Lincolnshire
2nd Local Transport Plan
March 2006

APPENDIX A

STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) STATEMENT

Strategic Environmental Assessment Statement

1. Introduction

Under the Transport Act 2000, all transport authorities across the country are required to produce a Local Transport Plan (often referred to as the LTP). The LTP sets out a comprehensive 5-year integrated transport strategy to tackle the transport problems of the area. It also includes an outline programme of schemes to be implemented, along with a set of targets against which progress can be measured. In the case of Lincolnshire, it is Lincolnshire County Council who is responsible for preparing the LTP.

The 1st Local Transport Plans were submitted in July 2000 and covered the transport planning period 2001/02 to 2005/06. There is therefore now a need for all transport authorities to produce a 2nd Local Transport Plan to cover the transport planning period 2006/07 to 2010/11.

A new requirement for the 2nd Local Transport Plans is the need to carry out Strategic Environmental Assessment (SEA) under the recent European Directive, as implemented in England by 'The Environmental Assessment of Plans and Programmes Regulations 2004' (the 'SEA Regulations'). SEA is the process by which plans and programmes are assessed at a strategic level in order to determine whether any significant impacts on the environment are likely to occur as a result.

The 2nd Lincolnshire LTP has therefore been subject to SEA during its development. The SEA process began in October 2004 and has influenced the content of the plan throughout its development through regular feedback and interactions between the LTP and SEA project teams, and a programme of internal and external consultations.

The SEA Statement

The SEA Statement is a requirement of the SEA Regulations and is produced to accompany the adopted plan. The SEA Statement supports a transparent decision-making process by demonstrating that environment has been considered at each step in the development of the second LTP. In particular the SEA Regulations specify that the statement should contain the following information:

- How environmental considerations have been integrated into the LTP;
- How the Strategic Environmental Report has been taken into account;
- How the consultations undertaken during the SEA process have been taken into account;
- The reasons for choosing the 2nd Lincolnshire LTP as adopted, in the context of other reasonable alternatives;
- Measures that are to be taken to monitor the significant environmental effects of the implementation of the LTP.

This information is provided in Sections 2 to 5.

2. The SEA Process and the Development of the 2nd LTP

The objective of the SEA Directive and the Regulations is:

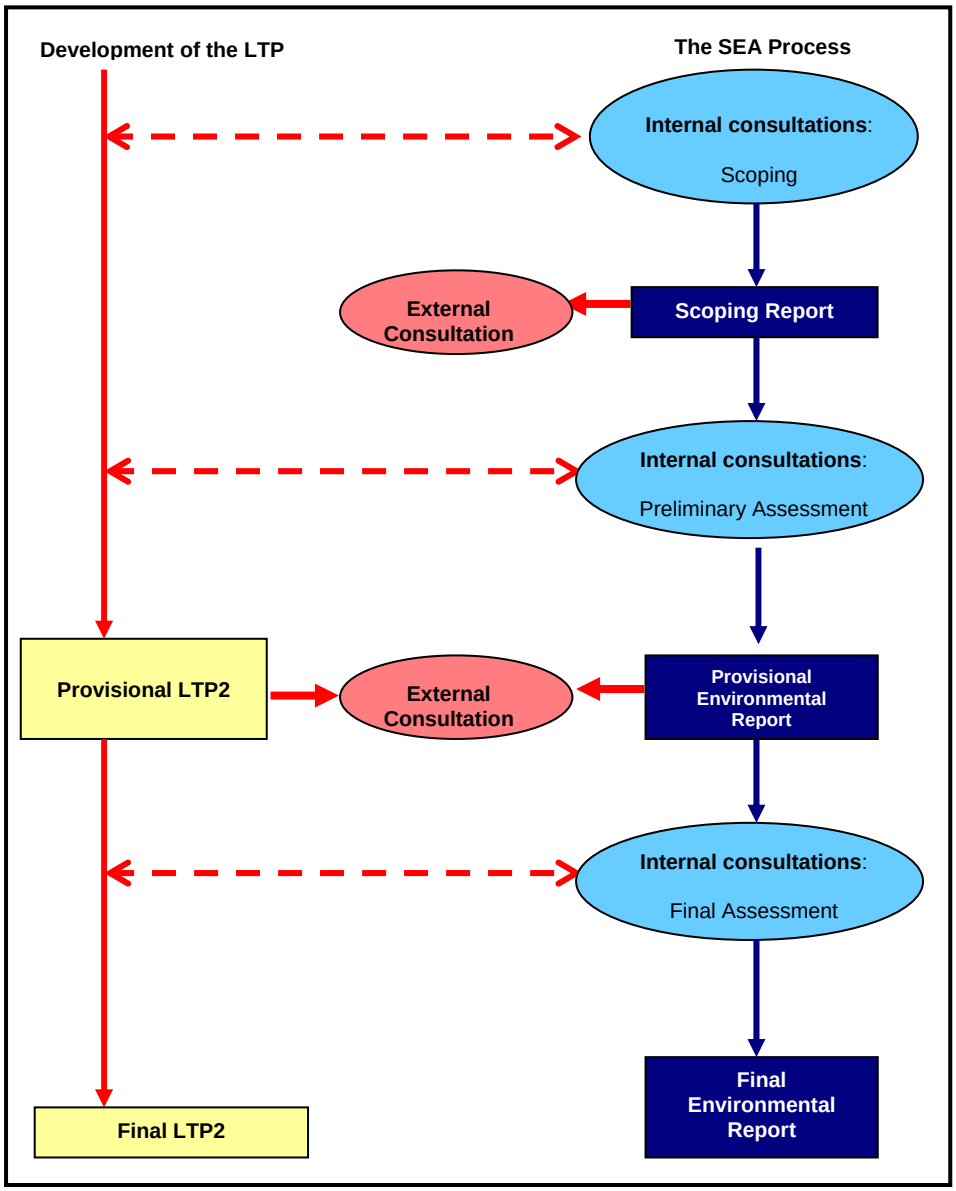
"to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans with a view to promoting sustainable development".

In order to achieve this, the SEA has considered the 2nd Lincolnshire LTP in terms of its likely significant effects on the environment, which have been assessed against a set of strategic environmental objectives. These objectives were set in the context of the environmental opportunities and problems facing the County, which were derived from an understanding of the baseline environmental conditions within the study area and the existing planning context. Through the SEA process various alternatives to the 2nd Lincolnshire LTP have been considered (see Section 4), and mitigation for any adverse effects has been identified. Some of this mitigation has been in the form of changes to the LTP itself and is discussed in more detail in Section 3.

As required under the Regulations, a Scoping Report was completed in January 2005. Subsequently, a provisional Environment Report was published alongside the Provisional Plan in July 2005. A final Environmental Report has been prepared alongside the adopted 2ndLTP.

Throughout the SEA process, and in producing the above-mentioned reports, there have been opportunities to influence the content of the 2nd LTP. Figure 2.1 illustrates the SEA process in relation to the development of the 2nd Lincolnshire LTP and highlights where key opportunities to integrate environmental considerations into the preparation of the plan have taken place.

Figure 2.1 - The SEA process and the development of the 2nd Lincolnshire LTP



3. Influencing the Content of the 2nd LTP

Throughout the SEA process there have been various opportunities for the interested parties to contribute towards the development of the 2nd Lincolnshire LTP.

As is evident in Figure 2.1, the key opportunities for external consultation have largely corresponded with the publication of the SEA reports, where as the internal consultations have been ongoing in their preparation. Details of how each stage of this process has influenced the content of the 2nd Lincolnshire LTP is summarised below and is also contained within the final Environmental Report.

Scoping Report

The methodology for undertaking the SEA, together with a description of the environmental opportunities and problems facing the County, was included in the Environmental Scoping Report. Additionally, the draft strategic environmental objectives to be used to assess the 2nd LTP were also provided. This report was distributed to the statutory consultees for comment in January 2005, that is, the Environment Agency, the Countryside Agency, English Nature and English Heritage. Their responses are summarised in Table 3.1.

Table 3.1 - Summary of the Scoping Consultations

Consultee	Key Issues Raised
Environment Agency	▪ Consider flood risk, surface water management and water resources. ▪ Include Strategic Flood Risk Assessments in policies and plans. ▪ Consider effects on groundwater quality.
Countryside Agency	▪ Further examination of the problems and opportunities relating to rural transport issues and accessibility to the countryside. ▪ Consideration of the cumulative effects of development and transport infrastructure on landscape character and amenity of the countryside. ▪ Incorporation of specific rural transport and accessibility concerns into the SEA Objectives and development of appropriate indicators.
English Nature	▪ Amendments to National Nature Reserve Information. ▪ Consider Local Wildlife Sites and SINCs. ▪ Integrate Road Verge Scheme.
English Heritage	▪ Refer to the importance of the 28 parks and gardens on the national register and include full scope of setting. ▪ Consideration of the impact of transport proposals in historic areas. ▪ Amend the SEA objectives to differentiate between landscape character and landscape areas. ▪ Acknowledge inter-relationship between the natural and historic environment. ▪ Consideration of the cumulative effects of development and transport infrastructure on the historic environment.

These consultations provided further information regarding the environmental baseline and resulted in a number of changes to the draft strategic environmental objectives. In particular, it was requested that the objectives be broadened to address identified problems regarding accessibility in rural areas and as a result an objective to "*Promote access to the countryside*" was included. In doing so, the scoping consultations influenced the way the 2nd LTP was ultimately assessed.

Environmental Report

In keeping with the development of the LTP documents, both a provisional Environmental Report and Final Environmental Report were produced during the SEA process. The content of these documents was been influenced by the consultations that were carried out during the process, which in turn influenced the content of the 2nd LTP. Further details are provided below.

Provisional Environmental Report

In order to guide the development of the 2nd Lincolnshire LTP from an early stage a preliminary environmental assessment was undertaken in March 2005. This assessment was based on the contents of the consultation document "Working towards the 2nd Lincolnshire Local Transport Plan" which was widely circulated in February 2005. The aim of this exercise was to identify potential areas within the plan where the SEA objectives were not necessarily being met at that stage and to pin-point where environmental effects would need to be addressed by the plan during its development (as opposed to environmental mitigation measures at the implementation stage).

Key feedback at this stage included difficulty in demonstrating the plan's performance against the new objective for promoting access to the countryside, insufficient commitment towards tackling climate change, and inappropriate environmental justification for some measures. This feedback was used internally to influence the development of the strategies and sub-components of the Provisional Plan which then formed the basis of the main environmental assessment, as presented in the provisional Environmental Report in July 2005. This report was then subject to wider statutory and non-statutory consultation along with the Provisional LTP.

Final Environmental Report

The environmental issues that were raised during the consultations undertaken on submission of the provisional reports have influenced the content of the final LTP. These issues are summarised in Table 3.2.

Table 3.2 - Summary of environmental issues arsing from the Provisional Report consultations

Consultee	Key Issues Raised
Department for Transport	▪ The plan was felt to be weak in terms of the consideration of air quality.
Environment Agency	▪ Include Strategic Flood Risk Assessments in relevant plans and programmes. ▪ Note that the standard of the County's flood defences varies widely.
Countryside Agency – Landscape Access Recreation	▪ Further reference to the importance of the pleasing visual nature of the countryside and greenspace together with the tranquillity such environments provide for their inhabitants and visitors. ▪ Access options to specifically include ease of access to nearby green space and surrounding countryside. Access is wider issue than access to services and between destinations. ▪ Further indicators related to health and the use of the rights of way network.
English Nature	▪ Amendments to designated sites baseline. ▪ The plan's key issue for the environment places too much emphasis on mitigation rather than prevention and does not reflect a balanced approach.
English Heritage	▪ Review list of relevant policies and plans to ensure that these are up to date. ▪ Refer to the importance of the 28 parks and gardens on the national register and include full scope of setting.

	▪ Amend the SEA objectives to differentiate between landscape character and landscape areas. ▪ Include an indicator to measure direct and indirect impacts on the historic environment. ▪ Further consideration of where measures may have adverse effects on the historic environment on implementation and subsequently any mitigation measures need to be fully integrated. ▪ The historic environment contributes towards the well being of the community and towards better public spaces and streetscapes.
Lincolnshire Wolds Countryside Service	▪ The relationship between the plan and the Countryside and Rights of Way Act and the Lincolnshire Wolds Management Plan needs to be recognised. ▪ Recognise opportunities to encourage sustainable access to the countryside. ▪ Recognise difference between management needs of rural and urban areas and encourage strategic approach to transport within the Wolds particularly with respect to impacts on character and setting. ▪ Amendments to environmental baseline. ▪ Include AONB as an opportunity for the County. ▪ Recognise the importance of existing access routes within the countryside and provide targets for improving them.
Lincolnshire Wildlife Trust	▪ Include County Wildlife sites in baseline information.

As with the Scoping Report consultations, numerous amendments to the baseline environmental information were made as a result of the consultation responses to the Provisional Environmental Report. However, many of these responses affected the final strategic assessment and in doing so, influenced the content of the adopted LTP.

Concerns were expressed regarding the impact listed against one of the key issues for transport in Lincolnshire over the next 25 years which implied that any environmental impacts that may occur in the pursuit of economic performance would be mitigated. It was considered that this approach did not adequately represent the County Council's environmental responsibilities and that measures to promote economic success should be weighed equally in terms of their environmental impact and would only be pursued if they proved to be sustainable. This explanation has subsequently been amended to reflect this approach.

In a similar vein, Chapter 15 Other Quality of Life Issues was amended in several places to clarify that the environmental impacts of any transport initiatives will be appropriately considered to ensure that these initiatives are sustainable, and that opportunities to improve and enhance the environment will be promoted. In addition, the consideration of cumulative environmental impacts has been highlighted here.

It was considered that the Provisional Plan was weak on air quality and as a result, this has been considerably strengthened in the Final Plan. In particular the County Council's commitment to addressing air quality has been illustrated in its transport objectives for the 2nd Local Transport Plan with the inclusion of an objective "*to enhance air quality, particularly within declared Air Quality Management Areas*". It should be noted however that air quality objectives have formed a key part of the SEA and as a result, the air quality impacts of the plan have been considered throughout the SEA process.

Another concern of the consultees was the overall lack of clarity regarding measures that promote access to the countryside. The County Council acknowledges that access is a wider issue than merely providing access to services and between destinations, and have developed several initiatives to ensure that ease of access to nearby greenspace and the countryside are integrated into the accessibility strategy. A sub-section has now been included in Chapter 8 that specifically highlights these relationships and the measures that are to be implemented as part of the plan.

4. Alternative Options

In keeping with the requirements of the SEA Directive, appropriate strategic alternatives have also been considered during the SEA process. In the context of the 2nd Lincolnshire LTP, these alternatives have been high-level scenarios that demonstrate why the strategies in the LTP2 have been pursued.

As a result, four strategic alternatives were assessed against the SEA objectives. These were:

- Alternative 1 – Do nothing (i.e. without a Local Transport Plan)
- Alternative 2 – Do-minimum (i.e. continuation of LTP1)
- Alternative 3A – Do-Something (i.e. LTP2 with road-building focus)
- Alternative 3B – Do-Something (i.e. LTP2 with integrated transport focus)

Without the adoption of a local transport plan (Alternative 1), the County Council would not be able to meet the needs of the County's population and would not realise its objectives in terms of economic growth. This would result in significant adverse effects on the objectives for healthy communities and protecting assets of economic growth. The effects of uncontrolled traffic growth, congestion and lack of access to essential services would also result in adverse effects on all of the remaining SEA objectives and would contribute significantly towards the environmental constraints facing the County.

Although in continuing the current LTP period (Alternative 2) many of the SEA objectives would be met, the opportunities to address the environmental constraints facing the County would become limited over the extended period. It is considered that even though there would continue to be beneficial effects in terms of the objectives for healthy communities and the protection of assets of economic value, the full potential of this could not be realised until the transport plan is set in the context of current planning policy and the constraints of and opportunities for Lincolnshire's communities and it's environment.

Pursuing a road-building focussed LTP2 (Alternative 3A) would improve economic links and access resulting in beneficial effects on the objectives for healthy communities and protecting assets of economic growth. However, despite potentially offering some improvements in air quality, greenhouse emissions and noise in some local areas this approach would not tackle traffic growth and would subsequently result in adverse effects on these objectives in other areas. Additionally this alternative would require extensive landtake and construction, which would have significant adverse effects on all of the remaining objectives. In some instances this approach would serve to contribute towards some of the environmental constraints currently facing the County.

Pursuing an integrated approach to transport planning (Alternative 3B) would provide a means to ensure that healthy communities and lifestyles are promoted, supported and sustained whilst protecting assets of economic value. By investigating more sustainable solutions to addressing issues of accessibility, congestion and road safety (such as public transport, walking and cycling) direct beneficial effects on the objectives for local air quality, emissions within the AQMA, greenhouse gases and noise would result. Additionally, through more efficient use of the existing transport network and an integrated approach to planning and design, the environmental constraints facing the county could be addressed and its opportunities could be realised. As a result, beneficial effects on the remaining objectives would result.

The assessment of the strategic alternatives has indicated that an integrated approach to transport planning, such as that pursued by the 2nd Lincolnshire LTP, would provide the most benefit in terms of achieving the strategic environmental objectives.

The longer-term vision, the transport objectives and strategies contained within the plan are all considered to result in direct beneficial effects on the objectives for promoting, supporting and sustaining healthy communities and lifestyles, as well as protecting assets of economic value, with overall indirect beneficial effects on the remaining objectives.

In some instances however, beneficial effects would only be realised through the adoption of various mitigation measures on implementation of the strategy. This is particularly the case where construction may be required. Such mitigation measures include:

- Ensuring high quality, sensitive design of traffic calming measures, signage and lighting schemes;
- Seeking sustainable options for providing energy to the transport network;
- Ensuring appropriate survey and assessment of air quality, noise, protected species, cultural heritage value, landscape, townscape and water quality during the design of improvements and major schemes; and
- Seeking opportunities to enhance biodiversity value.

Further recommended measures are provided in the Environmental Report.

5. Monitoring

Chapter 19 of the 2nd Lincolnshire LTP describes the procedures for monitoring the 2nd Lincolnshire LTP and provides information on the targets and indicators that will be used for this purpose. It should be noted however that monitoring also forms an important part of the SEA process and it is the County Council's intention to monitor the environmental performance of the plan throughout the 2nd LTP period.

Environmental monitoring provides a tool for measuring the environmental performance of the plan against the strategic environmental objectives and is important for the following reasons:

- It allows a determination to be made as to whether or not the LTP2 is performing well within the environmental context set by the strategic environmental objectives;
- It provides a method to judge the accuracy of the assessment that was undertaken;
- It allows for the identification of any unforeseen adverse effects;
- It allows for mitigation measures to be swiftly implemented to minimise any adverse effects; and
- It can provide an ongoing source of information regarding environmental trends within the County over the life of the LTP.

An environmental monitoring plan based on the strategic environmental objectives has therefore been developed as part of the SEA process. The targets and indicators used to monitor the plans performance have been designed to integrate with the 2nd LTP monitoring wherever possible in order to maximise effectiveness and efficiency.

6. Conclusions

The purpose of this statement has been to demonstrate how the SEA process has influenced the development of the 2nd Lincolnshire LTP.

Throughout the SEA process there have been various opportunities for the interested parties to contribute towards the development of the 2nd Lincolnshire LTP. The key opportunities for external consultation have largely corresponded with the publication of the SEA reports, where as the internal consultations have been ongoing in their preparation. The issues raised during these consultations have been summarised in this statement and an explanation of how these have ultimately influenced the 2nd Lincolnshire LTP has been provided.

The consideration of strategic alternatives has supported the integrated approach of the 2nd LTP towards transport planning within Lincolnshire. Overall, no adverse effects on the strategic environmental objectives, as a result of the implementation of the 2nd LTP are predicted, although in some cases mitigation would be required to ensure that indirect residual beneficial effects result.

In order to monitor the environmental performance of the plan an environmental monitoring plan has been developed. This will ensure that environmental considerations continue to being integrated into the 2nd LTP during its implementation.

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APPENDIX B

RIGHTS OF WAY IMPROVEMENT PLAN PROGRESS REPORT

RIGHTS OF WAY IMPROVEMENT PLAN PROGRESS REPORT

INTRODUCTION

This appendix sets out the progress made in preparing the first Rights of Way Improvement Plan (ROWIP) for Lincolnshire. The responsibility to produce a Rights of Way Improvement Plans is a new duty arising from the Countryside and Rights of Way Act 2000. Local Highway Authorities are required to publish ROWIP's for their area before November 2007.

The county council is working to produce a single strategic Plan, covering the whole county, by the end of 2006.

Public Rights of Way are becoming an increasingly important means by which people can gain access to the countryside. With over 4000km of rights of way within Lincolnshire, they are a significant part of our heritage and in modern society they have become a major recreational resource.

New kissing gates have replaced stiles on the Viking Way at Fulletby

Lincolnshire's Public Rights of Way represent 30% of the total network of highways available for use by the public within the county. Local rights of way are a convenient means for travelling short journeys in both urban and rural areas.

They are recognised as an important local resource for people to gain fresh air and exercise, to walk the dog, take the children to school, travel to work, or to reach local shops and services.

The benefits of an accessible rights of way network to the local economy were clearly demonstrated in 2001, when many rural rights of way were closed due to the Foot and Mouth Disease outbreak, resulting in fewer visits to the countryside. Many businesses reported significant reduction in incomes during that period due to lower numbers of visitors to the countryside.

Lincolnshire County Council has existing powers and duties for managing public rights of way. Responsibilities include maintaining and keeping up to date the Definitive Map and Statement of public rights of way, as well as protecting and enhancing the network for use by the public. The County Council already works directly with a number of parish councils to improve their local rights of way networks.

Since 1995, the County Council has had a “Milestones Statement” which sets out the tasks needed to improve the rights of way network so that it is legally defined, well maintained and promoted. The Milestones approach has enabled us to set targets, apply for grant aid and report on progress made.

In 2002, we entered into a three-year Public Service Agreement with Government with a target to deliver a 20% increase in the number of rights of way defined as easy to use.

A RIGHTS OF WAY IMPROVEMENT PLAN FOR LINCOLNSHIRE

The Lincolnshire Vision for the Rights of Way Improvement Plan

- To improve the management of an integrated network of rights of way that complements existing highway infrastructure, relevant for today’s needs
- To bring added benefits for residents and visitors
- To support wider interests including sustainable transport, rural economy & tourism, health benefits and quality of life issues

The production of the ROWIP follows a prescribed process set out in statutory guidance issued by DEFRA. Highway authorities should consider current access provision for the public and the best ways of improving the network.

The improvement plan will contain assessments of:

- The extent to which Lincolnshire's local rights of way meet the present and likely future needs of the public
- The opportunities provided by local rights of way for exercise and other forms of open - air recreation and enjoyment
- The accessibility of local rights of way to blind or partially sighted persons and others with mobility problems

In addition to the rights of way network in Lincolnshire, access is available to country parks, woodlands, nature reserves and coastal access. Local farmers provide permissive access in some areas through countryside stewardship schemes. We have considered these additional opportunities for access in our assessments.

The development of Lincolnshire’s Rights of Way Improvement Plan will build further upon all of this work and will be closely aligned to the Shared Priorities of the Local Transport Plan.

PROGRESS WITH THE ROWIP

We took our time to consider what would be the best way for developing a rights of way improvement plan for Lincolnshire. A Senior Countryside Access Officer was appointed to oversee the preparation of the Rights of Way Improvement Plan and to

provide support to Lincolnshire's two Local Access Forums*. The East Midlands ROWIP officers working group has also been established to support staff working on ROWIPs and provide contacts on a regional basis.

The Countryside Agency sponsored a number of Authorities to undertake the development of "mini" Rights of Way Improvement Plans and research projects relating to supply and demand. The County Council has taken account of this work, and assessed the relevance of this research for Lincolnshire.

Asken Ltd was appointed to provide consultancy support to the County Council in planning for the preparation of a ROWIP. A steering group for the ROWIP has also been established, which includes a representative from each of the two Local Access Forums.

Following a series of workshops, Local Access Forum meetings and discussions with officers, it was agreed that a single, strategic ROWIP covering the whole county that took account of all relevant countryside access opportunities (not solely rights of way) should be developed.

An assessment of the research projects undertaken by some of the pilot authorities has also been completed. The conclusion reached from looking at existing data, was that although it was a useful exercise to identify likely issues for a Lincolnshire ROWIP there was little transferable data directly applicable for use by the county from the exemplar projects. Therefore it was decided that it was necessary to carry out our own, tailored assessments to determine the needs of residents and visitors to Lincolnshire. The timetable for preparing and publishing the Lincolnshire rights of way improvement plan is set out in Figure 1.

Date	Process
February 2006	Completion of assessments and consultation with key stakeholders
March to May 2006	Preparation of the Draft Plan and Statement of Action
June 2006	Draft Plan published followed by a minimum three month public consultation period
September and October 2006	Representations considered and amendments to Draft Plan made (time taken will be dependent on nature and volume of representations)
November 2006	Final Plan published and adopted by Lincolnshire County Council

Figure1 - Timetable for preparing the Lincolnshire ROWIP

* Mid Lincolnshire LAF is a joint forum with North East Lincolnshire Council
South Lincolnshire & Rutland LAF is a joint forum with Rutland County Council

FINDING OUT THE NEEDS OF THE PUBLIC

The assessments for the needs of the public have been carried out and we have considered the use and demand of the rights of way network and its links to the wider countryside, for casual walkers, more experienced walkers, cyclists, horse riders, off-road motorised users, people with disabilities, issues facing young people as well as farmers and land managers. In conjunction with the South Lincolnshire and Rutland Local Access Forum, we have researched both perceived and actual barriers to participation and access for excluded groups.

The lack of data on equestrian activity in Lincolnshire and the East Midlands was recognised at an early stage and a postal questionnaire survey was undertaken in partnership with the British Horse Society (BHS) who sent forms to 900 of their members in Lincolnshire and adjoining areas. In addition, questionnaires were also sent to the wider industry, including equine vets, feed merchants and saddlers. In total, 888 completed survey forms were returned, and the County Council's in-house research team at the Lincolnshire Research Observatory performed the data input and analysis.

It was decided by the steering group that a Lincolnshire Access Survey should be commissioned to assess the current and future needs of the public. A postal questionnaire was sent to all members of the County Council's citizen's panel and members of user group organisations. The survey included the activities of walking, running and jogging, cycling, riding, motorised users and the needs of people with disabilities or non-users. More than 2000 completed questionnaires were returned and Bowles Green Ltd was appointed to undertake the data input and analysis.

In 2001, the Countryside Agency commissioned a national survey to research the use and demand of rights of way. We included the same questions in the first section of our survey to determine levels of use and ways in which the network is used in Lincolnshire. This means that direct comparisons in terms of levels of participation and use of the network can be made at a Lincolnshire, regional and national level.

Bowles Green Ltd was also recruited to undertake additional research to complement the questionnaire survey. This included the recruitment and running of several focus group workshops to, look behind some of the issues arising from the questionnaire surveys. Focus groups were held to examine the needs and views of:

- Casual walkers
- Walking enthusiasts
- Cyclists
- Horse-riders
- Off-road motorised users
- People with disabilities
- Non users
- Farmers and landowners

NETWORK ASSESSMENTS

Authorities are required to assess the supply of access available to the public provided by local rights of way for exercise and other forms of open-air recreation and enjoyment. The statutory guidance suggests that authorities in making their assessments should include:

- A study of the definitive map and statement of public rights of way
- Assessment of applications for changes to the definitive map
- Assessment of requests for improvements to the network
- Assessment of network condition data

Local highway authorities are also required to look wider than the definitive map and consider additional opportunities and benefits from integration with the wider highway network, cycle tracks, permissive routes, towpaths and routes through woodlands and forests.

Datasets of the access resource have been collated in order to enable an assessment of the network of local rights of way and wider access opportunities in Lincolnshire. We are currently developing an "Access Map" using GIS MapInfo to show public rights of way, permissive routes, farm trails, woodlands open to the public, nature reserves and coastal access. Assessments will be carried out using the County Council's GIS MapInfo software.

Datasets we have collated to date include:

- Definitive map of public rights of way (digitised version)
- Forestry Commission land
- Open Country and Registered Common Land
- Ministry of Defence land
- Lincolnshire Wildlife Trust land
- Woodland Trust land
- Woodlands with permissive access
- Promoted routes information
- Countryside sites and coastal access
- Country Parks
- Areas of Special County Value
- Lincolnshire Wolds Area of Outstanding Natural Beauty (AONB)

The County Council has completed the assessment phase of the ROWIP and is now preparing a draft plan and statement of action

KEY THEMES AND THE LTP SHARED PRIORITIES

It is recognised that the ROWIP can make a valuable contribution to the delivery of the LTP shared priorities, which are; delivering accessibility, congestion, safer roads and wider quality of life issues. The close links between the ROWIP and the shared priorities of the LTP are shown in Figure 2.

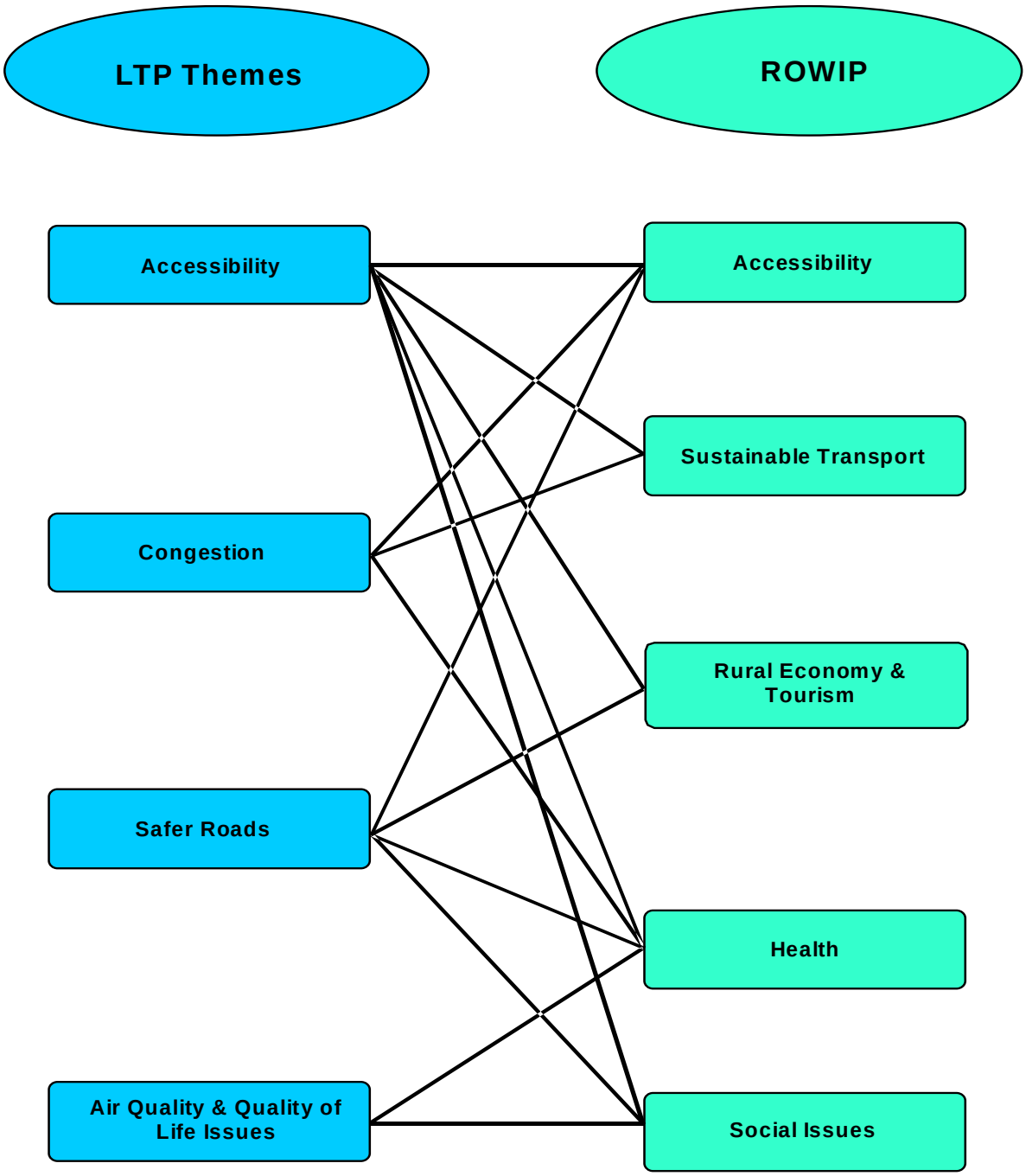

Figure 2 - The close links between the LTP and the ROWIP

In December 2005, the County Council hosted a workshop for the two Lincolnshire Local Access Forums; to review the findings from the ROWIP research undertaken, look at possible themes and actions or projects, which could assist delivery of the ROWIP. The day was structured using a thematic approach, based around key findings from the research. The strategic themes used were:

- Getting more people enjoying walking and riding
- Improving health
- Making it easier to use public transport when walking or riding
- Supporting local businesses

A number of practical themes, again based on the findings from the research were also considered, which were:

- Providing a better quality of experience on paths and tracks close to where people live
- Providing better information for everyone
- Making it easier to follow existing paths and tracks
- Making better off-road links between existing paths and tracks

PROPOSALS FOR THE 2ND LOCAL TRANSPORT PLAN

It is intended that the ROWIP will be written on a thematic basis, in order that the ROWIP and LTP are closely aligned, although the exact format for the draft plan has not currently been finalised by the steering group. Themes that reflect the key findings from the assessments will be incorporated into the draft ROWIP. These are likely to be based around:

- Increasing participation and accessibility
- Sustainable transport
- Improving health
- Social Issues
- Rural economy and tourism

It is anticipated that during the early years of the 2nd Local Transport Plan, funding will be sourced from capital and revenue budgets to improve key strategic routes. A clear message from the consultations with the public showed that people want short, circular walks and cycle rides close to where they live. For example, funding will be identified to upgrade or provide bridges on key strategic routes to close gaps in the network.

It was also clear from the research that the public needs better information for walking, cycling and riding, in a variety of formats showing what is available in their local area, as well as further a field.

There is an increased demand for internet based information and the County Council recently secured match funding from the Countryside Agency following a successful bid for a ROWIP Implementation grant. The grant is being used to develop a web based GIS mapping facility for the county council's web site. This work will be completed at the end of March 2006.

