Leicester's Local Transport Plan

"Planning for people not cars"

2011-2026

Part A

The Transport Strategy

Leicester City Council

March 2011

Leicester's Local Transport Plan 2011 – 2026

'Planning for people not cars'
Part A – the Transport Strategy

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FOREWORD

The last few years have been particularly exciting times for Leicester. We have made significant progress in delivering major shopping, leisure, business and housing regeneration. The whole of the Leicester community can all share in the successes of projects such as Highcross, Curve, Phase One of the New Business Quarter and innovative new housing at Freemens Meadow. Many have been award winning and all have earned the city widespread recognition. They have been underpinned by a transformation of the streets and spaces in the city centre and some excellent transport schemes such as Enderby Park and Ride, Upperton Road Viaduct Regeneration Scheme, Humberstone Road Quality Bus Corridor Scheme and many walking and cycling initiatives to create a cleaner, safer and more attractive environment.

These changes have been an enormous boost for the prosperity, attractiveness and reputation of the city during recent difficult times, with bus patronage and cycling continuing to grow, congestion under control and reduced road accident casualties. This represents the firm foundations of an ambitious long term strategy. We have been working with our partners to create One Leicester: a 25 year journey to create a city of confidence, prosperity and beauty for all its residents, users and investors.

But there are challenging times ahead for all of us. The current economic difficulties are deep, unprecedented and global. We will continue to work with others to help meet One Leicester 25 year targets, but we must also work hard and creatively to find local solutions, to minimise the negative impacts of the recession and continue to deliver positive change.

We need to deliver new housing of the right type and in the right places. We must try to create the physical conditions that will attract major inward investment but ensure that local people can benefit from the growth of new businesses, jobs and training facilities. At the same time we need to protect and use our important and valued assets and resources to create thriving, attractive, safe places with facilities that people want and need, both in the city centre and in local neighbourhoods.

Leicester's Transport Strategy will continue to be key to achieving these objectives in the pursuit of triple win solutions – "economy, health and environment". Our Transport Strategy has been influenced and has influenced One Leicester and our supporting key strategies, such as our Core (land use planning) Strategy, as well as recognising Leicester's ability to help deliver regional and national goals. This Local Transport Plan updates our current strategy to meet the challenges and opportunities ahead.

In order that we can continue to respond to changing conditions, and grasp new opportunities, we will continually monitor our progress as the strategy is delivered. We intend to review and update the strategy in about five years, to ensure that it continues to be as appropriate and effective as possible.

Councillor Abdul Osman
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Is there a summary?

A summary leaflet of the Local Transport Plan will be available from May 2011 and will be available on-line

Where can I get a copy in other languages?

Telephone **0116 252 7026** for a summary leaflet available in Gujarati, Punjabi, Bengali, Urdu and Somali

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EXECUTIVE SUMMARY

Welcome to Leicester's third Local Transport Plan (LTP3) covering the period to 2026. The LTP3 is split into two: Part A (the strategy part) and Part B (the implementation part, initially covering a four year period). These main documents are supported by five key operational plans as detailed at the end of the contents pages.

We have risen to the challenge of preparing the LTP3 during a time of great change due to a new government with new ideas, taking into account the current national priority of reducing the budget deficit and the important localism agenda replacing national and regional directives – particularly demonstrated by our comprehensive consultation showing strong local support for our proposals. The result is an LTP well aligned with current and emerging government priorities and meeting local requirements.

The development of LTP3 recognises the fact that transport is not an end in itself but one of a combination of factors contributing to sustainable economic growth and social inclusion. It has been developed in partnership and co-ordinates planning and action across many agendas, including education and skills, health, housing, regeneration, and infrastructure planning and development. It seeks sustainable improvements in economic performance, an inclusive society, a better environment and a better quality of life. It has been designed to support new homes and new jobs, whilst protecting existing.

Our transport vision is:

To help transform Leicester into Britain's sustainable city that will be a great and prosperous place to live but also somewhere that does not place a burden on the planet in future years.

Successful delivery of our local transport plan will enable us to take a really big step forward towards realising this ambition. It will also enable us to make more rapid progress in delivering attractive alternatives to car travel and to cater for some of the highest levels of housing growth in the country to 2026 and beyond whilst:

- Keeping congestion under control and improving accessibility for all, but particularly for deprived groups, to support a new prosperity with economic growth and new jobs
- Encouraging more people walking, cycling and using public transport to reduce carbon emissions
- Providing a transport system that facilitates for a safer and healthier way of life

Locally this translates into many more residents walking and/or cycling the shorter journeys in and around the city and using the bus for longer journeys, particularly into Leicester city centre, instead of using the car.

To help us achieve all of this, having clarified and defined our transport challenges, we have adopted five local transport goals with one overarching goal:

- Economic Growth Supported – Leicester is more prosperous
- Carbon Emissions Reduced – Leicester' carbon footprint is reduced
- Equality of Opportunity Promoted – Leicester's people are more confident
- Better Safety, Security and Health – Leicester's people are more healthy, safe and secure
- Population Growth is supported – Leicester's Population is increased in a sustainable manner
- Overarching Goal - Quality of Life and a Healthy Natural Environment are Improved - Leicester is a more attractive place

In order to deliver our goals, we have developed transport objectives to focus our transport strategies.

- To Reduce Congestion and Improve Journey Times
- To Improve Connectivity and Access
- To Improve Safety, Security and Health
- To Improve Air Quality and Reduce Noise
- To Reduce Carbon Emissions
- Manage to Better Maintain Transport Assets
- To Improve Quality of Life

The Quality of Life objective is overarching to each of the other objectives and will be intrinsically delivered through all of our interventions. The strategy chapters 4 – 9 are then based on each objective in turn, there being no separate chapter for Quality of Life.

We have carried out an extensive consultation that has demonstrated that there is strong support for our proposals. The results show that while congestion reduction is clearly considered to be the most important objective, road safety, maintenance and air quality are not far behind.

The focus of the overall LTP3 programme will be on sustainable transport that will help grow the economy, protect and create jobs, whilst reducing carbon emissions and helping to improve air quality, encouraging active and safe travel and improving accessibility, with well maintained assets.

Our immediate focus for the first implementation plan period will be to commence the delivery of a package of city centre bus improvements in order for us to realise the key transport outcomes for Leicester. Encouraging walking and cycling will also be part of the strategy. The harder measures will be underpinned by softer measures taken forward by a smarter choices company or similar, should a strong business case emerge.

We are allocated capital money by government for both integrated transport schemes and for maintenance for spending review periods. We will also bid for additional funding as opportunities arise, such as for example, from the local sustainable transport fund and use our own sources as may be available and appropriate. The known funding profiles are shown in Part B.

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The Local Transport Plan Part B is a separate document -

‘Planning for People not Cars’ Part B - Leicester’s First Implementation Plan 2011 to 2015, ‘Delivering our Transport Goals’

In addition the Local Transport Plan includes five operational plans:

Annex 1. Leicester City Council Transport Asset Management Plan 2011 to 2015

Annex 2. Leicester City’s Rights of Way Improvement Plan 2011 to 2021

Annex 3. Leicester’s Network Management Plan 2011 to 2015

Annex 4. Leicester’s Air Quality Action Plan 2011 to 2021

Annex 5. Leicester’s Local Flood Risk Management Strategy (under development)

INTRODUCTION

1. Leicester's Local Transport Plan, "The Plan", sets out how transport will be contributing to and facilitating 'One Leicester', Leicester's Sustainable Community Strategy, and contributing to national transport goals. It has been developed in accordance with national transport planning guidance and shaped by Strategic Environment Assessment (including Health Impact Assessment) and Equality Impact Assessment. We have used our extensive experience and expertise regarding Leicester's transport system developing this Plan, as well as undertaken wide ranging consultations with a variety of stakeholders including residents, businesses, councillors, special interest groups, bus companies, the county council and District councils in developing this transport strategy.

2. Leicester's top level local priorities are set in One Leicester, prepared by the Leicester Partnership and published in 2008. This Plan is not solely about Transport; it shows how an effective and sustainable transport system can make a huge contribution to the quality of life in Leicester. We have actively looked for opportunities to add value to the work of other public services, for example, by helping people to be more active and adopt healthier lifestyles, therefore, reducing the level of chronic illnesses resulting from inactivity and reducing the burden on the National Health Service.

3. The Plan has been prepared by Leicester City Council in close collaboration with Leicestershire County Council; building on our successful first and second local transport plans. Leicestershire has produced a separate Local Transport Plan which is a comprehensive plan for the whole county. Therefore where there is overlap between the two plans details can be found in both Plans. This Plan covers the geographical area within the Leicester City Council boundary and pays particular attention to issues relating to transport in Leicester and the surrounding conurbation. The Plan covers a period of fifteen years which is in line with the council's Core Strategy (land use planning).

4. This document is the Local Transport Plan Part A. It details the transport strategy in chapter 3 and in the chapters thereafter, the transport policies and individual strategies that comprise our overall transport strategy. Quality of Life is very important to us and we believe that it needs to be reflected in everything we do. The Quality of Life objective is overarching to each of the other objectives and will be intrinsically delivered through all of our interventions, particularly those delivering health, air quality, built environment and environmental improvements. Thus there is no separate chapter for Quality of Life. So that we can measure our progress we have included a series of targets we are aiming to achieve and explained how we will be monitoring and reporting our progress. The Transport Strategy will be delivered during the first four years through the Local Transport Plan Part B - Leicester's First Implementation Plan 2011 to 2015, Delivering our Transport Goals. The implementation plan explains how we have set our targets and how we will fund and manage our programme of schemes, services and initiatives to achieve the targets. We will regularly review progress and consider the need for an update every twelve months. Further editions will be published over time to cover the full LTP period.

5. Our Transport Strategy and Implementation Plan are supported by five key operational plans. They are all closely aligned to our transport strategy, our targets and the Local Transport Plan Programme. The key operational plans are:

Leicester City Council Transport Asset Management Plan 2011 to 2015

Our Transport Asset Management Plan explains how we manage all our highways and transport assets to help deliver the Local Transport Plan goals. It details roles and responsibilities of our asset managers, levels of service and targets for our asset managers to help ensure we "sweat" our assets. The second edition was adopted by full council in January 2009. It has been updated to a third edition in parallel with the preparation of this Local Transport Plan.

Leicester City's Rights of Way Improvement Plan 2011 to 2021

A statutory requirement of the Countryside and Rights of Way Act 2000 our Rights of Way Improvement Plan sets out how our network of Rights of Way will contribute to the Local Transport Plan. The first Rights of Way Improvement Plan was adopted by full council in October 2007. It has been updated to the second plan, in parallel with the preparation of this Local Transport Plan.

Leicester's Network Management Plan 2011 to 2015

The second edition of our Network Management Plan explains how we meet our Network Management Duty imposed by the Traffic Management Act 2004.

Leicester's Air Quality Action Plan 2011 to 2021

As vehicle exhaust emissions are the largest single source of air pollution in Leicester we integrated Leicester's Air Quality Action Plan with our second local transport plan (2006 to 2011). It has been updated in parallel with the preparation of this Local Transport Plan.

Leicester's Local Flood Risk Management Strategy (under development)

Leicester's Local Flood Risk Management Strategy is being prepared in compliance with the Flood and Water Management Act 2010. We anticipate the Strategy being adopted by the council in 2012.

6. Our Plan does not lose sight of the fact that we, the city council, are a major user of the transport network as we deliver our services to the public. We have a proud track record of reducing our own workplace transport demand and the effects of transport – for many years we have taken steps such as early adoption of flexible working hours to allow staff to travel to work outside the peak hours, restricting workplace car parking availability to essential and disabled users only, making public transport season ticket loans available to staff, removing the car mileage payments that rewarded larger engines.

7. We know that we still have much to do; that our Staff Travel Plans do not yet cover all of our offices and staff. Our Sustainable Community Strategy plans to deliver more services locally. Our improved customer contact centres allow many more people to get what they need without having to travel to one of our main offices.

8. We plan to carry out annual evaluation and assessment of progress, through our Quality Management System and stakeholder consultation strategy. This will ensure that this Plan remains current and responsive both to One Leicester and to new opportunities and challenges arising as the national economy begins to grow again.

Chapter 1:

Setting the Scene for Leicester

1. Leicester – Some Basic Facts

1.1 Leicester is the ninth largest city in England (outside of London) with a population as recorded in the 2001 census of approximately 280,000 and is the largest city in the East Midlands. It is at the core of Central Leicestershire, the "Leicester travel to work area". Central Leicestershire is the greater Leicester urban area including the suburbs and immediately surrounding small towns and villages in the county. The area includes Leicester City Council and Oadby and Wigston Borough Council, most of Blaby District Council, and parts of Harborough District council, Hinckley and Bosworth Borough Council and Charnwood Borough Council. All of these councils are the local planning authorities. The population of Central Leicestershire at 2001 was around 525,000. The area is shown on the map adjacent to this page.

1.2 According to the latest published estimates, the resident population of Leicester was 294,700 in mid-2008, and has been rising sharply (around 1% per year) since 2004. Leicester's population is also marked by its diversity, with an estimated 39% of the population from an ethnic minority background, and high rates of population churn and turnover. We believe the actual population of Leicester is around 338,000 as the underlying 2001 Census data undercounted the city's population[1].

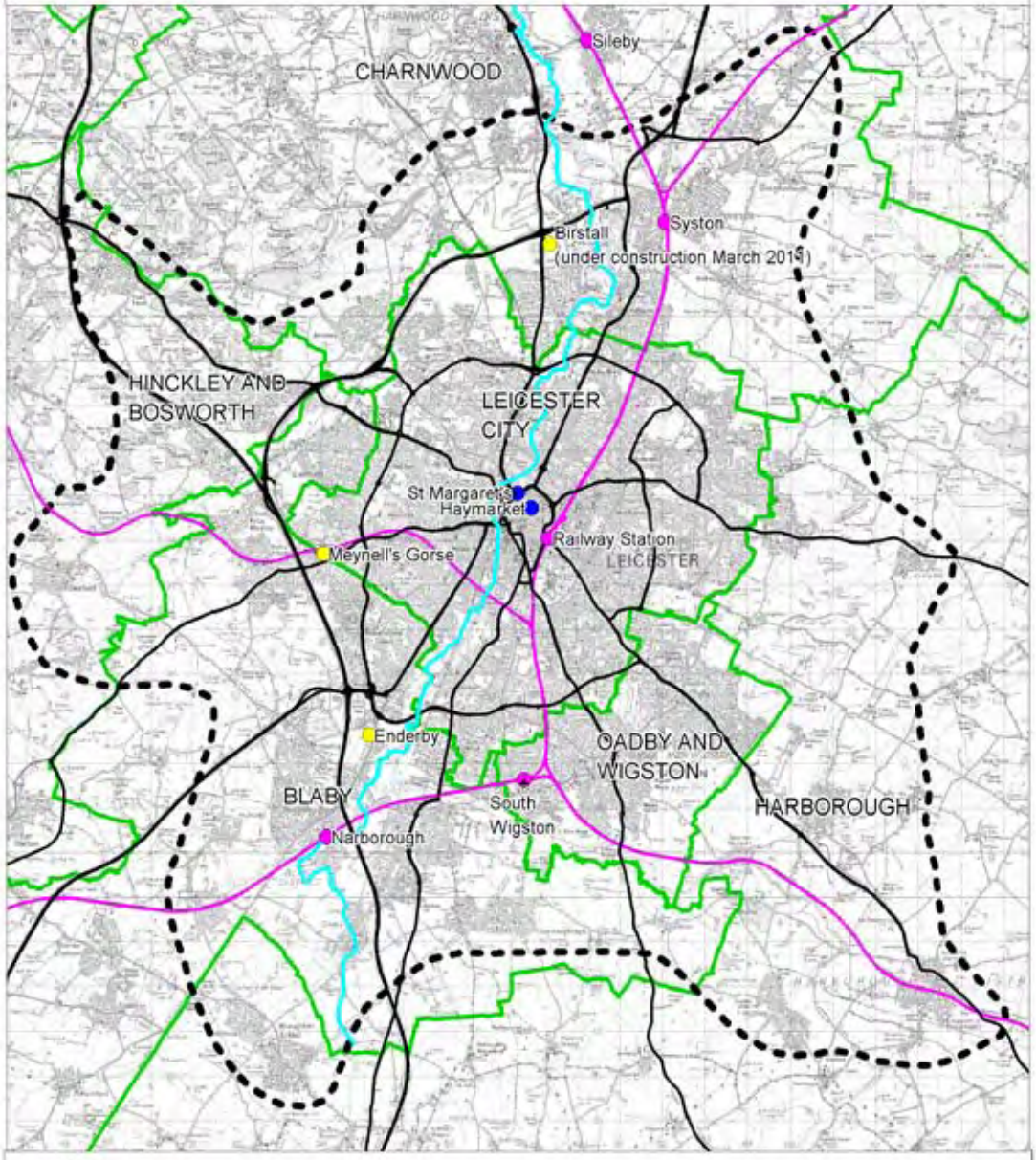
1.3 Following the contraction of the traditional manufacturing industries, regeneration plans are progressing well to create new jobs and new homes. Our major new city shopping centre "Highcross" opened in 2008. Our Cultural Quarter is developing really well with the opening of our flagship theatre Curve opening in 2008 and the Digital Media centre opening in 2009. Our New Business Quarter is beginning to take shape with the opening of Carlton Square in 2009 and our Abbey Meadows Science Park, anchored by the National Science Space centre now has the highway infrastructure in place. The Waterside Regeneration Area is just starting to take shape with the Sanvey Gate Junction Improvement Scheme due to complete in April 2011. The outline planning application for Ashton Green, a 3500 home sustainable urban extension is being progressed.

1.4 The past ten years of LTP activity has provided us with a substantial record of transport statistics. We also have a substantial evidence base for the Regional Economic Strategy and the Regional Spatial Strategy. Together these show that there has been considerable economic diversification, recovery and growth since the historical Leicestershire industrial base of textiles and engineering fell victim to global competition. Employment growth into the service sector and the establishment of major new commercial areas around the outskirts of Leicester, especially around M1 junction 21, has brought with it a huge growth in the ownership and use of private cars. The economic regeneration of the city centre has brought greater transport pressures but also substantial opportunities to improve the network – for example the Highcross shopping centre development contributed to the pedestrianisation of High Street and the repaving of much of the central shopping area, making walking and cycling much more attractive (and safer) options. Commercial footfall studies show that there has been a substantial increase in pedestrian activity in these improved areas.

[1] *Leicester Local Transport Plan 3 Evidence Base, Chapter 2*

Map1.1

Central Leicestershire Area with Key Transport Features



KEY :

- River Soar
- Central Leicestershire Boundary
- District Council and Leicester City Council Boundaries
- Main Roads
- Railway Lines
- Key Bus Interchanges
- Railway Station
- Park and Ride Sites

2. "One Leicester" - Local Goals and Challenges

2.1 The Leicester Partnership's Sustainable Community Strategy, 'One Leicester', adopted in 2008, sets out a 25 year vision for the city.

The vision is to transform Leicester into Britain's sustainable city and in doing so, to deliver a beautiful city with confident people and a new prosperity. Leicester will be a great place to live but also somewhere that does not place a burden on the planet in future years.

One Leicester was developed after extensive consultation across the city and is supported by all of the members of Leicester Partnership – the group that represents the main public, private, voluntary and community organisations in Leicester. The exercise of setting local priorities has essentially been done through the development of the Sustainable Communities Strategies (SCS) by the Local Strategic Partnerships (LSPs).

2.2 In the city and the immediate suburbs the local priority is to reduce car use and bring back the personal contact and sense of community which the over-dominance of roads has broken down. The density of urban traffic means that road casualties, air pollution and journey times are all too high. The evidence base for One Leicester shows clearly how economic prosperity has not been delivered in deprived communities; especially in West Leicester and the most deprived areas of Beaumont Leys, Braunstone, Saffron, St. Matthews, Stocking Farm / Abbey Rise and New Parks – which are amongst the top 3% most deprived areas in England. Transport needs to improve equality of opportunity by helping people from these areas access education, employment and training opportunities.

2.3 The relatively accurate demographic data from the 2001 Census is now very dated; it is vital that the 2011 Census campaign is successful if we are to plan properly for the future. Based on the ONS household projections which look at past trends, we have to increase the number of houses in Central Leicestershire by 25% by 2026; although we have had access to Growth Fund resources to provide some of the infrastructure, we will need a much clearer idea of what households will expect if we are to maximise the use of sustainable transport modes in these new developments – and reduce the need to travel in the first place.

2.4 While the Leicester Urban Area has the population densities to support frequent bus services and a choice of local facilities such as post offices and pharmacies, the trend for centralising and the closure of many small shops, has led to an increase in travel. Some of the modern suburban estate developments have never had shops in the first place (e.g. Thorpe Astley), forcing people to travel even for basic needs, or have greatly outgrown local facilities (e.g. Broughton Astley).

2.5 From its evidence base One Leicester sets out three clear goals:

Confident people - People of Leicester will feel confident about themselves, their neighbourhoods, their city and their future. We want the people of Leicester to become more confident – in themselves, their communities and their city.

Greater prosperity - We see Leicester as an ambitious and progressive city with renewed prosperity, where everyone meets his or her individual potential. We want there to be greater prosperity in Leicester, so everyone can reach their potential, no-one is trapped by poverty and people are more active and healthy.

Beautiful place - Our vision is of a beautiful, vibrant, clean and green city that is a great place for people to live, but that does not create an unacceptable burden on the planet. And we want Leicester to be a truly beautiful place, with less traffic, clean and tidy streets, excellent green spaces and high quality buildings.

2.6 One Leicester identifies the city's key challenge:

"If we are to improve the city for everyone, we know we must take action to deal with the concerns that most worry our citizens, while addressing the main challenge that faces us today and in the future – damage to our environment".

and continues to identify the main challenges to meeting our goals:

People - we have nearly double the national average of people claiming benefits and nearly a quarter of our workforce are without formal qualifications. A third of businesses in the city report skills shortages and a staggering two thirds of residents in the city have some difficulty reading and writing English. Average household incomes in Leicester are 20% below the national average and we have higher than average long-term unemployment. There are still too many people in Leicester who are disadvantaged, without the opportunity to achieve their potential. In the immediate future there are likely to be increased pressures on public services, with less money available in real terms.

Prosperity - one factor in Leicester's economic decline has been the continued loss of economically successful people from the city, either out into the county or elsewhere. Despite having two universities in the city, we retain fewer graduates than other cities of our size. Two major issues that we must tackle are the persistently poor levels of educational attainment in our schools and the high levels of inequality in life expectancy and health – both within the city and when compared to many other parts of the country. People in Leicester live, on average, two years less than in the rest of the country and, shamefully, that figure is much worse in some disadvantaged parts of the city. Poor health, particularly in poorer communities in the city, is mainly driven by social and economic disadvantage and is worsened by lifestyle factors such as smoking, poor diet and lack of physical activity.

Place - we produce waste and use energy at a rate beyond the capacity of the planet to cope. In sustainability league tables, we find ourselves below other cities in the region. The combined impacts of climate change and rising

energy prices mean that we must reduce our 'carbon footprint' and use precious resources much more carefully. We are already doing much to improve our energy efficiency, but we need to increase the scale of our activities if we are to become a truly environmentally sustainable city. Leicester is not often described as a beautiful place. The city is seen as gloomy and grey, with the 'concrete necktie' of the ring road turning the city into a disparate jumble of disconnected parts. Fly tipping and litter spoil some of our open spaces and less than a third of residents are satisfied with the cleanliness of our streets. Leicester's roads are congested at peak times and the public transport system is both inadequate and insufficiently connected. Yet we have many fine examples of green spaces – and people want more. Those who know Leicester love New Walk, the pedestrian walk created over two hundred years ago. We need to create more tree-lined avenues, like New Walk, that are devoted to people rather than cars.

2.7 One Leicester contains seven key priorities to help meet the goals, those highlighted being particularly relevant to transport as an enabler:

- Investing in our children
- Planning for people not cars
- Reducing our carbon footprint
- Creating thriving, safe communities
- Improving wellbeing and health
- Talking up Leicester
- Investing in skills and enterprise

2.8 Each strategic priority is co-ordinated by a partnership board; no one priority covers Transport so this Plan supports, influences, and adds value to, the work of all seven boards. One Leicester is at the heart of this Plan. Reviewing the One Leicester goals, in conjunction with considering Leicester's contribution to national transport goals, to give us our Local Transport Goals is explained in Chapter 3 of this Plan.

Working with Partners

2.9 Several forums, such as the Quality Bus Partnership (QBP), the Freight Quality Partnership (FQP), the Leicester and Leicestershire Motorcycle Forum (LLMF), Cycle City Workshop and Special Interest Groups (SIG), which were initially established to inform transport strategy in the first LTP, have continued to meet regularly to advise on implementation. A list of our consultation working is shown in Table 1.1 below. We also meet on an ad hoc basis with the Leicester and Leicestershire Chamber of Commerce and Leicestershire Business Voice. Some initiatives which arose directly from our work with the LLMF include: completion of a comprehensive motorcycle survey, an anti-diesel spillage campaign, production of information cards to allow motorcyclists to inform us of potential hazards and the implementation of improved motorcycle parking facilities. Arising

from the FQP was a freight signing strategy, a freight map, an industrial estate survey and a freight website. Arising from the QBP – the need for bus improvements in the city centre. This has led to a series of additional consultation meetings focused on the need for city centre bus improvements. Arising from the Cycle City Workshop and SIG meetings is the need to maintain the emphasis of cycling policy to focus on cycle training, promotion and awareness events rather than concentrating exclusively on infrastructure improvements. These forums have helped us to formulate the objectives and measures for this LTP.

Table 1.1

Consultation and Partnership working carried out on a regular basis	
Consultation	Frequency
Leicester and Leicestershire Local Transport Day	Annually
Group Discussions *	Annually
Transport Interest Groups	Half-yearly
City Older Persons' Forum	Quarterly
Disabled Persons Forum	Quarterly
Leicester and Leicestershire Motorcycle Forum	Quarterly
Leicester and Leicestershire Freight Quality Partnership	Quarterly
Cycle City Workshop	Bi-Monthly
Central Leicestershire Quality Bus Partnership	Bi-Monthly
Local Access Forum	Monthly

* Group discussions entail 12 sessions annually with the following groups:

- Young adults aged 16-22
- Inner city residents
- Council tenants
- Residents of higher cost housing
- Older people / people with disabilities
- Owners / managers of retail outlets
- Business owners / managers
- Car commuters to the city centre
- Parents of children aged 7-15
- county residents (residents outside the Central Leicestershire LTP area)
- Car commuters to other areas
- Black and minority ethnic residents including new community residents

3. Joint Working and Governance

3.1 It is becoming ever more important that local authorities, other agencies and the private sector work together for the greater good. Transport, economic development and land use planning, in particular, have to be co-ordinated if they are to be successful when users and providers pay little attention to inter-authority boundaries. The Sub-National Review put much more onus on the Principal or top tier Local Authorities to provide regional leadership. Leicester City Council is a Unitary Authority; it provides all local government services in its area

and is the housing, planning, education and transport authority. Leicestershire County Council is our adjacent upper tier authority and is the education and transport authority, but is not the planning or housing authority; that role belongs to the districts.

3.2 Leicester and Leicestershire are part of the 3 cities and 3 counties (often referred to as the 6Cs) New Growth Point comprising the Housing Market Areas of Derby, Leicester and Nottingham. Each HMA has its own local governance structure, which for Leicester and Leicestershire, is the Leicester and Leicestershire Sub Regional Economic Development Partnership. This comprises Leicester City Council, Leicestershire County Council, Blaby District Council, Charnwood Borough Council, Harborough District Council, Hinckley and Bosworth Borough Council, Melton Borough Council, North West Leicestershire District Council, Oadby and Wigston Borough Council.

3.3 The city and county councils have taken on the leadership role, and as two of the “9Cs” (the three cities and six counties of the east midlands) have made a substantial contribution to the successful functioning of the region. The districts are included in decision making through regular meetings and the appointment of representatives to ensure their democratic mandate is heard. They have been involved in joint work on the Local Development Frameworks and in the development of transport strategies, and also have a vital role in demanding, agreeing and collecting developer contributions to supporting transport infrastructure.

Leicester and Leicestershire Local Enterprise Partnership

3.4 Leicester and Leicestershire’s Local Enterprise Partnership (LEP) was approved by government in October 2010 to take forward economic regeneration. Leicester and Leicestershire had previously been one of the few areas in the country to sign a Multi Area Agreement with government. The partnership has a clear focus on economic development and an emphasis on increasing employment, improving skills and stimulating business growth. Transport is key to Leicester achieving these wider ambitions in a low carbon way and without negative impacts on the environment. As part of the LEP Development a new joint governance structure is currently under development to drive forward economic development in the sub-region. This will consider the future role of Prospect Leicestershire, the economic development company formed in early 2009, together with certain aspects of the east midlands development agency.

4. Wider Planning – our Local Development Frameworks (LDF)

4.1 Under the planning system introduced in the Planning and Compulsory Purchase Act 2004 each Local Planning Authority must prepare a Local Development Framework to provide clear and up to date planning guidance for the delivery of new development. The LDF is made up of a number of separate planning documents of which the Core Strategy is the most important. It should set out a spatial vision for the area and a spatial planning strategy showing how the planning authority has determined the most sustainable sites for new housing development, supported by evidence including transport modelling. Core

Strategies must be in conformity with the Regional Spatial Strategy (RSS). However the Localism Bill December 2010 confirms the Coalition Government's intention to abolish RSS.

4.2 The RSS allocates some 80,400 houses to the Leicester and Leicestershire HMA of which nearly half are within or adjoining the Leicester Principal Urban Area (PUA). By the end of 2010 three Core Strategies had been adopted in the Leicester and Leicestershire HMA, by Hinckley and Bosworth and Oadby and Wigston Borough Councils and by Leicester City Council. As part of the 3 Cities and 3 Counties New Growth Point, which aims to deliver higher housing growth than the national average, they show how the RSS housing numbers will be delivered on the ground. This Growth Point Status requires us to meet the DfT Regional Network challenge
"Deliver the transport improvements required to support the sustainable provision of housing, and in particular the PSA target of increasing supply to 240,000 net additional dwellings per annum 2016".

4.3 Leicester's LDF Core Strategy sets out the vision, objectives and spatial strategy for the City to 2026. It identifies a need for 25,600 new homes between 2006 and 2026. The Core Strategy was submitted to the Secretary of State in December 2009 and was examined in public in April 2010 by a Planning Inspector. The strategy was deemed "sound" and was adopted by the council in November 2010.

4.4 This Plan has been prepared in parallel with the Core Strategy and they have influenced each other to ensure that sustainable transport infrastructure is delivered to support new housing. Growth Fund monies have supported transport modelling to ensure that the most sustainable locations are chosen for new developments and appropriate transport interventions identified. Masterplanning of new developments will ensure that sustainable transport infrastructure is provided from the start.

5. National Context – Future of Urban Transport and Climate Change

5.1 Between 2006-2008, the Government produced a number of reports that have had an effect on local transport delivery.

5.2 The Eddington Transport Study recognised the role of a good transport system in enabling economic prosperity. However, it also recognised that congestion, pollution and increased greenhouse gas emissions were unwanted side effects of transport growth.

5.3 The Stern Review discussed the economics of climate change. It stated that without any interventions, it would have a huge impact on the global economy. The review stated that developed countries needed to cut their CO2 emissions by between 60-80 percent by 2050.

5.4 The then government's response to the recommendations made in the Eddington and Stern Reviews was through the consultation paper, 'Towards a Sustainable Transport System' (TaSTS). The Department for Transport accepted the

Eddington recommendations of a four-stage evidence-based process for deciding which transport interventions should be funded.

5.5 The previous government's Devivering a Sustainable Transport System (DaSTS) (November 2008) document has five enduring goals. The key goals are:

- To support national economic competitiveness and growth, by delivering reliable and efficient transport networks;
- To reduce transport's emissions of carbon dioxide and other greenhouse gases, with the desired outcome of tackling climate change;
- To contribute to better safety, security and health and longer life expectancy by reducing the risk of death, injury or illness arising from transport, and by promoting travel modes that are beneficial to health;
- To promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society; and
- To improve quality of life for transport users and non-transport users, and to promote a healthy natural environment.

5.6 Paragraph 2.6 of the DaSTS report sets LTPs the challenge of developing a holistic approach which can be used in conjunction with demand modelling and carbon budgets to develop infrastructure solutions:

"Making the most of the opportunities for reducing emissions from city and regional and national networks will also be important. For example, a package of measures for an urban area may involve public transport investment, demand management, promotion of smarter travel choices and the use of land use planning to reduce the need to travel. Substantial work will be needed to inform consideration of the best package of measures for each network, including the impact of greenhouse gas emissions".

5.7 Central Leicestershire is at the centre of England. It includes the M1 and the M5 / M42 / A46 strategic national corridors. It is close to the A14 Haven Ports. It also adjoins East Midlands Airport, which is the largest UK pure freight operation. The bringing forward of the A46 Newark – Widmerpool improvements confirms its importance in the national investment programme.

5.8 We, therefore, need to both support the intra-regional connectivity of the Derby – Leicester – Nottingham conurbation, and protect the inter-regional strategic corridors. This will be by supporting the infrastructure necessary to get more people using intercity trains and longer distance bus routes, and by ensuring that freight and passenger traffic have a reliable and effective local road network which is a better route choice than diverting onto strategic Highways Agency routes for one or two junctions.

5.9 DfT published draft statutory guidance for consultation in December 2008 for future LTPs; the final guidance was published on 16th July 2009, together with a note on joining up transport with other local priorities. Together with the Local Transport Act 2008, it requires a separation between Strategy and Implementation. Key to the new LTP guidance is the ability to prioritise local transport policies according to the areas needs; as one of the ten largest cities

in England, Leicester will be prioritising tackling urban transport issues such as congestion and carbon emissions and achieving substantial modal shift to more sustainable transport.

Climate Change and Carbon reduction

5.10 The Climate Change Act 2008 requires greenhouse gas emissions across the UK economy to be reduced by at least 80% on 1990 levels by 2050 and 34% on 1990 levels by 2020. It also introduces a system of "carbon budgets", which limit UK emissions over successive five year periods. With the transport sector representing 21% of total UK domestic greenhouse gas emissions, action to move towards a low carbon transport system will be a key component in meeting our obligations under carbon budgets. The Government's strategy; "Low Carbon Transport: A Greener Future" acknowledges the scale of the challenge for transport and sets out the actions that the Department for Transport is taking.

5.11 The DfT Carbon Reduction strategy was followed in March 2010 by its Transport Carbon Reduction Plan. Also in March 2010 the DfT published "Building Resilience to Climate Change: An Adaptation Plan for Transport 2010 – 2012". Whilst we are already pursuing many of the actions and initiatives proposed in these national plans at our local level we have considered the plans very carefully in helping us develop this Local Transport Plan. For example, We are interested in the "promoting lower carbon choices" strand. Our compact urban area is ideal for small fleet trials of low carbon technology; we are already looking at diesel / electric hybrid buses, and would be very interested in trialling of hydrogen fuel cell technology to help assess both its carbon benefits and practicality, as there is already a national centre of excellence at Loughborough University. We are also part of the Midlands' Plugged in Places programme.

National Urban Congestion Target

5.12 The former national PSA target for tackling congestion is applied to the nine largest urban areas outside London, of which Leicester is one. Our first Urban Congestion Target Delivery Plan was presented to DfT in April 2007. Our second and current edition was published in February 2010. Nationally, the aim is firstly to contain the increase in congestion and manage the networks with an increased volume of traffic, limiting the increase in peak hour journey times to below the related increase in vehicles. While this "management" phase is going on, infrastructure projects have been delivered to assist in increasing modal choice and leading to long term and sustained reductions in car use, especially single occupant cars at peak periods.

