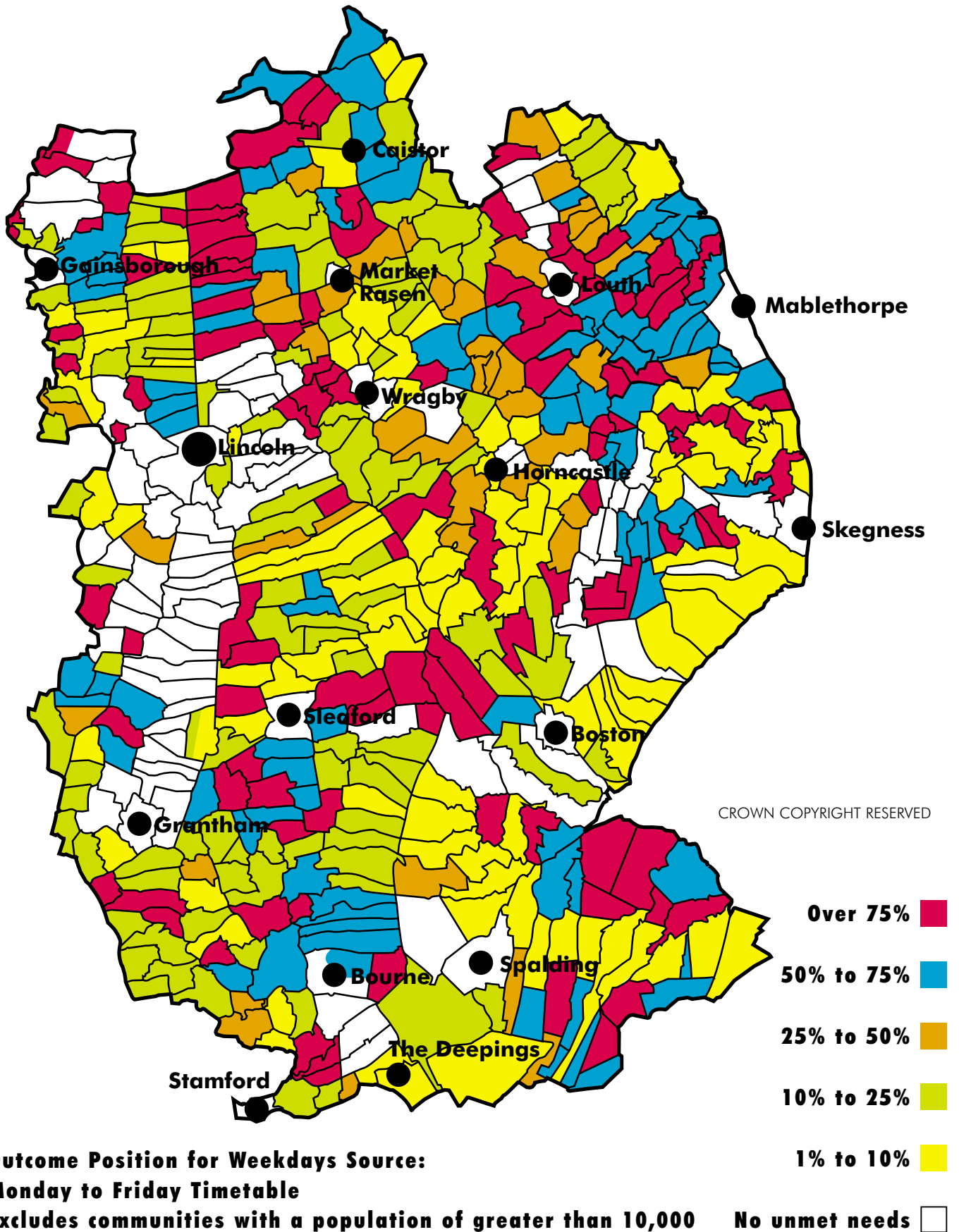
Figure 12.8

UNMET NEEDS IN RURAL HEARTLANDS

Caistor

Gainsborough

Market Rasen

Louth

Mablethorpe

Wragby

Lincoln

Horncastle

Skegness

CROWN COPYRIGHT RESERVED

Sleaford

Boston

Grantham

Over 75%

50% to 75%

25% to 50%

10% to 25%

Bourne

Spalding

The Deepings

1% to 10%

Stamford

**Outcome Position for Weekdays Source:
Monday to Friday Timetable
Excludes communities with a population of greater than 10,000**

No unmet needs

Figure 12.9

PRIMARY PUBLIC TRANSPORT NETWORK

Scunthorpe

Grimsby

Caistor

Gainsborough

Market Rasen

Louth

Mablethorpe

Lincoln

Saxilby

Wragby

Newark

Horncastle

Spilsby

Skegness

Woodhall Spa

Leadenham

Metheringham

Coningsby

Ruskington

Wainfleet

Old Leake

Heckington

Sleaford

Boston

Donington

Grantham

Holbeach

Bourne

Spalding

Sutton Bridge

Kings Lynn

Interchange Hub

Rail

Bus

The Deepings

Crowland

Stamford

Peterborough
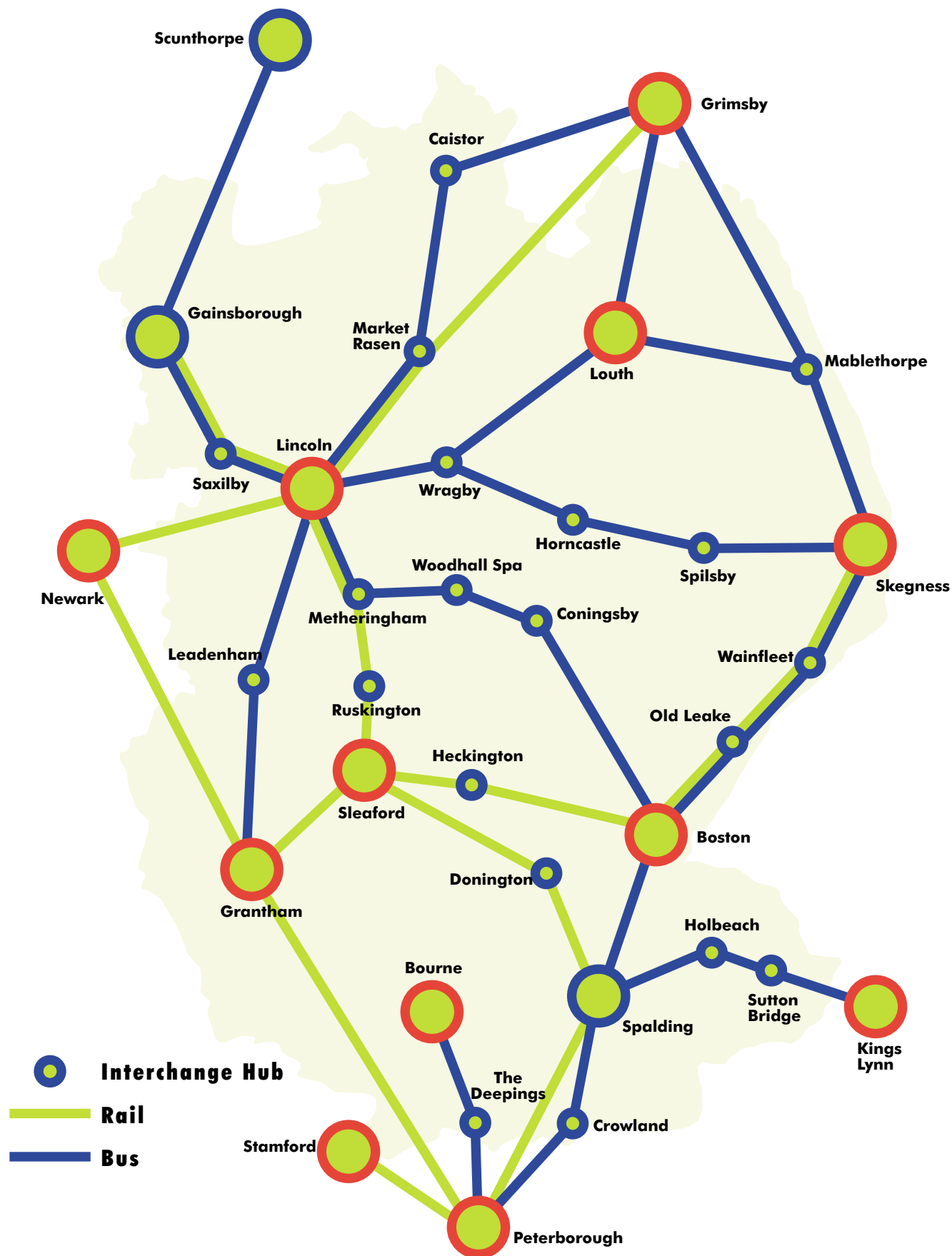
Figure 12.10

Making the connection...

IN LINCOLNSHIRE

This map shows the InterConnect bus network.

KEY

- Interchange
- 6C InterConnect Route Numbers
- Connection
- Proposed Superstop
- Information
- Proposed Information Services
- High Capacity "Hi-Liner" Service
- Low Floor "Lo-Liner" Easy Access Service
- Vehicle with Tail Lift Facility
- Connect 6 Route
- InterConnect Routes
- Other Routes
- H Hospital
- InterConnect bus serves local rail station

For bus times and details of integrated bus routes please see overleaf or call the timetable hotline for an individual route timetable and help in planning your journey.

- 12 new feeder bus services of which 5 are accessible;
- interchange hubs at Wragby, Horncastle and Spilsby;
- accessible stops at key points in the network;
- quality shelters and information at stops;
- driver training in disability awareness and customer care;
- touch cards (MAKATON system) to assist those with hard of hearing or learning difficulties;
- video surveillance at the hubs;
- through ticketing between all services on the network;
- integration of timings with rail and express coach services;
- real time information at key points on the primary route;
- letting of contract to manage connections at times of traffic delay or breakdown;
- steering group of operators, local councils, Community Council and Lincolnshire Access Forum

12.4.32 In the first year, ridership on InterConnect 6 rose by 60% increase compared to the previous twelve months, equivalent to over 100,000 passengers annually (see Figure 12.11). In its second year, ridership continues to increase, and currently stands at 70% greater than the level before its introduction.

Figure 12.11

Ridership on InterConnect 6
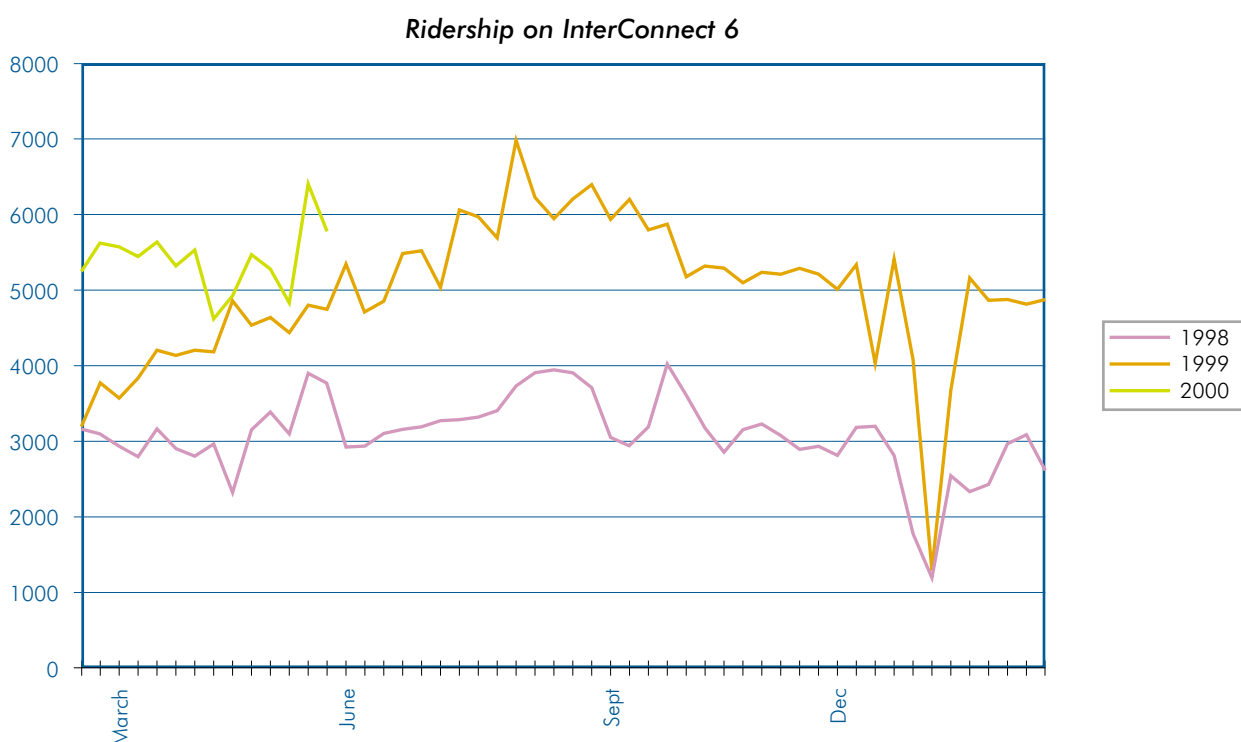
12.4.33 A key aim of the InterConnect approach is for the interurban services to operate commercially. The growth in ridership and revenue on InterConnect 6 points to this being achieved. Encouragingly, Lincolnshire Road Car is currently considering the replacement of the fleet of buses dedicated to InterConnect 6 with new low floor double deckers next Spring.

12.4.34 InterConnect 6 is also having a marked impact on satisfying unmet travel needs as measured by SONATA. Half of unmet travel needs in the project area have been satisfied by the ability of passengers to reach employment and facilities by interchange as illustrated in Figure 12.12.

12.4.35 A study was commissioned earlier this year to research the attitudes of people, especially the vulnerable, living in the InterConnect 6 project area towards bus travel generally and InterConnect services in particular; and to assess actual changes in the pattern of use and travel behaviour of InterConnect users. Household and on-bus surveys were undertaken across the project area. The results are set out in more detail in the Bus Strategy document but the key points emerging were:

- measures which would encourage residents to use buses more often are high quality well-lit shelters, real time information, and guaranteed connections
- 19% of non-bus users were now more likely to use bus services
- 27% of bus users were making more trips by bus

Figure 12.12

UNMET NEEDS IN THE INTERCONNECT PROJECT AREA
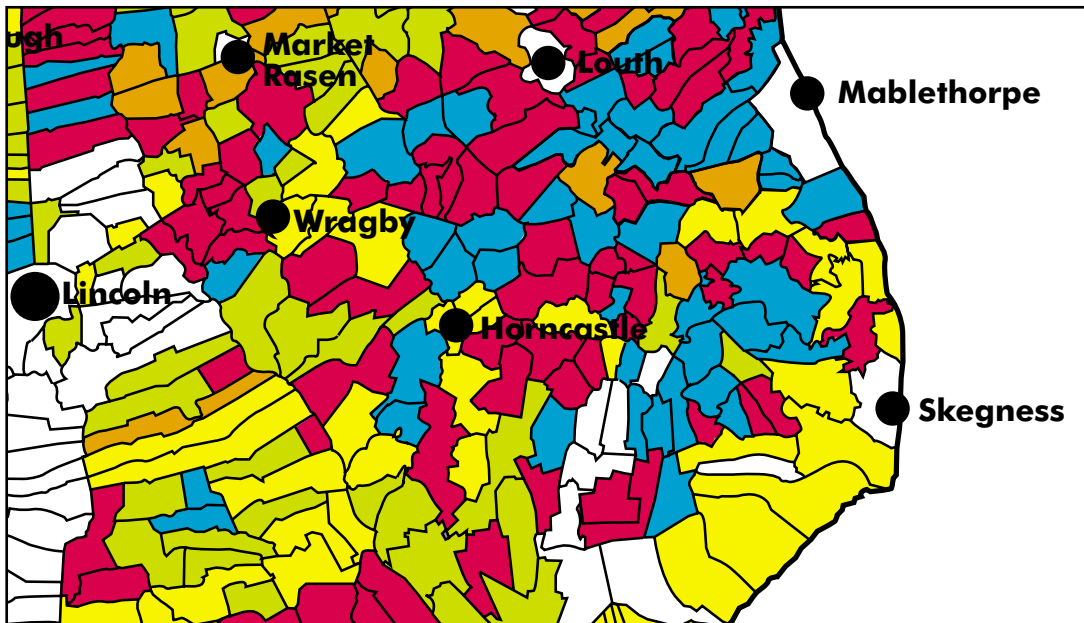
Before the introduction of InterConnect
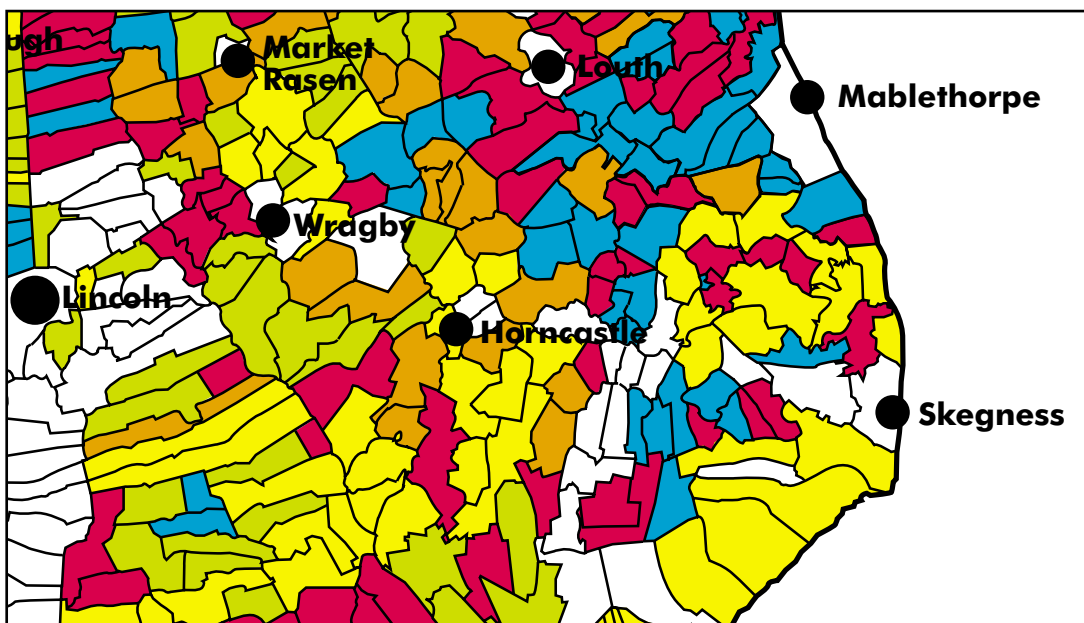
After the introduction of InterConnect

Over 75%	(red)
50% to 75%	(blue)
25% to 50%	(orange)
10% to 25%	(green)
1% to 10%	(yellow)
No unmet needs	(white)

**Outcome Position for Weekdays Source:
Monday to Friday Timetable**

- 4% of bus users said these new bus trips were made by car previously
- 35% of residents without access to a car said InterConnect had improved their quality of life.

12.4.36   A further award of £1.6 million under 1999 Rural Bus Challenge as part of a £2.7 million package will enable the Council to test alternative demand responsive approaches to feeding services into interchange hubs on two more InterConnect corridors:

- InterConnect 505, Spalding-Kings Lynn: jointly submitted with Norfolk County Council for demand responsive services using 'people movers' focused on Holbeach and Long Sutton or Sutton Bridge;

- InterConnect 617, Boston-Lincoln: provision of a fixed route service in Tattershall and Coningsby, and a flexible demand responsive service in the Tattershall/Coningsby/Woodhall Spa area both operating with strong community participation.

12.4.37   Until recently, the Lincoln-Boston corridor was served by three operators with a mix of commercial and subsidised services. In November 1999, agreement was reached with the three operators to combine their resources and, with the continued support of rural bus grant, introduce an integrated hourly service with interavailability of tickets. The effect was immediate with ridership more than doubled in the first month. The County Council is seeking to build upon this success and is in the process of letting a new contract for a quality service based on the principles of InterConnect 6. Close working with operators and the community will again be an important feature of the projects.

12.4.38   Implementation of the Lincoln-Boston and Spalding Kings Lynn InterConnect projects is planned over the two year period, 2000/01 and 2001/02. The next priorities for InterConnect over the five year plan period are:

2001/2002	Grantham - Lincoln
2002/2003	Grantham - Lincoln
2003/2004	Gainsborough - Lincoln
2004/2005	Gainsborough - Lincoln
	Lincoln - Grimsby
2005/2006	Lincoln - Grimsby

12.4.39   The Council believes that the implementation of InterConnect will achieve the following targets over the Plan period:

> **TT3**   *To reduce the proportion of unmet travel needs to employment and services from 18% to 12% in rural areas between 2000 and 2006*
>
> **TM10**   *To increase bus ridership through the implementation of InterConnect by:*
>
> | **TM10a** | *Grantham - Lincoln* | *15%* |
> | **TM10b** | *Gainsborough - Lincoln* | *30%* |
> | **TM10c** | *Lincoln - Grimsby* | *30%* |

12.5 PASSENGER RAIL SERVICES

12.5.1   Existing passenger rail services in the County are provided by three operators:

<u>Great North Eastern Railway (GNER)</u>

GNER operates the 'InterCity' services on the East Coast Main Line between London and the North. The main routes are London to Leeds and London to Edinburgh via York and Newcastle. Some services to Edinburgh extend to either Glasgow or Aberdeen/Inverness. The only station on the route in Lincolnshire is Grantham, but the stations at Peterborough, Newark, Retford and Doncaster are also very important to Lincolnshire rail users who need to connect to and from local and regional trains. Frequencies to and from London are hourly or better; frequencies to the North are similar, although some journeys require a change of trains, usually at Doncaster.

Central Trains

Central Trains operates most of the County's regional and local rail services. Routes and frequencies are shown in Table 12.5.

Rail Services in Lincolnshire operate by Central Trains

Route	Frequency
Cleethorpes/Grimsby-Lincoln-Newark-Nottingham-Coventry/Birmingham/beyond	· Grimsby - Lincoln, approx. every 2 hours; · Lincoln - Newark/Nottingham, 1-2 per hour
Skegness-Boston-Sleaford-Grantham-Nottingham-Coventry/Birmingham/beyond	· Approx. 1 per hour; some trains omit Grantham
Peterborough-Spalding-Sleaford-Lincoln-Gainsborough-Doncaster	· Peterborough-Lincoln, 1 per hour, but with a short operating day between Spalding and Sleaford (approximately 0800-1630); · Lincoln-Doncaster, 5 per day, irregular
Stansted Airport/Cambridge-Peterborough-Stamford-Birmingham	· Approx. 1 per hour
Norwich-Peterborough-Grantham-Nottingham-Sheffield-Manchester-Liverpool	· Approx. 1 per hour

Northern Spirit

Northern Spirit operates into Lincoln from Huddersfield, Barnsley, Meadowhall, Sheffield and Retford, calling at Gainsborough, Lea Road. In June 1999, the frequency on this service was increased from two-hourly to hourly as a commercial move by Northern Spirit in response to a detailed proposal from the County Council. The company also operates a Saturday-only service from Sheffield to Cleethorpes via Retford, Gainsborough Central, Brigg and Kirton Lindsey.

12.5.2 Much of the railway infrastructure is old and in poor condition though Railtrack has completed a £7million programme of work at the County's stations as part of its Station Regeneration Programme. In conjunction with the County Council, Railtrack used this investment to secure £697,000 of European Regional Development funding (ERDF) under the European Union's Objective 5b Programme, and funding from the Countryside Agency to further improve facilities at stations in the northern and eastern areas of Lincolnshire. Table 12.6 sets out the improvements made or to be implemented this year to stations in Lincolnshire as part of this enhancement programme.

Station Improvements

Skegness	• levelling and repaving concourse using traditional materials • installation of glazed screens to windproof the concourse • major improvement to passenger waiting rooms • CCTV security system • real time information system • electronic touch screen information kiosk • covered walkway to planned new bus station as part of development of adjacent land
Wainfleet	• platforms raised to provide level access to trains • disabled parking space in newly surfaced car park • new shelter • electronic touch screen information kiosk
Market Rasen	• new shelter • security fencing • electronic touch screen information kiosk
Other Stations	• improved information • improved waiting facilities

12.5.3 Investment in much of the track and signalling infrastructure is long overdue. Although there is some welcome references to this in Railtrack's recently published Network Management Statement, the County Council continues to press Railtrack to undertake the necessary work as a matter of urgency.

12.5.4 The County Council has contributed to improvements at rural and town stations including a new accessible entrance to platforms at Gainsborough Lea Road Station, cycle lockers and touch-screen information kiosks.

12.5.5 The County Council has long established working and consultative arrangements in place with the railway industry. Operational and service development issues are dealt with at quarterly meetings with the operators and Railtrack, District Councils and neighbouring authorities, and on an ad hoc basis in between as need arises. These provide a forum for the rail companies to hear and take on board the aspirations of the County Council for better fulfilling the growth potential of the rail network.

12.5.6 Liaison is also maintained at Member level at six-monthly meetings with Train Operators and Railtrack, and through the Lincolnshire and South Humberside Rail Forum at which Members of Parliament, local business, and local authorities meet with senior representatives of the rail industry.

12.5.7 Good working relationships exist with the Shadow Strategic Rail Authority (SSRA) and the Rail Passengers' Committee. The County Council is a regular consultee of these organisations with regard to service and network developments.

12.5.8 With the SSRA's round of negotiations with train operators currently in progress, the County Council has held discussions with all incumbent and potential operators to ensure that they are fully aware of the its aspirations for service and infrastructure improvements. In particular, the Council has lobbied strongly for a direct service from Lincoln to London, and for the application of the InterConnect concept to rail corridors.

12.5.9 In support of its strategy to promote the introduction of a direct London service, the Council commissioned a scoping study in 1997 to assess its feasibility. The outcome was very encouraging and, following discussions with the Office of Passenger Rail Franchising (OPRAF), a further study was commissioned, jointly funded with District Councils and Lincolnshire TEC, to examine in greater depth the robustness of the demand and revenue forecasts. A key conclusion of the study was that Lincolnshire was underperforming in terms of the passenger movement by rail to London compared to other similar locations. The results were shared with the train operators and Railtrack.

12.5.10 About 2.5 million passenger trips per annum are made in Lincolnshire distributed between the three spatial themes as shown in Figure 12.13.

Major Urban Areas

12.5.11 All four major urban areas are connected to the rail network but the modal share of rail in the peak periods is relatively small primarily because of low levels of service, and limited access to the network from town and rural communities in the surrounding travel to work areas (see Table 12.7). In the past, plans for the opening of new stations at Washingborough or Heighington, Cherry Willingham and Skellingthorpe Road in the Greater Lincoln area have been thwarted by lack of funding.

12.5.12 The opportunities now offered by the Rail Passenger Partnership (RPP) funding provide the means for both building new stations and improving service levels within the context of the InterConnect strategy for bus and rail. In conjunction with Central Trains

Figure 12.13

Rail Passengers per Annum

11%
18%
71%

■ Major Urban Areas   ■ Large Market Towns   ■ Rural Heartlands

Table 12.7
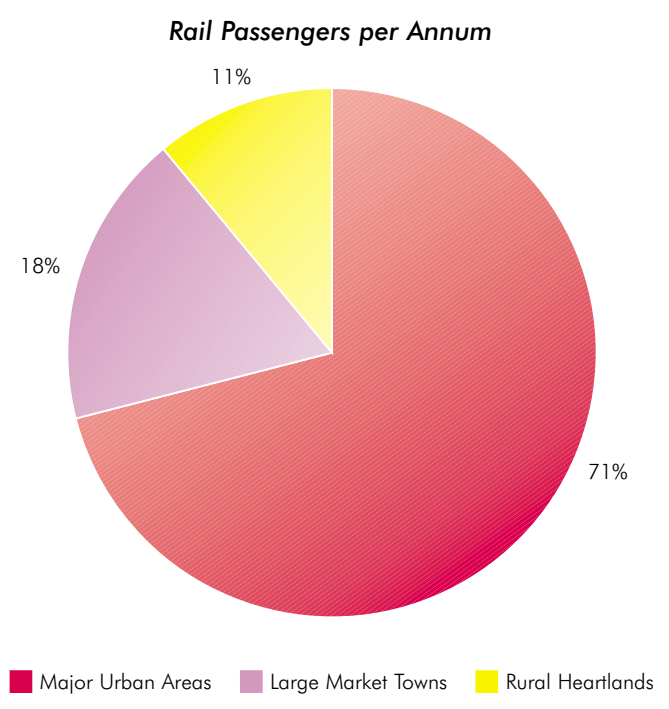
and Railtrack, the Council is preparing a bid under the RPP for submission to the Shadow Strategic Rail Authority (SSRA) to improve local services into Lincoln for commuters from outside of the City (see below).

12.5.13 As part of its general strategy for the four urban areas, the County Council will seek to encourage greater use of passenger rail services by encouraging and lobbying the rail industry for increased investment in infrastructure.

12.5.14 Allied to this, the County Council believes that implementation of Railtrack's investment proposals for the East Coast Main Line will give opportunities for significant

Rail Services into the Major Urban Areas

Major Urban Area	Morning Peak Trains (0800–0900)	Daily Trains (Mon–Fri)
Boston	3	30
Grantham	5	86
Lincoln	5	71
Skegness (Summer)	2	15

improvements to local passenger services in the County. One potential outcome, which has been discussed with the SSRA and potential operators, is the introduction of a direct Lincoln-London rail service. Such provision would greatly enhance the County's external communications to the benefit of its economic development.