A project is also being undertaken in tandem, to provide a series of interactive web-walks for a variety of users. Information with links to local shops, services and to public transport providers is also being provided with the walks. Other possible future areas of work identified by working with the Local Access Forums are illustrated in Figure 3. This shows how they link to the ROWIP and the LTP shared priorities:

ROWIP	LTP Shared Priorities				
	Accessibility	**Safer Roads**	**Congestion**	**Air Quality & Quality of Life Issues**
Accessibility	Increasing participation by the removal of unnecessary barriers on key routes Identification and work to fill gaps in key locations including installation of missing bridges	Providing a good interconnected network of routes Safety audit of road crossing points for vulnerable users	Promotion and better information to increase awareness of modal choice	Identification and development of key fully accessible routes for all users Better information by development of web based mapping facility
Sustainable Transport	Better integration of ROW with public transport provision and adjustment of services	Development of commuter and recreational routes Improve driver awareness of equestrians	Encourage carrying of cycles on buses and trains	Better promotion of existing services
Rural Economy & Tourism	Gain a better understanding of the needs of visitors to Lincolnshire Better information for visitors in a variety of formats	Develop off road permissive access through stewardship schemes in areas with low provision	Development of quiet lanes network	Better liaison with parish and district councils regarding promotion of routes
Health	Improvement of urban routes to encourage regular use Promotion of health benefits of using rights of way	Further development of safer routes to school Improve verge management and maintenance	Development of quiet lanes network	Better promotion, signing and waymarking Providing a better quality experience
Social Issues	Better promotion and maintenance of routes close to home	Improve advanced signing of crossings for vulnerable users	Better integration of ROW with public transport provision and adjustment of services	Targeted information for infrequent & non users to encourage participation

Figure 3 - Matrix of possible ROWIP projects with LTP Shared Priorities

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APPENDIX C

AIR QUALITY ACTION PLANS

- **City of Lincoln Air Quality Action Plan 2006**
- **Boston Borough Council Air Quality Action Plan Consultation Draft 2006**
- **South Kesteven Air Quality Action Plan July 2005**

CITY OF Lincoln COUNCIL

City of Lincoln Council

Air Quality Action Plan *(2006)*

a

City of Lincoln
Air Quality Action Plan

Local Authority Information

City of Lincoln Council

LA officer	Simon Colburn
LA address	Directorate of Development and Environmental Services City of Lincoln Council Beaumont Fee City Hall Lincoln LN1 1DF
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DOCUMENT STATUS & APPROVAL SCHEDULE

	Prepared By:	Reviewed By:	Approved By	Date
Final Draft	Simon Colburn	A Gray	A Gray	Jan 2005
Consultation	I Wicks	S Colburn	S Colburn	Jan/Feb 05
Amended	S Colburn	S Colburn	S Colburn	April 2005
Amended	I Wicks	S Colburn	S Colburn	Jan 06
Final	I Wicks	S Colburn	Executive	6 March 06

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Introduction

The purpose of the Air Quality Action plan (AQAP) is to provide a framework for improving the air quality within Lincoln City centre, and more specifically within the Air Quality Management Area (AQMA), which was declared in December 2001.

The principal aims of this document are to:

- Raise awareness of Lincoln's air quality issues and the proposed solutions to improve air quality;
- Assist in the prioritisation of measures to improve air quality;
- Promote constructive dialogue with all stakeholders on air quality,

At this stage the Action Plan does not go into specific details of how and when the numerous actions will be implemented. An Implementation Plan addressing the following issues will be published in due course as an addendum to this Action Plan:

- Further quantification of the air quality impacts of the proposed actions;
- Prioritisation of the individual actions taking account of cost-effectiveness assessment;
- Assignment of responsibility for each of the actions;
- Details of funding proposals for the individual actions; and
- Clarification of time-scales.

The Action Plan overarches previous technical assessments of air quality and, by its very nature, will evolve as actions to improve air quality are implemented.

Comments have previously been invited and received on all aspects of this Action Plan as part of the consultation process. Comments received through the consultation process have been taken into account form part of this document. Feedback regarding this document is, however, still welcome at anytime in order to enable the Action Plan to develop.

The Air Quality Management Process

Legislative Background

Part IV of the Environment Act 1995 introduced a framework for Local Air Quality Management (LAQM) across England and Wales. This placed a requirement on local authorities to periodically review air quality in their area and assess the predicted future air quality against prescribed air quality objectives for seven key pollutants detailed in the Air Quality (England) Regulations first laid down in 1997 and updated in 2002. (Appendix 1)

The National Air Quality Strategy

The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (AQS) was published in January 2000 and superseded the original National Air Quality Strategy (NAQS) published in March 1997. It provides a framework for reducing air pollution at national and local levels from a wide range of emission sources.

Central to the Strategy are health-based standards for the eight local air pollutants of current greatest concern. These standards are based on recommendations made by the Government's Expert Panel on Air Quality Standards (EPAQS). From these standards, air quality objectives have been derived, which take account of the costs and benefits, as well as of the feasibility and practicality, of moving towards the standards. The relevant dates for achieving each of the objectives range from 2003 to 2010.

The eight pollutants are:

Benzene
1,3-butadiene
Carbon Monoxide (CO)
Lead
Nitrogen Dioxide (NO_2)
Particulates (PM_{10})
Sulphur Dioxide (SO_2)
Ozone

(There is no local air quality objective for ozone as it is predominately a trans-boundary pollutant. Its formation and effects are normally observed many miles from the original source of the parent pollutants and, as such, local measures will not directly have any effect on the levels of ozone with an area. It is therefore being dealt with at a national level.)

The Review and Assessment Process

Government guidance (see Appendix 2) issued under the Environment Act originally recommended a phased approach to air quality Review and Assessment. This process involved three stages with each subsequent stage being increasingly focused and detailed in order to more accurately assess local air quality.

Each stage considered the likelihood of exceedences of the air quality objectives at relevant locations (i.e. those at which people are likely to be exposed) over the relevant exposure period. For example, an annual average may be used to assess impact at residential locations, where as one hour averages might be used at an urban roadside location, such as a shopping area, where people might reasonably be expected to spend an hour.

Stage 1 employs a desk-based approach in which all sources of air pollution are identified within the district and assessed for their potential to cause exceedences of the air quality objectives. Where there is an indication that any pollutant may fail to meet the objectives, a Stage 2 assessment should be carried out for that pollutant.

Stage 2 involves using more detailed methods to assess the probability of meeting the air quality objectives, such as simple modelling methods (e.g. the Design Manual for Roads and Bridges DMRB) and assessment of actual current monitored levels of air quality.

If predictions or monitored levels of pollutants indicate that the relevant air quality objective is unlikely to be achieved, a detailed and accurate third stage air quality Review and Assessment of that pollutant will be required.

Stage 3 may therefore include more advanced monitoring, computer modelling and emissions inventories and should indicate the geographical extent of any exceedences.

If, after completion of the Stage 3 assessment, the process still indicates that air quality objectives are likely to be exceeded in certain areas, the local authority has a duty to declare an Air Quality Management Area (AQMA), covering at least that area that is predicted not to meet the objectives.

A *Stage 4* assessment is then required for those pollutants that exceed the objectives within the AQMA to further assess the extent of exceedence, the source of the pollutants and the level of improvement needed.

The Council is subsequently required to draw up an Air Quality Action Plan (AQAP) detailing measures that will realistically attempt to reduce the pollutant concentrations in the AQMA down to, or below, the relevant air quality objective.

The review and assessment process is carried out on a rolling basis. It has now evolved from the original three stage review and assessment process to a two stage process, although the principals behind the process are still very similar. The first stage is now called an Updating and Screening Assessment (USA), which builds on the previous review and assessment process, and the second stage, if one is required, is now known as the Detailed Assessment. This process takes place on a three yearly cycle.

In addition, in those years where either a USA or Detailed Assessment is not required, the Council has to submit an Air Quality Progress Report, which is intended to check if there have been any changes affecting all seven pollutants. Also, having produced an Air Quality Action Plan, the Council is obliged to produce an annual Action Plan Progress Report detailing any development on the implementation of proposed measures.

Review & Assessment of Air Quality in the City of Lincoln

The original review and assessment process in Lincoln was carried out using consultants CasellaStanger (formerly Stanger Science and Environment). The process involved the then seven Lincolnshire authorities (Boston BC, City of Lincoln Council, East Lindsey DC, North Kesteven DC, South Holland DC, South Kesteven DC and West Lindsey DC) and Lincolnshire County Council. This approach was chosen in order to share experience, maximise resources and in acknowledgement that air pollution is not constricted by administrative boundaries.

The Stage 1 review and assessment report was published in December 1998 and indicated that in Lincoln, nitrogen dioxide and particulates required more detailed consideration.

In September 2000, the Stage 2 Review and Assessment, using the DMRB model, confirmed that detailed assessment would be necessary for these two pollutants.

The Stage 3 assessment used complex computer modelling and extensive air quality monitoring data. This report was published in February 2001. It indicated that, in Lincoln, areas of the City centre were likely to fail to meet the annual average objective for nitrogen dioxide within the timescale set in the air quality objectives.

As a result, in December 2001, an Air Quality Management Area (AQMA) was declared by the Council, which covered the area that was predicted in the Stage 3 report to exceed the annual average air quality objective of 40µg/m^3.

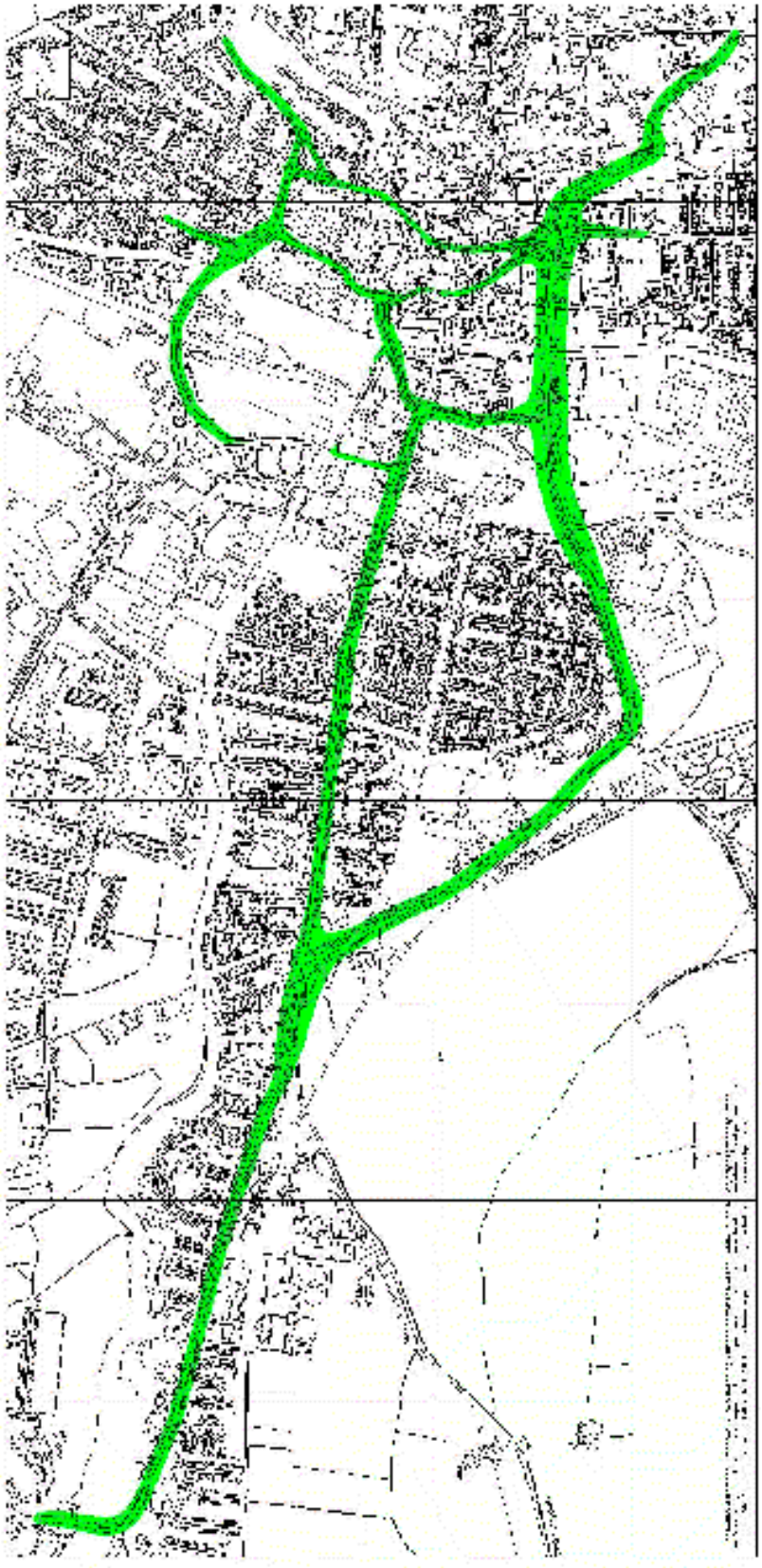
The Air Quality Management Area (AQMA)

The AQMA (shown in figure 1) covers a large area of the City centre road network, including:

- *Yarborough Road (from Hampton Street to West Parade)*
- *The Avenue*
- *West Parade (from The Avenue to Corporation Street)*
- *Corporation Street*
- *Clasketgate*
- *Newland*
- *Wigford way*
- *Mint Street*
- *Silver Street*
- *High Street (from Wigford Way to St Catherines)*
- *St Mark Street*
- *St Catherines*
- *Newark Road (from St Catherines to 256 Newark Road)*
- *South Park*
- *South Park Avenue*
- *Canwick Road*
- *Pelham Bridge*
- *Melville Street*

- *Broadgate*
- *Newton Street*
- *Pelham Street*
- *St Marys Street*
- *Norman Street*
- *Lindum Road*
- *Monks Road (from Broadgate to 51 Monks Road)*
- *Wragby Road (from Lindum Road to Langworthgate)*
- *Carholme Road (from The Avenue to Harvey Street)*
- *Brayford Way*

FIGURE 1
Lincoln City Air Quality Management Area No. 1



Stage 4 Report

In December 2002 a Stage 4 report was produced, to further investigate the levels of nitrogen dioxide (NO_2) in the AQMA.

The Stage 4 report concluded that the annual average concentrations of NO_2 predicted in the City centre were slightly lower than those predicted at Stage 3, which may be attributed in part to the use of the up-dated emission factors.

However, given the accepted uncertainties associated with any modelling and that all areas of the AQMA still exceeded 36 $\mu g/m^3$ (i.e. within 10% of the air quality objective), it was concluded that the original area should continue to be treated as an AQMA.

Exceedences of the annual mean objective for NO_2 in 2005 were predicted at the façades of 386 buildings. A further 533 façades concentrations were predicted to exceed 36 $\mu g/m^3$.

Another objective of the Stage 4 report was to look at source apportionment and the reduction in the oxides of nitrogen (NO_x) required to achieve the air quality objective.

Source apportionment seeks to define the amount of air pollution from different types of sources and helps point towards what type of measures that should be considered for improving air quality. NO_x reduction determines the amount of reduction required in nitrous oxides and, therefore, indicates the amount of reduction in NO_2 that will be required to meet the air quality objectives and will again indicate what type of measures need to be taken and to what extent.

<u>Source Apportionment</u>

The report found that heavy duty class vehicles (HDV) are the biggest contributors to NO_x in the AQMA, contributing an average of 56%, with light duty class vehicles (LDV) contributing an average of 44%.

Table 1: Percent contribution from vehicle classes to total NO_x concentrations from roads at receptors in the Lincoln AQMA

	Percent Contribution of NOx	
Vehicle Class	LDV	HDV
Mean	**44**	**56**
Min	41	54
Max	46	59

Heavy duty class vehicles are estimated to make up between 3% and 7% of the total traffic flow.

NO_x Reduction

A requirement of Stage 4 is to determine the amount of NO_x reduction required at the maximum point of impact within an AQMA. The maximum required reductions in NO_x ($\mu g/m^3$) were calculated for the ten highest concentrations in the AQMA.

Table 2: NO_x reductions required at the façades of 10 buildings in locations of maximum impact

	NO_2 ($\mu g/m^3$)	NO_x ($\mu g/m^3$)	Reduction NO_x required ($\mu g/m^3$)
Annual mean AQS objective	40.0	107.2	= NO_x conc. at receptor – 107.2
Receptor			
High Street/St Marks Street	47.2	146.7	39.5
High Street	44.9	133.3	26.1
High Street/Boultham Avenue	45.1	134.3	27.1
Pelham Bridge	52.7	180.8	73.6
Broadgate	46.1	140.0	32.8
Broadgate	50.7	167.8	60.6
Canwick Road	53.3	184.5	77.3
High Street (south)	45.6	137.5	30.3
Newark Road/Ewart Street	48.5	154.1	46.9
South Park	46.6	143.0	35.8

The maximum calculated NO_x reduction required in the Lincoln AQMA is therefore 77.3 $\mu g/m^3$ on Canwick Road. (It should be emphasised that this is the amount that NO_x needs to be reduced by and not NO_2, to which the air quality objective applies.)

Air Quality Action Plans

What is an Air Quality Action Plan (AQAP)?

Local authorities are required to produce an Air Quality Action Plan (AQAP) where they have designated an AQMA. This also includes a timetable for implementing the plan.

The AQAP should contain a list of actions to improve air quality, based on scenarios identified in previous review and assessment reports.

The action plan should also contain a simple cost and benefit analysis for each action identified and the feasibility of implementing the individual actions. Non-health benefits may also be identified, e.g. reduction of traffic accidents, and may be included as a secondary benefit of an action.

Having established a series of scenarios to improve air quality, the City of Lincoln Council can identify which actions offer the most cost effective or cost beneficial way of improving air quality.

Once the cost-effectiveness of each action has been assessed, the Action Plan should then seek to prioritise the various measures, assign responsibility for each action and identify proposals for funding the implementation.

Aims and Objectives of the AQAP

The overall aim of the AQAP is to provide a framework to minimise the effects of air pollution on human health.

The action plan provides the mechanism to enable a concerted approach from the local authority and the County Council, as well as the local community, businesses, town centre management partnerships, education establishments, transport companies etc., to address air quality issues within the City.

The objectives can be seen to be more far reaching, in that secondary benefits may result from the primary need to achieve air quality objectives.

The City of Lincoln Council Action Plan

Appendix 3 includes a number of either ongoing or proposed measures to improve the air quality within Lincoln. It is by no means exhaustive and may change as the action plan evolves.

The list of measures includes all those actions detailed in the consultation draft AQAP, including those that may be unfeasible on the grounds of limited air quality improvements for excessive cost and those that will clearly be beneficial to air quality but may prove to be unpopular with the public or agencies responsible for implementing any such measures.

As noted in the Introduction to this document, the Action Plan does specifically define how and when the numerous actions will be implemented. An Implementation Plan addressing the following issues will be published in due course as an addendum to this Action Plan:

- Further quantification of the air quality impacts of the proposed actions;
- Prioritisation of the individual actions taking account of cost-effectiveness assessment;
- Assignment of responsibility for each of the actions;
- Details of funding proposals for the individual actions; and
- Clarification of time-scales.

Responses from the consultation process have been taken into account when drawing up the list of proposed measures and appraising their feasibility. A précis of the consultation responses is provided later in this document.

The list of actions is based upon the following factors:

- potential of the measure to improve air quality
- cost of the measure
- other risks or disadvantages
- other benefits
- opinion of the consultees on the acceptability of the measure.

It is inevitable that, as there is a move towards implementing some of the measures and further detailed knowledge of costs and estimates of air quality improvements is gained, that the AQAP will evolve and timescales and priorities within the plan may change.

Timescales

It is recognised that the AQAP should have been produced within 12-18 months of designating the AQMA and, unfortunately, the City of Lincoln Council failed to publish its plan within this specified timescale. However, several initiatives that feature in this report have been running throughout the Air Quality Management process. Specifically, the formation of the 'Lincolnshire Strategic Air Quality Partnership' between the County Council and the three Lincolnshire district councils which have declared AQMA's (Boston BC, City of Lincoln Council and South Kesteven DC) to address air quality and Local Transport plan issues, as well as a variety of educational and promotional activities have been progressed.

Specific time-scales for each of the proposed actions will be included within the Implementation Plan, which will form an Addendum to this document. However, it is important to note that a number of potential actions for improving the air quality within the City centre are only likely to be either technically or economically feasible once an eastern relief road has been opened.

Who is responsible for implementing the AQAP?

Responsibility for improving air quality potentially lies with almost every individual either residing in or visiting the City. In terms of pollution from vehicles, which is the predominant source within Lincoln, each action or decision we make affecting the way we travel in Lincoln, whatever that may be, will have an impact on air quality. On a wider scale, everyday actions that we take can affect the air quality over a wider area. Measures to improve energy efficiency may not impact the air quality noticeably in Lincoln but may have an effect where in the areas around the power stations as well as globally.

Many of the actions highlighted in the plan fall outside the direct control of the City of Lincoln Council. For example, any actions required within the road network are the responsibility of the Highways Authority, which in Lincoln's case is Lincolnshire County Council. Responsibilities for progressing individual measures will be assigned in the Implementation Plan that will form an Addendum to this Action Plan.

In addition, national and European government also have a role to play in tackling longer term issues such as the adoption of legislation relating to allowable emissions from new vehicles.

However, as the lead authority on local air quality matters, it is the City of Lincoln Council's responsibility to engage with those who do have the ability and powers to take action, and encourage and promote those actions. This role operates at a number of levels including, for example, public education and awareness raising on less polluting modes of transport, as well as working with and influencing those who can make those modes of transport more desirable and accessible.

Local Authorities have been provided with limited adoptive enforcement powers to help in tackling air quality issues, such as powers to work with the police to stop and test vehicles for excessive emissions and serve advice notes or fixed penalty notices.

Supplementary Plans and Development Policies

The AQAP should, wherever possible, relate to and build upon existing plans and policies where air quality is a material concern. The following documents are particularly significant in producing this Action Plan:

- Local Transport Plan
- Lincoln Local Strategic Partnership Community Plan
- City of Lincoln Council Local Plan, and Local Development Framework (in development)

The City of Lincoln Council will continue to integrate air quality issues into the strategic documents of both the City Council and other appropriate agencies.

Consultation Process

Consultation at all levels and from as wide an audience as possible is essential in developing the AQAP and ensuring all stakeholders have a degree of ownership of the document. This in turn improves the likelihood of the plan succeeding in reducing pollution levels.

Comments have therefore been encouraged on all aspects of the plan.

Action Plan Consultees

In order for the AQAP to become an enabling report, consultation with major and interested stakeholders should prevail. The list of those consulted on the draft document is as follows:

- *Secretary of State*
- *Members of the Public*
- *Internal Departments within the City of Lincoln Council*
- *Lincolnshire Environmental Protection Liaison Group*
- *Lincoln Local Strategic Partnership*
- *Primary Care Trust (West Lincolnshire)*
- *Lincolnshire County Council*
- *Neighbouring District Councils*
- *Business and Commerce groups*
- *Relevant Community Groups*
- *Educational Establishments within the City*

Public and Stakeholder Consultation

A number of responses to the consultation were received from a variety of agencies, community groups and members of the public.

The salient points from the consultation responses include:

- Targeting HDVs as the principal polluters by:

    - ensuring high standards of maintenance on the fleets
    - undertaking emissions testing
    - diverting through traffic HDVs away from the AQMA
    - restricting HDV access to the City centre during peak pollution times
    - encouraging night-time HDV deliveries to avoid congestion

- Encourage steady traffic flow by:

    - reducing the speed limit in selected areas (e.g. to 20mph)
    - minimise artificial obstructions on the highway (such as road narrowing and ineffectual bus lanes)
    - use less obstructive types of road crossings (for vehicles and pedestrians)

- Close the railway crossings the High Street and Brayford East and:

  - provide bridges or alternative means of crossing for pedestrians
  - set up circular routes both south and north of the railway to divert road traffic

- Avoid the use of “congestion charging” as the motor car is the only viable mode of transport for the majority

- Seek to reduce traffic to the Great Northern Terrace area (via Portland Street and Cross Street) by:

  - relocating the civic amenity site or creating an alternative access to it
  - provide new road from Tentercroft Street to Washingborough Road to relieve pressure on Portland Street, Cross Street and Kesteven Street (by providing alternative access to Great Northern Terrace).
  - seek reforms in the Heavy Goods Vehicle Operators licensing system to take account of wider impact of HDV movements.

- Concern expressed over the proposed temporary car park at Tentercroft Street (under Pelham Bridge) and the extra associated vehicle movements that will be created within that area.

- The greatest single determinant of health is income. It is therefore essential that AQAP measures do not harm the economic regeneration of Lincoln.

- Encourage health initiatives that are closely related to air quality improvements, for example:

  - raise awareness of the benefits of cycling/walking over car use
  - promote measures to improve pedestrian and cyclist safety
  - promote measures to discourage the ‘school run’

- Improve air quality monitoring network to assist decision making.

- Promote the development of the eastern relief road.

- Develop and implement workable park and ride schemes from one or more locations around the City, e.g.

  - from the ‘Western Gateway’
  - use of vacant car parking space or temporary two tier systems at supermarkets

- Improve public transport by:
  - creating ‘high speed’ bus routes linking supermarkets
  - considering a small light tram system

- Encourage awareness and participation by holding a competition for ideas to improve air quality, open to individuals, schools, community groups and businesses, with the ideas being fed into the action plan development process.

Many of the comments and suggestions obtained through the consultation process are addressed either specifically or generally in the draft AQAP options detailed in Appendix 3. Those that are not covered by existing proposed actions have been incorporated into Appendix 3 for further consideration.

Defra Feed Back on Consultation Draft of City of Lincoln Council's Action Plan

Having reviewed the draft Action Plan, Defra have stated that the plan would benefit through consideration of the following points:

- Further quantification of the air quality impacts of measures;
- Prioritisation of the action plan measures to be taken forward following consultation according to their cost-effectiveness;
- Assignment of responsibilities for the action plan measures;
- Details of whether or not funding has been secured for the proposed measures and where additional funding will be required; and
- Closer consideration to time-scales.

As discussed in earlier sections, it is the City of Lincoln Council's intention to fully address these issues within an Implementation Plan, which will be issued as an Addendum to this Action Plan.

APPENDIX 1

Air Quality Strategy 2000 objectives and objectives in the 2003 Addendum prescribed in regulations for the purposes of local air quality management

Table 2: Air Quality Strategy 2000 objectives and objectives in the 2003 Addendum prescribed in regulations for the purposes of local air quality management

Pollutant	Objective*	Concentration measured as	Date to be achieved by
Benzene	16.25 µg/m³ (5 ppb)	running annual mean	31 December 2003
Benzene (apart from Scotland and Northern Ireland)	5 µg/m³ (1.54 ppb)	annual average	31 December 2010
1,3-butadiene	2.25 µg/m³ (1 ppb)	running annual mean	31 December 2003
Carbon monoxide (apart from Scotland)	10 mg/m³ (8.6 ppm)	maximum daily running 8-hour mean	31 December 2003
Lead	0.5 µg/m³	annual mean	31 December 2004
	0.25 µg/m³	annual mean	31 December 2008
Nitrogen dioxide	200 µg/m³ (105 ppb) not to be exceeded more than 18 times a year	1-hour mean	31 December 2005
	40 µg/m³ (21 ppb)	annual mean	31 December 2005
Sulphur dioxide	350 µg/m³ (132 ppb) not to be exceeded more than 24 times a year	1-hour mean	31 December 2004
	125 µg/m³ (47 ppb) not to be exceeded more than 3 times a year	24-hour mean	31 December 2004
	266 µg/m³ (100 ppb) not to be exceeded more than 35 times a year	15-minutes mean	31 December 2005
Particles (PM_{10})	50 µg/m³ not to be exceeded more than 35 times a year	24-hour mean	31 December 2004
	40 µg/m³ (21 ppb)	annual mean	31 December 2004

APPENDIX 2

References, Guidance Documents and sources of information

www.airquality.co.uk

Air Quality Action Plans: Interim Guidance for Local Authorities. National Society for Clean Air and Environmental Protection (NSCA)

Air Quality: Planning for Action. National Society for Clean Air and Environmental Protection (NSCA)

Air Quality Management Areas: Turning Reviews into Action. National Society for Clean Air and Environmental Protection (NSCA)

Consultation for Local Air Quality Management: The How to Guide. National Society for Clean Air and Environmental Protection (NSCA)

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DEFRA (2003) Local Air Quality Management – Policy Guidance: Addendum. LAQM.PGA(05). Stationery Office, London.

Local Transport Plan Lincolnshire County Council

A Community Plan for Lincoln - Lincoln Local Strategic Partnership

City of Lincoln Council Local Plan and emerging Local Development Framework

APPENDIX 3

Potential AQAP Options

Potential AQAP Options - Transport

Measure Number	Measure	Description	Cost (Low, Medium, High)	Impact on air quality (Low, Medium, High)	Timescale (Short, Medium, Long)	Advantages	Disadvantages	Comments
1	Information and Awareness Raising	Initiatives to promote alternative transport types, reduction in car use, more efficient car use, alternative fuels, awareness of pollution levels and health effects of pollution	L	M	S-L	Reduction in car use, less emissions and congestion. Fuel savings for drivers. Safer and quieter environment. Promotes healthy lifestyles and sustainability. Provides choice. Ties in with other Council aims.	None	
2	Integration of air quality issues into policy.	Both public and private sector have the scope to integrate air quality, transport and sustainability issues into their policies and procedures.	L	M	S-L	Reduction in car use. Wider environmental and socio-economic awareness and benefits. Potential financial savings (e.g. fleet management) are significant.	None	

Measure Number	Measure	Description	Cost (Low, Medium, High)	Impact on air quality (Low, Medium, High)	Timescale (Short, Medium, Long)	Advantages	Disadvantages	Comments
3	Land Use Planning	Using the planning system to ensure that developments do not contribute to a deterioration in air quality.	L	M	S-L	Reduction in traffic use, encouragement of more sustainable transport modes. Alignment with other Council policies. General environmental improvements.	Perceived restriction in development. Potential conflict with some policies. Potential access and inequality issues.	Specific supplementary planning guidance should be developed for the AQMA.
4	Walking and walking facilities.	Adoption and promotion of walking policies, both for commuting, within work travel and leisure.	L	M	S-L	Zero emission option. Promotes healthier lifestyles. Sustainable. Healthier workforce.	Safety issues - both traffic and lone individuals.	
5	Cycling and cycling facilities.	Adoption and promotion of cycling policies, networks and improvement of cycling facilities, parking and safety.	M	H	S-L	Zero emission option. Promotes healthier lifestyles. Sustainable. Healthier workforce	Safety issues - both traffic and lone individuals.	

Measure Number	Measure	Description	Cost (Low, Medium, High)	Impact on air quality (Low, Medium, High)	Timescale (Short, Medium, Long)	Advantages	Disadvantages	Comments
6	Education in Schools - Travel	Promoting walking and cycling to/from school.	L	M	S-L	Zero emissions option. Significantly reduced congestion and emissions around schools. Short journeys produce disproportionately higher vehicle emissions. Health and lifestyle benefits. Encourages early behavioural changes.	Perception of safety. Likely to have limited effect within AQMA itself.	
7	Education in Schools - Environment	Promoting wider environmental issues	L	L	S-L	Likely to promote more sustainable actions and travel in future generations.	Any improvements difficult to quantify.	
8	Travel Plans	Development and implementation of plans to reduce car travel to places of work and learning.	M	M	S/M/ L	Reduction in traffic, congestion and emissions. Promotes alternatives to car, encourages modal shifts. Potential travel cost savings	Negative perception of “enforced” reduction in use of car likely.	County Council are actively promoting, and working with users to develop, travel plans

Measure Number	Measure	Description	Cost (Low, Medium, High)	Impact on air quality (Low, Medium, High)	Timescale (Short, Medium, Long)	Advantages	Disadvantages	Comments
9	Improved road signing/ route guidance	Improving signage to re-route traffic away from sensitive areas	M	M	M/L	Less traffic and congestion in some areas, reduced emissions. Therefore potential safety and noise improvements	Potential increased traffic in other areas, potential increase in noise to other areas. Not encouraging modal shift.	Currently little option in re-routing traffic other than through traffic around western bypass. Will be more successful following completion of eastern bypass.
10	Improved public transport information	Improving information may encourage greater public transport use	M	M	M/L	Reduced traffic and congestion. Encourages modal shift	Capacity of public transport network.	
11	Improved public transport facilities.	Improvements of both transport (e.g. buses) and fixed facilities (e.g. lighting, seating at stations)	High	Low	Medium/ Long	Reduced traffic and congestion. Encourages modal shift Improved customer safety and satisfaction	Would need to be widespread to have desired effect	
12	Improved Parking information	Real time signage or similar to indicate parking availability in City Centre	M	L	M	Reduced mileage and congestion. Improved visitor satisfaction and impression of City	May be perceived to encourage City Centre traffic.	

Measure Number	Measure	Description	Cost (Low, Medium, High)	Impact on air quality (Low, Medium, High)	Timescale (Short, Medium, Long)	Advantages	Disadvantages	Comments
13	Bus Lanes	Widening scope of bus lanes and bus priority routes particularly in AQMA to reduce bus flow and reduce journey times	M	M	M	Reduced traffic and congestion. Time savings for passengers. May encourage modal shift.	Insufficient road capacity in areas to accommodate bus lanes. Loss of road space for other users. Therefore potentially more congestion, longer journey times and increased emissions from other lanes.	Unlikely to be viable until eastern relief road built allowing non City Centre traffic to relocate.
14	High Occupancy Vehicle (HOV) Lanes	Improves journey times and flows for shared vehicles. Encourages car sharing.	M	M	M/L	Reduced traffic, congestion and emissions. Time savings for passengers.	Insufficient road capacity in areas to accommodate HOV lanes. Loss of road space for other users. Therefore potentially more congestion, longer journey times and increased emissions from other lanes. Difficult to enforce.	Unlikely to be viable until eastern relief road built allowing non City Centre traffic to relocate.

Measure Number	Measure	Description	Cost (Low, Medium, High)	Impact on air quality (Low, Medium, High)	Timescale (Short, Medium, Long)	Advantages	Disadvantages	Comments
15	Park and Ride Scheme	Strategically located park and ride sites to transfer City Centre car journeys to bus journeys.	High	High	Long	Reduced congestion and emissions. Improved travel options. Would benefit large numbers of both visitors and commuters.	May generate longer trips to site(s). May encourage driving/ park and ride rather than wholly public transport travel. Council decision to discontinue previous Park and Ride scheme. Likely to require tying in with other options to gain greatest benefit (e.g. bus lanes).	Park and ride often most successful when sites distributed around 360 degrees, therefore likely to be most successful when eastern growth corridor opens up access.