5.13 Emda's 2007 study "economic costs of congestion" estimated that the annual economic cost of congestion in Leicester and Leicestershire was some £153.5m. In the case of LTP2, the key projects were the Enderby and Birstall Park and Ride schemes on radial corridors. These provide substantial public transport improvements for commuters and visitors into the city, offer real modal choice, and are fundamental to reducing congestion.

5.14 So far, Leicester has succeeded in meeting the PSA target of accommodating an expected increase in travel of 1.5% within a 6.25% change in journey times. Chapter 4 shows how we plan to continue tackling congestion and reduce its economic and environmental costs.

A Safer Way – making Britain's roads the safest in the world

5.15 DfT published a consultation document in April 2009; it contained many proposals which we would hope to continue implementing in LTP3, for example the 20 mph speed limit in primarily residential areas and around schools. Although these actions consume substantial resources (for example in following the statutory Traffic Regulation Order process) and will require a long-term programme and the active support of the police, they will be required to tackle the stubborn core of drivers who put others at risk. We especially want to further protect vulnerable road users such as children, pedestrians and cyclists.

The National Active Travel Strategy

5.16 DfT published the Active Travel Strategy in February of 2010. Its aim is establish walking and cycling at the heart of local transport and public health strategies and plans, and to encourage health and transport partners to work together to make walking and cycling the preferred mode of local transport in the 21st century.

6. Regional Context – Leicester in the East Midlands

6.1 The East Midlands is currently the fastest growing of the English Regions; having under-performed for some years, it is now benefiting from its strategic position in the centre of England. The level of traffic has been growing by 2% per annum, the highest of any English Region. The Regional Economic Strategy (RES) "A Flourishing Region" for the East Midlands was developed by the East Midlands Development Agency in 2006 following extensive consultation with partners. Transport and logistics was a key priority. Transport has been recognised in raising the productivity of the region.

6.2 The 2009 Regional Spatial Strategy (RSS or Regional Plan - soon to be abolished) set out land use policies and included the Regional Transport Strategy which called for measures to:

- Encourage behavioural change
- Reduce the need to travel
- Restrict unnecessary car usage
- Manage the demand for travel
- Significantly improve the quality and quantity of public transport
- Encourage cycling and walking for short journeys.

Local planning is now recognised by the government as being of much greater importance than regional level planning. This is illustrated by the closing down

of the regional government office and the East Midlands Development Agency, and the creation of the Leicester and Leicestershire Enterprise Partnership. The government also intends to deactivate both the RSS and the RES.

7. Three Cities Context

7.1 Leicester is one of the Three Cities of the East Midlands; together with Derby and Nottingham it forms the economic powerhouse of the East Midlands with more than a third of the population. The Three Cities sub-area is recognised as being distinctive and quite different from the rest of the Region. Both the Regional Economic Strategy and Regional Spatial Strategy divided the Region into identical sub-areas to reflect their differing characteristics.

7.2 The Three Cities and the Three Counties have made a commitment to co-operate instead of compete. Local leadership understands that what is good for one city is good for all, and that working together for the good of what is effectively a tri-centric city-Region. Together we approach the size and economic power of a Leeds or a Manchester, with six universities we have the potential to out-perform them.

7.3 Elements of the Three Cities sub-regional strategies which are particularly relevant to strategic transport planning are the housing growth (and the New Growth Point) and economic development plans. Although sub-regional connectivity is not a specific LTP3 programme, it is vital to the economic and cultural life of Leicester that our residents have good public transport links to the opportunities available in Nottingham and Derby, and that our businesses and attractions in turn have access to the workforce and spending power which lives elsewhere in the Three Cities.

7.4 It is also important to our city-region's ability to compete with Birmingham, Leeds and Manchester that we can aggregate our higher-level skills, and together offer the service and business capacity of a larger city-region. Our fast national strategic links with London and Sheffield on the M1 and Midland Main Line are also vital to punching our weight economically and improving our contribution to the national economy.

8. Sub-Regional Context – Leicester and Leicestershire
Anticipated housing growth in the Leicester and Leicestershire HMA

8.1 Leicester and Leicestershire is a discrete HMA; meaning that in all the Leicestershire Districts the majority of people see Leicester as their principal place of employment and location of top level services such as hospitals and universities. This naturally means there is already a substantial amount of in-commuting to Leicester city; which will further increase as the city centre regeneration programme provides more employment opportunities. The Park and Ride schemes are the first line in reducing commuter pressure on the city main road network, improvements to all local bus services being at the heart of our Congestion Management Strategy. Our proposed infrastructure works to transform the quantity and quality of bus infrastructure in the city centre then becomes vital to receive the significant increase in bus trips without completely choking the city centre.

9. The Leicester Urban Area – Central Leicestershire

9.1 Central Leicestershire, consisting of Leicester and the surrounding Urban Area, is the immediate travel to work area having a current population approaching 520,000 people, with an expectation of exceeding 600,000 residents well before 2026. It is one of the 10 largest conurbations in England; it has a very tight and compact urban road system with high densities of population, and is an ideal testbed for sustainable urban transport systems. Its transport issues are fundamentally urban; congestion and the noise, air pollution and poor quality of life it causes.

9.2 Central Leicestershire is expected to achieve 25% housing growth by 2026; partly by more intensive urban development but also by bringing forward at least three new greenfield urban extensions on the urban fringe (at Ashton Green, Blaby and South Charnwood). These settlements will each be at least large enough to sustain their own new secondary school, and will contain between 3,000 and 5,500 new homes. There will be excellent opportunities to introduce “smart choices” sustainable travel programmes from the start; the urban regeneration and increased densities of the remaining new homes in existing urban areas will give the required passenger density to sustain high frequency public transport services.

9.3 The growth in housing will be a challenge to the capacity of our road network. It also presents a real opportunity to achieve modal change and to persuade the new residents of the urban extensions to limit unsustainable travel. The local planning authorities intend to masterplan the urban extensions. This will ensure that, before people move into the houses, the following will be in place:

- The required infrastructure for sustainable transport choices such as public transport, footpaths and cycle routes, together with broadband connectivity
- Local shops, local schools and local employment sites, to limit the need to travel
- Personalised travel planning, company travel plans, car clubs, maps and travel information, including alternatives to the car on a local basis, delivered through a smarter choices company or trust

This will prevent unsustainable travel habits forming from the outset.

10. Leicester’s Climate Change Strategy

10.1 The city of Leicester recognises the implications that climate change has for the continuing prosperity and the environmental and social well being of the city. A Climate Change Strategy for the city was first published in 2003 and the Leicester Partnership updated this in 2009.

10.2 The Strategy highlights the Partnership's 'One Leicester' priority to reduce Leicester's carbon emissions and the target of halving the 1990 levels by 2025. Delivery of the target is managed as part of the Council's Eco Management and Audit Scheme (EMAS), through a Climate Change Action Programme. This programme has incorporated relevant measures from the delivery programme for LTP2 and it is intended to continue this approach for measures in the LTP3 Implementation Plans.

11. Leicester City Council - a Lead Local Flood Authority

11.1 Leicester City Council is a Lead Local Flood Authority tasked with, for example, preparing preliminary flood risk assessments, maps and plans for surface water flooding, flooding from ordinary watercourses and other causes of flooding not the responsibility of the Environment Agency. We also have to produce a Surface Water Management Plan (SWMP) and a Strategic Flood Risk Assessment. The work in preparing these will be heavily linked to the production of the Preliminary Flood Risk Assessment required by December 2011. This will come together as the fifth operational plan of this LTP.

12 Tackling health inequalities in Leicester – A Strategic Approach

12.1 The Leicester Partnership is leading a strategic approach to tackling health inequalities in Leicester. There are a number of plans to deliver this approach, including:

- Local Area Agreement
- Leicester City Council Corporate Plan
- One Healthy Leicester – NHS Leicester City Commissioning and Investment Strategy 2009/10-2013/14
- Leicester Partnership Health Inequalities Improvement plan
- NHS Leicester City Operational Plan

12.2 Reducing the health inequalities both within the city and in comparison with the rest of the country is an urgent priority. Areas where we need to take action were highlighted by the 2009 Audit Commission report. Achieving the One Leicester vision will require us to prioritise those people most in need and those activities which will reduce inequalities between communities and individuals. This means making sure that our money and our people across all partner organisations work together to tackle the big issues.

12.3 The headline issues about Leicester's health inequalities include that transport can influence:

- A growing life expectancy gap between Leicester and the rest of England. On average a man in Leicester will live 2.4 years less and a woman 2.1 years less than the average for England.

- Differences in life expectancy between different areas of the city. The difference between the wards with the highest and lowest life expectancy is

7.4 years for men and 7.6 years for women.

- Around 25% of Leicester adults are obese and a further 36% overweight. Levels of physical activity are low, with only 18% of adults doing 30 minutes of moderate activity on 3 days a week.

- Circulatory diseases cause 35% of all deaths in Leicester.

12.4 The NHS Leicester City Commissioning and Investment strategy elements are:

- A daily dose - developing a shared vision which brings together organisations and individuals and includes driving up the quality of universal services that have an important impact on health, particularly in poorer communities.

- Prevention is better than cure - many of the proposed actions focus on prevention and early detection of the conditions which cause many of the health inequalities in the city – such as cardiovascular disease, respiratory disease, infant mortality and cancer.

- Supporting healthier lifestyles - reducing health inequalities is not just about stopping people doing things – it's also about encouraging people to take more physical activity by planning and delivering the right facilities, as well as continuing to improve education, skills and the city's economy, all of which contribute to a healthier society.

Hitting the right targets - because the health challenges we face are spread unevenly throughout the city, it's vital that we collect and use up to date information to help us to target services effectively, and that we work closely with local communities so they can help shape services which will work for them.

13 Tackling inequalities through design

13.1 Leicester City Council is developing a strategic approach to ensure that Leicester becomes a place which everyone can access safely, easily and with dignity. The council's inclusive design action programme will be included in highway's project delivery manual.

Chapter 2:

Leicester's Transport System
Now and in the Future

1. Leicester's Transport System – a brief description

1.1 Central Leicestershire is at the centre of England and enjoys excellent road access to the rest of the region and the UK via the M1 and M69 motorways, both part of the UK's strategic road network.

1.2 The Midland Mainline railway passes through the city centre north to south and provides an excellent service to London, Loughborough, Nottingham and Derby. With the opening of the channel tunnel rail link to St. Pancras, Leicester now has direct access to the European high speed rail network. There are also rail lines west to Birmingham and east to Peterborough and Stansted Airport. East Midlands Airport is located in the north west of Leicestershire, accessed via the M1 and is the largest UK freight airport for dedicated freight aircraft.

Leicester's System

1.3 The current mixed use car, bus and freight transport system is based on a classic city centre hub and spoke (radials) arrangement. There is an inner ring road (mainly dual carriageway) and an outer ring road (mainly single carriageway), incomplete in the south east. There are few physical barriers such as wide rivers, steep topography and at grade railways. Thus the road network has few links without junctions and accesses. Much of the dual carriageway in Leicester makes up the city's inner ring road and radial approaches to it. These have closely spaced busy junctions which cause slow traffic speeds. These speeds are low compared with other English urban areas confirming that Leicester has a very tight and compact urban road system. National cycle routes cross the city and it is on the national canal network.

Urban Traffic Control

1.4 The city council's Traffic Management Section manages the urban traffic control centre and "keeps traffic moving", through the council's Network Management Plan, in accordance with the Network Management Duty.

Bus Services

1.5 There is a comprehensive bus service by three main companies during the working day Monday to Saturday. This is rather patchy and infrequent in the evenings and on Sundays. The council financially supports a number of non-commercial services. The city centre is very accessible by bus during the morning peak (7:30am to 9:30am) as 87.2% of Leicester's households, without cars, are within 400 metres of a bus stop offering a 30 minute journey time by bus into the centre and, 97.8% have similar access to a bus offering a 45 minute journey time (based on the October 2009 network)[2].

1.6 Our Central Leicestershire Quality Bus Partnership was established in 1999. The members of the main steering group are Leicester City and Leicestershire County Councils, First Bus, Arriva and Trent Barton. The main steering group meets quarterly and discusses issues which are not commercially sensitive. It is supported by the Bus Operations Group and the Bus Information Strategy Group. In addition to these multi-party meetings, the councils meet the two main operators (First and Arriva) quarterly in bi-lateral meetings at which commercially sensitive issues can be discussed.

1.7 We have two permanent park and ride sites. The site at Enderby, south-west Leicester, is a 1,000 space car park and 10 minute frequency into and around Leicester city centre. The site at Meynells Gorse, west Leicester, has a 500 space car park and 10 minute frequency into and around Leicester city centre. A third site, with 1,000 spaces and a 10 minute frequency running from Birstall, north of Leicester, is currently under construction. We are looking at linking the Enderby and Birstall services to improve efficiency of the service, and also to provide a link between the railway station and bus station. There is also a Saturday-only site at County Hall.

The East Midlands Parkway Railway Station

1.8 The East Midlands Parkway railway station near the A453 trunk road just north of M1 junction 24 was opened in 2009 as a network rail project. As well as improving access to East Midlands Airport (EMA), the parkway station provides the opportunity for park and ride by train to Leicester.

[2]This work uses the Government's approved software ACCESSION, and the journey time quoted represents the complete journey from the house into the city centre, not just the time spent travelling on the bus.

Freight

1.9 Our freight strategy has been guided by our successful Leicester and Leicestershire Freight Quality Partnership (FQP) that has been making steady progress since its inception. This has raised awareness of freight issues between members, enabled the councils to understand the practical problems of the operators and enabled a freight signing strategy to be developed and implemented. We have been able to influence the Regional Freight Strategy such that a Regional Freight Group was established in 2006, of which we were members, to deliver support for Freight Quality Partnerships, disseminate best practice and coordinate actions. With the demise of the region and the introduction of the localism agenda, local partnerships such as our FQP will take on key roles.

Parking

1.10 Our city centre parking regimes aim to reduce long stay spaces as a demand management measure. This is to reduce commuter parking and thus car trips made in the peak period. Our policy has been no net increase in off-street parking places in the Central Transport Zone. The on-street charging zone and the areas covered by residents' parking controls have and continue to be expanded. We introduced decriminalized parking enforcement (DPE) over the whole of the city council area on 1st January 2007.

1.11 There is a mixture of city council and privately owned car parks in Leicester hence the city council doesn't have direct control over car park pricing and control of parking as a really effective demand management tool. Since 2008 we have seen a significant increase in temporary surface level car parks on cleared regeneration sites as a reflection of the recession. This is having a detrimental effect on managing congestion and in particular the use of our park and ride services. The city council is currently (2010) preparing a city centre car parking supplementary planning document to help address unauthorised temporary car parks and the ensuing detrimental effects on transport services and the wider city economy. Surplus income from the city council's car parking operations is re-invested in transport services such as subsidised bus services.

Walking

1.12 Walking is a healthy and important method of getting around, as well as being an element of most other journeys e.g. walking to/from bus stops or car parks. Ensuring well surfaced, lit and signed links to schools, local shops, health care facilities and employment areas – both through footways, crossing points and the networks of public Rights of Way and permissive paths owned by the council – has been a priority over the last two local transport plan periods. Child pedestrian training is provided to school children. Promotional campaigns such as 'Let's Walk Leicester' are run in conjunction with local health campaigns to reduce the number of Leicester residents who are overweight through inactivity.

Cycling

1.13 The East Midlands Personal Travel Survey told us that 29% of the 1,045 sample Leicester households had access to a bike while the average journey was 1.9 miles. We have seen an 81% increase in cycling in Leicester since 2004. National census and school travel plan information data for Leicester suggests a growing popularity of cycling and a significant suppressed demand, particularly amongst young people.

1.14 There are already more than 60 miles of signed cycle routes across the city which the Cyclists' Touring Club's cycle benchmarking exercise confirmed as being high quality. However, there is a disparity of off-road/quiet route provision between the western and eastern halves of the city: the west side being much better served. A key objective is to complete NCN 77 the 'Green Ringway'. This part-completed orbital route will be finished, either using existing quiet roads or new sections of off-road route. The Green Ringway mirrors the route of the Outer Circle bus route.

1.15 We have expanded our work with schools, employers and adult training organizations to ensure that new (and returning) cyclists have access to affordable cycle training that meets the new National cycle standards. In 2009/10 we provided cycle training for 1,300 school children and 750 adults.

Rights of Way Network

1.16 Leicester city has 33.2km of rights of way recorded on its definitive map and is cataloguing a network of permissive paths (which are not, or may not be, Rights of Way) with the intention of reviewing their status during the preparation of the next Rights of Way Improvement Plan (RoWIP). Most of the main routes have been walked and assessed for quality and accessibility. A lot are surfaced, in line with their main purpose for cyclists and pedestrian traffic and many are lit. The city's Local Access Forum (LAF) was formed in November 2004. It advises the city council on the enhancement of the city's Rights of Way and the development of its RoWIP. Although a small group, the Forum includes people with enormous knowledge and experience of the Rights of Way in the city and the county, and Rights of Way law and practice. The council adopted and published its first Public Rights of Way Improvement Plan in October 2007. The second edition has been prepared in parallel with this Local Transport Plan. The RoWIP is a mechanism for improving and developing the network of Rights of Way to facilitate use by a wide variety of potential users.

Leicester, Leicestershire and Rutland Road Safety Partnership

1.17 Much of our recent success in improving road safety can be attributed to the work of the Leicester, Leicestershire and Rutland Road Safety Partnership. Formed in 1998, its purpose is to help reduce casualties in the Leicestershire Police area through joint working between city, county and Rutland councils, representatives from the NHS, Highways Agency and Leicestershire Police. The aim of the Partnership is:

'To provide a safer environment on the roads of Leicester, Leicestershire and Rutland using education, enforcement and engineering to enable all road users to travel in confidence, free from fear of death or injury'

Successes to date have been achieved through:

- Road safety education (Education)
- Safer routes schemes (Engineering and Education)
- Traffic calming schemes (Engineering and Enforcement)
- Local Safety schemes (Engineering)
- The Safety Camera Partnership (Enforcement)

1.18 Although locally we have made good progress in making the city's roads safer, the number of people being killed and seriously injured remains a problem. Road casualties are still the main cause of accidental death or injury in Leicester. Our consultation tells us that although most people recognise that measures have already been taken to reduce accidents, further improvements are necessary as accident statistics can never be low enough.

2. The Strategy for Leicester's Transport System So Far

2.1 Our first Local Transport Plan 2001-2006 was heavily influenced by the 1994 Central Leicestershire strategic transport study known as CALTRANS. The nine transport objectives that evolved from CALTRANS were reviewed in line with the 1998 Transport White Paper 'A New Deal for Transport: Better for Everyone' and in the light of the results of consultation. Six objectives developed from the process:

- To improve ACCESS to employment, leisure, education, housing, health care and shopping.
- To support the local ECONOMY and encourage economic growth in suitable locations, with particular regard to the city centre.
- To improve all aspects of transport SAFETY and security.

- To encourage and develop the more SUSTAINABLE transport modes of walking, cycling and public transport and where appropriate bring about a reduction in travel overall.

- To promote SOCIAL INCLUSION by improving accessibility for those without access to a private motor vehicle, for those disabled people and for women, for older people, for ethnic minorities and for the unemployed.

- To improve QUALITY OF LIFE by reducing the pollution, noise, congestion, delay and severance caused by traffic.

2.2 We used our experience in implementing the schemes, polices and objectives, to revise and create objectives and programmes for our second Local Transport Plan. That process was heavily influenced by our engagement with the Department for Transport between November 2003 to March 2004, by the statutory local transport guidance in December 2004 and by the regional spatial and economic strategies, particularly those applying to the Three Cities sub-area. Building on the initial work with the Department for Transport on the transport shared priorities and having considered all the factors that were to influence transport for the future our five key objectives for our second local transport plan (2006 to 2011) were:

- Tackling Congestion - we will manage the increasing demand for travel by facilitating proportionally more bus, walking and cycling trips whilst improving network efficiency and the effective allocation of road space.

- Delivering Accessibility - we will improve access to everyday services, places of work, leisure and shopping, particularly for those neighbourhoods and groups likely to suffer from social exclusion, by working with partners to better plan the location and operation of services and the transport that serves them, including buses, walking and cycling.

- Safer Roads - we will continue to reduce the number of people killed or hurt on our roads, particularly looking after children, cyclists and pedestrians, by working with partners to implement road safety initiatives and by implementing schemes.

- Better Air Quality - we will reduce air pollution caused by traffic by encouraging and facilitating more people to travel by public transport, walking and cycling.

- Better Road, Footway and Cycle Route Condition - we will improve the condition of our roads, footways and cycleways by spending more money on maintenance, and spending this money more effectively.

- An over-arching objective to contribute at every opportunity, through each key area above, to the improvement of the Quality of Life for all – improving public spaces, security, safety and health, helping with neighbourhood renewal and regeneration, reducing noise and greenhouse gases.

2.3 We have been very successful in meeting these objectives evidenced by the fact that we are on track to meet 29 of our 36 targets. Our most notable achievements have been to keep congestion under control, achieve a substantial rise in the number of cycling trips made, the continuing reduction of the number of people killed and seriously injured on our roads and to maintain the status quo regarding the condition of our main roads and busiest footways. We have seen the opening of the Enderby Park and Ride service in November 2009, the completion of the Humberstone Road Quality Bus Corridor Scheme in 2010 and the opening of the Upperton Road Viaduct replacement scheme in December 2008. We have of course delivered many schemes and services to continually improve highways and transport services in Leicester.

3. Leicester's Transport System – a performance report

Overview

3.1 A snapshot of the 34,500 people entering the city centre across the inner ring road each weekday in the peak period of 7–10am, in 2010 is:

- Car/LGV = 36.4% (12,600)
- HGV = 0.5% (170)
- Bus = 41.5% (14,300)
- Pedal cycle = 1.4% (480)
- Motorcycle = 0.2% (70)
- Pedestrian = 20.0% (6,900)

The average car occupancy is 1.34 persons per car[3] . In addition there are around 2,200 passenger arrivals at the Leicester railway station each day between 7-10am. This represents 6.4% of the 34,500 figure above although train passengers go on to destinations other than those within the inner ring road.

Analysis of Leicester's Transport System

3.2 Despite reductions in the amount of traffic on the roads, speeds (on average) have remained between 27/8kph in the AM peak between 2006 and 2010 (average speeds have fallen by 2kph in the PM peak over the same period). The average peak hour car delay per vehicle per km on the ten radial routes has nearly halved between 2006 and 2010. This suggests that traffic is generally flowing more smoothly, but not necessarily any faster.

[3] *7-10am, Inner Ring Road Cordon, 2010*

Similar observations have been made in other large cities. A study commissioned by the DfT suggested that this was due to a reduction in capacity on the road network as road space was given over to bus lanes, pedestrian areas and an increased number of traffic lights and pedestrian crossings. This means that, despite reductions in traffic levels, the road network remains close to capacity in the peak hours. Conditions can quickly deteriorate due to any planned or unplanned events in critical locations. Congestion is particularly sensitive to unplanned events on and in the vicinity of the inner ring road. The shoulder hours (e.g. 7–8am and 9–10am for the am peak) do have spare capacity but again unplanned events have a disruptive impact. Automatic traffic count data for the Central Transport Zone (CTZ) shows that (while the proportion of traffic travelling in the peak hours remains stable) there has been a shift from the preceding hour (7-8am or 4-5pm) into the succeeding hour (9-10am or 6-7pm) over the LTP2 period. In other words, there has been a shift towards travelling into the city later and leaving later. This could be a result of more flexible working, a shift from trips for employment to trips for shopping or entertainment purposes (the Highcross centre has been trying to promote the development of a more "late-night shopping" culture in the city).

3.3 The 6Cs Congestion Management Study (2008) collected a range of data to measure the levels of congestion on the inbound radial routes of Nottingham, Derby, Leicester as well as three market towns in Leicestershire. It found that overall Leicester had the greatest average delay per mile, with the delay being particular high on the radial roads.

3.4 The 2001 Census provides a useful source of data in understanding the volumes and patterns of journeys to work. The DaSTS draft report (East Midlands Three Cities Agglomeration and Accessibility Study, May 2010) has provided useful analysis of the travel and transport characteristics in the area, which includes Leicester. The report identified the workplace location of people who lived in the Leicester urban area. It found that (in 2001) of the 208,011 workers who lived in the Leicester urban area, 177,067 (85%) also worked in Leicester. Only a very small proportion (less than 1%) worked in either the Derby or Nottingham urban areas. The top three workplace locations outside the sub region for Leicester were West Midlands (1.2%), Northamptonshire (0.9%) and Warwickshire (0.7%).

3.5 Additionally, the report identified the residential location of people who worked in Leicester. Of the 232,133 who worked in the Leicester urban area, 177,067 (76%) also lived there, and 93% of all workplaces in Leicester were taken by residents of the Leicester HMA. Only a very small proportion of employment places in Leicester were filled by people living in Derby or Nottingham. The top three residential locations outside the sub region were Northamptonshire (0.7%), Warwickshire (0.7%) and West Midlands (0.5%).

3.6 The Ptolemy Transport model is a land use transport model that covers the East Midlands area and has been calibrated and validated to a 2006 base. Trip matrices from the model have provided an additional source of information. Overall, the analysis has confirmed (using the 2001 Census data) that the proportion of people who live in Leicester and work in one of the other two cities

is very low. A similar conclusion has been drawn looking only at commuting trips by car.

The study also found that:

- 83% of commuting trips are contained within the Leicester Urban Area, only 65% of employer's business trips are self contained.
- 93% of the personal business trips that start in Leicester, also end in Leicester;
- For all trip purposes, 89% of trips within the Leicester urban area remain within it, with 1% to Nottingham and less than 0.5% to Derby; 10% are made to other destinations; and
- The car is the dominant form of transport within Leicester (accounts for more than half of trips), with approximately 40% of trips being made by walk / cycle. The analysis suggests that a significant proportion of trips of less than 5km by car could potentially be targeted in behavioural change programmes aimed at increasing walking and cycling.

3.7 The study has also found that, using the Ptolemy model which has forecast the in change in the distribution of commuter trips between 2006 and 2026, intra-urban trips will continue to dominate the proportion of trips made to destinations outside the three urban areas. For Leicester, this is expected to increase from 16% to 22%.

What people said about transport during the development of One Leicester

3.8. Leicester's roads are congested at peak times and the public transport system is both inadequate and insufficiently connected. Yet we have many fine examples of green spaces – and people want more. Those who know Leicester love New Walk, the pedestrian walk created over two hundred years ago. We need to create more tree-lined avenues, like New Walk, that are devoted to people rather than cars.

The 2009 Comprehensive Area Assessment– Leicester's transport performance

3.9 The 2009 Comprehensive Area Assessment (CAA) showed strengths, weaknesses, and areas for improvement:

> *"The council is reducing congestion. Around four in ten households in Leicester don't own a car. More people travel to work by bus, bike or on foot than the national average. Fewer use a car or the train. Even so, traffic congestion is the third highest priority for improvement for local people. The council is making it easier for people to use buses and bikes and to walk. Satisfaction with bus services is high and improving. A new bus corridor on one of the main routes into the city is being developed."*

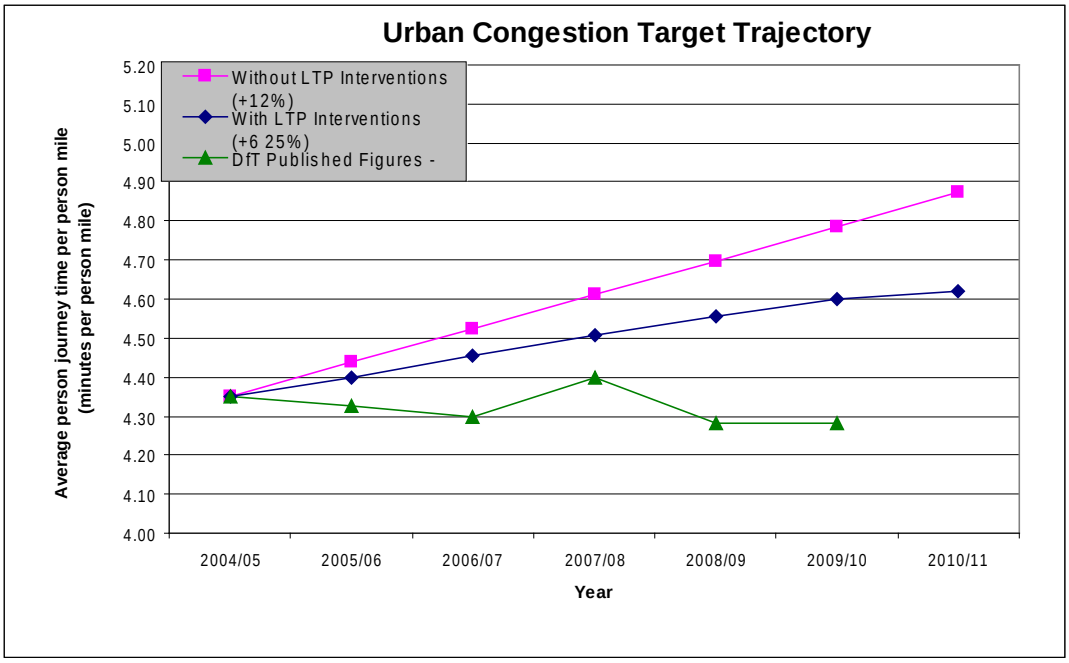
Second Local Transport Plan – a performance report

3.10 We have made excellent progress in delivering the five objectives in our second Local Transport Plan (2006-11).

Tackling Congestion

3.11 We have been making good progress with our Tackling Congestion objective. Towards the end of the LTP2 period, we were on track with 10 out of our 12 performance indicators. Congestion (Graph 2.1) has been reduced from a 2004/05 baseline journey time of 4.35 minutes to 4.28 minutes per person mile in 2009/10. The 2010/11 target for all eleven routes is 4.62 minutes with LTP interventions. We have met our congestion targets and this has led to additional reward funding of £1.8m from the Government's Congestion Performance Fund.

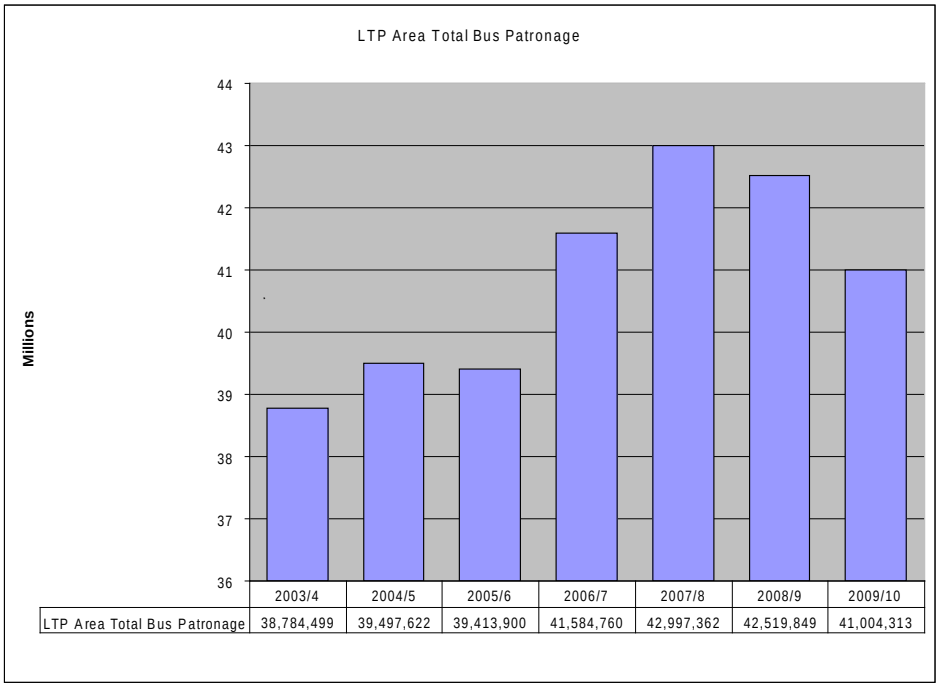
Graph 2.1 – Urban Congestion Target Trajectory



3.12 The Enderby Park and Ride scheme was delivered ahead of programme and we completed London Road and Humberstone Road Quality Bus Corridor schemes and improvements made to Pork Pie Island. Our evidence from the delivery of the QBC schemes shows a reduction in AM peak congestion and improved journey time reliability for buses (for example in London Road). This has also led to an increase in bus patronage. Overall, we have been making good progress with increasing our bus patronage (graph 2.2), despite the reductions since the onset of the economic recession (with unemployment possibly having an impact on the number of work journeys people make).

3.13 However, we were behind on our car mode share of journeys to school due to a lack of resources. In the latter part of LTP2 we have been expanding our Road Safety Education Team which we were able to progress with other interventions, such as piloting a 'Star Walkers' schemes, although the impacts of our interventions have not been able to catch up with our target.

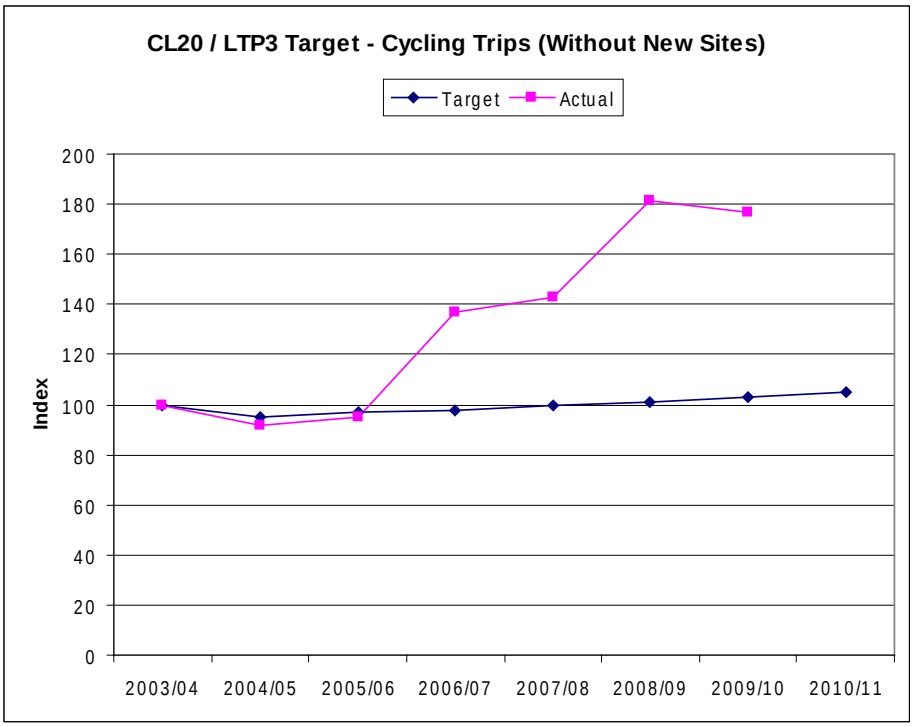
Graph 2.2 – Growth in Bus Patronage



Delivering Accessibility

3.14 Towards the end of the LTP2 period, we were on track with all of our accessibility indicators. We have been recording strong increases in cycling levels (77% increase from 2003/04 – 2009/10). This could be attributed to improved recording of cycling numbers and increased promotion of cycling events (graph 2.3). We have organised annual Sky Ride events since 2009 (a mass family friendly bike ride). 8,000 participants took part in 2009. There has also been steady growth in the number of pedestrians entering and using the city centre.