12.5.15 Rail measures programmed which have particular relevance for the Major Urban Areas during the Plan Period are:

- to achieve through Quality Rail Partnerships:
    - a new station in the Lincoln area at Washingborough or Heighington (location to be determined according to detailed technical evaluation, and local consultation);
    - further improved facilities at Metheringham and Ruskington Stations to encourage commuting and other travel into Lincoln;
    - an increase in frequency from broadly hourly to half-hourly service between Sleaford and Lincoln;
    - improved facilities on Gainsborough-Lincoln, in conjunction with the planned InterConnect bus service;
- to support Railtrack's investment plans for the East Coast Main Line for construction of:
    - a new chord at Allington Junction on the Grantham to Nottingham line to achieve a better timed and reliable service into Grantham; this will also benefit passengers travelling to and from Boston and Skegness;
    - a flyover at the junction of Lincoln-Nottingham line and East Coast Main Line at Newark which will remove pathing conflicts, and improve the reliability and timings of the local service to Lincoln;
- to press Railtrack to implement its planned resignalling of the Lincoln area;
- to explore the scope for relocating Lincoln Bus Station adjacent to Central Station to create a passenger interchange as part of the Lincoln Rail Corridor Scheme (see Regeneration Zones);
- to improve coordination between rail and bus services at Lincoln, Grantham, Boston and Skegness;
- to improve, through the work on Community Travel Zones, pedestrian and cycle access to stations in the CTZ areas, such as Hykeham;
- to pursue and lobby for the introduction of a frequent and direct train service between Lincoln and London;
- to explore with Nottinghamshire County Council the implementation of a Quality Rail Partnership on the Lincoln-Newark-Nottingham line;
- to exploit the rail franchise replacement process to bring best effect for the County.

12.5.16 The greatest scope for increasing the modal share of rail as a result of these measures lies in Lincoln. The Council believes that rail will contribute towards the overall target for containing peak hour traffic congestion in Lincoln through the following target:

> **TM2   To increase rail ridership into Lincoln by 20%**

Large Market Towns

12.5.17 All the towns, except Louth, have a railway station which offers access to the local and national network. Rail cannot be expected to contribute significantly to easing traffic conditions within the towns because of the journey lengths involved and their distance from other stations within their locality.

12.5.18 Sleaford is the best served by rail, and well connected by rail to local villages such as Ruskington and Heckington. Works currently in process, as part of which a bus turning circle and quality shelters are to be provided directly outside the station, will greatly improve the facilities for interchange for buses and rail at Sleaford.

12.5.19 Sleaford, together with Spalding, are key locations in the Rail Passenger Partnership (RPP) project. Through the Partnership, the Council will apply the InterConnect strategy to the interurban corridors of Lincoln-Sleaford, Sleaford-Spalding, and Spalding-Peterborough, with intermediate hubs for connections with local bus services at Metheringham, Ruskington, and Donington (see Figure 12.9).

12.5.20 The rail measures programmed to assist the Large Market Towns during the Plan Period are:

- to apply the InterConnect strategy and through Quality Rail Partnerships achieve:
    - improved facilities at Metheringham and Ruskington Stations to encourage commuting and other travel into Sleaford;
    - a new station at Donington to encourage travel into Sleaford and Spalding from the wider catchment area;
    - an increase in frequency from broadly hourly to half-hourly service between Sleaford and Lincoln, and hourly between Sleaford and Spalding;
- to support Railtrack's investment plans for the East Coast Main Line to improve line speeds and signalling on the Lincoln-Sleaford-Spalding-Peterborough line, and to increase the period of opening on the section between Sleaford and Spalding;
- to improve coordination between rail and bus services at Gainsborough, Sleaford, Spalding and Stamford;
- to improve, through the work on Community Travel Zones (see Section 5), pedestrian and cycle access to stations in Gainsborough, Sleaford, Spalding, and Stamford;
- to exploit the rail franchise replacement process to bring best effect for the County.

12.5.21 The target for the Plan Period are:

> **TM9** **To increase rail ridership into:**
>
> **TM9a** **Sleaford by**   **20%**
> **TM9b** **Spalding by**   **20%**

Rural Heartlands

12.5.22 Quality Rail Partnerships will underpin the InterConnect approach on defined rail corridors with buses feeding into the rail service at existing intermediate stations at Saxilby, Metheringham, Ruskington, and a new station at Donington (see Figure 12.9). To assist in furthering this strategy, the County Council, in conjunction with Central Trains and Railtrack, is preparing a bid under the Rail Passenger Partnership Fund established recently by the Government and administered by SSRA. Detailed costs are currently being calculated, prior to submission of the bid but indicative cost estimates suggest that the revenue support requirement will amount to about £160,000 per annum together with capital costs of the three new stations in the order of £3 million in total. The Lincolnshire bid comprises three phases:

Phase I (2001/02):   - frequency increased to broadly hourly Lincoln to Peterborough
                         - new direct off-peak links between Lincoln and Boston
                         - through ticketing between bus and rail services;

Phase II (2002/03):   - clockface hourly frequency between Lincoln and Peterborough
                         - new stations at Donington and Pinchbeck
                         - dedicated platform bay at Peterborough;

Phase III (2003/04): - hourly Lincoln-Boston service
                      - half-hourly between Lincoln and Sleaford
                      - new station at Washingborough or Heighington.

12.5.23   In addition, the Council will continue to contribute towards improvements to enhance passenger facilities and information at stations with the aim of encouraging greater passenger use, and integration with other modes, particularly bus services and cycling.

12.5.24   The County Council and Central Trains together with other funding partners has appointed a Community Rail Development Manager whose role will be to work with local communities, businesses and attractions in encouraging greater rail usage, by identifying travel needs, exploring local solutions and promoting rail use through marketing initiatives.

12.5.25   The rail measures planned in the Rural Heartlands during the Plan Period are:

- to apply the InterConnect strategy and adopt Quality Rail Partnerships for:
    - Gainsborough-Lincoln with connections at Saxilby;
    - Lincoln-Grimsby with a hub at Market Rasen;
    - Lincoln-Sleaford with hubs at Metheringham and Ruskington;
    - Sleaford-Spalding with connections at a new station at Donington;
- to support Railtrack's investment plans for the Joint Line between Doncaster and Peterborough as part of the East Coast Main Line investment, and particularly the improvement of line speeds and signalling and the period of opening between Sleaford and Spalding;
- to improve facilities at rural rail stations generally, and integration with other modes through the provision of additional cycle lockers, shelters, and information;
- to improve coordination between rail and bus services;
- to exploit the rail franchise replacement process to bring best effect for the County.

12.5.26   Targets set for the plan period are:-

> **TM12 To increase rail ridership through the implementation of InterConnect by:**
>
> | | | |
> |---|---|---|
> | **TM12a** | **Gainsborough - Lincoln** | **20%** |
> | **TM12b** | **Lincoln - Grimsby** | **20%** |
> | **TM12c** | **Lincon - Sleaford** | **40%** |
> | **TM12d** | **Sleaford - Spalding** | **100%** |

12.6 COMMUNITY TRANSPORT

12.6.1   Conventional bus services will never be able to cater fully for the disparate needs of all potential passengers. Furthermore, bus services are not always accessible to those who are frail, elderly or infirm, or whose mobility is otherwise impaired. These needs can sometimes be met by community transport initiatives, which aim to provide more flexible and responsive services.

12.6.2   Community transport schemes can take various forms. Some of the more common are listed below. Usage of these services amounts to about 21,000 trips annually.

- Dial-a-ride services, providing accessible door-to-door transport;
- Voluntary car schemes, providing an organised means for private drivers to give lifts to people requiring transport;
- Minibus schemes, allowing voluntary organisations to transport their own members or provide a local bus service;
- Group transport services, allowing voluntary groups to pool and share their resources;
- Post buses, providing public transport links for small villages and settlements where conventional buses could be viable.

12.6.3 The County Council spent £40,000 on community transport in 1999/2000 and currently contributes to the funding of the following schemes in Lincolnshire:

- dial-a-ride services in Lincoln area, Sleaford area, and Alford and Mablethorpe;
- 20 social car schemes from single parish based schemes to district-wide schemes;
- post bus services focused on Louth, Holbeach and Caistor, with a new service to start shortly around Kirton Marsh, south of Boston.
- Wolds Community Bus for group hire.

12.6.4 Particular success has been achieved with the introduction of dial-a-ride services in and around Lincoln, Sleaford, Boston, Mablethorpe and Alford. In extending the coverage of dial-a-ride to other parts of Lincolnshire, priority will be given to the areas in and around Skegness, Grantham, and Gainsborough. The aim will be to strengthen the links between community transport and conventional public transport with community transport services also feeding into the interchange hubs on the primary public transport network.

12.6.5 The Government has set aside £4.2 million as part of its rural transport initiatives to establish Rural Transport Partnerships. Administered by the Countryside Agency, the scheme provides up to 75% funding for community based initiatives in rural areas. The County Council, in partnership with the six rural District Councils, Lincolnshire Health, the Community Council for Lincolnshire, and the private sector as represented by TransLinc and Lincolnshire Road Car (local transport operators), has established two Rural Transport Partnerships for the north and south of the County. Funding of up to £0.5 million will be available for community based transport initiatives within Lincolnshire.

12.6.6 An Action Plan for each of the Partnerships is in the process of being prepared and submitted to the Countryside Agency for approval. Potential projects in which the County Council is willing to participate are:

- transport brokerage, whereby vehicles in the ownership of voluntary bodies are pooled and hired out to others;
- a training scheme for voluntary drivers across the County on the lines of the MIDAS scheme promoted by the Community Transport Association;
- a pilot project in each of the Partnership areas, funded jointly with Lincolnshire Health and the United Lincolnshire Hospitals NHS Trust, to look at coordinating the provision of health, social services and community transport with a view to joint commissioning of transport in the future;
- a rural car club trial located at a hub on one of the two new InterConnect projects, and aimed at widening travel choice for those without access to their own car.

12.6.7 The programme for improving community transport over the Plan Period will encompass the following:

- extension of dial-a-ride to the Skegness, Grantham and Gainsborough areas;
- explore with the Royal Mail the scope for more post buses;
- advice and support to community groups and local councils on community based initiatives;
- participation in the Rural Transport Partnership projects as listed above.

12.6.8 The target over the period of the Plan is:

TM12 To increase the usage of community transport across the county by 60%

12.7 PUBLIC TRANSPORT INFORMATION

12.7.1 Bus services continue to be subject to change as a result of deregulation as operators seek to maximise their revenue or respond to competition from other operators. This has introduced uncertainties for passengers and placed an increased emphasis on the need for accurate and comprehensive information on the services available. The County Council produces an extensive range of publicity material encompassing both contracted and commercial services; that provided by operators varies widely from good to some producing little or nothing.

12.7.2 In its Transport Bill, the Government proposes that the current power to provide bus passenger information should be translated into a duty on local authorities but there should also be a matching power to recover reasonable costs from operators. This is welcomed by the County Council which spent £60,000 in 1999/2000 on a wide and extensive range of public transport information services on commercial and contracted services:

• timetable booklets and leaflets, posters
• touch-screen information kiosks
• telephone enquiry line
• internet enquiry line.

Larger size print timetables are issued by request to those with visual difficulties. More than 30,000 bus and rail booklets are distributed annually. Total timetable enquiries by telephone, internet and the kiosk are currently running at about 6,000 per month (see Figure 12.14).

Figure 12.14

Timetable Enquiries, 1999
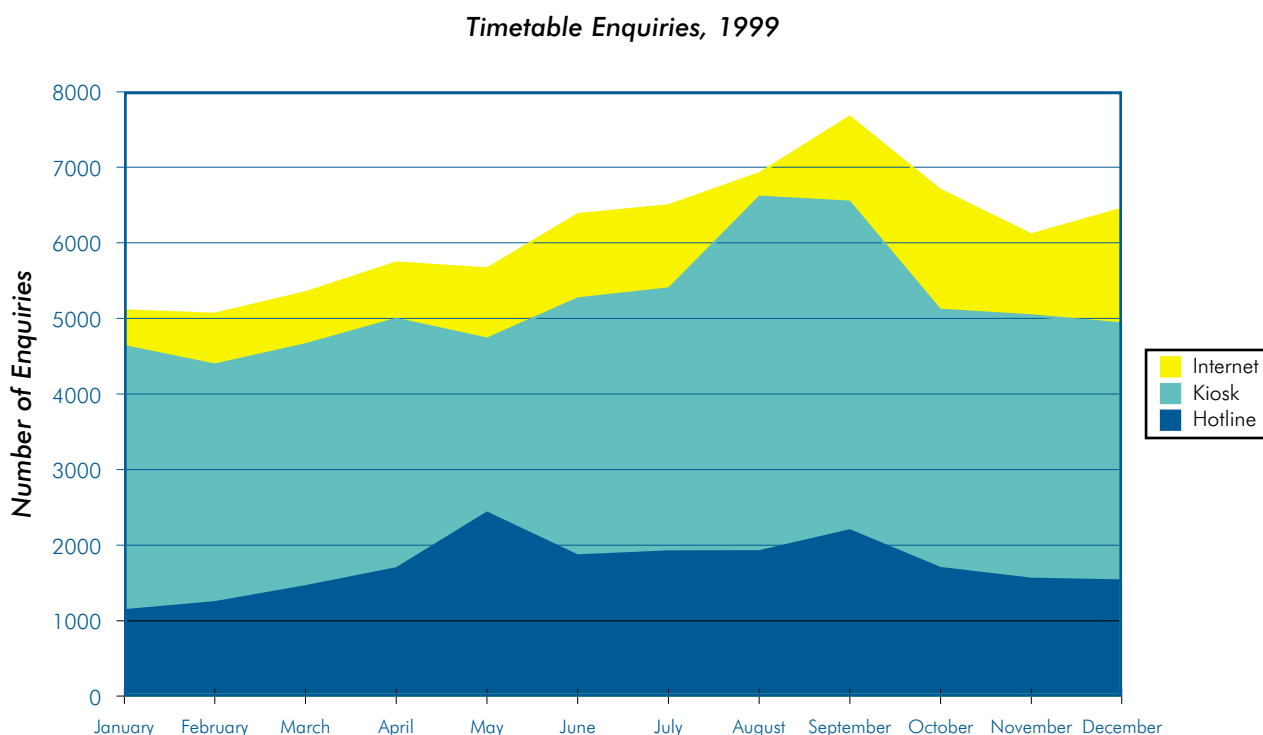
12.7.3 A public transport information kiosk has been installed at Sleaford Station which gives 24 hour public access via a touch screen to scheduled bus and rail timetable information, details of local taxi firms and community transport schemes, town map and other local information. A second screen provides real time information on actual train running times. The project was funded in partnership with Central Trains, Rural Development Commission and North Kesteven District Council. A partnership programme has been put together to provide kiosks at rural and market town stations across the County, which will see a further 14 kiosks installed this year.

12.7.4 Currently, the County Council's 'Hotline' is only available during office hours (ie.0800-1715); the only other source is that run by Lincolnshire Road Car for its own operations (0800-1800, Mondays-Saturdays). The Government has set a target of July 2000 for the implementation of PTI 2000, a national telephone enquiry line.

12.7.5 In producing its publicity, the Council takes every opportunity to publicise the availability of community transport schemes in an area, concessionary fares schemes, information on hospital visiting hours, and tourist attractions accessible by public transport. The Council has worked with others in promoting tourism to ensure public transport information provided on publicity material, for example leaflets on walks in the countryside, also gives information on bus service timings.

12.7.6   The InterConnect 6 project has addressed the publicising and marketing of public transport in a comprehensive way:

- strong branding with 'InterConnect' logo on vehicles, publicity material, etc.;
- high profile launch and other photo opportunities to raise and maintain profile;
- quality timetable leaflets issued on three occasions since the start of the project in February, 1999;
- each leaflet issue gives the date when the validity of the leaflet ends;
- extensive distribution including to households in towns and villages;
- 'London Underground' style map used to depict the network;
- extensive use of colour and symbols linking leaflet design, map, and vehicle livery;
- timetables and map displayed at stops and in shelters across the network
- timetables displayed on the InterConnect web page.

12.7.7   The results of the research study shows the effectiveness of the marketing campaign with, without prompting, 75% of householders in the project area aware of the project, and 31% associating the name 'InterConnect' with a network of connecting bus services.

12.7.8   In the light of this experience, the Council's strategy will focus strongly through the implementation of its InterConnect programme on providing quality printed material through a range of outlets, information at stops, and from home on the internet.

12.7.9   The Council is actively participating with bus operators and other local authorities in the East Midlands region on the implementation of PTI 2000. Information on all public transport timetables in the county has been held on an electronic database for more than 10 years for the production of printed publicity; a journey planner to support the Hotline was installed nine years ago. The emphasis for the Council as part of PTI 2000 has therefore been to ensure that its database can be integrated successfully with others to produce the regional journey planner for use in the five planned call centres, and to pilot within the region the use of GIS to provide a greater source of local information to the call centre operatives.

12.7.10   One of the call centres will be located in Scunthorpe covering the Greater Lincolnshire area, and the Council has worked closely with Lincolnshire Road Car, as the call centre operator, and North Lincolnshire and North East Lincolnshire Councils. Under a separate agreement, the Council has incorporated the timetable information for North Lincolnshire into its own database.

12.7.11   The Council recognises that the Government wishes to see PTI 2000 developed over time to provide a greater range of information, for example, on fares. Provision has been made within the Plan for capital expenditure over the next five year period for its development in conjunction with its partners in the region.

12.7.12   Overall, the County Council believes that quality information on public transport services is a key element of integration without which it is extremely difficult to plan and make trips with confidence. The programme for implementing its strategy on public transport information during the plan period can be summarised as:

- to continue to publish and distribute printed timetable material for all public transport services in the County;
- to work with operators and parish councils to improve the availability of timetable information at bus stops and bus stations;
- to increase the availability of its publicity services for those with sensory disabilities and learning difficulties;
- to cooperate with its regional partners on the development of PTI 2000;
- to plot all stops, stations, and public transport routes using GIS;
- to market and publicise the InterConnect projects using a range of media;
- to make full use of the internet to enhance services, particularly for telephone kiosk enquiries.

12.7.13   The Council has set a target for increasing the number of timetable enquiries by telephone, kiosks, and via the internet from 69,000 per annum in 1999/2000 to over 325,000 per annum by the end of the plan period.

12.8.1   The main form of public transport interchange currently taking place in Lincolnshire is that between buses, and to a much lesser extent between bus and rail. Generally, the amount of interchange undertaken by passengers is limited. The main reasons why people are deterred from making full use of the public transport network are:

- generally poor quality facilities, bus and rail stations;
- lack of coordination of timings between services of different operators, and between modes;
- inadequate information on opportunities for through travel;
- absence of through ticketing between services, and between modes;
- fears about personal security .

12.8.2   An audit has been undertaken of facilities at bus stations and other interchange points in Lincolnshire; each location has been given a quality rating (see Table 12.8). This shows that there is very good provision at places such as Bourne, Gainsborough and Grantham (relative to the size of the communities), but there is considerable scope for improvement generally in terms of waiting facilities, toilets, security and information.

Table 12.8

Audit of Interchange Facilities

Location	Number of Buses Daily	Rating (0 = Poor, 4 = Very Good)				Overall Score
		Passenger Facilities	Information	Safety and Security	Ease of Access	
Major Urban Areas						
Boston	70	3	1	2	3	9
Grantham	290	3	3	1	3	10
Lincoln	900	1	3	1	3	8
Skegness	145	1	2	0	3	6
Large Market Towns						
Gainsborough	130	3	3	3	2	11
Louth	40	1	2	1	1	5
Sleaford	35	0	1	0	3	4
Spalding	70	2	2	1	3	8
Stamford	110	1	2	1	1	5
Small Rural Areas						
Bourne	35	3	3	3	1	10
Chapel St Leonards	70	1	2	1	1	5
Mablethorpe	30	1	1	1	1	4

12.8.3   Facilities at railway stations in Lincolnshire are summarised in Table 12.9.

12.8.4   It is not feasible for public transport to meet all travel needs by the provision of direct services. This is true in the urban areas where people need to access facilities on the outskirts of a town, for example, to reach hospital in Lincoln and Boston, as well in rural areas where the diverse travel needs of a household will vary greatly by both destination and timing. The Council's strategy is based on improving

Table 12.9

Facilities at Railway Stations in Lincolnshire

Station	Staffed	Booking Office	Public Telephone	Taxi	Toilet	Buffet	Information Boards	Disabled Arrangements	Shelters	Electronic Information Point	Cycle Lockers	Parking	
Ancaster							✔		✔		✔	✔	3 Spaces - free
Boston	✔	✔	✔	✔	✔		✔		✔			✔	45 Spaces - £1.00 *
Gainsborough Central			✔				✔		✔			✔	8 Spaces - free
Gainsborough Lea Rd			✔				✔		✔			✔	10 Spaces/1 Disabled - free
Grantham	✔	✔	✔	✔	✔	✔	✔	✔	✔			✔	235 Spaces/4 Disabled £2.50 *
Havenhouse					✔		✔		✔				
Heckington							✔		✔		✔	✔	15 Spaces - free
Hubberts Bridge			✔				✔		✔				
Hykeham			✔				✔		✔			✔	15 Spaces - free
Lincoln	✔	✔	✔	✔	✔	✔	✔	✔	✔			✔	120 Spaces/3 Disabled £2.50 *
Market Rasen			✔				✔		✔	✔	✔	✔	20 Spaces - free
Metheringham							✔		✔	✔	✔	✔	15 Spaces - free
Rauceby							✔		✔				
Ruskington							✔		✔		✔	✔	8 Spaces - free
Saxilby							✔		✔	✔	✔	✔	6 Spaces - free
Skegness	✔	✔	✔	✔	✔		✔	✔	✔	✔			
Sleaford	✔	✔		✔	✔		✔		✔	✔		✔	
Spalding	✔	✔		✔	✔		✔		✔		✔	✔	25 Spaces/2 Disabled - free
Stamford	✔	✔	✔	✔	✔		✔		✔			✔	30 Spaces - free
Swinderby							✔		✔				
Swineshead			✔				✔		✔			✔	8 Spaces - free
Thorpe Culvert							✔		✔			✔	10 Spaces - free
Wainfleet							✔		✔	✔	✔	✔	4 Spaces - free

* These parking prices are for rail users.

accessibility by investment in interchange facilities and providing greater confidence and security through the coordination of services. This strategy and the scope for improving interchange is explored in each of the three spatial themes.

Major Urban Areas

12.8.5   The provision of quality interchanges in the four major urban areas is an essential element of the strategy. Investment has been made by the District Councils in the bus stations in Boston and Grantham, and therefore the priority for future investment lies in Lincoln and Skegness.

12.8.6   The scope for improving the Lincoln Bus Station, or relocating it closer to Lincoln Central station, will be explored as part of the Lincoln Rail Corridor Scheme (see Regeneration Zones). In the meantime, as part of the investment to support the introduction of low floor buses in Ermine, Lincoln, and the InterConnect 6 service to Skegness, raised kerbs have been built at certain boarding and alighting points in the Bus Station. This approach will be continued with further improvements made whenever the opportunity arises.

12.8.7   In Skegness, the existing bus station is located on land which has planning permission to be redeveloped for retail use; a condition of that permission is the rebuilding of the bus station within the site but adjacent to the railway station. Together with the proposed improvements to the railway passenger concourse, funded by ERDF, and possible redevelopment of the area to the front of the station, there is every prospect of a first class public transport interchange being provided.

12.8.8   The role of bus services in supporting the initiative on Community Travel Zones will only be successful if the local community service dovetails and integrates with the major radial bus routes into the urban centres, following the same concept as the InterConnect hubs in rural areas. The provision of secure cycle parking at these 'community hubs' will also encourage greater use of buses and cycles.

Large Market Towns

12.8.9   Within the five large market towns, good facilities are already in place in Gainsborough, though the bus and railway stations are not close enough to encourage interchange between the modes, and other means of achieving this need to be explored.

12.8.10 A major improvement to Louth Bus Station, promoted by East Lindsey District Council, is currently being undertaken. The County Council has met the cost of a touch screen information kiosk.

12.8.11 In Sleaford, a comprehensive and integrated package of improvements is being implemented in Station Road by a partnership involving the County Council, North Kesteven District Council, bus and rail operators and Railtrack. The project will result in improved facilities for buses terminating in the town and provide quality waiting facilities for passengers directly adjacent to the railway station. The scheme is a key element of the Community Travel Zone for the town.

12.8.12 The bus station in Spalding is located away from the town centre but close to the railway station. The facilities are basic and are in need of improvement. There has been developer interest recently in redeveloping the bus station and the surrounding area. The Council will work with South Holland District Council to ensure that facilities are improved if the opportunity arises.

12.8.13 In Stamford, the bus station is in great need of improvement with shelters in poor condition and an absence of good publicity information. Provision has been made in the bid for improvements to be implemented during the plan period. Unfortunately, the bus station and railway station are located in different parts of the town, and the scope for integration between modes is limited.

Rural Heartlands

12.8.14 As part of its strategy for public transport, the County Council plans to strengthen the interurban bus and rail routes with feeder buses from the deeper rural areas connecting at intermediate interchange 'hubs' along the primary routes. The whole strategy is founded on integration between services to reduce the barriers to wider public transport use and access to employment and services.

12.8.15 In the rural areas, the emphasis will be on encouraging interchange between feeder buses and bus services on the designated primary public transport network, as currently being implemented through the Rural Bus Challenge project 'InterConnect'. The emphasis will be on providing timed connections between services, properly managed in case of breakdown or traffic delays, and quality, secure interchange facilities. InterConnect 6 has shown that half of the travel needs previously not satisfied by bus services in the project area have been met by its introduction. The research carried out into changes of attitudes and behaviour revealed that 17% of residents with access to a car all the time were now more likely to use bus services as a result of InterConnect. Two-thirds of bus users would now travel by bus more often.

12.8.16 The County Council has also sought to encourage interchange between cycling and rail by providing secure cycle lockers at rural stations; to date 33 have been provided at 8 stations in partnership with the Countryside Agency, and a high level of utilisation is being achieved. Lockers will also be provided at the InterConnect hubs to encourage 'bike-and-ride'.

12.8.17 The County Council plans to encourage greater interchange, and thereby greater use of public transport and other non-car modes by implementing the following measures:

- improvement to the quality of public transport infrastructure in the major urban areas and large market towns in conjunction with District Councils and developers;
- provision of quality and secure interchanges at the 'hubs' on the primary public transport route network as part of the Rural Quality Bus Partnerships;
- improvement to Stamford Bus Station;
- improved bus facilities at Sleaford railway station;
- improvements to railway stations as part of the Quality Rail Partnerships;
- introduction of through fares between services and between modes;
- provision of cycle lockers at key points on the public transport network ;
- provision of quality timetable information so that people are well informed of the opportunities for travel by interchange.

12.9 INTEGRATION

12.9.1 Every opportunity will be taken in implementing the measures for public transport to ensure that the services are fully integrated both between public transport modes and with other elements within the Plan. A key theme running through the proposals are:

- timed connections and coordination between services;
- integrated ticketing between services of different operators;
- coordination between local bus services and school contracts;
- integrated facilities at interchanges;
- provision of cycle lockers at interchanges and other key rural locations;
- integration of bus services with other measures in the Community Travel Zones;
- integration of bus and community transport services with the Rural Priorities Initiative.

12.9.2 The County Council coordinates the delivery of its passenger transport services. An integrated passenger transport unit was created in 1991 responsible for organising the procurement and coordination of local bus services, community transport, home-to-school statutory transport, special educational needs (SEN) transport, and social services transport to enable clients to attend social and educational centres and voluntary care centres. The unit is also responsible for rail matters, passenger information provision and, since the externalisation of all fleet management, maintenance and in-house passenger transport operations, and all client fleet transport matters.

12.9.3 The centralisation of passenger transport management has led to:

- increased efficiency in the overall use of transport;
- coordination of local bus services and mainstream schools transport, with school contracts often registered as either commercial or contracted local bus services so that farepayers can be carried where separate provision could not be justified ;
- use of rail services to carry schoolchildren wherever practicable and cost effective;

- coordination of SEN, social services transport and community transport;
- cross-service working on transport policy issues and development, such as best value initiatives;
- economies of scale in management and administration;
- common database of passengers, transport, costs and management information;
- common conditions of contract, tendering procedures, and payments;
- coordinated and centralised inspection and contract monitoring.

12.9.4   The County Council needs to work with others to devise and deliver its strategy. Co-operative working is already evident in practice with other organisations and agencies through:

- **a Bus Operators Liaison Group** providing a forum for the exchange of ideas and a platform for joint initiatives
- **a Quality Bus Partnership** formally registered with the Office of Fair Trading as part of the InterConnect project
- **neighbouring County and Unitary Councils** jointly subsiding cross-boundary services
- **Rural Bus Challenge Partnerships** including a joint bid submission with Norfolk County Council
- **Parish Councils** in the maintenance of new bus shelters
- **Rail Passenger Partnerships** with Central Trains and Railtrack
- **Rail Liaison Groups** involving other Councils, and the rail industry
- **PTI 2000** working with bus operators and other councils to establish a regional network of public transport information call centres by July 2000
- **East Midlands Best Value Benchmarking Group** sharing information and exploring jointly best practice in the delivery of transport services
- **Lincolnshire Access Forum** addressing improved accessibility to services and infrastructure for the disabled
- **British Red Cross** in the operation of a dial-a-ride service
- **Rural Transport Partnerships** established with a range of partners including District Council, Lincolnshire Health and business
- **Healthy Living Partnership** including South Kesteven District Council, Lincolnshire Health, Health Trust, Primary Care Group and voluntary bodies.

12.9.5   A good example of integration is demonstrated in the success achieved with InterConnect 6. As part of this project, the Council has worked with four operators in a voluntary partnership registered with the Office of Fair Trading; a steering group of the operators, Countryside Agency, District Council, Lincolnshire Access Forum, and Community Council of Lincolnshire has been an important ingredient in its success. Informal liaison has been maintained with parish councils throughout the project, and agreements have been developed with them on the maintenance of shelters. Such cooperative working will form the model for future quality partnerships.