Measure Number	Measure	Description	Cost (Low, Medium, High)	Impact on air quality (Low, Medium, High)	Timescale (Short, Medium, Long)	Advantages	Disadvantages	Comments
16	Construction of Eastern Relief Road	Construction of road network from A158 to A15 to provide alternate route options for non city centre traffic north/south traffic.	H+	H+	M-L	Reduced traffic, congestion and noise in City Centre. Improved journey times. Re-routes traffic away from sensitive areas - greatest impact in AQMA. Considerable economic development potential for eastern area.	Relocation of traffic and therefore pollution to other locations. Possible slight increase in some journey times. Associated environmental / ecological issues. Improvements may be short lived as perceived traffic flow improvements encourage increased growth in traffic.	Current air quality assessment (County Council) predicts this measure alone will cause the air quality objective to be met in the AQMA.
17	Parking Policies	Alterations to current parking policies (City & County Councils and private sector) to align with air quality improvements	L	L	S-L	Reduced congestion, potential business benefits to retail sector	Conflict with other policies and objectives. Parking measures may be unpopular. Potential impacts on business/commerce.	

Measure Number	Measure	Description	Cost (Low, Medium, High)	Impact on air quality (Low, Medium, High)	Timescale (Short, Medium, Long)	Advantages	Disadvantages	Comments
18	Roadside emissions testing Regular/enforcement	Emissions testing to identify and reduce emissions from high polluting vehicles.	M	H	S-M	Reduced emissions, potential for reduced noise and improved safety.	Potential negative impact of mandatory scheme	
19	Roadside emissions testing Infrequent/promotional	Emissions testing to identify and reduce emissions from high polluting vehicles.	L	M	S-M	Reduced emissions, potential for reduced noise and improved safety.		
20	Scrappage incentives	Offering incentives to encourage replacement of older higher polluting vehicles with less polluting vehicles.	M	L	S-M	Reduced emissions. Reduced dumping of old vehicles	Does not encourage modal shift. System may be abused.	
21	Restrict Idling Engines	Enforce law against idling vehicle engines	L	L	S-L	Reduced emissions and noise. Local improvements.	Considerable enforcement time/manpower. May have limited effect in AQMA.	

Measure Number	Measure	Description	Cost (Low, Medium, High)	Impact on air quality (Low, Medium, High)	Timescale (Short, Medium, Long)	Advantages	Disadvantages	Comments
22	Promote advice and incentives for improving bus/HGV emissions.	Encourage bus/ HGV fleets to retrofit exhaust type abatement technology. Encourage replacement of older fleet models with newer less polluting types.	M	H	S-L	Reduced emissions and noise. Improved environmental image. Potential fuel savings. Additional benefits in reducing particulates.	Costs to operators.	Consideration could be given to extending this scheme to other areas such as taxis, fleet vehicles to further improve benefits
23	Promote alternative vehicle fuels	Promote and encourage use of low emission vehicle fuels. (e.g. LPG, electric)	M	L	S-L	Reduced emissions. Costs savings.	No improvement in congestion. May cause slight increase in other pollutants. Limited availability. Conversion costs. No specific individual incentive unless combined with other measures (e.g. LEZ's). Future cost savings uncertain.	
24	Traffic management at specific air pollution "hotspots".	Methods used to encourage smooth traffic flow and driving styles in particular areas.	M	L	M-L	Reduced emissions and congestion. Potential fuel savings to motorists.	Unlikely to be feasible in City Centre. May divert traffic to other areas.	

Measure Number	Measure	Description	Cost (Low, Medium, High)	Impact on air quality (Low, Medium, High)	Timescale (Short, Medium, Long)	Advantages	Disadvantages	Comments
25	Low Emission Zone (LEZ)	Restricted entry to AQMA or other similar area based on pre-selected criteria (e.g. when pollution levels exceed criteria or on grounds of pollution emissions of vehicle)	L	H	M-L	Reduced emissions, congestion, noise. Would encourage alternative/ public transport; cleaner fleets and raise awareness of air quality issues.	Highly contentious. Currently no real alternative road routes for north/south traffic. Potentially inequitable and socially exclusive unless grants available. Additional costs. Potential displacement of traffic to other City areas causing considerable congestion and air quality problems. Administrative and technical problems if LEZ implemented on a pollution levels exceedence criteria.	Most likely to be successful if alternative road networks available to absorb displaced traffic.

Measure Number	Measure	Description	Cost (Low, Medium, High)	Impact on air quality (Low, Medium, High)	Timescale (Short, Medium, Long)	Advantages	Disadvantages	Comments
26	Road User Charging	Charge levied to enter AQMA or other similar area. Variable charging (e.g. discounts to least polluting vehicles).	M	H	L	Reduced emissions, congestion, noise. Would encourage alternative/ public transport; cleaner fleets and raise awareness of air quality issues. Potentially revenue generating to reinvest in air quality management.	Highly contentious. Currently no real alternative road routes for north/south traffic. Potentially inequitable and socially exclusive unless grants available. Considerable additional administrative costs. Potential displacement of traffic to other City areas causing considerable congestion and air quality problems.	Most likely to be successful if alternative road networks available to absorb displaced traffic.
27	Workplace Parking Charges.	Charges (both public and private sector) on free/subsidised parking to reflect true environmental costs.	L	L	S-L	Reduced emissions, congestion, noise. Most effective in AQMA/ city centre. Potential revenue for reinvestment in air quality management.	Highly contentious. Inequitable. Costs to businesses, commerce.	

Measure Number	Measure	Description	Cost (Low, Medium, High)	Impact on air quality (Low, Medium, High)	Timescale (Short, Medium, Long)	Advantages	Disadvantages	Comments
28	Rail operator negotiations regarding the air quality issues of level crossing closures in the City Centre.	Negotiate to ensure that air quality issues are considered in the development of any plans for the expansion of the local or regional rail network.	M	M	M-L	Reduced emissions and congestion.	Possible conflicting priorities.	
29	Provide alternative access to Great Northern Terrace Industrial Estate.	Alternative access to Great Northern Terrace with direct link to proposed Eastern Relief Road would provide relief to hotspots such as Portland Street and Cross Street.	H	H	M-L	Reduced traffic, congestion and noise in Portland Street/Cross Street area. Improved journey times. Re-routes traffic away from sensitive areas - greatest impact in AQMA.	Relocation of traffic and therefore pollution to other locations. Possible slight increase in some journey times. Improvements may be short lived as perceived traffic flow improvements may encourage growth in traffic.	

The Air Quality Strategy for England, Scotland, Wales and Northern Ireland

Consultation Draft Joint Air Quality Action Plan for Haven Bridge and Bargate Bridge Air Quality Management Areas

Boston Borough Council

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1 THE NEED FOR AN AIR QUALITY ACTION PLAN

1.1 The UK Air Quality Strategy

In 1997, Government produced The National Air Quality Strategy (NAQS) in line with the requirements of the Government White Paper '*This Common Inheritance*'. The NAQS set down the current process known as Local Air Quality Management (LAQM) within the UK. Through the preceding Environment Act, 1995, this placed a statutory duty on local authorities throughout the UK to periodically review and assess air quality within their areas.

The NAQS set to protect human health against adverse effects of seven priority pollutants. It proposed to set standards and objectives for these pollutants based on the recommendations of the Expert Panel on Air Quality Standards (EPAQS) and the workings of the Committee on the Medical Effects of Air Pollution (COMEAP). The pollutants identified as being of concern are:

- Benzene
- 1,3 Butadiene
- Carbon Monoxide (CO)
- Lead (Pb)
- Nitrogen Dioxide (NO_2)
- Fine Particulates (PM_{10})
- Sulphur Dioxide (SO_2)

Air Quality Standards are set on medical and scientific evidence concerning the health effects of each of the above pollutants. Each standard includes an objective level for the pollutant and a target date by which the objective level must be achieved. Achievement of the Air Quality Standard should ensure that the pollutant does not pose any adverse health effects for future generations and ensures an appropriate level of safeguarding against increased emissions. Where problems in air quality are known to exist, and measures are outside the authority's powers, the authority must show that it is at least working towards the achievement of the objectives.

In 2000, Government reviewed the NAQS and set down a revised Air Quality Strategy (AQS) for England, Scotland, Wales and Northern Ireland. This set down a revised framework for air quality standards and objectives for the seven pollutants, which were subsequently set in Regulation in 2000 through the Air Quality [ ] Regulations 2000. These were subsequently amended in 2002 through the Air Quality [ ] (Amendment) Regulations 2002.

In February 2003 Government published its Addendum to the AQS which proposed new objectives for PM_{10} in 2010 whilst also setting down new objectives for benzene and carbon monoxide.

In Europe the Air Quality Framework and Daughter Directives prescribe Limit Values for certain pollutants, which all member states must meet. LAQM has a key role to play in helping the UK meet its objectives under these Directives.

The key elements of the Environment Act 1995 concerning the current AQS are listed in Table 1.1.

Table 1.1: Major elements of the Environment Act 1995

Part IV Air Quality	**Commentary**
Section 80	Places a statutory duty on the Secretary of State (SoS) to produce a national air quality strategy.
Section 81	Obliges the Environment Agency to take account of the strategy.
Section 82	Requires local authorities to review air quality and to assess whether the air quality standards and objectives within their areas are likely to be exceeded.
Section 83	Requires a local authority, for any area where air quality standards are not being met, to issue an order designating it an air quality management area (AQMA).
Section 84	Imposes duties on a local authority with respect to AQMAs. The local authority must carry out further assessments and draw up an action plan specifying the measures to be implemented within the AQMA, and the time-scale for doing so, to move towards attainment of the air quality standards and objectives.
Section 85	Gives reserve powers to cause assessments to be made in any area and to give instructions to a local authority to take specified actions. Authorities have a duty to comply with these instructions.
Section 86	Provides for the role of County Councils to make recommendations to a district on the carrying out of an air quality assessment and the preparation of an action plan.
Section 87	Provides the SoS with wide ranging powers to make regulations concerning air quality. These include standards and objectives, the conferring of powers and duties, the prohibition and restriction of certain activities or vehicles, the obtaining of information, the levying of fines and penalties, the hearing of appeals and other criteria. The regulations must be approved by affirmative resolution of both Houses of Parliament.
Section 88	Provides powers to make guidance which local authorities must have regard to.

1.2 Local Air Quality Management

The current AQS provides the basis for implementation of Local Air Quality Management throughout the UK. It requires local authorities to carry out a review and assessment of air quality within its area to identify the current and future locations where air quality objectives are "not likely" to be achieved by their target dates. Previous technical guidance (1998 and 2000 versions) has provided a means by which local authorities can fulfil this duty. In January 2003, new technical guidance and policy guidance were issued by Defra for local authorities continuing with the process of review and assessment. The new guidance sets the framework for the requirements of review

and assessment for future years, taking account of experiences from the previous round of review and assessment.

Within the First Round of Review and Assessment it was recommended that local authorities dispose of this duty through undertaking a three-stage assessment, increasing in detail at each stage. The first stage of this process (Stage 1) includes undertaking a desktop review in order to identify all sources of pollution within the area. Using [then] Technical Guidance issued by Government significance is placed on sources of pollution both within the authority's area and those immediately outside the authority's area, that are likely to impact on air quality. Having identified those sources and areas that require further attention, simple screening assessments (Stage 2) or detailed monitoring and modelling programmes (Stage 3) are undertaken.

The Second Round of Review and Assessment provides a basis for local authorities to again update their previous air quality assessments. In doing so, local authorities should take into consideration changes in national air quality standards and objectives and revised Technical Guidance (LAQM.TG(03)), new emission sources, and any significant proposed planning developments due to take place before the relevant objective date.

Section 83(1) of the Environment Act 1995 requires local authorities to designate as Air Quality Management Areas (AQMAs) those areas where it is likely that the objective levels for any of the designated pollutants would not be achieved.

Section 84 of the Environment Act 1990 requires local authorities to make a further investigation of the air quality within any AQMAs that they may have declared to confirm the findings of the Stage 3/ detailed assessment reports. It additionally requires local authorities that have declared an AQMA to prepare an Air Quality Action Plan to reduce the levels of problem pollutants in the AQMAs.

This plan fulfils the authority's requirements under Section 84(2) of the Act with regards to putting measures in place to strive toward achievement of the current air quality objectives. At the time of writing, the Joint AQMA Action Plan is put down by the Council in order to show a commitment to the achievement of the annual mean objective for NO_2 to be achieved by 31 December 2005. The plan is submitted to show the Council's commitment to continued improvement in air quality in order to achieve the annual mean objective despite the achievement date having passed. It is Government's expectation that, where the relevant objective(s) is (are) not achieved by the date(s) set in Regulation that the Council continues to work toward achieving it (them).

It is hoped that the current review of the UK Air Quality Strategy (due out soon in consultation draft) will clarify the duties to be placed on local authorities where continued exceedence passed the achievement dates arise. The Council's current proposals to integrate the action plan into the Local Transport Plan is discussed in further detail below, in order to set out the additional achievements of the plan within the lifetime of the LTP over the period 2006 – 20011.

1.3 Integration of the Action Plan into the Local Transport Plan (2006-2011)

LAQM.PGA(05) provides an updated policy viewpoint for those authorities with AQMAs declared in their areas, for which local road traffic has been identified as the main emission source. Where this is the case, an authority may wish to integrate its action plan into the Local Transport Plan (2006 – 2011). Air Quality is included within the LTP Second Round (LTP2) as a shared priority – Safety, Congestion and Accessibility forming the other priority areas. Formula funding for the allocation of funds associated with schemes geared toward delivery of these shared priority areas currently favours those local authorities with declared AQMAs. Thus, where good integration and alignment of air quality priorities with the LTP2 occurs, additional funding may be allocated. In the case of Boston Borough Council (BBC), Lincolnshire County Council (LCC) is the relevant authority responsible for the delivery of LTP2.

The Council intends to fully integrate its action plan into the Local Transport Plan for 2006 – 2011 currently being finalised by Lincolnshire County Council. It is intended that future progress reporting on transport measures applicable within this action plan will be undertaken through the LTP Progress Report schedule.

An integral part of the LTP process for those authorities with AQMAs within their areas is the setting of targets in line with Mandatory Indicator LTP8. Guidance highlights that:

> *When setting targets to be achieved within the lifetime of the LTP for improvements in air quality in Air Quality Management Areas (AQMAs) an authority is expected to set realistic, yet stretching, targets for those pollutants that have triggered the declaration of the AQMA (Mandatory Indicator LTP8).*
>
> *The requirements for Mandatory Indicator LTP8 are:*
> - *Set a baseline concentration(s) (2004) for those pollutants that have triggered the declaration of the AQMA(s)*
> - *Set a target concentration(s) (2010) for those pollutants that have triggered the declaration of the AQMA(s)*
> - *Set annual trajectories (intermediate outcomes) for annual assessment of the performance of the LTP. It is strongly recommended that authorities avoid the use of pollutant concentrations for intermediate outcomes due to the influence of meteorology on the dispersal of pollutants, which may lead to elevated levels of pollution, despite progress with reducing emissions within an AQMA.*

Prior to setting any targets for the two AQMAs within Boston, consideration has been made to what is achievable in realistic terms over the lifetime of the LTP when considered in the wider context of the following:

1. Underlying growth in traffic
2. Local topography and geography of the area
3. The existing network infrastructure
4. Emerging evidence that primary NO_2 levels are increasing (Air Quality Expert Group Report on Nitrogen Dioxide published April 2004)
5. Underlying trend of increasing background ozone levels (more NOx to NO_2), which means that existing NOx to NO_2 conversion rates unlikely to hold in future years ((Air Quality Expert Group Report on Nitrogen Dioxide published April 2004)

Authorities are recommended to use intermediate outcomes to establish the performance of the LTP on an annual basis on air quality, thereby avoiding any influence of meteorological conditions on pollutant concentrations. The use of intermediate outcomes is considered more fully in the LTP.

Appendix A provides a summary of the Targets sets for the two AQMAs, based on the impacts of existing national policy measures and what additional improvements in air quality may be realised by the impact of the measures within the action plan. Results show that the Borough is unlikely to meet the annual mean objective for NO_2 by 31 December 2005. However, improvements in air quality will be realised within the lifetime of the LTP, which will result in the achievement of the annual mean NO_2 Limit Value by 2010. This is considered further within Section 3.5: Time-scales.

2 BOSTON BOROUGH COUNCIL REVIEW AND ASSESSMENT

Boston Borough Council has declared two Air Quality Management Areas (AQMAs) under Section 83(1) of the Environment Act 1995. A previous Action Plan has been adopted by the Council for the improvement of air quality within the Haven Bridge AQMA only. This revised consultation draft Action Plan includes the provision of those measures previously deemed appropriate for the Haven Bridge AQMA, and proposes that these be extended to include the newly declared Bargate Bridge AQMA. The approach is appropriate as road traffic has been confirmed as the main emission source leading to the declaration of both AQMAs, and, as such, a simple extension of existing measures to recognise the additional benefits across both AQMAs appears logical. The location and detail of each of the AQMAs can be seen in Figures 2.1, 2.2 and 2.3.

The following sections consider the relative contribution to overall emissions within each of the AQMAs, and further aims to identify the required reduction in emissions (as NOx) that would be required to be achieved to meet the annual mean objective for NO_2.

2.1 Source-Apportionment

Receptors were selected for relevant locations at the building façades within both AQMAs to represent the highest predicted modelled NO_2 concentrations based on verification using 2004 monitored data.

Modelling was undertaken to provide NOx source apportionment for receptors within the AQMAs using emission factors for LDV and HDV vehicle classes, together with the corresponding percentage of the traffic flow. The percent contribution from each vehicle class has therefore been calculated. Table 2.1 shows source contributions of NOx concentrations within the AQMAs.

The results of the source apportionment indicate that road traffic emissions are the main source of NOx concentrations in the AQMAs (~83%). The HDV class vehicles are contributing disproportionately to NOx concentrations in the AQMA areas; contributing almost half of NOx concentrations (41 - 45%) from road traffic but being a relatively small proportion (~9%) of the vehicle fleet.

Table 2.1 Source apportionment of NO_X concentrations at building façades within the AQMAs

Location/ AQMA	NO_X concentrations 2005	%	µg/m^3
69 Bargate End, Bargate Bridge AQMA	**Background**	16.7	27.1
	Road traffic	83.3	135.1
	HDV*	*41.2*	*66.7*
	LDV*	*42.1*	*68.3*
95 Liquorpond Street, Haven Bridge AQMA	**Background**	17.5	27.1
	Road traffic	82.5	127.7
	HDV*	*45.0*	*69.7*
	LDV*	*37.5*	*58.0*
**As proportion of road traffic emissions contribution*			

2.2 Reduction in NOx required to achieve NO_2 objective

Modelling work, undertaken to determine the amount of NO_2 reduction (as NOx) required to achieve the annual mean NO_2 objective at the worst-case receptors within each AQMA has been undertaken to inform the focus of attention of the action plan. In order to determine the amount of NOx reduction required the annual mean objective of 40 $\mu g/m^3$ NO_2 is calculated to be an equivalent NO_x concentration of 135.6 $\mu g/m^3$ using LAQM.TG (03), taking into account background concentrations in 2005.

The following provides a summary of the required reductions in NOx to be realised by the implementation of local measures through the action plan:

(1) Bargate Bridge AQMA
The maximum NOx reduction required within the Bargate Bridge AQMA at the façade of the worst-case receptor is 26.5$\mu g/m^3$ (equivalent to a 16.4% improvement in NOx) in 2005 and NO_2 reduction is 2.1$\mu g/m^3$ (equivalent to a 5.1% improvement in NO_2).

(2) Haven Bridge AQMA
The maximum NOx reduction required within the Haven Bridge AQMA at the façade of the worst-case receptor is 19.2$\mu g/m^3$ (equivalent to a 12.4% improvement in NOx) in 2005 and NO_2 reduction is 1.3$\mu g/m^3$ (equivalent to a 3% improvement in NO_2).

The Air Quality Action Plan aims to reduce the levels of NOx/NO_2 within the AQMA by these amounts.

2.3 Policy Developments Applicable to Both AQMAs

The results of the source-apportionment work are relevant to the formulation of the Air Quality Action Plan for Boston and show that the following are most likely to bring about improvements in air quality within the AQMA and lead to the achievement of the air quality objective for NO_2:

- An investigation into suitable traffic management options to be implemented on the strategic trunk road network accessing the town, to reduce congestion at key 'pinch-points' on the network, is being undertaken as part of the Boston Transport Study. The measure will result in the undertaking of an initial evaluation report, with LCC being subsequently responsible for any implementation;
- The implementation of an enhanced bus network along key strategic routes through the use of Quality Bus Partnerships. An enhanced service provision and the provision of better route information and bus schedules will invariably make buses a more attractive alternative for the public, leading to a change in modal shift away from private vehicle use;
- Implementation of travel plans and the promotion of sustainable forms of transport for key businesses and other organisations within the town; and
- Implementation of school travel plans to assist in the reduction of the 'school run' at morning peak-hour periods

This document provides a detailed consideration to the policies and measures that Boston Borough Council is considering for implementation within its Air Quality Action Plan. It builds upon information contained within the Lincolnshire County Council Local Transport Plan (LTP) and its 2003 Progress Report.

In determining the nature of the measures to be included within this action plan a Working Group was set up comprising relevant department representatives of the Council (Environmental Health, Planning and Regeneration) and also with the Transport Department of Lincolnshire County Council. In addition, external consultants (Casella Stanger) were included within the initial discussions on the measures to be included.

Figure 2.1 Macro-scale location of AQMAs

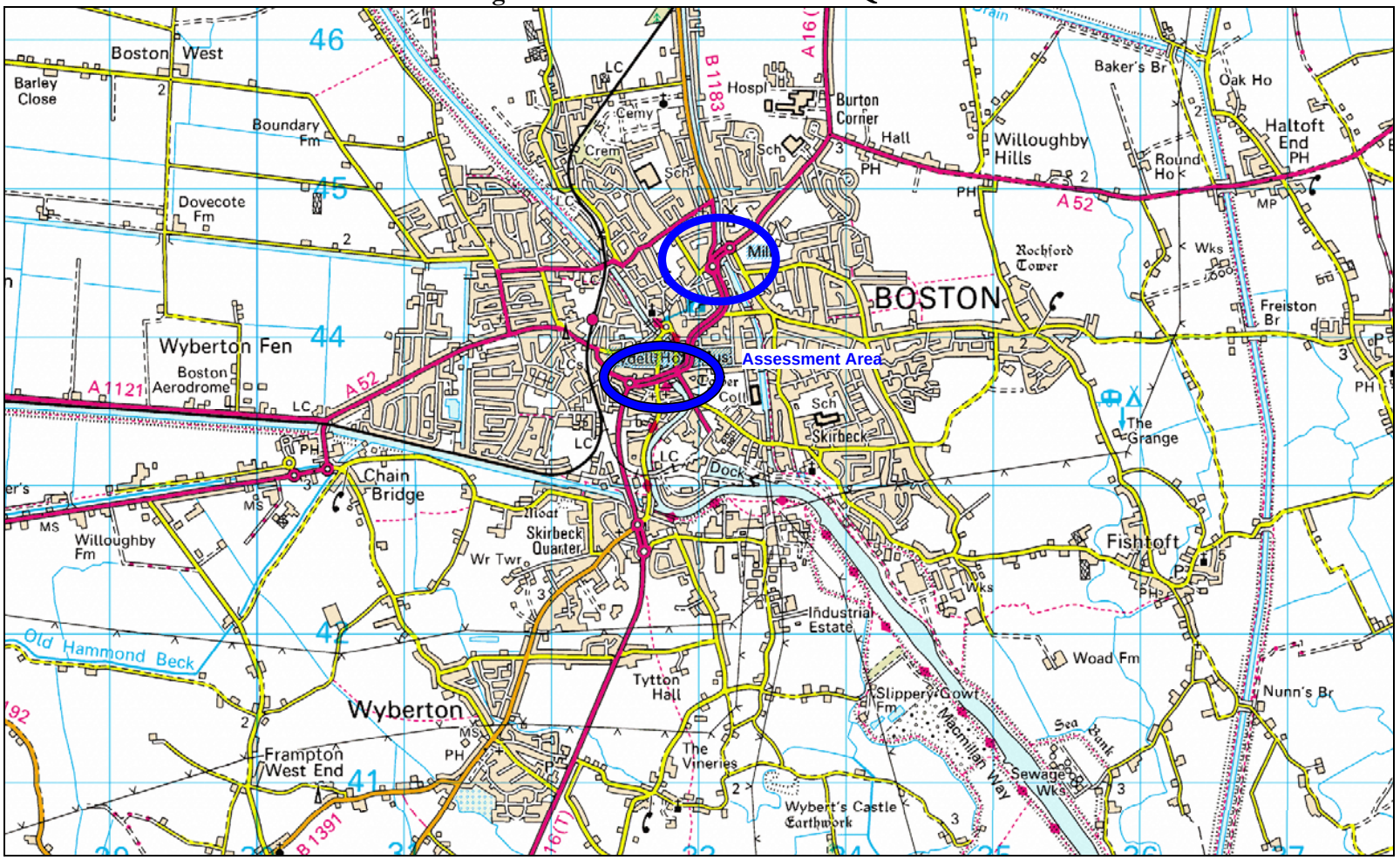

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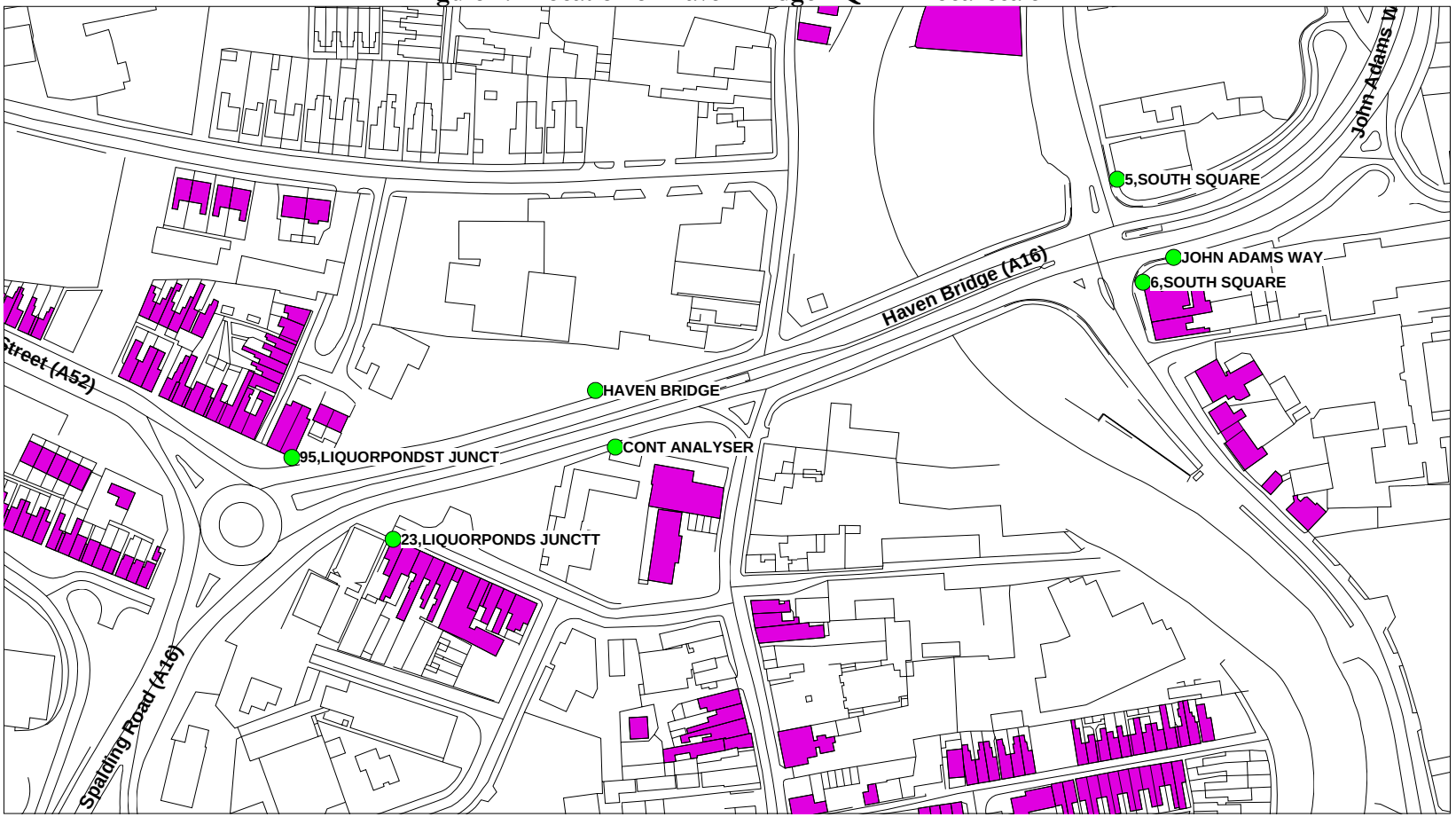
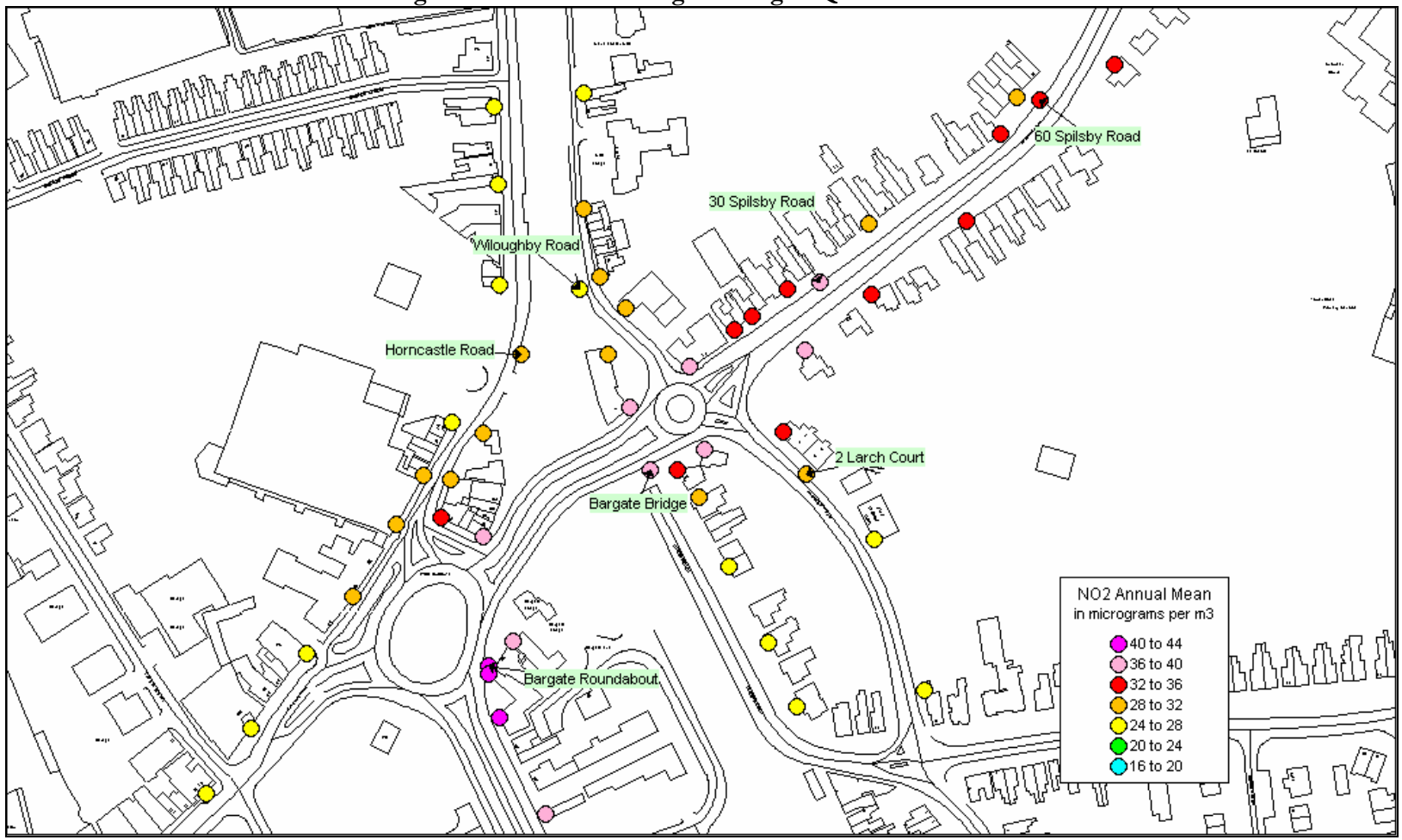
Figure 2.2 Location of Haven Bridge AQMA – local scale



Note: :Location of Continuous Analyser no longer relevant. Evident at time of declaration.

Figure 2.3 Location of Bargate Bridge AQMA – local scale



Key Points:

- The AQMAs have been declared on the basis of exceedences of the annual mean NO_2 objective (2005);
- Consideration to sources of pollution show that it is road traffic that is the main source;
- Of the major roads sources, it is Heavy Duty Vehicles (HDVs) that make the most contribution to levels of NO_2 through NOx emissions.
- A reduction in NO_2 of at least 2μg/m^3 is required on the annual mean at the worst case receptor to achieve the objective;
- Policy measures aimed at reducing the number of local trips undertaken by residents, and aimed at reducing emissions from HDVs within the area are likely to achieve the greatest reductions in levels of NO_2;
- The action plan fulfils the duties of the Council under Section 84(2) of the Environment Act 1995, which requires the authority (having declared AQMAs) to move towards attainment of the relevant air quality objectives, despite the fact that the compliance date of 31 December 2005 has passed.

3 THE ACTION PLAN PROCESS

3.1 Aims of the Action Plan.

The immediate aim of the action plan is to set down and identify a number of appropriate measures that can be taken to improve air quality within the AQMA. The action plan should appraise each measure in terms of feasibility and benefits to air quality, whilst providing explicit consideration to time-scales with respect to implementation.

3.2 Structure of the Action Plan

Chapter 1 has previously given a brief overview of the legislative requirements for the formulation of an air quality action plan and the need to improve air quality within Boston town centre.

Chapter 2 provides an outline of the size and scope of the air quality problems in the AQMAs.

Chapter 3 provides the background to the action planning process and includes details with respect to the overall themes of this document and the process by which consideration to measures has been achieved.

Chapter 4 deals with existing and future actions that can be taken. The approach to policies has been to package policies according to the overall themes by which they operate. These include:

- Package 1: Major Infrastructure Developments;
- Package 2: Local Intervention Measures

The approach has been to first describe the policies in the context of air quality and then provide a tabular summary for specific details. Each action or proposal in the table includes an estimate of how long it will take, how costly it is, and what air quality benefit it will deliver. It also has details of which body (internal or external) will be responsible for implementing it. In many cases, this involves working closely with external partners to deliver improvements, for example, Lincolnshire City Council – who manage the strategic road network for Lincolnshire. Some Council initiatives and policies can impact directly or indirectly on air quality. These will have been subjected to Council consideration and in many cases directly to public consultation. The first part of the table of actions is based on existing BBC Policy. In addition to those actions that already form part of the Council's Policies several extra initiatives are also needed to reduce emissions. These new initiatives form the second part of each detailed tabular summary.