Graph 2.3 – Number of Cycling Trips (2-Way 12Hr Totals, annualised index)

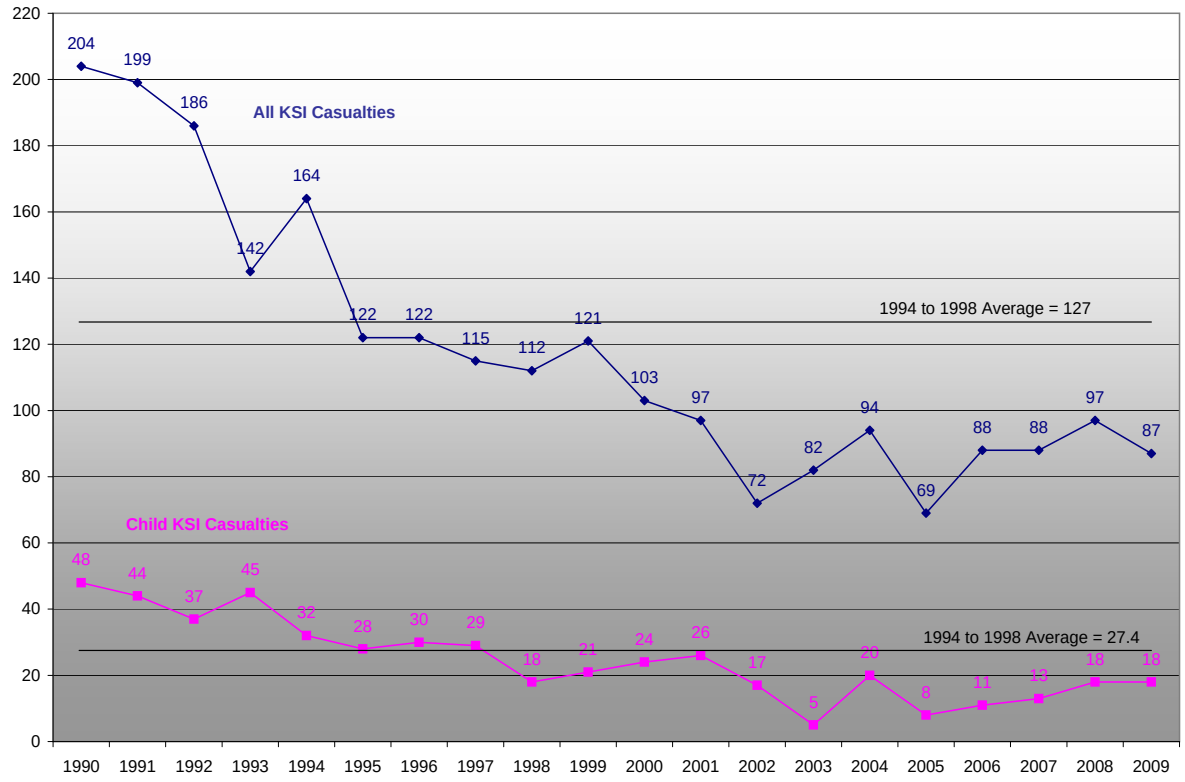


3.15 Our Rights of Way Improvement Plan was formally adopted in 2007. We were awarded the Natural England's Rights of Way Improvement Plan award for the Improving Accessibility for All category. However, progress with the 'Access to Work' indicator remains static as measured through Accession software.

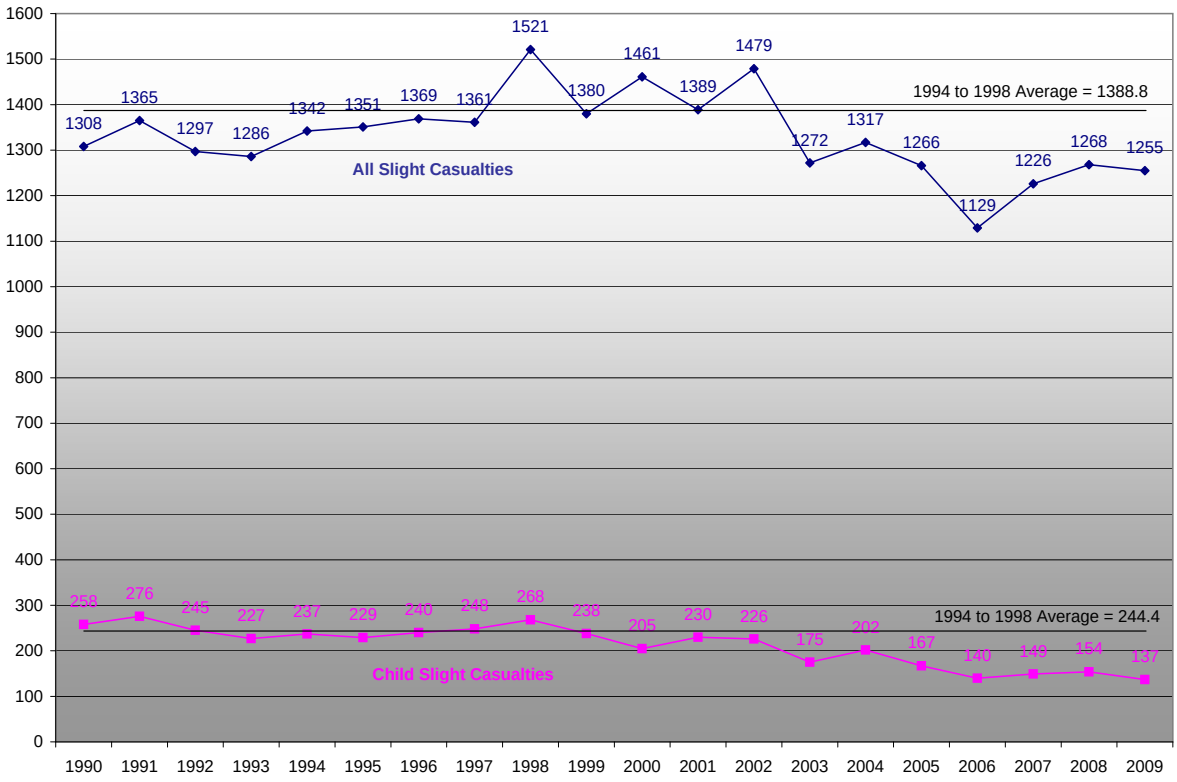
Safer Roads

3.16 Our Safer Roads Strategy has been focussed on reducing road casualties through local safety schemes and speed management activities as well as continuing road safety education, training and publicity campaigns. We were on track with three out of five indicators at the end of the LTP2 period. Our slight casualties have been reduced in line with our target. However, progress against the total killed and seriously injured and child killed and seriously injured targets have not been going so well. The former having stalled at 88 in both 2006/07 and 2007/08 and risen to 91 in 2009. Although this is still an improvement on the 1994/98 baseline of 127 (graph 2.4) and 1994/98 baseline of 244 for slight injured casualties (graph 2.5). Our Killed and Seriously Injured cycle casualties have risen parallel with an increase in the numbers of cyclists on the roads. Further investigation is required with the nature of the collisions involving cyclists. We have received positive feedback from the Department for Transport "health check" of our road safety work.

Graph 2.4 Total killed and seriously injured - KSI Casualties Graph



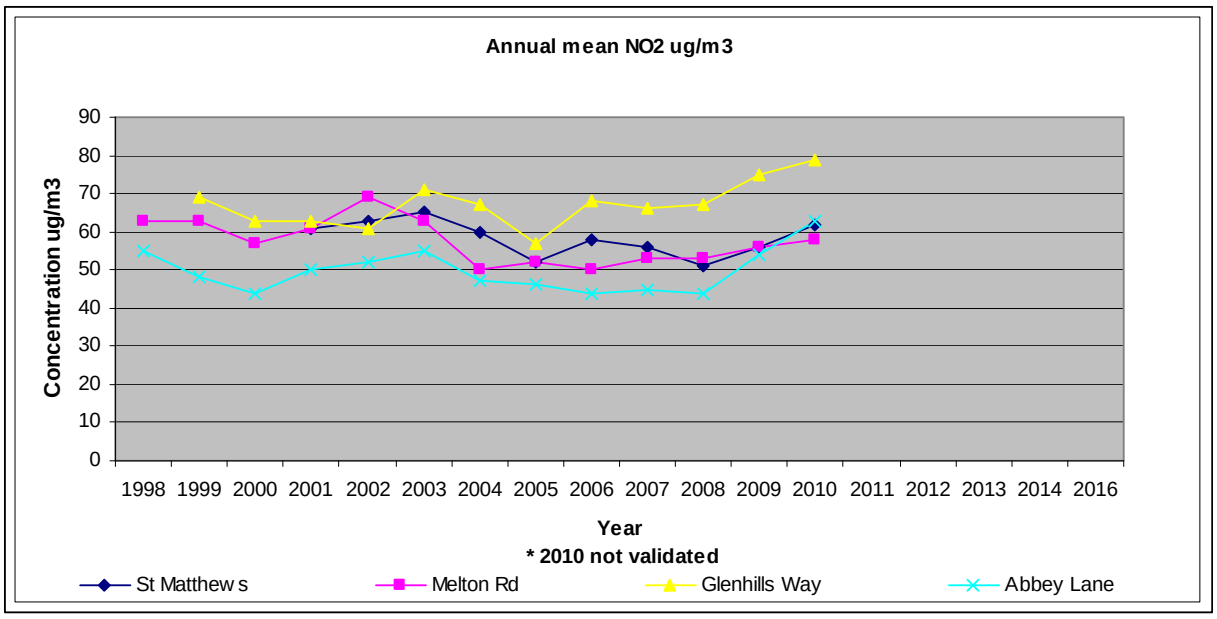
Graph 2.5 Slight injured casualties



Air Quality

3.17 We have been tackling our identified air quality areas. We are on track with six out of our seven air quality indicators at the end of the LTP2 period. We are making slow progress towards our main target, particularly on the back of our congestion strategy. We deploy a network of nine fixed, high grade monitoring stations. Four out of the nine sites are used to measure the LTP2 indicator as shown below Graph 2.6. Leicester's Air Quality Management Area was extended (adjacent to the A6 north of Leicester) in 2008.

Graph 2.6 – Nitrogen Dioxide Annual Mean Data



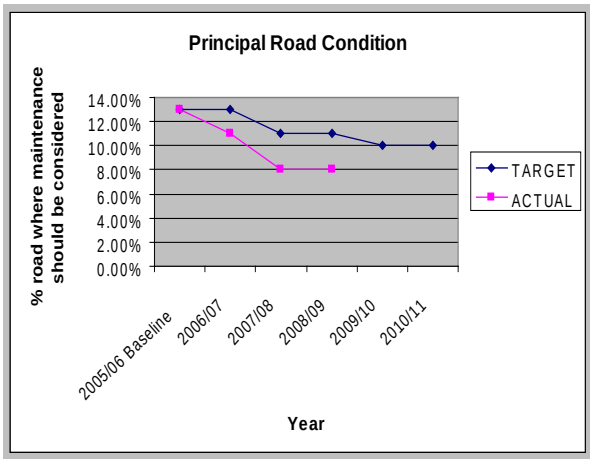
3.18 At the November 2009 EPUK Conference, Leicester was amongst five local authorities chosen as good examples of air quality action planning. Leicester's managing of congestion through urban traffic management and control was highlighted as effective action to improve air quality.

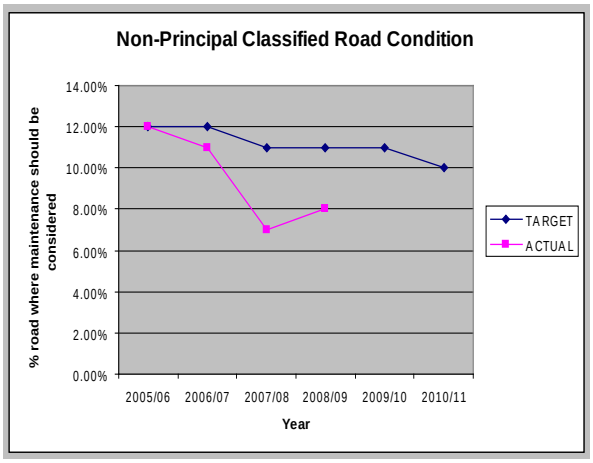
Better Road, Footway and Cycle Route Condition

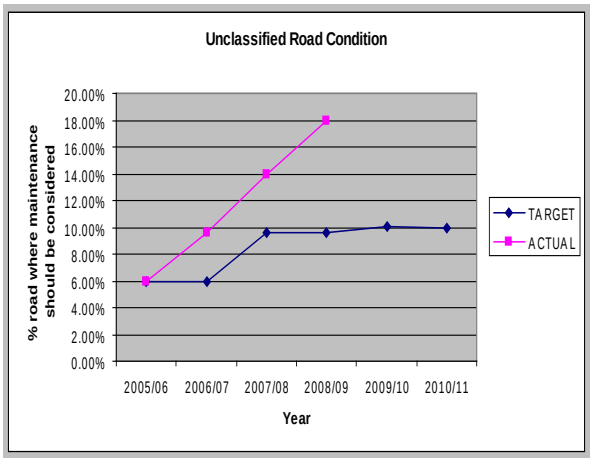
3.19 We have been providing proactive, effective and efficient methods of managing our assets to meet our wider transport authority objectives. We are on track with three of our five indicators at the end of the LTP2 period. We were unable to meet our unclassified road condition target Graph 2.7. Whilst the council continues to spend all of its capital maintenance allocation on maintaining transport assets, the council's revenue budget for highway maintenance has been reduced. We have prioritised spend mainly onto the classified road network and busy footways network as we believe this best supports our other objectives.

3.20 The LTP2 capital maintenance block funding allocation has enabled a substantial programme of work to be delivered via our Bridge Maintenance and Street Lighting programme. Due to the reduction in revenue funding for unclassified roads and the delay in our bridge maintenance programme this has resulted in a re-programming of some maintenance projects. The Upperton Road Viaduct Scheme is one of our success stories as it is was delivered to programme and comfortably within budget.

Graph 2.7 Road Condition Indicators







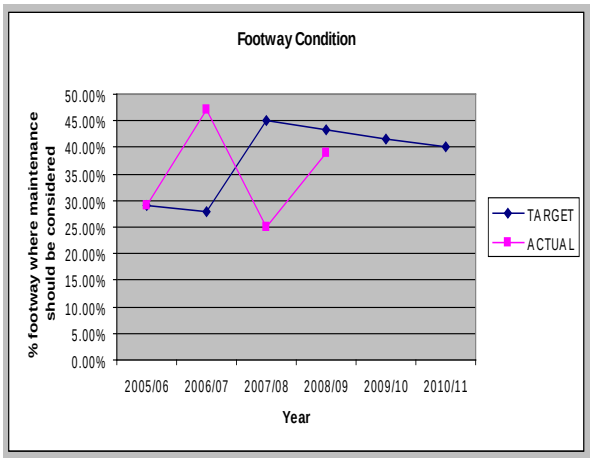


Photo 2.1: Upperton Road Viaduct Scheme

3.21 Local Environment Works have helped to achieve neighbourhood renewal schemes. For example, Abbey Rise. Abbey Rise is close to the flood risk area and permeable paving was used to replace the existing paving for car parking. Although small scale this is the first example of the use of permeable paving within the city.

Photo 2.2: Construction of permeable paving in Abbey Rise

3.22 Running through all the LTP2 objectives has been the overarching objective to contribute, at every opportunity, to the Improvement of the Quality of Life for all – improving public spaces, security, safety and health, helping neighbourhood renewal and regeneration, reducing noise and greenhouse gases. Our progress towards this includes:

- Huge £19 million investment and improvement in the city centre public realm through the city centre Development Project.

- Gateway and public realm improvement resulting from the Upperton Road Viaduct Scheme Photo 2.1.

4. Constraints and Opportunities

4.1 We have been faced with a number of constraints whilst delivering our transport vision and objectives for Leicester throughout the LTP2 period. However, whilst these challenges are present, a number of possible opportunities can also be exploited. The constraints and opportunities are outlined below.

Leicester's Transport Related Constraints

4.2 Commercially operated bus network - our bus network is operated by the private sector. The two main operators in Leicester are First and Arriva. As these are commercial services, we do not have direct control over the fares set or the routes. The price of fares and the frequency and routes served by the operators can be a barrier in accessing destinations / opportunities. This could be overcome by considering the option of Quality Bus Contracts that will help to control parts of the network to include frequencies, fares, standards and hours of operation.

4.3 Compact city centre - the layout of Leicester is concentric with few natural barriers meaning the person trips are reasonably evenly spread out on the key radial routes. Our key radial routes are not generally of sufficient width to accommodate additional transport infrastructure, such as trams, without a measurable decrease in capacity for general traffic. This constraint could be reduced by making better use of the road space.

4.4 Commercially operated car parks - many of our city centre car parks are privately owned and hence we have very little influence on the level of prices set. Some car parking pricing structures are attractive for commuter parking and thus car trips are made in the peak period. Due to the economic recession, brownfield land in the city centre is currently been left undeveloped and is being used for temporary private car parks. We have been collecting car parking data to establish if additional off street car parking spaces are required. If there is not a case for additional car parking, this will strengthen the link between transport and land use planning to influence the development of future car parks.

4.5 No more kerb space in city centre for buses - there is a forecast increased demand on the transport system due to the growth in housing and the need for a step change improvement in public transport to underpin Leicester's future. The city council is concerned at the quality of some existing bus facilities and the

potential for accidents. There is no kerbspace left to accommodate additional bus services in the city centre and existing facilities are either not well placed or generally of poor quality. We need to make bus travel much more attractive to entice car users away from car use.

4.6 Recession leading to reduced capital and revenue funding - the impact of the recession will possibly mean that we will have a reduced amount of capital and revenue funding available. We have to manage our transport system to make the best and most efficient use of the funds available. For example, this means using an evidenced based approach to focus investment in areas and interventions where we can achieve the maximum benefits and best value for money.

4.7 Limited number of disused rail routes for conversion to off-road cycleways and footways - we have a large network of permissive paths (including cycle tracks), however, there are a limited number of potential routes available for future conversion.

4.8 Public Transport Interchanges - Leicester's key interchange points between the local and national transport system are London Road railway station and St Margaret's bus station. These interchange points are located on either side of the city. It is not always easy or convenient to travel from one area on the edge of the city to another.

Leicester's Transport Related Opportunities

4.9 The government announced in October 2010, a new funding stream, the Local Sustainable Transport Fund. This is £560m over four years and is a mixture of capital and revenue funding. We will take the opportunity to bid for some of these funds to help us progress many of our initiatives and schemes.

4.10 Making better use of our Transport Assets - we own a number of transport assets which we could make better use of and expand. For example, on our highway network we have a number of bus lanes which could be expanded further. After study results from our London Road Quality Bus Corridor scheme show an increase in bus patronage with a reduction in bus journey times.

4.11 Build upon our success with cycling - we have developed good cycle promotion through Cycle City coupled with key projects (such as Cycle Champions, Bikes4all and BikeIt) that has helped to increase the number of people cycling by 77% between 2003/04 and 2009/10. Due to the increase numbers of people cycling, there is the potential to develop and build upon our existing infrastructure and parking facilities and improve our bike parking and cycle signing.

4.12 Good Joint Working Relations - a major strength of our LTP is the partnership working between the city and county councils. For example: the joint development and implementation of Park and Ride. We have recently been working closely with the bus companies on the development of a Smart and Integrated Ticketing Strategy which aims to introduce smart ticketing on major urban areas by 2015. We have been awarded £1.1m to pursue our proposals. There is efficiency of joint working and opportunities through the sharing of

learning with the Leicester and Leicestershire, Rutland Road Safety Partnership (LLRRSP). For example a 'Wasted' Road show, a hard-hitting event aimed to make young people think seriously about the responsibilities of driving.

4.13 Transport will be a key focus of the Local Enterprise Partnership and it is essential we participate in any emerging working groups likely to be comprised of the city and county councils, adjacent district councils, bus operators, business representatives and the Highways Agency. This puts us in a strong position to bid for funds in public/private sector partnership and work together on delivering initiatives such as travel planning. In addition we have a strong working relationship with the Director of Public Health. There are further opportunities to link the work we do with other service areas (such as Sport Services) to help tackle the problem of obesity and the health and wellbeing of the residents in Leicester.

4.14 Many short car journeys in and around Leicester could be converted to walking or cycling trips. Some 50% of journeys to work are less than five kilometres in length. Additionally, we need to encourage the 36% of Leicester commuters who do not use public transport, walk or cycle to access employment as almost all residents of Leicester live within 400m of a bus stop and 82% of Leicester's residents work within Leicester.

4.15 Use of the planning process to help implement our LTP Strategy - the Leicester Urban Area study has indicated that there will be an increase in the number of homes. We need to cater for this new growth but we need to ensure that we have sustainable travel. We have the opportunity to achieve our goals and objectives through the mechanisms of the planning process. Furthermore, our Core Strategy is looking to provide more service and knowledge based jobs and currently the majority of the workforce is in public administration, education and health. Therefore, there is potential to encourage commuter trips by sustainable modes of transport.

5. Looking to the future – challenges for transport, the need to intervene

The Government's Challenges for Transport Authorities

5.1 The Department for Transport, through the national strategy "Delivering a Sustainable Transport System" (DaSTS) published a set of five key goals, as discussed in Chapter 1 section 5 of this Plan. Through the same strategy, DfT has published challenges to the development of the UK's future transport policy and infrastructure. These challenges are set out below grouped under the national goals.

Goal – Support Economic Growth

- Ensure a competitive transport industry by simplifying and improving regulation to benefit transport users and providers and maximising the value for money from transport spending

- Reduce lost productive time including by maintaining or improving the

reliability a predictability of journey times on key local routes for business, commuting and freight

- Improve the connectivity and access to labour markets of key business centres
- Deliver the transport improvements required to support the sustainable provision of housing, and in particular increasing supply to 240,000 net additional dwellings per annum 2016
- Ensure local transport networks are resistant and adaptable to shocks and im pacts such as economic shocks adverse weather, accidents, terrorist attacks and impacts of climate change

Goal – Reduce Carbon Emissions

- Deliver quantified reductions in greenhouse gas emissions consistent with the Climate Change Bill and EU targets
- Deliver quantified reductions in greenhouse gas emissions within cities and regional networks, taking account of cross-network policy measures.

Goal – Promote Equality of Opportunity

- Enhance social inclusion by enabling disadvantaged people to connect with employment opportunities, key services, social networks and goods through improved accessibility, availability, affordability and acceptability.
- Enhance social inclusion and the regeneration of deprived or remote areas by enabling disadvantaged people to connect with employment opportunities, key local services, social networks and goods through improving accessibility, availability, affordability and acceptability.
- Contribute to the reduction in the gap between economic growth rates for different English regions.

Goal – Contribute to Better Safety, Security and Health

- Reduce the risk of death, security or injury due to transport accidents.
- Reduce social and economic costs of transport to public health, including air quality impacts in line with the UK's European obligations.
- Improve the health of individuals by encouraging and enabling more physically active travel.
- Reduce the vulnerability of transport networks to terrorist attack.
- Reduce crime, fear of crime and anti-social behaviour on city and regional transport networks.

Goal – Improve Quality of Life and a Healthy Natural Environment

- Manage transport-related noise in a way that is consistent with the emerging national noise strategy and other wider Government goals.
- Minimise the impacts of transport on the natural environment, heritage and landscape and seek solutions that deliver long-term environmental benefits.
- Improve the experience of end-to-end journeys for transport users.
- Sustain and improve transport's contribution to the quality of people's lives by enabling them to enjoy access to a range of goods, services, people and places.
- Reduce the number of people and dwellings exposed to high levels of noise from road and rail networks consistent with implementation of Action Plans prepared under the Environmental Noise Directive.
- Support urban and rural communities by improving the integration of transport into streetscapes and enabling better connections between neighbourhoods and better access to the natural environment.
- Improve the journey experience of transport users of urban, regional and local networks, including at the interfaces with national networks and international networks.

Challenges and Opportunities for Transport at Regional Level

5.2 Of particular use has been the work commissioned by the Regional Assembly for the RSS partial review; the Atkins[4] statement of transport conditions and issues published in October 2008 listed very clearly the pressures that the East Midlands faces over the next 20 years:

- A 26% increase in the regional population from 4.4m in 2007 (ONS mid year estimate) to 5.5m in 2031 (ONS projection 2006)
- Leicester and Leicestershire, which already has 21% of the regional population, is projected to have an increase of some 216,000 people to achieve a total population of 1,149,000 by 2031; of which over half will be in Central Leicestershire
- The East Midlands had the second highest rate of traffic growth in the country between 1996 and 2006; at 18% this is a trend that will be hard to reverse
- There has been significant growth in the logistics and distribution industry be cause of the good road links and Leicester's central location in England

[4]"East Midlands RSS Partial Review – A Statement of Conditions & Issues" – Atkins Transport Planning on Behalf of the East Midlands Regional Assembly, October 2008

- Leicester's net commuter inflow is significant at some 43,000 commuters daily; the existing network in the PUA is the economic cost of congestion is the highest in the region at an estimated £153.5m per year

- Central Leicestershire is well provided for in terms of public transport through the principal bus and rail network; has an accident rate that is equal to or better than the national average; and despite requiring Air Quality

- Management Areas in the city and in Blaby, carbon emissions too are equal to or better than the national average

- There is potential for behavioural change; in particular the suburban areas of Groby, Thurmaston and Blaby show the key demographic and accessibility characteristics which suggest that they are likely to be positive towards behavioural change measures. Walking and cycling levels are similar to the regional average at 10.7% and 3.4% respectively; there is potential for further increase if development is concentrated around the Leicester Urban Area

5.3 At the end of 2008 the DfT invited each of the English regions to take the lead on identify challenges to achieving their goals, and potential solutions on the city and regional networks through a four stage process. In the first stage, each region identified how the goals and challenges manifested themselves locally and identified work programmes to better understand the challenges and identify a programme of transport investment to overcome them. These 'Stage 1 submissions' were made in June 2009.

5.4 The East Midlands Stage 1 DaSTS Submission identified nine prioritised desired travel outcomes (goals) and eleven challenges (barriers to achieving those travel outcomes) for the region as a whole. These were set within the context of the five national DaSTS goals. The challenges for the East Midlands were determined through a process of policy review, collation of available evidence and contributions from stakeholders, including Lincolnshire and Nottinghamshire county councils. During the preparation of the East Midlands Stage 1 DaSTS Submission work was undertaken to collate available evidence relating to the eleven regional challenges. Evidence was collated from a range of national (e.g. DfT), regional (e.g. the HA) and local (e.g. LTA) sources.

5.5 Four of the eleven regional challenges are specifically applicable to Derby, Leicester and Nottingham:

- Minimising existing and future traffic congestion and rail crowding on strategic links and in urban areas (EM1).

- Enabling growth and dealing with the additional demand for travel brought about mainly by regeneration and growth (EM2).

- Overcoming gaps and weaknesses in the existing transport networks and maintaining accessibility (EM3).

- Reversing long-standing travel behaviour and dependency on travel, particularly by private car in a post-industrial society (EM11).

Leicester's Specific Challenges for Transport
Leicester and Leicestershire Multi Area Agreement

5.6 Transport was recognised as a cross-cutting delivery measure in the Multi Area Agreement and the following transport priority actions are identified in the Infrastructure theme:

- Ensure that all people have access to employment and housing opportunities
- Tackle congestion hotspots in the M1 J21 area and on major routes into Leicester and Loughborough and improve air quality.
- Provide better public transport to connect communities in the sub-region with employment opportunities and leisure activities.
- Provide people in urban and rural areas with viable, attractive, affordable and accessible public transport choices.

One Leicester

5.7 One Leicester identifies the city's key challenge:

"If we are to improve the city for everyone, we know we must take action to deal with the concerns that most worry our citizens, while addressing the main challenge that faces us today and in the future – damage to our environment". and continues to identify the main challenges as indicated in section 2.6 earlier under the headings of.

- People
- Prosperity
- Place

6. Leicester's Transport Challenges

6.1 Leicester's transport challenges have been identified by analysis of the preceding sections of this chapter and have been consulted on during 2010. The key challenges for transport are provided in Table 2.1 grouped by national transport goal.

Table 2.1 Leicester's Transport Challenges

Goal – Support Economic Growth

Addressing issues associated with the reliability, availability and predictability of journey times, particularly on key strategic routes and in the city centre

- Traffic flows on our roads have been rising strongly over recent years, although there has been a recent interruption to this trend due to the recession, which is seen as a temporary impact
- There is peak period congestion on Leicester's arterial routes and ring roads
- Poor public transport interchange and lack of kerb space for buses in Leicester city centre

Tackling recurrent / non-recurrent delays on our transport system

- Accidents and incidents cause congestion on Leicester's arterial routes and ring roads

Ensuring that future population, housing and economic growth does not lead to demand for travel that has adverse operational effects on our transport system

- Our population is growing at a faster rate than regionally or nationally
- Significant levels of housing growth are planned for Leicester and Central Leicestershire between 2011 and 2026
- Road traffic freight is predicted to increase significantly between now and 2020. Ensuring that the availability of car parking in Leicester city (in terms of both levels and location) are sufficient to meet the needs of businesses and support the economy, whilst not adversely affecting the positive benefits of sustainable transport
- Some sectors of the business community cite a lack of parking for staff and customers in Leicester as a potential barrier to inward investmen

Goal – Promote Equality of Opportunity

To provide an accessible, integrated, affordable and viable transport network that meets the future needs of businesses and citizens

- Difficulty in accessing public transport, footways and public rights of way for mobility impaired and disadvantaged groups
- Poor public transport interchange and lack of kerb space for buses in Leicester city centre

Addressing the gaps and inefficiencies in our existing transport system that hinder connectivity and access to key facilities and employment

- 36% of Leicester's commuters don't use public transport or walk or cycle when the vast majority of Leicester's residents live within 400m of a bus stop and 82% of Leicester's residents work within Leicester
- Nearly all of the population of Leicester live within 2 miles of a hospital, but in some deprived areas in can take up to an hour using public transport to get to the General Hospital
- The bus network is designed to take people into the city centre and out again
- Orbital services are infrequent and slow

Addressing gaps and weaknesses in the provision of information on the choice of transport available and accessible to people travelling in and around Leicester

- Residents in Leicester feel more can be done to provide information on public transport and cycling opportunities throughout the city
- Unlock suppressed demand for walking and cycling trips

Goal – Reduce Carbon Emissions

Reducing the levels of carbon dioxide emissions from our transport

- Transport is currently a significant source of carbon dioxide emissions in Leicester
- Population, housing and economic growth will result in additional demand on our transport network which could lead to an increase in carbon dioxide emissions

Increase the level of action amongst individuals, businesses and schools to reduce levels of transport-related emissions

- National research shows there is limited understanding amongst residents and businesses of the relationship between climate change and travel behaviour / habits
- There are barriers to changing travel behaviour to more sustainable modes (i.e. reliability, cost, convenience, safety)

Ensuring that our transport is resilient and adaptable to the impacts of climate change

- Potential effects of climate change on the highway network include damage to roads, bridges and other structures from both heat and flooding

Goal – Contribute to Better Safety, Security and Health

Continue to find cost effective ways to further reduce the numbers of deaths and injury accidents on our roads

- 67% of killed and seriously injured casualties in Leicester are vulnerable road users (i.e. pedestrians, cyclists and motorcyclists)

Addressing barriers that inhibit people from using public transport and choosing to walk and cycle as physically active modes of travel

- 25% of Leicester's population were clinically obese in 2007/08
- Personal safety and security is seen as a barrier to walking and cycling (i.e. congested roads, poorly maintained surfaces, consideration of other road users)

National research indicates that if people felt more secure, 11.5% more journeys would be made on public transport

Reducing the levels of nitrogen dioxide emissions from transport

- Transport is currently the main source of nitrogen dioxide emissions in Leicester and the level of nitrogen dioxide along the main road network is well above the European directive threshold
- Population, housing and economic growth will result in additional demand on our transport network which could lead to an increase in nitrogen dioxide emissions

Reducing the levels of noise from transport

- There are approximately 200 dwellings (and associated population) in Leicester city to be investigated as a first priority due to noise from roads

Goal – Improve Quality of Life and a Healthy Natural Environment

- Provide and create more opportunities for better access to the natural environment and green space
- Particular areas where there is poorer access to the natural environment and green space including areas of the countryside edge in and around Leicester

- Particular groups of residents who experience barriers to / have difficulty in accessing the natural environment and green space include those in poor health, those with limited access to independent transport, those who experience higher levels of deprivation

Dealing with the negative effects of traffic, such as noise, vibration, severance, air quality and speeding, that impact upon local communities and the natural environment

- 80% of nitrogen dioxide in Leicester city is produced by road transport
- The most deprived communities in the city are more likely to be located in close proximity to local roads and therefore suffer more from the negative impacts of traffic such as noise, vibration and severance
- Travel demands resulting from future growth could lead to an increase in the negative effects of transport

Chapter 3:
The Transport Strategy

1. Transport Supporting One Leicester and the National Transport Strategy

1.1 The three key drivers for our transport strategy are the challenges identified in Chapter 2 sections 3, 4, 5 and 6 arising from analysis of current transport system performance and future challenges identified by One Leicester, Leicester City Core Strategy 2009 (land use planning) and the Government's national transport strategy "Delivering a Sustainable Transport System". The Leicester City Core Strategy 2009, and the core strategies of the adjacent district council planning authorities, have been influenced by and have influenced this transport strategy. The interaction between transport and land use is a two-way relationship. On the one hand, future travel demands will be shaped by future land uses while, on the other hand, changes in the disposition of land uses will be influenced by changes in accessibility provided by the transport system. We also contributed to the Leicester and Leicestershire infrastructure assessment and the economic assessment which in turn have both influenced the core strategies. The infrastructure assessment considers the infrastructure implications of housing and jobs growth. This is particularly important for Leicester as development under current policies is concentrated in urban areas. We have made sure that the assessments take into account the important role and need of transport to facilitate development and the protection and creation of jobs.

1.2 We have considered our One Leicester goals and priorities for action (Chapter 1 section 2) and how they align with and support the national transport goals (Chapter 1 section 5) and vice versa as illustrated in Table 3.1. This assessment indicates that there is a clear synergy and mutual support between the national and local goals. We have also considered the current transport system performance and future challenges discussed in Chapter 2 sections 3, 4 and 5 and from this process we have developed our transport vision and seven strategic transport objectives to focus our on-going sustainable transport strategy for Leicester.

1.3 Table 3.1 below shows how this strategy fits into the national and regional context and is driven by One Leicester. The vision, the strategic transport objectives and the strategies to meet those objectives are explained in the following chapters.

Table 3.1 One Leicester and National Transport Goals

One Leicester Goals	Delivering a Sustainable Transport System Goals				
	Supporting Economic Growth	Carbon Reduction and Tackling Climate Change	Contributing to better safety, security and health	Promoting equality of opportunity	Improving quality of life and promoting a healthy natural environment
Confident people	X		X	X	X
Greater prosperity	X		X	X	
Beautiful place		X	X		X
One Leicester - Priorities for action					
Investing in our Children			X	X	X
Planning for People not Cars	X	X	X	X	X
Reducing our Carbon Footprint		X	X		X
Creating Thriving and Safe Communities	X		X	X	
Improving well being and health		X	X	X	X
Talking up Leicester	X	X	X	X	X
Investing in skills and enterprise	X			X	X

2. The Vision for Transport in Leicester

2.1 Our vision is:

‘To help transform Leicester into Britain’s sustainable city that will be a great and prosperous place to live but also somewhere that does not place a burden on the planet in future years. Successful delivery of our local transport plan will enable us to take a really big step forward towards realising this ambition. It will also enable us to make more rapid progress in delivering attractive alternatives to car travel and to cater for some of the highest levels of housing growth in the country to 2026 and beyond whilst:

- Keeping congestion under control and improving accessibility for all, but particularly for deprived groups, to support a new prosperity with economic growth and new jobs
- Encouraging more people walking, cycling and using public transport to reduce carbon emissions
- Providing a transport system that facilitates for a safer and healthier way of life

Locally this translates into many more residents walking and/or cycling the shorter journeys in and around the city and using the bus for longer journeys, particularly into Leicester city centre, instead of using the car.'