13 *Community Travel Zones*

13.1 ISSUES

13.1.1   Traffic has grown by 60% in Lincolnshire over the last 10 years and although it is predicted that growth will slow, the mid range projection for the next five years is 10% further growth. Given this continuing growth, there is a need to reduce its negative impact if a more sustainable society is to be achieved.

13.1.2   Nationally, surveys have shown that most journeys are relatively short: 72% of all journeys are under five miles and around half are under two miles. There is a noticeable trend for more short journeys to be made by car; for example, around 9% of car trips are under one mile. These trends are mirrored in Lincolnshire, particularly in the Major Urban Areas. Many of these journeys could easily be undertaken on foot, by bicycle or by bus if a more integrated transport system was in place.

13.1.3   The Provisional Local Transport Plan consultation revealed a strong public demand for better provision for cyclists and pedestrians, particularly in Greater Lincoln and in the Large Market Towns. This resulted in the instigation of the new Community Travel Zones (CTZ) initiative. Issues considered include:

- walking
- cycling
- local public transport
- motorcycles
- taxis
- travel plans
- Safe Routes to School
- fear of crime

13.1.4   The Government assessment of CTZs in the Provisional LTP was that, although interesting in concept, a pilot needed to be carried out to show their potential success prior to having significant funding targeted at them. A fast-track pilot study has been carried out in the Large Market Town of Sleaford, which is reported on later in this Chapter.

13.1.5   Overall response from partners to the initiative in Sleaford, and the other pilot Zones of Grantham East and Hykeham (Lincoln) has been excellent and, on the whole, very positive to date. South Kesteven District Council stated that "this authority is fully committed to working in partnership with the County Council to develop the CTZ concept". In looking at the forward programme of CTZs, Boston Borough Council said that they "appear to offer the opportunity to tackle the transport problems of towns in manageable instalments".

13.2 STRATEGY

Aims and Process

13.2.1   CTZs cover the Major Urban Areas and the Large Market Towns, with the aim of reducing the number of car journeys of two miles and under by promoting walking, cycling and the use of public transport, particularly during the peak hours. This will be done through the development and promotion of an integrated transport network based around sustainable modes, which will also aid social inclusion

through increasing transport choices. Each of the Major Urban Areas will be split into discrete Zones, the boundaries of which will be defined by barriers to movement (e.g. railways, rivers), whilst each of the Large Market Towns (and Skegness) will be a single Zone in itself.

13.2.2 It is recognised that in developing each Zone, there is a need to concentrate on delivering a complete network within the timescales set, albeit to an adequate rather than a high standard. Funding is unlikely to allow the provision of a complete high quality network, and it is accepted that an incomplete network will not have the draw to cause people to change their travel habits.

13.2.3 Following the process adopted in the Sleaford pilot (and the lessons learnt), a Framework Document has been prepared. This is a working document, the scope of which is to assist, describe and enhance the processes to be followed by project managers of each CTZ. The contents of the Framework Document will change as implementation of the initiative progresses, to reflect further lessons learnt, the improved processes that will result and emerging best practice.

Partners and Funding

13.2.4 At the outset of the planning stage for a CTZ, partnerships will be established between the County Council and representative bodies and community groups that will bring knowledge, skills, expertise or funding to the initiative. These will range from District Councils and Chambers of Commerce to Disability Groups and Tenants Associations. The partnership approach is seen as being integral to the aims of CTZs.

13.2.5 As well as partnerships that are established at a Zone level, partnerships are being developed on a county-wide scale as the programme of CTZs is rolled out. An example of this is the joint approach being developed by the County Council and Sustrans to cycle networks where they lie within CTZ boundaries. It is also hoped that the Countryside Agency and Groundworks Lincolnshire will develop understandings with the County in relation to CTZs.

13.2.6 In addition to the potential from partners, other sources of funding are being explored. Bids are being prepared for schemes within the three pilot Zones to WREN (Waste Recycling Environmental Limited) and the Lottery's Green Spaces and Sustainable Communities fund. In early 2001, bids will be prepared to cover Zones within the applicable areas to the European Objective 2 programme.

13.2.7 During the information gathering exercise within each Zone (to identify the potential for change for movements related to daily living activities within the community), a consultation with partners and other interested bodies (e.g. schools, employers) will occur. This will centre around the barriers to movement and social inclusion that exist within the Zone, and initial identification of sustainable solutions within a proposed integrated transport network.

Transport Strategy

13.2.8 The information gathering and consultation exercise will result in a transport strategy for the Zone, which will identify in broad terms:

- a network of nodes and links for cycling, walking and public transport
- alterations to the environment for car users
- specific initiatives that could be implemented as part of the CTZ and
- the types of publicity to be used to reach those that travel within the Zone.

13.2.9 The strategy will also encourage the development of Travel Plans by businesses and School Travel Plans by schools, whilst also facilitating Safe Routes to School strategies and Quality Bus Partnerships where there is scope for this.

13.2.10 The process will involve:

- working with local communities to examine travel habits and new options
- identifying intra-zonal movements which can be tackled (e.g. school, health centres, etc.)
- identifying inter-zonal movements which can link Zones together (e.g. to town centres, employment, leisure centres, etc.)
- identifying and implementing new improved walking and cycling routes, quiet street designation, improved public transport services (e.g. 'Hoppa' service on estates and quality bus partnerships on main routes)

- building up local commitment to change travel habits through working with schools, employers and other traffic generators
- establishing a local partnership of the public, private and voluntary sectors to steer and implement the strategy in each Zone

Taxis and Motorcycles

13.2.11 In developing integrated transport, taxis and other private hire vehicles provide a service which is complementary to public transport services. Most importantly, they provide services to areas of the County not served by bus and rail services and cover gaps in provision which occur at certain times of the day.

13.2.12 In Lincolnshire, the management and licensing of taxis is the responsibility of the District Councils. The County is responsible for managing the provision of on-street taxi ranks and works closely with its district partners on this issue. For example, the County and the District Council have worked together in Skegness to relocate taxi ranks to more suitable locations and to expand the facility. This approach will be repeated throughout both the CTZ and Rural Priorities Initiative.

13.2.13 Similarly, there is a small but important role to be taken by the growing number of motorcyclists in society. They provide a more sustainable option than car use, and an increase in their numbers will contribute to reductions in congestion.

13.2.14 Currently, the length of bus lanes in Lincolnshire is minimal, and these are not open to use by motorcycles. However, as these come under review through Quality Bus Partnerships or the CTZ initiative, or new bus lanes are opened, consideration will be given to the expansion of their use.

13.2.15 Provision of facilities for motorcyclists features within the Toolbox of Ideas for Use in CTZs (Table 13.1). This should include for parking facilities and the provision of storage for helmets, leathers etc. where appropriate (for example, lockers at railway stations).

Developing a Proposed Scheme List through Consultation

13.2.16 Once a strategy for a Zone has been identified, a 'wish list' of measures will be prepared. This will show all realistic schemes identified that aid in the delivery of the strategy, regardless of cost or other barriers. Each scheme on the 'wish list' should then be prioritised by comparing the measures and objectives it achieves with the strategy for the Zone and the aims and Targets relating to CTZs, resulting in a proposed scheme list.

13.2.17 Two further stages of consultation will then take place. The first will be with the representative bodies, community groups and partners involved in the earlier stages of the process. This may result in alterations to either the strategy or the proposed scheme list or both. The second - and final - consultation will be some form of public consultation. The style of this will vary from Zone to Zone, depending on their characteristics: it may be a Roadshow in a market place or a leaflet drop around an estate.

13.2.18 The final public consultation should not throw up any unexpected views, as the extent of previous discussion should have exposed the level of consensus and allowed this to be taken into account in the preparation of the proposed scheme list. Some alteration to the priorities within the list may result, as may some minor details of individual schemes.

13.3 TARGETS

13.3.1 The introduction of Community Travel Zones will contribute to achieving the following headline targets:-

> **TT1 - To contain peak hour traffic congestion in Greater Lincoln, Boston, Grantham and Skegness (in the summer season) to 2000 levels by 2006**
>
> **TT2 - To contain the growth in peak hour car traffic in Gainsborough, Louth, Sleaford, Spalding and Stamford to 6% between 2000 and 2006**

13.4 IMPLEMENTATION

13.4.1   The areas in which CTZs will be introduced, and the estimated number of Zones are listed below. Indicative maps of the three pilot zones of Sleaford, Grantham (East) and Hykeham (Lincoln) are shown in Figures 13.1 to 13.3. For the multi-zone areas, Zone boundaries will be established in consultation with partners.

Boston	3 zones
Gainsborough	1 zone
Grantham	3 zones
Lincoln	10 zones
Louth	1 zone
Skegness	1 zone
Sleaford	1 zone
Spalding	1 zone
Stamford	1 zone

13.4.2   As the CTZ initiative is ongoing over the full LTP period and covers nine of the towns in the county, a distinctive brand logo has been adopted, to provide a continuous linkage throughout the process. This logo is being used on all publicity and displays, as well as to brand schemes as they are constructed and during the first year of use.

13.4.3   For a typical CTZ to achieve its objectives, a minimum spend is required. The preparatory work done in the pilot Zones indicates that this figure is around £375,000 for a Large Market Town and £325,000 for each Zone in a Major Urban Area. Below these levels, any measures implemented will not complete a strategic network, and will act as a series of discrete minor works schemes having no overall effect. In addition to these figures, each Zone requires around £35,000 to allow for forming partnerships, developing a transport strategy for the Zone and carrying out consultation. These are the basic figures from which the spend profile and total bid have been prepared, as well as an allowance in each year for advanced works in Zones not yet started.

13.4.4   A toolbox of ideas has been prepared, from which most schemes within a CTZ will be drawn. This is shown in Table 13.1.

13.5 PILOT COMMUNITY TRAVEL ZONE - SLEAFORD

13.5.1   Although three Zones have been commenced as pilots, Sleaford has followed an accelerated program in order to provide input and feedback into the Local Transport Plan and has reached the point where implementation is to commence in July 2000. The remaining two pilots of Grantham East and the Hykeham Area of Lincoln are still in the feasibility and planning stage, with consultation with partners under way and implementation expected in the first quarter of 2001.

Sleaford Today

13.5.2   The market town of Sleaford, which lies 20 miles to the south of Lincoln, has a population of approximately 13,000. It has a weekly market, and a farmers market as well as a selection of supermarkets and high street shops. Of the seven schools in the town, three are secondary schools.

Figure 13.1

SLEAFORD COMMUNITY TRAVEL ZONE
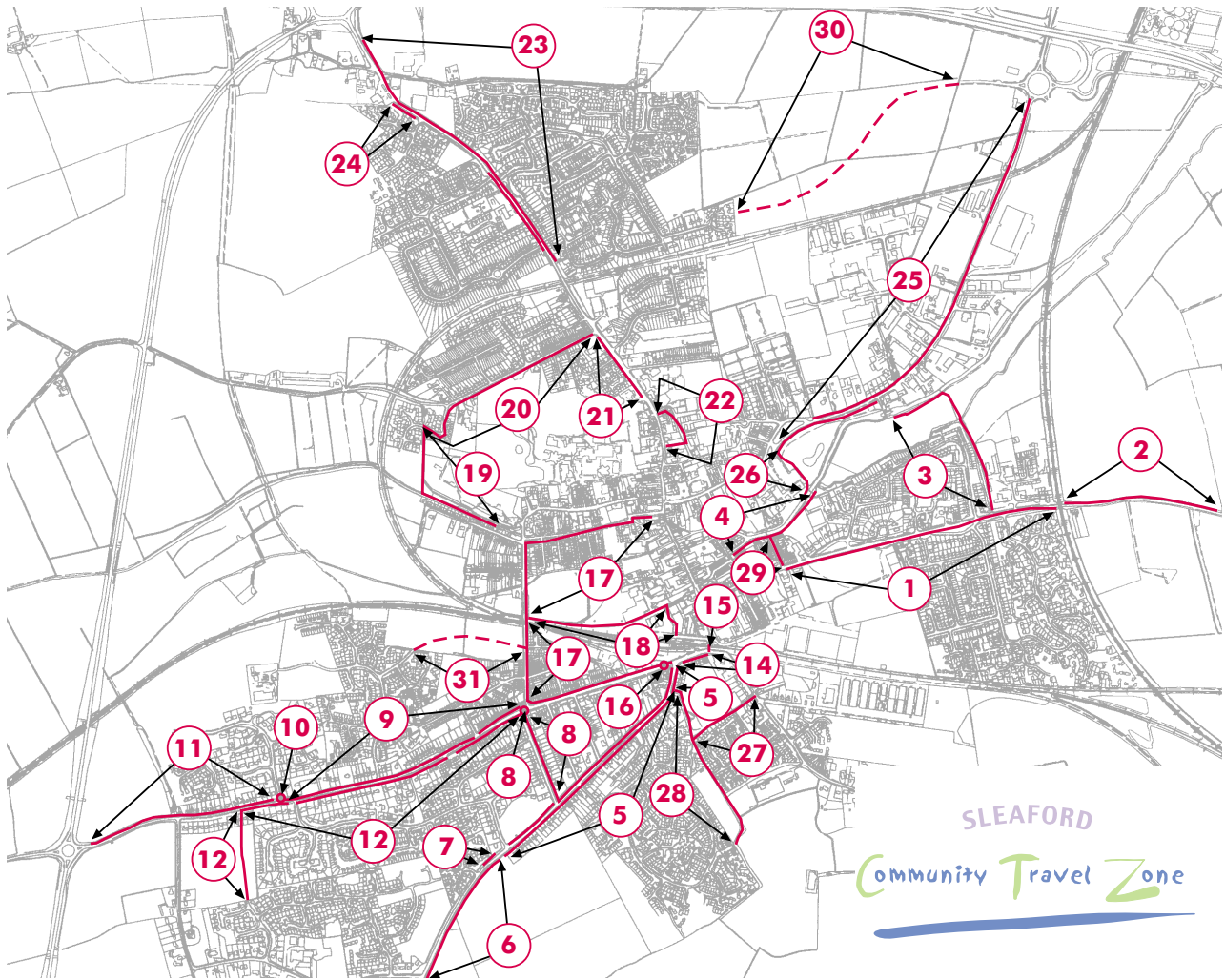
POSSIBLE SCHEMES FOR ACCEPTANCE AND PRIORITISATION

1. Boston Road - cycle lanes from the Hoplands junction to New Street on both sides. Including extension of 30mph speed limit east of railway bridge.

2. Extension of Cycle Route to outlying village of Kirkby La Thorpe.

3. Boston Road to Coggleford Mill Bridge/East Road Footpath - Upgrade to Cycleway.

4. East Banks Footway - From Carre Street to Swimming Pool - Upgrade to Footway/Cycleway in conjunction with NKDC Enhancement Scheme.

5. London Road Footway/Cycleway, on both sides - Cycle Lanes from Ancaster Drive to Grantham Road. Including extension of 30mph Speed Limit South of Ancaster Drive.

6. Extension of Cycle Route to outlying village of Silk Willoughby.

7. London Road - Harvest Way to Ancaster Drive - New Footway/Cycleway.

8. St. Edmunds Road - Round Town Cycle Route.

9. Grantham Road Footway - Cycle Lanes from London Road junction to Clay Hill Road (both sides).

10. Grantham Road - "Toucan" Crossing.

11. Grantham Road Footway - Cycleway to Roundabout.

12. New Footway/Cycleway as part of a New Development to connect Quarrington.

13. Grantham Road Crossing Point.

14. Grantham Road (south side only) - Footway from London Road to Railway Crossing - Cycleway and Crossing Point.

15. Grantham Road Railway Crossing Advanced Stop Line.

16. Grantham Road near Spar Shop - Crossing Point.

17. King Edward's Street/Castle Causeway/West Banks - Round Town Cycle Route.

18. Nags Head Passage Footway - Cycleway from King Edward's Street to Station Road.

19. West Banks Footway to Bristol Way - Cycleway.

20. The Drove (south side) - Cycleway.

21. Northgate Footway - Cycleway from Railway Bridge to Church Lane, both sides.

22. Church Lane Town Centre Cycle Route.

23. Lincoln Road Footway - Cycleway from Railway Bridge to Holdingham, to connect to Existing Route to Leasingham.

24. Lincoln Road - Stokes Drive to Hockmyers Garage - New Footway/Cycleway.

25. East Road Footway - Cycleway from NKDC Offices to New A153/A17 Roundabout.

26. East Road to East Bank Footway - Cycleway to NKDC Carpark and Swimming Pool Bridge.

27. Mareham Lane to Bullock Pastures Footway - Cycleway.

28. Bullock Pastures Footway - Cycleway to New Estate.

29. New Street - Round Town Cycle Route to Connect to East Banks Footway.

30. Sleaford North Connection to Enterprise Park (to be included in Future Development).

31. Quarrington Park Connection to King Edward's Street (to be included in Future Development).

32. Southgate - Relaxation of the Loading Bays - Parking 8am-6pm Monday to Saturday.

33. Extension of Service Times and Route Lengths of Bus Services for a Trial Period to Serve Work Journeys to the Industrial Areas, with Accessible Buses and Bus Stops.

Figure 13.2

GRANTHAM EAST COMMUNITY TRAVEL ZONE

GRANTHAM EAST
Community Travel Zone

CTZ Boundary

Schools/College

Industry

Quality Bus Partnership Route

Other Bus Routes

Existing Cycle Route

Cycle Routes
Proposed by South Kesteven District Council
and/or Lincolnshire County Council

Hospital
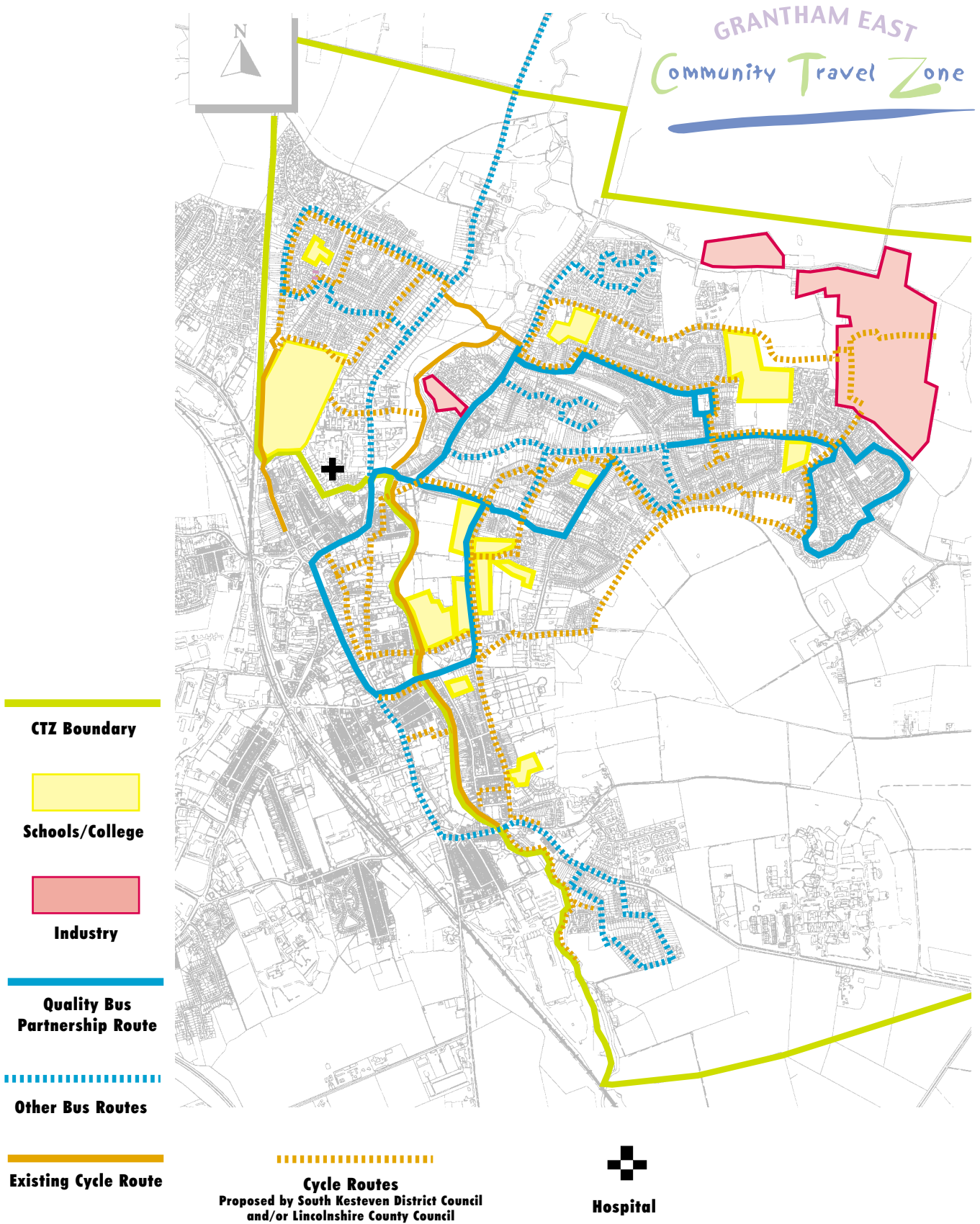
Figure 13.3

NORTH HYKEHAM COMMUNITY TRAVEL ZONE
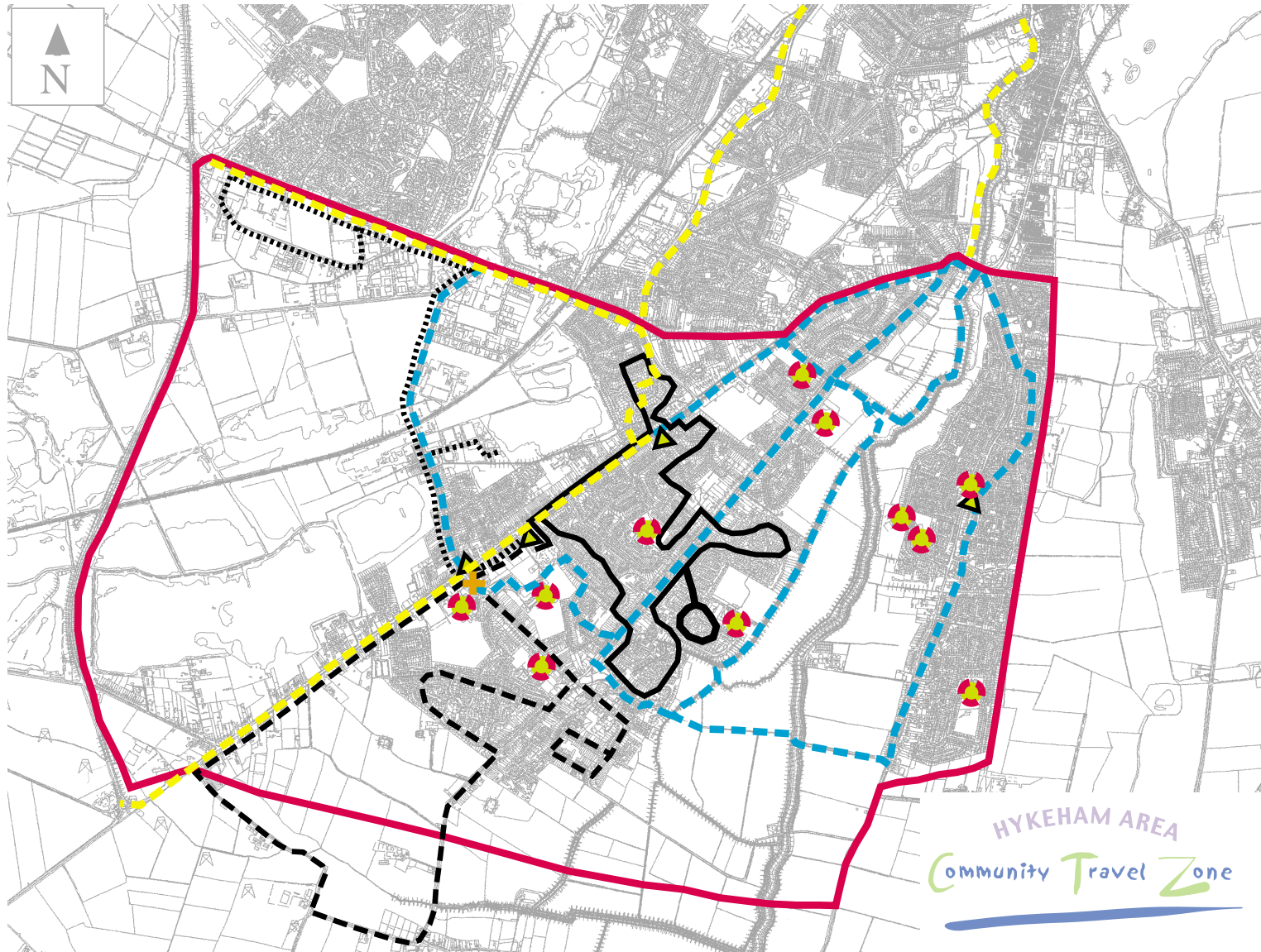
KEY

▲ **Shopping Centre**

✚ **Health Centre**

School

– – – – **Existing Cycle Route**

– – – – **Potential Cycle Route**

SUGGESTED HYKEHAM HOPPA

.... **Work Route**

– – – **Shop Route**

—— **Public Services Route**

HYKEHAM AREA
Community Travel Zone

Table 13.1

Toolbox of Ideas for use in CTZs

Pedestrian facilities (aiming for continuous links):	Cycle Facilities (continuous, consistent links):
Branded circuits that can be sold as recreational and become functional once familiar Circuits signed to indicate surfacing, lighting levels, modal connections, length Dropped kerbs Enhanced materials for footways Footway upgrades (new surfacing) Formalisation of existing unofficial routes Improved quality of lighting Include enhanced facilities in future developments Indicate whether combined cycleway New footway links in the highways New footway links off the highway (consider use of inland waterways) Park and Stride Pedestrian phases at traffic signals Pelican crossings Publicise circuits through maps and leaflets Refuges Review entrances to school grounds and location relative to bus stops Signing strategies - including route designation and You Are Here boards Zebra crossings at locations of surpressed demand and conflict with vehicles	Advanced stop lines at traffic signals Cycle coding initiative with the Police Cycle lanes and cycle tracks (consider use of inland waterways) - direct as possible Cycle parking at trip generating centres - high profile to encourage use Cycle phases at traffic signals Cycle refuges Formalisation of existing unofficial routes Improved quality of lighting Include enhanced facilities in future developments Mandatory or advisory cycle lanes? - former need orders (solid white lines) Signing strategies - including route designation, parking facilities and You Are Here boards Toucan crossings at locations of surpressed demand and conflict with vehicles Weather shelters
Security:	**Traffic Management:**
Avoid sharp bends Careful design of lighting for secure environment and to recognise personal security Colour identification of routes for easy and quick navigation Distance between path and residence to be small enough to allow natural surveillance, but large enough to allow privacy to be maintained Do not provide unnecessary access to the rear of properties Improve the quality of lighting to aid recognition and visibility to alleviate the fear of crime Keep paths on the surface - avoid subways Maintain any planting for security Open boundary fencing for visibility Open, visible paths for natural surveillance by residents and other users Provide 'escape routes' to avoid confrontation in remote or screened areas Provide adjacent grassed areas Provide motorcycle barriers Signage of links Where possible, paths to the front of properties	Anti-skid surfacing (coloured) HGV routing through the Zone and the whole urban area or town One way streets Parking restrictions to improve pedestrian and cycle facilities Quiet street designations Reduction in carriageway allocated to vehicles Road closures Signing strategies and schemes Speed restrictions and management Traffic calming to reduce intimidation and perceived safety issues
Public Transport:	**Education:**
Bus lanes Bus priority schemes Bus shelters Extend time of service provision (with InterConnect strategy) Improve connections between services and modes Move bus stops in order to alter pedestrian desire lines through Zone (especially children to school) New services providing peak hour links inside the Zone (e.g. 'Hoppa') Raised kerbs at bus stops Timetable information at stops and termini Integration with InterConnect services	Safer Routes to School School Travel Plans Travel Plans Travelwise Walking Bus
Other:	

Car Share Terminus:
    Location with car and cycle parking facilities; signed and advertised; people congregate to gain lifts to specified places at set times during the day; located near public transport as back up; users have ID card.
Motorcycle accessory storage
Motorcycle parking
Motorcycle use of bus lanes (where introduced)
Sign (by brand and partners) completed schemes (A4 size sign, to be removed after one year)
Signing Strategy
    Aim:
      • Welcome to town / Zone
      • Links between area of town / Zone
      • Simple access
      • Identity of town / Zone
    Elements:
      • car park signs
      • pedestrian signs
      • boards and map dispensers showing areas and destinations
      • 'branding' of different quarters or areas
Taxi rank relocation / expansion	

13.5.3 Although Sleaford has suffered a decline in the last 10 years as a market town (including the closure of the livestock and produce market), it is home to a number of large established businesses and a series of light engineering companies housed on local industrial estates.

13.5.4 Increases in the number of relatively cheap domestic dwellings has out-stripped local employment needs to the extent that only 30% of the eligible local workforce are employed in Sleaford. The remainder travel to other employment centres; Sleaford has changed to a predominantly dormitory settlement.

The Existing Transport Network

13.5.5 The town has been bypassed both East-West (A17) and North-South (A15), with intersections at five of the six radial routes out of the town. These have removed all HGV through traffic and provide access to most of the town without the need to travel through the centre, enabling the provision of a 7.5T axle ban within the bypasses, except for access. With the A153, the bypasses provide easy access to most of the major commercial and distribution centres in the East Midlands.

13.5.6 A one way system has been implemented in the town centre, along with reallocation of road space to pedestrians in the main shopping area, and traffic calming for those vehicles travelling through. Once traffic has crossed the bypass cordon, it is not possible to reach another radial road without using part of the one way system: all movements focus on the town centre.