Section 5.4 provides details on the process of consultation undertaken by the BBC in determining the policy measures that should be included within the action plan.

Chapter 6 explains how BBC will monitor the effectiveness of this action plan.

3.3 Building upon existing strategies

In deriving Air Quality Action Plan (AQAP) for Boston Borough Council a number of existing strategies and policies have been incorporated. Notably, theses include:

- Boston Borough Local Plan – First Deposit (March 2004:
- Lincolnshire County Council Local Transport Plan (July 2000);
- Lincolnshire County Council Local Transport Plan Annual Progress Report 2003;
- Boston Community Strategy (Under Review);
- The Boston Master Plan.
- Boston Corporate Plan, 2004-2009.

3.4 Impact assessment

For each proposal, or package of proposals, included in the draft AQAP some consideration to the impacts of the proposed measure(s) on air quality is included. The approach to 'impact assessment' within the draft Plan has been to, where possible, determine quantitatively the reduction in pollutant emissions or concentrations derived from the proposal. However, limitations to this approach are evident and quantitative analysis is confined to those proposals that lend themselves easily to such an approach through the use of complex dispersion models, and/or the use of emissions estimates. For example, where a proposed reduction in the volume of traffic is suggested a dispersion model can be used to determine the impacts on air quality within the affected area. Less practical to assess fully is a proposal that entails increasing the coverage of cycle lanes within an area, or increasing the number of 'walk-to-schools' initiatives. Consequently, where such 'Smart Measures' are proposed, an estimate of the improvements in air quality brought about by the package as a whole has been made, based on 'best estimates'.

With regards to the proposed development of the Docks Link Road, changes in traffic flows lend themselves to detailed modelling and this has been undertaken using the ADMS-Roads model, previously used in the review and assessment work that has led to the declaration of the AQMA in Bargate Bridge.

3.5 Time-scales

Part IV of the Environment Act stipulates that a local authority must move towards achieving the air quality objectives within its area, where those objectives have been shown to be exceeded in the relevant future years. Under Section 84 of the Act the local authority, in drawing up its action plan, must give due consideration to the time-scales to which the objectives are required to be achieved. The current AQMA within the Borough is declared on the basis of predicted exceedences of the annual mean objective for NO_2 – the **date of achievement of this objective is 31 December 2005**.

Many of the existing measures are in place as a consequence of existing strategy implementation. New policy measures should give due regard to this date and time-scales for these measures have additionally been identified. It is stated from the outset that the

extent of the problem within the AQMA is such that no single policy measure is likely to solely achieve the required reduction in ambient levels of NO_2. As such, the achievement of the objective is dependent upon the cumulative impacts of a number of measures, the main one of which has been identified and is outside the authority of the Borough. **It is therefore unlikely that the proposals included within this action plan will achieve the necessary reductions in NO_2 within the time-scale of the objective date (i.e. 2005). However, it is likely that the longer-term improvements in air quality will be realised within the life-time of the second round of Local Transport Plans (LTPs), which require authorities to set out their transport objectives for the period 2006 – 2011.**

It is the additional objective of the plan to safeguard air quality in those existing areas not shown to be an issue, whilst additionally bringing about an improvement in air quality across the Borough both in the short-term and in the longer-term.

3.6 Funding

Many of the policy measures included within the Action Plan have already had funding allocated, or being sought through the latest Local Transport Plan (LTP2). New measures for which funding has yet to be sought are highlighted separately in order to establish the full additional funding burden of the policies specifically included for the Borough's statutory duties on air quality.

3.7 Responsibilities

The Borough is under statutory duty through Part IV of the Environment Act 1995 to improve air quality within an AQMA, where such an AQMA has been declared. This action plan sets out to identify those measures over which the Council has direct control, whilst additionally identifying those measures which are the responsibility of other parties. Within the Borough's actions, responsibilities have been additionally identified across relevant departments covering Environment, Planning, and Regeneration. Where necessary partnership working is required to realise the policy included more than one body has been identified.

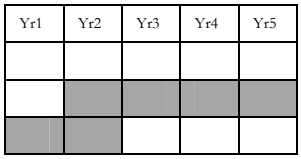
The AQMA is declared on a strategic road link that form part of the Lincolnshire County Council network managed by Lincolnshire County Council. As such, Lincolnshire County Council is both a statutory consultee within the formulation of this action plan and also a necessary contributor to the success of its implementation. Support from Lincolnshire County Council is therefore sought as a Partner in the action plan.

3.8 Costs, benefits and feasibility

It is difficult to precisely quantify some of the effects of the proposals and it was decided to use broad descriptors for the Timescale, Cost and Air Quality Benefit. In approaching this aspect of the action plan the Borough Council has taken heed of current advice from the Defra Action Planning Helpdesk and also sought to refer to useful examples of action plans already submitted. It has been concluded that a simple matrix approach is best suited to the current needs based on the following descriptors:

Time-scale definitions (from January 2006)

Long = Long Term (5 - 10 years plus)
Medium = Medium Term (2-5 years)
Short = Short Term (within the next 2 years)



Cost definitions (estimated at 2002 prices)

Very High = more than £1,000,000
High = £100,00 - £999,999
Medium = £50,000 – £99,999
Low = less than £49,999

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Air Quality Benefit (up to 2005)

High = improvements greater than 2μg/m^3
Moderate = 1 - 2 μg/m^3
Reasonable = 0.2 – 1 μg/m^3
Negligible = less than 0.2 μg/m^3

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Key Points:

- The action plan has aimed to identify a number of policy measures that could assist in the Borough moving toward the achievement of the annual mean objective for NO_2;
- The action plan has built upon existing measures contained within the Local Transport Plan;
- Where possible, the action plan has tried to assess the impacts on air quality of each proposed measure and additionally attempted to provide an assessment of the cumulative impacts of each package of measures;
- The action plan has indicated whether funding has been achieved through the identification of existing measures, alongside where additional funding is required through new measures;
- Time-scales and responsibilities for the implementation of each measure and/or package of measures are provided;
- The action plan has attempted to provide a measure of ranking the measures according to feasibility, cost and benefits;
- Support from Lincolnshire County Council is sought with respect to forming a Partnership working for the implementation of the actions included in this plan.
- The LTP process is the mechanism by which any major infrastructure developments will be considered.

4 POLICY PROPOSALS – A THEMATIC APPROACH

The proposals in the following section are submitted under the following themes:

- PACKAGE 1: Major Infrastructure Development;
- PACKAGE 2: Local Intervention Measures

Package 2 encompasses general themes of encouraging modal shifts in public behaviour, reductions in traffic, and raising awareness.

It is likely that with respect to Major Infrastructure developments within the area of Boston that a significant reduction in road traffic could in the longer term be achieved that would singularly achieve the annual mean NO_2 objective. However, this is outside the current time-scale for achievement date of 31 December 2005. As such, a series of smaller measures, each delivering part of the required improvement, is likely to be the most successful approach to achieving reductions in pollutant concentrations across the Borough in the short-term.

Under each theme (or package) a number of individual measures are proposed which aim to make a contribution to improving air quality within the Borough as a whole. A table has been included on the following pages for each of the existing policy actions and future proposals. The table aims to identify those departments within the Borough Council that would be responsible for the implementation of the policy, or whether the implementation relies on partnership working with external organisations. Moreover, for each policy the perceived (or calculated) air quality benefits are reported each measure alongside any readily identifiable non-air quality benefits (both positive and negative) that could impact on the community. These include such aspects as reduced congestion, reduced noise, costs to businesses, social exclusion and affordability. In addition, for each proposed policy measure an assessment of the way in which the measure will be perceived by relevant stakeholders has been made, alongside the costs and feasibility of implementation.

Annex B provides an overall tabular summary for each of the proposed measures included in each of the packages.

It is recognised from the outset that many of the existing and proposed policy measures contained within this plan would, in themselves, not provide a substantial benefit to air quality. It is therefore important that each package of measures is considered in terms of the cumulative impacts on air quality. In order to highlight this, a statement on the cumulative impacts of each package of measures (existing plus proposed) is made.

5 PROPOSED MEASURES

5.1 PACKAGE 1: Major Infrastructure Developments

The following measures have the over-arching theme of major infrastructure development and aim to provide alternative routes for traffic currently entering the AQMA. Time-scales for implementation are outside that of the current achievement date for the annual mean NO_2 objective, however, such schemes are likely to reduce significantly the amount of emissions within the AQMA and therefore lead to significant improvements in air quality. Actual impacts of schemes on air quality will be determined through the Environmental Impact Assessment process, to be carried out as part of separate Environmental Statements to be submitted in support of the applications for the schemes. However, a preliminary assessment of the benefits in air quality has been undertaken in support of the Action Plan, which is shown in Appendix A.

Of the two schemes considered here, completion of the Docks Link Road is envisaged within the lifetime of the 2nd LTP (2006/7 – 2010/11). The Outer Distributor Road is a longer term consideration that will form part of the Boston Transport Study , but notwithstanding this it has been included to assess potential benefits. The schemes have been assessed for a year of implementation of 2010, in line with consideration to completion within the 2nd LTP period and to allow consideration to the potential reductions in air quality achievable by the EU Limit target date 2010 through their implementation.

Boston Docks Link Road
Lincolnshire County Council is awaiting the final decision for the development of the new Boston Docks Link Road. A formal Environmental Impact Assessment was undertaken in support of the application and an Environmental Statement submitted. The document has undertaken a detailed consideration to air quality impacts of the proposed scheme and has considered the relationship between the scheme and the AQMA. The assessment concluded that traffic flows along Haven Bridge and John Adams Way will be reduced with the opening of the Docks Link Road. In addition, congestion will be reduced thereby increasing the speed of vehicles, which is likely to result in a reduction of emissions within the AQMA.

Policy AP 1: **The Council supports the building of the Boston Docks Link Road.**	
Responsibility	LCC / BBC
Air Quality Impacts	This option would significantly reduce traffic from within the AQMA with the likely result of significantly moving towards achieving the annual mean NO_2 and a reduction of $2\mu g/m^3$.
Non Air Quality Impacts	Positive: economic regeneration Negative: none identified.
Perception	Likely to be positive for economic regeneration and by residents located within the AQMA.
Cost-effectiveness & Feasibility	Costs = Very High. Environmental Statement submitted and proposal on course for realisation. Costs covered by County – outside of the current LTP.

The Outer Distributor Road (Western bypass scheme)

The Outer Distributor Road is a longer term consideration that is being considered within the Boston Transport Study, but has been included to assess potential benefits.

Policy AP 2: **The Borough Council supports the longer-term vision for the provision of the Outer Distributor Road for Boston.**	
Responsibility	LCC
Air Quality Impacts	This option would significantly reduce levels of Heavy Good Vehicles (the most polluting vehicle class) within the AQMA and would ensure achievement of the annual mean NO_2 with this measure alone.
Non Air Quality Impacts	Positive: economic regeneration, ease traffic congestion Negative: none identified.
Perception	Likely to be positive for economic regeneration and by residents located within the AQMA.
Cost-effectiveness & Feasibility	Costs = Very High. Environmental Statement not submitted. Costs not secured within current LTP

5.2 PACKAGE 2: Local Intervention Measures

Recent research carried out on behalf of DfT has shown that Smarter Choices (commonly referred to as "Softer Measures") can lead to potentially significant reductions in peak-hour traffic flows within otherwise normally congested areas. The extent to which reductions can be achieved is solely dependent upon the 'intensity' of implementation (i.e. school travel plans at 25%, 50% or 100% of schools or all major employers in the area or 50% of employers within an area). The fundamental aim of Smarter Choices is to influence the way in which people travel, through the provision of more attractive alternatives. For example, Bus Quality Partnerships provide an obvious means by which large numbers of people can be made to change their mode of transport. The provision of modern smart clean buses, supported by clear and updated travel information can persuade a certain percentage of the population (those mostly with attitudes that are open to influence) out of their private vehicles. Flexible working hours and tele-working are less obvious way in which people's decisions on transport methods can be influenced. The key objective of Smarter Options in the majority of cases is to reduce the peak-hour journeys made on the local road network, which typically lead to traffic volumes that exceed the road capacity, and hence cause congestion.

The success to which reductions can be achieved not only depends on the intensity with which campaigns to promote modal shift are employed, but also the under-pinning of policy measures that reduce the level of 'opportunistic' traffic movements. That is, measures are included, which remove the chance of traffic replacing that which has been removed from the road network. This fact acknowledges that a certain proportion of the travelling public remain 'wed' to their cars and will never be influenced to travel by other means (other than perhaps through the implementation of more draconian measures). To this end, road-user charging, reduced parking provision or higher priced parking, provide the means by which stronger influences on attitudes may be asserted – policies which complement the Smarter Choices approach.

In deciding on which policy measures are most applicable to Boston the following Smarter Choices have been deemed acceptable:

- Workplace travel plans
- Personalised travel plans
- School travel plans
- Enhanced provision of public transport information

Details of these separate elements form consistent themes in the following 'local' policy measures.

Boston Transport Study

The Boston Masterplan - Strategy (2004) has identified Transport Infrastructure and Congestion as one of the key issues (Priority 4). Lincolnshire County Council Executive has agreed to the undertaking of a study into the transport problems experienced by Boston and to set down the strategic framework for future transport requirements. This agreement was achieved on 7 December 2004 and Jacobs Babtie has since been undertaking the work and will report their initial findings in Spring 2006. The aim of the Transport Strategy is:

- To provide a framework for better management of movements into and through Boston in the period up to 2021;
- To address the problems associated with existing and anticipated levels of congestion in Boston;
- To address the impact of existing and anticipated traffic movements on the environment in Boston;
- To improve safety;
- To improve accessibility;
- To support a sustained economic growth for Boston and to assist in meeting the regeneration aspirations of Boston and its surroundings

The Boston Transport Study will inform the resulting Transport Strategy, which will comprise the following:

- Identification of the problems;
- Objectives to be achieved;
- A 'package' of options;
- Desirable outcomes
- Programme of short "quick-wins" and longer-term interventions.

This action plan anticipates some of the required content of the Transport Strategy in terms of the 'package' of options and the likely content of the programme of 'quick-wins'.

Policy AP 3:

The Council supports the development of a Transport Strategy for Boston.

Responsibility	LCC / BBC
Air Quality Impacts	Subject to outcome of the feasibility study and implementation of measures.
Non Air Quality Impacts	Positive: economic regeneration, safer roads, improved visual amenity of town centre Negative: possible loss of housing
Perception	Likely to be positive for economic regeneration and by residents located within the AQMA.
Cost-effectiveness & Feasibility	Costs = Medium. Funds secured for feasibility study. Outcome to be reported.

A Community Travel Zone (CTZ) for Boston

Community Travel Zones are considered in the LTP with specific reference to the pilot study carried out in Sleaford. A CTZ aims to reduce the number of car journeys of less than two miles through the promotion of walking, cycling and use of public transport (particularly during peak hours). The CTZ complements those proposals listed above falling under the jurisdiction of the Borough Council and fits wholly with the profile of emissions within the AQMA on trip origin-destination profiles. The LTP proposes 3 such zones for Boston.

Policy AP 4: **The Council supports the expansion of the CTZ within Boston in order to contain traffic growth and promote sustainable forms of transport.**	
Responsibility	LCC
Air Quality Impacts	Likely to be negligible. The benefit of this policy lies with the promotion and raising awareness of sustainable forms of transport.
Non Air Quality Impacts	Positive: healthier living – walking and cycling exercise Negative: infringement of human rights with respect to vehicle use, possible social exclusion for disabled or impaired members of the public.
Perception	Likely to be received well by those members of the public willing to accept change.
Cost-effectiveness & Feasibility	Costs = Medium. Funds secured with proposed implementation March 2006.

Provision of alternative fuel supplies within the Borough

One of the principle means of encouraging fleet operators and private vehicle users to switch over to cleaner fuels is to increase their availability. Currently there is limited provision of alternative fuel supplied within the Borough resulting in those with alternative fuelled vehicles having to drive outside of the Borough to seek fuel. This increases the number of miles required for re-fuelling and therefore reduces the advantage gained through lower emissions attributed to cleaner fuel usage.

Policy AP7: **The Borough Council will seek the provision of Liquid Petroleum Gas (LPG) pumps at new filling stations through the planning process and encourage the provision of fuel alternatives at existing filling stations through partnership working with suppliers.**	
Responsibility	BBC
Air Quality Impacts	This option would provide additional fuel choices for residents within the Borough and reduce vehicle emissions. It is unlikely that the air quality benefits would be significant from the policy as a stand-alone entity.
Non Air Quality Impacts	Positive: increased consumer choice Negative: none identified
Perception	Positive
Cost-effectiveness & Feasibility	Costs = Low. Costs to suppliers likely to be minimal as infrastructure already in place. Feasibility is high as the infrastructure is in place through existing petrol filling stations but dependent upon designated officer time.

Park & Ride Schemes

The possibility of a Park & Ride scheme married with parking controls within the centre of Boston could provide a means of reducing traffic congestion within the town-centre and the number of vehicles passing through the AQMA.

Policy AP9:

The Council will investigate the merits of introducing Park & Ride Schemes within Boston Borough Council, with a view to reducing the volumes of traffic within the town-centre, as part of the Boston Transport Study (see AP3).

Responsibility	LCC
Air Quality Impacts	Dependent upon levels of traffic reduction.
Non Air Quality Impacts	Positive: reduced noise levels, less congestion, safer roads Negative: longer journey times
Perception	Positive.
Cost-effectiveness & Feasibility	Costs = Low for feasibility study although dependent upon officer time and resources available. Final implementation and suitability dependent upon the outcome of the feasibility study. Additional funds required.

Securing the potential for rail freight

Regeneration of the Southern Enterprise Zone and increased handling at the Port of Boston represent potential adverse impacts with respect to freight movements that could be alleviated through the use of alternative options. Currently, rail freight represents only a small proportion of freight movements within the County. The County has committed in the LTP to work with partners to realise the potential for rail freight within the County.

Policy AP10:

The Borough Council aims, through the Local Plan, to explore the development of a rail-freight interchange.

Responsibility	BBC / LCC
Air Quality Impacts	Negligible for current levels but likely to ensure that no significant worsening of air quality takes place as a consequence of economic growth for the area.
Non Air Quality Impacts	Positive: less congestion, safer roads Negative: possible increased noise with loading and unloading operations
Perception	Positive.
Cost-effectiveness & Feasibility	Costs = Low. Subject to the outcome of a feasibility study for which additional funds will be required.

Investigating the need for a Transport Officer within the Borough
A designated senior officer within the Borough Council could provide the necessary links with County on transport issues and benefit the Council and local businesses through an integrated approach to transport issues.

Policy AP11:

The Borough Council will designate a senior officer within the Borough Council to take an over-arching responsibility for transport-related issues within the Borough Council and for those between the Borough Council and the County Council.

Responsibility	BBC
Air Quality Impacts	Direct impacts are negligible. Indirect impacts through improved discussion and liaison could be considerable.
Non Air Quality Impacts	Positive: improved dialogue and integrated approaches to transport issues Negative: none identified
Perception	Positive.
Cost-effectiveness & Feasibility	Costs = Low. Feasibility dependent upon funding.

Controlled Parking Zones (CPZ) in residential areas;
A CPZ controls those cars that are permitted to park within any one area. It provides a means to local authorities of controlling the level of inbound traffic to an area from locations outside and reduces the likelihood of problems existing with congestion, particularly around public transport intersections such as train stations, etc.

Policy AP12:

The Borough Council will develop a framework detailing considerations to CPZs within the Borough as part of the Boston Transport Study (see AP3).

Responsibility	LCC
Air Quality Impacts	The direct air quality impacts are likely to be negligible as a result of stand-alone policy.
Non Air Quality Impacts	Positive: improved environmental surroundings Negative: none identified
Perception	Positive by residents.
Cost-effectiveness & Feasibility	Costs = Low. Feasibility high on basis of other strategies and policies in place.

Land Use Planning
Effective land use planning with specific measures aimed at reducing the dependency on private vehicle use where new developments are proposed can assist in reducing pollution within an area. It is well recognised that through the use of appropriate planning and land use policies that an integrated approach to transport can be achieved.

Policy AP13: **The Borough Council will require the provision of new pedestrian and cycle links through development sites and encourage these links to integrate into existing routes.**
Policy AP14: **The Borough Council will work to discourage development within the town-centre that places an emphasis on private vehicle use over public transport.**
Policy AP15: **The Borough Council will require detailed air quality assessments of proposed developments where a proposed development is likely to have a significant impact on local air quality.**
Policy AP16: **The Borough Council will (where necessary) use Planning Conditions or Section 106 Agreements to ensure that impacts of development on air quality are determined. Such agreements are likely to include consideration of monitoring requirements and on the methodologies employed to determine impact.**

Responsibility	BBC (Planning and Regulatory Services)
Air Quality Impacts	These options would curtail any inherent increase in traffic due to development, whilst simultaneously encouraging uptake of other forms of transport. Air quality impact on current (2003) levels likely to be negligible but ensures no worsening of air quality due to development in the future.
Non Air Quality Impacts	Positive: health benefits to be obtained from walking and cycling; reduced traffic growth for future years. Negative: could been seen as stifling development.
Perception	Positive by members of the public but may be slightly negative by developers.
Cost-effectiveness & Feasibility	Costs = Low. Feasibility high.

Sustainable Travel Plans

The Borough believes that there are benefits to be obtained in shifting to more sustainable transport modes. The Borough Council has appointed a travel plan co-ordinator to manage its own staff travel plan. The co-ordinator will work closely with major employers in the Borough to assist them in developing their own travel plans.

Policy AP18: **The Borough Council aims to implement a staff travel plan. A reduction target in private vehicle use of 20% has been set in order to assess the success of the travel plan.**
Policy AP19: **The Borough Council is committed to establishing travel plans with large new employers within the Borough on a case-by-case basis.**

Responsibility	LCC
Air Quality Impacts	The direct air quality impacts are likely to be reasonable as a result of travel plans within the Council land also with local employers, due to reductions in levels of traffic.
Non Air Quality Impacts	Positive: health benefits and increased sense of well-being, possible cost savings on individual travel expenditure Negative: possible increased journeys times where service is poor
Perception	Positive.
Cost-effectiveness & Feasibility	Costs = Medium. Costs to local businesses for set-up and operation of travel schemes, although this may be off-set by increased in productivity. Uptake by local businesses wholly dependent upon buy-in. Success could be variable.

Walk to Schools initiatives

It is well established that the way in which school pupils now arrive at school has changes significantly over the last decade. Not least, the so-called 'school run' can make a significant contribution to AM and PM peak hour traffic. As such, any initiatives aimed at reducing the reliance on private vehicle use aimed at encouraging a modal shift to alternative travel options may benefit the population and bring about additional health benefits.

Policy AP20: **The Borough Council will seek to promote walking as a healthy alternative to private vehicle use for short journeys within the town-centre.**

Responsibility	Health Improvement Group BAP
Air Quality Impacts	The direct air quality impacts are likely to be negligible for the policy as a stand-alone entity. However, the policy has strength in the promotion of sustainable forms of transport.
Non Air Quality Impacts	Positive: health benefits to be obtained from walking Negative: security issues for streets where surroundings are not lit appropriately
Perception	Positive.
Cost-effectiveness & Feasibility	Cost = Low. Feasibility high.

Inland Waterway Distribution

'Sustainable Distribution: A Strategy' (1999) was one of the documents that spun out of the 1998 Integrated White Paper on Transport. The Strategy contains a number of proposed actions related to fiscal measures, international issues, strategic planning, rail freight, interchange, inland waterways and coastal shipping amongst others.

Improvements to strategic planing included closer consideration to freight. The Council endorses advice in Planning Policy Guidance note 13 that local authorities should encourage the carriage of freight by rail or water. The Council believes that current network of inland water channels may offer further potential for the distribution of freight from the Port of Boston.

Policy AP22:

The Council will seek to have included in the new Local Transport Plan the potential of the local inland waterway network for supplementing existing road distribution of freight.

Responsibility	British Waterways/ EA/LCC
Air Quality Impacts	The direct air quality impacts are likely to be negligible as a result of stand-alone policy.
Non Air Quality Impacts	Positive: safer roads Negative: increased activity adjacent to environmentally sensitive areas; costs to operators for switching from road to water transport modes
Perception	Positive.
Cost-effectiveness & Feasibility	Costs = Medium. Costs to existing operators to change will be high, whilst costs to new operators will be medium. Feasibility high.

Local Authority Pollution Control (LAPC)

The Environmental Protection Act, 1990, provides the necessary controls over industries with significant air pollution potential. Local authorities were given responsibility for smaller industries (known as Part B processes), whilst the Environment Agency act as regulator for larger industrial processes (known as Part A processes).

The results of the review and assessment process have highlighted that there are no significant industrial processes (large or small) within the Borough that lead to any direct exceedence of air quality standards. However, the Borough Council will continue to use its powers of authority to maintain the relevant level of regulation of industrial processes within the Borough. Where necessary, industrial process owners will be encourage to use Best Available Techniques (BAT) to further reduce any potential impacts on air quality, where adverse emission releases occur.

Environmental Protection Act 1990

Bonfires do not fall within the legislation of the Clean Air Act 1956 as they do not provide a means of creating domestic heat but merely a manner in which disposal of unwanted goods and waste can be achieved. They are an unnecessary source of air

pollution within the Borough and can be regulated only through enactment of the Environmental Protection Act 1990, where a nuisance has been shown to arise.

Policy AP23:

The Borough Council will discourage the use of bonfires for waste disposal and distribute information on the effects of bonfires on air quality through leaflets and through the Council's web-site. The Council will consider the introduction of green waste kerbside collection scheme.

Responsibility	BBC (Environmental Services)
Air Quality Impacts	The direct air quality impacts are likely to be reasonable for localised hot-spots where routine bonfires take place. Contribution to overall air quality within the Borough is likely to be negligible.
Non Air Quality Impacts	Positive: reduced likelihood of nuisance occurrence Negative: none identified
Perception	Positive by residents.
Cost-effectiveness & Feasibility	Costs = Low. Costs are small based on existing duties of Council's Planning and Regulatory Services department. Feasibility high.

Continued provision of air quality data

The Borough has an extensive monitoring programme for NO_2 across Boston.

Two methods are used for monitoring nitrogen dioxide. A continuous monitor is sited within the Haven Bridge AQMA and gives continuous pollution readings 24 hours a day every day of the year. Elsewhere in the Borough NO_2 is monitored using diffusion tubes. These diffusion tubes give monthly average nitrogen dioxide concentrations. The sites for the diffusion tubes have been chosen to be representative of the worst case exposure for people likely to be affected by high nitrogen dioxide levels close to or inside the AQMA. The location of the diffusion tubes is reviewed annually. Monitoring is discontinued at sites where the results have shown that the nitrogen dioxide objective levels are being met consistently. New sites are chosen to give more information on areas where nitrogen dioxide levels are known to be high or where modelling predicts that they could be high enough to breach the objective level.

The monitoring programme will continue for the foreseeable future and the results will be published in the Reports of the next full round of Review and Assessment, which commenced in 2003. Any improvements resulting from this Action Plan will be reflected in the future monitoring results.

Policy AP24:

The Borough Council is committed to maintaining its existing level of monitoring and, where necessary, expand the diffusion tube network to take into consideration changes at the local level that may impact on air quality.

Responsibility	BBC (Planning and Regulatory Services)
Air Quality Impacts	None.
Non Air Quality Impacts	Positive: Promotion of environmental issues. Negative: Could present a picture of worsening air quality despite all efforts by the Council to improve air quality through its action plan.
Perception	Positive.
Cost-effectiveness & Feasibility	Monitoring already in place. Estimated running costs of existing network ~ £15K per annum. Replacement of equipment ~ £6K - £9K per continuous monitor.

5.3 Measures considered but dismissed on grounds of cost or feasibility

The following section provides details of those additional measures considered by the Working Group but dismissed on the grounds of applicability, cost and feasibility. Their inclusion provides further transparency in the workings of the Group and the way in which the measures included within the plan have been derived.

A workplace parking levy
Based on charging workers for parking at their place of work, the implementation of a workplace parking levy could reduce the number of private vehicles entering Boston. The proposal is likely to be controversial and unpopular with voters and has therefore been dismissed on the ground of feasibility.

Roadside Emissions Testing
Under new powers of authority (Roadside Vehicle Emissions (Fixed Penalty) Regulations 2002 local authorities are able to undertake roadside emissions testing of vehicles. The aim is to identify those vehicles that make a disproportionate contribution to emissions through poor maintenance with on-the-spot fines for those that fail. The scheme of a formal roadside emissions testing programme is not considered viable for stand-alone authorities and has therefore been dismissed as a possibility for inclusion in the current action plan.

Low Emission Zone
A Low Emission Zone (LEZ) is a geographic zone defined for an area where vehicles of an acceptable emissions standard (normally Euro III) can enter and move around. The concept is held widely as a way of achieving air quality objectives within large urban area where economies of scale can be achieved with respect to set-up and operating costs. Further consideration to the implementation of an LEZ within Boston is dismissed on the grounds of cost alone.

Reduction in town-centre car parking
The Boston BC adopted Local Plan supports the aims of reducing travel needs and promoting modes of transport other than cars. The Borough Council has already developed a number of transport related themes to achieve this including:

- The application of car parking standards

- A gradual reduction in long-stay car parking in the town-centre in favour of short-stay car parking.

Further proposals aimed at reducing further car parking allocation within the town-centre of Boston is deemed too controversial for inclusion within the current plan.

Environmental Management Systems
An Environmental Management System (EMS) is a recognised approach for an organisation to reduce the impact of its operations on the environment. It contains a significant impacts' register covering all environmental effects on land, air and water. An EMS aims to set Key Performance Indicators (KPIs) to reduce the operational impacts on the environment. Such a system can lead to improvements in the local environment. As a key employer in the area it is recognised that Council staff represent a potentially significant number of traffic movements on the local road network. This is recognised through the recent development of a Sustainable Travel Plan for the Council. As such, it is not deemed necessary that the Borough Council aims for formal accreditation for EMS implementation – in this case, in accordance with BS EN ISO 14001: 1996.

Freight Quality Partnerships
The development of a Freight Quality Partnership (FQP) was considered by the working party in respect of working in partnership with local freight operators and improving the efficient utilisation of vehicles within their fleet and with the view of highlighting the consequences of poor parking practices within the vicinity of delivery points, which can lead to local congestion. The impacts of FQPs on air quality are non-quantifiable. Given the nature of the through traffic component of HGV movements within the two AQMAs, it was deemed unlikely that significant benefits in air quality would be achieved. Consequently, it was felt that insufficient resources existed to justify the progression of FQPs within the remit of the air quality action plan.

5.4 Outcome of Consultation – the influence of engagement with relevant stakeholders

The Borough Council has undertaken an extensive consultation programme on the draft version of the air quality action plan (previously submitted for the Haven Bridge AQMA only) in order to gain the views of statutory consultees, relevant stakeholders and the public. The consultation period took place over a 7 week period and was advertised both in the local newspaper and on the Council's website. As a revision to an existing plan it is anticipated that further consultation on the revised Joint-AQMA plan will be required. However, it is likely that such responses would be similar to those obtained previously. Further details of the initial response to consultation of the Haven Bridge Action Plan are provided below.

Respondents to the consultation were asked three questions within the consultation questionnaire:

1) Which of the proposed measures contained within the draft action plan would be the best options to Boston Borough Council to implement in respect of improving air quality?

2) Which of the proposed measures contained within the draft action plan would be the worst options open to Boston Borough Council to implement in respect of improving air quality?
3) Do you have any other comments or idea in respect of what the Borough Council may do to improve air quality?

A total of 29 responses to the consultation were received. In addition, four statutory consultees responded with comments to the draft action plan, including: Boston Borough Council; Lincolnshire County Council; East Lincolnshire Primary Care Trust, and the Department for the Environment, Food and Rural Affairs.

In summary, in response to question (1) above, the following were identified as the best possible options to improve air quality:

- AP13 – The Borough Council will require the provision of new pedestrian and cycle links through development sites and encourage these links to integrate into existing routes (15 responses);
- AP3 – The Borough Council supports the development of a Transport Strategy for Boston (through the Transport Study) (13 responses);
- AP20 – The Borough Council will seek to promote walking as an alternative to private vehicle use for short journeys within the town-centre (13 responses);
- AP2 – The Borough Council supports the building of the Boston Southern Economic Corridor (12 responses);
- AP9 – The Borough Council will investigate the merits of introducing Park & Ride Schemes within Boston with a view to reducing volumes of traffic within the town-centre (7 responses);
- AP19 – The Borough Council is committed to establishing travel plans with large new employers within the Borough on a case-by-case basis (7 responses);
- AP1 – the Borough Council supports the building of the Boston Docks Link Road (6 responses).

The following measures were identified (by respondents) as those that appeared to be the worst options open to the Borough Council in respect of improving air quality:

- AP2 – The Borough Council supports the building of the Boston Southern Economic Corridor (9 responses);
- AP1 – The Borough Council supports the building of the Boston Docks Link Road (8 responses);
- AP22 – The Borough Council will seek to have included in the Local Transport Plan the potential of the local inland waterway network for supplementing existing road distribution of freight (7 responses);
- AP10 – The Borough Council aims, through the Local Plan, to explore the development of a railfreight interchange as part of the Southern Enterprise Zone for the Borough (6 responses);
- AP14 – The Borough Council will work to discourage development within the town-centre that places an emphasis on private vehicle use over public transport (6 responses);

- AP23 – The Borough Council will discourage the use of bonfires for waste disposal and distribute information on the effects of bonfires on air quality through leaflets and through the Council's website (6 responses).

As can be seen from the list of 'best' and ' worst' options, measures AP1 and AP2 appear in both lists. The consultation has shown that respondents have a strong opinion on both of these infrastructure schemes, which remains divided. Neither of these roads is aimed specifically at easing congestion in the town and local opinion is currently divided with regards to whether small schemes such as the two link roads would assist in providing a solution to the town's congestion problems, or whether, local lobbying for a bypass for the town should have a higher emphasis.

Following the results of the consultation exercise the following proposed measures have been dropped by the Borough Council due to problems with feasibility, escalating costs, funding, or unpopularity.

Cleaner fuels initiative for Borough and County Council service vehicles
The Borough Council currently has in its possession two Community Transport buses fuelled on Liquid Petroleum Gas (LPG). The main issue in respect of this proposed measure was to be seen to lead by example on reducing emissions from vehicles used by the Borough Council. For the Borough the provision of the two existing LPG buses provides sufficient evidence for this to occur. For the County, it has been deemed impractical for such a county-wide scheme to be implemented. As such, the measure has since been dropped.

Supplementary Planning Guidance to developers with respect to requests for air quality assessments for developments within the centre of Boston town-centre, or other areas where air quality is known to be a potential health issue.
This measure has been removed from the plan as a result of staff shortages, which would result in a delay to the production of any guidance to developers. The Borough Council propose to review the need for any guidance pending the outcome of development and planning control resource requirements.