3. Local Transport Goals

3.1 Leicester's local transport goals derived as explained in paragraph 1.2:

- Economic Growth Supported – Leicester is more prosperous
- Carbon Emissions Reduced – Leicester' carbon footprint is reduced
- Equality of Opportunity Promoted – Leicester's people are more confident
- Better Safety, Security and Health – Leicester's people are more healthy, safe and secure
- Population Growth is supported – Leicester's Population is increased in a sustainable manner
- Overarching Goal - Quality of Life and a Healthy Natural Environment are Improved - Leicester is a more attractive place

3.2 In weighting the goals, we have balanced the One Leicester Goals with those of Prospect Leicestershire – the Economic Development Company for Leicester and Leicestershire. This task has been heavily influenced by the need to facilitate the increasing demand for travel in Central Leicestershire arising from the forecast housing growth and regeneration of the city centre. We have also taken into account the need to deliver opportunity for all and to enhance quality of life including air quality improvements. Our decisions have been informed by the results of consultation exercises that have shown that the priority attached by the public and stakeholders to each of our six key goals is very high and reasonably equal.

3.3 One Leicester identifies "If we are to improve the city for everyone, we know we must take action to deal with the concerns that most worry our citizens, while addressing the main challenge that faces us today and in the future – damage to our environment" as our key challenge – following extensive consultation. Hence, we have determined that the two goals of:

- Economic Growth Supported – Leicester is more prosperous
- Carbon Emissions Reduced – Leicester' carbon footprint is reduced

are the main focus for this Local Transport Plan when seeking to determine investment priorities and set targets for the five strategic transport objectives. This process has determined the shape of our holistic strategy.

4. Leicester's Transport Objectives

- To Reduce Congestion and Improve Journey Times
- To Improve Connectivity and Access
- To Improve Safety, Security and Health
- To Improve Air Quality and Reduce Noise
- To Reduce Carbon Emissions
- Manage to Better Maintain Transport Assets
- To Improve Quality of Life

4.1 We have considered the current transport system performance and future challenges discussed in Chapter 2 and clarified the specific transport challenges to help Leicester meet its goals. Having clarified the transport challenges and developed local transport goals we have developed Transport Objectives to focus our Transport Strategies. Our transport objectives are grouped together under each of our Local Transport Goals:

Leicester's local transport goals and objectives:

Goal: Economic Growth Supported – Leicester is more prosperous
- Objective: To Reduce Congestion and Improve Journey Times

Goal: Carbon Emissions Reduced – Leicester' carbon footprint is reduced
- Objective: To Reduce Carbon Emissions

Goal: Equality of Opportunity Promoted – Leicester's people are more confident
- Objective: To Improve Connectivity and Access

Goal: Better Safety, Security and Health – Leicester's people are more healthy, safe and secure
- Objective: To Improve Safety, Security and Health
- Objective: To Improve Air Quality and Reduce Noise

Goal: Quality of Life and a Healthy Natural Environment are Improved - Leicester is a more attractive place
- Objective: To Improve Quality of Life (Overarching Objective)
- Objective: Manage to Better Maintain Transport Assets

Goal: Population Growth is supported – Leicester's Population is increased in a sustainable manner
- Objective: To Reduce Congestion and Improve Journey Times

5. Making it happen – developing the transport strategies

Generating our Policy Options

5.1 A key part of developing this Plan and hence the transport strategies in the following chapters has been to develop a list of policy instrument options for assessment against the Transport Objectives detailed in the preceding section of this chapter. This is a list of policy instrument options that could potentially be implemented on top of a basic “do minimum” case. The “do minimum” case comprises the existing transport network and infrastructure, plus initiatives and schemes that are already in the implementation stage. Initiatives and schemes that are already in the implementation stage include; On-street parking, residents parking schemes and Park and Ride for example.

5.2 In line with national guidance, the generation of options was not restricted to conventional transport interventions. In particular, a number of options were identified that were policy-based options from outside the transport field but that could potentially have impacts on the transport challenges of interest. Some of these would require action at a national level if the potential impacts were to be realisable in Leicester (and other cities).

5.3 We have developed an option generation assessment process based on policy instruments. We have drawn on a much wider set of schemes than might conventionally be considered. There are a number of tools to help with this process, both at the strategy and scheme level, however we have utilised those arising from Distilliate’s KonSULT project.

5.4 Our appraisal methodology is based on the guidance on appraisal contained within Web TAG. The identified transport options have been assessed against various criteria including their costs and benefits, non monetised benefits, greenhouse gas, air quality impacts and value for money. This has helped to prioritise the measures to be included in the LTP.

5.5 Measures and packages of measures to include in the LTP are then considered, not only the results of options appraisal, but an assessment of affordability, deliverability and risk are also considered in order to produce a balanced Plan.

5.6 Costs and benefits are then taken into account in determining LTP targets and monitoring arrangements along with estimating realistic trajectories for achieving targets.

Distilliate’s KonSULT project

5.7 KonSULT is a knowledgebase on Sustainable Urban Land use and Transport (www.konsult.leeds.ac.uk).

5.8 KonSULT provides detailed information on individual policy instruments and it has recently been updated to support the development of the third round of UK Local Transport Plans. It has been developed with support from the European Commission, the UK Department for Transport, the Engineering and Physical Sciences Research council and the Rees Jeffreys Road Fund.

5.9 It contains, amongst other thing, information on the policy instruments that are available to urban transport planners.

What are policy instruments?

5.10 Policy instruments are the tools which can be used to overcome problems and achieve objectives. They include conventional transport methods such as new infrastructure, traffic management and pricing policies, but increasingly they also involve attitudinal changes and use of information technology. Equally importantly, land use changes can contribute significantly to the reduction of transport problems. Policy instruments can be implemented throughout a city (for example a fares policy), or in a particular area (e.g. a light rail line), or at a particular time of day (e.g. a parking restriction). In many cases they can be implemented at different levels of intensity (e.g. for fares or for service levels).

What is the range of policy instruments?

5.11 Using the policy instruments identified by KonSULT as a guide we have identified 35 policy instruments for Leicester. It should be noted however the Policy Instrument 8 (Buses/Services) and Policy Instrument 17 (Parking) have been subdivided to allow greater clarity of scoring through the option sifting and prioritisation exercise.

5.12 There are several ways in which policy instruments can be categorised: land use measures; infrastructure provision; management of the infrastructure; information provision; attitudinal and behavioural measures; and pricing. The full range of policy instruments considered appropriate for Leicester is shown in the list below:

- Public Transport Focused Development
- Bus Corridors
- Bus Stations and Interchanges
- Bus Stops
- Ticketing
- Bus Fares
- Bus Information
- Buses/Services – Quality Bus Partnership
- Buses/Services – Lower Emissions
- Buses/Services – Low Floor
- Park and Ride
- Public Transport Routing
- Dial a Ride
- Rail
- Major Road Improvements (over £2m)
- Roads
- Traffic Management
- Traffic Lights
- Parking – Controls and Restrictions
- Parking – New off-street
- Charging (pricing)
- Car Schemes
- Low Emission Vehicles, Infrastructure and Initiatives
- Street Lights
- Freight
- Land Use Measures
- Working with Partners
- Journey Planning
- Campaigns
- Conventional Signs and Markings
- Variable Message Signs
- Pedestrian Facilities
- Training
- Maps
- Cycles
- Motorcycles
- Accident Remedial Measures
- Maintenance

How can performance be assessed?

5.13 All of these policy instruments will affect the performance of the transport system in one or more of three ways:

- By changing the demand for travel
- By changing the supply of transport facilities
- By changing the cost of provision and operation of the transport system.

5.14 Initial responses (e.g. changes in mode) may lead to secondary ones (e.g. increases in overcrowding). Each of these types of change will in turn affect performance against the objectives. It is this first principles assessment of the likely impact of a policy instrument which helps to assess its potential contribution.

Changes in demand

5.15 When faced with a new policy instrument, or with a change in an existing one, such as a fare increase, the individual traveller has a number of possible options:

- Continue as before
- Change the number of journeys made
- Combine journeys
- Change destination
- Change departure time
- Change mode (including mixing modes)
- Change route
- Change ownership of vehicles
- Change home

5.16 The scale of response will depend on the circumstances. Those who are directly exposed to a change will respond more strongly than those for whom the impact is indirect. Those who have fewer alternatives will be more reluctant to change. Longer term responses may well be stronger, as people have more time to respond, but the more dramatic responses such as changing work or home will depend on how permanent the change in policy appears to be.

Changes in supply

5.17 Changes in the supply of transport can take a number of possible forms as shown below:

- Changes in the capacity of the road or public transport network
- Changes in the allocation of road capacity
- Changes in permitted speeds
- Changes in the access cost or time to public transport
- Changes in the costs of use
- Changes in the information available

5.18 Some of these changes will have a direct influence on travellers, while others will only affect them if they are perceived.

5.19 For most policy instruments, it will be clear how they affect supply, but the scale of their impact may be difficult to assess.

Changes in costs

5.20 The principal types of costs are capital costs of new infrastructure, operating and administration costs, and costs of maintenance and replacement. These will be offset for some instruments by income from users and from taxes. Changes in these costs and revenues are crucial in determining whether an individual policy instrument, or the overall strategy, is affordable. It is often the case that low cost instruments will offer greater value for money than major infrastructure projects. The main types of change in cost are shown below:

- Changes in capital costs, usually through the costs of new measures
- Changes in the cost of vehicle operation for users, which are included in the supply costs above
- Changes in the operation costs for suppliers, including enforcement, administration, and public transport vehicle and driver costs
- Changes in the cost of maintaining and replacing the transport infrastructure and services

Our Methodology – The Sifting and Prioritisation Framework

5.21 Once the list of policy instruments had been developed, we undertook a sifting and prioritisation exercise. The purpose of the sifting exercise was to identify policy instrument options for consideration for the longer term transport strategy. These are to be developed during this local transport plan period as and when appropriate, options for consideration for implementation during the first four years of this local transport plan period and options that should be discarded prior to prioritisation. The criteria used to discard options were:

- Options that appeared unaffordable in the light of likely spending constraints and funding sources for the longer term
- Options that did not align well with Leicester's Local Transport Goals
- Options that were fundamentally counter to the current (Central Leicestershire) longer term transport strategy
- Options that would not give good value for money
- Options that are politically and/or publically unacceptable

Sifting Criteria Definitions

5.22 To help apply the sifting criteria above further definition was developed where appropriate. These criteria definitions are set out below in Table 3.1, with a red / amber / green classification against each criterion. The amber class was required as it was recognised that some options could only be defined in a broad sense at this stage - estimating costs presented particular difficulty with these. Where any option fell into the red category against any of these sift criteria, it was discarded from further consideration.

Table 3.2: Sifting Criteria Definitions

Criteria	Red	Amber	Green
1. Unaffordable in the light of likely spending constraints and funding sources for the longer term Public sector contr bution to capital cost (including allowance for ongoing maint nance) is in excess of £3 million in any given year or local authority contribution to revenue cost is in excess of £250, 000 per annum	Very likely to exceed these thresholds	Anticipated to be similar to these thresholds but insufficient information on costs available at this stage of option development process	Very unlikely to exceed these thresholds
2. Funding Source	No potential funding source can be ident fied	Funding source likely to be identified	Clear funding source identified
3. Options that did not align well with Leice ter's Strategic Tran port Objectives	Option only delivers tangible positive impacts on one obje tive and has little other merit as part of a complementary package of measures or Option results in tangible negative impacts on more than one objective		Option delivers tangible positive impacts on more than one objective or has merit as part of a complementary package of measures and Option does not result in tangible negative impacts on more than one objective
4. Options that were fundamentally counter to the current (Central Leicestershire) longer term transport straegy	Impacts are fund mentally counter to the current (Central Leicestershire) longer term transport straegy	Impacts are neutral to the current (Central Leicestershire) longer term transport straegy	Impacts positively support the current (Central Leiceste shire) longer term transport strategy

5. Options that would not give good value for money	Benefits anticipated to be less than costs	Benefits anticipated to exceed costs, or too little information	Benefits anticipated to significantly exceed costs
6. Politically and/or publically unaccep able	Very strong local political and/or public opposition expected	Some political, public, agency or stakeholder support but oppos- tion expected or issues to be resolved	Strong political, public, agency and stak- holder support gained or expected
7. Options that could be delivered within the next four years	No clear agreement on delivery mech nism. Majority private sector funding Prohibitive/unknown technical complexities High/unknown risk of approvals/ powers not being granted within time required to deliver within six years	Multiple delivery organisations but pu- lic commitment or lack of track record of delivery. Some private sector funding. Technology proven but details of option to be clarified. Powers in place, none required or no major issues expected within time required to deliver within six years or none required	Likely delivery agency identified and has experience in delivering similar interventions. Identified public fun ing source. Technology proven and feasible, Powers in, or could be put in place within time required to deliver within six years or none required
8. Options that would be delivered beyond the next four years	Very strong local, re- gional or national political and/or public opposition expected No clear agreement on delivery agency or likely delivery agency lacks track record of delivery in this type of intervetion. Majority private sector funding Prohibitive/unknown technical complexities High/unknown risk of approvals/ powers not being granted	Some political, public, agency or stakeholder support but oppos tion expected or issues to be resolved Multiple delivery oganisations but public commitment or lack of track record of delivery. Some private secto funding. Technology proven but details of option to be clarified. Powers in place, none required or no major issues expected	

5.23 The prioritisation exercise was conducted alongside the sifting exercise to identify policy instrument options to form part of the packages of interventions that make up our transport strategies for the next four years and where appropriate option packages for appraisal, in the following chapter(s), that in turn make up our transport strategies. The basis of the prioritisation exercise was to score the options against Leicester's Transport Goals (see section 3 of this chapter) and affordability and deliverability criteria. The performance of each option was scored on the following five point scale:

- -3 likely to have a very significant adverse impact
- -2 likely to have a significant adverse impact
- -1 likely to have some adverse impact
- 0 likely to have a broadly neutral impact
- +1 likely to have some positive impact
- +2 likely to have a significant positive impact
- +3 likely to have a very significant positive impact

The Sifting and Prioritisation Process and the evidence used

5.24 In order to undertake the sifting and prioritisation exercises, we made use of our extensive local knowledge including cost and deliverability of a wide variety of local interventions, the best available evidence from our local studies, regional and national studies in order to assess which class options should be placed in for the sifting exercise and what score they should be allocated in the prioritisation exercise.

For some options, significant feasibility, planning, design and appraisal work had already been done within the Leicester and Leicestershire area. For example, the 6Cs Congestion Management Study explored and investigated road user charging options and complementary measures.

5.25 Sifting and prioritisation was carried out on each policy instrument option using a standard pro forma developed by the transport strategy team. An example pro forma is provided as Table **3.2**. The completed pro forma for each option considered is provided in a separate "Leicester's Local Transport Plan 3 Option Assessment Report". The list of policy options and results of the sifting and prioritisation exercise are provided in Table **3.2**. Options that scored three or more "greens" in the sifting exercise, were identified as deliverable during the LTP3 period.

Table 3.3 Policy Option Sifting and Prioritisation pro forma

Option Assessment Summary		
Option Number: 9	Option Name: Park and Ride	
Description: New & Improved. For example: Provision of new park and ride service, car park on radial route into city, say 1,000 spaces		
Delivery partners: Leicester City Council, Leicestershire County Council, bus companies, Prospect Leicestershire, private developers and businesses		
Sift	Commentary	Assessment
Affordability	Scheme estimate £6 - 8m capital Revenue subsidy required in early years	
Funding Source	DfT – if major scheme bid, LTA and/or LTP Capital, developer contribution, private sector	
Options that did not align well with Leicester's Transport Goals		
Options that were fundamentally counter to the current (Central Leicestershire) longer term transport strategy	Included in current longer term transport strategy	
Value for money	Cost benefit ratio of more than one to be established during the preparation of the scheme business case	
Political/public acceptability		
Within first four years of LTP3	Unlikely – takes 4-6 years to implement	
Implementation beyond four years	Scheme currently included in the Regional Funding Allocation 2 programme for completion in 2017	
Prioritisation		Score
To Reduce Congestion and Improve Journey Times – Congestion Strategy		3
To Reduce Carbon Emissions – Carbon Reduction Strategy		1
To Improve Connectivity and Access – Accessibility Strategy		2
To Improve Safety, Security and Health – Road Safety and Active Travel Strategy		0
To Improve Air Quality and Reduce Noise – Improving Air Quality and Reducing Noise Strategy		1
To Improve Quality of Life		0
Manage to Better Maintain Transport Assets		0
Total Score		7

Assessment Result: Policy fits well with the transport objectives and has very positive sifting as sessment and good prioritisation score.
Transport Strategy: Scores highest for Reduce Congestion and Improve Journey Times
Comments: The key objectives behind the development of park and ride services have been to reduce: 1) congestion within city centres and along the approach roads to city centres; and 2) the environ mental externalities that have accompanied increasing traffic levels.

5.26 The option sifting and prioritisation exercises described in the preceding chapter have given the options to be included in the following transport strategy chapters. The options are grouped by Transport Objective at the beginning of each of the following strategy chapters. The options are explained in detail, along with a summary of the programme of interventions to deliver the strategies and targets set to help monitor progress.

Table 3.4 – Policy Instrument Options and Option Assessment Results Leicester's Policy Instruments

No.	Policy Instrument	Strategy	Score
		Primary large font	
24	Working with Partners Company Travel Plans School Travel Plans Cycling Health Education Bus Rail Taxi Business Environment	Congestion Low Carbon Accessibility Safety, Security & Health Air Quality	13
26	Campaigns To Promote Walking and Cycling Road Safety Education Campaigns Flexible Working Hours, Home Working Teleconferences, Teleworking Salary Sacrifice Branding	Congestion Low Carbon Air Quality Safety, Security & Health	13
1	Public Transport Focused Development Encouraging public transport use through Land Use Planning Development Densities and Mix Development Pattern	Congestion Low Carbon Accessibility Air Quality	10
30	Training Pedestrian Training Independent Travel/Valuing People Greener Safer Driver Training Safer Driving with Age (SAGE) Cycle Training Cycle Mechanic Projects	Safety, Security & Health Low Carbon Air Quality	10

3	Bus Stations and Interchanges New Improved	Congestion Low Carbon Accessibility	9
10	Public Transport Routing Bus rapid Transit Guided Bus Trolley Buses Trams Light Rail	Congestion Low Carbon Air Quality	9
18	Charging (pricing) Road user Workplace Parking Levy	Congestion Low Carbon Air Quality	9
23	Land Use Measures Developer Contributions Value Capture Taxes Planning	Congestion Accessibility Air Quality	9
25	Journey Planning Personalised (PJP) Individualised Marketing Trip Planning	Congestion Low Carbon Air Quality	9
28	Variable Message Signs Real-time Driver Information Systems Route Guidance Parking Guidance and Information Systems	Congestion Accessibility	9
35	Maintenance Roads Footway Cycle Routes Other TAMP	Safety, Security & Health Tamp	9
12	Rail New and Upgraded Rail Lines New Rail Stations New Rail Services on Existing Lines	Congestion Accessibility	8
16	Traffic Lights Urban Traffic Control (UTC) Systems Intelligent transport systems Information Technology Systems (ITS)	Congestion Low Carbon	8
29	Pedestrian Facilities Pelican Toucan Zebra Refuge Drop Kerbs Routes Link Footpaths Rowip Community Safety Lighting	Accessibility Safety, Security & Health	8
31	Maps General Cycle Walking Freight	Congestion Low Carbon Accessibility	8

32	Cycles Cycle Routes and Lanes Advance Stop lines Cycle Parking Cycle Hire Schemes	Accessibility Safety, Security & Health	8
34	Accident Remedial Measures Traffic Calming Local Safety Schemes 20mph Speed Limits Speed and Red Light Running Cameras Vehicle Activated Signs	Safety, Security & Health Congestion Quality of Life	8
2	Bus Corridors Quality Bus Corridors Bus Priority junctions Bus Lanes	Congestion Accessibility	7
5	Ticketing Off Bus Smart Card Interoperability Network	Congestion Accessibility	7
6	Bus Fares Decrease Structure Concessionary	Congestion Accessibility	7
7	Bus Information Static Real time passenger information	Congestion Low Carbon Accessibility	7
8 8a	Buses/Services QBP Contracted/Supported Relocation/Operational Times	Congestion Low Carbon	7
8 8b	Buses/Services Lower Emission	Low Carbon Air Quality	7
9	Park and Ride New Improved	Congestion Accessibility	7
14	Roads Junction Improvements High Occupancy Vehicle (HOV) lanes Red Routes	Congestion	7
15	Traffic Management Conventional Co-ordination of Streetworks Network Management	Congestion Maintain Assets	7

17 17a	Parking Standards Control of Car Parking Provision Control of Taxi Parking Provision On Street Charges Residents' Parking Schemes Parking Controls Physical Restrictions Regulatory Restrictions	Congestion	7
20	Low Emission Vehicles, Infrastructure and Initiatives Promotion Electric Car Charging Points Schemes/Zones Buses Taxis Low Carbon Signals Convert Street Lights to Low Carbon Other Low Emission Infrastructure such as low noise road surfacing, trees etc.	Low Carbon Air Quality	7
21	Street Lights Community Safety	Safety, Security & Health Low Carbon	7
22	Freight FQP Home Deliveries Lorry Routes and Bans Lorry parks Transhipment Facilities Rail Water	Congestion Low Carbon Air Quality	7
4	Bus Stops Additional Improved Level Access Bus Stops New Bus Shelters CCTV in Bus Shelters	Accessibility	6
13	Major Road Improvements (over £2m) New Roads Junction Improvements	Congestion Accessibility	6
19	Car Schemes Car Clubs Car Share including Ride Sharing Company Pool Cars	Congestion Accessibility	6
27	Conventional Signs and Markings Directional signs Freight signs Walking Cycling Markings	Congestion Safety, Security & Health	6
8 8c	Buses/Services Low Floor	Accessibility	5
11	Dial a Ride Service Levels	Accessibility Quality of Life	5

33	Motorcycles Routes and Lanes Parking	Accessibility	5
17 17b	Parking New Off Street	Accessibility	-4

6. How are we going to get there – delivering the Long Term Transport Strategy

6.1 In preparing our transport strategies we have used the "Eddington approach" (see Chapter 1 section 5). The Department for Transport accepted the Eddington recommendations of a four-stage evidence-based process for deciding which transport interventions should be funded:

(i) Start by being clear on the policy goals and desired outcomes;

(ii) Identify the key transport challenges drawing on detailed geographical analysis of pressures, and the improvements in performance sought, focusing on the 'whole journey' rather than particular stages or modes in a journey

(iii) Consider the full range of possible actions for meeting the challenges and delivering the improvements, including different modal options, and policies for making more efficient use of existing capacity as well as small and larger scale capacity enhancements and packages of policy measures; and

(iv) Prioritise limited public resources on those policies which most cost-effectively deliver Government's objectives, taking account of the full social, environmental and economic costs.

6.2 The implications for this Plan are that we must and have been able to show through our planning and monitoring that we have prioritised the interventions which offer the best overall return, and that we have a robust performance monitoring and review system in place. Our strategy is based on deliverable and realistic improvements to transport. The following chapters explain the strategies for the first few years of Leicester's journey. We have considered the challenges we face to meeting our local transport goals, set objectives and developed strategies to meet those objectives. We have set targets to focus our delivery and monitor our performance in meeting the goals. The targets for each goal are briefly explained in each chapter with the detailed analysis and explanations of the targets being provided in the accompanying Implementation Plans.

6.3 The strategy focuses on the development of an improved public transport network and significant new bus related infrastructure to accommodate the significant increase in the number of bus trips to Leicester city centre, in tandem with a series of demand management measures. This is backed up by a package of improvements to pedestrian and cycle routes, signing and the public realm. Demand management measures will include the intensive implementation of travel plans at businesses and schools, city centre parking regimes to reduce long stay spaces, expanding the on street charging zone, working with the hospitals to control on site parking, introducing decriminalized parking and

bus lane enforcement, expanding the areas covered by residents' parking controls, introducing more park and ride services, marketing and promotion of car alternatives including health and environmental benefits, all underpinned by easier access to buses. We recognise that there will be many non-bus trips and freight movements as well. We will continue to increase network efficiency to benefit all vehicles. The Local Transport Plan Programme to deliver all these interventions is detailed in our implementation plan.

6.4 The high level outcomes for the first stage 2011 - 2015 will be to continue to reduce the rate of growth of congestion and reduce carbon emissions from transport whilst accommodating the increasing demand to travel, to improve accessibility to jobs, services and leisure – particularly for deprived groups, and to encourage walking and cycling to improve health, whilst improving road safety. This will be achieved by introducing:

- A step change in quality and quantity of bus facilities in the city centre
- Inner city centre road alterations to allow for increased bus stopping and im proved circulation
- Small junction alterations to improve bus journey times and improve safety
- A comprehensive and coordinated behavioural change and travel promotionpackage
- A comprehensive and coordinated walking and cycling programme
- A comprehensive and coordinated road safety programme

6.5 The high level outcomes for 2026 are inevitably more aspirational. The majority of the many new person movements created by new jobs, housing and increased leisure opportunities towards the start of this period will be by bus. The increase in bus passenger numbers along key corridors would allow us to consider Mass Rapid Transit (MRT) in the longer term. With the right conditions prevailing and a satisfactory business case emerging we would envisage supporting MRT in the shape of two tram routes each crossing Central Leicestershire through the city. These will link hospitals and universities, park and ride sites, heavy rail and a reconfigured quality bus network. A greater emphasis on orbital services would feed passengers into the tram system and increase accessibility. There will be safe and accessible pedestrian and cycle networks with a high quality public realm all bringing a high quality of life. Towards the latter part of the period, we would see frequent fast electric train links to other cities both in the UK and, via London St Pancras and the channel tunnel, to Europe.

6.6 Our current strategy is delivering measurable success. Put simply, our future strategy is to do much more of the same but focuses on transforming bus termini facilities and bus routing in the city centre to accommodate and help sustain the city's and the surrounding area's economic and housing growth and thus protect existing jobs and facilitate the creation of new jobs. This focus is backed up by a determined effort on the softer interventions particularly travel planning and

encouraging and facilitating growth in bus travel, walking and cycling.

7. What Our Communities Say

7.1 Leicester's transport strategy has and continues to be shaped by feedback from residents, businesses and key stakeholders in Leicester and beyond through our on-going consultation and involvement process. We have a proven track record on participation and consultation dating back to before the first LTP. We have developed a database of nearly 400 stakeholders (rising from 70 in 2000) representing the business community, public service providers, environmental groups, disabled groups, ethnic minority groups and district councils as well as interested individuals. We are able to consult our stakeholders on any issue (most recently all were sent copies of our consultation leaflet for this Plan) and all are invited to our annual Local Transport Day (LT Day).

7.2 Now into its thirteenth year, LT Day is an opportunity for stakeholders to put their views directly to those responsible for transport strategy in the Leicester area. Many of the participants have been involved in the process for several years and have been kept up to date with all the relevant documentation. As a result the level of informed debate is high and many useful observations and ideas are shared. Following the event a booklet is produced outlining issues raised on the day and detailing ideas put forward during the workshop sessions. Responses to our feedback forms lead us to believe that this event is highly regarded by participants and the information we receive from the workshops serves as a barometer for us to gauge how closely our policies are aligned to informed public opinion.

7.3 Alongside the stakeholder database and LT Day, each year we carry out two major public consultation exercises – Public Ward Meetings and Focus Group Discussions. We use these exercises to find out how residents feel about the work we are doing and the direction they think we should be heading in. We have been doing this work since the inception of the first LTP and, as a result, have accumulated a data resource which allows us to say with some accuracy how public attitudes to transport strategy have evolved over the last five years. This knowledge has been useful in formulating this Plan.

7.4 A Transport Consultation Strategy has been developed which forms part of our Quality Management System. The aim of the strategy, which deals with both scheme-specific and strategic consultation, is to ensure that procedures are standardised and adhered to in all consultation exercises carried out by Highways and Transportation.

7.5 Through a mixture of organic growth, as in the case of the Stakeholder Database and the maintenance of existing partnerships, annual public consultation exercises, such as the Ward Meetings and Group Discussions, and directed expansion, such as the creation of links with the business community, we have built up a very comprehensive array of consultation / participation mechanisms. It is fair to say that through one or other of these mechanisms we have been able to receive feedback on our policies and implementation on a monthly basis. We believe this has meant that the design of our delivery programme has been

the result of an ongoing dialogue between the councils and our stakeholders, partners and the general public over the last ten years.

7.6 We began consultation and involvement for the Plan at our twelfth LT Day in 2009. Officers have made presentations to a wide range of groups between 2009 and up to December 2010 to ensure that key stakeholders were involved in the early stages of the development of LTP3. The general public was consulted by means of an "on-line" questionnaire and a leaflet outlining the main LTP goals, measures and headline targets between October 2010 and January 2011. This leaflet was distributed to all households in the city with the city council's community paper 'Leicester Link'. A questionnaire inviting comments on our proposals was included within the leaflet and the responses are being used to inform our choice of priorities for the LTP. In order to encourage wide participation in the consultation emails were sent to local businesses, all housing tenants and all city council employees, amongst others, at the beginning and the middle of the consultation period, inviting/reminding them to complete the online questionnaire.

What the people of Leicester say

7. 7 What our citizens require from their transport system has played an important part in putting this third local transport plan together. We have consulted with groups representing particular sections of our community, from the early stages of the development of the Plan and we have carried out extensive consultation with the general public. All their views and requirements have been paramount in the preparation of the Strategy and whilst there are conflicting needs and opinions, consideration has been given by officers and through consultation to come up with a strategy which best serves the current and future requirements of our city and our citizens. The consultation was carried out in three stages.

7.8 The first stage was to work with community groups to establish the problems/ challenges faced by these groups when travelling in and around Leicester, and what they would like transport to become in the future (the goals). This stage was carried out in conjunction with Leicestershire County Council, and stakeholders such as The Health Authority, The Police, The District Councils, The Business Council, Older People's Forum, Young Peoples' Forum etc were invited to discuss transport. A document called 'Local Transport Planning in Leicester and Leicestershire'[5] outlining the challenges, vision and goals was presented at forums and meetings and was emailed to stakeholders in June 2010. Of the 150+ groups consulted, 93% agreed wholly or in part with our proposed vision, 84% agree wholly or in part with the proposed goals, and 84% agreed wholly or in part with our objectives. The stakeholders consulted showed a willingness to work with the Local Authority to put the plan together and requested close relationships between the LTP and other strategies such as the Air Quality Action Plan, Core Strategy, Green Infrastructure Strategy etc. The original timeframe proposed for the plan was six years. However, many of the groups expressed concern that it was too short a period and that it should be in line with the Local Development Framework timescale and the Local Transport Plans of neighbouring authorities.

[5]*Leicester's third Local Transport Plan Evidence Base*

Therefore the timescale was amended to 15 years. Challenges around using public transport to access employment were major concerns for both the long and short term and the encouragement of more active travel was considered an important short term objective. The Vision, Goals, Challenges outlined in Chapter 3 have been informed by this first stage of consultation.

7.9 The second stage was to identify what actions we will need to take to tackle the identified challenges and achieve the goals required by our citizens. We used the DISTILLATE, konSULT option generation tool to develop a list of options and then worked with stakeholders to make this standard list of options more appropriate to Leicester. This required more in depth work with stakeholders and community groups and we held 14 workshops with disability, cyclist and access groups; 12 focus group meetings[6] (these are held annually with groups such as car commuters, business owners, older people, parents of young children) and; a Local Transport Day[7] when 76 stakeholders attended, all to discuss the third local transport plan. The list of options considered for the third local transport plan are listed in the Options Assessment Report discussed in chapter 3, section 5. The options highlighted of particular importance by our stakeholders were working with partners, campaigns, better training for transport workers and users, more information provision. Generally there was more emphasis on softer measures than infrastructure provision although better integration of transport services was often mentioned. The options assessed in the Options Assessment Report have been informed by this stage of consultation.

7.10 The third stage was to prioritise the options and to develop the best packages of measures to implement over the next 15 years. It was at this stage that we sought the views of the general public. The consultation leaflet went out as the centre pages of LINK, Leicester's Community Newsletter reaching 32,000 households[8] . Along with this, local businesses, housing tenants and the stakeholders consulted in the first two stages were emailed a link to the leaflet and an online questionnaire. The leaflet and questionnaire asked the readers to rank the objectives in terms of importance and then identify which options they felt would be best to achieve the objectives. We received over 250 responses to the questionnaire. Whilst there was very little difference in the importance people gave to the objectives, 'Improving connectivity and access' along with 'reducing congestion and improving journey times' were given the most importance. The five actions, which the general public voted as most likely to help achieve all the objectives are;

- Provide more opportunities for people to walk or cycle
- Improve public transport infrastructure, ticketing and informatio
- Maintain and extend existing bus services
- Introduce trams
- Support more low emission vehicles

[6]*Leicester's Local Transport Plan, Discussion Group Meeting Consultations FINAL REPORT, November 2010*
[7]*Leicester's Local Transport Day 10th November 2010, FINAL REPORT*
[8]*Heading in the right direction, Leicester LINK, November edition*

7.11 Table 3.5 below shows the top five actions the general public felt would best achieve the agreed objectives. Although, these results do not exactly match the results of the options assessment study we undertook, the package of measures we have considered in each chapter are a combination of the results of the consultation and the options assessment results.

Table 3.5 Top Five Actions Identified from Public Consultation

To reduce congestion and improve journey times	To improve connectivity and access	To improve safety, health and security	To improve air quality and reduce noise	To reduce carbon emission	To better maintain highway and transport infrastructure
Improve public transport by developing priority lanes, better ticketing, more information, better bus shelters.	Maintain and extend existing bus services	Install traffic calming, safety cameras, vehicle activated signs and more 20mph zones	Support more low emission vehicles	Support more low emission vehicles	Repair potholes
Maintain and extend existing bus services	Improve city centre bus arrangements e.g. better routes and more stands	Continue to provide road safety education and training	Implement measures to reduce traffic noise	Provide more opportunities for people to walk or cycle - better information, more crossings, cycle lanes, maps/route planners	Maintain footways and main roads
Provide more opportunities for people to walk or cycle - better information, more crossings, cycle lanes, maps/route planners	Improve public transport by developing priority lanes, better ticketing, more information, better bus shelters.	Improve street lightning	Provide more opportunities for people to walk or cycle - better information, more crossings, cycle lanes, maps/route planners	Introduce trams	Improve public transport by developing priority lanes, better ticketing, more information, better bus shelters.
Improve city centre bus arrangements e.g. better routes and more stands	Introduce trams	Provide more opportunities for people to walk or cycle - better information, more crossings, cycle lanes, maps/route planners	Introduce trams	Run more campaigns (e.g. to pro mote walking and cycling, car clubs)	Improve traffic management (traffic lights, yellow lines, co-ordination of street work).
Introduce trams	Build facilities closer to where people live.	Repair potholes	Run more cam paigns (e.g. to promote walking and cycling, car clubs)	Improve street lightning	Carry out a programme of bridge strengthening and major maintenance

8. Developing the Strategy with Partners

8.1 The Audit Commission report, following the Best Value Review of Highways and Transportation Services in 2002, recognised that we have good partnership working with the county council, bus operators, freight transport bodies, adjacent district councils, the police and others. We have continued to develop this work and our partners have been heavily involved in developing the strategy over the years. Delivering the strategy with our partners is explained in detail in the implementation plan.