13.5.7 The 'Nipper' bus service runs in the town between 0900 and 1500 hrs only and so does not cater for peak hour travel. There are few non-school services into the town during the peak hours, and none within the town itself.

13.5.8 The town is well served by railway links in all four directions of the compass. The railway tracks form a cordon between the town centre and the bypasses, which impairs movement on the radial routes into the town. Access across this cordon is by three bridges and two level crossings; there are also several at-grade crossings serving agricultural needs and footpaths.

13.5.9 Existing cycle routes being promoted in and around Sleaford range from National routes proposed by SUSTRANS to local tourism routes promoted by the District Council. There is some cycle parking in the town centre and combined usage routes to two of the outlying villages.

13.5.10 The County Council has an extensive responsibility to maintain pedestrian routes in and around Sleaford. However, some development areas remain in private ownership or are not adequately linked to adjacent areas, leaving gaps in the strategic pedestrian network.

The Issues

13.5.11 Of the 3,600 students attending schools in the town, approximately 1300 travel into Sleaford on a daily basis on 17 bus routes. These routes are a mix of commercial and County Council sponsored services; many of the former survive purely due to the purchasing of places for school children. The location of the 'drop off' and 'pick up' points for these bus services creates a complex series of desire lines connecting to the various school sites, causing numerous pedestrian conflicts with traffic within the town centre.

13.5.12 All the schools in Sleaford are close to the town centre, and so students travelling to school by car contribute significantly to the peak hour volume of traffic. National surveys show that the school run contributes up to a third of traffic during peak hours. Observations and comments from local residents have indicated that this is significantly exceeded in Sleaford.

13.5.13 The difficulties and prohibitive costs of commissioning new pedestrian and cycle crossings of the railway are a substantial obstacle to the promotion of alternative safe segregated routes into the town.

Accident Data

13.5.14 Detailed inspection of all accidents in the town identifies at least four locations where there are accident clusters, two of which have already received attention. Motorcycle accidents are evenly spread over the area, although there appears to be a cluster in the vicinity of the level crossing near the station.

13.5.15 Cycle accidents are concentrated along Lincoln Road. This will be addressed by the proposed combined pedestrian / cycle facility along most of its length. The provision of a cycling network throughout the area will add to the overall perception of a safe environment for cyclists, as will the proposed reductions in speed limits.

13.5.16 Pedestrian accidents are spread fairly evenly throughout the area, with a focus towards the town centre at the Market Place. The new crossing points proposed will enhance the safety of both pedestrians and cyclists, whilst providing only minor inconvenience to vehicle users. Relocation of the school bus stops will also reduce the potential for pedestrian accidents.

Partners and Funding

13.5.17 An extensive list of organisations and individuals were invited to a workshop for the Sleaford CTZ, from disability representatives to the local British Motorcycle Federation. Out of this, working relationships have been developed for the Sleaford CTZ with the following bodies:

> Bus Companies (through the County's Transport Services)
> Mid-Kesteven Primary Care Group
> North Kesteven District Council
> Police
> Sleaford Care Charter Group including:
> Environment Agency
> River Slea Navigation Trust
> Sleaford Chamber of Commerce
> Sleaford Town Council
> Sustrans

13.5.18 In addition, one of the County's Sleaford CTZ project team attended the Town Council's Planning for Real exercises held for two of the Wards covered by the CTZ.

13.5.19 Due to the accelerated timescale of the Sleaford Zone, the full range of funding opportunities have not been explored. However, along with the other pilots, bids are currently being prepared to both WREN and the Green Spaces and Sustainable Communities fund.

Solutions for Transport Choices

13.5.20 In order to promote choice of transport mode within the CTZ strategy, the times of service and lengths of route of the "Nipper" service are to be extended for a trial period. The additional costs of funding the enhanced service will be met from the County's revenue budget for socially necessary local bus services. The CTZ investment program makes provision for new shelters, raised kerbs and publicity at stops.

13.5.21 The railway station is undergoing a major refurbishment programme towards an integrated transport network. There will be bus parking and turning facilities, a taxi rank, cycle parking and lockers, comprehensive timetable information provision and improved car parking.

13.5.22 School bus drop off and pick up points for the south of the town will be relocated to the new bus terminus at the railway station. Similarly, a location towards the north of the town would reduce child pedestrian trips into the town from St George's and Carres Grammar School; initial investigations were carried out into a particular site, but this was stalled due to land use restrictions. Relocation of these points would remove school buses from the town centre, as use of the bypass allows redirection onto five of the six radial routes, and would reduce the current conflicts and potential for accidents. This could be reduced further by the introduction of a School Travel Plan and the encouragement of car sharing for pupils compelled to come by car.

13.5.23 The provision of cycle facilities along the existing radial routes into the town offers the most efficient way of increasing safety and promoting cycle use. It would also be desirable to develop alternative segregated circular routes around the town, but shortage of funds and land make this task much harder.

13.5.24 A cycle network in Sleaford would be more credible and be given greater purpose if it linked to the first outlying settlement along each radial route. The two existing routes to outlying villages have adopted the absolute minimum standards on the basis that although very lightly trafficked, they do allow the trip to occur. It is proposed that the same arrangements be put in place on the other main radial routes.

13.5.25 It is hoped that the network proposed will generate greater use of cycles in the area and encourage new links around the town away from the radial routes. For example: between adjacent housing developments which are currently un-linked; along the Slea navigation; or through the protection of routes through planning requirements.

13.5.26 A survey of cycle parking in public locations in Sleaford identified 56 spaces. Giving consideration to creating a more cycle friendly environment, potential for 120 spaces has been identified.

13.5.27 Increasing numbers of sixth formers have regular access to a car, and use this to get to school. This adds directly to peak hour movements and can cause a problem with parking in the vicinity of the school. The implementation of School Travel Plans should address this problem.

13.5.28 There are some fears that improved lighting on pedestrian or cycle routes may tempt individuals into insecure situations. However, 69% of questionnaire respondents gave a high priority to improved pedestrian routes with street lighting to encourage the use of non-car transport. It is possible to dim lighting during periods of low use - to address user, resident and environmental concerns.

13.5.29 Attracting people to use walking over other modes of transport requires that information on routes is available. The success of fitness circuits and health routes is reliant on a sound signing strategy that not only indicates destinations but also gives information about the features to be encountered on particular routes. Having used a route for recreation, people may start using it for their daily living activities.

Promoted Schemes

13.5.30 The schemes promoted are ones which have arisen from discussion with local representative groups, partners and interested bodies and work towards the aims of CTZs. These are suggestions which are subject to acceptance and prioritisation through public consultation and comment. The schemes put forward are shown in Figure 13.1.

Public Consultation

13.5.31 Two days of public consultation, in the form of a staffed mobile exhibition in strategic locations within the town on market days, took place at the start of June 2000. Questionnaires were available for completion on the day, or to be returned at a later date. These gave the opportunity for the list of proposed schemes to be commented upon and preferences for priority to be expressed.

13.5.32 The overwhelming response from the public to the aims, targets and schemes proposed within the Sleaford CTZ was that whilst they were challenging, they were worthwhile and to be supported and encouraged. Indeed, 91% of respondents supported the overall strategy, compared with only 4% disagreeing with it.

13.5.33 Figure 13.4 shows that 69% of the respondents to the questionnaire identified that there is a lack of alternatives to the car, or they are not as convenient as the car. This is the target audience for the Sleaford CTZ.

13.5.34 The lack of sufficient bus services in the town - which is being addressed by the trial expansion of the town's Nipper service - was given a high priority by the greatest number of respondents, as shown in Figure 13.5. This also shows that each of the elements of the strategy received a high priority from at least 50% of respondents.

13.5.35 As a result of the prioritisation in the consultation process, at least one scheme has been dropped due to negative comments. Also, one scheme has been suggested which is being put forward to the bids for alternative funding. The majority of the additional comments on returned questionnaires related to either bus services or cycle facilities.

13.5.36 84% of respondents said that they thought that the CTZ initiative would work in other market towns in Lincolnshire, compared with only 6% who did not and 10% who didn't express an opinion.

Figure 13.4

Sleaford residents were asked which of the following is their main reason for using a car in preference to other forms of travel in and around Sleaford
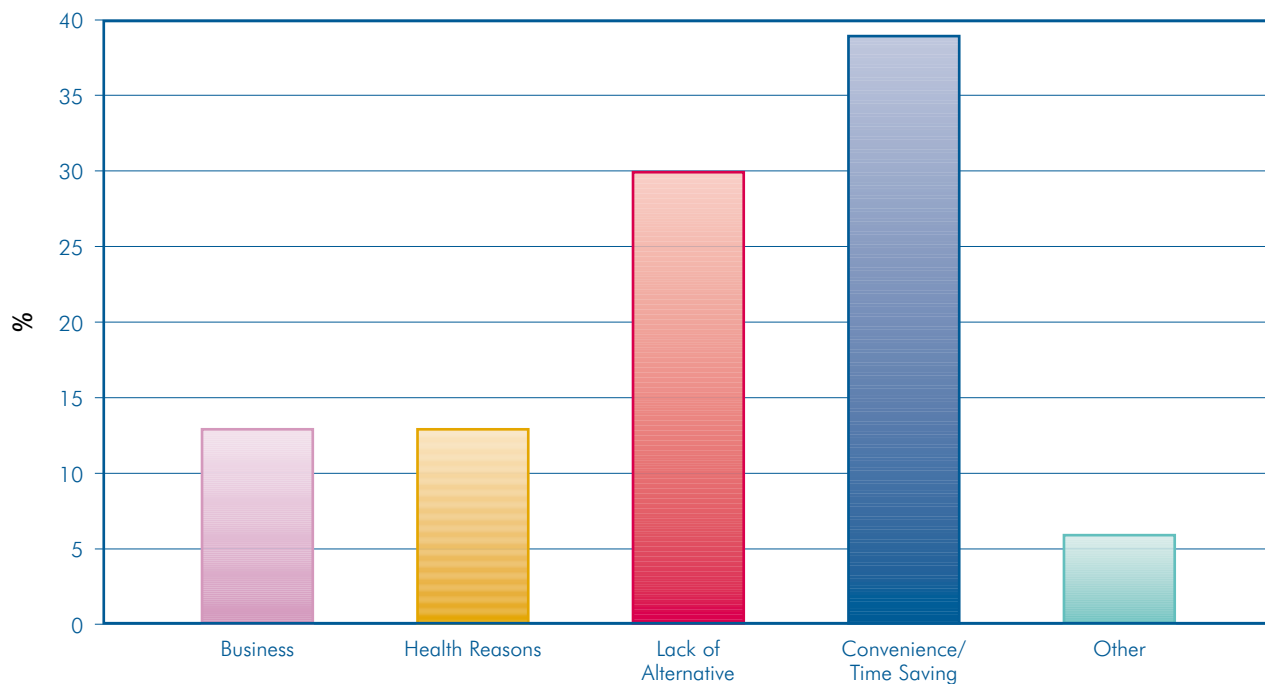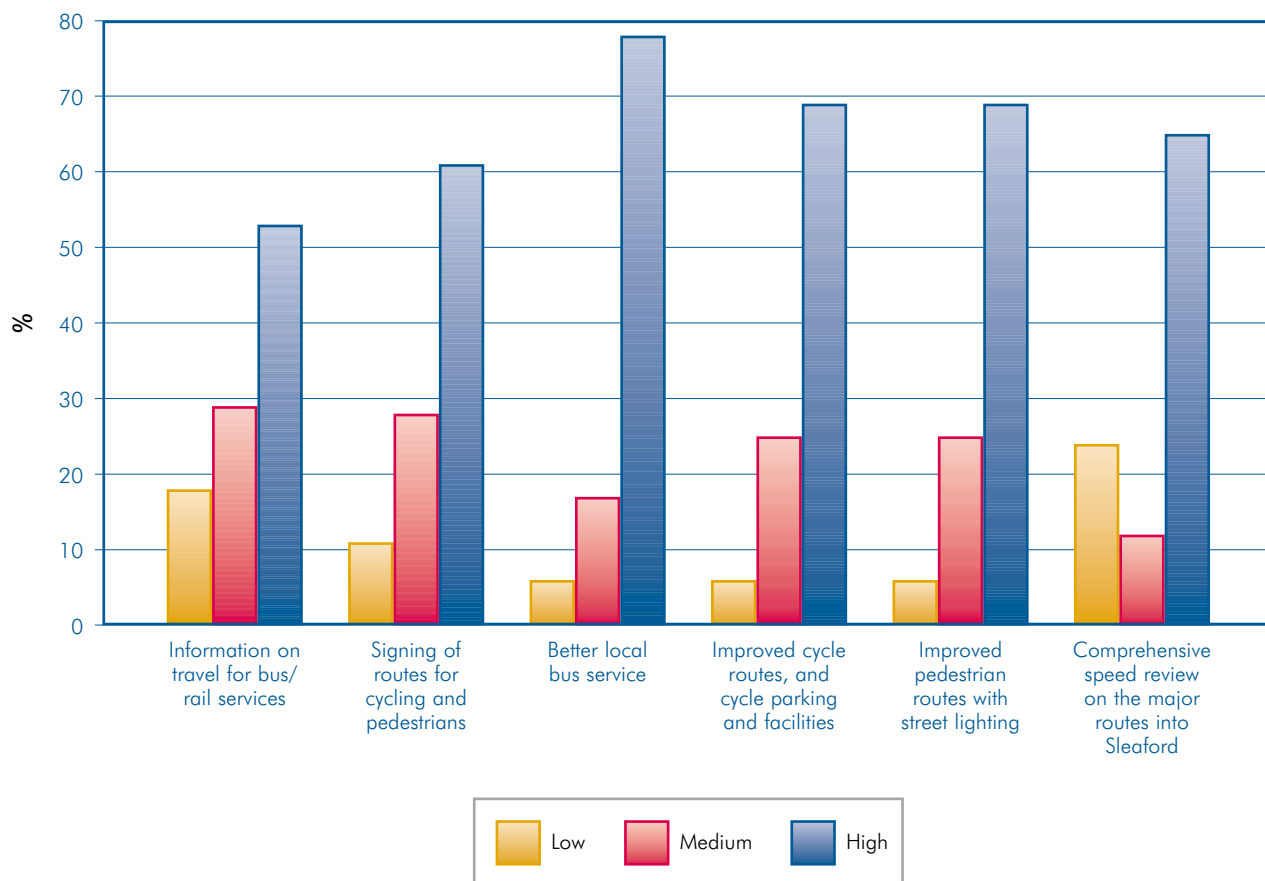
Figure 13.5

Sleaford residents were asked which of the following they consider to be a high priority for Sleaford and would encourage them to use an alternative to the car
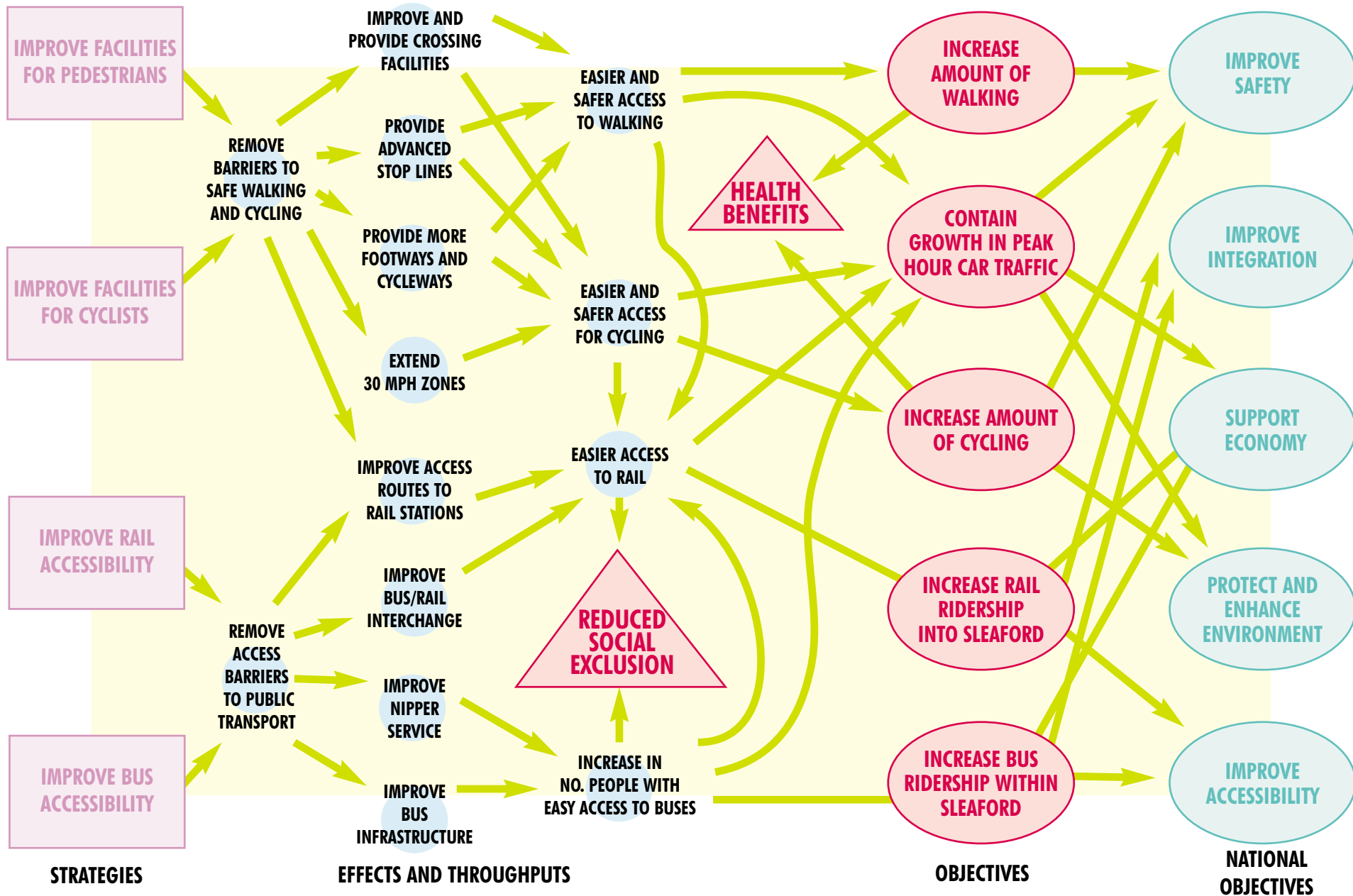
13.6 MONITORING

13.6.1   The monitoring of the overall LTP congestion targets is to be based on the information gathered from a cordon of annual, manual counts around each town. However, CTZs are primarily intended to address internal movements, and rely heavily on modal shift. It is not intended to carry out large numbers of expensive surveys that will be difficult to manage or repeat annually.

13.6.2   Instead, monitoring will be carried out by auditing a number of representative Zones. The Hykeham Area Zone is to be monitored through the use of detailed manual traffic counts, including modal split. The Grantham East Zone will be monitored through the use of simple questionnaire surveys at a representative school, a significant employer that draws employees from within the Zone and a shopping or recreation centre.

13.6.3   The link between the output measures being monitored and LTP targets will be justified for each Zone through a causal chain analysis. An example of this is shown in Figure 13.6 for the Sleaford CTZ pilot. As each individual Zone will have different problems with different solutions, the causal chain will also alter from Zone to Zone in the way that the outputs being measured relate to each other and to the target.

13.7 INTEGRATION

13.7.1   The implementation of CTZs over the next five years is critical in reaching the target for reducing congestion. It will also assist in achieving environmental targets to reduce the negative impact of vehicular traffic.

13.7.2   The national decline in walking and cycling has contributed to the reduction in accident rates. There is a danger that as more people choose to walk and cycle there will be an increase in injury accidents to these road users. To ensure that this does not occur a target has been set under the **Staying Alive** strategy to reduce injury accidents amongst vulnerable road users over the next five years.

13.7.3   Improvements in the inter-urban services and services within individual towns provided through the **InterConnect** strategy will integrate with the CTZ initiative through offering new transport choices in and around the urban areas, and by increasing the overall perception of choice.

13.7.4   As the programme of CTZs is rolled out across the urban areas of Lincolnshire, each town will have a series of facilities around its periphery that provide sustainable transport options. These will mesh in with measures for transport choice implemented through the **Rural Priorities Initiative,** and with the regional Rural Action Zones initiative.

13.7.5   The programme of maintenance through **Asset Protection** will, wherever possible, be tied into the CTZ schemes that are promoted. For example, in the Sleaford pilot the provision of cycle lanes on the carriageway of one of the radial roads into the town is to be done in conjunction with the routine maintenance of the route.

13.7.6   Where **Economy and Regeneration Schemes** fall within the urban areas, their implementation will fully consider the aims and rationale of CTZs, and wherever possible the programme of CTZs will be adjusted to take into account the timing and extent of works being considered. For example, the proposed Grantham Town Centre Improvements are taking into consideration the needs of cyclists and pedestrians. This is to such an extent that the three CTZs in the town do not need to include the centre itself, but will link with the existing or proposed facilities in the town centre.

13.7.7   **Community Travel Zones** also support the 'core and satellite' approach of Lincoln City Council in developing facilities, which encourage walking, cycling and using public transport inside a Zone and between adjacent Zones. A consistent approach for land use planning and transport planning will underpin the development and continuation of community based services such as schools, district shopping areas, health care facilities and leisure facilities thus reducing the need to make longer journeys by car.

Figure 13.6

**SLEAFORD COMMUNITY TRAVEL ZONE
- CAUSAL CHAIN**

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STRATEGIES

IMPROVE FACILITIES FOR PEDESTRIANS

IMPROVE FACILITIES FOR CYCLISTS

IMPROVE RAIL ACCESSIBILITY

IMPROVE BUS ACCESSIBILITY

EFFECTS AND THROUGHPUTS

REMOVE BARRIERS TO SAFE WALKING AND CYCLING

IMPROVE AND PROVIDE CROSSING FACILITIES

PROVIDE ADVANCED STOP LINES

PROVIDE MORE FOOTWAYS AND CYCLEWAYS

EXTEND 30 MPH ZONES

EASIER AND SAFER ACCESS TO WALKING

EASIER AND SAFER ACCESS FOR CYCLING

HEALTH BENEFITS

IMPROVE ACCESS ROUTES TO RAIL STATIONS

EASIER ACCESS TO RAIL

REMOVE ACCESS BARRIERS TO PUBLIC TRANSPORT

IMPROVE BUS/RAIL INTERCHANGE

IMPROVE NIPPER SERVICE

IMPROVE BUS INFRASTRUCTURE

REDUCED SOCIAL EXCLUSION

INCREASE IN NO. PEOPLE WITH EASY ACCESS TO BUSES

OBJECTIVES

INCREASE AMOUNT OF WALKING

CONTAIN GROWTH IN PEAK HOUR CAR TRAFFIC

INCREASE AMOUNT OF CYCLING

INCREASE RAIL RIDERSHIP INTO SLEAFORD

INCREASE BUS RIDERSHIP WITHIN SLEAFORD

NATIONAL OBJECTIVES

IMPROVE SAFETY

IMPROVE INTEGRATION

SUPPORT ECONOMY

PROTECT AND ENHANCE ENVIRONMENT

IMPROVE ACCESSIBILITY

14 Rural Priorities Initiative

14.1 ISSUES

14.1.1   Nationally it is recognised that it is difficult to develop rural transport policies which are affordable, cost effective, appropriate to rural areas and which deliver outcomes wholly consistent with government guidelines.

14.1.2   There is a need to address the potentially conflicting demands generated by the promotion of sustainable communities, supported by a strong, diverse local economy, whilst at the same time improving the quality of life for local people and preserving the unique qualities of the rural environment. Rural communities are places where people live and work and the improvement of accessibility and transport choice for residents, businesses and visitors (tourists) is a high priority.

14.1.3   In this context a transport policy for Lincolnshire needs to recognise that the county is predominantly rural and covers a large geographical area (2,300 square miles). The County has many rural communities (542 parishes) many of which are unprotected from the adverse effect of through traffic and in which there is often little transport choice other than the use of the motor car.

14.1.4   Historically underfunded Lincolnshire missed out during the road building boom of the 70's and 80's and with year on year traffic growth the County's highway infrastructure is becoming inadequate to deal with many of the demands placed on it.

14.1.5   The inadequate levels of funding currently available for capital highway schemes such as route improvements and village bypasses presents its own difficulties in providing traditional solutions and a new approach to address the transport problems in rural areas is required.

14.1.6   Rural communities in Lincolnshire are many and varied, ranging in size from small towns to hamlets. Considering the large geographical area in which they are located, the precise nature of the problems and local priorities will be different for each community. It is therefore critical that a flexible approach is developed to enable improvements appropriate to local conditions and aspirations.

14.1.7   Many of Lincolnshire's rural communities are subjected to the negative effects of through traffic and particular concerns centre around:

- the speed of vehicles as demonstrated by the numerous requests for lower speed limits

- the weight and size of vehicles using inappropriate routes

- community severance especially in villages on the strategic route network with residents on one side of the road having difficulty accessing shops and schools on the other

- the volume of traffic and in particular the noise generated by HGV traffic travelling late at night and in the early hours of the morning

- the conflict of traffic with other road users

14.1.8   Much of the traffic management techniques developed for use in urban areas are not appropriate to rural conditions, and in any event could not be widely provided based on projected levels of funding.

14.1.9   In addition, the funding available to maintain Lincolnshire's highway infrastructure is insufficient to protect the whole of the network from deterioration. Priorities, therefore, also need to be developed that minimise the damage to the Highway Network by better management of HGV through traffic.

14.1.10   In many of Lincolnshire's rural communities there is inadequate protection for pedestrians and cyclists and conflict between transport modes. The lack of pedestrian and cycling facilities combined with high levels of through traffic leads to community severance, isolation from local services and intimidation for pedestrians and cyclists.

14.1.11   Many rural communities are poorly served by public transport and there is a high dependence on the car as the mode of transport. In most cases and especially for long journeys it is unrealistic to assume that this can change significantly over the period of this Transport Plan. However some things can be done. It is appropriate to encourage alternatives to the car for short journeys within the community, to provide better integration between modes and to improve links to the core transport network and the developing "Interconnect" services.

14.2 OPTIONS

14.2.1   In developing a transport strategy for rural areas of the County alternative methods of delivery have been considered:

Option A

14.2.2   Targeting of available resources to priority areas. This would be a similar delivery method to that adopted for the Community Travel Zone Initiative in which a concentration of effort would be used in a small area of the County for maximum local effect.

14.2.3   The main draw back with Option A is that, based on anticipated (realistic) funding levels, it is estimated that it would take over 200 years to treat all of the rural communities in the County. This is not an acceptable proposition and has therefore been discounted.

Option B

14.2.4   A flexible approach based on maximising the benefits available by integrating capital funds with other works programmes and external funding sources at various locations across the County.

14.2.5   Option B is the favoured approach as it will be possible to be more reactive to any specific issues of local concern in rural communities and to provide better co-ordination between the capital programme and highways maintenance programmes which are by their nature spread geographically across the County.

14.2.6   In addition, under Option B it will be possible to move more quickly to take advantage of external funding opportunities by working in partnership with other organisations such as District Council's, Parish Council's, developers or public transport operators.

14.2.7   A consequence of delivery of Option B is that it may take a number of years to complete a fully integrated solution to a community's transport problems and it may prove difficult to provide evidence of measurable outputs from the initiative in the short term.

14.3 STRATEGY AND INTEGRATION

14.3.1   The Rural Priorities Initiative is a framework strategy to address transport issues in the rural areas of Lincolnshire. The strategy will be carried forward over a number of years through an integrated package of measures that will improve safety, the quality of the rural environment and increase transport choice.

14.3.2   The tool box of measures used in the Initiative will include traffic management, speed management, HGV routeing, improvements to pedestrian and cycling facilities and improved access to public transport.

14.3.3   Better integration of measures will be an important feature of the initiative. Transport problems affecting communities and their solutions will be looked at from first principles. Programmes of improvement schemes will be drawn up which provide holistic treatments appropriate to local needs.

14.3.4   Improved access and increased transport choice to local services can be provided if rural areas and priority routes in communities are treated in a comprehensive way. It will be essential that the effects of through traffic are minimised and that safe continuous routes for pedestrians and cyclists are provided. The creation of a good quality environment will be an important factor in encouraging alternatives to the car.

14.3.5   In adopting an integrated approach to highway capital and highway maintenance activities opportunities will be provided to better co-ordinate programmes and resources to the maximum benefit of rural communities.

14.3.6   One benefit of removing HGV traffic from inappropriate routes will be the reduced length of highway network subject to damage and the release of maintenance funds for use on priority routes.

14.3.7   An important part of the strategy will therefore be the redefining of a strategic HGV Network for Lincolnshire. To assist in the implementation of the HGV Network, the County will be divided into sub-areas based on strategic transport corridors and physical boundaries. The sub-areas will be further divided into cells based on locally appropriate boundaries such as access routes. By dividing the County into sub-areas and cells a programme of appropriate measures for access to an area can be drawn up. The draft arrangement of the HGV Network and sub-areas is shown on Figure 14.1.

14.3.8   Freight Quality Partnerships will be established with the major transport operators and others affected by freight operations to assist with redefining the HGV Network, to improve route signing and to co-operate on logistical issues and abnormal load routes.

14.3.9   Integration and co-ordination with other initiatives will enhance the effectiveness of the measures included in the Rural Priorities Initiative. The Initiative will co-ordinate with the following other main themes in the Full Local Transport Plan:

- Interconnect
- Asset Protect
- Staying Alive
- Community Travel Zones

14.3.10   In addition, the County Council will seek to maximise the effectiveness of the Rural Priorities Initiative by co-ordination with the following important projects:

- Rural Action Zones
- Greenways Project
- EEC Funded Projects (Objective 2)
- Sustrans' National Cycle Network
- Healthy Lifestyle Initiatives by the Health Authority

14.3.11   Therefore, the Rural Priorities Initiative will be a package of environmental improvements to address the transport problems in rural communities caused especially by through traffic and lack of transport choice. Priority will be given to measures that contribute most to the improvement of access to local services, reduce community severance and improve road safety. A causal chain diagram is shown in Figure 14.2.