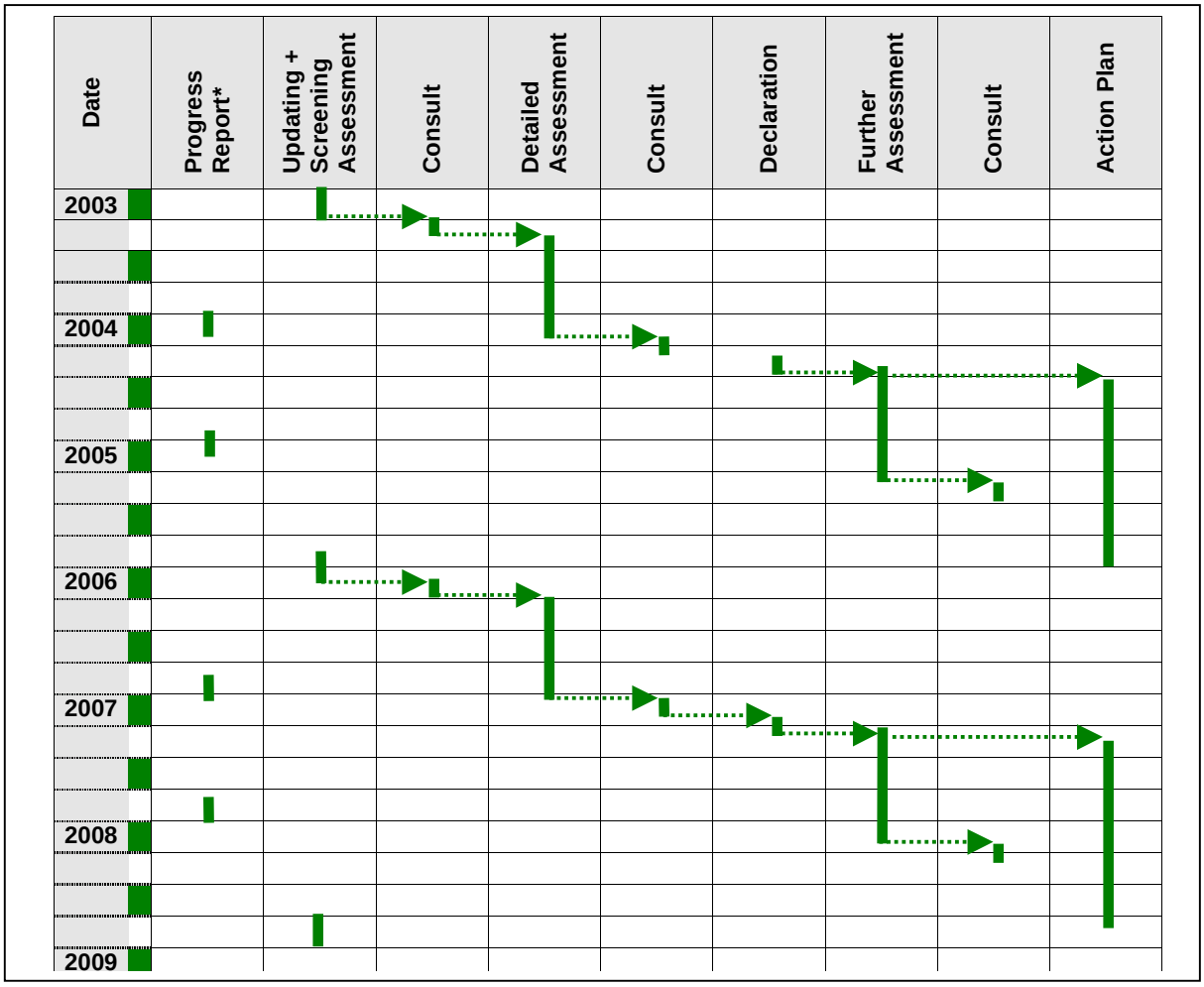
Promote the work of Energy Savings Trust's PowerShift and CleanUp programmes
The Energy Savings Trust's funding programmes 'Powershift' and 'CleanUp' is currently on hold pending further negotiations between DfT and the European Union on new grants. The Council has therefore removed the original proposal (AP21) from this final action plan. The Borough Council will monitor the position of the funding status of new grants and provide any proposals related to local promotion of the schemes in future Progress Reports.

6 IMPLEMENTATION AND MONITORING

6.1 Future Monitoring of Implementation

Latest Policy Guidance (LAQM.PG(03)) issued to local authorities undertaking their continued duties on air quality has set out the future monitoring requirements of technical and policy issues. The exact timetable is shown in Figure 6.1.

Figure 6.1 Time-table for further reporting on LAQM issues, including updates on action plans.



The guidance on progress reporting indicates minimum reporting requirements expected by Defra and the Devolved Administrations. For action plan policies it is envisaged that a tabular summary of progress to date against the relevant policy would be enough. Where delays in achieving the implementation of the policy against the relevant time-scale have been encountered the local authority should indicate why delays have occurred, whilst additionally highlighting the revised time-table to which the policy measure would be assessed for future reporting.

6.2 *Monitoring the Effectiveness of the Local Transport Plan*

Many of the policies contained within this action plan are contained within the Local Transport Plan. In determining the effectiveness of the plan it is proposed that a number of follow-up assessments be undertaken. Those most relevant to the air quality action plan are shown below and include a comprehensive data collection programme. This includes a large number of traffic surveys (both manual and automated), cycle counts, journey time surveys, parking surveys and personal travel surveys.

Manual traffic surveys
Manual surveys are very flexible in terms of when and where they are done and the precise information that is collected. Most of those carried out are manual classified counts - a comprehensive programme consisting of regular fixed counts in the Spring and Autumn of each year.

Automatic traffic surveys
These monitor traffic continuously. They provide data over a long period of time that can be averaged and is therefore not distorted by one-off circumstances. This data does not give a break down of specific vehicle types.

Cycle automatic traffic counters
These operate continuously and provide an ongoing source of data on numbers of cyclists on these routes.

In addition to count surveys, the County Council propose to undertake journey-time surveys for buses.

Bus journey times
A programme of biannual 'on bus' surveys provides measurements of bus delays on each key transport corridor into and out of the Borough in both morning and afternoon peaks and between peaks. Results are compared against those of an unimpeded run so that it is possible to identify delay to a very localised level. This is particularly useful for measuring the impact of individual transport schemes.

The County Council will seek additional funds through its Local Transport Plan to undertake additional surveys aimed at monitoring the effectiveness of the measures contained herein. This includes consideration to traffic reduction targets, modal shifts in transport, improved journey times on buses and improvements in future air quality.

7 CONSULTATION

7.1 Council decision making

The Environment Committee of the Borough Council has approved the content of the previous action plan submitted in relation to the Haven Bridge AQMA only. It is anticipated that the revised plan will be submitted to the Environment Committee for approval in due course, following the outcome of further consultation with the following consultees and interested parties:

- Secretary of State – Defra
- Internal Departments within Boston Borough Council
- Lincolnshire County Council
- East Lincolnshire Primary Care Trust

GLOSSARY OF TERMS AND ABBREVIATIONS

AQMA	Air Quality Management Area
BAT	Best Available Techniques
BSP	Borough Spending Plan
CERC	Cambridge Environment Research Consultants Ltd
CFV	Clean Fuel Vehicles
CPZ	Controlled Parking Zone
CNG	Compressed Natural Gas – same as the gas many use for cooking but stored in a compressed form
Defra (DETR)	Department for Environment, Food and Rural Affairs (formerly Department of the Environment, Transport and the Regions (DETR)).
EA	Environment Agency
EST	Energy Savings Trust
Euro Standards	Europe wide vehicle standards that set progressively stricter emission limits for years 1996, 2000, 2006 and 2008 respectively. For example, Euro III and Euro IV.
FQP(s)	Freight Quality Partnership(s)
HGV(s)	Heavy Goods Vehicle(s)
LAPC	Local Authority Pollution Control
LAQM	Local Air Quality Management
LGV(s)	Light Good Vehicle(s)
LNG	Liquefied Natural Gas – a mixture of propane and butane, currently the most widely used cleaner fuel in the UK.
LP	Local Plan
Modal Shift	Change of method of transport from one to another e.g. moving from car use to other forms of transport such as walking, cycling or public transport
NAQS (AQS)	National Air Quality Strategy (Air Quality Strategy)

RPC	Reduced Pollution Certificate
SoS	Secretary of State (for the Environment)
t/yr *(t/km^2/yr)*	tonnes per year - the amount of pollutant emitted within the period of one year *(also on an area basis (km^2))*
μg/m^3 *(mg/m^3)*	microgram per cubic metre *(milligrams per cubic metre)* For example, a nitrogen dioxide concentration of 1 μg/m^3 *(mg/m^3)* means that one cubic metre of air contains one millionth *(one thousandth)* of a gram of nitrogen dioxide

REFERENCES AND FURTHER READING

Air Quality Action Plans: Interim Guidance for Local Authorities. National Society for Clean Air and Environmental Protection (NSCA)

Air Quality: Planning for Action. National Society for Clean Air and Environmental Protection (NSCA)

Air Quality Management Areas: Turning Reviews into Action. National Society for Clean Air and Environmental Protection (NSCA)

Consultation for Local Air Quality Management: The How to Guide. National Society for Clean Air and Environmental Protection (NSCA)

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DETR (1999) Review of the United Kingdom National Air Quality Strategy. Department of the Environment, Transport and the Regions.

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Local Air Quality Management – Guidance Notes. Air Quality and Land Use Planning. LAQM.G4(00) March 2000. Stationery Office, London.

Local Air Quality Management – Guidance Notes. Framework for Review and Assessment of Air Quality. LAQM (G1) 00. March 2000. Stationery Office, London.

Local Air Quality Management – Guidance Notes. Developing Local Air Quality Strategy Action Plans and Strategies – the Main Considerations. LAQM (G2) 00. March 2000. Stationery Office, London.

Local Air Quality Management – Guidance Notes. Air Quality and Transport. March 2000. Stationery Office, London.

Local Air Quality Management. Policy Guidance: Addendum (LAQM.PGA(05))

Department for Transport (2005). Full Guidance on Local Transport Plans: Second Edition.

APPENDIX A: BOSTON AQMA BASELINE AND TARGETS

In setting the baseline and target for Boston AQMA areas, consideration has been made to the modelled worst case receptors in the area from the most recent Further Assessment (2005), in addition to recent monitoring results. Continuous monitoring of NO_2 concentrations is undertaken in the Haven Bridge AQMA, supported by 5 passive diffusion tube sites, and there are 6 diffusion tube sites within the Bargate Bridge AQMA. These monitoring sites provide a useful means of monitoring progress with the achievement of the Objective, although it should be noted that with respect to mandatory indicator LTP8, annual trajectories should be based on intermediate outcome indicators and not monitoring data (due to the meteorological variability influence on pollutant concentrations).

The maximum concentrations of annual mean NO_2 monitored and modelled in the AQMA areas are shown below in Table 1, with projections to 2010 taking into account reductions in NO_2 concentrations expected through national policies[1]. The target set for Boston, takes into account the national policies in addition to what could realistically be achieved through the action plan measures proposed (which combined are expected to have a 'reasonable' impact) without the implementation of major infrastructure development. With the development of the Docks Link Road, this target could be more stretching.

AQMA Area	Location	Modelled/ Monitored	NO_2 annual mean 2004 (in $\mu g/m^3$) **Baseline**	NO_2 annual mean 2010 (in $\mu g/m^3$) **Baseline** [a]	NO_2 annual mean 2010 (in $\mu g/m^3$) **Target**
Haven Bridge	Haven Bridge continuous monitoring station	Monitored	40.8	33.3	32.3
Haven Bridge	John Adams Way (South) Roadside Diffusion Tube	Monitored	47.3	38.7	37.7
Haven Bridge	Receptor, Liquorpond Street	Modelled	42.4	34.7	33.7
Bargate Bridge [b]	Receptor, Bargate End	Modelled	43.3	35.4	34.4

Notes: a - Reductions through national policies included; b - Monitoring sites at Bargate End not included as short term data only currently available.

[1] Use of the latest update to LAQM.TG(03) projection factors (January 2006)

APPENDIX B: SUMMARY OF PROPSED MEASURES:

	Description of Action	**Dept/ Organisation Responsible**	**Time-scale (0 – 5 years)**	**Air Quality Benefit**	**Funding source**	**Cost**
Package 3.1: Major Infrastructure Developments						
Existing Measures						
AP1	Boston Docks Link Road	LCC / BBC		✓✓✓✓	LTP/County	£££££
AP2	Outer Distribution Road (aspiration)	LCC / BBC		✓✓✓✓	LTP/County	£££££
Package 3.2*:* Local Intervention Measures						
New (required) / Existing Measures						
AP3	Boston Transport Study	LCC / BBC		✓✓✓	Secured	£££
AP4	Expansion of Community Travel Zone	LCC		✓✓	(required)	£££
AP7	Increased LPG provision	BBC		✓	(required)	££
AP9	Investigation of merits of Park & Ride Schemes for applicability to Boston	LCC		✓	LTP	£
AP10	Through the Local Plan the Council will explore the development of a rail-freight interchange.	LCC / BBC		✓	(required)	£££
AP11	Designate a senior officer to take responsibility for transport-related issues within the Borough.	BBC		✓	(required)	£
AP12	Controlled Parking Zone Framework	BBC		✓	(required)	£
AP13	Encouraging walking and cycling routes for new development	BBC		✓	BBC	£
AP14	Discouraging development within the town-centre than places an emphasis on private vehicle use over public transport.	BBC		✓	BBC	£

APPENDIX B: SUMMARY OF PROPSED MEASURES:

	Description of Action	**Dept/ Organisation Responsible**	**Time-scale (0 – 5 years)**					**Air Quality Benefit**	**Funding source**	**Cost**
AP15	Request detailed air quality assessments for proposed development that is likely to have a significant impact on local air quality	BBC						✓	BBC	£
AP16	Use of Planning Conditions or S106 Agreements	BBC						✓	BBC	£
AP18	Production of a Council Sustainable Travel Plan	BBC						✓	BBC	£
AP19	Promotion of Sustainable Travel Plans for large employers (more than 500 employees)	BBC						✓	(required)	£
AP20	Promotion of walking as a healthy alternative to car use for short journeys within the town-centre	BBC						✓	BBC	£
AP22	Investigation of inland waterways as complementary distribution methods for freight	BBC						✓	(required)	£
AP23	Discourage use of bonfires for disposal of waste	BBC						✓	BBC	£
AP24	Maintenance of current monitoring stations and networks	BBC						✓	BBC	£

APPENDIX C : UK AIR QUALITY STANDARDS AND OBJECTIVES

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	**Measured as**	
Benzene All authorities	16.25 μg/m^3	running annual mean	31.12.2003
Authorities in England and Wales only	5.00 μg/m^3	annual mean	31.12.2010
1,3 Butadiene	2.25 μg/m^3	running annual mean	31.12.2003
Carbon monoxide Authorities in England, Wales and Northern Ireland only [a]	10.0 mg/m^3	maximum daily 8-hour mean	31.12.2003
Lead	0.5 μg/m^3 0.25 μg/m^3	annual mean annual mean	31.12.2004 31.12.2008
Nitrogen dioxide [c]	200 μg/m^3 not to be exceeded more than 18 times a year 40 μg/m^3	1 hour mean annual mean	31.12.2005 31.12.2005
Particles (PM_{10}) (gravimetric)[d] All authorities	50 μg/m^3 not to be exceeded more than 35 times a year 40 μg/m^3	24 hour mean annual mean	31.12.2004 31.12.2004
Sulphur dioxide	350 μg/m^3 not to be exceeded more than 24 times a year 125 μg/m^3 not to be exceeded more than 3 times a year 266 μg/m^3 not to be exceeded more than 35 times a year	1 hour mean 24 hour mean 15 minute mean	31.12.2004 31.12.2004 31.12.2005

a. In Northern Ireland none of the objectives are currently in regulation. Air Quality (Northern Ireland) Regulations are scheduled for consultation early in 2003.
b. The Air Quality Objective in Scotland has been defined in Regulations as the running 8-hour mean, in practice this is equivalent to the maximum daily running 8-hour mean.
c. The objectives for nitrogen dioxide are provisional.
d. Measured using the European gravimetric transfer sampler or equivalent.
e. These 2010 Air Quality Objectives for PM_{10} apply in Scotland only, as set out in the Air Quality (Scotland) Amendment Regulations 2002.

The 2010 objectives for PM_{10} are not currently included in the Regulations for the purposes of LAQM in England, Wales and Northern Ireland. Consequently, authorities outside of Scotland have no obligation to review and assess air quality against them but some consideration of these longer-term objectives will be given in order to assist in long term planning. Where potential problems with these objectives are highlighted, they should be given additional consideration in future LAQM assessments and progress reports.

AIR QUALITY ACTION PLAN

SOUTH KESTEVEN DISTRICT COUNCIL

June 2005

AIR QUALITY REVIEW & ASSESSMENT
ENVIRONMENT ACT 1995

DOCUMENT STATUS & APPROVAL SCHEDULE

South Kesteven District Council
Environmental Health Services
St Peter's Hill, Grantham
Lincolnshire, NG31 6PZ
01476 406080
ehs@southkesteven.gov.uk

1. Action Plan

Status	Officer	Designation	Draft	Final
Approved	Mike Brown:	Environmental Health Practitioner	November 2003	June 2005
Prepared	Peter Rogers:	Environmental Health Practitioner	November 2003	June 2005

2. Consultation

Residents	Correspondence sent	Reply?
3A Wharf Rd, Grantham	9 December 2004	None received
3B Wharf Rd, Grantham	9 December 2004	None received
3C Wharf Rd, Grantham	9 December 2004	None received
10A Wharf Rd, Grantham	9 December 2004	None received
10B Wharf Rd, Grantham	9 December 2004	None received
10C Wharf Rd, Grantham	9 December 2004	None received
11A Wharf Rd, Grantham	9 December 2004	None received
12 Wharf Rd, Grantham	9 December 2004	None received
13A Wharf Rd, Grantham	9 December 2004	None received
16B Wharf Rd, Grantham	9 December 2004	None received
16C Wharf Rd, Grantham	9 December 2004	None received
18A Wharf Rd, Grantham	9 December 2004	None received
22B Wharf Rd, Grantham	9 December 2004	None received
23A Wharf Rd, Grantham	9 December 2004	None received
24A Wharf Rd, Grantham	9 December 2004	None received
25 Wharf Rd, Grantham	9 December 2004	None received
26A Wharf Rd, Grantham	9 December 2004	None received
30 Wharf Rd, Grantham	9 December 2004	None received

Businesses	Correspondence sent	Reply?
One on Wharf, 1 Wharf Rd	9 December 2004	None received
2 Wharf Rd	9 December 2004	None received

Caldwells, 3 Wharf Rd	9 December 2004	None received
4/6 Wharf Rd	9 December 2004	None received
Caldwells, 7-8 Wharf Rd	9 December 2004	None received
10 Wharf Rd	9 December 2004	None received
Southern Fried Chicken, 11 Wharf Rd	9 December 2004	None received
12 Wharf Rd	9 December 2004	None received
Street Cars, 13 Wharf Rd	9 December 2004	None received
Grantham & District Talking Newspaper, 14 Wharf Rd	9 December 2004	None received
15 Wharf Rd	9 December 2004	None received
16 Wharf Rd	9 December 2004	None received
16A Wharf Rd	9 December 2004	None received
Barthorpe, Whiteside & Holt Ltd, 17 Wharf Rd	9 December 2004	None received
Walkers Wine Bar, 18 Wharf Rd	9 December 2004	None received
19 Wharf Rd	9 December 2004	None received
20 Wharf Rd	9 December 2004	None received
Jordan & Timm Ltd, 21 Wharf Rd	9 December 2004	None received
The New Window Company,21b Wharf Rd	9 December 2004	None received
Satisfy House, 22 Wharf Rd	9 December 2004	None received
C F Smith & Co Ltd, 23 Wharf Rd	9 December 2004	None received
Sandras Sewing Shop, 24 Wharf Rd	9 December 2004	None received
25 Wharf Rd	9 December 2004	None received
26 Wharf Rd	9 December 2004	None received
Pangs, 27/28 Wharf Rd	9 December 2004	None received
Tanvic Tyre Distributors Ltd, 30 Wharf Rd	9 December 2004	None received
Aquadea Bathrooms Ltd, 31-33 Wharf Rd	9 December 2004	None received
Jewson Ltd, Wharf Rd	9 December 2004	None received
Genie (UK) Ltd, Wharf Rd	9 December 2004	None received
Crown Quality Management Services Lt, The Old Maltings, Wharf Rd	9 December 2004	None received
English Nature, Wharf Rd	9 December 2004	None received
Wm Morrisons, Wharf Rd	9 December 2004	None received
Baptist Church, Wharf Rd	9 December 2004	None received
Post Office Depot, Wharf Rd	9 December 2004	None received

Statutory Consultess	Correspondence sent	Reply?
SKDC: Planning Services	November 2003	Yes: Changes to ACTION P1
SKDC: Economic	November 2003	Yes: Reference to

Development		Grantham Town Centre Development
SKDC: Property Services	November 2003	None Received
Lincolnshire County Council: Highways	November 2003	None Received
Highways Agency	November 2003	None Received
Boston Borough Council	November 2003	None Received
Lincoln City Council	November 2003	None Received
West Lindsey District Council	November 2003	None Received
South Holland District Council	November 2003	None Received
East Lindsey District Council	November 2003	None Received
North Kesteven District Council	November 2003	None Received
DEFRA: Secretary of State	November 2003	Yes: Detailed comments

EXECUTIVE SUMMARY

The Environment Act 1995 introduced a framework for local authorities to manage air quality within their districts. Review and assessment of air quality has been achieved using monitoring data as well as complex computer models, and in areas where air quality is deemed likely to exceed standards and objectives, an Air Quality Management Area (AQMA) is declared. An action plan detailing ways of improving air quality can then be published. South Kesteven District Council has declared one AQMA in respect of traffic pollution.

Within this report we have considered various actions to improve air quality. Some actions are more wide ranging than others, with a view to improving air quality throughout the district. We have concluded that there is no quick fix solution to secure better air quality within the AQMA. We have however defined 10 actions that South Kesteven can take in pursuit of the air quality objectives. We do however recognise the importance of raising air quality as a material concern within the functionality of the district and county council services. One way of achieving this goal is through the implementation and promotion of the South Kesteven Community Strategy (SKCS) and more recently, by working in partnership with Lincolnshire County Council in fulfilling their duties in delivering the shared policies of the second Local Transport Plan (LTP2).

CONTENTS

A :INTRODUCTION AND PURPOSE OF THE ACTION PLAN

1. Legislative Background: Environment Act 1995

The Environment Act 1995 introduced a framework for Local Air Quality Management (LAQM) across England and Wales. The framework has given local authorities responsibility to periodically review and assess the air quality in their areas, with reference to Air Quality Objectives set out in the Air Quality Strategy[1]. The current health based objectives are shown below:

Pollutant	Air Quality Objective Concentration	Measured as	Date to be achieved by
Benzene All authorities	16.25 mg/m3	running annual mean	31.12.2003
Authorities in England and Wales only	5.00 mg/m3	annual mean	31.12.2010
1,3 Butadiene	2.25 mg/m3	running annual mean	31.12.2003
Carbon monoxide Authorities in England, Wales and Northern Ireland only	10.0 mg/m3	maximum daily 8-hour mean	31.12.2003
Lead	0.5 mg/m3 0.25 mg/m3	annual mean annual mean	31.12.2004 31.12.2008
Nitrogen dioxide	200 mg/m3 not to be exceeded more than 18 times a year 40 mg/m3	1 hour mean annual mean	31.12.2005 31.12.2005
Particles (PM10) (gravimetric)All authorities	50 mg/m3 not to be exceeded more than 35 times a year 40 mg/m3	24 hour mean annual mean	31.12.2004 31.12.2004
Sulphur dioxide	350 mg/m3 not to be exceeded more than 24 times a year 125 mg/m3 not to be exceeded more than 3 times a year 266 mg/m3 not to be exceeded more than 35 times a year	1 hour mean 24 hour mean 5 minute mean	31.12.2004 31.12.2004 31.12.2005

1. Part IV of the Environment Act 1995, Local Air Quality Management, LAQM PG(03), Department for Environment, Food & Rural Affairs, 2003.

Where the national air quality objectives are likely to be exceeded, local authorities are required to declare Air Quality Management Areas (AQMA) and publish Air Quality Action Plans (AQAP).

2. Review & Assessment of Air Quality In South Kesteven (SKDC).

The process of review and assessment in SKDC has been achieved through a staged approach with the use of consultants Stanger Science and Environment (now Casella Stanger). The process has been co-ordinated with the seven Lincolnshire authorities (North Kesteven DC, South Holland DC, Boston DC, West Lindsey DC, East Lindsey DC, Lincoln City Council, South Kesteven DC) and Lincolnshire County Council in order to maximise resources.

The first review and assessment report was published in December 1998. The report concluded that nitrogen dioxide and particulates should be considered in more detail in heavily trafficked areas.. In April 2000, the stage 2 Review and Assessment report confirmed that detailed assessment would be necessary for these two pollutants. A detailed assessment using complex computer modelling and extensive air quality monitoring enabled a comprehensive stage 3 report to be published in February 2001. Following a period of consultation, On the 1 August 2001, 4 AQMA were declared, as recommended by the stage 3 report. These areas were:

- Residential Properties along Wharf Road, Grantham (NO_2 & PM10): ***AQMA 1***
- Two areas in the vicinity of the A1 (NO_2)

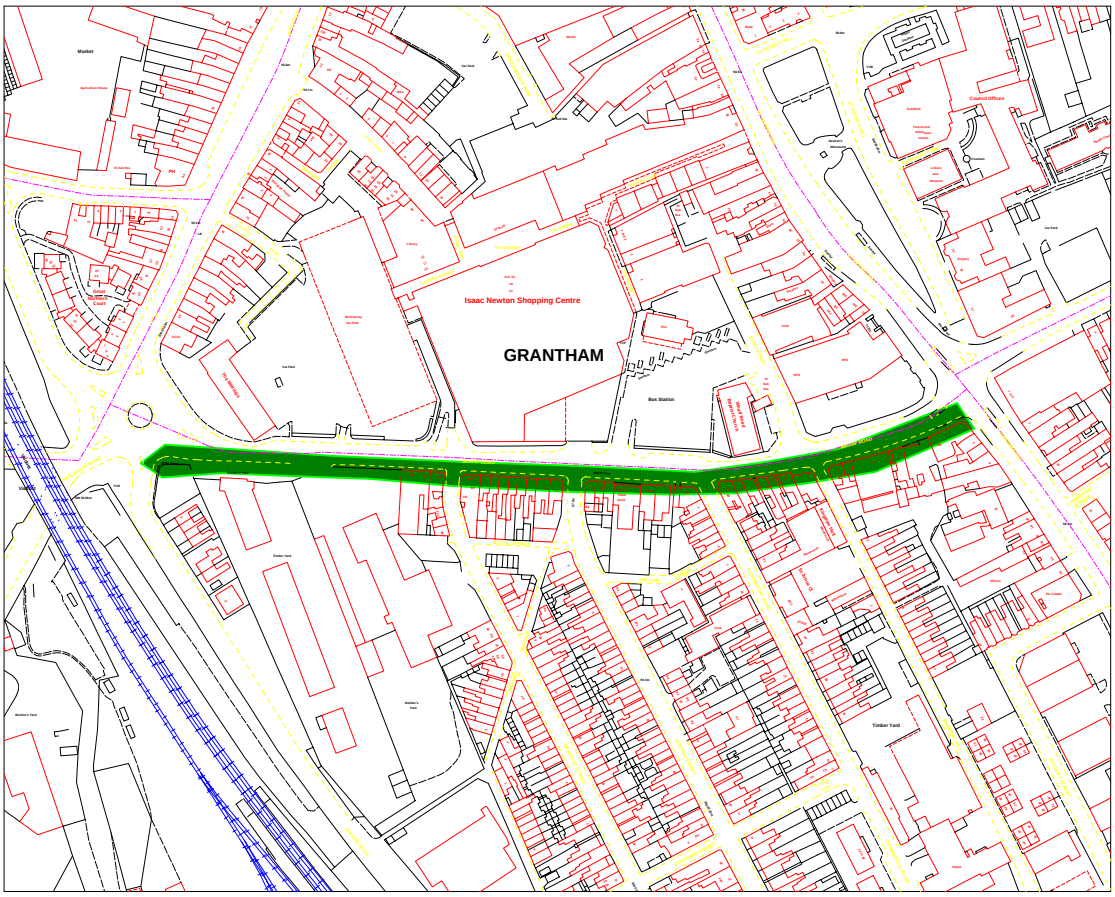
    1. Residential properties adjacent to Meres Road, Grantham :***AQMA 2***

    2. Residential properties adjacent to Welwyn Close, Rosemary Crescent & Denton Avenue , Grantham: ***AQMA 3***

- The junction of Brazenose Lane & East Street, Stamford (NO_2): ***AQMA 4***

The stage 4 report published in January 2003, revisited the conclusions reached in the stage 3 report, in light of further continuous monitoring and the most up to date information on vehicle emission data. The conclusions of the stage 4 report resulted in three AQMA to be repealed (AQMA 2,3,4) and confirmation that Wharf Road, Grantham (AQMA 1) should be the subject of an Action Plan for NO_2 only. The assessment for PM10, showed that attainment of the short term objective is possible for 2004 and thus there was no need to continue with the declaration on this pollutant.

South Kesteven District Council No1: Air Quality management Area 2001



Area 1: An area of land including residential properties, along Wharf Road, Grantham, Lincolnshire.

3. Action Plans: What are They?

Local authorities are required to produce an action plan where they have designated an AQMA. This also includes a timetable for implementing the plan.

The action plan should contain a list of actions to improve air quality, based on scenarios identified in previous review and assessment reports.

The action plan should also contain a simple cost and benefit analysis for each action identified and the feasibility of implementing the solutions identified. Non health benefits may also be identified eg reduction of traffic accidents and may be included as a secondary benefit of an action.

Having established a series of scenarios to improve air quality, the Local Authority can identify which actions offer the most cost effective or cost beneficial way of improving air quality.

4. Action Plan: Aims and Objectives

The overall aim of the Action Plan is to minimise the effects of air pollution on human health. The action plan provides the mechanism to enable a concerted approach from local authorities, the highway agency, county councils as well as the local community including businesses, town centre management partnerships, education establishments, transport companies etc. The objectives can be seen to be more far reaching, in that secondary benefits may result from the primary need to achieve Air Quality Standards.

5. Timescales

The Action plan should be produced within 12-18 months of designating an Air Quality Management area. The Action Plan is a legal requirement, which builds on the previous review and assessment reports, and should be read in conjunction with the stage 4 report. Whilst South Kesteven District Council has failed to publish its Action Plan within the specified timescale, several initiatives which feature in this report have been running throughout the Air Quality Management process. Specifically, the development of a County wide Air Quality forum with the three district councils, Highways Agency and Lincolnshire County Council as well as ways of engaging the public through the advertisement of air quality information within Council offices. Furthermore, greater emphasis has been made of air quality issues in the second local transport plan, for which County Council are responsible for implementing.

6. Supplementary Plans and Development Policies

The Action Plan should wherever possible relate to and build upon existing plans and policies where Air Quality is a material concern. The following documents have been considered in producing this Action Plan:

- 2nd Local Transport Plan (Consultation document)
- South Kesteven Community Strategy (July 2003)
- Grantham Town Centre Master Plan (February 2002)

7. Consultees for Action Plan

In order for the Action Plan to become an enabling report, consultation has taken place with major and interested stakeholders. The following people/organisations were invited to submit comments on the report :

- Secretary of State
- Residents living within the AQMA
- Local Businesses within the AQMA
- Internal Departments within South Kesteven
- Lincolnshire Pollution Group
- County Council
- Neighbouring District Councils
- Highways Agency

Furthermore, the Air Quality Action Plan has been posted on the SKDC website.

To date, there have been no formal responses to the report, other than the constructive and welcome comments from DEFRA, and from SKDC internal departments. However, during the exchange of diffusion tubes from monitoring sites within the AQMA, members of the public and business owners have expressed comments over the continuous traffic congestion along Wharf Rd.