8.2 The former MAA Transport Group met on a monthly basis and closely followed, discussed and influenced the development of this Local Transport Plan and that of Leicestershire county council. This was the main wider strategic group that has influenced the development of the plan. We have also continued to maintain regular contact with our Local Strategic Partnership and all have been involved in the development of the LTP strategy and been given the opportunity to comment on it.

8.3 We play an active part in the Leicester, Leicestershire and Rutland Road Safety Partnership and each of the members of the Partnership have helped each other develop their road safety strategies.

8.4 Leicester City Council has a Director of Public Health and Health Improvement shared with Leicester City NHS. This has led to an increased and more formal approach to joint working on road safety and active travel in particular.

9. The Strategic Environmental Assessment (SEA)

9.1 In July 2010 we consulted on the scoping report for this Plan's SEA. The approach taken in the report was to consider each of the proposed measures for achieving the LTP goals with regard to their likely environmental impact. The insights gained from the Scoping Report will allow us to amend LTP strategies to bring about positive environmental outcomes. The draft Environment Report was consulted upon in parallel to the main public consultation on this plan, between December 2010 and January 2011.

9.2 The SEA Final Report concludes that Leicester City's LTP3 policies will cause no significant adverse environmental or health effects, nor will they close down any options for the future. The LTP demonstrates sufficient ambition for a sustainable transport system to be considered good practice.

9.3 However, there are concerns that the substantial environmental and health gains made during the LTP2 period may be compromised because of the need to reduce expenditure, and that the progress envisaged by the 2008 One Leicester Sustainable Communities Strategy may not be achieved by the target date of 2013. There are particular worries in the areas of: promoting bus travel, cycling and walking as viable alternatives to the car; reducing traffic growth, congestion, pollution and carbon emissions; and in continuing to reduce road casualties and encouraging more active travel as part of promoting healthy lifestyles.

10. Health Impact Assessment

10.1 The health impact assessment has been carried out as part of the Strategic Environmental Assessment – see paragraph 9.1.

11. Equality Impact Assessment

11.1 For many years Leicester has been home to a diversity of peoples, many of South Asian, African Caribbean or African descent. During the period of LTP2, the nationality and ethnicity of new people arriving in Leicester has been changing. Specifically we now have significant groups of Slovakians, Portuguese and Zimbabweans living in Leicester. Harmonious relationships between all communities in Leicester are paramount for the safe and prosperous development of the city. The challenges that a multi-ethnic population presents are significant. Leicester also has people of differing needs in terms of provision of transport services to allow them to readily participate in everyday life. During the preparation of this plan we have actively engaged in people with disabled people, including those with learning difficulties and people with physical and sensory impairments, We have also been mindful of Leicester's higher than national average number of young people and the growing number of older people, and have included both groups in all stages of the consultation.

11.2 The city council was externally validated as having achieved level four of the Equality Standard for Local Government in April 2008. The Equality Standard was, however, replaced by the Equality Framework for Local Government in April 2009. The Equality Framework has three levels (compared to the Standard's five): developing, achieving and excellent. The council aims to be externally validated against the 'excellent' level in March 2011.

12. Consideration of Disabled People's Needs in Strategy Development and Delivery

12.1 We have and continue to consider the needs of disabled people specifically checking our proposals through the equality impact assessment process described above.

13. Hierarchies

13.1 In order to identify and address the needs of all road users and to maximise the benefits of the existing transport system, we developed in LTP2 a Road User Hierarchy (User Classification) and Road Hierarchies. These hierarchies are now established and they have proved most useful. In view of this we will continue to use these same hierarchies in LTP3. This is also important as it ensures that the needs of vulnerable road users and sustainable forms of transport are fully considered within scheme design and policy implementation. The priority given to each user at any point on the network is clearly defined, allowing proper investment and maintenance to be targeted to greatest effect. We are currently assessing the whole city highway network for categorization. This is determined by functionality and scale of use, not necessarily just road classification. We may refine the categorisations and classifications in the light of experiences we gain

during this exercise.

14. User Hierarchy

14.1 The Road User Hierarchy (User Classification) is defined in order as:

1. Pedestrians
2. Cyclists
3. Public transport passengers
4. Other motorised vehicle users

14.2 To help us decide on the priority for dealing with the competing demands in the management of the network, and so help us decide which activity gets a higher priority, we also have a Traffic Management 'User' Hierarchy defined in order as:

1. Pedestrians
2. Emergency services
3. Utilities and highways - immediate (including emergency) works
4. Cycles
5. Public transport
6. Freight distribution
7. Blue badge holders
8. Other motorised vehicle users
9. Utilities and highways - planned works
10. Scaffolding, hoarding and skips

Road Hierarchy

14.3 The Road Hierarchy is defined in order as follows:

1. Strategic Routes with priority for Freight Movement
2. Strategic Routes with priority for Public Transport
3. Strategic Routes with priority for Motorised Traffic generally
4. Local Distributor Roads in commercial development
5. Local Distributor Roads in residential development
6. Local Access Roads
7. Cyclist Routes
8. Pedestrian Routes
9. Rights of Way

14.4 We will take this hierarchy into account in considering improvements along any part of the transport network. Good pedestrian access is required to support the use of public transport and appropriate, safe pedestrian and cycle facilities will need to be considered on all routes.

14.5 In the context of the three types of Strategic Route as detailed above the highest priority is assigned to freight, public transport or general motorised traffic, depending on the type of Strategic Route, as defined above. The Road User Hierarchy will complement the Road Hierarchy. It will ensure that all proposed highway works will be subject to a rigorous audit procedure based on the User

Hierarchy. Thus the most appropriate pedestrian / cyclist / public transport facilities are delivered on the network, subject to the primary consideration of the Road Hierarchy priority modes.

14.6 On Local Distributor Roads there is a need to accommodate motorised traffic but these roads will not be signed for through traffic and freight traffic will be discouraged in residential areas. Priority within the motorised traffic element will vary depending on the circumstances of the individual route, such as whether or not it is a significant bus route. This in turn affects the type of pedestrian/cyclist/ public transport facilities incorporated. Application of the Road User Hierarchy however, will ensure that the maximum possible priority is given to pedestrians and cyclists on these routes. On Local Access Roads (including residential, service and pedestrianised roads) pedestrians receive the highest priority, followed by cyclists. Further prioritisation will depend on the circumstances of the individual road, such as use by public transport or service vehicles.

14.7 Footway, cycle route and public rights of way hierarchies have also been defined in order, to assist with investment, surfacing choice, safety inspections and maintenance priorities. We have predetermined footway safety inspection intervention levels to help reduce casualties from trips and to ensure Value For Money (VFM). The hierarchies are as follows:

Footways

1a.Prestige Walking Zones
1b.Primary Walking Routes
2. Secondary Walking Routes
3. Link Footways
4. Local Access Footways

Cyclist Routes

1. Cycle route forming part of the carriageway
2. Cycle route not forming part of the carriageway
3. Cycle trails and leisure routes

Public Rights of Way

1. Longer Distance Footpath Routes
2. Strategic Footpath Routes
3. Leisure Footpath Routes
4. Bridleways
5. Other Access Routes

14.8 The categorisation of all the links of each network is currently progressing and maps are being produced clearly displaying the category of each link.

14.9 We identify the needs of all road users through comprehensive consultation strategies. Equality and safety design audits are carried out as part of any scheme design process. We have commenced a programme of equality impact assessments for all elements of service delivery. We carry out regular consultation events with the public, stakeholders and partners to identify need. The results of this consultation feed into our programme development. All customer contacts with us are recorded and also fed into the programme development. As examples, due to the increasing requests for pavement repairs, we have allocated more money to put them right and also allocated proportionately more to those pavements with high pedestrian volumes.

14.10 Footway, cycle route and public rights of way hierarchies have also been defined in order, to assist with investment, surfacing choice, safety inspections and maintenance priorities. We have predetermined footway safety inspection intervention levels to help reduce casualties from trips and to ensure Value For Money (VFM). The hierarchies are as follows:

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4. Local Access Footways

Cyclist Routes

1. Cycle route forming part of the carriageway
2. Cycle route not forming part of the carriageway
3. Cycle trails and leisure routes

Public Rights of Way

1. Longer Distance Footpath Routes
2. Strategic Footpath Routes
3. Leisure Footpath Routes
4. Bridleways
5. Other Access Routes

14.11 The categorisation of all the links of each network is currently progressing and maps are being produced clearly displaying the category of each link.

15 Winter Service Hierarchy

15.1 In order to address the needs of users during cold weather, we regularly review our winter service plan. The winter service hierarchy has been developed and is shown briefly as follows. It is kept under review and the highways to be treated are shown on the council's web site, in libraries and a print version is available.

Carriageways

15.2 The primary gritting route receives precautionary gritting and consists of main roads, major commuter routes and known trouble spots and other important bus routes.

The secondary gritting routes cover other important links but they receive no precautionary salting treatment unless requested by the police. The extent to which these roads are dealt with in icy conditions will depend on the severity of the conditions, availability of resources and the length of time the conditions prevail.

The winter service plan has been developed in advance of the winter season to assist in determining priorities in such conditions.

Footways, Pedestrian Areas and Cycleways

15.3 Snow clearance work is carried out in order of priority using available resources:

1. City centre shopping areas
2. Outlying or non city centre shopping areas
3. Locations notified by the police on footways or pedestrian areas (with the rel evant Incident Number)
4. Areas near schools, hospitals, old person's dwellings, and other areas of high pedestrian risk.

15.4 Footway, cycle route and public rights of way hierarchies have also been defined in order, to assist with investment, surfacing choice, safety inspections and maintenance priorities. We have predetermined footway safety inspection intervention levels to help reduce casualties from trips and to ensure Value For Money (VFM). The hierarchies are as follows:

Footways

1a. Prestige Walking Zones
1b. Primary Walking Routes
2. Secondary Walking Routes
3. Link Footways
4. Local Access Footways

Cyclist Routes

1. Cycle route forming part of the carriageway
2. Cycle route not forming part of the carriageway
3. Cycle trails and leisure routes

Public Rights of Way

1. Longer Distance Footpath Routes
2. Strategic Footpath Routes
3. Leisure Footpath Routes
4. Bridleways
5. Other Access Routes

Chapter 4:

Reduce Congestion and Improve Journey Times
The Congestion Strategy

1. Introduction

The Goals we are helping to achieve in this chapter are:

National Goal: Economic Growth Supported – Leicester is more prosperous

Local Goal: Population Growth is supported – Leicester's population is increased in a sustainable manner

The four strategic challenges, identified in Chapter 2, addressed by our Congestion Strategy are:

1. Addressing issues associated with the reliability, availability and predictability of journey times, particularly on key strategic routes and in the city centre

- Traffic flows on our roads have been rising strongly over recent years, although there has been a recent interruption to this trend due to the recession, which is seen as a temporary impact
- There is peak period congestion on Leicester's arterial routes and ring roads
- Poor public transport interchange and lack of kerb space for buses in Leicester city centre

2. Tackling recurrent / non-recurrent delays on our transport system

- Accidents and incidents cause congestion on Leicester's arterial routes and ring roads

3. Ensuring that future population, housing and economic growth does not lead to demand for travel that has adverse operational effects on our transport system

- Our population is growing at a faster rate than regionally or nationally
- Significant levels of housing growth are planned for Leicester and Central Leicestershire between 2011 and 2026
- Road traffic freight is predicted to increase significantly between now and 2020

4. Ensuring that the availability of car parking in Leicester City (in terms of both levels and location) are sufficient to meet the needs of businesses and support the economy, whilst not adversely affecting the positive benefits of sustainable transport

- Some sectors of the business community cite a lack of parking for staff and customers in Leicester city as a potential barrier to inward investment

1.1 Following the identification of the strategic challenges we identified a number of Policy Instruments, utilising a similar methodology to that developed for Kon-SULT by University of Leeds, we undertook a sifting and prioritisation exercise. The purpose of the sifting exercise was to identify options for consideration for the longer term transport strategy to be developed during this local transport plan period as and when appropriate. The Policy Instruments that are considered to have the greatest impact on congestion are listed below:

The Policy Instruments

No.	Policy Instrument
1	Public Transport Focused Development
2	Bus Corridors
3	Bus Stations and Interchanges
5	Ticketing
6	Bus Fares
7	Bus Information
8	Buses/Services
9	Park and Ride
10	Public Transport Routing
12	Rail
13	Major Road Improvements (over £2m)
14	Roads
15	Traffic Management
16	Traffic Lights
17	Parking
18	Charging (pricing)
19	Car Schemes
22	Freight
23	Land Use Measures
24	Working with Partners
25	Journey Planning
26	Campaigns
27	Conventional Signs and Markings
28	Variable Message Signs
31	Maps
34	Accident Remedial Measures

The most effective Policy Instruments will be packaged and be included in the Implementation Plan.

1.2 The big challenge is to help transform Leicester into Britain's sustainable city that will be a great and prosperous place to live but also somewhere that does not place a burden on the planet by making more rapid progress in delivering attractive alternatives to car travel and to cater for some of the highest levels of housing growth in the country to 2026 and beyond and the corresponding increase in jobs. We need to keep congestion under control whilst growing the economy, protecting existing jobs and creating new jobs. We need many more residents walking and/or cycling the shorter journeys in and around the city and using the bus for longer journeys, particularly into Leicester city centre, instead of using the car.

1.3 We need a transport system to underpin the low carbon, high population, sustainable economy that we are striving to encourage. We need to ensure that Leicester and Leicestershire function sustainably on a daily basis and are attractive to private investment. Urbanisation is increasing, bringing forth agglomeration and other benefits, but we need to ensure that the associated tendency for increased congestion brought about by economic growth doesn't undermine our competitiveness and prosperity. Our focus in this chapter is on how we will facilitate an efficient and effective transport system by managing congestion and working towards more pleasant bus travel with reduced bus journey times, whilst supporting the increased demand to travel.

1.4 We have a strong record of partnership working, working across service boundaries and working towards a sustainable transport system focused on both the harder and softer interventions but we need to do more.

1.5 We need to ensure that the delivery of our congestion objective also contributes to the delivery of our air quality and carbon objectives by:

- Managing distance travelled – total vehicle mileage
- Emissions per vehicle-mile
- Traffic flows past critical points (particularly where relevant human exposure occurs)

Other important factors also include traffic speed, levels of stop-start driving, driving style, gradient and vehicle maintenance.

1.6 We have over the last 12 years successfully worked hard to provide quality bus corridors from the suburbs located on the edge of the city and in the county area into the city centre. As a result we have increased bus patronage by 6% between 2003/04 and 2009/10, despite recent losses due to the economic position (in 2007/08 patronage in the LTP area was 11% higher than in 2003/04). The current indications, comparing the equivalent emerging figures for the current year against last year, are that bus patronage is again beginning to increase. Our success has, however, led to congestion of both buses and passengers within the city centre. The bus infrastructure in the city centre has generally become run down and inadequate to attract car users from their cars. There has been little investment over the last 15 years, since the Haymarket bus station was provided with temporary shelters that are still there. There is now a marked deficit in both the quality and quantity of bus infrastructure in the city centre. St Margaret's

bus station is an exception but not quite in the best location.

1.7 We have identified a need for public transport improvements in the city centre and our immediate emphasis is to develop a package of public transport measures that will reduce city centre congestion, improve quality of bus infrastructure and public realm and improve access to the city centre whilst demonstrating value for money. The scheme will include improvements in services, information systems, bus re-routing and passenger facilities. We will provide effective public transport infrastructure for the years ahead and in an affordable manner as an appealing and feasible alternative for car users and so attract car users from their cars.

1.8 Our research has led us to conclude that smarter choices have a significant contribution to managing congestion in Leicester but we do need to ensure we have quality alternatives to car travel that we can successfully promote. Our success will be limited without significant public transport improvements in the city centre.

2. The Current and Future Situation – The Challenges and Opportunities

The existing transport system in Central Leicestershire

2.1 As described earlier in chapter 2, the current mixed use car, bus and freight transport system is based on a classic city centre hub and spoke (radials) arrangement. The road network has few links without junctions and accesses. The inner ring road and radial approaches to it have closely spaced busy junctions which cause slow traffic speeds. This was evident from the urban speed surveys that DfT used to carry out on an occasional basis. DfT's fifth traffic speed survey for urban areas (2004) showed an average peak (7.30am - 9.30am) traffic speed of 15.5mph with off peak being 19.1mph.

2.2 This is also reflected in the results of the DfT's recently published (Nov 2010) assessment of flow-weighted average vehicle speeds for the weekday morning peak on locally managed 'A' roads, which ranked Leicester in 2009/10 as 9th from bottom with an average speed of 16.7mph. This put Leicester only just above the average for London as a whole and Nottingham (both with 16.5mph). These speeds are low compared with most other English urban areas (the overall average for England was 25mph).

Setting the scene

A Typical Day in Leicester

- Travel focused on city centre
- 245,000 people/day cross outer ring road
- 120,000 people/day cross inner ring road
- 80,000 walk by Clock Tower
- No spare capacity into city at peak periods
- No spare bus capacity in city centre

2.3 A snapshot of the 34,500 people entering the city centre located within the inner ring road each weekday in the peak period of 7–10am, counted in our 2010 cordon survey, is:

- 41.5% (14,300) by bus
- 36.4% (12,600) by car
- 20% (6,900) walking
- 1.4% (480) by cycle
- 0.7% (240) motorbikes/scooters and HGV

2.4 The average car occupancy is 1.34 persons per car. There are around 2,200 passenger arrivals at the Leicester Railway Station each day between 7-10am. This represents 6.4% of the 34,500 figure above although train passengers go on to destinations other than those within the inner ring road. There has been no change in 'peak spreading' on the peak hour 8am – 9am of the 7am – 10am peak period, with a consistent factor of 0.40 – 0.41 over the last 20 years. But there has been a slight shift from the 7am – 8am (0.30 → 0.25) to the 9am – 10am period (0.30 → 0.34).

Current Performance

2.5 An analysis of available data has concluded that the radial routes have little spare capacity during the peak hours of 8–9am and 5–6pm. We have used junction delays and journey times backed up by feedback from consultation and the bus companies. Conditions can quickly deteriorate due to any planned or unplanned events in critical locations. Congestion is particularly sensitive to unplanned events on and in the vicinity of the inner ring road. The shoulder hours (e.g. 7–8am and 9–10am for the am peak) do have spare capacity but again unplanned events have a disruptive impact. The data shows that there has been limited peak spreading in recent years, whereby drivers take advantage of the better conditions in the shoulder hours. This is evident from our analysis of vehicle numbers entering the city centre each weekday.

2.6 There is a comprehensive bus service by three main companies, now supplemented by other smaller operators, during the working day Monday to Saturday. This is rather patchy and infrequent in the evenings and on Sundays. The councils financially support a number of non-commercial services. The Midland Mainline railway with an excellent service (as evident from our consultation) to London, Loughborough, Nottingham and Derby passes through the city centre north to south. There is a rail line to Birmingham branching off at Wigston and a passenger and freight line branching off to the east at Syston towards Melton Mowbray, Peterborough and Stansted Airport. The main line through Leicester station is also a key national freight route and there is a lightly used freight only line branching off to the west, north of the station. The East Midlands Airport (EMA) is located in the north west of Leicestershire. It is the leading UK airport for dedicated freight only aircraft.

Analysis

2.7 We have used a number of data sources and tools to help us in our analysis including cordon counts, automatic continuous counting data for vehicle volumes, journey time surveys, GPS data showing vehicle movements and journey times provided by DfT and the Ptolemy regional model. We have defined the peak as 7–10am inbound only.

Growth in Population and Housing

2.8 Both Leicester and Leicestershire, under current planning scenarios and core strategies are due to experience significant population and housing growth, as mentioned in chapter 2. The current figures are 45,000 new homes by 2026 in the Leicester urban area (Central Leicestershire) and 90,000 in Leicester and Leicestershire combined. This would give rise to a significant increase in travel to 2026 that could be of the order of a 20% increase. A similar rate of build is expected to 2031. With the change in national government these growth figures could be fluid at the time of LTP preparation. As a hypothetical example, if the build rate were say half, the numbers would still be big and would still give rise to a significant increase in travel and trips.

Cordons and Zones

2.9 We have four cordons and a screenline running north to south for data collection and analysis. The cordons contain the zones within their boundaries. These are illustrated on Maps A,B & C at the back of this document and are defined as follows:

- Inner transport zone (ITZ) – the retail and commercial area within the inner ring road.
- Central transport zone (CTZ) – an area covering the central employment zone.
- Intermediate transport zone (IntTZ) – the area within the outer ring road.
- Outer transport zone (OTZ) - the area within Central Leicestershire (not on plan) – the urban area of greater Leicester.

2.10 Comprehensive monitoring currently takes place on the ITZ just inside the inner ring road, on the CTZ and on the screenline, covering trips by all modes. Car and bus occupancy is only collected at a sample of sites for the IntTZ cordon. The CTZ lies further out from the inner ring road to encompass the whole of the central employment zone, including the shopping centre, main car parking areas and major employers such as the universities and the hospital.

Person Trips and Vehicle Flows

2.11 We have shown peak 7 – 10am inbound existing person trips and vehicular flows along each main radial on Map D which is located at the end of Part A after

page 257 (NOT AVAILABLE FOR DRAFT LTP). Similar data is shown for flows into the ITZ for both the peak and all day. Current vehicle flows were turned into car person trips using surveyed car occupancy rates. For total person trips into the ITZ we have added surveyed bus passengers. We also have access to the bus company data from their 'wayfarer' electronic ticket machines.

Working with Partners

2.12 This working is described in detail in chapter 1 section 3 and has particularly influenced the development of the congestion strategy.

Working with Partners – The Highways Agency Contribution

2.13 We actively engage with the Highways Agency (HA) to ensure that the HA policies mesh with, and bring added value to, the local strategies. We have meetings with HA staff on an ongoing basis and the HA is a member of the Leicester and Leicestershire Freight Quality Partnership. We have shared drafts of the LTP with the HA, whilst under preparation, and then made appropriate changes. Relevant policy issues have been to:

- Develop a methodology and agree with HA the definition of highway boundaries and the future boundaries of responsibility
- Identify, disseminate and co-ordinate HA and local authority issues including future schemes and developments

2.14 The Traffic Management Act 2004 imposes a network management duty to co-ordinate proactively with neighbouring authorities to ensure the network, as a whole functions efficiently. We engage with the HA to ensure that this is achieved.

Traffic Management – The Traffic Management Act (TMA)

2.15 We are exploiting this legislation to maximise the value that the existing transport network can add to our congestion strategy. We have a TMA duty to manage our network to secure the expeditious movement of traffic. This includes all road users including cyclists and pedestrians, and a duty for each transport authority to appoint a Traffic Manager. Congestion broadly falls into two elements: the varying demands on the physical network and congestion caused by planned and unplanned events – the latter is addressed in this section. We have a clear understanding of the challenges faced locally and we have already started to act to address these challenges, as explained below. Having considered the opportunities presented by the TMA, we see implementation of the various elements overlaying our congestion strategy at every opportunity. Our response to the duty follows.

2.16 In order to identify and address the needs of all road users and to maximise the benefits of the existing transport system, we have developed a Road User Hierarchy (User Classification) and Road Hierarchies (see Chapter 3). This is also important as it ensures that the needs of vulnerable road users and sustainable forms of transport are fully considered within scheme design and policy imple-

mentation. The priority given to each user at any point on the network is clearly defined, allowing proper investment and maintenance to be targeted to greatest effect. The categorization of the city highway network is determined by functionality and scale of use, not necessarily just road classification.

2.17 We have good partnership working with the county council, bus operators, freight transport bodies, adjacent district councils, the police and others.

2.18 We work closely with neighbouring authorities and the HA to manage the network efficiently. We have an advanced traffic control centre in Leicester that controls most of the traffic signals in the city, the county and Rutland. It has direct links to the HA and the police. Key parts of the network are also covered by CCTV and the images are observed in the Leicester traffic control centre. Any problems are quickly identified and action taken to minimise the impact. The public are immediately informed if necessary by direct radio broadcasts to the local city and county area and Rutland. We have a joint LTP to ensure that the local network is considered in total regardless of administrative area. We also have the StarTrak real time bus information system that is fully integrated in the city/county to ensure that the bus network as a whole functions as efficiently as possible.

2.19 The appointed Traffic Manager at the city is a member of the senior management team in highways and transport. This ensures that the programme of schemes in this LTP supports the wider obligations of the TMA. Specifically, it supports the overarching duty to ensure the expeditious movement of all traffic and road users including bus passengers, cyclists and pedestrians. A significant example demonstrating the duty was in the replacement of the Upperton Road Viaduct. Following concerns raised during consultation, a temporary diversion route was provided during the 18 month construction of the scheme to ensure connectivity of both sides of the viaduct for vehicles, pedestrians and cyclists. Congestion levels would have increased considerably on what might have been the diversionary routes if we had not decided to provide the temporary road. This would also have impacted on emergency and other vehicles accessing the nearby regional hospital – the Leicester Royal Infirmary. Two regional universities – Leicester and De Montfort, and two regional sporting venues – Leicester Tigers Rugby Football Club and Leicester City Football Club, are also in the general area and accessibility would have been severely affected without the temporary route.

2.20 The organisational staff structures have been strengthened to allow a greater focus on tackling congestion and disruption. Enforcement at the city was strengthened by transferring the highway inspectors to the Traffic Operations Team and by increasing the staff resources to deal with traffic management. Enforcement has also been strengthened by the introduction of DPE throughout the city in January 2007 and the subsequent application for bus lane enforcement powers, although these powers have not yet been used. The taking out and exercising of additional powers for other moving traffic offences has not been progressed.

2.21 There are regular traffic bulletins on the main local radio station direct from the Leicester traffic control centre. Similar information is also available on the internet. There are updates on planned works and events in order to allow travellers

the option to re-plan their journeys. This minimises the impact for both themselves and others, by reducing the demand on that part of the network.

2.22 The city council hosts quarterly co-ordination meetings attended by all statutory undertakers and city highways representatives at which future works are tabled and programmed accordingly. Leicestershire County Council and HA staff attend these meeting to ensure that any cross boundary issues are taken into account. The city council network co-ordinator attends the equivalent meetings arranged by the county council. In addition to this forum which addresses physical works in the highway, the city council also manages monthly inter-departmental event co-ordination meetings in partnership with the emergency services and bus companies which deals with all other planned activities which could have an impact on the network. Thus a comprehensive database is available concerning network incidents, which is used as a basis for network management and control.

2.23 Inter-agency cooperation in relation to high level contingency and emergency planning is achieved by working closely with the emergency services. There are regular round table meetings including the police, the ambulance service, the fire and rescue service and the HA with council officers representing all frontline services (including Highways and Transportation) and the council's emergency planning officers. There are agreed council-wide and region-wide emergency procedures. These are set down in emergency procedure manuals that are kept by key officers at work and at home. Full scale desk top exercises take place from time to time to test the contingency planning arrangements. Any weaknesses are then addressed. This is also beneficial to general cross boundary working and cooperation as all the other agencies involved cover at least the geographical area including Leicester, Leicestershire and Rutland. Inter agency cooperation is also facilitated by having CCTV links between the Leicester traffic control centre, the police control room, the HA traffic control centre and the Leicester CCTV control centre. These links enable CCTV pictures from any of the four systems to be viewed in each control centre if circumstances warrant such action. The close co-operation is also evidenced by the Leicester traffic control centre and the Leicester CCTV control centre both being situated in the same building.

2.24 As part of our in house contingency and emergency planning, the impacts of catastrophic events on the transport systems have been considered. The transport network is now reliant on the proper operation of all the associated control and information systems known as intelligent transport systems (ITS). The loss of these systems would have a severe affect on the day to day functioning of Leicester. A risk analysis has been carried out and control measures have been put in place to minimise a catastrophic event occurring. We are now developing a business continuity plan for the scenario of a catastrophic event occurring. The implementation of the plan would minimise the impact of catastrophic events to both the community and the council.

2.25 Regional and National integration and co-ordination is also enhanced by the city council being involved at the regional level in activities relating to information dissemination about road works and traffic incidents. We share with the west midlands authorities, in real time, information about road works, traffic incidents and other events which could have an impact on the Highways Network. Information

is also shared with the National Traffic Control centre managed by the HA and a memorandum of understanding has been drawn up to cover the exchange of information and data.

2.26 The Elgin web site shows in a seamless way the streetworks carried out in the region. In practice this means that road users in the city and the surrounding county can see road works information across boundaries. The site is automatically updated on a daily basis via the NRSWA Streetworks Register that records all road works information in the city. Elgin addresses an eGov target and the Network Management Duty in relation to cross boundary issues and keeping the public informed.

2.27 Comprehensive monitoring of traffic growth is carried out and trends identified and reported on as part of the LTP process. Incremental changes in traffic volumes are handled automatically by the systems at the Leicester traffic control centre. There are associated control strategies for managing the network.

2.28 The councils' own works and activities are dealt with in the same way and with the same standards as with utilities. We participate in the East Midlands Highway and Utilities Committee meetings (EM HAUC).

2.29 We have adopted a road works protocol. Reports of disruptive works are taken to every meeting of the city's scrutiny committee and an up-to-date list is kept on the council's intranet for all staff to refer to (the information also appears on the internet). Regular radio bulletins contribute to the engagement of councillors and officers across disciplines by keeping the issues high-profile and keeping awareness high. The integration of the network management duty within our wider work has already been mentioned in relation to contingency and emergency planning. Highways and transportation is also represented on the city Events Group. This is a group that represents all departments and services. The group is responsible, for example, for the organisation of football and rugby matches, the Caribbean Carnival and other festivals. The principal event that is organised in Leicester each year is Diwali – the festival of lights. This is the largest such event outside India and inter-departmental working and inter-agency working are essential for the smooth running of such a potentially disruptive (to the highway network) event that takes place on the public highway. There are predetermined traffic plans, including traffic signal timings, to minimise the impact of such events. This is particularly helpful for football and rugby matches that occur regularly during the appropriate season.

2.30 We regularly monitor the arrangements that have been established and make any appropriate changes. The Traffic Manager at Leicester City Council is accountable for all the actions in highways and transportation and is responsible for implementing all of the above in a timely, effective and efficient way. He provides a focal point within the council and so as to champion the need to consider the network management duty in all areas of the council's work.

Traffic Lights – Network Management

2.31 We have been successful in coordinating traffic signals and optimizing traffic flows through traffic 'regions'. We implemented a SCOOT region on East Park Road which resulted in a journey time reduction locally of 15% in the peak hours. This is a good method to maximize the use of existing assets, in this case the existing road space. We will be expanding the coverage and linkages further during this third LTP period and so contribute to managing congestion. We believe that journey times locally can be reduced by 5% by refining existing SCOOTs and 10% by new SCOOTs. This is based on our experiences locally. The programme will be driven by the congestion hotspots and informed by potential air quality improvements for nitrogen dioxide and the demands generated by new development. Research has shown that once traffic flows exceed 75% - 80% of capacity, the network flows can become unstable very quickly. Any hiccup such as a broken down or slow moving vehicle or the passage of emergency response vehicles can have a dramatic impact, although temporary, on increased journey times and delays.

Conventional Signs and Markings

2.32 National surveys have indicated up to 16% of traffic is lost at any one time. We are also aware that some through-traffic tends to pass through the city centre rather than using the outer ring road. We will improve signing to reduce lost traffic and ensure that traffic uses the most appropriate route. This will reduce vehicle mileage generally and enhance efficiency, particularly for the distribution sector. From the research we have undertaken, total vehicle mileage could be reduced by 1.5 % over the principal road network with improved and comprehensive signing. The efficiency of distribution depends on congestion levels. The FQP has focused on the need for improved freight signing. This helps with reducing congestion with less lost traffic and fewer large vehicles obstructing the road whilst asking for directions. It also helps with improving air quality as LGVs emit proportionally larger amounts of nitrogen dioxide than cars so any impact of improved LGV signing will particularly benefit nitrogen dioxide levels. It also helps accessibility by making commercial sites easier to get to. The indicator and target monitoring progress with the freight signing strategy is a proxy for better general signing as all traffic benefits from improved signing.

2.33 Signing and lining is an important strand of a number of our strategies:

- General route signing (congestion).
- Freight signing (accessibility).
- Walking and cycling (congestion, safety, but mainly accessibility).

Public Transport
Buses/Services – Quality Bus Partnership (QBP)

2.34 The Central Leicestershire QBP was established in 1999. The members of the main steering group are Leicester City Council and Leicestershire County

Council, First Bus, Arriva and Trent Barton. The QBP performs a valuable catalytic function which enables the working groups to actually take individual projects and activities forward. The main steering group meets quarterly and discusses strategic issues which are relevant to local authorities and public transport operators nationally and locally. It is supported by several working groups, including the Bus Operations Group, the StarTrak (real-time) Group and the Bus Information Strategy Group. In addition to these multi-party meetings, the councils meet the two main operators (First and Arriva) quarterly in bi-lateral meetings at which commercially sensitive issues can be discussed.

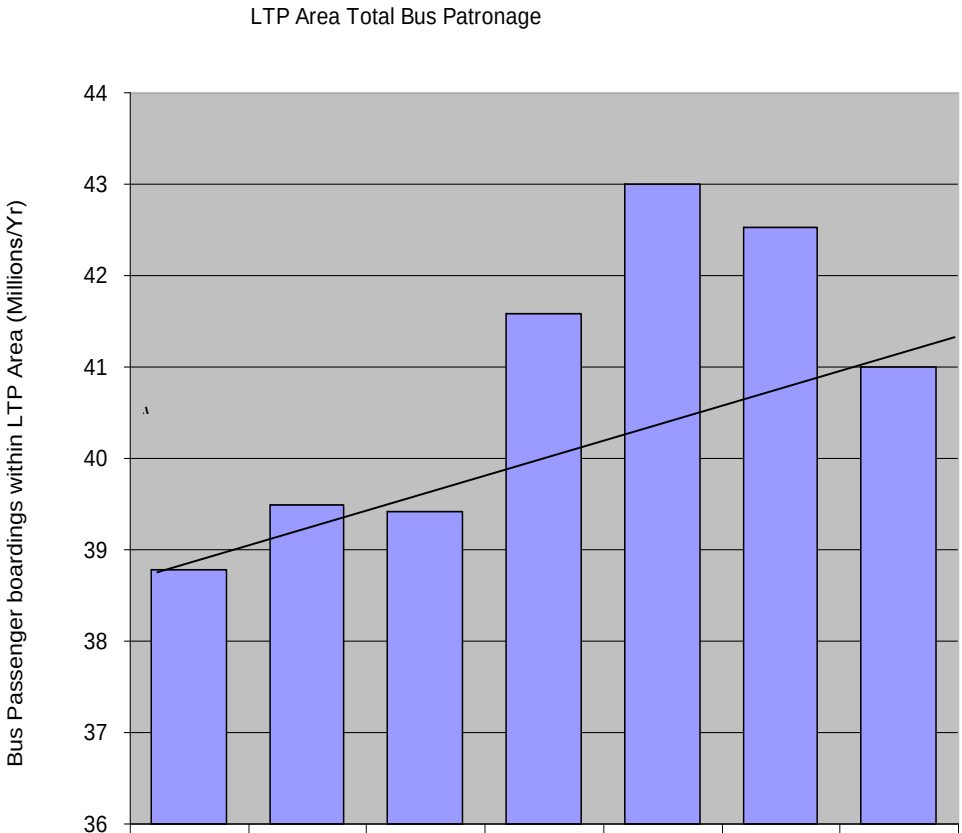
2.35 The QBP has been instrumental in supporting and helping to deliver the following:

- A core commercial network which the bus companies will endeavour to keep fundamentally stable for at least five years.
- A network of complementary subsidised services.
- Joint delivery of passenger information to high standards, recognising the need both for a commercial identity for the participating bus companies and for comprehensiveness.
- Involved in the original set up and roll out of the real-time information and bus priority system across the whole network.
- Improved bus facilities in Leicester city centre, with capital investment co-ordinated by Leicester City Council.
- Improved bus shelters and bus stop infrastructure at over 800 stops suitable for low-floor buses throughout the area.
- Agreement on a longer-term vision for the development of the network as passenger numbers grow.
- Comprehensive monitoring of patronage.
- Involved in the Smart Ticketing Project, funded by a Department for Transport (DfT) grant, to deliver comprehensive network ticketing.