14.4 IMPLEMENTATION

14.4.1   The County Council will consult with local communities, freight operators, passenger transport operators, schools and other community based services on the Rural Priorities Initiative. Partnerships will be sought with communities and local organisations to deliver the improvements for rural areas of the County.

Figure 14.1

**HGV ROUTEING
Sub-area/Cell Structure**

Sub Areas

**Stamford/Deepings
Pilot Cells**

Figure 14.2

169
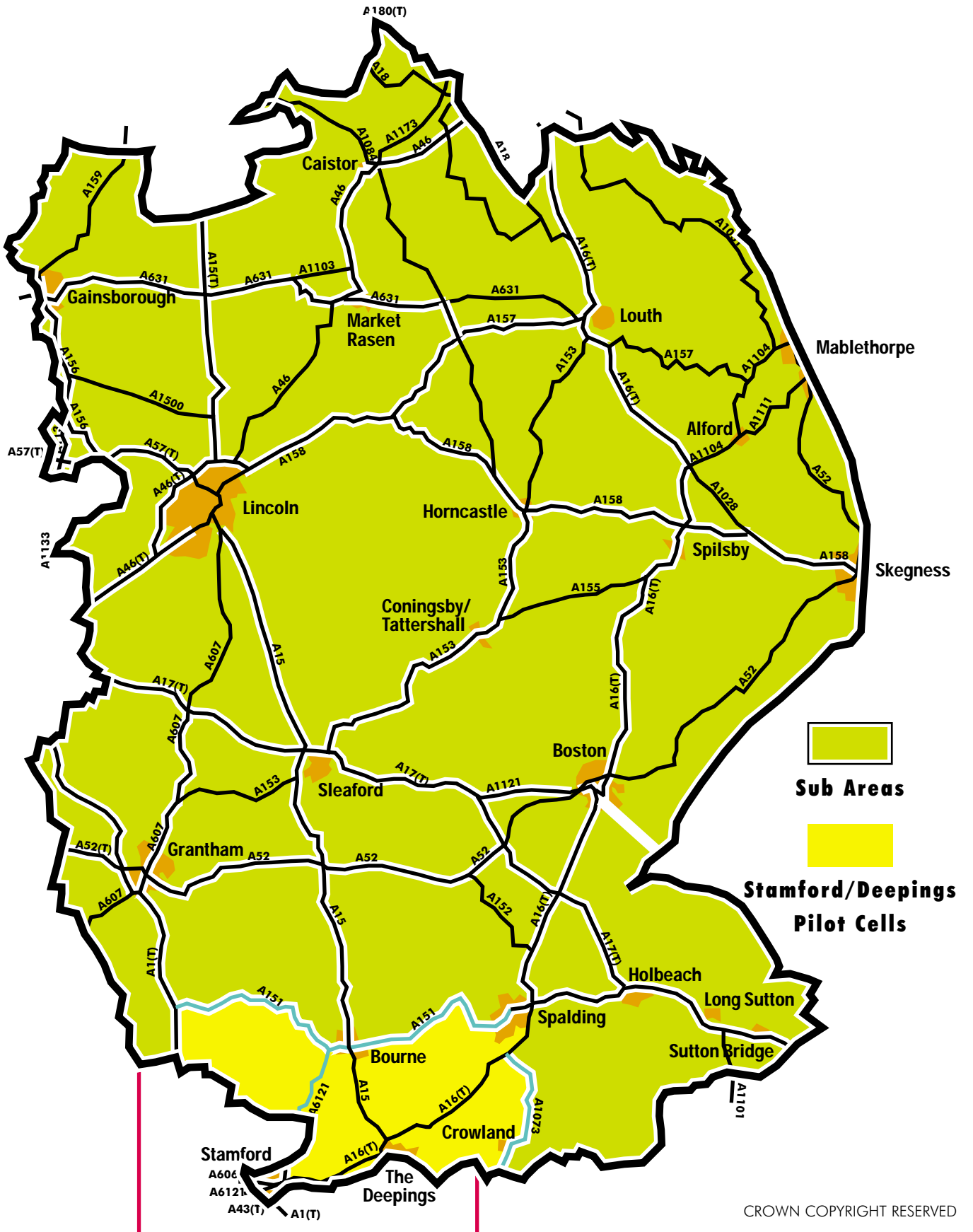
RURAL PRIORITIES INITIATIVE

Figure 14.2 — Rural Priorities Initiative

STRATEGY

IMPROVE FACILITIES FOR PEDESTRIANS AND CYCLISTS

PROMOTE SAFE ROUTES TO SCHOOL SCHEMES

USE TRAFFIC MANAGEMENT MEASURES TO IMPROVE RURAL WAY OF LIFE

REVIEW HGV ROUTES

IMPROVE PUBLIC TRANSPORT ACCESS AND QUALITY

EFFECTS AND THROUGHPUTS

REVIEW NETWORK FACILITIES FOR WALKING AND CYCLING

IMPLEMENT SCHOOL SAFETY SCHEMES

PROMOTE EDUCATION OF TRAVEL AWARENESS

MANAGE SPEED

REDESIGN ROAD MOVEMENTS

RESTRICT HGVS IN SENSITIVE AREAS

PROVIDE HGV SIGNING ONLY ON APPROPRIATE ROUTES

SEEK INTEGRATION WITH PEDESTRIANS AND CYCLISTS

IMPROVE ACCESS TO PUBLIC TRANSPORT INFORMATION

SUPPORT COMMUNITY TRANSPORT

IMPROVE ROUTES AND CROSSINGS FOR PEDESTRIANS AND CYCLISTS

MORE USE OF SUSTAINABLE SCHOOL TRANSPORT

PROVIDE A SAFER ENVIRONMENT

MORE WALKING AND CYCLING

REDUCE COMMUNITY SEVERANCE

LESS HGV IMPACT ON RURAL COMMUNITIES

EASIER ACCESS TO BUSES AND RAIL

MORE PUBLIC TRANSPORT

STRATEGY/OBJECTIVES

HEALTH BENEFITS

IMPROVE ENVIRONMENT OF 100 RURAL COMMUNITIES

REDEFINE HGV NETWORK TO BENEFIT 100 LOCAL COMMUNITIES

BENEFITS TO ENVIRONMENT

REDUCED SOCIAL EXCLUSION

NATIONAL OBJECTIVES

IMPROVE INTEGRATION

IMPROVE SAFETY

PROTECT AND ENHANCE ENVIRONMENT

IMPROVE ACCESSIBILITY

SUPPORT ECONOMY

14.4.2   Freight Quality Partnerships will be established to agree appropriate HGV routes and to co-operate on operational and logistical issues. These partnerships will be established in consultation with neighbouring highway authorities as appropriate.

14.4.3   The implementation of the Rural Priorities Initiative as a package of integrated measures will include the following:

- **Safer Routes to School:**
  Walking Bus
  Traffic Congestion and safety schemes on routes to schools
  Travel Awareness education

- **Pedestrian and cycling facilities:**
  New routes
  Safer routes
  Refuges and other crossing facilities
  Small Town centre pedestrianisation schemes
  Street Lighting Improvements

- **Traffic Management:**
  Signing schemes
  One-way systems
  Waiting and loading restrictions
  Movement restrictions at junctions

- **HGV Network improvements:**
  Improvements to direction signs for HGV routes
  Removal of direction signs on some inappropriate routes
  HGV restrictions as appropriate.

- **Public and Community Transport:**
  Improved access to bus and rail services
  Support and encouragement of community based schemes
  New bus stops, shelters and cycle lockers
  Better information on services

- **Speed management:**
  Speed limits
  Traffic Calming
  Speed cameras

- **Powered Two-Wheelers:**
  Designated parking areas
  Storage facilities/lockers

14.4.4   Early in the Local Transport Plan period a pilot scheme will be developed and implemented to test the viability of the HGV routeing initiative. Preliminary work has been centred on a Pilot scheme based on sub-area near Stamford shown on Figure 14.3 The sub-area chosen as the pilot scheme is ideal for treatment due to the fact that HGV routeing problems have already been investigated, there are major HGV generators in the area (e.g. quarries) and there is good potential for cross boundary partnerships with neighbouring highway authorities.

14.4.5   Some examples of the advantages to be gained through the integration of measures under consideration for the Pilot Area:

- Public Transport improvements for the Bourne area associated with a housing development

- Re-routeing of HGV's serving quarries from Langtoft and Baston onto the Market Deeping Bypass and the Strategic Route Network

- co-ordination of maintenance and capital programmes to upgrade the footway adjacent to the A15 to allow dual use for cyclists and pedestrians

Figure 14.3

HGV ROUTEING - STAMFORD/DEEPINGS SUB-AREA PILOT CELLS

Key

- Railway
- Trunk Roads
- County Roads
- Minor County Roads
- Treated Network (Winter Maintenance)
- Existing 7.5T weight Limits
- Possible HGV Route
- 500 Population or more
- Major HGV sites
- Pilot cells

Corby Glen

BOURNE

A151

Castle Bytham

B1176

A6121

Thurlby

A15

Baston

Langtoft

Deeping St. Nicholas

A16

The Deepings

Tallington

A16

Stamford
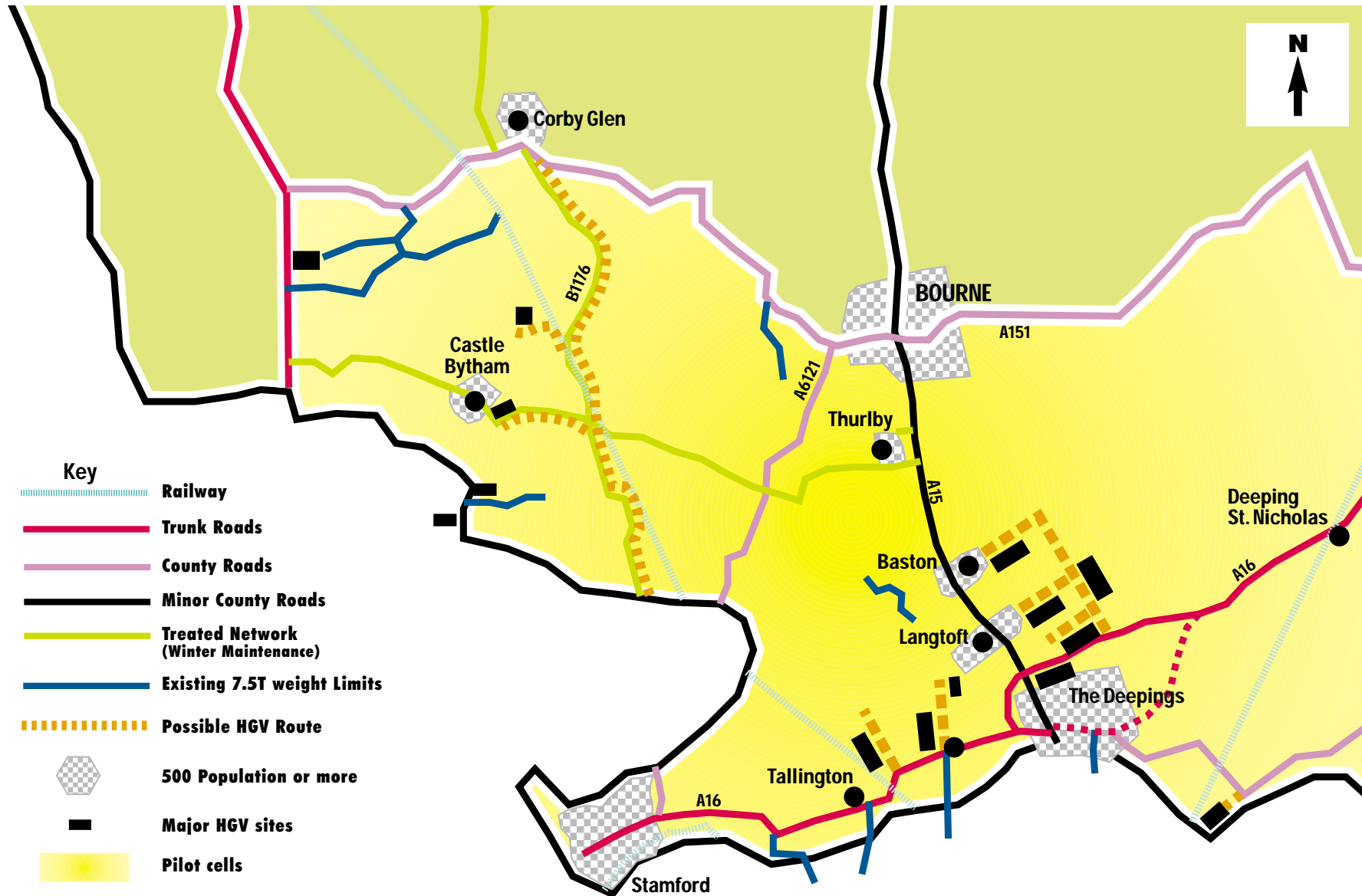
CROWN COPYRIGHT RESERVED

- the upgrade of bus stops for low floor bus services as part of the repair of footways on the A15

- re-allocation of road space in Market Deeping Town Centre for cycling and walking as a result of the opening of the Market Deeping Bypass

- a "Post Bus" service centred on Market Deeping

- the provision of new facilities for the disabled as part of the repair and upgrade of footways

14.4.6   Subject to the result of the consultation process and the experience gained from the pilot scheme, the implementation of further HGV routeings in other areas of the County will commence. It is expected that the work included in the Initiative will extend beyond the period covered by the current Full Local Transport Plan.

14.4.7   The programme for implementing the integrated package of measures will be based on existing capital programme information, information received through public consultation and concerns raised locally. The implementation of the measures will be assisted by refining the existing County Council priority rating systems to provide better integration of schemes which contribute to the Rural Priorities Initiative targets. Geographic Information Systems will be used to provide better integration of the County Council's activities and the activities of other organisations that affect rural communities.

14.4.8   The County Council will be watching with interest the outcomes of the "Quiet Lanes" pilot schemes operating in Norfolk and Kent and the relevance of similar schemes for Lincolnshire.

14.4.9   The strength of the integrated approach adopted for the Rural Priorities Initiative will be that individual treatments will be no longer considered in isolation. Measures previously seen as only solving a site-specific problem will now be considered in the context of an area or route treatment and the contribution towards the overall objectives of the initiative.

14.5 TARGETS

14.5.1   The County Council's targets for the Rural Priorities Initiative are as follows:

> **ENT2   To improve the environment of 100 communities by promoting measures which reduce the damaging effects of traffic, promote transport choice and improve access to local services.**
>
> **ENT3   To define an HGV network which removes through traffic from at least 100 communities.**

15 Managing Demand

15.1 CAR PARKING

Issues

15.1.1   Car parking is a significant aspect of the transport system that requires careful consideration. It is widely acknowledged that the availability of car parking has a significant influence on an individual's decision on whether or not to drive to their destination, even for locations well served by public transport. A further influence is the level of charge for parking.

15.1.2   Whilst the introduction of parking controls can be a useful tool to encourage motorists to use alternative modes of transport, it must be recognised that for many people, particularly in a large rural county such as Lincolnshire, the car will remain the only feasible option for travel.

15.1.3   The provision of parking space can affect the relative attractiveness of a location or town because of the ease, or otherwise, of parking and the convenience for the car user. Also, it affects the safety of both pedestrians and other road users in the area and contributes to the free flow of traffic if its provision is off the road. Locations with a shortage of available parking may suffer economically, unless alternative means of travel are in place. In order to maintain the retail competitiveness and viability of rural towns, it important to ensure that there is an adequate supply of short stay parking for shoppers and visitors.

15.1.4   It will normally be necessary to ensure that some provision is made for parking at new developments. Policies to limit this, by adopting maximum parking standards which limit the total amount of parking which is provided as outlined in PPG13, are another way of encouraging people to travel by means other than the car. However, such policies are only effective where alternative means of travel exist or are to be introduced as part of the development if problems of on-street parking are to be avoided on nearby roads.

15.1.5   The County Council's current Structure Plan policy on parking states that :-

- Parking provision for new development shall be kept within guidelines to be agreed by the County and District Councils.

- In town centres priority for non-operational parking will be given to ensuring an adequate supply for short stay use.

- Commuted sums may be payable in lieu of the provision of parking to fund improvements which widen transport choice.

Car Parking at New Developments

15.1.6   The County Council's existing car parking standards were published in 1986 and were developed as minimum standards. These urgently require reviewing in the light of the need to move towards maximum standards as required by national planning guidance. Work is on-going at the regional level to produce consistent standards across the region. Regional standards for employment uses were included in the Draft Regional Transport Strategy, itself part of the Draft Regional Planning Guidance, and these were the subject of debate at the recent Examination in Public held in June. Further work will be carried out

to develop regional standards for other land uses. At a national level, the draft PPG13 published by government in October 1999 also contains suggested national maximum parking standards for a variety of land uses, along with thresholds above which the standards would apply. At the time of writing, a final version of PPG13 is awaited.

15.1.7   Due to the uncertainty at a national and regional level detailed above, there has been some reluctance to start a review of the County Council's car parking standards. However, pressure is also growing as many of the seven Districts Councils in Lincolnshire are in the process of reviewing their Local Plans. Of the currently adopted Local Plans, only Lincoln City Council currently have car parking standards expressed as maxima. Hence, the County Council in partnership with the District Councils has initiated a review of the current standards. This will focus particularly on the issues around the need for many people in Lincolnshire to travel by car due to the lack of adequate public transport in the rural areas and the need to maintain the vitality and viability of the rural market towns. It is likely there will be a need to further review the standards once things become clearer at a national and regional level.

Decriminalisation of Parking

15.1.8   The Road Traffic Act 1991 permitted the decriminalisation of parking through the creation of Special Parking Areas (SPAs), the first one appearing in the London Boroughs in 1993. In London they are obligatory, but for the rest of Britain the powers are optional. Increasing numbers of local authorities across the country are now adopting this approach.

15.1.9   Initially it was decided not to pursue decriminalisation in Lincolnshire, primarily because of the costs associated with the creation of an independent adjudication system. However, with the new National Adjudication System now up and running, the County Council intends to look again at the possibility of introducing SPAs in some of the larger urban areas in Lincolnshire. Both Lincoln City Council and South Kesteven District Council have expressed an interest in the possible introduction of SPAs within the districts. A review to examine the various options and their impacts is therefore proposed, in partnership with the District Councils and Lincolnshire Police. If, as a result of the review, it is decided to pursue decriminalised parking in all or part of the county, then wider consultation will take place with other interested parties.

Greater Lincoln

15.1.10 **Issues -** Public consultation undertaken by Lincoln City Council identified considerable dissatisfaction with parking provision in Lincoln. A number of recent studies of the car parking situation in the City show that :

- there are already more than enough parking spaces in the City to meet demand for most of the year
- many of the spaces would be most convenient for shoppers and other short stay visitors to use
- many of the spaces are regularly occupied by long-stay commuters who do not really need to have their cars so close to their place of work and whose journeys contribute to peak-time congestion and associated pollution and excessive energy consumption
- the poor quality, security and accessibility of several of the multi-storey car parks deters people from using them fully
- many people who commute by car, park on residential streets close to the city centre causing traffic and environmental problems for people living in those areas

15.1.11 Local concerns about traffic congestion and pollution parallel the concerns about parking provision, so simply building more car parks to encourage more people to bring cars into the city centre is not seen as a solution.

15.1.12 **Strategy -** In August 1995, the City Council adopted a Parking Strategy, as part of the Balanced Transport Policy for Lincoln. The strategy takes on board the recommendations of the Government's Planning Policy Guidance, especially that proposed in the revision of PPG 6: "Town Centres and Retail Development".

15.1.13 The objectives of the Parking Strategy are integral components of the Local Plan for Lincoln's wider strategy for Access, Transport and Communications: they both complement a Balanced Transport Strategy for the Greater Lincoln Area. The implementation of each measure in the strategy will be carefully phased and co-ordinated so that the economic well-being of the city and, in particular, the

vitality and viability of the city centre are not threatened. Accessibility will be improved whilst car-dependence, congestion, pollution and other forms of environmental degradation are reduced. The aim is to improve accessibility, whilst at the same time reducing the dependency on the car and with that congestion, pollution and other forms of environmental degradation. If this is achieved, the whole city, and in particular the city centre will become more pleasant and attractive to live, work and shop in and to visit for a growing variety of attractions, activities and amenities.

15.1.14 **Implementation -** To achieve the objectives of the Lincoln Parking Strategy, twelve policies have been developed by the City Council. These are:

- investment in new public car parking spaces will be provided at park and ride sites on the city outskirts, primarily for long stay use.
- the balance in parking supply in the city centre will be changed towards an increase in short stay parking.
- the availability of spaces for resident's parking in residential areas close to the city centre will be ensured through comprehensive resident's parking schemes.
- the stock of publicly available parking in the city centre will only be increased in exceptional circumstances.
- planning permission will not normally be granted for temporary car parks.
- any increase in private, non-residential parking in the city centre for non-residential purposes will be resisted and a commuted sum policy implemented to enable the travel demands of development to be met.
- within the city centre, residential parking standards will be less onerous than elsewhere in the city to enable residential uses to be promoted.
- the parking standards applied to all new developments will be reviewed.
- the amount of circulating traffic seeking car parking spaces will be reduced by introducing better forward signing between car parks.
- the needs of people with impaired mobility will be met by providing an improved shopmobility scheme in the city centre and by providing fully accessible buses at the park and ride sites.
- the supply of coach parking will be increased as required.
- demand for the provision of overnight lorry parking outside the city centre and alternative sites will be investigated.

15.1.15 The City Council have pursued these through various measures, including the introduction of parking charges at the St Marks Retail Development adjacent to the city centre to dissuade commuter parking, and the conversion of car parking at City Hall previously reserved for staff to short stay parking for shoppers.

15.1.16 The County Council will work with Lincoln City Council on the implementation of measures through the Local Transport Plan process, which complement the aims of the City's car parking strategy. A particular issue to be addressed is the possible introduction of decriminalised parking within Lincoln, which will be considered as part of the study mentioned in paragraph 15.1.9 above.

Grantham

15.1.17 **Issues -** South Kesteven District Council monitors private and public car parking facilities in Grantham in order to establish trends in usage and demand. The District is committed to a regular review of its car parking policy, with the underlying aim of promoting secure, short term parking as a way of encouraging employment-related long-stay parking users to consider other means of travel to work within Grantham town centre. At present, the District Council does not foresee a need to increase the quantity of public car parking above existing levels.

15.1.18 The District Council is also keen to explore the potential for introducing on street pay parking and residents' parking schemes in Grantham, in conjunction with the County Council as highway authority.

15.1.19 The District Council operated an experimental park and ride scheme in Grantham during the pre-Christmas period in 1998. Whilst levels of demand were on this occasion relatively low, the Council will keep under review the potential of park and ride schemes within its urban areas, as a means of reducing car-borne journeys into town centres during periods of high parking demand.

15.1.20 **Strategy -** South Kesteven District Council are already committed to seeking a reduction in long stay commuter parking in Grantham town centre and to restrain off-street public car parking at existing levels. The number of long stay spaces in the town was substantially reduced when the car park off Union Street was redeveloped by Asda in 1998. In addition, the District Council carried out a review of their off-street parking in August 1999 which led to cheaper charges being introduced for Monday to Thursday, to try and encourage shoppers to switch from the more popular days of Friday and Saturday, along with substantial increases in the charges for long stay commuter parking to bring it more in line with the cost of public transport alternatives.

15.1.21 **Implementation -** The County Council will explore with the District Council the potential for working jointly on a parking strategy for the town, the aim being to encourage commuters to use alternative modes of transport in the peak hour. The strategy will address issues such as the management of on-street parking in the town and the feasibility of park and ride. However, a fundamental issue in the development of such a parking strategy will be the future of decriminalised parking in the county (see paragraph 15.1.9 above)

Boston

15.1.22 **Issues -** The policies in Boston Borough Council's adopted Local Plan support the aims of reducing travel needs and promoting modes of transport other than the car. The Borough Council is currently developing a number of transport related themes to achieve these objectives including:

- the application of car parking standards, expressed as maximum rather than minimum.
- a gradual reduction in long stay car parking in the town centre in favour of short stay.

15.1.23 **Strategy -** As in Grantham, the local District Council in Boston is already demonstrating its commitment to use its role, both as local planning authority and as a provider of off-street car parking, to help manage travel demand, whilst maintaining the viability and vitality of the town centre. A good example of this is a proposal for a new cinema complex in the town centre, where agreement has been reached to ensure that the car parking to be provided as part of the development is available to all town centre users. The County Council is anxious to work with the Borough Council on developing this further.

15.1.24 **Implementation -** As in Grantham, the County Council will look to develop a car parking strategy for Boston in partnership with the Borough Council once the outcome of the study into the opportunities for introducing decriminalised parking in the larger urban areas in known.

Skegness

15.1.25 **Issues -** The car parking issues in Skegness are somewhat different to those in Lincoln, Grantham and Boston in that they relate to Skegness' role as a major seaside resort and problems associated with the large influx of tourist, both day-trippers and long stay, during the holiday season. Research for the earlier Transport Package submitted for the resort highlighted some of the main issues of concern in the town with regard to parking management : -

- the balance between long stay and short stay parking at peak times is seen to be unsuitable.
- the large number of unrestricted centrally located on street spaces available at peak times.
- the problems associated with large off street car parks located on the foreshore.
- car park signing requires improvement.
- pricing policy is in need of review.
- inadequate coach parking facilities.

15.1.26 **Strategy -** The tourism industry is vital to the well being of Skegness. It is therefore important that any car parking strategy adopted does not harm the attractiveness of the resort to tourists. At the same time, it must look towards encouraging those who are holidaying in Skegness to move around the resort by public transport wherever possible, particularly for short journeys up and down the coastal strip.

15.1.27 **Implementation -** The County Council will look to develop a car parking strategy for Skegness in partnership with the District Council. This will be done, once the outcome of the study into the opportunities for introducing decriminalised parking in the larger urban areas is known.

Large Market Towns

15.1.28 In general, existing car parks in the Large Market Towns operate below their full capacity. Therefore, District Council policies are in place to protect parking areas from development unless satisfactory alternative sites can be found for this displaced parking. It is felt that in these towns there is a close correlation between the level of available car parking space and economic prosperity. Inappropriate restraint could adversely affect the fragile vitality and viability of these towns.

15.1.29 In the Large Market Towns, adequate town centre parking is seen to be important to the health of the local economy. In identifying transport measures required to reduce the amount of peak hour car traffic, the County Council will need to carefully assess the scope for introducing any form of car parking restraint in these centres, in consultation with the relevant District Council.

Rural Heartlands

15.1.30 Similar considerations apply in respect of parking in the Rural Heartlands as discussed earlier with regard to the Large Market Towns; that is the need to maintain adequate parking to maintain the health of the local economy and support the small local retail business. Inappropriate restraint could threaten the already fragile vitality and viability of these small towns.

15.2 TRAVEL PLANS

Issues

15.2.1 Travel Plans have the potential to be significant and powerful tools in reducing peak hour traffic and congestion. This is recognised by Central Government who are keen to encourage the development of Travel Plans and have taken a lead by promoting their implementation at key government sites. In addition, the draft PPG13 proposes that Travel Plans should be routinely required for new or expanding developments over a specified size.

15.2.2 Within Lincolnshire, there is the potential for the benefits of Travel Plans to be explored by major individual employers in both the public and private sectors, and by groups of employers at major multi-business sites. However, in trying to encourage the voluntary take-up of Travel Plans in Lincolnshire, employees and companies alike will need to be persuaded of the benefits to be gained. This particularly applies to the latter, who will be required to make a commitment in terms of both time and resources.

Strategy

15.2.3 To convince other organisations of the benefits to be gained from Travel Plans, it is important that the County Council is seen to be taking a lead. Therefore, the Council will continue to develop its own Plan.

15.2.4 Elsewhere in the county, Travel Plans feature prominently as an element of the Community Travel Zones within the Major Urban Areas and Large Market Towns. Major employers, or groups of smaller employers, will be encouraged to develop their own Travel Plans as their way of contributing to the reduction of traffic and congestion within each zone, complementing the physical work put in place by the Council to encourage cycling and walking. Opportunities to develop Travel Plans in the rural areas will be limited to a few major employment sites, such as MoD bases.

15.2.5 The County Council is keen to support organisations that wish to develop Travel Plans. To this end, the Council has become a corporate member of the Association for Commuter Transport (ACT). ACT is assisting in training Council staff to support external organisations looking to develop such Plans. In addition, the County Council has recently assisted in organising a regional Travel Plan seminar. This event, organised by the County Council, ACT and ETSU under the government's Energy Efficiency Programme, was held in Lincoln in July and was attended by major businesses, the Health Authority and Trusts, MoD bases and District Councils.

15.2.6 Following the seminar the County Council will establish a forum for all organisations interested in developing Travel Plans in the County. The forum will provide an opportunity to share information and provide support and disseminate best practice.

15.2.7   Corporately, the County Council is considering how to progress its own Travel Plan. However, many measures to reduce the number of journeys both to and from work have already been undertaken, including the following :

- facilities for cyclists have been improved particularly at offices in Lincoln with new cycle parking facilities and storage lockers and showers now available at County Hall.

- staff in all Directorates are able to telework by agreement with their line managers, where appropriate.

- video conferencing facilities are being trialled within the Highways and Planning Directorate to link the main office in Lincoln and the four divisional offices.

- all managers are aware of the need to reduce the number of business journeys and where possible, staff are encouraged to use public transport.