8. Sources of Air Pollution

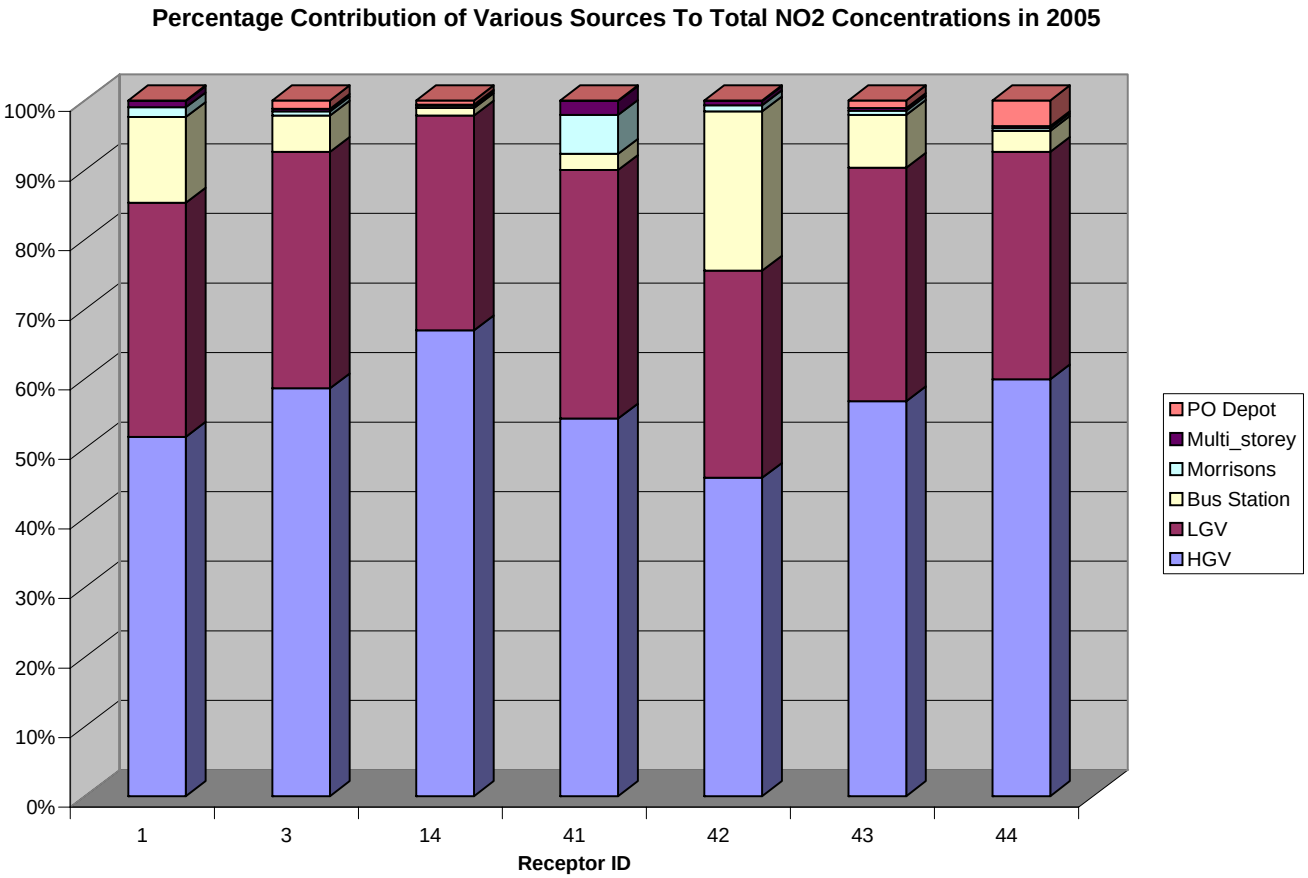
Air Pollution within South Kesteven can be categorised as follows:

- Road Transport
- Other Transport
- Industry
- Domestic

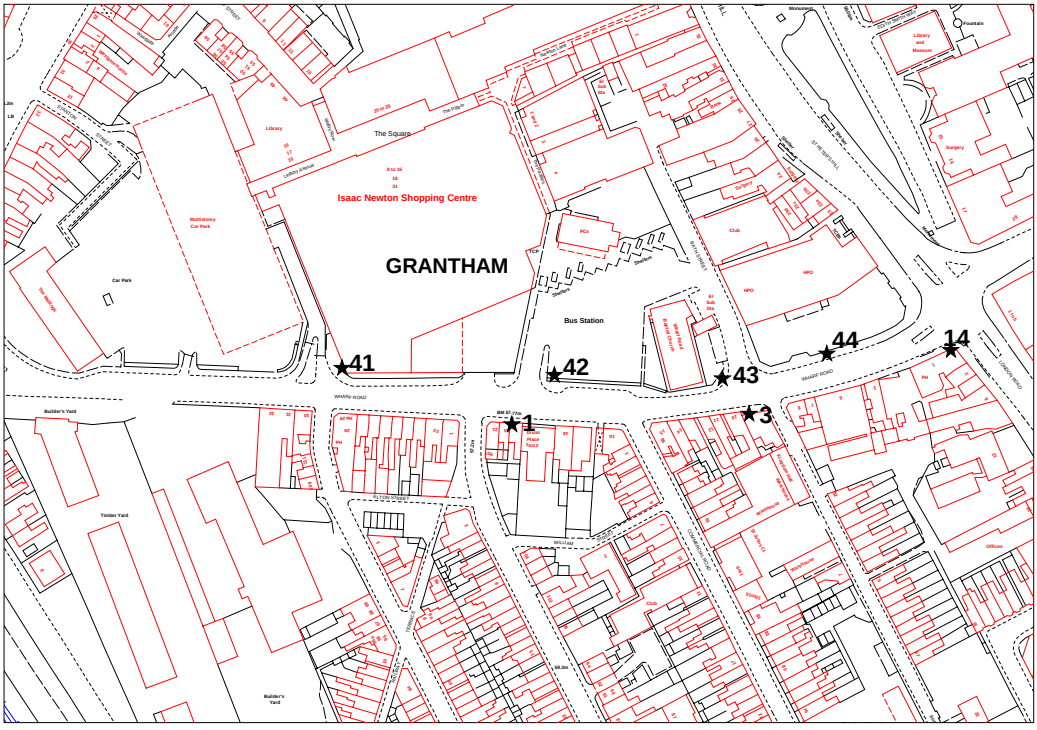
Air Pollution within South Kesteven AQMA has been attributed to Road transport. Additional Source Apportionment work [2] has confirmed the following categories of emissions in order of importance:

Source Apportionment	Order Of Importance
HGV	High
LGV	↓
Bus Station	↓
Multi Storey Car Park	↓
Post Office Depot	Low

[2] Casella Stanger, Local Air Quality Management :Source Apportionment For Grantham, March 2003, Reference CS/AQ/022600/03/SP/2000



Map To Show Receptors Along Wharf Road



In summary, Road Transport is the major source of air pollution within South Kesteven AQMA. HGV's are deemed the major source within the AQMA. Local sources of industrial and domestic air pollution exists within South Kesteven, but their influence on the Air Quality Objectives has been assessed as negligible. Moreover, primary legislation under the Environmental Protection Act 1990 (IPC authorisations), and the Clean Air Act (smoke control areas) has provided effective air pollution control.

9 Health Impacts of Air Pollution

Vehicle emissions have been identified as the major source of air pollution within South Kesteven. The principal pollutants of vehicle exhausts are Nitrogen Dioxide and particulates.

- Nitrogen Dioxide: The most significant sources of this gas are road transport, which accounts for about 50% of the total UK emissions. The principal health effects of nitrogen dioxide relate to impaired lung performance from changes in structure and function and suspected hyper reactivity to allergens (causes of allergic response). Exposure to high concentrations for short periods is considered more toxic than low concentration exposure for long periods.
- Particulates (PM10): Unlike other pollutants, particulate matter in the atmosphere is composed of a wide range of materials from a wide range of sources. The particles of interest for the purpose of review and assessment are those smaller than 10µm (micrometers), which equates to a thousandth of a millimetre. Its physical characteristics rather than its chemical composition therefore define this pollutant. These particles are collectively known as PM10. There are 3 main source categories:

    1. Primary Combustion Particles: Particles emitted directly from combustion processes such as road traffic, power generation and industrial combustion processes.
    2. Secondary Particles: Particles formed in the atmosphere following their release in the gaseous phase. These include sulphates and nitrates, formed from emissions of SO_2 and NOx.
    3. Coarse or other Particles: these are from wide range of non-combustion sources. These include dust from road traffic, wind blown dusts and soils and sea salt.

The largest man made source in the UK is road transport. However, the contribution of all sources to pollutant levels will vary depending on the characteristics and activities in the surrounding area.

Research has recently focused on the health effects of particulates. It is considered that even low levels can be associated with respiratory and cardio-vascular illness and asthma. Research is continuing with emphasis placed on particle size and effects on health. Generally, smaller particles have greater chance of reaching the deeper parts of the lungs (the alveoli) and if they remain in situ, are likely to cause respiratory disease.

B: PROPOSED AIR QUALITY ACTIONS

Air Quality Actions can be categorised under the following measures:

- **Traffic Infrastructure Development**: These measures have an over-arching theme of traffic infrastructure changes. Such measures are usually subject to lengthy consultation and provision of funding. Implementation of such schemes are likely to fall outside of the air quality objective target dates. However, such schemes are more likely to have direct air quality benefits.
- **Local Intervention Measures:** These are more local measures, aimed at encouraging positive environmental behaviour changes. Implementations of such schemes are more likely to be achievable within the air quality objective target dates. However, such schemes are less likely to have direct benefits for improving air quality.

Lincolnshire County Council are solely responsible for implementing traffic schemes within the district. Therefore, in order for South Kesteven to fulfil its statutory duty of improving air quality within the AQMA, engagement with LCC is requisite for implementing traffic improvements within the AQMA. Similarly, South Kesteven District Council has responsibilities within relevant departments to enhance and improve the quality of life for residents living in the district. To that end, a forum has been established to enable a joint working partnership with LCC and Lincolnshire Authorities that have Air Quality Management Areas within their districts (Lincoln City, Boston Borough and SKDC). The LTP2/Air Quality Liaison Forum, had its first meeting on the 6 May 2005, and intends to meet every 6 months.

1. Traffic Infrastructure Developments

As reported in the Stage 4 Local Air Quality Review and Assessment report (LAQRA), traffic infrastructure developments have commenced in Grantham with the recently constructed Northern Gyratory Scheme (around Broad St, Albion St, North St and Brook St). These improvements have previously been identified in the Grantham Town Centre Improvement Scheme. A southern gyratory scheme to include a relief road to the south of Wharf Road is due to start at the end of June 2005.

The stage 4 LAQRA report predicted NO_2 concentrations using dispersion model software (Breeze Roads and AERMOD). The report concluded that an improvement in air quality along Wharf Road was achievable, following the implementation of the Northern and Southern gyratory schemes.

In order to verify the predicted improvements in air quality following the introduction of the Northern Gyratory scheme, a comprehensive air quality-monitoring programme has been in operation throughout (since the first the Air quality review and Assessment, November 1998). More recently, SKDC's Mobile air quality monitoring station has been located at a kerbside location along Wharf Road (grid reference 491477, 335516) in order to monitor NO_2 continuously.

2. Local Intervention Measures

2.1 Actions For Transport Sources (TRANSPORT)

Action T1: Development Of An Integrated Transport Strategy For Grantham

Why are we doing this?

By developing and implementing an integrated transport strategy for Grantham, traffic congestion will decrease and air quality will improve.

LCC has started to develop an integrated transport strategy for Grantham. The strategy will be developed in partnership with SKDC and will complement the Local Development Framework and the Grantham Town Centre Improvement Scheme. The following transport measures are currently being considered:

- The case for new major highway improvements such as bypasses/distributor roads to remove traffic from the town.
- Improvements to encourage local journeys on foot, by bicycle, and building community travel zone initiatives.
- Improvements to public transport such as improved levels of service, better bus stops and interchanges, bus priority measures, improved punctuality, better information and improved integration with other modes such as rail.
- The development of a parking strategy, looking at existing levels of parking provision and the balance between short and long stay parking, and whether there is a role for other parking initiatives such as a park and ride.
- Better management of existing network in line with the requirements of the recent Traffic Management Act 2004, including Intelligent Transport Systems (e.g car park signing indicating available spaces).
- Travel planning at both schools and businesses to encourage greater use of walking, cycling and public transport.

Assessment:

Responsibility:	LCC & SKDC (including partnerships such as Local Strategic Partnership)
Air Quality Impacts:	HIGH (subject to the implementation of proposed schemes)
Non Air Quality Impacts:	HIGH (Possibility for Economic regeneration, safer roads, and greater awareness for Environmental issues)
Costs of implementation:	MEDIUM: Funds have been secured for the study. Funding for implementation of initiatives may be HIGH.

Cost Effectiveness:	HIGH (direct air quality benefits can be secured by reducing traffic congestion)
Feasibility:	Outcome to be reported
Indicator of Success:	Reduction of NO_2 within the AQMA, Less traffic congestion, better cycle and walkways.
Timescales:	Study expected by April 2006.

Summary and Progress to date:

Through greater awareness of air quality issues, LCC have identified the need for an Integrated transport Strategy for Grantham. This has been discussed at the first TP2/Air Quality Forum, and a draft report is expected by April 2006. The suggested measures as detailed above, if implemented will bring direct air quality benefits to the AQMA and the Grantham town centre.

The overall assessment of implementing action T1 is considered HIGH.

ACTION T2: Encourage Alternative Fuels

Why are we doing this?

If the local authority can promote the availability of cleaner fuels, this will encourage motorists to consider purchasing "green fuel" vehicles or even modify their existing vehicles to run on cleaner fuel. The main Fuel manufacturers/Suppliers will be contacted in order to promote the idea of local Air Quality Management and the issues of stocking alternatives fuels.

Assessment:

Responsibility:	SKDC
Air Quality Impacts:	LOW
Non Air Quality Impacts:	LOW (increased consumer choice and positive environmental publicity)
Costs of implementation:	LOW (Production of promotional material has been discussed within LTP2/Air Quality Forum as a joint venture, typically less than £200)
Cost Effectiveness:	LOW
Feasibility:	HIGH (dependant on designated officer time)
Indicator of Success:	A wider availability of alternative fuels within South Kesteven.
Timescales:	By December 2005

Summary and Progress to date:

One garage in Grantham has been identified as stocking alternative fuel (LPG). It is hoped through implementing Action T2 that more petrol stations will stock alternative fuels, and that more drivers will consider using alternative fuels. However, the impact on improving air quality is considered negligible, considering the low proportion of vehicles that have been converted to alternative fuels.

The overall assessment of implementing action T2 is considered LOW.

ACTION T3: We will encourage Responsible Driving within the district. We will do this through an Advertisement Campaign at Local Petrol Stations.

Why are we doing this?

By encouraging responsible driving and the correct maintenance and servicing of vehicles, vehicles will operate to their maximum performance, with the combined effect of less air pollution.

Assessment:

Responsibility:	SKDC
Air Quality Impacts:	LOW
Non Air Quality Impacts:	MEDIUM (Responsible driving may lead to fewer accidents on the road, and may also raise awareness of other road users eg cyclists)
Costs of implementation:	LOW (Production of promotional material has been discussed within LTP2/Air Quality Forum as a joint venture, typically less than £200)
Cost Effectiveness:	MEDIUM
Feasibility:	HIGH
Indicator of Success:	Information being available in petrol service stations throughout the district.
Timescales:	By December 2005

Summary and Progress to date:

The wider impacts of responsible driving are seen as the greatest benefit. Overall improvement in air quality is deemed low.

The overall assessment of implementing action T3 is considered LOW.

ACTION T4: SKDC aims to Introduce Cleaner Fuel Technology into its Fleet. We will do this by continuing with our Trial of 3 LPG Vehicles within SKDC Departments.

Why are we doing this?

South Kesteven has already started trials of running fleet vehicles on LPG. It is envisaged that the results of this trial can be incorporated into forthcoming Action Plans, with a view to adopting clean fuel vehicles for fleet purchase.

Assessment:

Responsibility:	SKDC fleet
Air Quality Impacts:	LOW (Unless all fleet cars are modified)
Non-Air Quality Impacts:	NONE
Costs of implementation:	LOW (trial vehicles were purchased as modified to run on LPG.)
Cost Effectiveness:	MEDIUM (dependant on long term trials incorporating all vehicular costs eg purchase, servicing, parts, re-sale)
Feasibility:	MEDIUM (Problems have been encountered in attempting to convert existing fleet)
Indicator of Success:	All SKDC fleet cars are modified to run on LPG.
Timescales:	Trials began in November 2002.

Summary and Progress to date:

SKDC continues to operate 3 LPG vehicles (all are 1600cc Vauxhall Combo vans). As a rudimentary comparison in running costs, mileage and fuel costs for one LPG vehicle, and one fleet car (Renault Clio 1200cc) running on unleaded fuel, for the year 2004/05 is listed in below.

Vehicle	Mileage	Fuel Costs	Costs/Mileage
LPG	3740	£291.7	0.0779
Unleaded	10031	£804.6	0.0802

(SKDC fleet cars are all Renault Clio 1200cc)

From this initial study, the costs of running the vehicles would appear very similar. However, in terms of ecological benefits, LPG reduces harmful emissions by 90% compared to petrol and diesel engines (source dual fuel systems.co.uk)

Compared To Petrol	Compared To Diesel
75% less Carbon Monoxide	90% less Particulates
85% less Hydrocarbons	90% less Oxides of Nitrogen
40% less Oxides of Nitrogen	70% less Ozone forming potential
87% less Ozone forming potential	60% less Carbon Monoxide
10% less Carbon Dioxide	

From this initial survey, it would appear that the fuel costs for running similar vehicles running on LPG and unleaded are very similar, but environmental impacts favour the use of LPG fuels. However, for LPG fuels to have an impact on improving air quality within the district (and within the AQMA), LPG fuel usage needs to be widespread. Further trials and promotion of LPG vehicles are therefore to be encouraged.

The overall assessment of implementing action T4 is considered LOW.

2.2 Actions For Industrial & Domestic Sources (IND/DOMESTIC)

ACTION D1: We will continue to Inspect IPC Processes to Ensure Compliance with Permitted Emission Concentrations defined by their Authorisation.

Why are we doing this?

The Environmental Protection Act 1990 introduced a new regime for controlling emissions to air from industrial processes. This responsibility is divided between the Environment Agency (Part A and A1 processes) and the local authority (A2 and B processes). South Kesteven currently authorises 73 Part B Processes including petrol stations, quarries, foundries and timber processes. The authorisation stipulates conditions that the operator must comply with in order to protect emission to atmosphere. Through programmed and unannounced inspections, air quality can be protected within the vicinity of each authorised process.

Assessment:

Responsibility:	SKDC
Air Quality Impacts:	MEDIUM (There are currently 73 Authorised process within SKDC)
Non Air Quality Impacts:	NONE
Costs of implementation:	LOW (Based on existing duties of Environmnetal Health Services.)
Cost Effectiveness:	MEDIUM
Feasibility:	HIGH (Inspections are programmed within Environmental Health workloads)

Indicator of Success:	Monitoring data from Processes, and the number of reported incidents of air pollution emissions.
Timescales:	Inspections commenced in 1991 and are on going.

Summary and Progress to date:

During 2004/05, of the 73 authorised processes, Environmnetal Health staff undertook 97 inspections (each process being inspected at least once throughout the year). This high rate of inspection ensures operators are compliant with the authorisations, and ultimately ensures air quality within the district is not compromised. However, marinating compliance with authorisations is unlikely to have any positive air quality improvements within the AQMA.

The overall assessment of implementing action D1 is considered LOW.

ACTION D2: We will continue to Investigate Air Pollution Complaints from non-authorised processes eg. Bonfires and dust nuisance. We will do this in accordance with Standard Practices and Procedures and Relevant Legislation.

Why are we doing this?

During the period 2004/05, Environmental Health Services investigated 125 complaints of air pollution. A continued vigilance and were necessary enforcement of breaches of air quality legislation, will ensure air quality is maintained.

Assessment:

Responsibility:	SKDC
Air Quality Impacts:	LOW
Non Air Quality Impacts:	LOW (environmental awareness to offenders)
Costs of implementation:	LOW (based on existing duties of Environmnetal Health Services.)
Cost Effectiveness:	MEDIUM
Feasibility:	HIGH (programmed within Environmental Health workloads)
Indicator of Success:	Number of reported incidents of air pollution complaints.
Timescales:	On going.

Summary and Progress to date:

Environmental Health Services investigated 125 Complaints during 2004/05 concerning air pollution. Local Authorities have powers to control air pollution through the Clean Air Act 1993, and through Statutory Nuisance provisions of the

Environmental Protection Act 1990. Statutory Nuisance is more wide spread in that it can cover issues relating to smoke, fumes, dust and effluvia. The local authority can control such air pollution sources through the serving of notices where a nuisance exits or likely to exit and or where premises are in such a state to be prejudicial to heath. The provisions of the Clean Air Act are more prescriptive in controlling emissions to atmosphere, by:

- Prohibiting dark smoke from any industrial or trade premise.
- Approving chimney heights for certain industrial installations.

Wherever possible, information on air pollution is made available to the public and businesses alike, through information contained on the SKDC website and during routine/enforcement inspections.
In the long term, air quality within the AQMA is unlikely to be affected by carrying out this action.

The Over all assessment of implementing action D2 is considered LOW.

ACTION D3: We will continue to Monitor Compliance with New and Existing Developments in Smoke Control Areas. We will do this through Local Land Searches linked to the SKDC GIS System, and also the Investigation of Complaints from the Public.

Why are we doing this?

Grantham lies within a Smoke Control Area. This enables the authority to prevent the unauthorised use of fuels, which may give rise to emissions that have a detrimental effect on air quality.

Assessment:

Responsibility:	SKDC
Air Quality Impacts:	MEDIUM
Non Air Quality Impacts:	NONE
Costs of implementation:	LOW (based on existing duties of Environmnetal Health Services.)
Cost Effectiveness:	LOW
Feasibility:	HIGH (programmed within Environmental Health workloads)
Indicator of Success:	Number of reported incidents of air pollution complaints.
Timescales:	On going.

Summary and Progress to date:

Environmental Health staff can ensure new and existing developments only use-authorised fuels in smoke control areas. Enforcement can be undertaken as part of routine investigations, or following requests by members of the public. However, the overall impact on the AQMA is deemed LOW.

The overall assessment of implementing action D3 is considered LOW.

2.3 Actions For The Planning Regime (PLANNING)

ACTION P1: We will continue to advise Land Use and Planning Services of development proposals the subject of planning applications which may either impact upon, or be influenced by Air Quality Issues. Air quality is a material planning consideration to be taken into account in the determination of planning applications. Air quality issues will be the subject of appropriate planning policies within the forthcoming South Kesteven Local Development Document.

Why are we doing this?

South Kesteven have created an internal air quality steering group upon the recommendations of the Stage 4 Review & Assessment report. Members of the group include Planners, Environmental Health, Economic development and staff from Property services. One of the objectives of the group is to discuss the impact of the review and assessment process upon new developments. A corporate approach has thus been established, which it is envisaged, can be greatly assisted by the use of the authority's GIS system.

Assessment:

Responsibility:	SKDC (Economic Development, Planning & Environmental Health staff)
Air Quality Impacts:	MEDIUM
Non Air Quality Impacts:	Raises awareness of Air Quality issues amongst developers
Costs of implementation:	LOW (based on existing duties of SKDC staff.)
Cost Effectiveness:	HIGH
Feasibility:	HIGH (programmed within SKDC workloads)
Indicator of Success:	The number of new developments requiring Environmnetal Impact Assessments.
Timescales:	On going.

Summary and Progress to date:

As documented in the recent LAQM- Annual Progress Report (May 2005) [3,] the following new developments have been highlighted as requiring EIA assessments with regard to potential air pollution impacts upon the AQMA:

3 Local Air Quality Management – Annual Progress Report, May 2005, Ref:CS/AQ/AGGX0313/2335

- Former Springfield Industrial Park, Springfield Road, Grantham (S05/0185/35)
- Former John Lee Stockholders Premises, Old Wharf Road/Dysart Road, Grantham (S04/1906/35)
- Grantham Cattle Market, Dysart Road, Grantham (S04/1083/35)
- Autumn Park Development, Dysart Road, Grantham (S04/1899/35)

Furthermore, SKDC have targeted air quality monitoring (using diffusion tubes) in areas where development is likely to impact upon air quality, in order to establish background concentrations. An example of this pro-active approach to establish likely impacts upon air quality is the Springfield Road development (S05/0185/35). Diffusion tubes have been positioned on along Springfield road since January 2002.

As demonstrated above, by highlighting the issue of air quality at the planning stage, new developments, which can potentially impact upon areas where air quality is already poor, must demonstrate how compliance can be achieved. This may involve the use of Section 106 agreements to improve existing road infrastructure.
The forthcoming Local Development Document will set out the Council's Community Strategy and other policy documents. It will be a public document available to the public, developers, public agencies and parties wishing to carry out development in the district area. Appropriate references to air quality within this document will ensure due regard is paid to such factors in the consideration of future development proposals.

The overall assessment of implementing action P1 is considered MEDIUM.

2.4. Actions From Promotion & Education

ACTION E1: We aim to promote the Air Quality Agenda, in order to raise Public Awareness and keep People Informed of Local Issues relevant to the district. This includes a commitment to maintaining the already extensive air quality monitoring [programme throughout the district.

Why are we doing this?

Good quality data is essential for making informed decisions regarding air quality management. It is therefore imperative that a comprehensive monitoring program is undertaken, following strict QA/QC procedures, to ensure high quality results. Also, the public need to be informed of monitoring results wherever possible.

Assessment:

Responsibility:	SKDC (Environmental Health services).
Air Quality Impacts:	NONE.
Non Air Quality Impacts:	Provides data to demonstrate compliance or continued breaches Air Quality Standards.
Costs of implementation:	MEDIUM (currently between £10-£15K)
Cost Effectiveness:	LOW (although data quality is imperative for making informed decisions that affect air quality
Feasibility:	HIGH (programmed within Environmental Health workloads)
Indicator of Success:	A high % of Data Capture
Timescales:	On going.

Summary and Progress to date:

South Kesteven has been monitoring air quality within the district, using diffusion tubes since 1992, and using continuous analysers since 1994. We have, wherever possible, relayed air quality information to the public, using publicity display boards within council buildings. Currently, SKDC monitors air quality using 60 diffusion tubes over 27 sites and a continuous analyser is stationed within the AQMA (most diffusion tube sites operate using triplicate tubes to increase data quality).

The overall assessment of implementing action E1 is considered LOW

ACTION E2: We aim to Improve Air Quality and the Quality of Life in general throughout SKDC. We will do this by implementing the South Kesteven Community Strategy.

Why are we doing this?

The Community Strategy sets out six priority areas for action to improve the quality of life for the district. These priorities have emerged from a very wide consultation amongst many partners across South Kesteven. The priority areas are:

- Learning
- Economic/Enterprise
- Environment/Transport
- Housing
- Health
- Community Safety.

The partnership is called the South Kesteven Local Strategic partnership (LSP) and incorporates agencies such as NHS Primary Care Trust, the Police, Town, Parish,

District and County Councils, local business and the voluntary, learning, environment, agricultural and housing sectors.
Clearly, the most important area that links air quality benefits to the Community Strategy is the Environment and Transport sector.

The Environment aims have been identified as priorities are:

- Reduce The generation of waste
- Encourage Energy Savings
- Reduce Air/Land Pollution

The Transport aims that been identified as priorities are:

- Improve Infrastructure Linked To LTP2
- Develop Rural Transport Services
- Market Transport Services & Environmentally Friendly Forms Of Transport
- Promote The Development Of Travel Plans.

A Community Action Plan (March 2004) has been produced that identifies Activities to meet the above priorities

Assessment:

Responsibility:	SKDC & NHS Primary Care Trust, the Police, Town, Parish, District and County Councils, local business and the voluntary, learning, environment, agricultural and housing sectors
Air Quality Impacts:	MEDIUM (based on projects and schemes being implemented).
Non-Air Quality Impacts:	Raises the profile of air quality issues amongst interested parties.
Costs of implementation:	LOW (meetings & Correspondence are budgeted within SKDC work loads)
Cost Effectiveness:	MEDIUM (possibility of direct air quality improvements from shared funding initiatives with stakeholders).
Feasibility:	HIGH (dependant on officer participation)
Indicator of Success:	Implementation of the Community Action Plan.
Timescales:	On going.

Summary and Progress to date:

The LSP has produced a Community Action Plan in which specific activities have been identified to the measure the overall progress of the project. In order to raise awareness of actions relating specifically to Air Quality Management, Environmnetal Health Services gave a presentation to an LSP meeting on the 15 April 2005.

The overall assessment of implementing action E2 is considered HIGH

C. MATRIX OF ACTION PLANS WITH COST BENEFIT ANALYSIS

Action Plan	Cost Needed To Implement	Time Needed To Implement	Human Resource Needed To Implement	Rank	Air Quality Benefits Gained	Direct benefit to AQMA
Transport 1	₤₤	🕒🕒🕒	🧍🧍	1	☺☺☺	Yes
Transport 2	₤	🕒	🧍	8	☺	No
Transport 3	₤	🕒	🧍	7	☺	No
Transport 4	₤₤	🕒🕒	🧍	9	☺	No
Ind/Domestic 1	₤	🕒	🧍	4	☺	No
Ind/Domestic 2	₤	🕒	🧍	5	☺	No
Ind/Domestic 3	₤	🕒	🧍	6	☺	No
Planning 1	₤	🕒	🧍	3	☺☺	Yes
Prom/Education 1	₤₤	🕒🕒	🧍	4	☺	No
Prom/Education 2	₤₤	🕒🕒	🧍🧍	2	☺☺☺	Yes

D: CONCLUSIONS & RECOMMENDATIONS

This Action Plan has produced the following conclusions:

1. The AQMA within South Kesteven requires a combined approach of the transport agencies and the local authorities, with the support of local residents, in order to improve air quality.
2. There is no "quick fix " solution to improve air quality within the AQMA.
3. The above matrix has enabled a targeted approach to improve air quality, both within the AQMA and throughout the district.

In order to improve air quality within the South Kesteven AQMA, the following actions are recommended:

1. An Integrated Transport Strategy is necessary for Grantham, in order to bring about improvements to air quality and to reduce traffic congestion. (*ACTION T1)*
2. The South Kesteven Community Strategy (SKCS) must continue to promote air quality in conjunction with improvements to the transport infrastructure of the region. (*ACTION E2)*
3. The planning regime needs to be kept informed of air quality issues, and in particular, the developments in and around the AQMA. (*ACTION P1*)
4. The AQMA is within a smoke control area. This needs to be policed in order to minimise domestic sources of air pollution impacting upon the area.(*ACTION D3*)

.

South Kesteven will endeavour to implement the above recommendations. We will also continue to monitor air quality within the district and within the AQMA in order to test the effectiveness of the Action Plan. It is also recognised that greater liaison between the District and County Council Highways is necessary when determining proposed changes to traffic management. The formation of the LTP2/Air Quality Liaison Forum will facilitate this requirement.

E. REFERENCES CONTACT DETAILS AND USEFUL INFORMATION

1. Casella Stanger (Air Quality Consultants): Great Guildford House, 30 Great Guildford Street, London, SE1 0ES, Tel 020 7902 6100,
2. NSCA National Society for Clean Air & Environmental Protection, Contact 44 Grand Parade, Brighton, BN2 9QA Tel 01273 878770
3. Air Quality Management (Journal) : PO Box 493, Redhill, RH1 3XQ Tel 020 7393 7666
4. DEFRA Ashdown House, 123 Victoria Street, London SW1E 6DE Tel 020 7082 8378
5. AEA Technology Environment, Culham, Abingdon, Oxfordshire OX14 3ED tel 01235 521840

Appendix A: LTP Proposals from LCC

Proposals for the 2nd Local Transport Plan

x.x To assist in developing an integrated transport strategy for Grantham, the County Council is proposing to carry out a new transport study for the town. This will include the collection of new transport/traffic data to ensure that the travel demands of the area are fully understood.

x.x The strategy will be developed in partnership with South Kesteven District Council who are in the process of developing their new Local Development Framework. In addition, a wide range of interested bodies and organisation will be involved in the process.

x.x The study will consider a full range of possible transport solutions and this may include for example identifying the need for:, including :

· the possibility of smaller scale improvements to key junctions in the town to make the most efficient use of the existing network.

· the case for new major highway improvements such as bypasses/distributor roads to remove traffic from the town

· further improvements to encourage local journeys on foot of by bicycle, building on the current Community Travel Zone initiative

§ improvements to public transport such as including improved levels of service, better bus stops and interchanges, bus priority measures, improved punctuality, better information and improved integration with other modes such as rail

§ the development of a parking strategy to looking at the existing levels of parking provision and the balance between short and long stay parking, and whether there is a role for other parking initiatives such as park and ride and decriminalised parking

§ better management of the existing network in line with the requirements of the recent Traffic Management Act 2004, including Intelligent Transport Systems (e.g. car park signing indicating available spaces)

§ travel planning at both schools and businesses to encourage greater use of walking, cycling and public transport

Such a study would be expected to take 12 months to complete and will identify those transport solutions which need to be taken through more in depth study. The study will provide an overview of the required strategy, not detailed analysis.

x.x In developing the final strategy, consideration will also need to be given to the levels of funding that are likely to be available from a wide range of sources (e.g. through the Local Transport Plan, local authorities own funds, developer contributions, etc), together with the timescales required to implement and major proposals. Hence, it is likely to need to take a longer term view of what is achievable across not just the 2nd LTP but also subsequent LTPs as well.

Appendix B: Correspondence For the AQAP

SOUTH KESTEVEN DISTRICT COUNCIL

ENVIRONMENTAL HEALTH & LICENSING
ROBERT HADFIELD M.C.I.E.H., M.I.O.A., M.I.O.L.
Head of Environmental Health & Licensing

INVESTOR IN PEOPLE

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e-mail: ehs@southkesteven.gov.uk licensing@southkesteven.gov.uk

PR/RR 6327

9 December 2004 406327

Dear Sir/Madam

ENVIRONMENT ACT 1995
AIR QUALITY ACTION PLAN
WHARF ROAD, GRANTHAM

Under the above legislation, local authorities are required to undertake a review and assessment of air quality within their area. In areas where air quality is deemed likely to exceed standards and objectives, an Air Quality Management Area (AQMA) is to be declared. In order to improve air quality within these areas, local authorities are required to produce an Action Plan.

I am writing to inform you that Wharf Road, Grantham has been declared as an Air Quality Management Area with regard to likely exceedences of nitrogen dioxide (NO_2) for which the main source is traffic emissions. In order to improve the air quality along Wharf Road, a draft action plan has been produced. The draft action plan is available on the South Kesteven District Council website (www.skdc.com). If you would like me to send you a paper copy of this report please do not hesitate to contact this department.

I am currently seeking your views on this proposed action plan and this consultation process has included Lincolnshire County Council Highways Department and other local authorities. If you have any comments to make, I would be grateful if you would forward these to me by the end of January 2005.

If you wish to discuss this matter further or you require a paper copy of this action plan please do not hesitate to contact me on 01476 406327.