2.36 As a result, passenger numbers in Leicester are growing, and, in the most recent satisfaction survey carried out for the Audit Commission satisfaction with bus services in Leicester was in the top quartile nationally and satisfaction with bus service information was also increasing.

2.37 The outputs from the QBP have led to a noticeable increase in satisfaction with public transport. The Congestion Strategy includes measures to improve bus journey times. The Authorities' Transport Directors hold strategic level meetings with Bus Company Area/Regional Directors to ensure long-term goals are shared. It should be noted that a review of the operation and constitution of the QBP is due to be undertaken in 2011.

Graph 4.1 LTP Area Total Bus Patronage



	2003/4	2004/5	2005/6	2006/7	2007/8	2008/9	2009/10
LTP Area Total Bus Patronage	38,784,499	39,497,622	39,413,900	41,584,760	42,997,362	42,519,849	41,004,313

Bus Information – Real Time Passenger Information (StarTrak)

2.38 We have an extensive network of real time bus passenger information. StarTrak has improved passenger information and has brought economic, environmental and social benefits. However StarTrak is reaching the end of its useful life with parts and hardware/software upgrades now difficult to obtain or unobtainable. There is a need for a replacement real time bus information system but progress will depend on the availability of limited funding opportunities.

Bus Stops and Shelters

2.39 We have a comprehensive contract supported by advertising revenue providing significant numbers of bus shelter including maintenance. The maintenance and repair provisions of the contract are working well. The contract is coming up for

renewal within the next 12 months. Many bus stops now have raised kerbs. For further information please see Chapter 5 – Accessibility.

Bus Stations and Interchanges – City Centre Bus Improvements

2.40 We have had a lot of success with bus travel with improvements in the suburbs and along the radial routes leading to increased bus patronage into the city centre. However we have not yet progressed improvements within the city centre itself which is the main gateway into Leicester. The focus of LTP3 needs to be quality improvements to the bus termini, bus infrastructure and bus routing within the city centre to both make good the current deficit in quantity and quality and allow for future growth. Bus use is by far the dominant non car transport mode and the mode that has the potential to make the really big impact. Footways are obstructed by queuing passengers, there is insufficient kerbspace for buses to stop, accidents occur and the planned housing growth will make current conditions much worse without our intervention.

It will become increasingly important to modernise and extend St. Margaret's Bus Station, which is in the optimum location on the inner ring road but close to the City Centre and the major retail centres. ...'

Leicester Civic Society (December 2010)

Park and Ride

2.41 We have two permanent park and ride sites at Meynell's Gorse and at Enderby located close to the M1 junction 21/Fosse Park area, with a further under construction at Birstall. There is also Saturday-only site at County Hall. The original permanent site at Meynell's Gorse has been very successful with the buses carrying up to around 1,750 passengers a day and diverting 200 cars each peak hour. The primary purpose of the park and ride schemes is to encourage car drivers from their cars onto high quality express buses for work, for shopping and for leisure.

Freight

2.42 Our freight strategy has been guided by our successful Leicester and Leicestershire Freight Quality Partnership (FQP) that has been making steady progress since its inception. This has raised awareness of freight issues between members, enabled the councils to understand the practical problems of the operators and enabled a freight signing strategy to be developed and implemented. Due to this success and our respected reputation, we were invited on to the steering group developing the regional freight strategy (RFS). This has enabled us to influence the development of the RFS, which has in turn ensured that the developing LTP is broadly consistent with the RFS in the key areas of: environmental impact of road freight and growing demand, efficient movement of freight on road, and linking transport and economic development.

2.43 Freight distribution is regarded as an important area for Central Leicestershire as an essential public service and as a key part of city regeneration and the creation of jobs. Freight distribution is also a big employer in Leicester and Leicestershire. Many distribution centres are located in the area due to our central location. Magna Park is the largest distribution centre in Europe. The Leicester and Leicestershire Freight Quality Partnership (FQP) was established in March 2000 in order to develop environmentally sensitive, economical and efficient ways of delivering goods in Leicester and Leicestershire. The FQP comprises members from the private sector, interest groups, Highways Agency and Authorities, Police and the Chamber of Commerce.

2.44 The main success so far has been agreement to pursue a programme of implementing clear and effective road signing of key freight areas around the city to reduce lost mileage and time, publishing a local freight map and setting up a website. This work has been backed up by surveys of companies on industrial sites in the city and freight collection/delivery drivers who work in and around the city. The main reasons for this investment (coupled with minor junction improvements identified in the survey) are to bring about an improvement in the efficiency of deliveries, minimise pollution through reducing lost mileage and ensure that freight vehicles use the most appropriate routes for their size.

Parking

2.45 City centre parking regimes have been introduced to reduce long stay spaces as a demand management measure. This is to reduce commuter parking and thus car trips made in the peak period. The aim of the LTP is that there will be no net increase in off-street parking places in the CTZ. The Transport Strategy and out comes are based on this. The on street charging zone and the areas covered by residents' parking controls will be considered for expansion. We will work with the hospitals to control on site parking. This is so as to make it easier for patients and their carers to park, as they may have no realistic alternative means of access to what are regional facilities. This also contributes to reducing peak period traffic by reducing what is effectively commuter parking for staff as staff car parking spaces are freed up for patients and their carers. We introduced decriminalized parking enforcement (DPE) over the whole of the city council area on 1st January 2007 and we also have bus lane enforcement powers. One of the concerns raised during consultation from annual ward meetings is the high volume of cars parked illegally on roads and pavements. The city centre and key routes are subject to a fairly rigid enforcement regime. Outlying areas with few problems are less rigidly enforced. There are currently a number of off street car parks opening up on demolition and other sites providing cheap car parking and reducing the use of existing formal car parks. These have had an adverse impact on the operation of the existing park and ride sites.

'We need tighter control on access to the city centre by motorists and no illegal parking tolerated.'

'The Local Transport Plan must be based on no net increase in off-street parking places within the city centre, and there must be allowance of P&R spaces as city centre parking stock.'

'There needs to be tighter control on access to the city centre by motorists and no illegal parking tolerated. ...'

Leicester Civic Society (December 2010)

Variable Message Signs – Real Time Information for Car Parks

2.46 Another success has been the provision of a car park real-time information system for all the main car parks. This has contributed to a reduction in queuing and congestion on the road network. Wasted vehicle mileage has also been reduced. A before and after study has shown that queuing times aggregated across all car parks have been halved. We will continue with our regular real-time Radio Leicester traffic information bulletins broadcast from the Leicester traffic control centre and with our web based information.

Accident Remedial Measures

2.47 We are not only concerned with the personal and human cost of casualties and accidents and the impact on the heath service but also the impact on journey time reliability and congestion. Any accident has the capacity to affect congestion but those where serious injuries are involved can have a disproportionately high impact. For further information please see Chapter 6 – Improve Safety, Security and Health.

Journey Planning

2.48 Personal Travel Planning (PTP) is defined by the Department for Transport as a well established method that encourages people to make more sustainable travel choices. It seeks to overcome the habitual use of the car, enabling more journeys to be made on foot, bike, bus, train or in shared cars. This is achieved through the provision of information; incentives and motivation directly to individuals to help them voluntarily make more informed travel choices. PTP forms an important part of UK national and local transport policy, contributing to the suite of tools promoted under the general heading of smarter choices.

2.49 Personal Travel Planning (PTP) projects in other parts of the UK have typically shown a reduction of 10% in car trips. Leicester City Council commissioned Steer Davies Gleave to run a Personal Travel Planning (PTP) project in March 2010 (See Annex A) This PTP project was intended as a trial project so that we could learn more about delivering a PTP project, and whether it should be applied to Leicester on a larger scale. Two areas of the city of 2,000 households each (Knighton and Belgrave) and one area of the county of 1,000 households (Thurmaston) were chosen for the pilot. These areas are very diverse, with their own

set of characteristics and challenges. A customer satisfaction survey was carried out with participants of the project. Depending on the area, between 10% and 13% of respondents reported a reduction in their car use between one and three months after the visit.

2.50 It is acknowledged that there are also economies of scale to be had in larger PTP projects; much of the cost comes from the set up and planning of the project; once underway, the project can be relatively cheap to run.

Maps

2.51 Multi operator local bus maps have been published and a website set up through the city and county Bus Information Strategy. A local freight map has been published and a website set up through the Freight Quality Partnership (FQP). This work has been backed up by surveys of companies on industrial sites in the city and freight collection/delivery drivers who work in and around the city. We have started on cycle maps but need to concentrate on comprehensive promotion and marketing (including of health benefits).

Car Schemes – Car Share

2.52 Car sharing is when two or more people arrange to share private transport. It allows people to benefit from the convenience of the car, whilst meeting new people and reducing congestion, pollution and the cost of travel.

2.53 Leicestershare.com has been set up by Leicester City Council and Leicestershire County Council to:

- To provide you with alternative modes of transport in and around Leicester.
- To help tackle congestion and improve air quality.
- Gives people the chance to meet new people and to encourage building new social networks.

2.54 Leicestershare.com is an online service that promotes car sharing and puts people in touch with other car sharers. Leicestershare.com puts people travelling in the same direction in contact with each other, so they can arrange to travel together. It is available to everyone, and is free to use and secure.

Car sharing saves – money:

- Car sharing with one other person will reduce your fuel costs by half. The cost of driving your own car starts at about 23p a mile.
- Car sharing cuts down on parking costs.
- Car sharing reduces mileage, wear and tear and depreciation of the vehicle.
- Car sharing may eliminate the need for a second or third car.

Car sharing saves – time:

- Car sharing helps reduce traffic congestion.
- Car sharing shares the stress of driving.

Car sharing saves – the environment:

- Reducing the number of cars on the road helps to reduce exhaust emissions.
- Pollution is the biggest concern for people with asthma in the UK.
- The average car commuter drives 19 miles a day. Cutting that by half through car sharing would save 648kg of carbon dioxide over one year, the same as that absorbed by 216 trees.

Car Schemes – Car Clubs

2.55 Car clubs work on the principle of individual members having access to a group of cars in their neighbourhood that are shared with other people, and that are charged for by the time used and distance travelled. The development of car clubs over the last few years has been assisted by the growth of modern technology, most notably the growth of internet access and mobile phones, which gives them advantages over informal car sharing or one-off liftshare organisations.

2.56 Current evidence suggests that for car clubs to be viable in the UK, they need political support from local authorities, the provision of ‘usable’ on-road parking bays, and finance and organisation to assist with marketing. Providing proper support and start-up funding would allow the establishment of a comprehensive network, rather than a piecemeal approach led by commercial considerations focussed on the most profitable areas.

Public Transport Routing

2.57 Central Leicestershire Strategic Transport Studies (CALTRANS) Final Report October 1997
Leicestershire County Council and Leicester City Council appointed The MVA Consultancy in December 1994 to undertake strategic transport studies in Central Leicestershire, centred upon the city of Leicester and its environs. The studies, known as CALTRANS (Central Leicestershire Strategic Transport Studies), were envisaged as taking forward the Transport Choice Strategy.

'Leicester's public transport infrastructure should enter the 21st century. We need Light Rapid Transit systems. We are a city larger than Nottingham, yet Nottingham possess one tramline and is already working on two more. ...
... the high capital cost (of a tram) may make bus only lanes and guided bus lanes worth considering as interim measures but sooner or later LRT must come. Medium to long term public transport aims in a city such as Leicester cannot be achieved without this commitment and assessment of the business case, which would lead to the phased delivery of a tram based system should commence now.'

Leicester Civic Society (December 2010)

Public Transport Routing – Longer Term Measures

2.58 The studies, among other things, looked in some detail at the appropriateness and potential of a public transport high speed mass transit system for Central Leicestershire.

2.59 This work built upon previous research carried out for both the county and city councils. Two separate transport modelling exercises were undertaken, involving use of both the START model and detailed highway and public transport network models.

2.60 A four line strategy was identified as being an appropriate scenario for testing the costs and benefits of such a system in the Central Leicestershire context. The lines included within this scenario were:

1. Fosse Park Area <-> city centre
2. Syston <-> city centre
3. Wigston <-> city centre
4. Blaby <-> city centre

Lines 1 and 2 were assumed to operate as a combined cross city centre service

2.61 Key points from the CALTRANS exercise back in 1997 with respect to mass transit were:

1. A tram had the potential to produce a positive overall Net Present Value when supported by a strong transport strategy;

2. A surplus of revenue over operating costs could be generated, perhaps enough to finance 20-25% of the capital costs of the scheme;

3. There were concerns about the effects upon congestion due to the loss of highway capacity for general traffic associated with the on-street operation of trams.

2.62 It concluded that trams could be a significant benefit as part of a longer term transport strategy for Central Leicestershire. The reasons for taking this view are its performance against the overall range of evaluation headings used for CALTRANS. In particular, such a system could provide:

- Transport quality and image impacts making it inherently more attractive to car users than buses
- Wider quality and image effects that could enhance the national and international profile of Leicester and its city centre, thus promoting inward investment
- A publicly acceptable 'carrot' against which the 'stick' of more stringent road traffic policies such as road user charging (tolling) and parking restraint could achieve public acceptability
- A significant direct improvement to city centre and radial road environments, through the replacement of diesel buses with electric trams
- A transport system that is more acceptable than buses as a means of allowing enhanced public transport penetration of the heart of the city centre
- Accessibility for the mobility handicapped at a level not achievable through bus based technology.

Charging (pricing)

2.63 We participated in the east midlands 6Cs' (Leicester, Nottingham and Derby Cities and the respective counties) transport innovation (TIF) study after securing £1.8M from DfT in April 2007 to explore the scale and type of congestion in the sub-region, and assess the feasibility of potential charging or pricing interventions.

2.64 The study also involved considerable transport modelling and data analysis to assist in fully understanding the current congestion problems and key locations. It assessed the impact of a range of road pricing and complementary transport investments using sophisticated traffic/land use modelling taking account of a wide range of factors including the predicted growth of the region up to 2021.

2.65 Ultimately, it was found that the evidence did not fully support the case for road pricing across the '6Cs' in the short term. It should be noted however that Nottingham had progressed with a 'Workplace Parking Levy' strategy as their preferred option and the 6C's collectively determined not to proceed further with more detailed work.

Key Problem Areas

2.66 The main problems are on the radial corridors leading into the city from the travel to work area and within the city centre itself. Problems also occur in the busy area around M1 Junction 21/Fosse Park. The radial corridors stretch from the suburbs to the city centre and the key problems are:

A607 Melton Road Corridor: Delays to buses and general traffic as evidenced at Checketts Road junction.

A6 Abbey Lane Corridor: Main car route with delays to high numbers of general traffic and new trips to proposed Abbey Meadows science park (720 jobs).

A47 Humberstone Road Corridor: Delays to buses and general traffic as evidenced at Scraptoft Lane

A426 Aylestone Road Corridor: Delays to buses and general traffic as evidenced at Soar Valley Way

A50 Groby Road Corridor: Delays to buses and general traffic as evidenced at Glenfrith Way and Fosse Road North

City centre area: Queuing buses, poor general air quality and poor public realm, pedestrian accidents.

M1 Junction 21/Fosse Park Area: Delays to general traffic; poor general air quality and accessibility; high accident rates.

Pilot Project into Personalized Travel Planning

2.67 We successfully bid for emda funding to run a pilot roll out of personalized travel planning in selected areas of the Leicester urban area. We are currently assessing the results of the pilot.

Impact of Housing Growth in the Leicester Principal Urban Area Study

2.68 In August 2009, Leicester City Council commissioned WSP to carry out runs of the PTOLEMY (3-Cities Version) land-use and transport model to assess the travel related impacts of dwelling growth in the Leicester Principal Urban Area (PUA). The study focused on the impact on travel in Leicester from trips generated by dwelling growth within the city and adjoining districts in 2026, in the morning peak period (0700-1000).

3. Appraising the Options

3.1 The option assessment described in chapter 3 demonstrated that many options could be considered to form part of our Congestion Strategy and also our Improving Air Quality and Reducing Noise Strategy, Carbon Reduction and Road Safety and Active Travel Strategies. The Policy Instruments that are considered to have the greatest impact on congestion are listed below:

3.2 The individual Policy Instruments were scored against our Transport Objectives and other criteria. This methodology allowed us to identify the most effective Policy Instruments with regard to managing congestion in Leicester city. The result of this process is shown in the table below:

Table 4.1 Leicester's Policy Instruments for Congestion
Leicester's Policy Instruments – Scored priority 20.12.10

No.	Policy Instrument	Strategy	Score
		Primary large font	
24	Working with Partners Company Travel Plans School Travel Plans Cycling Health Education Bus Rail Taxi Business Environment	Congestion Low Carbon Accessibility Safety, Security & Health Air Quality	13
26	Campaigns To Promote Walking and Cycling Road Safety Education Campaigns Flexible Working Hours, Home Working Teleconferences, Teleworking Salary Sacrifice Branding	Congestion Low Carbon Air Quality Safety, Security & Health	13
1	Public Transport Focused Development Encouraging public transport use through Land Use Planning Development Densities and Mix Development Pattern	Congestion Low Carbon Accessibility Air Quality	10
3	Bus Stations and Interchanges New Improved	Congestion Low Carbon Accessibility	9
10	Public Transport Routing Bus rapid Transit Guided Bus Trolley Buses Trams Light Rail	Congestion Low Carbon Air Quality	9
18	Charging (pricing) Road user Workplace Parking Levy	Congestion Low Carbon Air Quality	9
23	Land Use Measures Developer Contributions Value Capture Taxes Planning	Congestion Accessibility Air Quality	9
25	Journey Planning Personalised (PJP) Individualised Marketing Trip Planning	Congestion Low Carbon Air Quality	9
28	Variable Message Signs Real-time Driver Information Systems Route Guidance Parking Guidance and Information Systems	Congestion Accessibility	9

12	Rail New and Upgraded Rail Lines New Rail Stations New Rail Services on Existing Lines	Congestion Accessibility	8
16	Traffic Lights Urban Traffic Control (UTC) Systems Intelligent transport systems Information Technology Systems (ITS)	Congestion Low Carbon	8
31	Maps General Cycle Walking Freight	Congestion Low Carbon Accessibility	8
34	Accident Remedial Measures Traffic Calming Local Safety Schemes 20mph Speed Limits Speed and Red Light Running Cameras Vehicle Activated Signs	Safety, Security & Health Congestion Quality of Life	8
2	Bus Corridors Quality Bus Corridors Bus Priority junctions Bus Lanes	Congestion Accessibility	7
5	Ticketing Off Bus Smart Card Interoperability Network	Congestion Accessibility	7
6	Bus Fares Decrease Structure Concessionary	Congestion Accessibility	7
7	Bus Information Static Real time passenger information	Congestion Low Carbon Accessibility	7
8 8a	Buses/Services QBP Contracted/Supported Relocation/Operational Times	Congestion Low Carbon	7
9	Park and Ride New Improved	Congestion Accessibility	7
14	Roads Junction Improvements High Occupancy Vehicle (HOV) lanes Red Routes	Congestion	7
15	Traffic Management Conventional Co-ordination of Streetworks Network Management	Congestion Maintain Assets	7

17 17a	Parking Standards Control of Car Parking Provision Control of Taxi Parking Provision On Street Charges Residents' Parking Schemes Parking Controls Physical Restrictions Regulatory Restrictions	Congestion	7
22	Freight FQP Home Deliveries Lorry Routes and Bans Lorry parks Transhipment Facilities Rail Water	Congestion Low Carbon Air Quality	7
13	Major Road Improvements (over £2m) New Roads Junction Improvements	Congestion Accessibility	6
19	Car Schemes Car Clubs Car Share including Ride Sharing Company Pool Cars	Congestion Accessibility	6
27	Conventional Signs and Markings Directional signs Freight signs Walking Cycling Markings	Congestion Safety, Security & Health	6

3.3 Congestion is a priority because regeneration and new housing, together with growing prosperity, will increase person trips so we need to control the number of people driving into the city. Reducing carbon and improved air quality also depends on controlling congestion. The roadspace is relatively fixed. We want to accommodate the extra person trips without making congestion, carbon emissions and air quality worse. We will be taking forward the options that:

- Facilitate as many of the new journeys as possible by bus, walking and cycling.
- Convert some of the existing car trips to bus, walking and cycling trips (to which the Rights of Way Improvement Plan will make a contribution).
- Increase general capacity of the existing roadspace by improving traffic signal coordination, making physical changes at junctions, improving enforcement of parking and bus lane restrictions and better managing day to day events.
- Allocate roadspace to increase the capacity for person trips.
- Locate new houses and jobs to minimise car travel.

- Contribute to the sustainability and prosperity of our communities.

3.4 The high level drivers for change are to accommodate the extra person trips whilst managing congestion, reducing carbon, increasing accessibility and improving air quality. At a lower level, the drivers for change are to bring about:

- A step change in the quality and quantity of the bus service.
- A behavioural change in getting to both work and school encouraging walking (and cycling).
- Better travel information for all travellers.
- The optimisation of the use of the network by technology.

Value for Money (VFM) in Tackling Congestion

3.5 A new Leicester and Leicestershire transport modelling system has been developed to help us with the development and appraisal of the policy options. The LLITM replicates existing conditions so as to forecast the consequences of proposed changes to demand and to the transport system and ensure value for money in the measures proposed. This model is currently being verified as fit for purpose so we have used other modelling tools such as the east midlands Ptolemy model and locally improved versions of the Central Leicestershire Transport Model. We have been able to test different options to see which enables the available road space to be used to best advantage. For example we have tested differing options for bus priorities and junction improvements to ascertain the effect on general traffic. This has in turn enabled us to ensure that our strategy makes the most of the existing highway network and has informed our target setting.

3.6 The key to getting the best VFM from the transport system is to ensure that the use of roadspace is optimised. The aim is to maximise the person movements along key corridors into the city centre during peak periods when there is no spare roadspace available. Our analysis indicated that the best way to achieve this aim is to encourage bus use by providing quality bus services that people enjoy using. This is the backbone of our LTP. We are also aware that certain car users will always want to use a car no matter how good the bus service is. This might be because the bus does not provide an appropriate route as a suitable alternative to the car or simply that the car user will not use a bus. In order to provide VFM for all travellers including car users, we will continue the linking of traffic signals to optimise traffic flow through an area known as a SCOOT region. Where signals are already linked, we will upgrade the installation to the latest standards. This is another way to ensure that the best is obtained from the highway asset. The users of all vehicles, including car users, enjoy the benefits. We also link into this system to maximise the bus advantage by selective vehicle detection (SVD) at appropriate locations of buses. This enables late running buses to make up lost time whilst at the same time allowing general traffic the same advantage.

3.7 One element of providing a reliable bus journey that passengers can begin to

enjoy is to provide bus lanes. This enables better use to be made of the available roadspace as a bus will move many more people over a certain length of road than a car. In order to ensure VFM is achieved, we have to ensure that other road users are not adversely affected, particularly in terms of cost and time. We have a track record for implementing capacity neutral schemes that do not adversely affect car users. On Hinckley Road we achieved a significant decrease in bus peak period in bound journey time of over 5.5 minutes and also an improvement in car journey time of 0.5 minute. The measure of bus journey time reliability, the standard deviation, halved. On Welford Road we achieved a decrease in bus peak period in bound journey time of approx 1 minute (17%), with approx 2 minutes in the peak hour, with little change in car journey time. The measure of bus journey time reliability, the standard deviation, reduced by approx 40% (1 minute). The car journey time was maintained by rationalisation of the timings and coordination of all the main traffic signals between Asquith Way and University Road. We will build on our expertise in this area during the next five-year period to continue delivering VFM.

3.8 It is intended to ensure further VFM and also to minimise disruption to the travelling public by fully coordinating and integrating the implementation of tackling congestion schemes with maintenance schemes wherever sensible. For example we will renew traffic signal installations as part of a congestion scheme involving traffic signals; we will tie in maintenance works to the carriageway and footway when implementing QBCs; we will programme and organise bridge maintenance works to minimise congestion and to tie in with tackling congestion schemes. Better coordination of works reduces direct costs to the councils, while reduced journey times lead to indirect cost savings for travellers.

3.9 We have taken steps to ensure that we improve VFM by maximising additionality from different funding sources. For example, joint work with Sustrans has enabled us to deliver schemes of benefit to each organisation earlier than would otherwise have been possible.

VFM in Cheaper Solutions

3.10 We have identified through the FQP potential problem areas for large goods vehicles (LGVs) in negotiating the road network and thus causing congestion. The subsequent survey work established that the Uppingham Road/Coleman Road junction and the London Road/Stoughton Road junction cause particular problems. Our study of the problems has revealed low cost solutions, by relocating the stop lines and remarking, is all that is required to bring about improvements. These works will be carried out very early on in the LTP. Parked cars cause congestion whilst visiting shops in parades on many main roads. Particular examples are Belgrave Road, Hinckley Road, Humberstone Road and Narborough Road. Decriminalised parking enforcement has brought relief to congestion on these roads. However, linked to this and in order to support the local traders, we will wherever feasible, integrate low cost measures within QBC schemes to provide limited parking that will not obstruct through traffic. These sheltered areas will also be useful as areas for delivery vehicles to park without obstructing the through traffic.

3.11 Consideration of the following factors will determine the relevant priority of each radial:

- Number of bus passengers, potential for increase and potential to reduce person delay.
- Number of buses using the corridor.
- Availability of roadspace and opportunity for reallocation.
- Support for the project and the balancing of any local issues with the wider benefits.
- Likelihood of investment by the bus companies.
- Current delays to buses and general traffic.
- Ease of implementation and ability for capacity neutral.
- Cost of delivery and Value For Money (VFM).
- Links to development.
- Political sensitivities.
- Impact on CL LTP targets.
- Links to park and ride.
- Links to accessibility, safer roads, air quality and road condition.

3.12 The Results of Appraisal

A. Facilitate as many of the new journeys as possible by bus, walking and cycling.

- Working with Partners
- Campaigns
- Public Transport Focused Development
- Bus Stations and Interchanges
- Public Transport Routing
- Land Use Measures
- Journey Planning

- Traffic Lights
- Maps
- Bus Corridors
- Ticketing
- Bus Fares
- Bus Information
- Buses/Services
- Park and Ride
- Traffic Management
- Parking
- Car Schemes
- Conventional Signs and Markings

B. Convert some of the existing car trips to bus, walking and cycling trips.

- Working with Partners
- Campaigns
- Bus Stations and Interchanges
- Public Transport Routing
- Charging (pricing)
- Journey Planning
- Maps
- Accident Remedial Measures
- Bus Corridors
- Ticketing
- Bus Fares
- Bus Information

- Buses/Services
- Park and Ride
- Parking
- Car Schemes

C. Increase general capacity of the existing roadspace by improving traffic signal coordination, making physical changes at junctions, improving enforcement of parking and bus lane restrictions and better managing day to day events.

- Bus Stations and Interchanges
- Public Transport Routing
- Variable Message Signs
- Traffic Lights
- Bus Corridors
- Ticketing
- Buses/Services
- Park and Ride
- Traffic Management
- Freight
- Car Schemes

D. Allocate roadspace to increase the capacity for person trips.

- Bus Stations and Interchanges
- Public Transport Routing
- Bus Stops (incl. On-street bus stands)
- Variable Message Signs
- Traffic Lights
- Bus Corridors
- Buses/Services

- Park and Ride
- Traffic Management
- Parking
- Freight
- Car Schemes

E. Locate new houses and jobs to minimise car travel.

- Public Transport Focused Development
- Public Transport Routing
- Land Use Measures
- Buses/Services
- Roads
- Car Schemes

F. Contribute to the sustainability and prosperity of our communities.

- All options

G. A step change in the quality and quantity of the bus service.

- Bus Stations and Interchanges
- Public Transport Routing
- Bus Stops (incl. On-street bus stands)
- Bus Corridors
- Ticketing
- Buses/Services
- Park and Ride

H. A behavioural change in getting to both work and school encouraging walking (and cycling).

- Working with Partners
- Campaigns

- Journey Planning
- Maps
- Parking
- Car Schemes

I. Better travel information for all travellers.

- Working with Partners
- Campaigns
- Journey Planning
- Variable Message Signs
- Maps
- Ticketing (Smart Card)
- Bus Information
- Buses/Services
- Conventional Signs and Markings

J. The optimisation of the use of the network by technology

- Variable Message Signs
- Traffic Lights
- Traffic Management

Working with Partners – Leicester and Leicestershire Local Enterprise Partnership (LEP)

3.13 The Leicester and Leicestershire Local Enterprise Partnership (LEP) is just becoming established and we intend to be involved very closely with the work of that organisation. Transport is key to delivering Leicester's aims and objectives and achieving the ambitions we have for Leicester. Transport in Leicester underpins the sustainable economic growth we want to achieve in a low carbon way and without negative impacts on the environment. We will work in partnership with the LEP in taking forward appropriate elements of our congestion strategy and indeed other relevant strategies.

Working with Partners – Travel Plans

3.14 National research indicates that commuter car driving can be reduced by 10-30% by implementing workplace travel plans and school travel plans can reduce traffic by 8-15%. We have up to now dedicated only limited resources to facilitate travel plans. It is a very cost effective way to reduce vehicular traffic. The best way to move forward against our objectives and targets will be to direct dedicated staff resources towards travel plan development at businesses within the CTZ and to all city schools. Travel plans will also be required for all new commercial development as part of the planning process. The traffic reduction will help us to reduce nitrogen dioxide levels.

3.15 The major employers within the CTZ that currently have travel plans are De Montfort University, Leicester Royal Infirmary, Highcross Shopping Centre, Leicester University and Leicester City Council.

3.16 We hope and expect the increasing use of Travel Plans to lead to a reduction in the number of pupils travelling to school by car. This can also improve the exercise/fitness levels of children and raise awareness of road safety issues locally and other related environmental concerns.

Traffic Lights – Network Management

3.17 Technology and Intelligent Transport Systems (ITS) specifically, already form an important part of our delivery plans. ITS helps travellers to move around Central Leicestershire more safely, on less congested roads, and on better public transport services with improved information services. Examples are SCOOT for improving all traffic journey times, StarTrak real time bus information, bus selective vehicle detection at traffic signals, car park variable message signs and the traffic control centres. ITS has brought economic, environmental and social benefits. We will be building on the success we have already achieved, in partnership with other agencies and suppliers by upgrades and new development. The partners include all the transport authorities of the three cities sub-region, the HA and the police.

3.18 We will maintain at least 25% reserve capacity wherever feasible to minimise such impacts and ensure that incidents affecting the network are dealt with in a prompt manner through our implementation of the Traffic Management Act. These actions will contribute to a resilient network, a network that quickly resumes efficient operation after temporary periods of inefficiency.

Conventional Signs and Markings

3.19 Improvements to general traffic signing and lining will be primarily implemented through the delivery of integrated transport schemes, particularly the Quality Corridor programme. However, because of the age and condition of the cycle signing network, extra funds have been allocated to bring the signs up to standard. Where appropriate, the new signs include adding in bridleway and footway information determined through the Rights of Way Improvement Plan (RoWIP). The city centre redevelopment scheme proved an ideal opportunity to improve

the quality of pedestrian signing, while reducing general street furniture clutter. In addition, we intend to continue the established freight signing programme from LTP2 during LTP3, assuming funding streams can be found.

Pedestrian Facilities – Walking

3.20 Improvements in these areas help accessibility but can also help to take some cars off the roads. They also make an important contribution to improving health by increasing exercise and helping to improve air quality. Walking represents 20% of person trips to the city centre in the peak period and so any percentage increase could have a marked impact. The city's Rights of Way Improvement Plan is outlined in Chapter 5 - Accessibility

Cycles – Cycling

3.21 Improvements in these areas help accessibility but can also help to take some cars off the roads. They also make an important contribution to improving health by increasing exercise and helping to improve air quality. Because the number of cyclists heading into the city centre in the peak period is relatively low, representing about 1.4% of total peak trips, the impact of any percentage increase will not be great but will be worthwhile. Cycle training is an area that will be taken forward to encourage more cycling and at the same time improve safety. For further information please see Chapter 5 – Accessibility and Chapter 6 – Improve Safety, Security and Health.

> *'Safe walking and cycling networks need to be provided .... The provision of pedestrian routes, cycle routes and their associated infrastructure must give good access to housing, employment, retail and public transport throughout the city.'*
>
> *Leicester Civic Society (December 2010)*

Bus Fares

3.22 Difficulties in access for disadvantaged groups result from a combination of availability and affordability concerns. We currently have a comprehensive countywide scheme of concessionary travel for elderly and disabled people. This offers concessionary travel well above the minimum standards defined by government and free or flat-fare travel passes for people with some types of impairment. Funding these Schemes remain a challenge and it is likely that some of the discretionary benefits will be subject to review early on during this Plan period.

Bus Corridors – Decriminalised Parking Enforcement (DPE) Including Bus Lanes

3.23 Our research on London Road has led us to the conclusion that the effective enforcement of parking orders on bus lanes could reduce peak pm journey times by between one and three minutes. Effective enforcement of parking and loading orders also helps the flow of all vehicles. DPE was established on 1st January 2007, and a much improved enforcement regime has followed. It is intended that bus lane enforcement will be considered as part of the city centre bus improvements in order to reduce bus journey times and enhance the attractiveness of

buses. The appropriate traffic regulation orders and signing will need to be reviewed and any necessary changes made before enforcement can begin.

Bus Corridors – Bus Lanes

3.24 There has already been investment in bus priority measures, including bus lanes, in some corridors. It is proposed to upgrade each corridor to the highest possible standard but due to the likely financial situation in the early years of the plan, these works may have to be programmed into the later plan years. Existing bus lanes would be extended and where appropriate new ones introduced in order to reduce bus journey times and increase reliability. The primary purpose of bus lanes in Central Leicestershire is to allow buses to jump vehicle queues without reducing travel times for other modes or the general vehicular capacity of the network. We have a track record in achieving this aim on key radials such as Hinckley Road and Welford Road. For the longer distance traveller, coaches are appreciated by those seeking good value for money. We allow coaches to use bus lanes so that they can provide a fast and reliable journey to the coach station at St Margaret's. Bus lanes play a role by helping all emergency vehicles to achieve quicker response times. This is particularly beneficial for ambulances accessing the accident and emergency hospital at the Leicester Royal Infirmary. As there are negligible specialist military vehicles either operating or passing through the area, we have not identified any special requirements for them.

> *.... All additional transport capacity improvements will need to come from public transport together with improved and encouraged facilities for cyclists and walkers, and a serious commitment to reduce the need to travel by design.*
>
> *Leicester Civic Society (December 2010)*

Roads – High Occupancy Vehicle Lanes

3.25 In order to ensure we are making the best use of available roadspace, we intend to use up to date modelling systems to forecast the impact of high occupancy vehicle lanes. This is where vehicles carrying two or more people are allowed to use bus lanes. If we can demonstrate that better use can be made from the existing roadspace by increasing person trips at a faster speed, we will consider the possible use of bus lanes by high occupancy vehicles on an individual basis. No allowance for the effects of such a measure has yet been made in the setting of the targets as the case needs to be proved. The consideration will include the impact of motorcycles and LGVs also using bus lanes.