- negotiations are taking place with public transport providers on discounted ticketing.

15.2.8   Elsewhere in the county, some progress is being made by other organisations. One of Lincoln's major employers, Alstom, has been operating a Travel Plan since 1998. This has included an agreement with the main bus operator in Lincoln, RoadCar to alter the times and routeing of some of their services to fit in better with shift patterns, along with the provision of a subsidy for bus season tickets for employees. Also in Lincoln, the City Council has developed a Plan for its employees at City Hall which has included improved facilities for those cycling to work and the conversion of car parking previously reserved for staff to short stay parking for shoppers.

15.2.9   Across the country Health Trusts and hospitals have been at the forefront of Travel Plan development. In Lincolnshire, Travel Plans are being developed at hospital sites in Lincoln, Boston and Sleaford. Health Trusts are working towards targets set in the Greening the NHS and in the NHS Quality Assurance agenda. The County Council is working closely with the Trusts and will continue to do so.

15.2.10 The Ministry of Defence has decided to pursue Travel Plans as part of a wider Environmental Management Strategy (EMS) to be rolled out during the current financial year. If, in the EMS, a site identifies the need to develop a Travel Plan, they will approach the Local Authority for advice and support. In addition, 19 MoD sites nationally have developed stand alone Travel Plans, the only one in Lincolnshire being RAF Cranwell. This plan was developed in conjunction with the County Council and will be incorporated into RAF Cranwell's EMS.

15.3 SAFER ROUTES TO SCHOOL AND SCHOOL TRAVEL PLANS

Issues

15.3.1   Over the last two decades the pattern of children's journeys to school has changed, and in the last decade these changes have been dramatic. Nationally the proportion of children travelling to school by car has nearly doubled from 16% to 29%. It is estimated that at in morning peak one in five cars on urban roads is taking children to school. This trend is mirrored in Lincolnshire.

15.3.2   This change has contributed to a general decline in children's levels of physical activity. This is a concern for health professionals as many long term health problems are associated with low levels of physical activity. Walking and cycling are both excellent ways of preventing health problems later in life, and also contribute to children's social development and to enable them to acquire road safety skills.

15.3.3   The Government is committed to reducing the amount of road traffic generated by the school run. There is a concerted effort by the DfEE, DETR and DoH to encourage schools and Local Authorities to work towards reducing road traffic and to encourage walking and cycling. This is fronted by the School Travel Action Group (STAG) which supports the development of Safer Routes to School and School Travel Plans.

15.3.4 The County Council has around four hundred schools, most of which are in rural areas. In many of these locations, the number of children walking and cycling to school is very high. However, congestion outside and around schools is becoming an issue not just in the urban areas. Some villages with popular schools now have severe problems at school start and finishing times.

Strategy

15.3.5 The County Council is promoting Safer Routes to School schemes which introduce physical measures to help overcome barriers to children walking and cycling to school. These schemes are supported by educational initiatives in schools aimed at promoting walking and cycling to children and parents. All the schemes have been developed in full consultation with school communities including children, parents, staff and governors. Safer Routes to School feature strongly as part of both the Community Travel Zones and the Rural Priorities Initiative detailed earlier in the Plan. The County Council currently has a programme of Safer Routes to School (SRTS) schemes which are being progressed as a two year project i.e. 1999-2001. These schemes range from minor measures to complete routes from various points in each settlement. Schemes have been completed in Skegness and Bourne together with smaller measures at locations throughout the County. Safer Routes projects are currently being developed in North Hykeham, Louth, Boston, Spalding, the Deepings and several villages.

15.3.6 In Lincolnshire, School Travel Plans (STPs) are being developed as school based policies and practices which place the emphasis on steps that school communities can take to encourage walking and cycling. This approach is based on the fact that in many locations, new physical facilities alone may not significantly increase the number of non-car school journeys. Many of the villages have low trafficked road networks and excellent footpaths and in these places the behavioural issue of using the car for the school run needs to be tackled head-on. By supporting the development of a School Travel Plan, the County Council is recognising the need to work positively on behavioural change as the key to increasing walking and cycling on the school journey. This approach does not preclude highway enhancements where they are a factor in facilitating this change. This twin track strategy recognises the fact that capital provision cannot be stretched to provide SRTS schemes at all schools in the county and deals innovatively with the real issues at local level.

Implementation

15.3.7 Within the County Council, the Highways and Planning and the Education Directorates have developed a joint approach to developing these initiatives. A joint steering group has been established and a shared budget has now been agreed for the development of School Travel Plans. This budget will enable the appointment of a School Travel Plan Co-ordinator who will be tasked with developing a Lincolnshire Template for STPs based on national best practice. The template will follow the LTP model of urban, market town and rural. The template will be piloted at schools which are not part of the SRTS programme. The STP will be supported with a 'tool kit' of educational approaches which will follow the same pattern.

15.3.8 In addition, the joint budget will enable works to be carried out both on and off the highway. In those locations, new access arrangements will change the pattern of the journey. An example being Staniland Primary School in Boston where a new access will make it considerably easier for around 30% of the pupils to walk to school.

15.3.9 The County Council is actively supporting both the Healthy Schools Initiative and the ECO Schools Award. Both of these schemes place an emphasis on school journey issues and schools which require support in considering this will be assisted by either the Education or Highways and Planning Directorate.

15.3.10 The County Council has developed a computerised School Travel database, which is continually being maintained and improved. The database currently has 5500 records and this will be doubled during the next year. The survey form is based on the model developed by SUSTRANS in its pilot projects. This provides both qualitative and quantitative information on children's journeys to school, and their views on improvements. It also provides an insight into children's activity levels, which is of particular value to Lincolnshire Health in promoting healthier lifestyles. The data has helped in targeting resources towards actual rather than perceived problems. For example, at several schools the Walking Bus is the best way to reduce car use without the need for major capital investment. A Parents questionnaire has also been developed which gives parents a summary of the children's replies and asks for their views on the issue: This is also held on computer database.

15.3.11 The data collected shows disparate levels of walking and cycling to and from school. In the urban areas 46% of children walk or cycle with around 18% travelling by car, the rest by bus. In the Market Towns these figures are 50% walking and cycling, around 20% by car and the rest by bus. In the villages just over 50% walk to school, 6% cycle and about 40% travel by car. The opportunity to reduce car use in these instances is largely determined by the rurality of the school. In some locations it is both unwise and impractical to promote increased walking and cycling. In these places, car sharing schemes may be the way forward. In other localities the high levels of car use are due to local habits which have developed over several years. For example in the village of Skellingthorpe near Lincoln, 87% of children live less than two miles from the schools yet 51% travel by car. A variety of measures are being implemented including the construction of a new footpath across a recreation ground, the development of the walking bus from a community centre car park, the reduction of on street parking and a concerted educational campaign through the school aimed at parents and children.

15.3.12 The current SRTS schemes will be completed by 2001. Further schemes are being developed as part of the Community Travel Zones initiatives in Sleaford, Grantham and Boston. They will be completed by 2002. The School Travel Plan initiative will commence in September with a view to having ten pilot travel plans agreed and implemented by Summer 2001. If successful the plan is to then roll out Travel Plans progressively during 2001-3. The Walking Bus is being piloted at ten schools in the county; again it is intended to learn the lessons from the pilots and then roll out the walking bus during 2001-3.

15.3.13 Lincolnshire's approach to the school journey is both innovative and practical. Resources are being targeted to maximum effect and low cost high return solutions are being sought wherever possible. The implementation plan detailed above is a continuation of this strategy, which has gained recognition from DfEE and STAG for its creativity and realism.

15.4 ROAD USER CHARGING AND WORKPLACE PARKING LEVY

15.4.1 The Transport Bill currently before Parliament, includes powers to enable authorities to tackle congestion by introducing road, user charges and/or a levy on workplace parking. This develops proposals set out in the Governments Transport White Paper and the consultation document "Breaking the Logjam" (December 1998). Central Government see these as tools to help support LTP objectives in two ways: they can help to manage traffic and tackle congestion; and they can create a new and additional income stream to help fund improvements to local transport provision and improving transport choice. Proposals on the workplace parking levy must have regard to local conditions and act on local congestion - schemes will have to be approved by the Secretary of State to see that they do so. "Breaking the Logjam" suggests that road user charging could have a role to play in rural areas during the tourism season on congested roads and/or tourism "hotspots".

15.4.2 Currently Central Government is working with twenty-five authorities, who are actively considering either or both these measures, through the Charging Development Partnership. In the last LTP settlement, an extra £18m pounds was made available to those local authorities who were looking to pursue road user charging or workplace levy schemes to help improve public transport, etc., ahead of their introduction. The experiences gained through the Charging Development Partnership will be made available to all local authorities, but this is unlikely to be available until later in 2000.

Road User Charging

15.4.3 The County Council's current view is that road user charging is unlikely to be appropriate in Lincolnshire for the foreseeable future. The levels of congestion are not considered severe enough by national standards to warrant the introduction of road user charging. In addition, there are real concerns that the introduction of road user charging would effect the economic viability of the urban areas, if charges were not being introduced in competing towns.

15.4.4 In the meantime, the County Council will continue to monitor the results of the pilot schemes currently being undertaken elsewhere in the country.

Workplace Parking Levy

15.4.5   Charging workers to park at their place of work is seen by Central Government as an important tool in reducing the level of commuting. However, this type of measure will be more acceptable if measures are in place to encourage the use of public transport or cycling, before such charging is put into place. With the resulting reduction in the number of parking spaces required, alternative uses of these areas of car parks can be found.

15.4.6   As with Road User Charging, the current view in Lincolnshire is that the introduction of a workplace parking levy is unlikely to be appropriate in the county for the foreseeable future. Before the County Council commits itself to developing specific policies in this area, it will await the results of the national pilot studies currently being undertaken.

15.5 AIRPORT SURFACE ACCESS

15.5.1   Airports which generate more than 1000 air traffic passenger movements per annum are required to establish an Airport Transport Forum and draw up a Surface Access Strategy which sets targets for increasing the proportion of journeys made to the airport by public transport, cycling and walking.

15.5.2   There are at present no qualifying airports which lie within the County itself. Humberside International Airport however, which lies immediately adjacent to the County boundary at Kirmington, is an expanding regional airport. Ownership of the airport transferred to Manchester Airport plc last year.

15.5.3   A preliminary meeting was held last year to discuss the arrangements for establishing an Air Transport Forum (ATF) to prepare an Airport Surface Access Strategy (ASAS). The Forum has now been formally established and work is due to commence on preparing an ASAS.

15.5.4   North Lincolnshire Council, North East Lincolnshire Council, West Lindsey District Council, Railtrack, Stagecoach, as well as Lincolnshire County Council and the Airport Operator are represented on the Humberside International Airport ATF. The makeup of the ATF is fluid and representatives of other organisations could be brought in at a later date. It is also proposed to establish a number of smaller working groups to discuss specific topics which will then feed the work into the Forum.

15.5.5   The Forum will examine ways of encouraging both passengers and staff using the airport to arrive by modes other than car. As a member of the Forum the County Council will provided advice on those transport matters which relate to Lincolnshire as appropriate.

15.5.6   Discussions have also been held with the developers of a proposal airport at the former RAF Finningley airbase near Doncaster. Again, the site is not within Lincolnshire but does lie alongside the Lincoln - Gainsborough - Doncaster rail line. Early proposals include the provision of a new rail station at the airport, which may have benefits for passenger services along the line. In addition, rail freight facilities may also be provide at the site. However there are still various statutory procedures to be overcome before the proposals progress further and the County Council will continue to monitor the position.

16 Transport and Disabled People

16.1 ISSUES

16.1.1   The County Council recognises the accessibility problems faced by the disabled and is keen to promote safe and independent travel for those with mobility problems. To this end, the County Council will ensure that all transport schemes and measures which it introduces do not conflict with the needs of the disabled and that, wherever possible, local transport infrastructure is improved to their benefit.

16.2 CONSULTATION

16.2.1   In developing the Local Transport Plan, the County Council has consulted with various groups representing the views of the disabled, in particular the Lincolnshire Access Forum. In addition to the strategic level, it is also important that the needs of the disabled are taken into account when considering possible transport improvements.

16.2.2   The Lincolnshire Access Forum have also been involved with the development of the InterConnect bus initiative, where they are a member of the steering group. Further discussions are also taking place through the Rural Transport Partnerships involving voluntary organisations, community transport operators, etc. The County Council also liaises with bus operators on their investment plans for low floor buses around the county.

16.2.3   The County Council routinely consults with various representative groups when taking forward schemes. For example, in the case of large town centre traffic management schemes such as pedestrianisation or one-way systems, groups representing the handicapped and visually impaired are asked for comments on the proposals. Similarly, in the case of new cycleways or the conversion of existing rural footways to shared use, the views of local visually impaired organisations are sought. This consultation will continue as individual schemes are taken forward within the Local Transport Plan.

16.3 IMPROVING TRANSPORT CHOICES FOR DISABLED PEOPLE

16.3.1   Accessibility to public transport can be a major problem for the disabled. In the past, this gap has primarily been met by dial-a-ride services. However, there are now increasing numbers of low floor buses operating in the county, which, combined with new accessible stops, are providing another alternative. Whilst the growth of both these services is encouraging, there remain parts of the county where the level of coverage or provision remains poor or non-existent.

16.3.2   Dial-a-ride services currently operate in the Greater Lincoln, Boston, Kesteven (Sleaford) and Alford/Mablethorpe areas. These services, using accessible vehicles, are operated by charitable bodies in the case of Lincoln and Kesteven, the British Red Cross (on behalf of the County Council) at Alford/Mablethorpe and a private operator in Boston. The County Council is keen to encourage and support such schemes and provides financial support along with other local authorities and a variety of other sources, including the Countryside Agency and European funds.

16.3.3 The County Council is also aware of the problems faced by the disabled in accessing local bus services across Lincolnshire. This problem is exacerbated by the large number of coaches employed on such services in the county, with their high entrance step followed by several more steps, and the high average age of the bus fleet. The Disability Discrimination Act requires service providers to make their services available to disabled people. Regulations expected by the end of the year will require all new full size single deck and double deck buses to be fully accessible by 2016 and 2017 respectively. The original proposals for taxis are currently being reviewed and consultation on final proposals is expected shortly. All new trains entering service since 1 January 1999 have had to comply with the accessibility requirements set out in the Rail Vehicle Accessibility Regulations, which came into force on 1 November 1998.

16.3.4 The problem of access to bus services is starting to be addressed, as investment levels in new vehicles by some bus operators has risen steadily in recent years. Low floor buses now operate in Lincoln (on routes to the Ermine and Birchwood), in Grantham (on routes to Alma Park) and in Skegness, both on the coastal strip and on routes serving the Beacon Park area. More low floor buses are planned for introduction in Lincoln and Spalding this year. To support this investment by the operators, the County Council has constructed accessible raised kerb stops at key locations, including Lincoln Bus Station and on the route serving the Ermine in the north of Lincoln, and is also looking to introduce further accessible stops in Skegness on routes serving Beacon Park and as part of works on Roman Bank and Lumley Road.

16.3.5 As a result of the £1.2m awarded under the Government's 1998 Rural Bus Challenge, the County Council, in partnership with operators, is implementing the "InterConnect" service between Lincoln and Skegness. The strategy behind the project is based upon strengthening services along the primary route and providing feeder services to connect into key intermediate hubs, with quality interchanges, through-ticketing and improved shelters and information. A key objective was to increase accessibility to public transport for the disabled and, as mentioned earlier, the Lincolnshire Access Forum is a member of the InterConnect steering group and has provided invaluable advice in the development of the schemes. Elements of the overall package which are aimed directly at disabled users include :

- low floor buses on alternate services along the A158
- accessible stops with raised kerbs at key points in the network
- accessible services on five feeder routes using minibuses with tail-lifts
- appropriate bus shelter design with wheelchair users in mind
- driver training on disability awareness

16.3.6 Issues of disabled access and facilities at railway stations throughout the county have been taken into account during the planning of work being carried out under Railtrack's Station Regeneration Programme (SRP). A particularly good example of this is the improvement work at Wainfleet station. Since its original opening, the platforms had been lower than standard height, entailing the use of steps for boarding trains. As part of SRP, Railtrack have raised the platforms to the standard height, allowing level boarding of trains. Also, a disabled space has been marked out on the newly-surfaced car park, and a ramp leads from the car park to the platform. In addition, Central Trains have introduced a "Portaramp" system which provides easier access to trains for disabled people. This is now in operation on all trains operated by that company.

16.3.7 The County is also aware of the problems experienced by the disabled in obtaining public transport information. Large print timetables are issued by request to those with visual disabilities and, as part of the InterConnect 6 project, the Council is working with MAKATON on the use of its touch cards with symbols together with sigh language to assist the hard of hearing and those with learning difficulties.

16.4 CAR PARKING FOR DISABLED PEOPLE

16.4.1 Whilst improvements are being made to ensure that public transport is accessible to disabled people, it must be recognised that for many, the private car will remain the only viable way of getting around. For these people, the provision of sufficient, well designed and appropriately located parking is important.

16.4.2 Whilst the provision of off-street parking for the disabled is the responsibility of the appropriate District Council, it is the County Council as highway authority which is responsible for on-street parking

provision. Such spaces are promoted where they can be safely accommodated and in the most appropriate locations so that full and proper use can be made of them. This can be achieved in the LTP process by considering the disabled motorist at the design stage of highway schemes and by early discussion with developers.

16.4.3   The Council is also keen to include parking for the disabled within the town centre enhancement schemes it carries out, often jointly with District Councils. Recent examples of this include:

- in Tattershall, where 2 spaces for the disabled have been incorporated into the scheme
- in Market Deeping, where the proposed enhancement in the Market Place will include 3 disabled spaces where currently there is no provision.
- in Skegness, where proposals for the Lumley Road Enhancement Scheme include the provision of some 6 dedicated spaces for the disabled where currently none exist.

16.4.4   In addition the County Council, in conjunction with the District Councils, is currently reviewing its Car Parking Standards, which set out the level of parking to be provided at new developments. As part of this review, it is likely that for the first time the Standards will also set out the appropriate numbers of spaces to be provided for the disabled, along with guidance on their dimensions.

16.4.5   Finally in relation to car parking and the disabled, the County Council is aware that there are currently problems surrounding the issuing of Blue (formerly Orange) Badges, their mis-use and the enforcement of disabled parking bays. This will be looked at in due course as part of the partnership working process within the LTP with Social Services and the Police.

16.5 MEASURES TO ASSIST MOBILITY

16.5.1   Mobility problems for the disabled are also caused by the inappropriate design of infrastructure schemes or the lack of suitable facilities such as dropped kerbs and tactile paving. Intelligent design of the pedestrian environment incorporating appropriate measure can greatly improve the opportunities for independent mobility for the disabled.

16.5.2   Some of the specific measures which have or are being pursued include:

- the installation of tactile paving, audible bleep system and/or rotating cones (where appropriate) at all new signal installations and at older signals as part of an ongoing maintenance programme.
- installation of measures to assist the disabled as part of ongoing general maintenance programmes where the opportunity arises, including dropped kerbs and tactile paving where these do not exist.
- appropriate design for cycleways including tactile white lines to separate shared, segregated facilities and tactile paving where facilities intersect.

16.5.3   To ensure that the problems faced by the disabled are understood, seventeen staff from the County Council's Highways and Planning Directorate involved in various aspects of highway design and maintenance attended a one day seminar promoted by the Joint Mobility Unit in February 1998. The seminar raised awareness of the issues involved and provided technical advice on how to avoid such problems by intelligent design. It is intended that a similar course for other staff members will be run this year.

16.6 IMPLEMENTATION

16.6.1   In implementing the Full Local Transport Plan, the County Council will continue to work closely with organisations representing the disabled.

16.6.2   During the Local Transport Plan period, the County Council will be looking to improve access to transport for the disabled through a number of schemes including :

- Dial-a-ride schemes for the Skegness, Grantham and Gainsborough areas
- the extension of the "InterConnect" strategy to other primary routes in the county
- the development of Quality Bus Partnerships with operators, including the provision of accessible low floor buses, raised kerbs at bus stops, driver training and appropriate information
- the provision of infrastructure to support the Lincoln City "Shopmobility" scheme once a new location has been decided by Lincoln City Council
- the development of schemes through the Rural Transport Partnership programme, including transport brokerage, mini bus driver training, etc.

16.6.3   The needs of the disabled will continue to be considered in developing other transport schemes across the county.

17 Transport and the Environment

17.1 AIR QUALITY

Issues

17.1.1   Despite considerable improvements in air quality over the last forty years, air pollution continues to affect human health, the natural environment and the built environment. The Government is anxious to address this problem and aims to provide a clean and safe environment for everyone including the air which people breathe.

17.1.2   The statutory framework for air quality management in the UK is set down in Part IV of the Environment Act 1995. This Act requires the Government to produce a national air quality strategy containing Standards and Objectives. The first national strategy was published in 1997 and the revised Air Quality Strategy for England, Scotland, Wales and Northern Ireland - Working Together for Clean Air - was published in January this year.

17.1.3   The National Air Quality Strategy sets out how human health and the environment can be protected by reducing pollution. It deals with eight pollutants that are known to be harmful to humans and sets out Air Quality Objectives (pollution levels) for seven of these which are to be achieved by a target date (either 2003, 2004 or 2005 depending upon the pollutant). Some of these national Objectives are likely to be achieved through measures which have already been put in place. For example, the Objective for carbon monoxide (where petrol engined vehicles accounted for 75% of all emission in 1997) is likely to be met through new emission limits and fuel quality standards already agreed for cars, light vans and lorries, despite forecast traffic growth. However, there are other Objectives which are more challenging and will require further action both nationally and locally.

17.1.4   The Environment Act 1995 also laid the foundations of a nation-wide system for improving air quality known as Local Air Quality Management (LAQM). Part IV of the Act requires local authorities to periodically review air quality in their area and to assess whether future air quality will meet the Objectives set out in the National Strategy. In two tier authorities such as Lincolnshire, the statutory responsibility to carry out this review lies with the District Councils. However, both the Act and the National Strategy recognise the importance of the inter-relationship between district and county councils and, in particular, the crucial role that county councils have to play as highway authorities.

17.1.5   The Local Air Quality Monitoring system comprises a three step process :

i   local authorities review and assess air quality within their areas (a technical process) to determine whether the statutory air quality objectives for each of seven key pollutants are likely to be met on time

ii   where a local authority concludes that one or more of the objectives are unlikely to be achieved, it must declare an Air Quality Management Area.

iii   the local authority must then draw up an action plan setting out how the objectives will be achieved within the Air Quality Management Area.

17.1.6   In Lincolnshire, the work to assess air quality across the county has been undertaken by an environmental consultant under the supervision of the Lincolnshire Pollution Liaison Group, the membership of which comprises representatives of the seven Districts in the county. Because of the close links with transport, the County Council has been represented on the group whilst the review and assessments has been ongoing.

17.1.7   The assessment of air quality is carried out in 3 stages. Stage 1 is very much a desktop study looking for areas which may have the potential to experience elevated levels of pollutants. In the case of traffic, this requires roads with predicted levels of traffic which could generate significant quantities of pollutants to be identified. The Stage 2 assessment is a screening exercise, whereby areas identified in Stage 1 are looked at in more detail and estimates of future air quality made through either coarse modelling or measurement of pollutants. If the levels are predicted to exceed the Objectives, then a detailed and accurate Stage 3 assessment is carried out using appropriate monitoring, modelling and emissions inventories.

17.1.8   The Stage 2 assessments were completed in May this year and the following locations in Lincolnshire have been identified as potentially not achieving the national air Quality Objectives due to traffic-related emissions (primarily NO2) :

Boston Borough
• around the Liquorpond Street/Spalding Road/Haven Bridge signalised roundabout • around the Haven Bridge/John Adams Way/South Square/South Street signalised junction
East Lindsey
• around the Ship Hotel crossroads, Skegness • around the Skegness Gyratory (Wainfleet Road/Berry Road/Lincoln Road/Lumley Road)
Lincoln City
• along the Canwick Road/Broadgate/Lindum Hill corridor • at the Newland/Carholme Road/The Avenue signalised junction • at the West Parade/Yarborough Road junction
North Kesteven
• adjacent to the A46 Lincoln - Newark trunk road
South Holland
• adjacent to A17/B1168 roundabout, Holbeach • adjacent to A17/B1359 roundabout, Sutton Bridge
South Kesteven
• around the North Street/West Street/Scotgate signals, Stamford • around the East Street/St Paul's Street/Brazenose Lane signals, Stamford • in All Saint's Place, Stamford • adjacent to the A1 at Grantham (Harlaxton Road and Meres Road), Foston and Colsterworth • around St Peter's Hill, Grantham • around Wharf Road Roundabout, Grantham • around Barrowby Road/Inner Relief Road roundabout, Grantham • at Grantham Bus Station (also PM10) • around the A15/A151 signals in the centre of Bourne and along North Street
West Lindsey
• no sites identified

Strategy

17.1.9   Work is now in hand to carry out Stage 3 assessments at these locations to confirm whether or not the national Objectives will be breached. If this is the case, Air Quality Management Areas will then be declared by the relevant District Council and the necessary Action Plans drawn up, in partnership with the County Council.

17.1.10   The County Council has set the following air quality target :-

> **ENT1- *To ensure that the national Air Quality Objectives are met at locations in Lincolnshire which are declared as Air Quality Management Areas due to emissions from road traffic following assessment under the Local Air Quality Management system.***

17.1.11   As discussed in paragraph 17.1.9 above, the extent to which the national Air Quality Objectives will not be met across the county will not be known until the results of the Stage 3 assessments are available.

Implementation

17.1.12   If the Stage 3 assessments confirm that the Objectives are unlikely to be met at certain locations due to traffic emissions, then the County Council will work closely with the appropriate District Council to develop Action Plans for the declared Air Quality Management Areas. This will include consideration of the measure set out in the DETR's Local Air Quality Management Guidance Note G3(00) - Air Quality and Transport.

17.2 NOISE

Issues

17.2.1   Within a predominantly rural county such as Lincolnshire, ambient noise levels are general low, with the main sources of noise being domestic properties, industrial/commercial premises, airfields, entertainment, road traffic and agricultural machinery. The monitoring of noise and action against noise nuisance is undertaken by District Council Environmental Health departments. Neighbourhood noise results in the greatest number of complaints, with traffic being a relatively minor concern. Road surface noise also effects inhabitants of urban areas in particular, and levels are set to rise as traffic flows increase. Although noise levels in the county cannot be described as posing a significant environmental threat, it is a growing phenomenon, probably due to the trend in society of people becoming less tolerant.

17.2.2   Since ambient noise levels in the rural parts of the county are generally low, any new source of noise can be very noticeable locally. HGVs are a particular cause of concern, especially during the early morning and late evening. There are also possible noise issues arising from Railtrack's proposal to route freight trains along the Doncaster-Peterborough joint line through the county, which will include longer operating hours on this line than at present.

Implementation

17.2.3   If traffic levels are allowed to grow in the County over the next few years, it is likely that the frequency of traffic related noise complaints will also increase. These will probably be focused on the busiest urban areas where the impact of noise and other environmental problems is at its worst. The development of wide ranging initiatives to reduce peak hour traffic flows and to restrict peak hour congestion under the Community Travel Zones initiative as described earlier in this document, will help to decrease ambient noise levels in sensitive urban locations.

17.2.4   Similarly, in the more rural part of the county, the proposals to develop HGV routeing strategies as part of the Rural Priorities Initiative will remove HGVs from some villages, thereby reducing noise levels. In addition, the proposed major schemes within the Local Transport Plan - the A1073 Improvement and the A158 Coastal Access Improvement - will noticeably reduce noise levels within the communities that are bypassed by the schemes.

17.2.5   The County Council is also increasing the use of new thin surfacing material and other high performance treatments in appropriate locations. As well as reducing spray, these materials reduce traffic noise at the roadside, bringing benefits to nearby residents.

Issues

17.3.1   There is world-wide concern about the impact that rising levels of greenhouse gases are having on the environment. The most significant of these greenhouse gases in the earth's atmosphere is carbon dioxide (CO_2). This is a major contributor to global warming/climate change, the eventual impact of which, if not halted, could be catastrophic. In the UK, transport in general is the third largest source of CO_2 emissions, in particular those from road transport. Perhaps more worryingly, it is the fastest growing source, with ever increasing numbers of vehicles on the nation's roads.

17.3.2   The UK Government has set a goal of reducing CO_2 emissions to 20% below 1990 levels by 2010 as part of its Climate Change Programme. The Government's key strategies for meeting the target include:-

- improving business' use of energy
- stimulating new, more efficient sources of energy
- promoting better energy efficiency in the domestic sector
- continuing the fall in emissions from agriculture and forestry
- cutting emissions from the transport sector

17.3.3   As part of the last point above, the Government is also looking to local authorities to implement strategies in their Local Transport Plans which will contribute to achieving the overall national CO_2 emission target.

Strategy

17.3.4   In Lincolnshire, the County Council is conscious that the threat of global warming could have serious implications for large areas of the county. In 1995, the Council drew up a State of the Environment report as part of its Local Agenda 21 remit. The report highlighted the fact that Lincolnshire is particularly vulnerable to global warming through a predicted rise in sea level and the possible inundation of the coastal belt. In addition, because it is one of the drier parts of the country, the character of the county could be significantly changed if global warming resulted in reduced levels of rainfall.

17.3.5   The State of the Environment report concluded that there was relatively little that Lincolnshire could do to arrest global warming, since the county was not a significant producer of carbon emissions. Notwithstanding this, the report recommended that measures to reduce reliance on road transport should be pursued, as vehicle emissions in the county were the largest single source of CO_2.

17.3.6   In the period since 1995, Local Agenda 21 initiatives in the county have been promoted by an Environment Forum comprising representatives from local authorities and other interest groups. Transport issues in particular have come under the auspices of a development sub-group, which has focused attention on the role that can be played by transport in meeting the Government's target of CO_2 reduction. The Local Transport Plan will now assume the key role of delivering the physical measures on the ground which together will have a quantifiable impact on CO_2 levels over the next 5 - 10 years.