Yours faithfully

Lincolnshire
2nd Local Transport Plan
March 2006

APPENDIX D

FINANCE FORMS

FINAL SECOND LOCAL TRANSPORT PLAN

LTP-F11: Summary of support sought from local transport capital settlement

Plan : LINCOLNSHIRE

Contact Name : Ian Kitchen

Telephone Number (with extension) : 01522 553058

All figures in £000

	2007-08	2008-09	2009-10	2010-11
Maintenance block expenditure (up to provisional planning guidelines)	18492	19417	20387	21407
Primary route bridges and emergency works		n/a	n/a	n/a
Individual major schemes	28376	51444	12015	45
Exceptional maintenance schemes each costing less than £5 million	0	0	0	0
Integrated transport block expenditure (up to final planning guidelines)	6005	6584	7206	7874
Further integrated transport block expenditure (up to 25% of final planning guidelines)				
Total (local transport capital settlement)	52873	77445	39608	29326

FINAL SECOND LOCAL TRANSPORT PLAN

LTP-F12: Summary of support from local transport capital settlement for major schemes and exceptional schemes

Plan : LINCOLNSHIRE

Authority No. 94

All figures in £000

Scheme name	Type	DfT Ref/ Pry	Start of main works		End of main works		2005/06 and before	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14 and after
			mm	yyyy	mm	yyyy									
TOTAL LTP-F12 - ALL							3739	296	28376	51444	12015	45	0	0	0
TOTAL LTP-F12 - MAJOR SCHEMES							3739	296	28376	51444	12015	45	0	0	0
A1073 SPALDING TO EYE IMPROVEMENT	RD5	9015	4	2007	7	2009	2256	296	28376	40644	7205	45	0	0	0
A158/C541 COASTAL ACCESS IMPROVEMENT (BURGH LE MARSH)	RD1	9031	3	2008	12	2009	1483	0	0	10800	4810	0	0	0	0
TOTAL LTP-F12 - EXCEPTIONAL MAINTENANCE SCHEMES							0	0	0	0	0	0	0	0	0

Lincolnshire
2nd Local Transport Plan
March 2006

APPENDIX E

MANDATORY INDICATORS PROFORMA

LTP2 Mandatory Indicators Pro-Forma

LTP	Lincolnshire

Core Indicator	Definitions	Year Type	Units		Year	Value		Actual and Trajectory Data									Notes
Road Condition (% of network in need of further investigation)	(1) Principal Roads - BVPI223								2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	Notes
		Financial	Percentage	Base Data	2004/05	38%	Actual Figures		NA	38%							
				Target Data	2010/11	32%	Trajectory			38%	37%	36%	35%	34%	33%	32%	
	(2) Classified, non-principal, roads - BVPI224a								2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	Notes
		Financial	Percentage	Base Data	2005/06		Actual Figures										Target not required by DfT until 2005/06 SCANNER data available.
				Target Data	2010/11		Trajectory										
	(3) Unclassified roads - BVPI224b								2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	Notes
		Financial	Percentage	Base Data	2004/05	23.38%	Actual Figures		19.08%	23.38%							
				Target Data	2010/11	20.80%	Trajectory			23.38%	23.38%	22.30%	21.80%	21.80%	21.30%	20.80%	
Total killed and seriously injured casualties - BVPI99(x)								1994-98	2003	2004	2005	2006	2007	2008	2009	2010	Notes
		Calendar	Casualties	Base Data	1994-98	757	Actual Figures	757	628	524	439						
				Target Data	2010	454	Trajectory				611	571	530	490	472	454	
Child killed and seriously injured casualties - BVPI99(y)								1994-98	2003	2004	2005	2006	2007	2008	2009	2010	Notes
		Calendar	Casualties	Base Data	1994-98	76	Actual Figures	76	50	37	44						Target and Trajectory are based on a 3 year rolling average.
				Target Data	2010	38	Trajectory				44	43	42	40	39	38	
Total slight casualties - BVPI99(z)								1994-98	2003	2004	2005	2006	2007	2008	2009	2010	Notes
		Calendar	Casualties	Base Data	2001-04	3,385	Actual Figures	3,048	3,493	3,441	3,147						
				Target Data	2010	3,385	Trajectory				3,385	3,385	3,385	3,385	3,385	3,385	
Total local public transport patronage in target	Thousands of passenger journeys (i.e. boardings) per year in the authority								2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	Notes
		Financial	Thousand passenger journeys	Base Data	2003/04	14,782	Actual Figures		14,782	13,580							Bus passenger journeys only.
				Target Data	2010/11	13,000	Trajectory			13,580	13,040	13,820	13,610	13,400	13,200	13,000	
of which number of bus passenger journeys - BVPI102									2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	Notes
		Financial	Thousand passenger journeys	Base Data	2003/04	14,782	Actual Figures		14,782	13,580							
				Target Data	2010/11	13,000	Trajectory			13,580	13,040	13,820	13,610	13,400	13,200	13,000	

Core Indicator	Definitions	Year Type	Units		Year	Value		Actual and Trajectory Data								
Satisfaction with local bus services- BVPI104								2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	**Notes**
		Financial	Percentage	**Base Data**	2003/04	49%	**Actual Figures**	49%								
				Target Data	2009/10	58%	**Trajectory**	49%			55%			58%		
Footway condition - BVPI187								2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	**Notes**
		Financial	Percentage	**Base Data**	2004/05	25.15%	**Actual Figures**	41.05%	25.15%							
				Target Data	2010/11	19.15%	**Trajectory**		25.15%	24.15%	23.15%	22.15%	21.15%	20.15%	19.15%	
LPT1 - An accessibility target	**Households within 30 mins of a local service centre or supermarket**							2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	**Notes**
		Financial	Percentage	**Base Data**	2004/05	83%	**Actual Figures**		83%							
				Target Data	2010/11	90%	**Trajectory**		83%	85%	86%	87%	88%	89%	90%	
LTP2 - Change in area wide road traffic mileage								2003	2004	2005	2006	2007	2008	2009	2010	**Notes**
		Calendar	Vehicle Kilometres	**Base Data**	2004	4939	**Actual Figures**	4827	4939							
				Target Data	2010	5661	**Trajectory**		4939	5053	5169	5288	5409	5534	5661	
LTP3 - Cycling trips (annualised index)								2003	2004	2005	2006	2007	2008	2009	2010	**Notes**
		Calendar	Index based on 2003 = 100	**Base Data**	2003	100	**Actual Figures**	100	109	dna						Data for 2005 is still being analysed.
				Target Data	2010	120	**Trajectory**	100	103	106	109	111	114	117	120	
LTP4 - Mode share of journeys to school	**Share of journeys by car (including vans and taxis), excluding car share journeys**							2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	**Notes**
		Financial	Percentage	**Base Data**			**Actual Figures**									No target required to be set until DfT/DfES data collection process resolved and base data available. Anticipated 2006/07.
				Target Data	2010/11		**Trajectory**									
percentage of which Car							**Actual Figures**									
percentage of which Car Share							**Actual Figures**									
percentage of which Public Transport							**Actual Figures**									
percentage of which Walking							**Actual Figures**									
percentage of which Cycling							**Actual Figures**									

Core Indicator	Definitions	Year Type	Units		Year	Value		Actual and Trajectory Data								
LTP5 - Bus punctuality indicator								2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	**Notes**
	% of buses starting route on time	Financial	Percentage	**Base Data**	2005/06	80%	**Actual Figures**			80%						
				Target Data	2010/11	90%	**Trajectory**			80%	80%	82%	84%	87%	90%	
								2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	**Notes**
	% of buses on time at intermediate turning points	Financial	Percentage	**Base Data**	2005/06	59%	**Actual Figures**			59%						
				Target Data	2010/11	72%	**Trajectory**			59%	60%	63%	66%	69%	72%	
								2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	**Notes**
	% of buses on time at non-timing points	Financial	Percentage	**Base Data**	2005/06	45%	**Actual Figures**			45%						
				Target Data	2010/11	60%	**Trajectory**			45%	47%	50%	53%	56%	60%	
								2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	**Notes**
	Average excess waiting time on frequent service routes	Financial	Minutes	**Base Data**	2005/06		**Actual Figures**									Not applicable in Lincolnshire.
				Target Data	2010/11		**Trajectory**									
LTP6 - Changes in peak period traffic flows to urban centres								2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	**Notes**
	Area 1	Financial	Vehicle numbers or % of all journeys that are car driver	**Base Data**	2005/06		**Actual Figures**									Not a mandatory indicator for any urban area within Lincolnshire. However, it is proposed to adopt it for the Lincoln urban area, with base data being collected during 2006. Target to be set once base data is available.
				Target Data	2010/11		**Trajectory**									
	Area 2			**Base Data**	2005/06		**Actual Figures**									
				Target Data	2010/11		**Trajectory**									
	Area 3			**Base Data**	2005/06		**Actual Figures**									
				Target Data	2010/11		**Trajectory**									
LTP7 - Congestion								2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	**Notes**
		Financial		**Base Data**	2005/06		**Actual Figures**									Not a mandatory indicator for any urban area in Lincolnshire. However, it is proposed to adopt it for the Lincoln urban area. Target to be set once ITIS data is available from DfT anticipated (mid-2006).
				Target Data			**Trajectory**									

Core Indicator	Definitions	Year Type	Units		Year	Value		Actual and Trajectory Data								
LTP8 - Air Quality Targets in Declared Air Quality Management Areas								2003	2004	2005	2006	2007	2008	2009	2010	**Notes**
	NO_2 levels in Lincoln AQMA	Calendar	µg/m3 NO_2	**Base Data**	2004	54.4	**Actual Figures**		54.4							DfT/DEFRA guidance suggests that annual trajectories based upon pollutant concentrations are not to be used due to metSee Local Indicators LTP19, LTP20, LTP21 and LTP22 for Intermediate Outcome indicators based on traffic flow levels.
				Target Data	2010	42.5	**Trajectory**		54.4						42.5	
								2003	2004	2005	2006	2007	2008	2009	2010	
	NO_2 levels in Haven Bridge AQMA, Boston	Calendar	µg/m3 NO_2	**Base Data**	2004	47.3	**Actual Figures**		47.3							
				Target Data	2010	<40.0	**Trajectory**		47.3						<40.0	
								2003	2004	2005	2006	2007	2008	2009	2010	
	NO_2 levels in Bargate Bridge AQMA, Boston	Calendar	µg/m3 NO_2	**Base Data**	2004	43.3	**Actual Figures**		43.3							
				Target Data	2010	<40.0	**Trajectory**		43.3						<40.0	
								2003	2004	2005	2006	2007	2008	2009	2010	
	NO_2 levels in Wharf Road AQMA, Grantham	Calendar	µg/m3 NO_2	**Base Data**	2004	45.6	**Actual Figures**		45.6							
				Target Data	2010	<40.0	**Trajectory**		45.6						<40.0	

LTP2 MANDATORY PERFORMANCE INDICATOR

BVPI 223 – Condition of Principal Roads

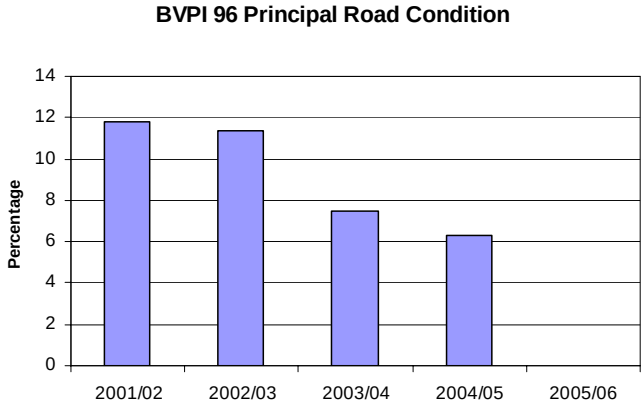
Indicator

Percentage of the local authority principal road network where structural maintenance should be considered

Methodology

The figure is derived from Scanner surveys carried out annually on 100% of the principal road network (nearside lane in one direction). The BVPI figure is based on surveys carried out during the financial year being reported on.

Recent Trends (NB The following graph show the recent trend under BV96 – Deflectograph)



Year	2002/03 (BV96)	2003/04 (BV96)	2004/05 (BV96)	**2004/05 (BVPI 223)**
Percentage	11.39%	7.46%	6.34%	37.59%

Target

DfT suggested Minimum Standard – Satisfactory	No overall deterioration in condition
DfT suggested Minimum Standard – Stretching	Subject to a case by case assessment
Proposed Target	1% annual improvement on 2004/05 base figure

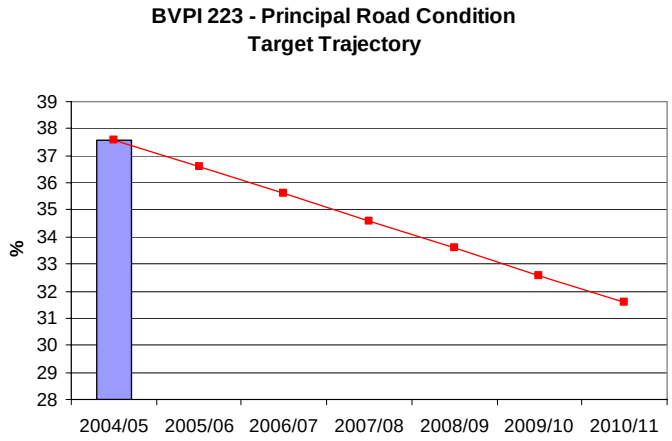
Initial target set at moderate level until final base figure is established and funding to achieve target is assessed.

Note : Base year data is expected to change when revise rules and parameters for SCANNER data are release by DfT in due course. Target (and trajectory) will be revisited at that point in time, when data for 2005/06 should also be available.

Trajectory

Lincolnshire has over 1000 km of principal roads with a minimum target design life of 20 years, however in reality the structural layers, if well designed and constructed to specification, will last much longer. To reduce the structural maintenance backlog on principal roads, a moderate target level of 1% improvement per annum at current funding levels has been set to allow funding to be diverted to deal with the maintenance problems on the non-principal road network.

Base Year 2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
38%	37%	36%	35%	34%	33%	32%



Key actions for Local Government needed to achieve target

- Development of asset management plan to ensure correct balance of structural, surface and skidding resistance treatments
- Life cycle planning
- Develop improved asset and maintenance history register

Key Actions of Local Partners needed to achieve targets

- Early contractor involvement to ensure cost effective construction methods and innovative treatments
- Combine maintenance works with improvement and development, where seen to be cost effective

Principal Risks to the achievement of the target, and how these will be managed

- Funding levels - any reduction in funding will result in failure to achieve targets. This could be managed to some extent by reallocating funding and reassessing other key targets
- Impairment – sudden or unexpected decrease in condition of asset (e.g. due to drought damage or periods of flooding). In the past, this has been dealt by bidding for additional government funding.

LTP2 MANDATORY PERFORMANCE INDICATOR

BVPI 224a (Formerly BVPI 97a) – Condition of Non- Principal Classified Roads

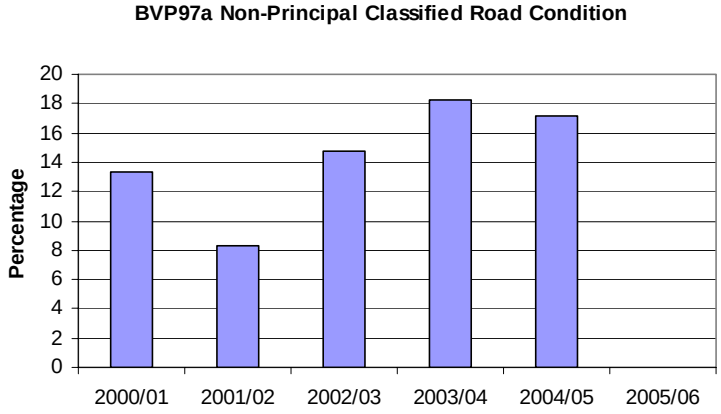
Indicator

Percentage of the non-principal classified road network where structural maintenance should be considered

Methodology – From 2005/06

The figure is to be derived from Scanner surveys carried out annually on 100% of B roads (nearside lane in one direction) together with a sample of at least 10% of C roads (nearside lane in one direction) The BVPI figure is based on surveys carried out during the financial year being reported on.

Recent Trends (NB – Graph below is for BV97a based on Visual Inspections)



Year	2000/01	2001/02	2002/03	2003/04	2004/05
Percentage	13.30	8.36	14.78	18.30	17.11

Target

NB – Due to the change to SCANNER surveys, DfT do not require a target to be set for this indicator in the Full 2nd LTPs in March 2006. Targets will be required later when baseline data for 2005/06 is available.

DfT suggested Minimum Standard – Satisfactory	No overall deterioration in condition
Dft suggested Minimum Standard – Stretching	Subject to a case by case assessment
Proposed Target	Anticipate showing a year on year improvement of 1%

Trajectory

Base Year 2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Being collected					

Key actions for Local Government needed to achieve target

- Development of asset management plan to ensure correct balance of structural, surface and skidding resistance treatments
- Life cycle planning
- Develop improved asset and maintenance history register

Key Actions of Local Partners needed to achieve targets

- Early contractor involvement to ensure cost effective construction methods and innovative treatments

Principal Risks to the achievement of the target, and how these will be managed

- Funding levels- any reduction in funding will result in failure to achieve targets, this could be managed to some extent by reallocating funding and reassessing other key targets
- Impairment – sudden or unexpected decrease in condition of asset (e.g. drought damage or period of flooding), in the past this has been dealt by bidding for additional government funding

LTP2 MANDATORY PERFORMANCE INDICATOR

BVPI 224b (Formerly BVPI 97b) – Condition of Unclassified Roads

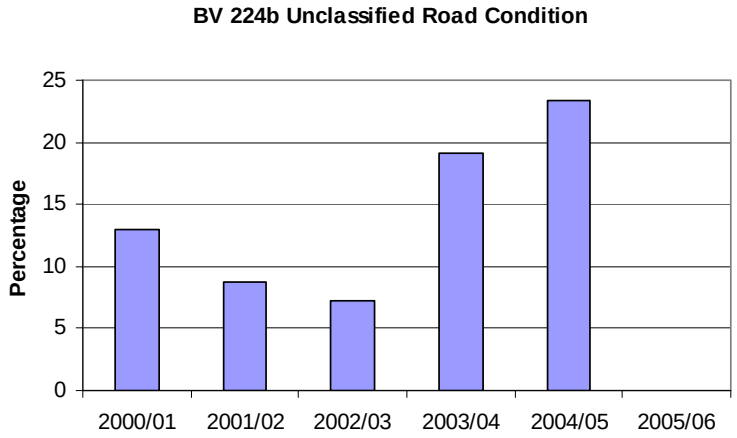
Indicator

Percentage of the unclassified road network where structural maintenance should be considered

Methodology

The figure is based on visual surveys of a proportion of the unclassified road network (minimum of 25% per year) using either a UKPMS Coarse Visual Inspection Survey (CVI) or a Detailed Visual Inspection Survey (DVI).

Recent Trends



Year	2000/01	2001/02	2002/03	2003/04	2004/05
Percentage	13.02	8.70	7.19	19.08	23.38

Target

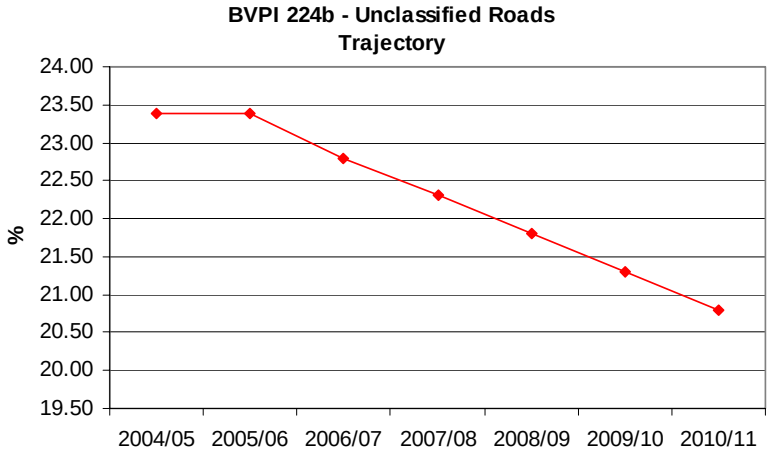
DfT suggested Minimum Standard – Satisfactory	No overall deterioration in condition
Dft suggested Minimum Standard – Stretching	Subject to a case by case assessment
Proposed Target at end of LTP 2 period	Reduce to 20.80% by 2010/11

Initial target set is to prevent any further deterioration until funding level need as assessed from the developed Asset Management Plan. With improved asset management planning, it is hoped a moderate improvement in condition can be achieved.

Visual condition surveys (CVI) have been carried out cyclically on 25% of the unclassified road network for the past 6 years (i.e. surveys carried out in 2004/05 cover the same roads as 2000/01). However due to changes in UKPMS rules and parameters and accreditation of surveyors there can be no correlation between the 2 surveys. In future consistency in both rules and parameters, and surveyor accreditation should considerably improve correlation.

Trajectory

Base Line 2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
19.08	23.38	23.38	22.80	22.30	21.80	21.30	20.80



Key Actions for Local Government to achieve target

- Development of asset management plan to ensure correct balance of structural, surface and skidding resistance treatments
- Develop improved asset and maintenance history register

Key Actions of Local Partners needed to achieve targets

- Early contractor involvement to ensure cost effective construction methods and innovative treatments

Principal Risks to the achievement of the target, and how these will be managed

- Funding levels- any reduction in funding will result in failure to achieve targets, this could be managed to some extent by reallocating funding and reassessing other key targets
- Impairment – sudden or unexpected decrease in condition of asset (e.g. drought damage or period of flooding), in the past this has been dealt by bidding for additional government funding

LTP2 MANDATORY PERFORMANCE INDICATOR

BVPI 99(x) – Total Killed And Seriously Injured Casualties

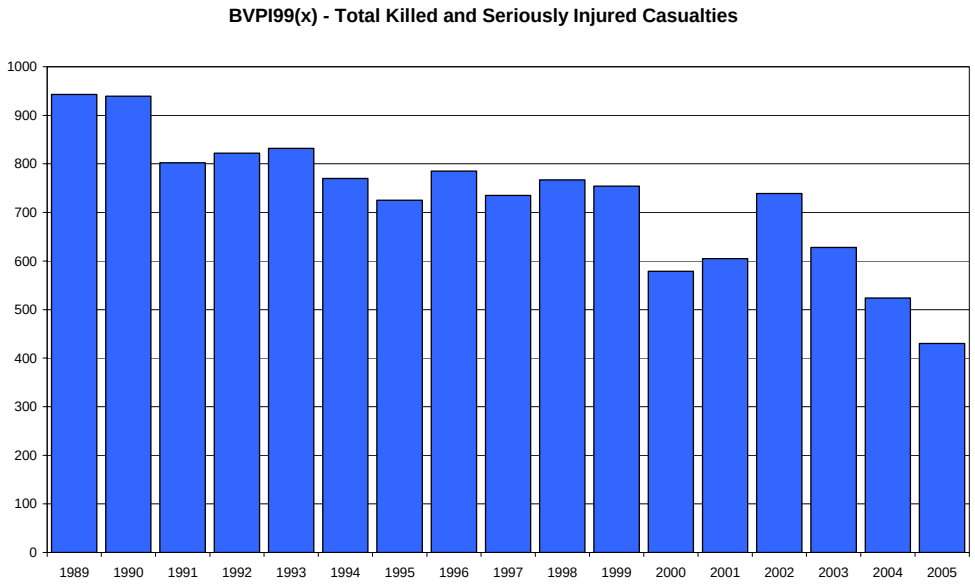
Indicator

Total killed and seriously injured casualties on all roads in the county

Methodology

Lincolnshire Road Safety Partnership computerised accident records based on Stats 19 forms

Recent Trends



Year	1994-98	1999	2000	2001	2002	2003	2004	2005
Number	Av 757	754	579	605	739	628	524	439

Target

DfT suggested Minimum Standard - Satisfactory	**Either** a 40% reduction from 1994-98 to 2010 **or** a 20% reduction 2004 to 2010
DfT suggested Minimum Standard - Stretching	A 40% reduction from 1994-98 to 2010 **and** a 30% reduction 2004 to 2010
Proposed Target	40% reduction from 1994-98 to 2010

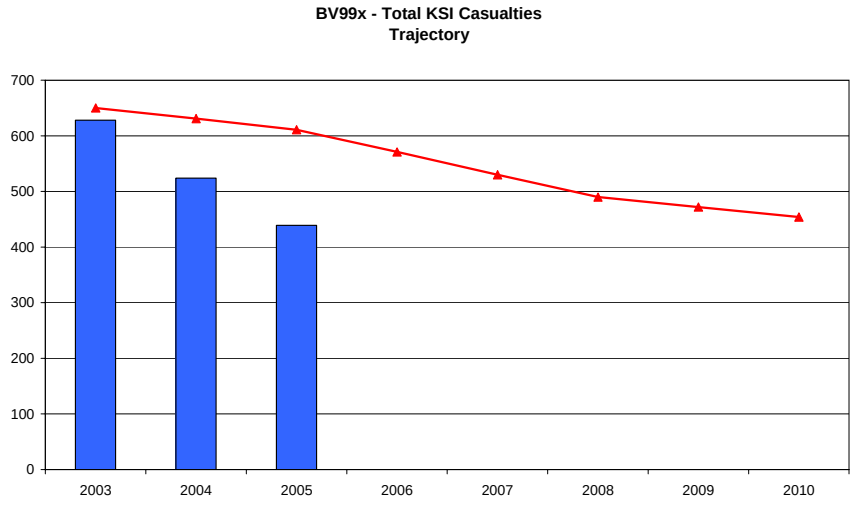
The KSI casualties for 2004 were the lowest on record and substantially lower than the previous two years. 2005 has also shown further significant reduction. However, although these trends are welcome, in view of previous fluctuations such as those on the early 2000s, it is considered unwise to base future targets on the 2004 baseline. Consequently, it is proposed to continue with the trajectory set out in LTP1 to achieve a 40% reduction on the 1994/8 average by 2010 but accommodating the stretched targets in 2006-8 agreed with DfT as part of a Public Service Agreement.

The 2010 target will be reviewed as part of the first LTP2 Progress Report in two years time to determine whether a more stretching target is appropriate in the light of progress in the intervening years.

Trajectory

See above for explanation

Base Year 1994/98 Average	2005	2006	2007	2008	2009	2010
757	611	571	530	490	472	454



Key Actions for Local Government needed to achieve target

- Continued implementation of the County Road Safety Strategy through the 3 Es of Engineering, Education and Enforcement. This is carried out via the Lincolnshire Road Safety Partnership.
- Continue to identify share and implement best practice from other authorities.
- Continue to investigate and implement innovative road safety initiatives e.g. Road Safety Red Routes
- Continue to promote road safety advertising by the effective use of all media outlets
- Target high risk users with specific initiatives e.g. Bikesafe, Employers Charter, and Young Driver Challenge

Key Actions of Local Partners needed to achieve targets

- Continued involvement of the County Council and its other partners ie. Lincolnshire Police, NHS Partnership Trust, Highways Agency , Probation Service and Fire and Rescue Service in the Lincolnshire Road Safety Partnership including the Safety Camera Partnership

- Expansion of LRSP to involve associate partners and local communities

- Facilitate the introduction of speed diversionary workshops for high end speed offenders

Principal risks to the achievement of the target, and how these will be managed

- In the last 5 years, the introduction of the Netting Off scheme has reduced casualties significantly. To maintain the reductions up to 2010, the government will need to strengthen this initiative and introduce new policies to maintain the downward trend. The safety camera partnership will seek to influence the guidance on the use of camera technology to meet the needs of Lincolnshire.

- The key risk to achieving the targets is the occurrence of a major incident or incidents involving the collision of multi occupancy vehicles and resulting in high KSI casualties which would distort the general trend in those casualties. It is not possible to manage this risk. It should be considered as being a low risk of happening with high consequent effect.

- The loss of funding of the partnership or its initiatives would reduce its ability to deliver its programme of work. LRSP would target those initiatives shown to be most effective for casualty reduction and renew efforts to identify other funding streams.

LTP2 MANDATORY PERFORMANCE INDICATOR

BVPI 99(y) – Child Killed And Seriously Injured Casualties

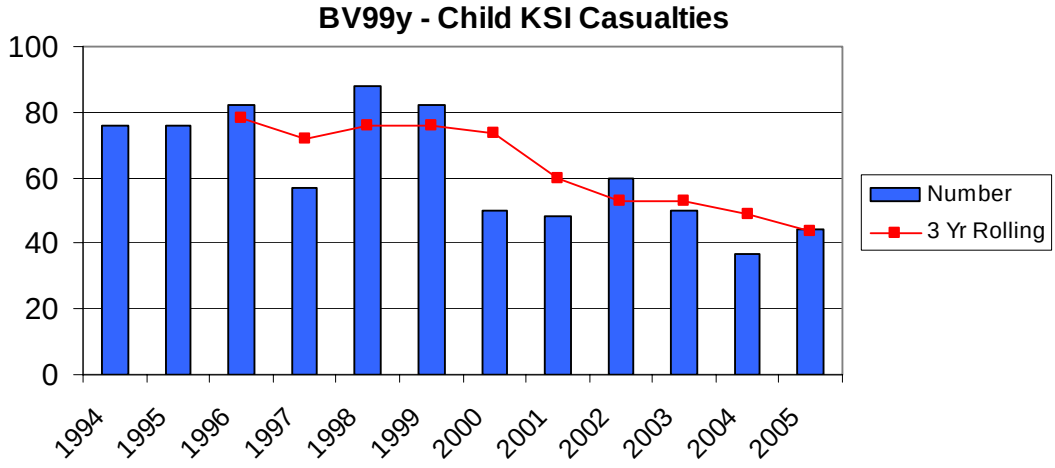
Indicator

Child killed and seriously injured casualties on all roads in the county

Methodology

Lincolnshire Road Safety Partnership computerised accident records based on Stats 19 forms

Recent Trends



Year	1994-98	1999	2000	2001	2002	2003	2004	2005
Number	Av 76	82	50	48	60	50	37	44
Rolling 3 year Average		76	73	60	53	53	49	44

Target

DfT suggested Minimum Standard - Satisfactory	**Either** a 50% reduction from 1994-98 to 2010 **or** a 25% reduction 2004 to 2010
DfT suggested Minimum Standard - Stretching	A 50% reduction from 1994-98 to 2010 **and** a 35% reduction 2004 to 2010
Proposed Target	50% reduction from 1994 -98 to 38 (using rolling 3 year average)

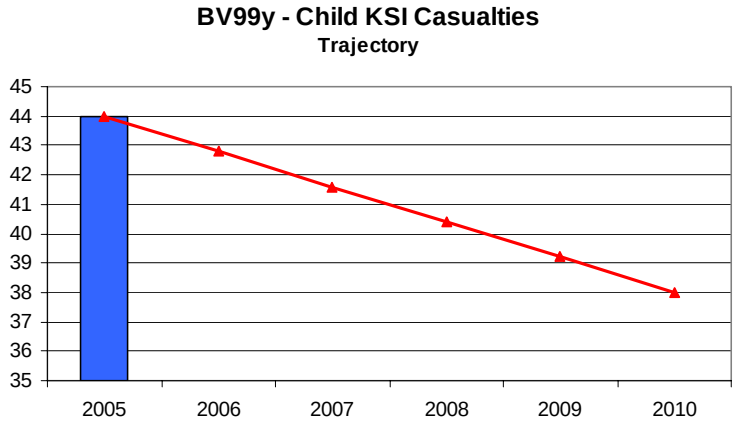
As the numbers are low, a 3 year rolling average approach has been adopted in line with DfT Guidance.

Trajectory

A straight line trajectory has been set starting from the existing 2003/05 average.

Base Year 1994/98 Average	2005	2006	2007	2008	2009	2010
76	44	43	42	40	39	38

Note – Above figures are 3 year rolling averages



Key Actions for Local Government needed to achieve target

- Continued implementation of the County Road Safety Strategy through the 3 Es of Engineering, Education and Enforcement, particularly those focussed directly on children (see Chapter 9 of main LTP document).
- Continue to identify share and implement best practice from other authorities.
- Continue to investigate and implement innovative road safety initiatives e.g. Road Safety Red Routes
- Continue to promote road safety advertising by the effective use of all media outlets

Key Actions of Local Partners needed to achieve targets

- Continued involvement of the County Council and its other partners i.e. Lincolnshire Police, NHS Partnership Trust, Highways Agency , Probation Service and Fire and Rescue Service in the Lincolnshire Road Safety Partnership including the Safety Camera Partnership
- Expansion of LRSP to involve associate partners and local communities
- Facilitate the introduction of speed diversionary workshops for high end speed offenders

Principal risks to the achievement of the target, and how these will be managed

- The key risk to achieving the targets is the occurrence of a major incident or incidents involving the collision of multi occupancy vehicles and resulting in high KSI casualties which would distort the general trend in those casualties. It is not possible to manage this risk. It should be considered as being a low risk of happening with high consequent effect.

- The loss of funding of the partnership or its initiatives would reduce its ability to deliver its programme of work. LRSP would target those initiatives shown to be most effective for casualty reduction and renew efforts to identify other funding streams.

LTP2 MANDATORY PERFORMANCE INDICATOR

BVPI 99(z) – Total slight casualties

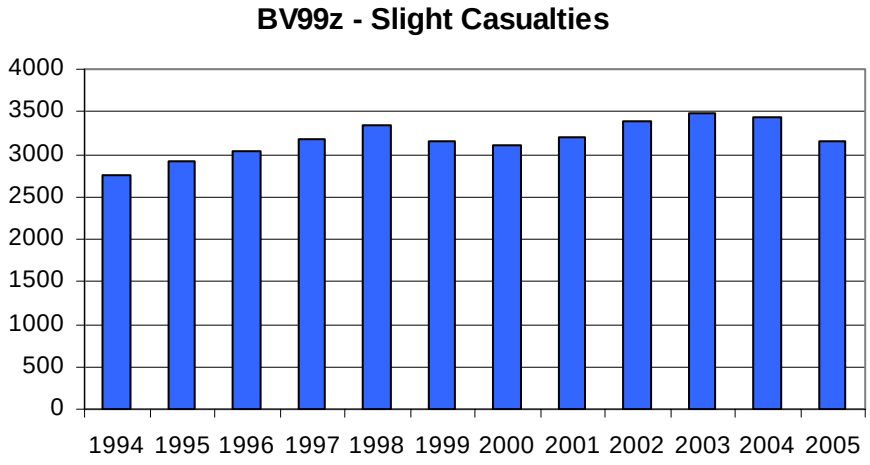
Indicator

Total slight casualties on all roads in the county

Methodology

Lincolnshire Road Safety Partnership computerised accident records based on Stats 19 forms

Recent Trends



Year	1999	2000	2001	2002	2003	2004	2005
Number	3144	3112	3211	3394	3493	3441	3147*

* Figure for 2005 is provisional

Target

DfT suggested Minimum Standard - Satisfactory	No increase over recent levels
DfT suggested Minimum Standard - Stretching	A 10% reduction compared to recent levels
Proposed Target	No increase over 2001-2004 levels, despite rising traffic levels

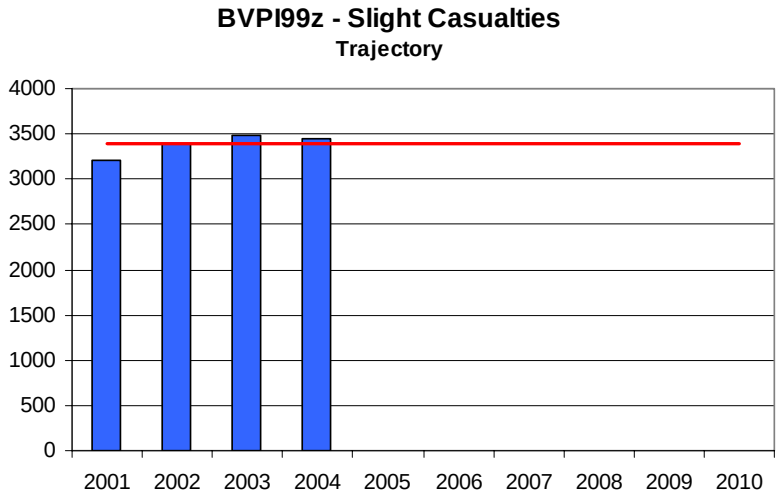
- Despite good progress in reducing overall levels of KSI casualties, slight injuries have shown a steady rise, reflecting increasing traffic flows across the county.

- There is some sign of a levelling off in recent years.

- As flows across the county are expected to continue to rise over the coming years, a realistic but stretching target would be to seek no increase over recent levels (average of 2001-04 in line with DfT advice).