Leicester city centre – New Bus Termini and Routing

3.26 We believe the best and most efficient way to deliver the benefits and outcomes that are required is through a comprehensive package of improvements delivered as one coordinated programme. Leicester City Council thus has ambitious plans to improve public transport for Leicester and the surrounding area. A comprehensive package of measures would be introduced as part of transforming Leicester into Britain's sustainable city, providing economic growth and environmental wellbeing. The New Bus Termini and Routing (NBTR) scheme is a key priority

within One Leicester Planning for people not cars, which has a focus of facilitating growth in trips to jobs in the city centre by public transport. The scheme was previously categorised as `high scoring` in the East Midland funding allocation (RFA2), with Leicester being a major economic centre for jobs and wealth creation within the region. We will be working closely with the emerging LEP to ensure that the scheme is adopted as a first priority particularly in any bids and for funding. This scheme is crucial to underpin sustainable economic growth throughout the city in a low carbon environment and help facilitate new jobs whilst protecting existing jobs.

3.27 Investigations have shown that the scheme is needed due to:

- No surplus traffic capacity available on radial and orbital routes into and around the city during peak periods
- Significant congestion on city centre streets
- No suitable kerb space left on city centre streets for additional bus services
- Create better links between bus facilities, the rail station and any potential mass rapid transit system
- Poor bus facilities have a negative effect on key streets and spaces

3.28 The optimised overall scheme would most likely comprise various parts or phases including:

- New bus station and interchange hubs
- On-street bus stand improvements
- Taxi management improvements
- Routing improvements
- Strengthened Bus Partnership arrangements
- Bus Lane and Bus Gate camera enforcement

3.29 The NBTR scheme puts right a deficit in city centre bus infrastructure and offers a low carbon sustainable transport solution that also provides for growth in travel – due to new homes, economic growth and new jobs. The access and egress arrangements to any bus station, including the routing from the inner ring road, will be crucial to the success of the scheme. The optimised design for bus station access and egress within the immediate adjacent public highway will be vital to this.

3.30 The bus scheme has the potential to deliver the following economic benefits –

- Accommodate transport needs for a 20% growth by 2026 of new housing in

Leicester and Leicestershire.

- Removes transport capacity constraints in the city centre that compromise our ability to deliver an effective system to meet public transport needs and grow the local economy.

3.31 In Leicester and Leicestershire there has, until recently due to the recession, been a sustained increase in bus patronage. We have introduced additional quality bus corridors, new park and ride facilities at Enderby, with a further park and ride site underway at Birstall. We are also proposing high quality bus facilities, as part of a smarter choices strategy, to persuade car users to use public transport and to cater for the big increases in bus trips that are forecast. The physical interventions would be underpinned by improved working with the bus companies by making use of the powers in the Transport Act 2000, as may be amended. The way we will facilitate this is under development but it could include a strengthened, possibly statutory, quality bus partnership, or reinforced voluntary arrangements, to better regulate the flow of buses in the city centre.

Ticketing

3.32 The QBP has been instrumental in the joint delivery of comprehensive network ticketing, again recognising the need to retain commercial freedom on individual service pricing. The Smart Ticketing Project is progressing, funded by a grant from the DfT. We shall be evaluating the options offered by the Transport Act 2008 for supported delivery of the LTP objectives.

3.33 We will continue our partnership work with the rail industry to improve interchange at railway stations, particularly with infrastructure, information and through ticketing for bus to rail interchange. Within existing constraints we intend to improve accessibility by:

- Providing better bus service information on timetables and ticketing.
- Promoting multi-journey ticketing and travel reimbursement schemes.

Park and Ride

3.34 We are progressing park and ride because we believe that park and ride is the single most effective way to tackle congestion in Central Leicestershire. It will help on the main arterial routes, improve access to Leicester city and help to promote the economic regeneration of the city centre. Whilst the cost of a scheme in the context of the LTP is high, this investment represents our commitment to park and ride as the best available means to achieve a modal shift and therefore significant reductions in vehicle numbers in the peak hour on radial routes. Modelling work has suggested that, as a result of the introduction of park and ride and other measures, a reduction of up to 10% in peak hour traffic flow on Narborough Road could be achieved. Park and ride therefore represents good value for money.

3.35 There are currently issues relating to the funding of the planned subsidy in the early years of the new Enderby service. We had planned to use income from off street car parking for this purpose. Several temporary car parks have opened up on demolition sites/unused land undercutting existing established car parks and compounded by the impact of the recession. This has led to a shortfall in funding for the park and ride subsidy which is very challenging in the current financially stringent times. Opportunities to reduce park and ride running costs and seek new income streams are currently being investigated.

> *'… a great expansion of Park'n'Ride schemes is badly needed in sustainable urban extensions. The four P&R proposals identified by the city council are not enough in themselves. Park'n'Ride should also be introduced at South Wigston, Oadby, Thurnby and Hamilton. Once again Nottingham leads the way with seven successful P&R sites in operation for a number of years.'*
>
> *Leicester Civic Society (December 2010)*

Rail

3.36 We have had ambitions for higher frequency train services and an increased number of stations in Central Leicestershire to help us reduce the rate of growth of car journeys and increase accessibility. The reality is that the national priority for rail concentrates on longer distance services and freight. Also the costs of new rail provision are many times that of bus provision and will not demonstrate in themselves good value for money (VFM) for either tackling congestion or delivering accessibility.

3.37 There have been some progressive rail service improvements particularly to London but not the step change we would like. We welcome the £69.4m allocated to Network Rail to deliver a scheme by 2014 to raise line speeds on the midland mainline. However there are two other very cost effective enhancements at a cost of £27.5m that we would recommend to the government. These are the provision of freight loops at Desborough for £10m. These would allow passenger trains to overtake slower freight trains. Also, the £17.5m realignment of track at Market Harborough to provide a straighter and faster route. The delivery of all these enhancements at a cost of £96.9m would just about deliver Leicester's short term goal of a sub hour journey time to London. We also still have poor services to the North and to both East and West. Manchester is the most frequent destination from Leicester not served by a through service. When served by through trains during 'Project Rio', Leicester - Manchester patronage grew more than anticipated. There is also a demand for fast through services to Leeds and faster services to Birmingham. There is a very strong business case for electrification of the midland mainline connecting Leicester to London and Sheffield and the North. This would deliver a smoother and more reliable low carbon service with faster journey times, as the opportunity to improve track alignment would go hand in hand with the electrification. Unfortunately the previous and current Government is delaying any decision for the midland mainline despite giving the go ahead to the South West and North West. Such a decision would also be tied up with the replacement of the ageing High Speed 125 as any new fleet would need to be specified as electric traction. Electric traction is also able to deliver increased capacity as more space is available for passengers, particularly within

the replacement for the locomotive units. The traction motors are slung beneath the floor.

3.38 We will obtain the best value from the local rail network within the constraints. This means:

- Continuing our partnership work with the rail industry to improve interchange at railway stations, particularly with infrastructure, information and through ticketing for bus to rail interchange.
- We will lobby hard for the electrification of the midland mainline.
- We will lobby hard for line speed enhancements, the cumulative impact of which will deliver a sub hour London journey time from Leicester.
- We will lobby hard for regular fast through services to Manchester and Leeds and thus better connections to the North, and a faster Birmingham service.

... enable increased rail use through improvements to the railway station ...

Leicester Civic Society (December 2010)

Rail – High Speed Rail

3.39 A key part of the Government's assessment for high speed rail (HSR) is that Britain's initial core high speed network should link London to Birmingham, Manchester, the East Midlands, Sheffield and Leeds, at speeds of up to 250 miles per hour. This Y-shaped network of around 335 miles would bring the West Midlands within about half an hour of London, and deliver journey times of around 75 minutes from Leeds, Sheffield and Manchester to the capital. The Government has set up High Speed 2 Ltd (HS2) as a company to take forward expansion of high speed rail in the UK. HS2's work has shown that as a first step a high speed line from London to Birmingham would offer high value for money as the foundation for such a network, delivering more than £2 of benefits for every £1 spent. An East Midlands HS2 officer working group has been formed to take HSR forward through the East Midlands, including compiling a long list of potential station locations. Officers of the city council are participating in the working group. The openness of this project has, by necessity, been limited due to the potential serious personal and financial consequences of possible blight having an adverse impact on a property. It has been essential for HS2 to carefully manage the process to minimise the opportunity for blight, particularly where something may never happen. The Government's formal consultation commenced on 28th February 2011 and is due to close on 29th July 2011.

3.40 Leicester is not a predetermined destination although there would be many benefits in being served by a station on the high speed line. There will also be threats to Leicester in not being a part of HSR. Leicester benefits from virtually all the midland mainline Sheffield, Derby and Nottingham services delivering a really excellent rail service to London. We would have to work really hard to retain a comparable service if some of the existing midland mainline services were to be

displaced by non Leicester HSR services. It also needs to be noted that the midland mainline is the slowest of all the main lines out of London, with the current trains not being able to achieve any where near their 125 mph design speed due to the track alignments. So train frequency to London is our great strength, which is under threat from HSR, if Leicester is not a HSR destination. HSR without a Leicester station would make electrification and line speed improvements of the midland mainline, at the earliest opportunity, of paramount importance to Leicester. We believe that a typical journey time to London of under an hour is realistic within the next six years. We are also keen to explore with HS2 the feasibility of trains running from Leicester and onto the HSR network. Such train sets, designated High Speed Classic compatible, would have to be of bespoke design and involve significantly greater capital cost for the trains. However such a system could potentially deliver Leicester's aims of fast direct connections to the North including Manchester and Leeds.

Freight

3.41 Freight Transport is an essential part of everyday life, spanning the distribution of a wide variety of fresh produce through to the delivery of heavy materials for industry. However, achieving a balance between freight transport's contribution to economic growth and protecting the environment and our communities from will be a critical success factor within this Local Transport Plan. The core of our freight strategy is to work to encourage more sustainable distribution through working in partnership with our established FQP.

Roads – Junction Improvements

3.42 We will look to improve junctions to make the best possible use our existing infrastructure. Priority will be given to improvements that will improve journey time reliability for public transport.

Major Road Improvements (over £2m)

3.43 The outer ring road is incomplete to the South East between the A6 and A47, the missing link is often referred to as the proposed "Eastern District Distributor Road". This would complete the link between the A6 and A46. Outline indications from previous analysis are that there could be a reduction in vehicles in the city centre by completing the outer ring road. Road building is generally not on the current government's agenda and inevitably leads to a tendency for increased carbon use. When the current priority of reducing the budget deficit is also factored in, it is difficult to see how such a scheme could be taken forward, certainly within the first part of this LTP period. We will keep the case under review and may carry out further analysis in due course using the LLITM. There are however likely to be selective improvements required to the outer ring road directly connected with significant development such as at Ashton Green and Leicester Forest East – urban extensions to Leicester. Never the less the priority will be to ensure a step change improvement in public transport to serve such urban extensions and the associated corridors into the city centre. This will ensure any increased car use is kept to a minimum and allowed for by a transfer from car to bus of those existing residents in the general area that travel into Leicester.

3.44 The outer ring will have a modest increase in traffic. This is a more appropriate route than alternative routes through the city centre. We will facilitate this, when funding allows, by junction improvements, signing and physical works at the radial/outer ring junctions. This will encourage car drivers away from the radial routes, supported by decriminalised parking enforcement and bus lane enforcement.

3.45 We have also investigated in outline the case for roads situated outside the Greater Leicester urban area as follows:

- A Southern Relief Road linking from the A6 South 'London Road' (corridor) to the M1 Junction 21 Fosse Park area.

- An Eastern Bypass scheme that could provide a parallel route for traffic from the east to the south that currently uses the A46/M1 and that would include a Southern Relief Road as above.

We have concluded that such schemes would not demonstrate high value for money under current circumstances and hence would not currently command a high priority to be taken forward. The case will be kept under review, in discussion with the local enterprise partnership, for possible inclusion in subsequent local transport plans.

Journey Planning

3.46 We will appraise the impact of the Personal Travel Planning (PTP) project commissioned in 2010 by Leicester City Council with a view to rolling out a future PTP project over a larger area and over a longer period of time, which helps raise contact and participation.

Campaigns – Marketing and Promotion

3.47 We have noted the success of the Big Wheel, Nottingham's transport branding and promotion. A roll out of a sustained travel promotional campaign similar to the 'Big Wheel' could underpin all of the above actions. We will market and promote car alternatives with emphasis on their health and environmental benefits. We will brand parts of the road network such as key roundabouts, to help with reducing lost traffic, including promotion of the developing Rights of Way network and other non-motorised routes.

Car Schemes – The Leicester Business Car Club project

3.48 The Leicester Business Car Club project based initially in the city centre aims to deliver a car club which will result in fewer cars on the road in Leicester particularly during the peak period when congestion is at its worst, with lower noise, and less air pollution. This car club will be run by an experienced private car hire operator in partnership with Leicester City Council on a two year pilot contract within the city centre. The vehicles will be clearly branded which gives additional opportunity for promoting transport modal change, and club marketing will also include access to travel planning advice and walking / cycling promotion. The

car club is part of a total package to reduce reliance on the private motor car and increase transport choice and the take up of more sustainable transport modes. Experience in other cities suggests that car club members cut their car mileage by half as they become more aware of costs (they pay per use) and become better at planning travel and more likely to use public transport, cycling and walking.

3.49 A club operating say 20 cars would expect an annual CO2 reduction of around 17.5 tonnes compared to not having the club. The project will design the car club infrastructure to minimise unnecessary travel and be convenient enough to encourage business users to leave their own car at home and use more sustainable modes of transport for commuting, thus avoiding those emissions entirely. Successful introduction of a car club will reduce emissions in comparison with the status quo by using less polluting vehicles than the current average. On-street parking bays in city centre have been chosen. These locations are spread around the city to make them most suitable for the existing potential business users.

Environmental benefits:

- Reducing congestion by removing commuters from rush hour traffic.
- Commuters will make more journeys by public transport, cycling and on foot.
- These changes will reduce the pollution, including carbon dioxide.

Public Transport Routing – Trams

3.50 Leicester City Council has an aspiration to introduce a low carbon transport system of world class standards capable of facilitating significant growth in trips to support economic growth and jobs in Leicester. Trams in Leicester have been discussed for many years. In a major transport study CALTRANS undertook in 1997, it concluded that a Mass Rapid Transit (MRT) system based upon Light Rail, or trams, had the potential to produce a positive overall net present value as part of a comprehensive transport strategy. Recently the Government has given the go ahead for trams in Edinburgh, the extension to the Birmingham Centro tram, an extension to the Manchester metro tram system and two further new NET lines in Nottingham.

3.51 A tram is a complex project to deliver and it will take several years to procure. Current Government rules require 25% of the capital costs to be from local contributions. It would almost certainly be financed as a Government PFI scheme and would be a public system for Leicester with capability for future expansion to other parts of Greater Leicester.

3.52 Leicester City Council believes that a tram is necessary to achieve a significant modal shift from cars to public transport, and this light rail mode of travel would compliment the New Bus Termini and Routing Scheme through the introduction of a city centre modal interchange. A tram would also add to Leicester's reputation and image.

3.53 The next steps are to undertake a feasibility study comprising engineering assessment backed by a comprehensive financial operating model, evaluation of demand management measures by the use of the new Leicester and Leicester

Transport Model (LLITM) and a full evaluation of financing / funding opportunities. This up front work is a short/medium term priority for the city council.

Charging (pricing)

3.54 This can mean road tolling – paying to use the road by vehicles (also referred to as road user charging). It would have the impact of both reducing vehicular flows by suppressing demand and raising funds locally. Our research has shown that the successful introduction of local road pricing will rely on the presence of most if not all of eight factors. We have considered the five factors suggested by the Commission for Integrated Transport and three locally derived factors. This is how we stand against each of the five:

- Severe congestion problems
  - Our analysis indicates that the key radials are at capacity 8am-9am and 5pm-6pm but the congestion is not severe; this is supported by the feed-back from consultation at annual ward meetings and discussion groups where the perception is that there is not a serious congestion problem although many would like to see the moderate levels reduced
- A strong local economy
  - The local economy was weakened by the contraction of the traditional manufacturing industries towards the end of the last century; it is now stable and ready to grow; a lot of growth will be required before it can be considered strong enough to support road pricing
  - The active support of local authorities in and adjacent to the local area
  - The adjacent authorities are likely to consider it as a longer term solution
- Political stability
  - There have been different administrations in the city in recent years but the current administration is stable
- A transport champion
  - One has not emerged in recent years but a directly elected mayor in May 2011 may offer an opportunity

3.55 In addition we also believe that the following three locally derived factors need to be evident:

- Public support for raising funds locally additional to existing taxes
- Our consultation shows some public opposition
- Comprehensive Park and Ride provision

- We have been endeavouring to add three sites to our one successful park and ride site. Progress has been slower than anticipated and provision is thus not currently comprehensive as we still only have two permanent full time sites with a further under construction. The subsidy required to operate the service currently is greater than anticipated due to the recession and cheap city car parking, although measures to reduce the subsidy are currently being developed.

- A strong economic case

3.56 The economic case for road pricing has in the past been poor with most scenarios being negative dependant on the charging regime considered for adoption. For example, our past analysis indicated that a £1 charge just outside the inner ring road gives a net disbenefit of £7.3m/year, a £2 charge gives a disbenefit of £12.6m/year. These exclude the scheme implementation and running costs - the annualised estimate being of the order of £22m/year for a 30 year lifespan.

3.57 Although the Government was using TIF to help test and develop initial thinking, it is important to note that there is currently no proposal for the introduction of any congestion charging or road pricing system locally or nationally. It should be noted that no decision on a national road pricing scheme has been taken and that separate legislative powers would be required to implement any such decision, although the current Government has indicated it's intention to introduce lorry road user charging – HGV RUC. The DfT Business Plan (November 2010 version) indicates that HGV RUC will commence operation by April 2014. We believe that this scheme will be an important precursor to any scheme involving cars. We will take any opportunity to be involved in the development and operation of HGV RUC so that we can not only input into the development of the scheme from a lorry and distribution perspective but also increase our knowledge of road pricing generally. We currently have an open mind on road pricing and will be keeping the case for road pricing generally under review for the longer term.

Charging (pricing) – Workplace Parking Levy (WPL)

3.58 We have also considered the 'softer' pricing option of introducing a WPL. It would be less effective than road tolling and have a lower impact than direct pricing based on road usage. It is thus a weaker and indirect form of road pricing. The benefits of a WPL are that it could be relatively quick to implement as the concept is relatively simple. It has relatively low development and implementation costs. It can focus on the city centre. It can be part of the development of the regeneration proposals regarding parking provision. It could increase the take-up of travel plans by encouraging businesses to promote them. It can be linked to travel plans, by giving discounts to employers that have an active travel plan. The disbenefits are that there is continuing business opposition. There is currently no political support. It has no effect on through traffic. The impact on congestion is not proven, as no city in the UK has yet implemented a scheme. Our assessment is being informed by the efforts of Nottingham in implementing a WPL scheme. Implementation there is taking much more time than originally envisaged and there is substantial business opposition.

3.59 The administration required to implement a scheme in Leicester would be disproportionately high. A characteristic of Central Leicestershire is that there are few large employers but many small and medium employers. There are about 24,000 PNR (private non-residential parking) spaces requiring a considerable back office capability to administer. These spaces include employee, customer and disabled spaces at approximately 1,600 properties in the CTZ. In other words we have a lot of relatively small PNR car parks that would require a relatively high administration and management input into a WPL scheme. We have weighted the dis-benefits highly due to their importance to our wider aspirations for the city, regeneration in particular, and the practical difficulties at Nottingham.

3.60 There could be advantages in creating an income stream to invest in Leicester's transport system particularly at a time of government funding cut backs to local authorities. The conclusion is that we will keep a watching brief on the development of the Nottingham scheme and keep the business case under review.

'The introduction of a Workplace Parking Levy should be seriously considered.'

Leicester Civic Society (December 2010)

The Role of the Planning System
Public Transport Focused Development

3.61 We work with planning colleagues developing the local plan and the local development framework. This ensures the LTP reflects the planning context and vice versa in both congestion and accessibility terms. The transport implications of new development are allowed for in determining suitable locations. We are also increasing the number of new homes in the city centre so that car use will be minimized. This is due to facilities and jobs being close by and the excellent availability of bus services. The major regional facility Curve is also located in the heart of the city centre where public transport links are excellent. The opportunity to improve walking links and public realm is also part of the planning agenda. All significant planning applications are assessed for the impact on the transport system. Appropriate conditions and/or legal agreements are contained in planning consents. These ensure that the transport impact of the development is allowed for as part of the development. Development that prejudices the future improvement of the transport system is not allowed to proceed. The aim of the LTP is that there will be no net increase in CTZ off-street parking places. The Transport Strategy and outcomes are based on this. The distribution of carparking in the City Centre is assessed in the Car Parking Strategy (SPD) outlined in Section 4.

3.62 We ensure that new development will not have an adverse effect on the existing public highway including amenity areas and that all the users including car users, bus passengers, cyclists, pedestrians and LGV drivers will not be worse off. We will obtain an improvement whenever possible. As mentioned previously, once traffic flows exceed 75% - 80% of capacity, the network flows can become unstable very quickly and resilience reduced. Any hiccup such as a broken down or slow moving vehicle or the passage of emergency response vehicles can have

a dramatic impact, although temporary, on increased journey times and delays. Such events that occur when traffic flows are less than 75% usually have a much lesser impact. This also applies to more significant events when the effects will be over a much longer period. When considering any request by developers for alterations to the main highway network in future, we will require the retention of all the existing reserve capacity for vehicles, pedestrians and cyclists. In the case of new works in connection with development, we will wherever reasonably feasible require at least 25% reserve capacity for the peak hour when designing any alterations. Such measures will be important contributors to maximising network resilience. Developers will be required to make a financial contribution to the costs of transport infrastructure in appropriate cases, before planning consents can be issued. We also ensure that new development is designed to enable refuse collection vehicles to efficiently and safely service the new buildings. An enhancement to service standards is facilitated whilst a reduction in the incidence of unsafe obstruction to general traffic caused by stopping and loading within the highway is achieved.

'All development should ensure a shift to the use of sustainable low emission transport to minimise the impact of vehicle emissions on air quality, particularly in Air Quality Management Areas. Development should be located where it is accessible by sustainable transport to support the use of public transport, walking and cycling as an alternative to the car. Higher density development must be located in areas with easy access to local facilities to reduce the need to travel.'

Leicester Civic Society (December 2010)

Land Use Measures

3.63 We have a well thought out approach to the negotiation of developer funding bringing additionality whenever possible. This allows us to ensure that we properly absorb the traffic impacts of the development whilst at the same time bringing about wider transport improvements through a modest injection of our own funds. For example major new residential development in Birstall is linked to the implementation of the park and ride site. The additional traffic generated by the development cannot be directly accommodated by the existing transport system. The park and ride site will be attractive to car users currently using the A6 into Leicester. The traffic generated by the development will then replace the traffic that uses the park and ride site. The immediate effect on congestion will be neutral but once there is an established park and ride site, there will be potential for the transfer of more car users with consequential improvements in conditions. This will be facilitated by modest expansion of the park and ride scheme if required.

4. The Congestion Strategy

4.1 In earlier sections, we looked at the current and future situations and we have appraised the options. All the options appraised in Section 3 have their merits and contribute to reducing congestion and improved journey times. This is an extensive list of options. Whilst we recognise the importance of an effective transport system that promotes, encourages and enables the use of sustainable modes of travel to reduce congestion and carbon and improved journey times and air qual-

ity we acknowledge that we will not be able to afford them all. We have therefore prioritised these options relative to their appraisal score in combination with a realistic assessment of their benefit cost, affordability and deliverability.

4.2 In delivering the Congestion Strategy we also need to consider the options set out in the other chapters. It is likely that added benefit can be gained if we are able to combine various individual policy options into cross cutting deliverable packages.

4.3 Our strategy needs to be realistic with regard to the resources that we are likely to have available and flexible to adapt to changing circumstances. Thus, our approach to the delivery of this objective is split into short-term and medium to longer-term. We have considered all of the options outlined in Chapter 3 and have concluded that a strategy based on buses will give the best value for money outcomes for Leicester and the suburbs (Central Leicestershire). We have successfully delivered bus improvements to key corridors into the city and worked hard on park and ride in partnership with the county. As a consequence bus patronage is high. However we have not invested in bus improvements in the city centre itself and there is now a substantial city centre deficit in terms of both quality and quantity for the bus service.

Making it happen - The Congestion Strategy

Short Term

4.4 Our immediate focus for this LTP period will be in delivering a package of city centre bus improvements in order for us to realise the key transport outcomes for Leicester. Encouraging walking and cycling will also be part of the strategy. However numbers of cyclists in the peak period riding into the CTZ are relatively low and so even a big percentage increase will only make a marginal improvement in congestion, but there are also health benefits. The harder measures will be underpinned by softer measures taken forward by a smarter choices company or similar, should a strong business case emerge.

4.5 We want to maintain the current direction and increase the momentum by doing more of the same better, with help from the softer measures. This will allow us to further increase bus user satisfaction and bus patronage. Buses allow for full flexibility within a concentric area such as Central Leicestershire. This currently provides the best value for money and buses are able to share the available road space with other modes in a reasonable and equitable way to get the most out of the available space. This helps us in tackling congestion, carbon emissions and air quality without adversely affecting car travel in a value for money way. We acknowledge that many journeys will still be made by car either because there is no reasonable alternative or a car is the preferred mode of travel. We will increase the efficiency of the network by improved coordination of traffic signals and junction improvements that will help all modes.

City Centre Car Parking Strategy: Supplementary Planning Document

4.6 A City Centre Car Parking Strategy (SPD) is being produced by the city council. It is expected to be adopted March 2011. This SPD is being produced to provide

an evidence base about the current level of city centre car parking provision. An adopted City Centre Car Parking Strategy will allow us to proactively manage the supply, matching future supply with likely demand.

4.7 It will provide a clear strategy for public car parking provision, taking account of both existing and future demand within the city centre. It will be reviewed within five years, immediately after the first review of the Core Strategy. It aims to:-

- Understand what the current patterns of parking are in the city centre;
- Provide a basis for taking decisions on future car parking, based on current and future demand;
- Encourage economic regeneration by balancing the needs of visitors, shoppers, residents and businesses with the development of sustainable transport, CO2 and nitrogen dioxide reduction objectives and air quality im provements;
- Ensure quality parking provision that is well designed, located and managed;
- Provide a basis for decision making on the progressive removal of temporary and unsightly or outdated parking provision, to improve the city-scape;
- Be integrated with the wider city centre strategies for planning, transport, CO2 reduction and city centre management and form part of a broader city wide parking strategy.

4.8 The SPD will be used to:-

- To achieve an appropriate level of car parking that will support the economic viability of the city centre for work, shopping and leisure, without undermining sustainable modes of transport.
- To take decisions on proposals for freestanding parking provision (i.e. not associated with new development. Applications for parking that are associated with new development will continue to be considered on their individual merit in line with current planning policy.
- This SPD has focused primarily on the parking supply for commuters taking into account park and ride services. On-street parking has been excluded.
- It will be used in pre-application discussions and as a material consideration when determining planning applications.
- It provides a new evidence base about the current level of parking supply and demand.
- It provides a criteria based approach for considering enforcement action against unauthorised car parking.

4.9 The boundary of the SPD area has been based on the Central Transport Zone (CTZ) from the Local Transport Plan and slightly expanded to include the major car parking destinations that are close by, within and adjacent to the city centre.

4.10 Leicester's LTP recognises that the city centre and surrounding area is one of the main attractions for employment, leisure and shopping. The LTP is a sustainable transport strategy which recognises that an appropriate supply of public parking spaces is essential to support a city. The LTP both supports and influences Leicester's Core Strategy and the SPD.

4.11 Before considering any additional parking that is not related to new development, in the first instance, justification should be given in light of the Local Transport Plan. This sees Leicester as Britain's First Environment city that will be a great place to live but also somewhere that does not place a burden on the planet in future years.

4.12 The LTP aims to deliver attractive alternatives to car travel and to cater for some high levels of housing growth whilst managing congestion and improving journey times and accessibility for all, but particularly for deprived groups to support a new prosperity. It seeks to encourage more people to walk, cycle and use public transport (particularly the bus to or from the city centre), to reduce carbon emissions and provide a transport system that facilitates a safer and healthier way of life.

Car Parking – The Planning Context

4.13 The City Centre Car Parking Strategy Supplementary Planning Document (SPD) forms part of Leicester's Local Development Framework (LDF) and will be supplementary to Leicester's Core Strategy.

4.14 Based on the evidence in this SPD, there is now a need to review the adopted Car Parking standards as contained within the 'saved policies' of the city of Leicester Local Plan. The SPD expands on Core Strategy Policy CS 15 Managing Demand For Car Use.

Medium to Long Term

4.15 Having noted the strong business cases that have evolved for trams in other UK cities, we will be examining the case for trams in Leicester. Trams have the ability to provide high user satisfaction and persuade car users from their cars whilst having no emissions at point of use and carrying large passenger volumes. A tram system would project a high level of ambition, a strong reputation and a modern quality image for Leicester. We believe that the stronger business cases will emerge where bus patronage is currently high on key corridors into the city. Buses will still play a key part in a newly emerging transport system that includes trams along trunk routes with buses as feeders.

5. Delivering the Congestion Strategy

5.1 From the Policy Instrument Options table in the above section it can be seen that the overarching/key strategic policy options for reducing congestion and improved journey times are:

- Working with Partners
- Campaigns
- Public Transport Routing
- Charging (pricing)
- Public Transport Focused Development
- Bus Stations and Interchanges
- Rail
- Land Use Measures
- Journey Planning
- Variable Message Signs

5.2 These will take greater precedence when considering delivery options but the following policy options are also important, particularly when considering the delivery of more than one objective and as part of a package in delivering the LTP as a whole.

- Bus Corridors
- Ticketing
- Park and Ride
- Traffic Management
- Traffic Lights
- Parking
- Maps
- Bus Information
- Buses/Services
- Limited Road Improvements where appropriate
- Car Schemes
- Freight
- Conventional Signs and Markings

5.3 The most effective policy instruments will be packaged together and be included in the Implementation Plan. The above Policy Instruments can be split into the delivery of the objective in the short, medium and long term.

5.4 To deliver this objective in the short term (within the first Implementation Plan period) we are likely to:

- Continue Working with Partners and particularly the LEP
- Continue to undertake and support Campaigns
- Improve Public Transport Routing particularly in the city centre and investigate the case for trams
- Support and encourage Public Transport Focused Development

- Improve on street bus stands in strategic city centre locations (Bus Stations and Interchanges)
- Produce a Business Case for new Bus Termini and Routing (Bus Stations and Interchanges)
- Support and lobby for Rail improvements serving Leicester
- Support and encourage Land Use Measures that reduce congestion and journey times
- Facilitate Journey Planning including working up a business case for a Smarter Choices Company or Trust
- Investigate the business case for Variable Message Signs
- Together with appropriate policy options from the second list above
- As a cross cutting option, develop and take forward proposals for a Smarter Choices – Low Carbon Company or Trust

5.5 Our Implementation Plan goes into further details of what we will be doing and the measures that we will most likely be delivering in the next four years to achieve this objective in the short-term. It also explains how we intend to continue to develop our approach to ensure that we maximise the benefit cost ratio of the schemes and initiatives that we do.

5.6 Delivery of this objective in the medium to longer term: our medium to longer-term approach is also designed to be flexible and will be influenced by what our first Implementation Plan achieves. We will monitor schemes and initiatives in order to build on our successes and review the things that do not perform as well as we had anticipated. Decisions will also be informed by the availability of funding.

5.7 Based on the information available to us at the moment, in the medium term (within the second Implementation Plan period) we believe that we are likely to continue with the strategy as outlined above, and build on it by:

- Continue Working with Partners and particularly the LEP
- Continue to undertake and support Campaigns
- Firm up the case for Public Transport Routing – Trams – mass rapid transit
- Support and encourage Public Transport Focused Development
- Deliver first phases of new Bus Termini and Routing Strategy (Bus Stations and Interchanges)
- Support and lobby for Rail improvements serving Leicester

- Support and encourage Land Use Measures
- Implement and monitor success of a programme to make Journey Planning available to city residents
- Implement and monitor success of the installation of Variable Message Signs
- Together with appropriate policy options from the second list above

5.8 We will review our medium term approach in the light of our monitoring results and the availability of funding.

5.9 Based on the information available to us at the moment, in the longer term (beyond the next Implementation Plan period) we believe that we are likely to continue with the approach as outlined above, but build on it by:

- Continue Working with Partners
- Continue to undertake and support Campaigns
- Produce business case for Public Transport Routing – Trams – mass rapid transit
- Investigate Charging (pricing) including workplace parking levy
- Support and encourage Public Transport Focused Development
- Deliver final phases of new Bus Termini and Routing Strategy (Bus Stations and Interchanges)
- Support and lobby for Rail improvements affecting Leicester
- Support and encourage Land Use Measures
- Implement and monitor success of a programme to make Journey Planning available to city residents
- Implement and monitor success of the installation of Variable Message Signs
- Together with appropriate policy options from the second list above

5.10 We will review our longer term approach in the light of our monitoring results and the availability of funding.

Congestion Strategy Conclusions and Summary

5.11 Through LTP2 we have delivered measures that have helped to provide a more effective and efficient transport system. Whilst our aim is to achieve the same through LTP3, the way in which we deliver this objective will be driven by a greater emphasis on financial resources, low carbon outcomes and the challenges

presented by growth.

5.12 Our approach to the delivery of this objective, at least in the short term, is principally focused on making the very best use of what we already have, including improving the city centre part of the bus service, managing and maintaining our transport system, roads, bridges, footways and cycleways to the best standards that we can afford. This will be supported by our efforts to influence peoples' travel choices through better marketing and promotion, travel planning and provision of appropriate improvements to walking, cycling and public transport generally.

5.13 In the medium to longer term we will need to investigate the feasibility of delivering more pro-active and radical ways to reduce the demand for car travel. This will include examining the strength of the business case for trams in Leicester.

5.14 We will intervene by facilitating a reduction in car use by delivering quality improvements to bus travel, to walking and cycling, whilst managing car parking supply. We have had a lot of success with bus travel with improvements in the suburbs and along the radial routes leading to increased bus patronage into the city centre. However we have not yet progressed improvements within the city centre itself which is the main gateway into Leicester. The focus of LTP3 will be quality improvements to the bus termini, bus infrastructure and bus routing within the city centre to both make good the current deficit in quantity and quality and allow for future growth. Bus use is by far the dominant non car transport mode and the mode that has the potential to make the really big impact. Although the potential numbers are much smaller, walking and cycling still have a helpful contribution to make to encouraging less car use and also help people to a healthier life. Walking and cycling schemes will be implemented as well as bus schemes. Commercial travel planning, school travel planning and personalized travel planning will continue to support these schemes and so support carbon reduction. Proposals for a 'Smarter Choices – Low Carbon Company' will be taken forward, with all options considered including a trust route. Such a company would be totally focused on reducing car mode share and thus carbon by increasing bus patronage, walking and cycling by working with key partners throughout the Leicester urban area.

5.15 In summary the immediate emphasis in the short to medium term will be on delivering a package of measures that are together best able to make a real difference to reducing car mode share and increasing bus use. A key component of this package will be bus improvements within the city centre underpinned by a programme of softer measures.

6. Monitoring the Congestion Strategy

6.1 Comprehensive monitoring of traffic growth is carried out and trends identified and reported on as part of the LTP process. Incremental changes in traffic volumes are handled automatically by the systems at the Leicester traffic control centre. There are associated control strategies for managing the network. Subject to funds being available we aim to:

- Upgrade the traffic flow monitoring system to provide improved trend analysis and growth rate assessments.

- Develop traffic data analysis systems to deal with classified vehicle data.
- Upgrade the SCOOT system to provide improved rapid response capability to unforeseen network problems.
- Regularly review the data and amend our actions as may be required.