Implementation

17.3.7   It is legitimate to say that the majority of proposals in the county's Local Transport Plan will have limited impact in the short term on overall levels of CO_2 in the atmosphere. This is particularly the case in the Rural Heartlands, where existing levels of CO_2 are highly dependent on factors outside of the County Council's control e.g. the weather.

17.3.8   However, implementation of the strategies for the Major Urban Areas and the Large Market Towns in pursuit of the targets set under the National Road Traffic Reduction Act as outlined elsewhere in this document, will deliver measurable benefits in terms of reduced congestion and hence lower levels of CO_2 emissions from transport in these locations.

17.4 GREENER FUELS

Strategy

17.4.1   The County Council is actively pursuing a definitive policy on using cleaner fuels in its vehicle fleet, and is involved in a number of working groups which are investigating its use. At present, the County Council is :-

- assessing the use of low-sulphur diesel and LPG fuelled vehicle
- reviewing the viability of electric vehicles for city use
- introducing the use of additives which are claimed to significantly reduce emissions into its vehicle fleet, starting with the Fire Brigade, Materials Laboratory and Mobile Library Service.

17.4.2   In addition, it is intended that the new flexi-feeder services on Spalding-Kings Lynn and Lincoln-Boston InterConnect services due to be introduced following the successful Rural Bus Challenge bid will be dual fuel (LPG/petrol).

17.4.3   Progress is being made elsewhere in the county :

- the recently introduced Mablethorpe and Alford Dial-a-Ride vehicle is dual-fuel, running on both unleaded petrol and liquid petroleum gas (LPG)

- a number of operators in the county are running their fleets using ultra-low sulphur diesel and the Council through its Operators' Liaison Group is encouraging this to be adopted more widely.

- the Lincoln open top tour buses operated by Lincolnshire RoadCar are run on LPG.

However, the uptake of vehicles fuelled in part or whole by LPG is being hampered by the lack of refuelling facilities across the county. There are currently only 3 such facilities available to motorists.

Implementation

17.4.4   The County Council will continue to appraise the benefits of cleaner fuel technology and if appropriate, will develop a policy for its use throughout its transport fleet operation.

17.5 MATERIAL REDUCTION, REUSE AND RECYCLING

Reduction

17.5.1   The County Council has adopted several "saving through design" strategies to reduce the quantity of aggregates required in road construction, such as:

- incorporating geogrid reinforcement in the road foundation, saving up to 30% granular material (LCC Development Road Specification)
- replacing some of the granular sub-base in the design with bituminous material, reducing overall construction thickness by up to 30% (LCC Development Road Specification)
- eliminating all the granular foundation by using a "total asphalt" design, resulting in up to 70% reduction in overall thickness (LCC Maintenance Design Manual)
- incorporating existing pavement materials into the new design (e.g. incorporating existing granular material into the foundation)
- reinforcing roads suffering drought damage by incorporating a steel mesh, as a means of reducing the requirement for routine maintenance.

Reuse And Recycling

17.5.2   Initiatives being pursued by the Partnership Re-Use Group (a group established between the County Council and the County's Term Maintenance Contractor) include:

- the reprocessing of materials arising from general highway maintenance works to produce granular sub-base. The partnership produced 10,900 tonnes of sub-base throughout 1999/2000 for reuse in maintenance work. It has resulted in a financial benefit to the County Council. This followed a successful trial in February 1999.

- a trial of a cold mix binder process, known as foamed bitumen, as an alternative to hot mix production. An initial 1000 tonnes of foamed bitumen material was produced during May 2000 incorporating the reprocessed granular material. It was used as a substitute for hot mix bituminous basecourse in carriageway and footway structural repairs. The Materials Laboratory is monitoring the material's performance.

- the completion of an in-situ recycling contract where the existing carriageway was pulverised and subsequently stabilised with foamed bitumen binder.

17.5.3   The County Council uses the following recycling materials in highway construction:

- aggregate from processed blast furnace and steel slags
- crushed concrete from disused airfields and industrial sites
- railway ballast blended with recycled concrete
- bituminous planings blended with crushed concrete
- reprocessed material from highway term maintenance works.

17.5.4   The County Council's Materials Laboratory is investigating the potential for replacing up to 10% of a mix with recycled and reclaimed bituminous material in road surfacing work, through trials with RMC Ltd. and Hanson Aggregates. In addition, a trial is under way with RMC Ltd to assess the effects of increasing the amount of reclaimed bituminous material used in surfacing above 10%. The Materials Laboratory has also assessed a significant number of new potential sources of crushed concrete during 1999/2000. The majority are now producing materials suitable for use in highways construction.

Implementation

17.5.5   The County Council will continue to encourage the use of secondary and recycled materials in County highways work as a way of reducing over a period of time the reliance placed upon traditional land won sources. This stems from objectives within Minerals Planning Guidance Note 6 issued by the Government, which commends local authorities to make greater use of waste and recycled materials in road construction projects to assist with the concept of sustainable development.

18 Freight Movement

18.1 INTRODUCTION

18.1.1 The Government published the Integrated Transport White Paper daughter document "Sustainable distribution : a strategy" in April 1999. It set out guidance for developing a distribution system which supports a growing economy while reducing accidents, environmental damage, disturbance and congestion. The Council's proposals to support this national strategy are set out in the following sections.

18.2 ROAD FREIGHT

18.2.1 The ease of movement of goods into, out of and within the county is vital to Lincolnshire's economy. The County Council recognises that for the time being, road freight will continue to be the predominant mode within the county. However, the consultation carried out during the preparation of the Provisional LTP proved that there is local concern about the adverse effects of HGVs both on the environment and on communities. Hence, the Council will continue to look for ways to attract some freight movement to alternative modes of transport, such as rail or waterway. In addition the Rural Priorities Initiative will incorporate measures to route HGVs onto the most appropriate roads. This is explained further in Section 14 of the Plan.

18.2.2 The County Council believes that Freight Quality Partnerships (FQPs) will provide opportunities to work with the industry and those affected by HGVs and to draw up agreed strategies that enable businesses to operate effectively whilst minimising the negative effects of their operations. It is proposed to set up a pilot FQP in conjunction with a Community Travel Zone before extending the approach to other urban areas. Consideration will also be given to setting up FQPs in the rural areas that are most affected by HGVs.

18.2.3 The movement of freight is considered most important in the south of the county, where the food industry is pivotal to the economy of that part of Lincolnshire. A crucial factor in the continued growth and sustained competitiveness of the food industry is the food supply chain. For the most part, this is heavily dependant upon the road haulage industry, which offers the flexibility to meet the time-scales set by major retailers, and has already invested heavily in refrigeration vehicles and warehouse and coldstore facilities. The proposals for Boston and A1073 detailed elsewhere would provide infrastructure to deal with this traffic and in the case of Boston to integrate rail, road and sea transport to assist in the transfer of freight from road.

18.2.4 The Council is a founder member of a sub-regional freight forum which comprises; Peterborough City Council, Norfolk County Council, Cambridgeshire County Council, Rutland County Council, Leicestershire County Council, Northamptonshire County Council, GOEM, GOEAST, and Highways Agency. There are a number of cross authority issues relating to freight. As the forum progresses, membership is being expanded. The Road Haulage Association and Freight Transport Association now attend, and membership will be extended to the rail freight operators in the near future. The Council would like to see the forum develop into a regional freight quality partnership in the longer term.

18.2.5   The forum's terms of reference are to:

-        disseminate best practice in the freight management field

-        allow early discussion of cross boundary issues

-        provide input into regional strategies

-        be an overarching group for local freight quality partnerships

18.3 RAIL FREIGHT

18.3.1   Currently, rail freight provides only a small proportion of freight movements within the County. However, there is great potential for expanding the use of rail freight in both the national and local contexts. Existing rail freight facilities in Lincolnshire are as follows:

- Boston Docks steel handling terminal, where imported steel is transferred to trains for transport to a terminal in the West Midlands;
- Reepham onshore oilfield

18.3.2   Two other facilities which are currently out of use are the "Pentex" oil handling terminal at Gainsborough, and the sidings at Grantham station where a mobile "reach-stacker" has been used in the recent past to load and unload wagons. Although now taken out of use, this demonstrated how easy it can be to set up a very simple rail freight handling facility with minimal infrastructure.

18.3.3   The main national freight train operating company, English Welsh and Scottish Railways (EWS), has ambitious targets for tonne-miles to double in ten years. To achieve this, they will have to expand the rail freight market into commodities which have not historically been regarded as suitable for commercially competitive carriage by rail, in addition to increasing the amount of existing traffic. One new market with much potential is the carriage of goods from the food production/agricultural/perishables sector. A significant proportion of road freight movement in Lincolnshire is from this sector, particularly in the south of the County.

18.3.4   The 'Joint Line', which runs from Doncaster to Peterborough via Lincoln, Sleaford and Spalding, passing through the midst of the agricultural production and processing area, is extremely well-placed to carry this trade. The line currently has much unused capacity, but there are issues working against a switch from road to rail freight:

- the condition of the track and signalling infrastructure;
- a 'single-shift' eight hour operating day between Sleaford and Spalding;
- lack of loading/unloading facilities;
- high start-up cost of freight operations;
- competitiveness of road freight;
- confidence of the local industry to meet its operational needs, such as just-in-time delivery

18.3.5   Railtrack is currently progressing plans for a massive capacity upgrade of the East Coast Main Line rail route, for the following reasons:

- the East Coast Main Line is approaching maximum capacity for train paths — much of it has only one track in each direction through the region;
- more and more timetabling conflicts are arising between high speed 125mph passenger trains and freight trains travelling at 75mph, yet there is growing demand for more of both;
- freight trains are often having to be looped into sidelines to wait for passenger trains to overtake, thus increasing freight transit times and decreasing their efficiency and cost-competitiveness.

18.3.6   To alleviate this problem, Railtrack plan to upgrade and use parallel routes for freight trains. This will give more freight train paths, and more passenger train paths on the main line. One of these parallel routes for accommodating freight traffic is the Lincolnshire Joint Line. Planned upgrading work to allow this includes:

- improving the quality of track, allowing heavier freight trains;
- increasing the line speed, allowing faster transit times;
- 'double-shift' working of manual signal boxes and level crossings between Sleaford and Spalding, allowing a longer operating day.

18.3.7   These improvements should allow this route to move freight trains between Peterborough and Doncaster as quickly as the East Coast Main Line does currently. More importantly for Lincolnshire, they should improve the potential for viable rail freight terminal facilities to be introduced on the line, even if on a modest scale. Search zones for potential locations for such sites are shown in Figure 9.1. The County Council is aware of the positive regenerative and economic development effects that such facilities can bring to local economies, and wishes to bring the best possible advantage from this to the areas concerned.

18.3.8   Although there are obvious benefits for rail freight in the county brought about by Railtrack's plans for the Joint Line, there are still concerns regarding the impact that increased numbers of freight trains will have on vehicles and pedestrians in certain locations due to longer closure times at level crossings. This is particularly so in Lincoln and Spalding, and also on the A16 at Deeping St Nicholas. There are further concerns regarding the environmental impact in terms of increased noise and longer operating hours. The County Council will continue to discuss with Railtrack and other interested parties, ways in which these impacts may be ameliorated.

18.3.9   The County Council has taken up a lobbying and advocating role with respect to developing rail freight. Potential opportunities for the development of new facilities are being actively sought in partnership with District Councils, EWS, Railtrack and the Training and Enterprise Council. One of the problems in attracting new traffic to rail freight is lack of knowledge in industry about what rail can now offer in terms of flexibility and competitiveness. To counter this, the County Council and North Kesteven District Council are to run a seminar for local businesses to meet with EWS and hear what rail freight can now do for them, as well as hearing the views of these industries as to what they are needing to transport to where, and what facilities could best be provided to serve them.

18.3.10   The County Structure Plan (Deposit Draft), in its policy on freight, states that:

"Provision will be made to limit the environmental impact of freight movement by encouraging a shift from road borne freight movement to movement by rail...; and by allocating, and/or favourably considering proposals for freight handling and transfer facilities, particularly those that would make use of movement by rail."

18.3.11   Therefore, the County Council will work with its partners to:

- bring together interested businesses into partnerships of suitable composition to work together to initiate shared railfreight facilities (this is one of the aims of the above-mentioned seminar);
- identify suitable sites within the County for such facilities;
- maximise the grants available to encourage rail freight developments.

18.3.12   A case in point is the lack of any suitable rail freight facility for industry in the Lincoln area. The approach being developed in the Eastern Growth Corridor, as part of the Lincoln Eastern Bypass Phase I, would open up land for development adjacent to the Lincoln-Grimsby rail line which could be well-suited to a rail freight facility well-served by both rail and road. European and Freight Facilities Grants may be available to help offset the start-up costs. The County Council will actively explore possible options.

18.3.13   At Boston Docks, a freight facilities grant has already been received, allowing the installation of the necessary infrastructure to carry steel from ship to train. There is also considerable potential for expansion, in terms of the total cargo handled and the amount and type of freight which could be carried by rail. The County Council is assessing these opportunities as part of an overall investigation of how transport needs in Boston can best be addressed (see Regeneration Zones).

18.3.14 One of the problems affecting the development of rail freight from/to Boston Docks is the capacity of the rail line leading to it. Between Sleaford and Boston, there are two stretches of single track railway. Bearing in mind the need to keep the necessary train paths for the existing passenger service, it is very difficult for freight train operators to obtain paths at the times of day they need to meet their customers' requirements. The County Council also aspires to see improved passenger services on this line and will therefore take every possible opportunity to press the Strategic Rail Authority vigorously to invest in the necessary improvements to the line to increase its flexibility, capacity and reliability.

18.3.15 More generally, the County Council will continue to act as a point of information for industries interested in the possibilities for obtaining freight facilities grants, and help with the application process where appropriate.

18.4 PORTS

18.4.1 Lincolnshire's east coast ports at Boston, Sutton Bridge and Fosdyke are well placed to profit from their location facing continental Europe. The tonnage handled at each port during 1999 is shown in Table 18.1

18.4.2 At the Port of Boston, a total of 1,179,000 tonnes were handled (766,000 tonnes imported; 413,000 exported) during 1999, including almost 16,000 containers. The rail operation, re-opened in 1997 is currently handling 2 train loads of steel a week destined for the West Midlands. A new timber treatment facility opened in April 2000 and a new 50 tonne crane has recently been installed.

Table 18.1

Tonnages Handled By Wash Ports in 1999

Port	Tonnes
Port of Boston	1,179,000
Port Sutton Bridge	845,000
Fosdyke	40,000

18.4.3 Almost 500 ships were handled at Port Sutton Bridge during 1999, primarily bringing in steel and animal feeds and taking out wheat and barley, with smaller consignments of fertiliser, timber and sugar. In an effort to increase the capacity of the port, an upgraded crane has recently been commissioned and planning permission is been sought for the construction of additional warehousing.

18.4.4 At Fosdyke, where some 30 vessels were handled during 1999, the main import through the port continues to be fertiliser from Tunisia and the Baltic. Other cargoes through the port included fish meal from Iceland and potash from Teesside, the latter being brought by sea in favour of road.

18.4.5 The County Council recognises the importance of the Wash ports to the economy of that part of Lincolnshire and will continue to work with the port authorities and owners to secure their future. The proposed Boston Southern link will provide improved access to the Port of Boston for HGVs, whilst removing them from more sensitive areas of the town. The County Council is also keen to encourage further use of the rail facility at the Port of Boston, particularly where this would mean fewer HGVs on the roads.

18.5 WATER-BORNE FREIGHT

18.5.1 The network of navigable inland waterways in Lincolnshire comprises the Rivers Witham, Welland, Glen, Nene and Trent (which forms the Notts/Lincs boundary) and the Fossdyke navigation. Non-navigable waters in the county include the Grantham canal.

18.5.2 In terms of who does what on the County's waterways, the navigation authority providing facilities on the Rivers Witham and Trent from Nottingham to Gainsborough is British Waterways. The Environment Agency has similar responsibilities for the Rivers Glen and Welland.

18.5.3   It is only the River Trent which is used in any major way to transport freight by water, although none of this is currently loaded or off-loaded in Lincolnshire. The Trent is an arterial waterway which provides access to the Humber Ports, flowing along the Lincolnshire/Nottinghamshire border to Gainsborough and beyond. It has been used in the past to move heavy abnormal loads by barge to the Trent Valley Power Stations, thereby avoiding the congestion associated with transporting such loads by road. Minerals such as aggregates are also currently moved on the Trent and it is hoped that this will be part of a growing trend. At present, no freight is regularly moved along the Rivers Witham, Welland, Glen and Nene.

18.5.4   Although largely used for recreational purposes (e.g. boating and angling), the navigable rivers and canals in the County offer a network on the smaller waterways that may be capable of accommodating speciality niche movements. One possible opportunity put forward by British Waterways is the movement of household waste and the County Council will investigate this possibility with them. Similarly the County Council is keen to encourage the use of the River Trent for the movement of goods, where this would result in the transfer of freight from roads in the County.

19 *Detrunking*

19.1 BACKGROUND

19.1.1 As a result of the proposals contained in the Government's Transport White Paper, Lincolnshire County Council will take over responsibility for almost all the trunk roads in the County from 1st April 2002. The roads transferring are the A15 north of Lincoln, the A16, A17 and A57 throughout the County, together with short sections of the A43 between Stamford and the A1 and the A46 between its junction with the A57 and A15 on the Lincoln Western Bypass. It is possible that the short section of the A43 will be detrunked before April 2002. These lengths of road are shown in Figure 2.3 earlier in the Plan.

19.1.2 The proposed detrunking will result in a substantial increase in the length of principal road for which the County Council is the responsible highway authority. There are currently some 807 kms of non-trunk principal road in Lincolnshire. The length of road which it proposed to detrunk totals some 252 kms, representing an increase of almost a third.

19.1.3 It was hoped at the time of the Provisional Local Transport Plan in July 1999 that it would be possible to achieve detrunking in April 2000 by means of novation of the managing agent and term maintenance contracts for Highways Agency Area 13. Regrettably, despite significant work between interested parties including the Highways Agency and the County Council, it was not possible to find a formula which satisfied the commercial interests of all those parties involved in Lincolnshire trunk roads.

19.1.4 Despite this setback, discussions have continued with Highways Agency on a regular basis on all aspects of management of the virtually detrunked roads in Lincolnshire. The close working relationship is best illustrated by the joint working on Road Safety issues where not only have Highways Agency taken a key role in the County Council's Best Value review team but they have also joined in the Partnership which also involves the Health Authority and the Police in the creation of a single unit dedicated to Road Safety in Lincolnshire. Fuller details of this particular initiative are included within the Staying Alive section of this Plan.

19.2 FINANCIAL ISSUES

19.2.1 The County Council takes comfort from the assurances given by Ministers to a fair and equitable transfer of funding upon detrunking and will wish to assure itself that the following funding pots have all been transferred from the Highways Agency in fair proportion to current and predicted spend:

- Routine maintenance (revenue) - approximately £3m per annum. A satisfactory method of transferring these funds has been developed for the interim period until April 2002, pending the completion of the next comprehensive spending review. As April 2002 is the point at which the roads will transfer there is no certainty that the current formula will apply although it is anticipated that the formula after April 2002 is unlikely to be significantly different from the interim one.

- Capital maintenance - approximately £10m per annum. In the interim period before April 2002 these funds are transferred by special grants in the form of SCAs. It is anticipated that this will continue after April 2002 as this would be in line with the other capital maintenance on the Principal Road Network.

- Safety-related improvements - £4.5m in 2000/01, reducing to £2m in 2002/03. The Highways Agency are now only undertaking safety-related improvements on roads to be detrunked, funded from their Local Network Management Schemes budget. There is no mechanism for transfer of these funds agreed at present. Lincolnshire is pursuing this issue vigorously at a national level as it is one of particularly critical importance within this County, given the poor road safety record which exists at present. The substantial programmed spend on sizeable safety related schemes below the £5m threshold includes as the largest scheme, A16 Fotherby Bypass. This spend level will have to be maintained after detrunking if the accident reduction targets are to be met. It is worth noting that the fatality rate on Lincolnshire's county network is falling slightly but that the reverse is true on the trunk network.

- Major Improvements - Although no major improvements are planned for the network to be transferred there should be a transfer of funds for such improvements on a national basis from Highways Agency to Local Government so that the future equivalents of A16 Spalding to Sutterton or A17 Wigtoft - Sutterton can be funded. Again no mechanism exists for this transfer.

19.2.2   In summary, it may be said that as it costs the Highways Agency some £15m per annum for these roads then that sum should transfer to LCC on detrunking. This sum is therefore clearly identified in the Local Transport Plan as our expectation from April 2002. Lincolnshire County Council will not accept the transfer of the roads until suitable funding streams are agreed in the forms of increases in revenue budget for the routine maintenance with a hike in LTP settlement for the remaining elements.

19.3 SCHEMES AND STUDIES

19.3.1   There are no programmed Major schemes on the routes to be detrunked although historically schemes for an A16/A43 bypass for Stamford and dualling of sections of the A17 have appeared in Highways Agency programmes. Highways Agency are currently bidding for funds to undertake a study which may lead in due course to a scheme to bypass Swineshead Bridge on the A17 and the County Council supports this initiative.

19.3.2   The scheme for an A16 Stamford Bypass was withdrawn from the National Programme as a result of the July 1998 Roads Review. Lincolnshire County Council do not intend to pursue the scheme within this Local Transport Plan. Instead:

- an experimental HGV ban is due for implementation in Summer 2000

- a Major Scheme is included within this Local Transport Plan for improvement of the A1073 between Spalding and Eye upon completion of which it is intended to consider redesignating this route as the A16. The old route of the A16 from Stamford to Spalding would be downgraded, probably to a 'B' class road.

19.3.3   During the course of this Local Transport Plan the County Council will undertake studies on the detrunked roads, as well as the existing county roads, to determine the opportunities for making safety related improvements. Whilst the more minor improvements arising from this will be funded from within the Safety section of the Integrated Transport block allocation, any possible Major Schemes which arise will form the subject of bids in future Local Transport Plans. It is likely that safety-related improvements will include provision of overtaking opportunities, especially on the routes which have high traffic flows with high proportions of HGVs. Construction of climbing lanes is an example of the type of manner in which overtaking opportunities may be provided but it is readily recognised that the topography of the fenland areas is unsuited to climbing lanes. In these areas, localised dualling is likely to be a more suitable option.

19.3.4   The detrunked roads are being considered as part of the Rural Priorities Initiative as routes which are suited for use by HGV traffic, subject to the changes in status of the A16 outlined above. Because of the poor accident record on the A52 between Boston and Skegness it is intended, as part of the Coastal Access Regeneration Zone, to take measures which encourage the use by holiday traffic of the A16 north of Boston and the A158 to reach the resorts, rather than the A52.

20 Road Traffic Reduction Report

The Legislation

20.1.1   The Road Traffic Reduction Act 1997 (RTRA 97) requires local traffic authorities to prepare reports relating to the levels of road traffic in their area. Under the Act, the Secretary of State for Environment, Transport and the Regions is empowered to direct authorities as to the timing, and to some extent, the contents of the report. Reports must contain an assessment of 'local road traffic' together with a forecast of the growth in those levels. The reports should also contain targets for reducing absolute levels of traffic, or reducing the rate of growth in traffic levels. Authorities have the option of not setting targets for reduction in part or all of their area, should they consider them inappropriate.

20.1.2   The RTRA 1997 does not cover trunk roads and motorways, which remain the responsibility of the Department of Environment, Transport and the Regions (DETR). Following detrunking in Lincolnshire, which is scheduled to take place in 2002, the A1, the A52 west of Grantham and the A46 from Lincoln to Newark will remain part of the national core trunk road network. The remaining routes in the existing network i.e the A15 north of Lincoln, the A57 west of Lincoln, the A16 and the A17 will come under the jurisdiction of the Act at that time.

20.1.3   The Secretary of State is required by the Road Traffic Reduction (National Targets) Act 1998 (RTRA) to set targets for road traffic reduction in England, Wales and Scotland, unless he considers that other targets, or other measures, are more appropriate for the purpose of reducing the adverse impacts of road traffic. He is required by the Act to explain his reasoning in such circumstances. Accordingly, in choosing not to set a national traffic reduction target, the Government published a report entitled 'Tackling Congestion and Pollution' in January 2000.

20.1.4   In that report the Government emphasises the fact that it is not setting a traffic reduction target nationally and that the key issue is 'outcomes such as congestion and pollution'. The Government indicates that it wishes to explore 'area-based benchmark profiles for congestion' but will continue to use the national level of road traffic as a key indicator as well. Congestion benchmarks could be 'for particular types of area or road'.

This Report

20.1.5   An Interim Road Traffic Reduction Report for Lincolnshire was submitted to Government at the end of July 1999, as part of the Provisional Local Transport Plan (LTP). This full report has been prepared in accordance with DETR's 'Guidance on Full Local Transport Plans' and with due regard to 'Tackling Congestion and Pollution'. Strong links have been made between the targets put forward for road traffic reduction in this report and the transport strategy proposals in the Full LTP.

Population

20.2.1   Lincolnshire is the fourth largest geographical county in England and Wales. Within this large area there is great variety, economically, socially and environmentally but overall it is sparsely populated with much of its population widely dispersed in relatively small settlements. One third of the population live in settlements of less than 3,000; one -third live in small to medium urban settlements of 3,000 to 20,000; one-third live in the larger (but still small in national terms) towns of Lincoln ,Boston and Grantham. Lincoln is only the seventh largest urban area in the East Midlands, which is itself characterised by not having a very large city. The County's population has grown to 623,000 in 1998 from 504,000 in 1971and will rise to 677,000 by 2011. The Structure Plan allocates 66,900 more dwellings between 1991 and 2011.

Economy

20.2.2   The County's economy has a low GDP at 91% of the national average and low wages at 85% of the national average. It is heavily dependent on transport - with over 15 million tourist visitors each year, a quarter of the nation's vegetables grown in the County and the biggest contribution to GDP coming from engineering companies which are a long way from their markets.

20.2.3   Social exclusion is manifest in urban areas - with Lincoln City being in the top 50 most deprived districts in the country and areas of Gainsborough, Grantham, Boston and Skegness being identified as regional priority areas. Social exclusion in terms of physical isolation is also a major problem in the rural areas - with 90% of parishes having no daily bus service, over half of jobs being unskilled and an outward migration of young people.

Car Ownership

20.2.4   From Table 20.1 it can be seen that 75% of households in the County own one or more cars.   This is higher than the national equivalent rate of 67%. However there is considerable variation in the Districts.   In Lincoln 38% of homes do not own a car whereas in South Holland and North Kesteven the figure is 20%. These averages mask a range of positions, with some wards in Lincoln having 50% ownership and some rural Parishes having 100% ownership.

Highway Network

20.2.5   The county has a very extensive highway network - totalling 8,938 km (5,555 miles) - which is 14.4 km per 1,000 population, a rate which is 2.5 times the national average and 70% higher than the English shire average.   In this network, there are no motorways; only 60km of dual carriageway which is mostly on the A1; there are 311 km of trunk road, but this will be reduced to 49km after detrunking. Much of the network comprises narrow, tortuous roads and country lanes - with 80% being C class or unclassified. Of the 55 settlements with more than 500 people on the Primary Route Network, less than half have the benefit of a bypass for through traffic.

Table 20.1

Car Ownership by District

District	No Cars (%)	1 Car (%)	2 or more cars (%)
LINCOLN	38	47	15
EAST LINDSEY	24	52	24
WEST LINDSEY	22	49	29
NORTH KESTEVEN	20	51	29
SOUTH KESTEVEN	24	47	29
BOSTON	27	51	22
SOUTH HOLLAND	20	51	29
LINCOLNSHIRE	25	50	25
GB	33	44	23

Background

20.3.1 Prior to 1999, the County Council's long term traffic monitoring programme for Lincolnshire focussed principally on recording classified count data on the extensive rural road network, little emphasis being given to the urban areas other than Lincoln. The data was collected for a number of purposes including:

- monitoring of trends in traffic flows across the county
- to assist the case for specific bids e.g Objective 5b European Funding
- within lobbying documents e.g A46 dualling
- by other Highways and Planning groups e.g
  - Maintenance for residual life calculations
  - Accident Investigation to calculate accident rates
  - Road Pavement Design
  - County Bridge Weight restrictions
  - Traffic signal assessments
  - Standard Spending Assessment on County roads
  - Development Control in support of appeals
- data for Police for manpower resource allocation
- data for external organisations, such as Tourist Boards
- environmental assessments (noise/air pollution)

20.3.2 Last year, in the knowledge that the Government's emphasis was shifting towards the setting of targets to reduce traffic in urban areas, the County Council concluded that in future, a more comprehensive programme of urban travel monitoring would be required. The data collected would encompass patterns of movement by all modes ot transport within the County's major urban areas and larger market towns. In the medium to long term a comprehensive database of information would be assembled which could then be used to:-

a) establish a year 2000 baseline situation for traffic flows and other modes of travel in the towns and

b) calculate the rate of growth and modal shift trends over the five year LTP period

c) monitor the success of LTP investment programmes in meeting targets and objectives

20.3.3 In assessing the scope for reviewing the routine monitoring programme, the need to constrain expenditure on surveys at existing levels was a key consideration. Therefore in order to expand the urban monitoring programme it was necessary to reduce the number and frequency of surveys undertaken on the rural network. Careful consideration was given to how this could be achieved whilst at the same time maintaining the robustness of the rural database. The solution was to remove a number of sites on B and C class roads where historically traffic flows were low, typically less than 1,000 vehicles per day, and also where past rates of growth had been negligible.