Trajectory

2001- 04 Average	2005	2006	2007	2008	2009	2010
3385	3385	3385	3385	3385	3385	3385



Key Actions for Local Government needed to achieve target

- Continued implementation of the County Road Safety Strategy through the 3 Es of Engineering, Education and Enforcement. This is carried out via the Lincolnshire Road Safety Partnership.
- Continue to identify share and implement best practice from other authorities.
- Continue to investigate and implement innovative road safety initiatives e.g. Road Safety Red Routes
- Continue to promote road safety advertising by the effective use of all media outlets
- Target high risk users with specific initiatives e.g. Bikesafe, Employers Charter, and Young Driver Challenge

Key Actions of Local Partners needed to achieve targets

- Continued involvement of the County Council and its other partners i.e. Lincolnshire Police, NHS Partnership Trust, Highways Agency , Probation Service and Fire and Rescue Service in the Lincolnshire Road Safety Partnership including the Safety Camera Partnership

- Expansion of LRSP to involve associate partners and local communities

- Facilitate the introduction of speed diversionary workshops for high end speed offenders

Principal risks to the achievement of the target, and how these will be managed

- In the last 5 years, the introduction of the Netting Off scheme has reduced casualties significantly. To maintain the reductions up to 2010, the government will need to strengthen this initiative and introduce new policies to maintain the downward trend. The safety camera partnership will seek to influence the guidance on the use of camera technology to meet the needs of Lincolnshire.

- The key risk to achieving the targets is the occurrence of a major incident or incidents involving the collision of multi occupancy vehicles and resulting in high KSI casualties which would distort the general trend in those casualties. It is not possible to manage this risk. It should be considered as being a low risk of happening with high consequent effect.

- The loss of funding of the partnership or its initiatives would reduce its ability to deliver its programme of work. LRSP would target those initiatives shown to be most effective for casualty reduction and renew efforts to identify other funding streams.

LTP2 MANDATORY PERFORMANCE INDICATOR

BVPI 102 – Public Transport Patronage

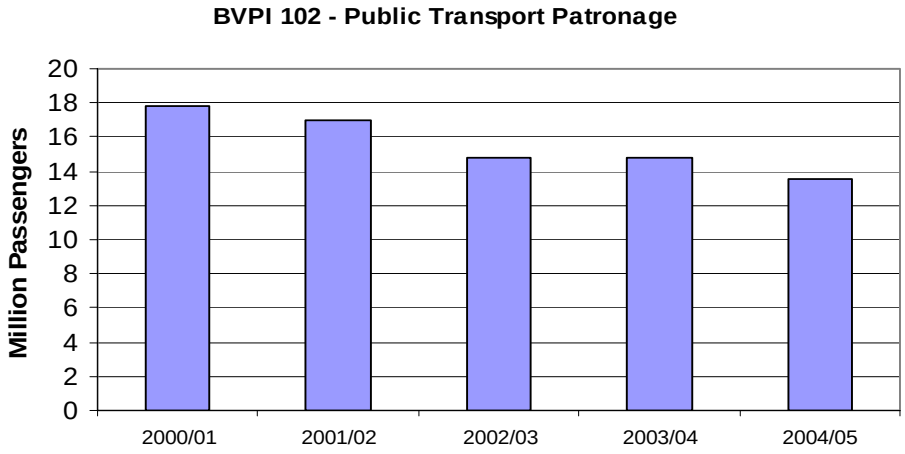
Indicator

Total local public transport journeys per year by bus.

Methodology

Information will be collected from a survey of all bus operators running local bus services in Lincolnshire based on the thousands of bus passenger journeys (ie. boarding) per year in accordance with DfT guidance.

Recent Trends



Year	2000/01	2001/02	2002/03	2003/04	2004/05
Number	17.96m	16.94m	14.75m	14.78m	13.58m

Note : 2000/01 and 2001/02 figures based on DfT data.
2002/03 onwards based on returns from local bus operators

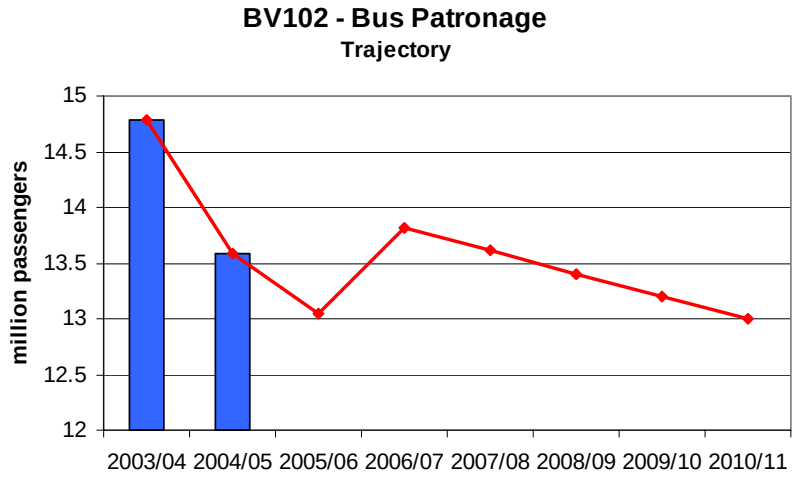
Target

DfT suggested Minimum Standard - Satisfactory	None set
DfT suggested Minimum Standard - Stretching	None set
Proposed Target	13.01m

Nationally, outside of London, there has been a trend of declining levels of bus ridership over recent years and this is also evident in Lincolnshire despite the success of its various bus initiatives where substantial growth has offset to some extent the underlying downward trend. The significant reduction in 2004/05 was due in large part to the operational problems in Grantham following changes of operator and poor performance. As these were commercially run services, the County Council was powerless to intervene. It is estimated that half of the total reduction in Lincolnshire can be attributed to Grantham. Excluding the local impact of Grantham which has now stabilised, the Council believes that the underlying downward trend will continue over the life of the Plan.

However, the introduction of free concessionary off-peak travel from 1 April 2006 should result in a significant increase in bus patronage. The implications of this are difficult to predict but evidence elsewhere suggests that overall passenger growth of 5% would be a reasonable estimate in the first year. It is assumed that there will be an underlying reduction in patronage of 1.5% per annum over the remainder of the Plan period giving a target of 13.01million passengers by the end of 2010/11. Given the downward trend in passengers over recent years, it is considered that this target is stretching in the circumstances.

Trajectory



Base Year 2003/4	2004/5	2005/6	2006/7	2007/8	2008/9	2009/10	20010/11
14.78m	13.58m	13.04m	13.82m	13.61m	13.40m	13.20m	13.01m

Key Actions for Local Government needed to achieve target

- Expansion of InterConnect/CallConnect network
- Expansion of IntoTown Services
- Development and expansion of Quality Bus Partnerships
- Enhanced information services
- Provision of bus priority measures.

Key actions of Local Partners to achieve target

- Provision of low floor vehicles
- Provision of quality information systems
- Driver training and customer care initiatives
- Enhanced information services
- Provision of punctual/reliable services

Principal risks to the achievement of the target, and how to address these

- Increasing operational costs and reducing viability of commercial bus services (the County Council is unable to influence this risk)
- Widening gap between private motoring costs and bus fares (the County Council is unable to influence this risk, and is constrained by the prevailing level of commercial fares in setting fares on contracted bus services))
- Co-operation of local bus operators (continue to work closely with operators in persuading them of the benefits in closer cooperation and partnership)
- Public resistance to bus priority measures (careful planning and consultation prior to the implementation of schemes)
- Uncertainty about the impact of free concessionary off-peak travel (review in the light of national evidence and experience elsewhere).

LTP2 MANDATORY PERFORMANCE INDICATOR

BVPI 104 – Bus Satisfaction (All Respondents)

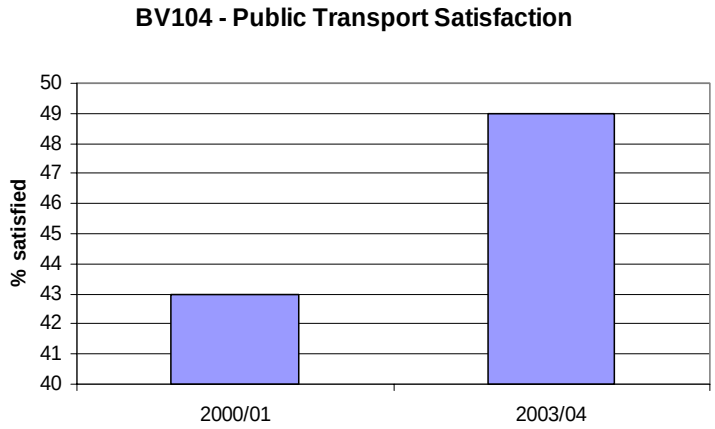
Indicator

Percentage of all respondents satisfied with the local bus service.

Methodology

Through the General User Satisfaction Survey carried out every 3 years.

Recent Trends



Year	2000/01	2001/01	2002/03	2003/04	2004/05
Bus users	43%	n/a	n/a	49%	n/a

Target

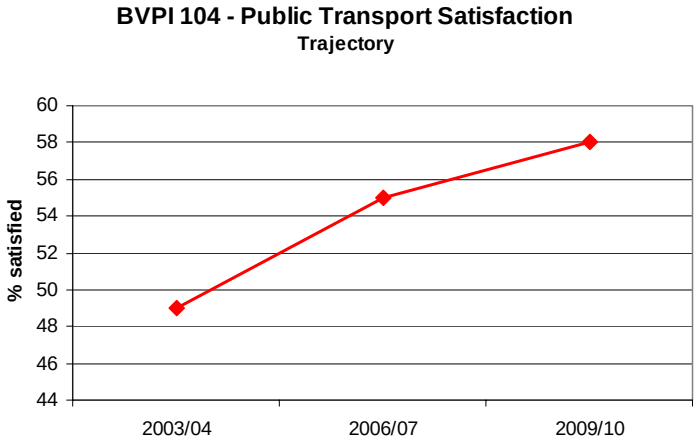
Based on the improved performance to date, the County Council believes that it can achieve the Minimum Standard of satisfaction of all respondents by 2006/07, and a further improvement of 3% by 2009/10.

DfT suggested Minimum Standard - Satisfactory	Maintain bus satisfaction levels to 2009/10 (if level in 2003/04 is greater than 50%) or improve them by at least 6% over 2003/4 level by 2009/10 (if not).
DfT suggested Minimum Standard - Stretching	Bus satisfaction levels in 2009/10 of more than 75%, and greater than 2003/4 levels
Proposed Target	58% for all respondents by 2009/10.

Trajectory

Year	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Percentage	49	-	-	55	-	-	58

The trajectory reflects the funding profile which will see greater expenditure on bus initiatives early in the Plan period. It assumes that the planned programme of InterConnect and IntoTown initiatives over the life of the Plan will continue to offset in part the underlying trend of declining bus ridership.



Key Actions for Local Government needed to achieve target

- Expansion of InterConnect/CallConnect network
- Expansion of IntoTown Services
- Development and expansion of Quality Bus Partnerships
- Enhanced information services

Key actions of Local Partners to achieve target

- Provision of low floor vehicles
- Provision of quality information systems
- Driver training and customer care initiatives
- Enhanced information services
- Provision of punctual/reliable services

Principal risks to the achievement of the target, and how to address these

- Reductions in commercially operated services (the County Council is unable to influence this risk directly but can maintain services by increasing revenue funding)
- Increasing bus fares at rates above inflation (the County Council is unable to influence this risk, and is constrained by the prevailing level of commercial fares in setting fares on contracted bus services))
- Co-operation of local bus operators (continue to work closely with operators in persuading them of the benefits in closer cooperation and partnership)
- Impact of free concessionary off-peak travel on people's expectations on service levels (increased revenue funding to provide more service).

LTP2 MANDATORY PERFORMANCE INDICATOR

BVPI 187 – Condition of Surface Footway

Indicator

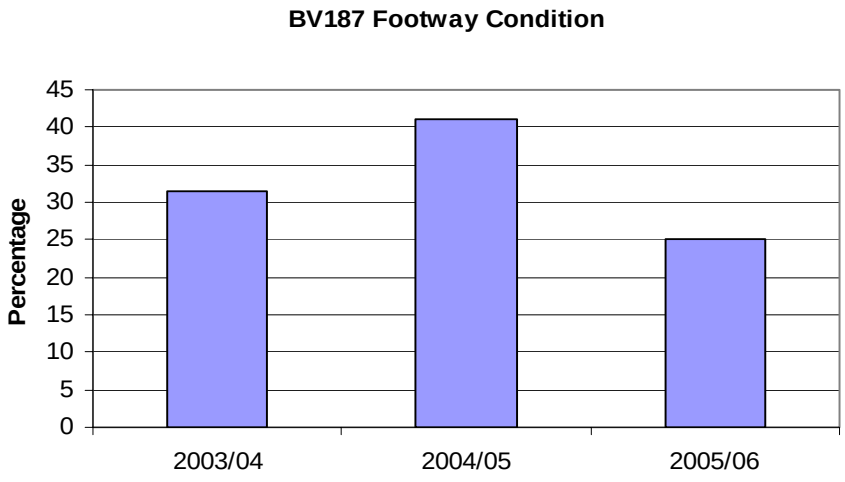
Percentage of the category 1, 1a and 2 footway network where structural maintenance should be considered

Methodology

The indicator will be based on the collection and analysis of Detailed Visual Inspection (DVI) measurements, using the national Rules and Parameters for UKPMS, to provide the percentage length of the footway network with a Footway Condition Index greater than a defined threshold value for deficiency. These rules cover different footway types and the defects associated with the type of footway (e.g. bituminous, flags) on different footway categories (hierarchies)

Authorities should measure the percentage length of the footway Category 1, 1a and 2 network with a Footway Condition Index greater than a threshold value of 20.0, calculated using the Variable Length Merge method set out within UKPMS through the approved set of Rules and Parameters. It will be based on a 50% survey of category 1, 1a and 2 footways each year, so that the complete Category 1, 1a and 2 networks will be covered every two years. Footway Categories are defined in the Code of Practice for Maintenance Management (The Institution of Highway and Transportation, 2001)

Recent Trends



Year	2002/03	2003/04	2004/05
Percentage	31.57	41.05	25.15

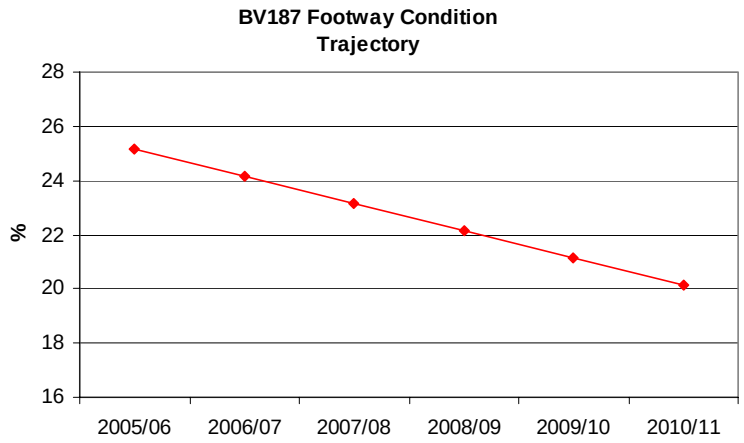
Targets

DfT suggested Minimum Standard – Satisfactory	No overall deterioration in condition
Dft suggested Minimum Standard – Stretching	Subject to case by case assessment
Proposed Target	Target to be an annual improvement of 1% on 2004/05 base

Initial target set at moderate level until base figure is established following review of footway hierarchies in 2005/06 and funding to achieve target is assessed

Trajectory

Base Year 2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
41.05	25.15	24.15	23.15	22.15	21.15	20.15	19.15



Key Actions for Local Government needed to achieve target

- Continue to allocate specifically targeted funding at type 1 and 2 footways (commenced in 2004/05)
- Develop improved asset and maintenance history register

Key actions of Local Partners to achieve target

- Minimise damage due to HGV overrun on flagged footways
- Early contractor involvement to ensure cost effective construction methods and innovative treatments

Principal risks to the achievement of the target, and how to address these

- Funding levels- any reduction in funding will result in failure to achieve targets, this could be managed to some extent by reallocating funding and reassessing other key targets

LTP2 MANDATORY PERFORMANCE INDICATOR

LTP1 - Accessibility

A. Indicator

% of households within 30 minutes of a local service centre or supermarket by public transport.

Methodology

A destination set of local service centres and supermarkets has been established. Traveline data augmented with information of the flexible CallConnect services will provide the public transport base data. ACCESSION will be used to measure access based on the level and pattern of public transport in November of every year.

Recent Trends

New indicator for 2nd LTP. Base figure for 2004/05 is 83%.

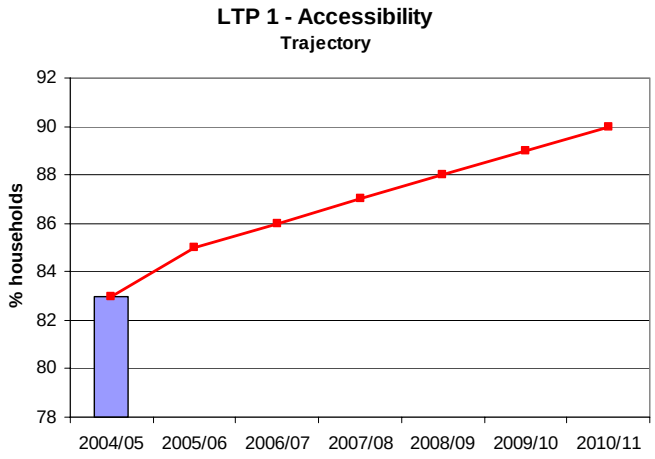
Target

Proposed Target	Increase the % of households to 90% by 2010/11

The proposed target (and trajectory) reflects the proposed expansion of InterConnect/ CallConnect bus initiative during the 2nd LTP period.

Trajectory

2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
83%	85%	86%	87%	88%	89%	90%



Key Actions for Local Government needed to achieve target

- Local accessibility assessments undertaken in the three priority areas
- Expansion of InterConnect/CallConnect network
- Expansion of IntoTown Services
- Enhanced information services
- Increased integration with other Council services.

Key actions of Local Partners to achieve target

- Implementation of planning protocol to improve local planning decision making process
- Integration of transport across sectors and particularly non-emergency health transport
- Co-operation of the health, employment and education sectors in preparing and implementing action plans
- Co-operation of LSP partners in delivering community strategies on accessibility.

Principal risks to the achievement of the target, and how to address these

- Co-operation of partners in preparing action plans and making changes and improvements to their service delivery (continue to work closely with operators in persuading them of the benefits in closer cooperation and partnership)
- Sustainability of bus services because of increasing operational costs and reducing viability of commercial bus services (the County Council is unable to influence this risk except by injecting increased revenue funding)
- Widening gap between private motoring costs and bus fares (the County Council is unable to influence this risk, and is constrained by the prevailing level of commercial fares in setting fares on contracted bus services)

LTP2 MANDATORY PERFORMANCE INDICATOR

LTP2 - Change in area wide road traffic

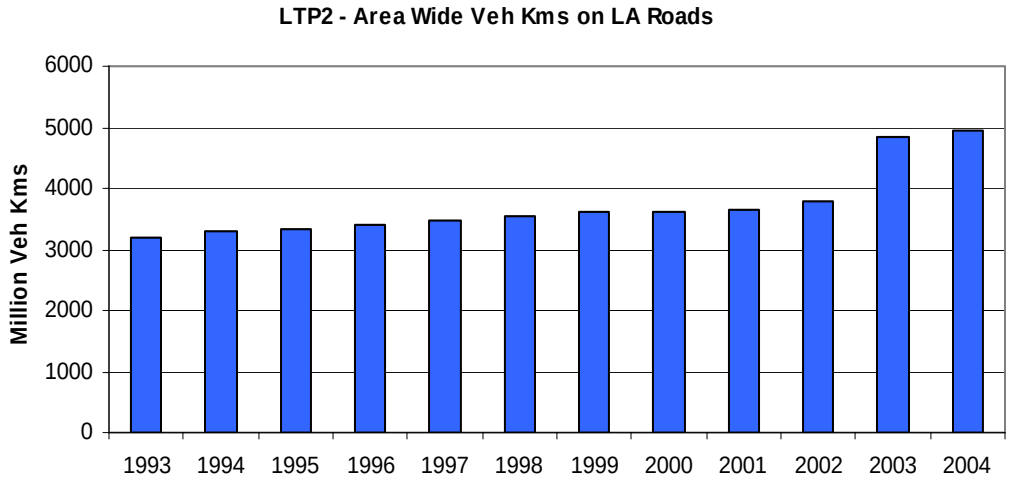
Indicator

Change in area wide vehicle kilometres on local authority managed roads (i.e. excluding trunk roads)

Methodology

To be measured on an annual basis using data provided by the Department of Transport at local authority level from the National Road Traffic Survey. Data for the preceding calendar year is usually available by July/Aug of the following year.

Recent Trends



Year	1998	1999	2000	2001	2002	2003	2004
Million Veh Kms	3534	3603	3617	3650	3806	4827	4939

1) Above data provided by DfT on 20/10/2005

2) Substantial detrunking took place in June 2002. This is reflected in 2003 figures onwards, but not in 2002 (which in reality should have 50% of increase for the 6 months of year) as DfT figures are based on road length at 1st April.

Target

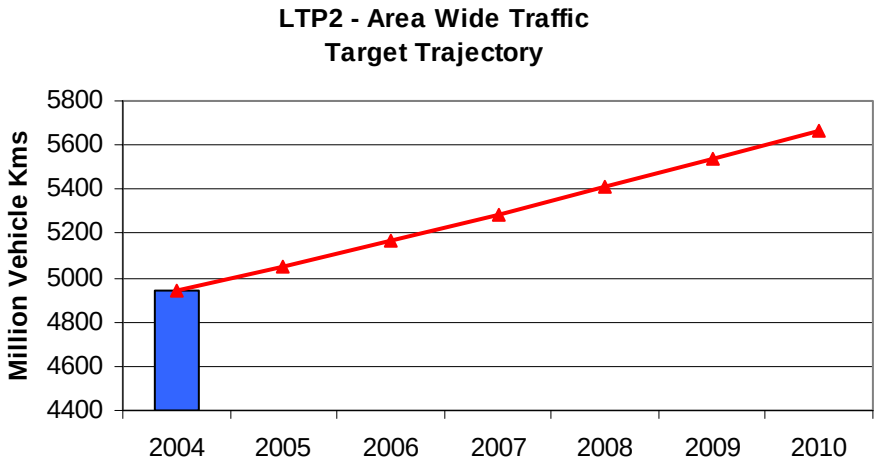
DfT suggested Minimum Standard - Satisfactory	None set
DfT suggested Minimum Standard - Stretching	None set
Proposed Target	Limit to no greater than that in recent years i.e. 2.3% per annum

- DfT guidance states that the indicator is included as a proxy indicator for improvements in air quality and reductions in green house gas emissions, which might have some merit in smaller urban unitaries but is difficult to relate to large rural shires.
- Analysis of 1993 – 2002 DfT data suggests average growth of 1.8% pa. However, more recently growth between 2003 and 2004 (post-detrunking) is 2.3%. This would suggest that the inclusion of former detrunked roads into the county network has had a noticeable impact on levels of growth. This is perhaps not surprising as these roads are among the busiest in the county and carry substantial volumes of longer distance regional/national traffic.
- The overall aim of such a target is difficult to reconcile with aim of economic growth in Lincolnshire to support regional ambitions of becoming a top 20 European region where currently Lincolnshire is holding back the East Midlands (lowest GVA at just 75% of the national average).
- Whilst every effort will be made to encourage sustainable development, as well as encouraging greater use of more sustainable modes of travel for existing trips, it is likely that external influences such as the wider economic position nationally/regionally will have a far greater impact, which the authority is unable to influence directly.
- Therefore the proposed target is to limit future growth to no greater than that experience in recent years. Unfortunately, the recent major detrunking in the county means that there is no long-term pattern on which to base this. Initially, the target been set at 2.3% to reflect the growth recorded between 2003 and 2004, but this will be reviewed once further data is available.

Trajectory

The baseline for this indicator is the 2004 calendar year, the most recent year for which DfT data is available. This figure may be revised when DfT data for 2005 is released as it is not unusual for estimates for early years to be revised.

Year	2004	2005	2006	2007	2008	2009	2010
Million Veh Kms	4939	5053	5169	5288	5409	5534	5661



Key Actions for Local Government needed to achieve target

- Continue to promote sustainable alternatives to car travel
- Seek to encourage more sustainable development through the development control system, encouraging alternative modes of travel and reducing the need to travel

Key actions of Local Partners to achieve target

- Commitment of local planning authorities to promote sustainable development
- Continued commitment of transport providers to provide alternative means of travel in partnership with County Council

Principal risks to the achievement of the target, and how to address these

- Unsustainable economic growth at national, regional and local level resulting in higher than expected traffic growth. The authority will seek to ensure that local economic development takes place giving full regard to sustainable transport issues.

LTP2 MANDATORY PERFORMANCE INDICATOR

LTP3 – Cycling Indicator

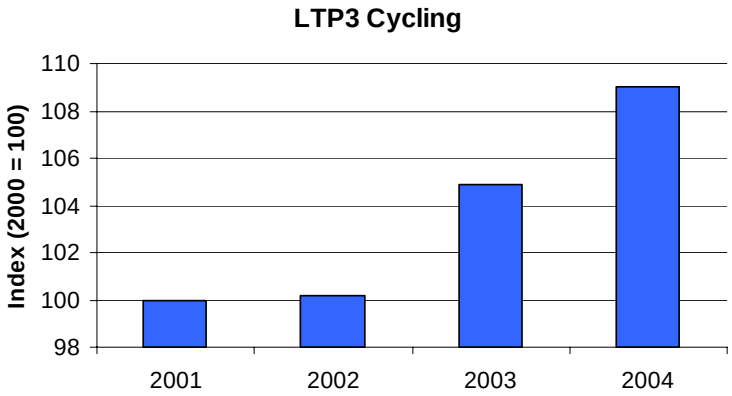
Indicator

Annualised Index of Cycling Trips

Methodology

To be measured using a representative network of automatic cycle counts.

Recent Trends



Year	2001	2002	2003	2004
Index	100	100.2	104.9	109.0

Data based on automatic cycle counters spread in larger urban areas. Number of counters used as follows :

2001-2002 = 8 sites
2002-2003 = 18 sites
2003-2004 = 23 sites

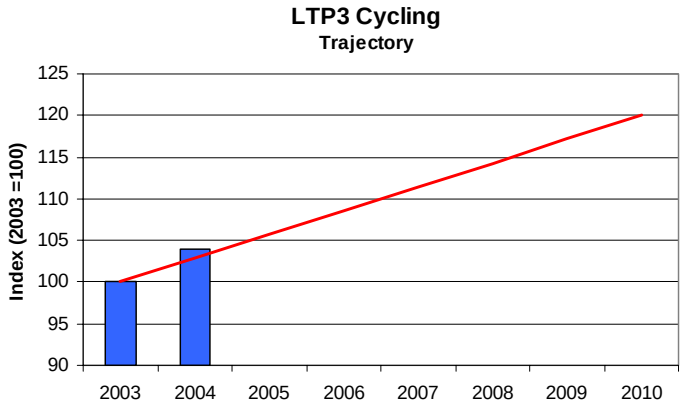
Targets

DfT suggested Minimum Standard - Satisfactory	No reduction in cycling levels
DfT suggested Minimum Standard - Stretching	Subject to case by case assessment
Proposed Target	Increase by 20% (from 2003 base) by 2010

Growth in over last 3 years has been some 3% per year. Proposed to try and maintain around this level of growth through to 2010. This approximately equates to a 20% increase between 2003 (DfT suggested base year) and 2010.

Trajectory

2003 Base	2004	2005	2006	2007	2008	2009	2010
100	103	106	109	111	114	117	120



Key Actions for Local Government needed to achieve target

- Further improvement to encourage cycling through the Community Travel Zone and Rural Priorities Initiative programmes
- Expansion of Business and School Travel Plan programme

Key actions of Local Partners to achieve target

- Greater take up of Travel Plans by local businesses and schools
- Co-operation of local planning authorities to secure improvements for cyclists associated with new development, including cycle parking

Principal risks to the achievement of the target, and how to address these

- Funding levels – reduced funding will threaten achievement of target. This will be managed by reallocating funding from other programmes where progress is ahead of schedule

LTP2 MANDATORY PERFORMANCE INDICATOR

LTP5 – Bus Punctuality

Indicator

Percentage of buses departing timing points within the window of 1 minute early to 5 minutes late.

Methodology

Surveys have been carried out at 25 locations in accordance with DfT guidance. A total of 4559 observations have been recorded to establish the base position for 2005/06.

The County Council has agreement with Lincolnshire Road Car to establish a Punctuality Improvement Partnership in Lincoln focusing on the services to the southern part of the City. Data from the real time passenger information system will be used to measure punctuality.

Recent Trends

New indicator - not previously measured. 2005/06 data as follows :

Starting on time	= 80%
On time at intermediate points	= 59%
On time at non-timing points	= 45%

Targets

DfT suggested Minimum Standard - Satisfactory	For timetabled services, the 2010 target to be based on a trajectory towards 90% punctuality in 10 years i.e. by 2014-15 (punctuality is defined as less than 1 minute early or 5 minutes late). For services registered as frequent, a year-on-year reduction in Excess Waiting Time.
DfT suggested Minimum Standard - Stretching	For timetabled services, the 2010 target to be based on a trajectory towards 90% punctuality in 8 years i.e. by 2012-13 (punctuality is defined as less than 1 minute early or 5 minutes late). For services registered as frequent, a year-on-year reduction in Excess Waiting Time.
Proposed Targets	By 2010/11 : 90 % of buses starting on time 72% of buses on time at intermediate timing points 60% of buses on time at non-timing points

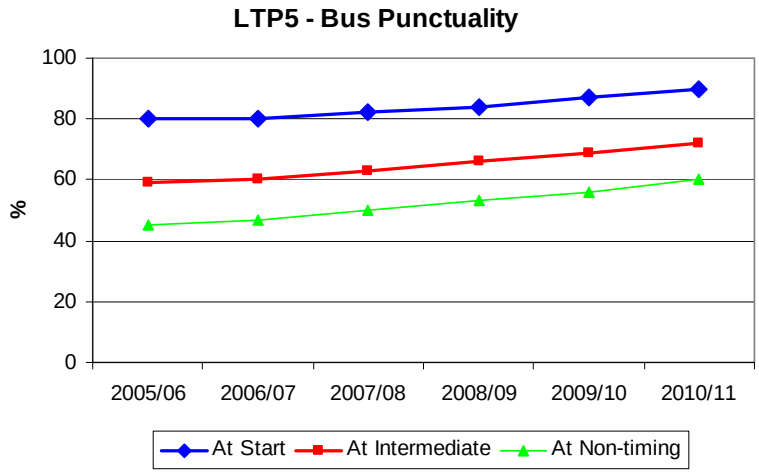
The County Council has adopted the stretching target for punctuality at the start of routes and will be working with local operators to achieve this.

At timing points along the route, the Council recognises that there will be a need for measures to be implemented to improve punctuality but these are unlikely to be in place until later in the Plan period and are subject in part to the outcome of the Lincoln Transport Study.

At non-timing points, the Council has measured punctuality against the intermediate times used for Traveline. These are conservative estimates to ensure that passengers arrive in sufficient time to catch the bus. For that reason, it is unlikely that the same level of punctuality will be achieved at these stops compared with timing points.

Trajectory

	Base Year 2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
At start	80%	80%	82%	84%	87%	90%
Intermediate	59%	60%	63%	66%	69%	72%
Non-timing	45%	47%	50%	53%	56%	60%



Key Actions for Local Government needed to achieve target

- Close cooperation with local bus operators to ensure timetables are realistic and achievable based on actual performance
- Establish a Punctuality Improvement Partnership in Lincoln
- Develop and implement measures which give buses greater priority over traffic.

Key actions of Local Partners to achieve target

- Participation in the PIP for Lincoln and sharing of data.
- Bus operators to review timetable schedules to ensure that they are realistic in the prevailing traffic conditions

Principal risks to the achievement of the target, and how to address these

- Lack of co-operation of bus operators (continue to work closely with operators in persuading them of the benefits in closer cooperation and partnership)
- Public resistance to bus priority measures (careful planning and consultation prior to the implementation of schemes)

LTP2 MANDATORY PERFORMANCE INDICATOR

LTP8a, b, c and d – Air Quality

Indicator

Concentrations NO_2 within declared Air Quality Management Areas (AQMAs)

Methodology

There is no suitable methodology for the annual assessment of pollutant concentrations. Local Authorities are recommended to measure annual progress against intermediate outcomes.

Headline targets have been set for NO_2 levels for 2010 which are set out below.

Intermediate outcomes relating to traffic flows have been adopted and further information is given under indicators LTP19-22.

Recent Trends

New indicator. 2004 base year concentration are :

Lincoln	Canwick Road	54.4 µg/m^3
Boston	Haven Bridge	47.3 µg/m^3
Boston	Bargate Bridge	43.3 µg/m^3
Grantham	Wharf Road	45.6 µg/m^3

Targets

DfT suggested Minimum Standard - Satisfactory	None Set
DfT suggested Minimum Standard - Stretching	None Set
Proposed Target	Lincoln – Canwick Road Reduce the level of NO_2 to 42.5 µg/m^3 by 2010 Boston – Haven Bridge Reduce the level of NO_2 to below the National Objective of 40.0 µg/m^3 by 2010 Boston – Bargate Bridge Reduce the level of NO_2 to below the National Objective of 40.0 µg/m^3 by 2010 Grantham – Wharf Road Reduce the level of NO_2 to below the National Objective of 40.0 µg/m^3 by 2010

The rationale behind the targets is set out in detail in Chapter 14 of the main 2nd Local Transport Plan.

Trajectory

As indicated earlier, DfT/DEFRA guidance suggests that, due to meteorological influences, annual progress should be monitored using intermediate outcomes rather than pollution concentrations (see indicators LTP19 to LTP22)

Hence no trajectories are set for these indicators, although pollution levels continue to me monitored by the District Councils and progress reported through the Local Air Quality Management process.

Key Actions for Local Government needed to achieve target

- Continue to pursue a wide range of transport initiatives through the Local Transport Plan which contribute to improved air quality either through the removal of vehicles from declared Air Quality Management Areas or by encouraging greater use of other modes of travel such as walking, cycling and pubic transport.

- Work in partnership with the District Councils through the Lincolnshire Strategic Air Quality Partnership to implement the Air Quality Action Plan

Key actions of Local Partners to achieve target

- Work in partnership with the County Council through the Lincolnshire Strategic Air Quality Partnership to implement the Air Quality Action Plan

- Delivery of the non-transport elements of the Air Quality Action Plans

Principal risks to the achievement of the target, and how to address these

- Funding levels – reduced funding may threaten progress towards the targets. This will be managed by regularly reviewing progress towards targets across all programmes and reallocating funding as appropriate.