20.3.4 The revised survey programme incorporating both urban and rural monitoring commenced in April/May of this year. Preliminary results from these surveys as well as further details about the survey methodology and past trends are set out later in the report.

20.3.5 Information is also provided in this section about the SCOOT/ASTRID database which is used to record data in the County's three largest urban areas. An appraisal of three SATURN models which are under various stages of development is also included within the urban monitoring section.

Rural Traffic Flow Monitoring

Introduction

20.3.6 The routine monitoring of traffic flows across the rural parts of the county comprises :

- rotating census programme

- screenline surveys
- automatic traffic counters (ATCs)

The existing situation in respect of each of these is described below.

Rotating Census Programme

20.3.7 The aim of the rotating census programme is to establish traffic flows on the County's A and B class roads. Routine monitoring of traffic flows at key junctions on the County's strategic road network has been undertaken on an annual basis since the 1970's. Up until last year, 173 junctions were monitored on a 4 year cycle, giving traffic flows on 522 links of the strategic network. Figure 20.1 illustrates the locations of the junctions monitored prior to this year.

20.3.8 This year the programme of surveys has been reduced as a result of the refocussing of data collection priorities (See 19.2 above). 116 sites as illustrated on Figure 20.2 will be monitored on a four year cycle, in order to expand the database of network flows in the future.

20.3.9 The rural sites are counted twice during the year over a 12 hour period (0700-1900) on a weekday (Mon-Thu); once in a neutral month (April/May/June/September/October) and once in August. The results of the counts are then combined using the method set down by the DETR to produce an estimate of the 24 hour Annual Average Daily Traffic (AADT) flow for that section of road. Vehicle categories recorded in the surveys are NRTF compatible i.e the following breakdown is used : -

> Cars
> Light Goods Vehicles (<30 cwt unladen weight)
> Rigid body goods vehicles
> Articulated goods vehicles
> Buses and coaches

20.3.10 Figures 20.3 and 20.4 illustrate the 1999 total vehicle and commercial vehicle AADT flows on the County's strategic road network calculated on the basis of last years rotating census surveys.

20.3.11 It can be seen from Figure 20.3 that the majority of the County's strategic road network is relatively lightly trafficked i.e AADT's are normally less than 5,000. The busiest sections of road are the A1 which carries approximately 33,000 vehicles on an average day and the A46 Lincoln Bypass between Skellingthorpe Road and Carholme Road which normally carries 20,000.

Screenline Surveys

20.3.12 Growth in traffic on the County's rural road network is monitored at all A and B class roads crossed by two east/west screenlines and one north/south screenline as shown in Figure 20.5. Each year, 12 hour (0700-1900) manual classsified counts are carried out on a weekday during both a neutral month (April, May, June, September or October) and August at each of the 28 sites. NRTF vehicle categories are recorded. The results of these surveys are then combined to produce an estimate of the 24 hour Annual Average Daily Traffic (AADT) flow, using the DETR approved method. This system of screenline monitoring has been in operation since 1985.

20.3.13 Figures 20.6 and 20.7 show the overall trends in all vehicle and commercial vehicle flows across the screenlines since 1985 compared with the national picture. In this 14 year period, all vehicle flows have increased by 66%, whilst the commercial vehicle flows, in comparison, have shown little overall change. Analysis of the individual screenlines however, reveals an increase in HGV flows across the E-W southern screenline of over 40%, whereas the E-W northern screenline has decreased by 20%. This is probably a reflection of the increasing activity associated with the food industry in the south of the County.

Automatic Traffic Counters

20.3.14 In order to obtain continuous traffic data over a longer period, as opposed to short one day sample counts as in the screenline and rural flow monitoring sites, automatic traffic counters (ATC's) are employed. At present there are currently some 30 operational sites across the County (see Figure 20.8) and at any one time data is being collected from approximately 20 of these. The information on daily/weekly and seasonal variation gathered from the ATC sites in the County is presently used to supplement and verify the data from the manual counts.

Figure 20.1

EXISTING RURAL MONITORING SITES
November 1999

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Figure 20.2

REVISED RURAL MONITORING SITES
2000 Onwards

Figure 20.3

ALL VEHICLE FLOWS

CAISTOR

A18

A1084

A1173

A46

B1225

A46

A46

A18

A16

A1031

A159

A631

A15

A1103

A631

A631

A631

A153

LOUTH

MABLETHORPE

GAINSBOROUGH

A156

A1500

A157

A16

A52

MARKET RASEN

A157

A46

B1225

A16

A57

A15

A158

A158

ALFORD

A1028

A16

LINCOLN

A158

A158

A158

A46

B1188

A607

A15

HORNCASTLE

A153

A16

A155

A16

SPILSBY

A158

SKEGNESS

CONINGSBY/ TATTERSHALL

A153

B1192

A16

A52

A17

A607

A17

A153

A153

A52

SLEAFORD

A17

A1121

A52

BOSTON

A1

A52

A607

A52

A15

A52

A52

A17

A16

A16

A17

GRANTHAM

A151

A15

A151

A16

A151

HOLBEACH

LONG SUTTON

A1

SPALDING

A17

A6121

A15

A16

A1073

A1101

A16

MARKET DEEPING

CROWLAND

STAMFORD

1999 24 Hour Annual Average Flows

━━━ >15,000
━━━ 10,000-15,000
━━━ 5,000-10,000
━━━ <5,000

Strategic Road Network

All Vehicles

Figure 20.4

COMMERCIAL VEHICLE FLOWS

1999 24 Hour Annual Average Flows

━━━	>1200
━━━	600-1200
━━━	300-600
━━━	<300

CROWN COPYRIGHT RESERVED

Strategic Road Network

Commercial Vehicles
(over 3.5T max vehicle wt.)

Figure 20.5

RURAL SCREEN LINE MONITORING

A180(T)

B1210 B121 A18

A1173 A46 A18

A1084 B1424 B1205 B1225 B1201

A159 B1205 A1031

B1205 A1103 B1203 A610 A1031

B1483 A631 A15(T) A631 A631 B1200

A156 B1241 B1398 A631 A157 A153 A157 B1373 A1104

A1500 A46 A157 A16(T) A1111

A57(T) A156 B1399 A1104 B1449

A1133 A57(T) A158 A1028 B1196 A52

B1190 A46(T) A158 B1202 B1190 A158 B1195 A158

A1133 B1188 B1190 B1183 B1195

A46(T) B1178 A153 A158 A155 A16(T)

B1178 B1202 B1191 B1192 A52

A607 B1191 B1189 A153 B1183 A16(T)

A17(T) A15 B1188 B1192 B1184 B1184

A607 B1429 B1209 A17(T) A1121 B1391 B1192

A153 B6403 A52 A52 A52 B1181 B1397 A16(T) A17(T)

A52(T) B1172 A607 A15 B1177 A152 B1357 B1359

A607 B1176 A1 B1397 B1189 A17(T) B1515 B1359

A1(T) B476 A15 A151 B1165 B1357 B1390 B1101

B1176 A6121 A15 A151 A16(T) B1357 B1168 B1165

A606 A16(T) B1525 B1166 A1073 B1166 B1049

A6121 B1443

A43(T) A1(T) B1166

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Figure 20.6

All Vehicles Growth (County Screenlines)

Figure 20.7

Commercial Vehicle Growth (County Screenlines)

Figure 20.8

COUNTY ATC SITES

A180(T)
B1210
B1211
A18
A1173
A46
A18
A1024
B1434
B1205
A159
B1205
B1433
A631
A15(T)
A631
A1103
B1225
B1203
A631
A631
B1201
A1031
A16(T)
B1200
A156
B1241
B1398
A46
B1399
A157
B1225
A157
A157
B1373
A1104
A1500
A156
A1111
B1449
A57(T)
A57(T)
A158
A158
B1202
A158
A153
A16(T)
A104
A52
A46(T)
B1190
B1188
B1190
B1190
B1190
A1028
B1196
A1133
B1202
A158
A158
B1178
B1183
A155
A16(T)
B1195
B1195
B1178
B1202
B1191
A153
B1192
A52
A607
A15
B1191
B1191
B1188
B1189
A158
B1192
B1183
A16(T)
A17(T)
B1429
B1209
B1395
B1184
B1184
A153
A17(T)
A1121
B6403
B1391
B1192
A52(T)
B1174
A607
A52
A52
A52
B1181
B1397
A607
A15
A152
A16(T)
A1(T)
B1177
B1397
A17(T)
B1357
B1359
B676
B1176
A151
B1180
B1515
B1359
B1165
A151
B1165
B1357
B1390
B1176
A151
B1168
B1101
A6121
A15
A16(T)
B1165
A1073
B1166
A16(T)
B152
A606
B1166
A6121
B1443
A43(T)
A1(T)

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20.3.15   Whilst seasonal variation is very small on some roads in the County, on other roads, particularly those leading to the coastal resorts, the summer months show a clear rise in levels of traffic. Data from the two sites discussed below reflect this distinction. The graphs (Figures 20.9 and 20.10) show the seasonal variation at each site, plotted as an index where a value of 100 is equivalent to the 24 hour Annual Average Daily Traffic (AADT) flow.

A158 Burgh Le Marsh

20.3.16   The A158 runs east-west through Lincolnshire and is one of the principal access routes to the County's coastal resorts from the major centres in the East Midlands. Burgh Le Marsh lies approximately 5 miles west of Skegness and coastal bound traffic presently passes through the centre of the village. The 1999 AADT for the A158 through the village is 9,900 and as the graph shows shows there is marked seasonal variation at this location. The August average daily flow in 1999 was 24% higher than the annual average. In January, the average daily flow was 19% below the annual average.

Figure 20.9

Average 24 Hour Traffic Flow Over the Months of 1999 - A158 E of Burgh le Marsh
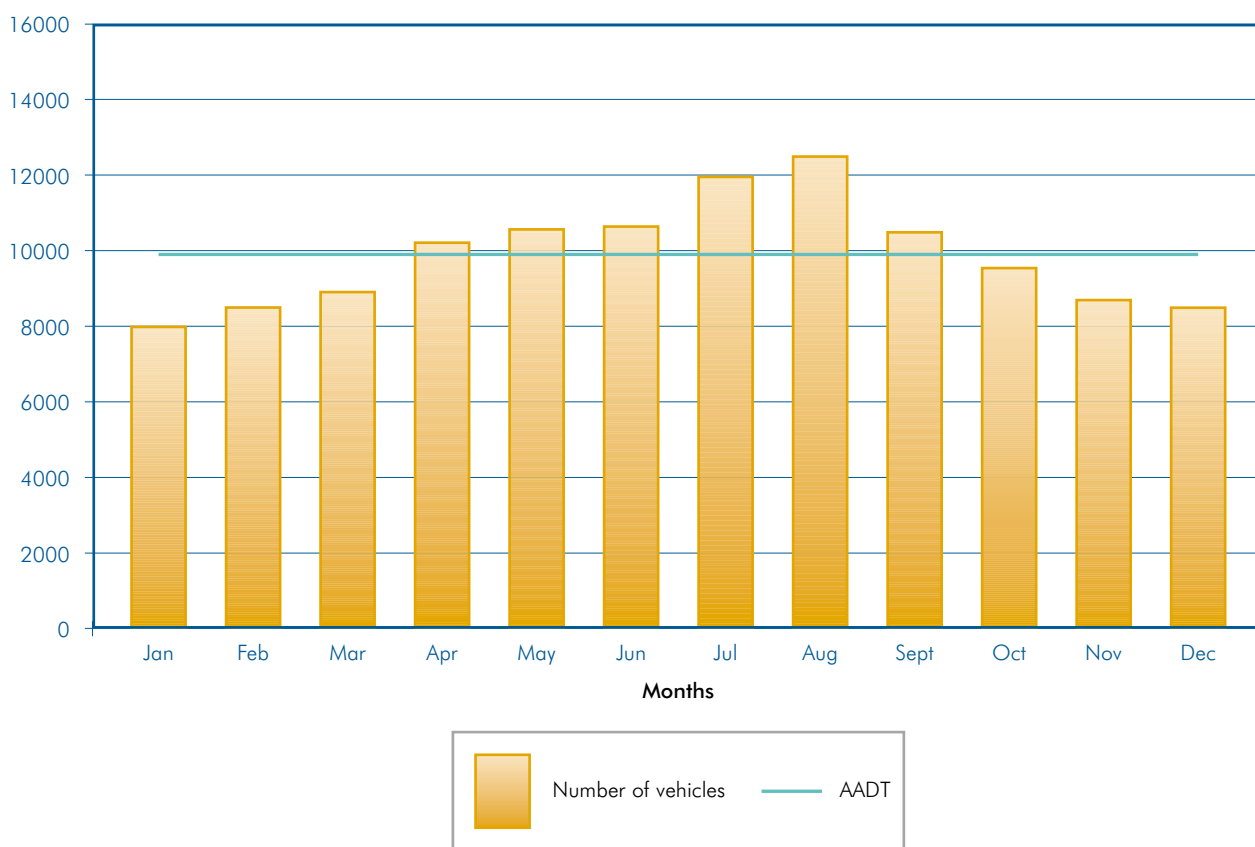
A15 Caenby Corner

20.3.17   The A15 runs north-south through the County linking Peterborough to Scunthorpe via Lincoln. Caenby Corner lies approximately 10 miles north of Lincoln at the junction of the A631. The AADT flow at this site in 1999 is 9124, and as Figure 20.10 shows, there is little seasonal variation in traffic flows. Average daily flows in 1999 rose no higher than 5% above the annual average during the summer months, whilst during the winter months of January, February and December they fell no further than 4% below the average.

Figure 20.10

Average 24 Hour Traffic Flow Over the Months of 1999 - A15 S of Caenby Corner
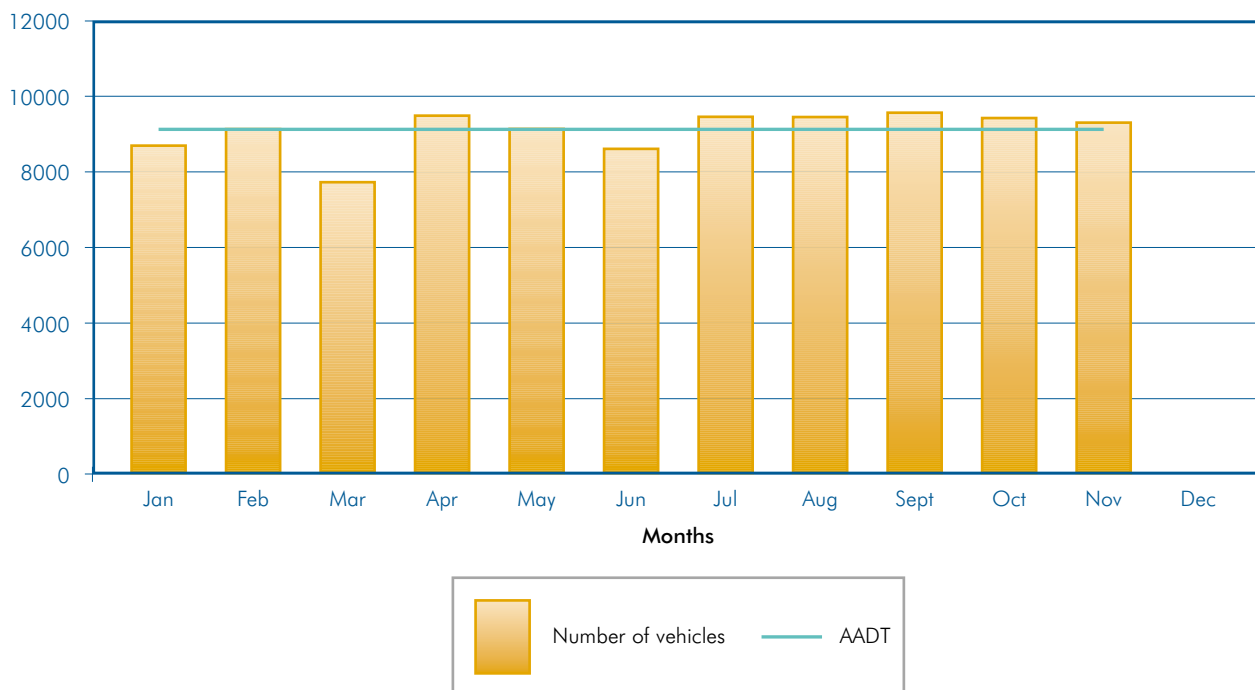
Urban Traffic Flow Monitoring

Introduction

20.3.18 As mentioned previously, the bulk of the resources allocated for traffic monitoring until now has been targetted at identifying growth trends and volumes on the County's strategic rural network. The identification of provisional targets to reduce the rate of urban peak hour traffic growth in last year's Provisional LTP submission demonstrated the need to concentrate a larger proportion of the traffic monitoring budget in the County's major urban areas and large market towns. Prior to last year the only consistent long term monitoring of urban traffic was undertaken in Lincoln where a city centre screenline had been in operation since 1985. A subsequent review of the survey programme concluded that the most economical and efficient method of collecting long term information on transport trends in the larger urban centres which was consistent with the objectives and targets in the LTP, would be to:-

a) retain the Lincoln City centre screenline surveys to provide ongoing long term growth statistics.

b) undertake cordon surveys around the principal town centres in order to identify trips by all transport modes and also determine car occupancy rates in the major urban areas.

c) fully utilise the SCOOT/ASTRID traffic signal control software, where appropriate, to monitor daily/weekly/seasonal variation in link flows and also assess the fluctuation in delays and queuing at key junctions in the network.

d) develop and in some instances refine existing SATURN models for Lincoln, Grantham and Boston (the County's three largest urban areas) in order to monitor existing and future levels of congestion and also provide indicative information on fuel emissions outputs.

Lincoln Screenline Surveys.

20.3.19 The Lincoln screenline surveys have been undertaken on an annual basis since 1985. Traffic counts are carried out on the following five routes which cross the screenline running east-west through central Lincoln as defined by the rail/river corridor :-

-         A46 Lincoln Western Bypass between Carholme Road and Skellingthorpe
-         Brayford Way between Tritton Road and Carholme Road
-         Brayford Wharf East between Wigford Way and Ropewalk
-         High Street between Wigford Way and Tentercroft Street
-         Pelham Bridge between Pelham Street and Portland Street

The locations of the five sites in relation to the central business/commercial sector of Lincoln City centre are shown in Figure 20.11.

20.3.20   The screenline surveys are carried out on a weekday in October for 12 hours (0700-1900). Two way traffic flows are monitored manually and pedal cycles are recorded. Table 20.2 illustrates the 12 hour total flows on the screenline since 1985. Figure 20.12 shows how growth across the screenline compares with the equivalent national growth rate for the same period. It can be seen that daily traffic levels across the screenlines have increased by approximately 35% in the 14 years since monitoring began. Nationally the equivalent growth rate has been almost 50%.

Table 20.2

Lincoln Screenline Sites - 12 Hour (0700 - 1900) Weekday Flow in October

Site	Location	Direction	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
SL1	A46 Lincoln Relief Road	2 Way (4 lanes)	–	11806	13207	14937	15773	18943	19201	17871	19245	21204	20802	22284	21716	22422	20115
SL2	B1103 Brayford Wharf East	2 Way	9205	8473	9602	10199	10441	8440	11362	12114	12956	12191	12340	11331	5048	4900	4423
SL3	B1262 High Street	2 Way	12828	11081	12849	12093	12091	12376	13837	12825	14124	13785	14441	13970	12527	9807	8675
SL4	A15 Pelham Bridge	2 Way (4 lanes)	25687	25995	27354	30832	26392	30933	25441	27868	32427	29741	30351	30916	26747	30542	30781
SL5	B1273 Brayford Way	2 Way	–	–	–	–	–	–		–	–	–	–	–	11716	15169	15733
	City Screenline (SL2+SL3+SL4+SL5)		47720	45549	49805	53124	48924	51749	50640	52807	59507	55717	57132	56217	56038	60418	59612

NOTES
1. A46 Lincoln Relief Road opened in December 1995
2. Flows shown in Table above are for all vehicles excluding pedal cycles and motor cycles
3. B1273 Brayford Way opened in June 1997

Figure 20.12

Growth Across City Screenline Compared with National Growth
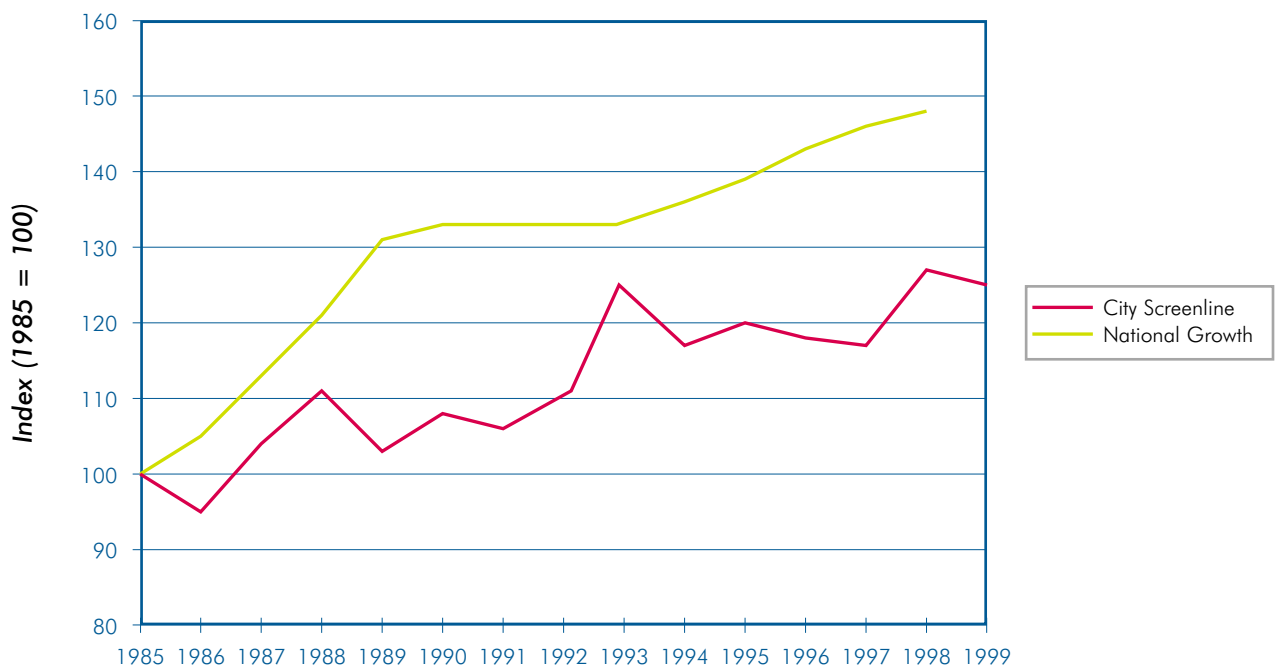
Figure 20.11

LINCOLN SCREENLINE MONITORING

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N
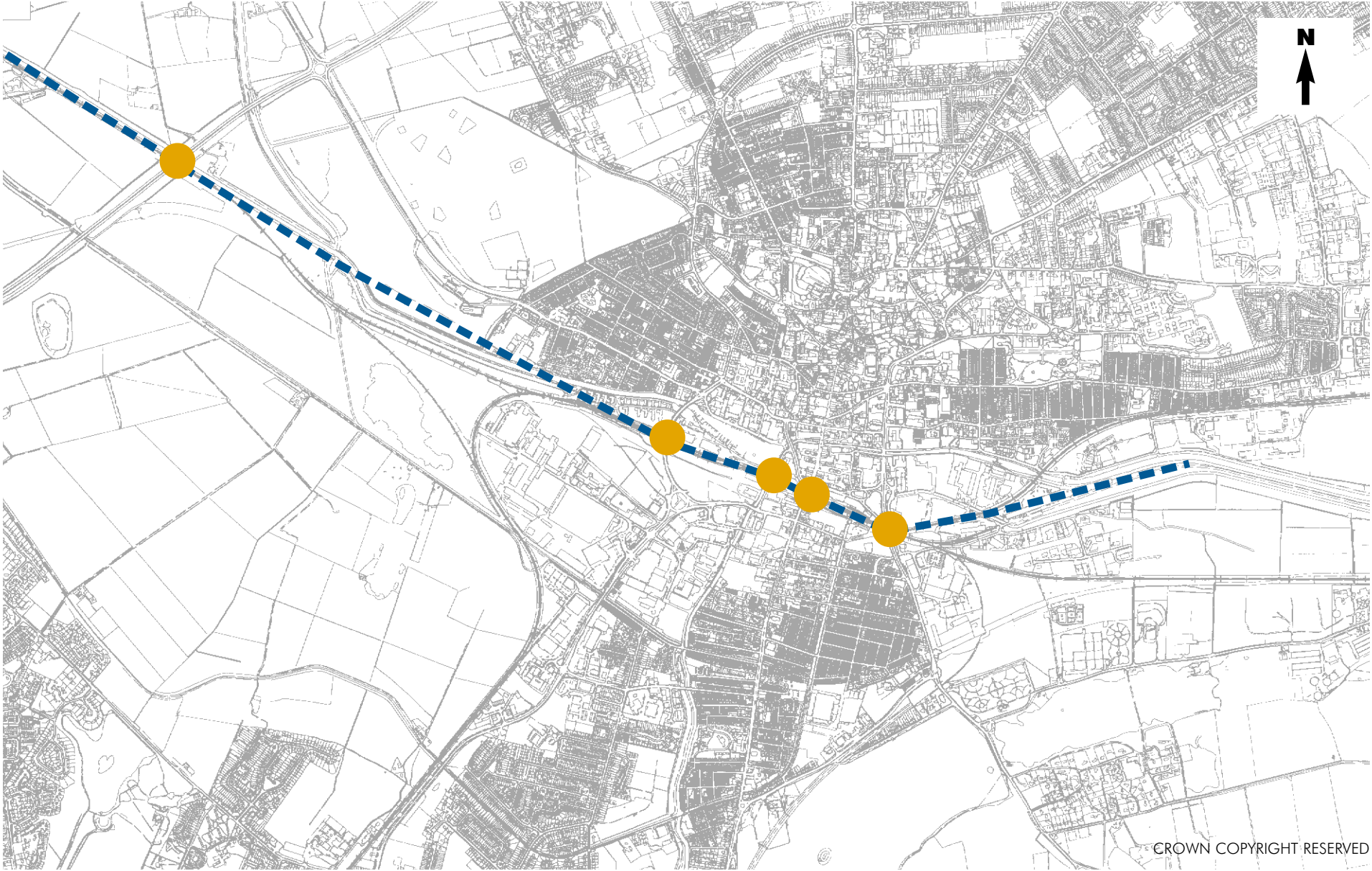
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20.3.21   The screenline survey despite being a single count on one day a year, has provided a useful indicator of long term traffic growth in Lincoln which has helped to inform the development of a SATURN model for the city. It will continue to have an important role for the foreseeable future in the ongoing validation of the model.

Cordon Surveys

20.3.22   In the course of reviewing the need to expand data collection in the County's main urban areas, consideration was given as to how the targets for peak hour road traffic reduction, identified in the provisional plan, and the associated output measures could be effectively monitored over the 5 year LTP period in an economic way.

20.3.23   It was acknowledged that in developing a system for monitoring flows in urban areas, there would inevitably be a trade-off between the accuracy of the data obtained and the cost of collecting that data.

20.3.24   With this in mind, the decision was taken to introduce a system of cordon surveys in the principal urban centres of: Lincoln, Boston, Grantham, Skegness, Gainsborough, Louth, Sleaford, Spalding and Stamford which would focus on recording all traffic, cyclists and pedestrians during the peak hours. The surveys would be augmented with longer term information from either the SCOOT/ASTRID traffic signal database or ATC's to ensure the integrity of the collected data.

20.3.25   The cordons are located close to each town's commercial/retail centre. The locations of all the cordon survey points are illustrated in Appendix E. Care has been taken to ensure that all possible traffic routes crossing the cordon are incorporated in the programme of surveys. Indeed in the smaller market towns of Gainsborough, Sleaford, Spalding, Stamford and Louth, where footways, cycleways and narrow alleyways may be used by significant numbers of cyclists to gain access to the town centres, these have also been included to ensure an accurate record of all trips is made.

20.3.26   Each survey is carried out once a year on a typical weekday (not market day) during a neutral month i.e April, May, June, September and October, with the exception of Skegness, which because of its summer peak will be monitored in August. The surveys take place between 0700-1000 and 1500-1800 (a total of 6 hours) to cover the normal AM and PM peaks (including school leaving times).

20.3.27   Cordon monitoring surveys have already been undertaken in Lincoln, Stamford, Boston, Spalding and Louth during May and June. Preliminary results from these (where available at the time of writing) are also set out in Appendix E at the end of the report. Surveys in Skegness, Gainsborough, Grantham and Sleaford will follow in August and September. The results from these counts will be reported in next years Annual Monitoring Report.

SCOOT/ASTRID Traffic Signal database.

20.3.28   The County Council has utilised a SCOOT UTC traffic signal control system to manage the operation of 65 junctions in Lincoln, Grantham and Boston since 1993. SCOOT makes use of traffic information from inductive loops buried under the road surface to monitor traffic demand on key links in the road network. Historically this information has been discarded by the programme, once it has been used to optimise the signal settings.

20.3.29   The County Council recognised there was merit in setting up a system which could extract the link flow information from SCOOT prior to it being lost. Consultants were appointed in 1997 to develop a bespoke piece of software which would meet the Council's requirements for a link flow database based on SCOOT information.

20.3.30   A fully operational system commenced data collection from a number of links in Lincoln, Grantham and Boston in 1998. Information is available from all 65 junctions presently under SCOOT control.

20.3.31   Initially, data collection was undertaken in a random, fairly unstructured manner. Statistical analysis of the data was also difficult and time consuming due to shortcomings in the software. Last year further development work was carried out to improve the format of the data output. Figure 20.13 is an example of the latest output summary sheet from the system which demonstrates its flexibility and potential.

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