6.2 Key indicators that we propose to adopt to facilitate monitoring progress achieving the congestion strategy are:

- Change in peak period (7 – 10am) traffic flows to CTZ
- Average journey time per mile on target routes.
- Public transport patronage

6.3 To monitor the effectiveness of our strategy we have five key outcome indicators and six supporting indicators. The key outcome indicators are detailed here in table 4.2. The supporting indicators are provided in our Implementation Plan.

Table 4.2 Congestion Strategy key outcome indicators and targets

PI Category	Ref. No,	Description	Target 2014/15	Baseline Data	11/12	12/13	13/14	14/15	Source of Data
Outcome	L LTP1	Congestion on locally managed A roads	3.60mins per mile	3.60 minutes per mile (2009/10)	3.60mpm	3.60mpm	3.60mpm	3.60mpm	DfT
	L LTP2	Public transport patronage	43m	41.5m 06/07 43m 07/08 42.5m 08/09 41m 09/10	40m	41m	42m	43m	Local bus companies
Non – transport Outcome	L LTP3	Number of people on out of work benefits	There are no targets apart from those in the LAA (which don't go beyond 2010/11).	17.6% of 16-64 year olds (Aug '09 to July '10)	Monitoring only	Monitoring only	Monitoring only	Monitoring only	DWP via NOMIS

	L LTP 4	Rate of people moving from out of work benefits into em-ployment	There are no targets apart from those in the LAA (which don't go beyond 2010/11).	-2.2% points from June 2009 to June 2010	Monitor-ing only	Monitoring only	Monitoring only	Monitoring only	DWP via NOMIS
	L LTP 5	Net ad-ditional homes provided	1,519 Cumu-lative 2010/11 to 2014/15 = 7,065	2006/07 1,215 2007/08 942 2008/09 1,208 2009/10 930	1,402 Cumula-tive 2,517	1,527 Cumulative 4,044	1,502 Cumulative 5,546	1,519 Cumulative 7,065	Local Survey

6.4 The full lists of congestion indicators and targets are presented in the Implementation Plan.

Chapter 5:

Improve Connectivity and Access
The Accessibility Strategy

1. Introduction

The Goal we are helping to achieve in this chapter is:

Equality of Opportunity Promoted – Leicester's people are more confident

The three strategic challenges, identified in chapter 2, addressed by our Accessibility Strategy are:

To provide an accessible, integrated, affordable and viable transport network that meets the future needs of businesses and citizens

- Difficulty in accessing public transport, footways and public rights of way for mobility impaired and disadvantaged groups

- Poor public transport interchanges and lack of kerb space for buses in Leicester city centre

Addressing the gaps and inefficiencies in our existing transport system that hinder connectivity and access to key facilities and employment

- 36% of Leicester's commuters don't use public transport or walk or cycle when the vast majority of Leicester's residents live within 400m of a bus stop and 82% of Leicester's residents work within Leicester.

- Nearly all of the population of Leicester live within two miles of a hospital, but in some deprived areas it can take up to an hour using public transport to get to the General Hospital.

- The bus network is designed to take people into the city centre and out again.

- Orbital services are infrequent and slow.

Addressing gaps and weaknesses in the provision of information on the choice of transport available and accessible to people travelling in and around Leicester

- Residents in Leicester city feel more can be done to provide information on public transport and cycling opportunities throughout the city

- Unlock suppressed demand for walking and cycling trips

2. The Current and Future Situation – The Challenges and Opportunities

2.1 The ability of people to access places of work, learning, health care, shopping, leisure and exercise, and other opportunities can significantly impact on their quality of life, and on their life chances. Schemes and initiatives to improve accessibility can encourage participation and retention in education; reduce inequalities in health, and help people move from welfare into work. Helping people into work improves their standard of living, pulls families out of poverty and helps

to improve levels of participation in society.

Public transport access to the city centre

2.2 The city centre is very accessible by bus during the daytime, but less so during evenings and Sundays. However, there is severe bus congestion in the city centre and road traffic accidents involving buses and pedestrians. Commercial bus operators (who run 85% of services in the area) have concentrated on providing a simplified core service. This has meant that although accessibility has improved through frequency increases on core routes during the day, it has decreased on less profitable marginal services. Table 5.1 and Maps 5.1 to 5.3 show the results of analysis using the ACCESSION software package. ACCESSION has determined the accessibility of the city centre, using published bus timetables, and taking into account waiting times at and walking distances to/from bus stops. It shows that 97% of Leicester's population live within 400m of a bus stop offering a 30 minute or less journey time by bus into the city centre during the daytime (between 7am and 6pm) in the week. However, access to an equivalent service in the evening (6pm to midnight) falls to 94% and for Sunday evenings to 85%. This is not surprising given the complete absence of some services on Sundays, such as the Inner and Outer Circles, the UHL Hospital Hopper and the Park and Ride services. If Monday to Friday evening is restricted to 8pm onwards rather than 6pm, 400m bus stop 30 minute accessibility falls from 94% to 88% (or a loss of accessibility for 5,700 people).

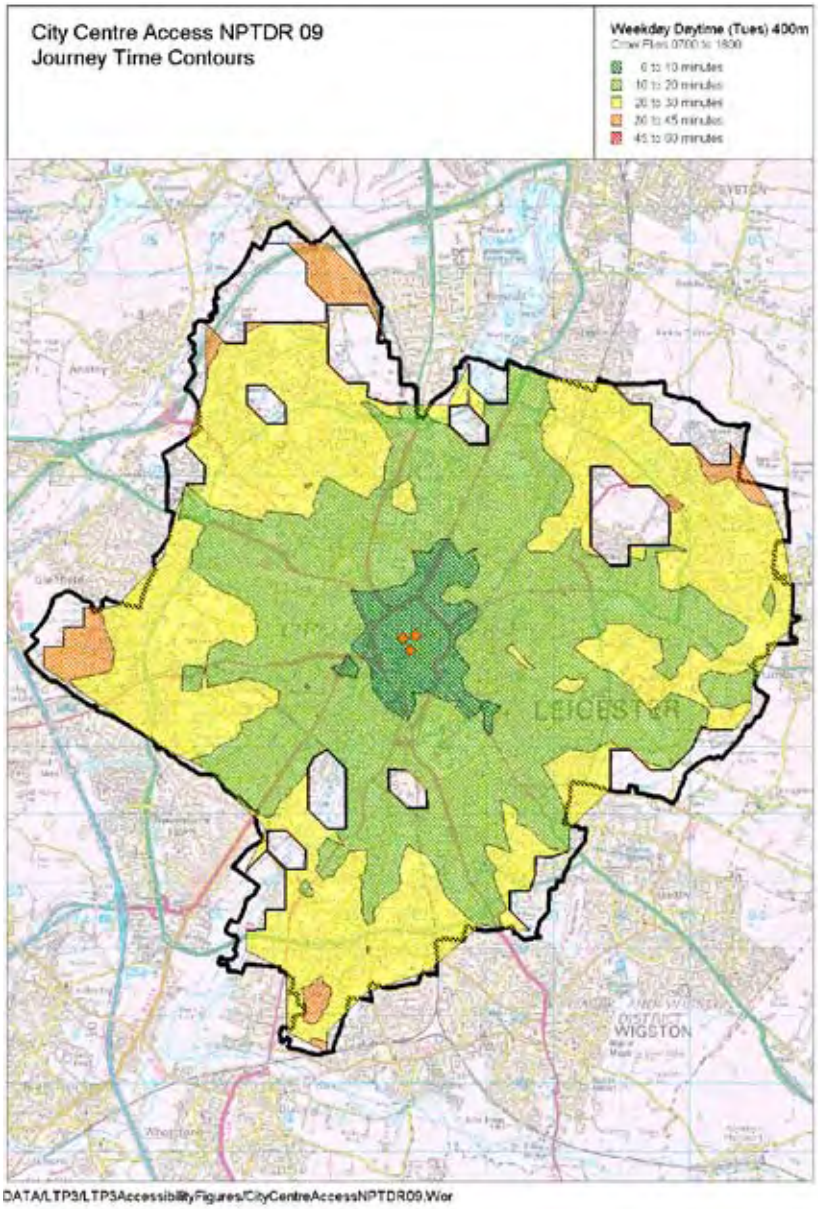
Table 5.1 Bus service accessibility of the city centre

Period[9]	Frequency (Minutes)	All Households[10]		All Households as a %	
		250m	400m	250m	400m
Mon-Fri daytime	10	6503	6583	6%	6%
Mon-Fri daytime	20	66600	71892	60%	65%
Mon-Fri daytime	30	99217	108032	89%	97%
Mon-Fri daytime	45	100964	109675	91%	99%
Mon-Fri evening	10	3977	4016	4%	4%
Mon-Fri evening	20	50069	56890	45%	51%
Mon-Fri evening	30	93334	104010	84%	94%
Mon-Fri evening	45	100000	109601	90%	99%
Sat daytime	10	7584	7840	7%	7%
Sat daytime	20	64853	70867	58%	64%
Sat daytime	30	98979	107803	89%	97%
Sat daytime	45	100806	109575	91%	99%
Sat evening	10	5347	5386	5%	5%
Sat evening	20	50617	56760	46%	51%
Sat evening	30	91204	101719	82%	91%
Sat evening	45	99842	109505	90%	98%
Sun daytime	10	2395	2602	2%	2%
Sun daytime	20	38550	44946	35%	40%
Sun daytime	30	84984	97880	76%	88%

Period[9]	Frequency (Minutes)	All Households[10]		All Households as a %	
		250m	400m	250m	400m
Sun daytime	45	98537	109353	89%	98%
Sun evening	10	2869	2956	3%	3%
Sun evening	20	32696	40045	29%	36%
Sun evening	30	78367	94392	70%	85%
Sun evening	45	97575	109337	88%	98%

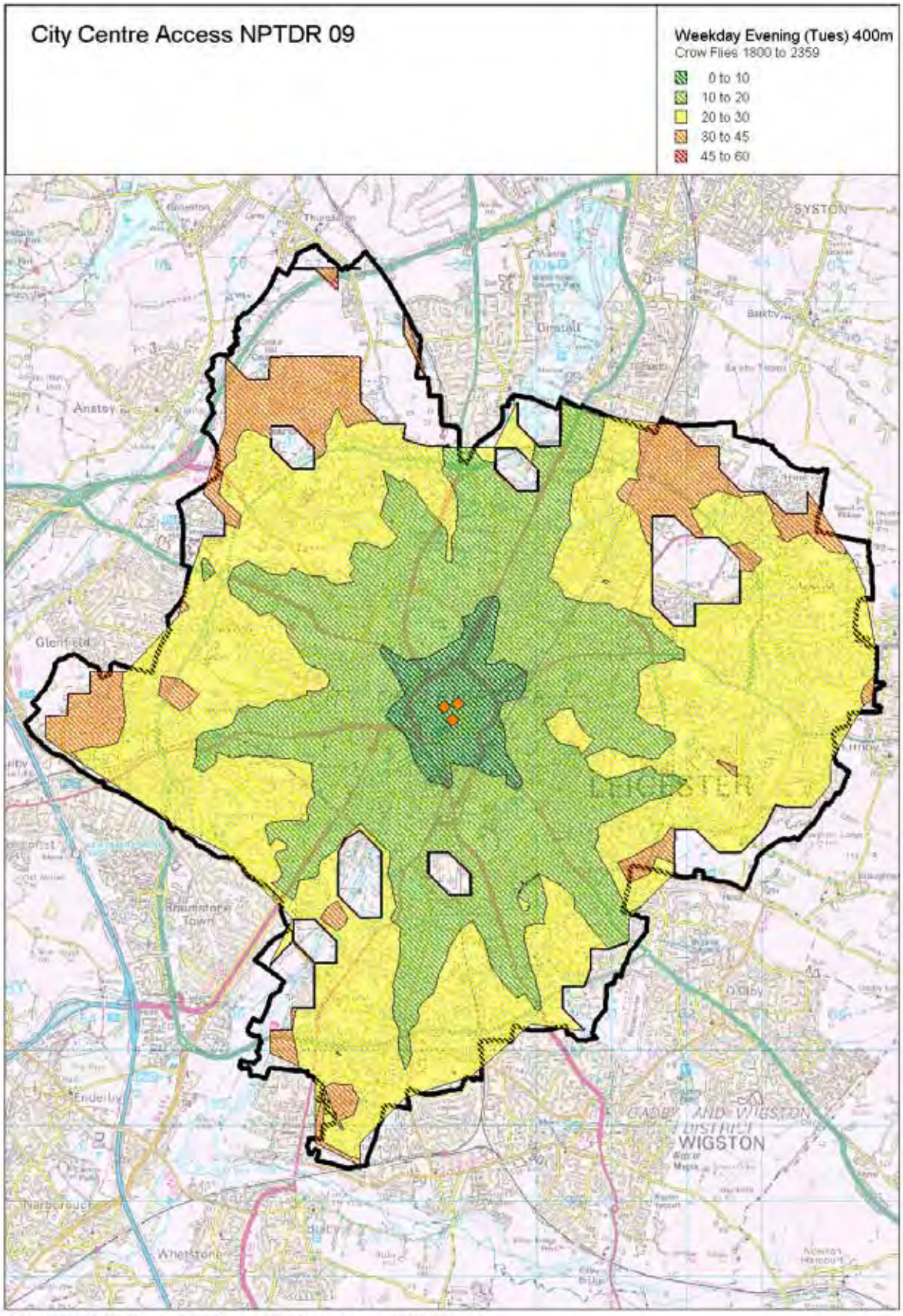
No Car Households consistently have a better percentage of coverage than All Households, showing that the network is geared towards those who are most likely to need access to the bus network for transport.

Map 5.1 – Weekday Daytime Accessibility October 2009



[9]Daytime is classified as between 0700 and 1800. Evening is classified as between 1800 and 2359. Accession will choose the quickest trip available in this period.
[10] Population data taken from 2001 Census

Map 5.2 - Weekday Evening Accessibility October 2009



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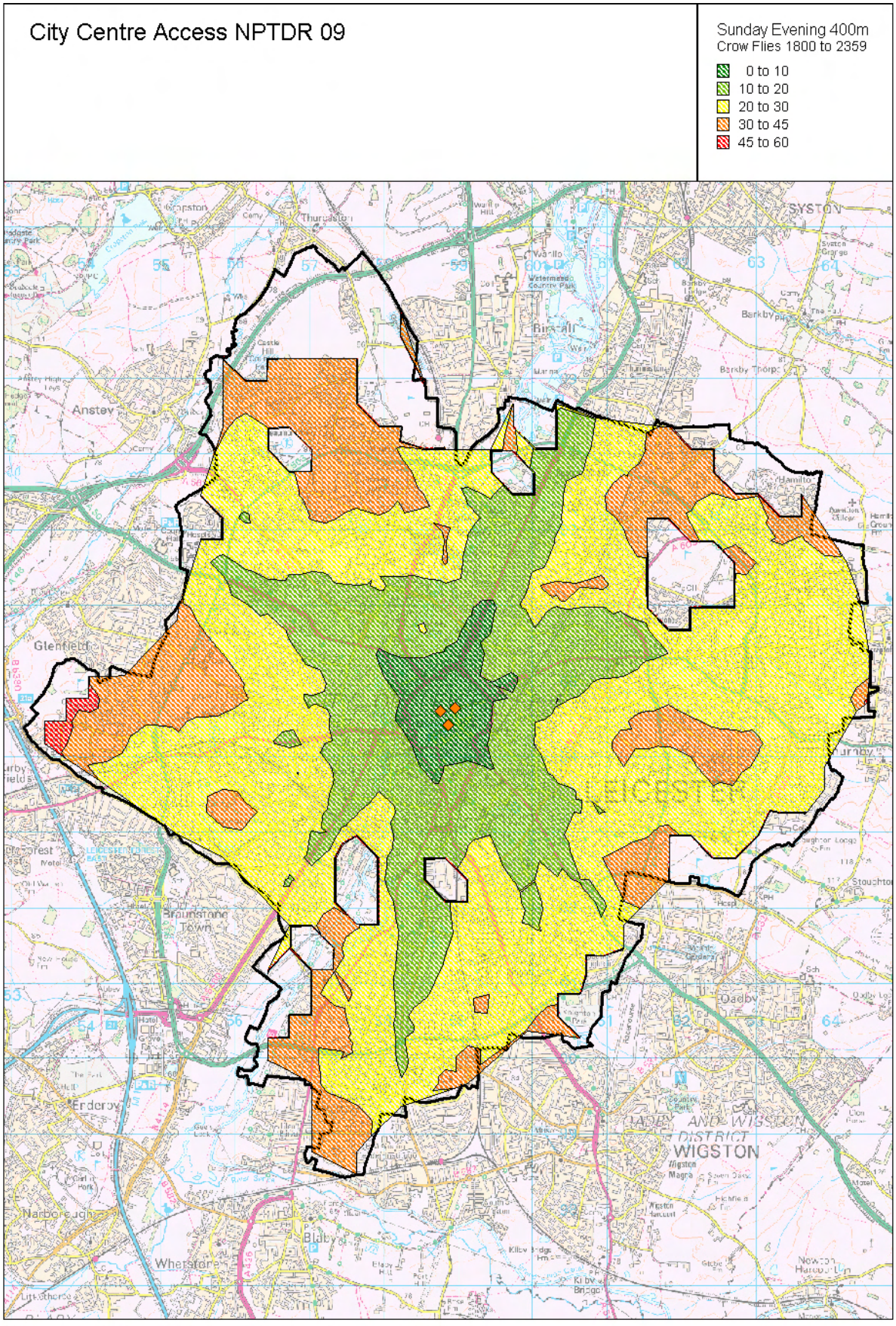
Map 5.3 - Sunday Evening Accessibility October 2009



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Public transport access to destinations other than the city centre

2.3 Many of our key employment areas, two of the three main hospital sites (Glenfield and General) and several of our deprived wards are on the periphery of the city. Although interchange between bus services is possible in the city centre it is not always easy. Bus stops are spread across the city centre and most (if not all) services which used to travel through the centre have been broken into two. Users who are not familiar with the city or its services may find it difficult to make interchanges (for example, a journey from Clarendon Park in the South to County Hall in the North West, which was once accessible via a single service, now involves being dropped off in Charles Street in the city centre and walking over half a kilometre to St Margaret's Bus Station for the second leg of the journey). Leicester is not particularly well served by orbital buses and so it is not always easy to travel by bus from one area on the edge of the city to another without going into the city centre and out again. The Inner and Outer Circle routes are meandering (with no bus stops on the Outer Ring Road the Outer Circle route goes through all the adjacent estates), infrequent (once an hour in either direction) and slow (taking just under one and a half hours and two hours respectively to complete a circuit).

Access to everyday facilities

2.4 A strategic accessibility assessment of the city has been completed. This process was initially informed by mapping. The ACCESSION software has so far shown that there are few access problems to everyday facilities (shops, hospitals, workplaces, schools etc.) in Leicester during the main part of the day. ACCESSION is a modelling tool which uses journey times derived from the latest bus timetables and walking times along the road network in its accessibility calculations. It does not take into account factors such as:

- An unwillingness to change buses to reach a destination, due to increased journey times, but especially where the consequent fare paid could double.
- The quality of both the walking routes to / from the stop and facilities at the stop.
- Choice of destinations.
- Quality, availability or suitability of on-road quiet routes and off-highway cycle routes.
- Perceptions of personal safety.
- Overcrowding – where buses won't stop as they are full.
- Access needs of disadvantaged groups.

2.5 In addition to the computer mapping, we collated the following perceived access needs from ward meetings, focus groups partner consultation, accessibility planning events and a literature review:

- Improved access to employment, removing the barriers to jobs and training opportunities that are encountered by the workless through catering for shift patterns at Braunstone Frith and Gorse Hill/Bursom Industrial Estates
- Improved bus frequencies on orbital routes
- More frequent bus services in the evenings and on Sundays, particularly from Braunstone Park and Rowley Fields.
- Improved marketing of existing public transport services.
- Better personal safety while using public transport at night.
- Improved access to hospitals by public transport – especially for elderly people and from Humberstone and Hamilton wards.
- The cost of travel – particularly for low-income households – can be a barrier, especially when accessing higher education
- The need for more cycle related information, paths, routes and parking facilities as cycling on the road is seen as dangerous.
- More pedestrian crossings and dropped crossings along footways.

Community Exclusion and Priority Neighbourhoods

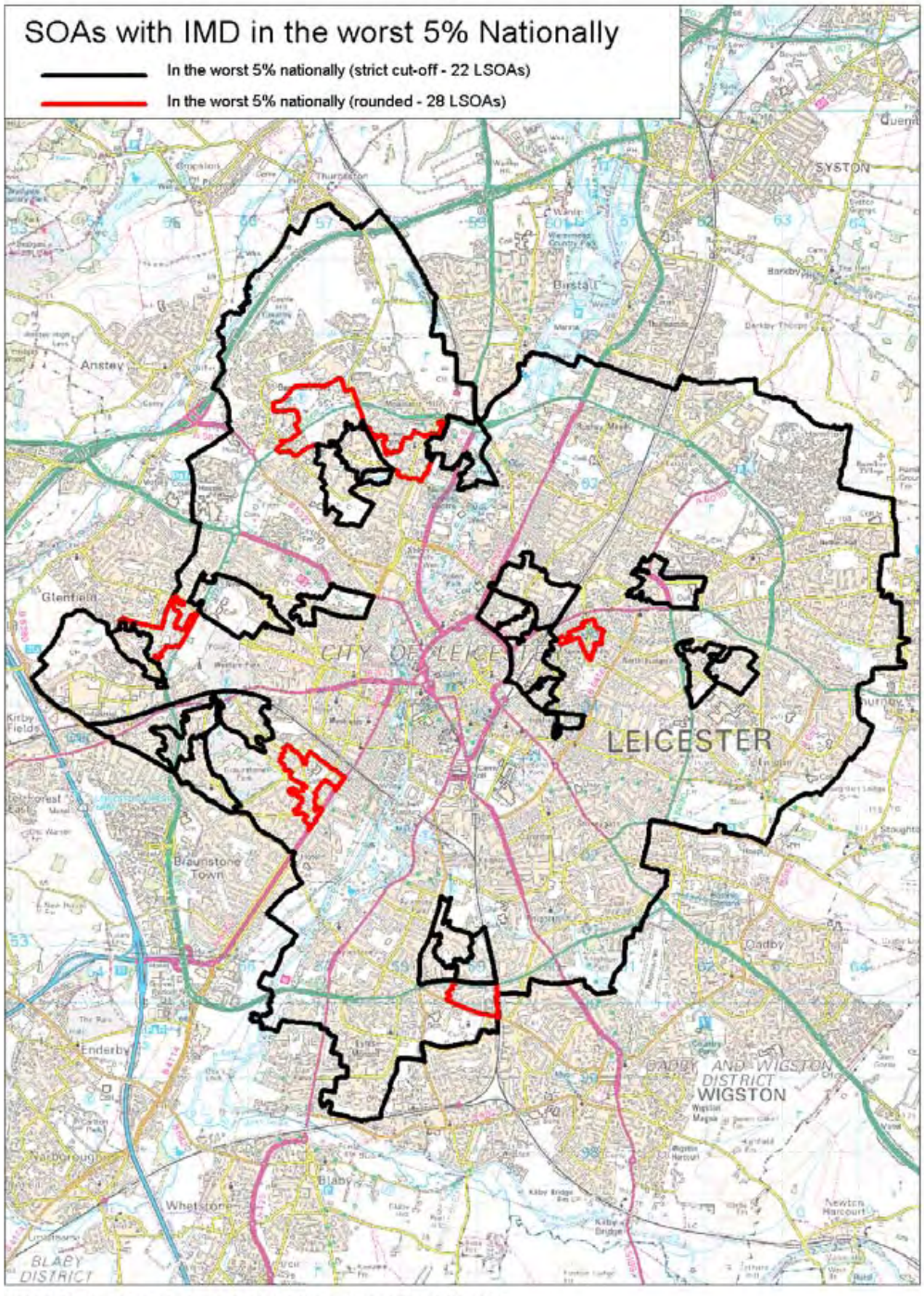
2.6 Neighbourhoods which are excluded may be geographically isolated such as the Braunstone estate in Leicester. Local shops often sell food at higher prices than supermarkets. They often can't stock the same range of products – particularly healthier foods - either. Income disparity in certain ethnic communities leads to a greater percentage of income spent on transport. The Leicester Partnership agreed to the establishment of 'Priority' areas using the Indices of Multiple Deprivation 2007 as a basis. They chose to highlight the areas that fell into the top 5% most deprived in the country. This provides a useful methodology for targeting scarce resources.

2.7 The Index of Multiple Deprivation (IMD) combines indicators across seven categories into a single deprivation score and ranks each 'super output area' in the city. The categories are:

- Income Deprivation.
- Employment Deprivation.
- Health Deprivation and Disability.
- Education, Skills and Training Deprivation.
- Barriers to Housing and Services.
- Living Environment.
- Crime.

2.8 Each Super Output Area (SOA) includes a population of approximately 1,500 people. The analysis shows that 28 super output areas in the city fall within the 5% most deprived nationally. When “clustered” the SOA’s highlight the areas of multiple deprivation as Beaumont Leys, parts of Braunstone and Glenfield, Saffron, St Matthews and St Marks, Highfields, Humberstone, Abbey Rise, Crown Hills and New Parks. These areas are shown on Map 5.4 below:

Map 5.4 – Super Output Areas with top 5% Indices of Multiple Deprivation 2007



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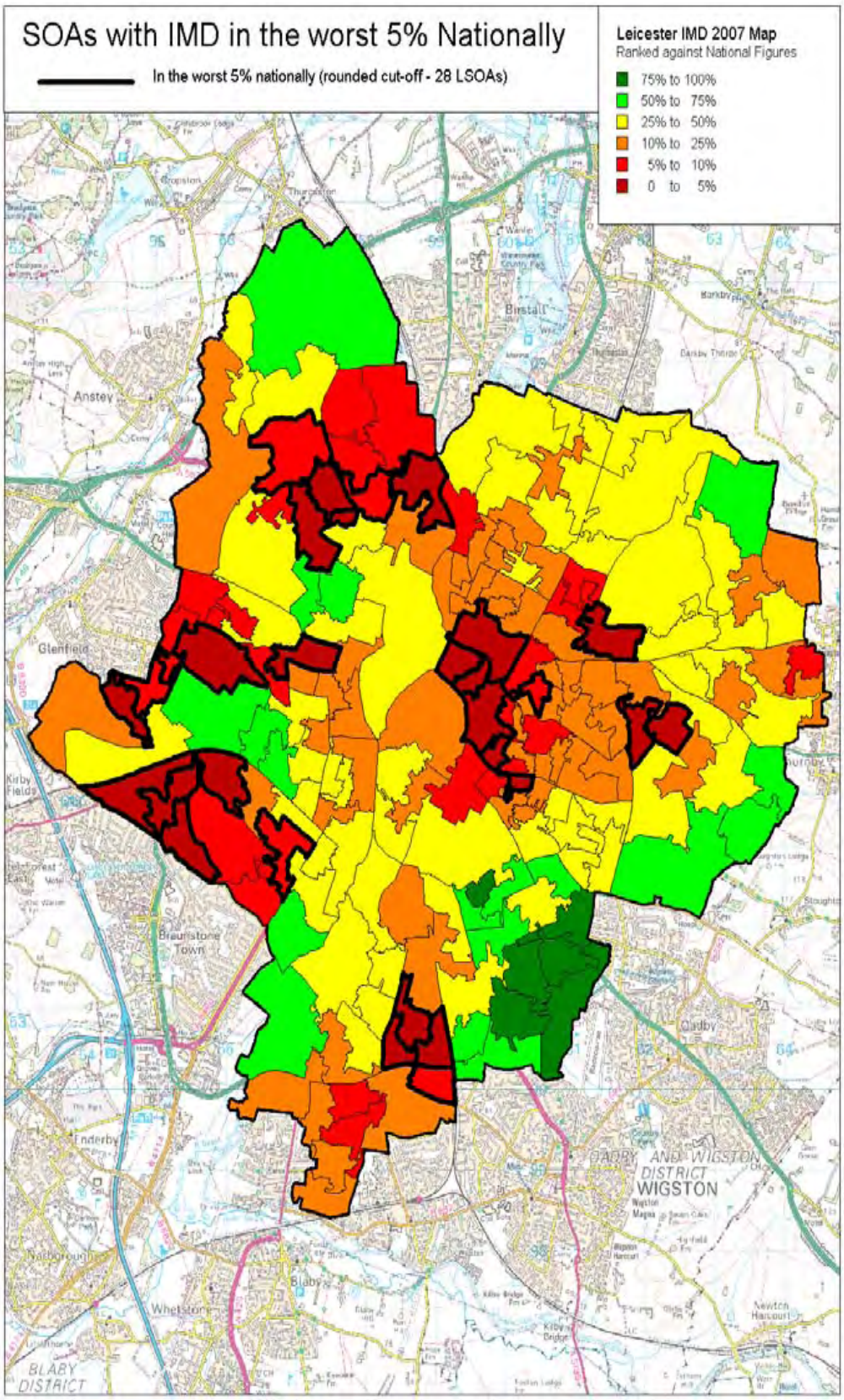
Map 5.5 - Thematic map of IMDs 2007



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2.9 Leicester's most deprived wards tend to be either immediately adjoining the city centre or are large housing estates at the edge of the city. Many facilities are within walking distance of the former, and for the latter, the very factors that cause the areas to score highly in deprivation, such as lack of access to a car, mean that they represent profitable routes for bus companies. Bus links to the city centre are already good, with estates supporting commercial bus services which operate to a frequency of 15 minutes or better (daytime) or 30 minutesor better (most of the evening), 16 hours a day, six days a week. However, the peripheral estates suffer from poor links to more adjacent facilities, which generally require access in an orbital rather than radial direction.

People with physical and sensory disabilities

2.10 Based on national trends, an estimated one in five local people are disabled. Disabled people require, and should be able to expect, full access to all modes of transport. Our work to benefit disabled people must, therefore, be wide-ranging in order to reflect the breadth of access issues. Our work has been informed and shaped by the opinions of representatives of various organizations representing disabled people in Leicester and Leicestershire. Often small-scale changes deliver real benefits in improving access to the city centre, local shopping areas and public transport for disabled groups. We also assist disabled people and the less mobile through our city centre Shopmobility scheme, enabling anyone with mobility problems to loan one of 68 scooters, 10 wheelchairs or 8 power chairs that are available between our two Shopmobility sites. There were 11,000 loans made in 2009/10 (up from 10,000 in 2008/09). We will keep demand under review and provide additional equipment if needed.

People with learning disabilities

2.11 People with learning disabilities can often find it hard to use public transport. Therefore, in partnership with smaller bus operators, we have already carried out disability awareness training for drivers: the larger bus operators already provide their own customer care training for drivers. There are 1,611 people with moderate to profound learning disabilities recorded on the Learning Disability Register as currently living in Leicester. However, the numbers accessing the available services are higher than the number on the Learning Disability Register, and are higher than would be anticipated by the national prevalence rates for people with moderate and profound learning disabilities, suggesting that the actual figure is much higher. (Source: JSNA 2008/09)

Leicester and Leicestershire Economic Assessment 2010

2.12 The Leicester and Leicestershire Economic Assessment 2010 recognises that there is a correlation between good transport links and job recruitment/retention and that developing good transport links to jobs, education and training is a key action for the employment strategy.

Safety and Security

2.13 The Department for Transport have published the findings of a major national survey into people's perceptions of security and crime while waiting for public transport. Whilst 64% of respondents felt positive about their personal security, other peoples apprehensions often reflected the respondent's age, gender and ethnic background; for example:

- Men, being more likely to be a victim of violence or robbery, felt more fearful of the presence of groups of other men.
- Women, who were more likely to experience harassment or sexual assault, are more concerned about the behaviour of lone men.
- Younger people were found to be most likely to experience being threatened or stared at in a hostile or intimidating manner.
- Ethnic minority passengers felt further exposed to the wider experience of racial harassment and therefore likely to have concerns, but were less likely to report any incidents.
- Disabled people felt particularly vulnerable to the threat of crime where access to transport is limited or via poorly lit, isolated routes.

The survey showed that the three interventions that provided reassurance for people waiting for the bus come through (in order).

- Locally monitored CCTV
- A well-lit environment
- Shelters and stops being visible from the road

Tackling Access to Health Facilities

2.14 One of the main areas for action that transport services can facilitate is good access to health facilities and providing the opportunity to exercise by improving access by walking and cycling to those health facilities and leisure activities to help tackle obesity. Good access to your nearest GP will not be relevant if you cannot register with that practice. Also, the potential rise in the number of specialised GP surgeries under the Health White Paper may increase the need to travel.

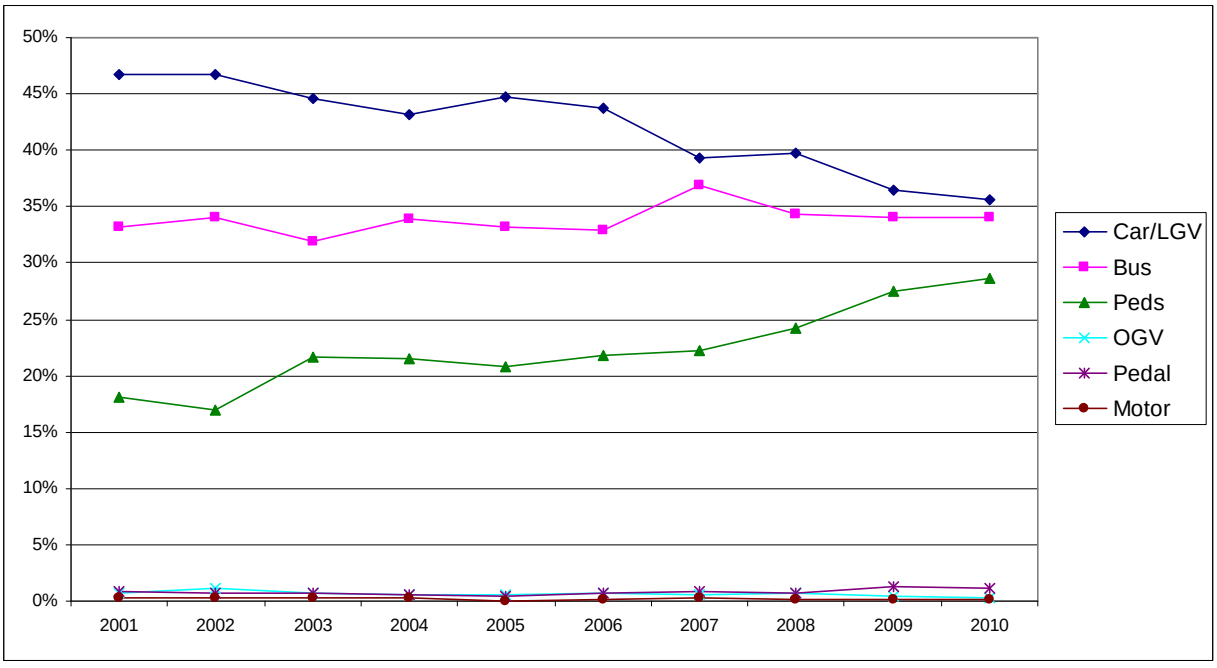
Walking and Cycling

2.15 Walking is a healthy and important method of getting around, as well as being an element of most other journeys e.g. walking to/from bus stops or car parks. Cycling provides the flexibility of providing transport from any origin to any destination, at any time, and is a practical solution for journeys of up to about five miles. It is a way of improving accessibility to sites that are not well served by public transport and has obvious health benefits. Photo 5.1 shows an example of our city centre pedestrianisation.

Photo 5.1: Pedestrianisation, city centre

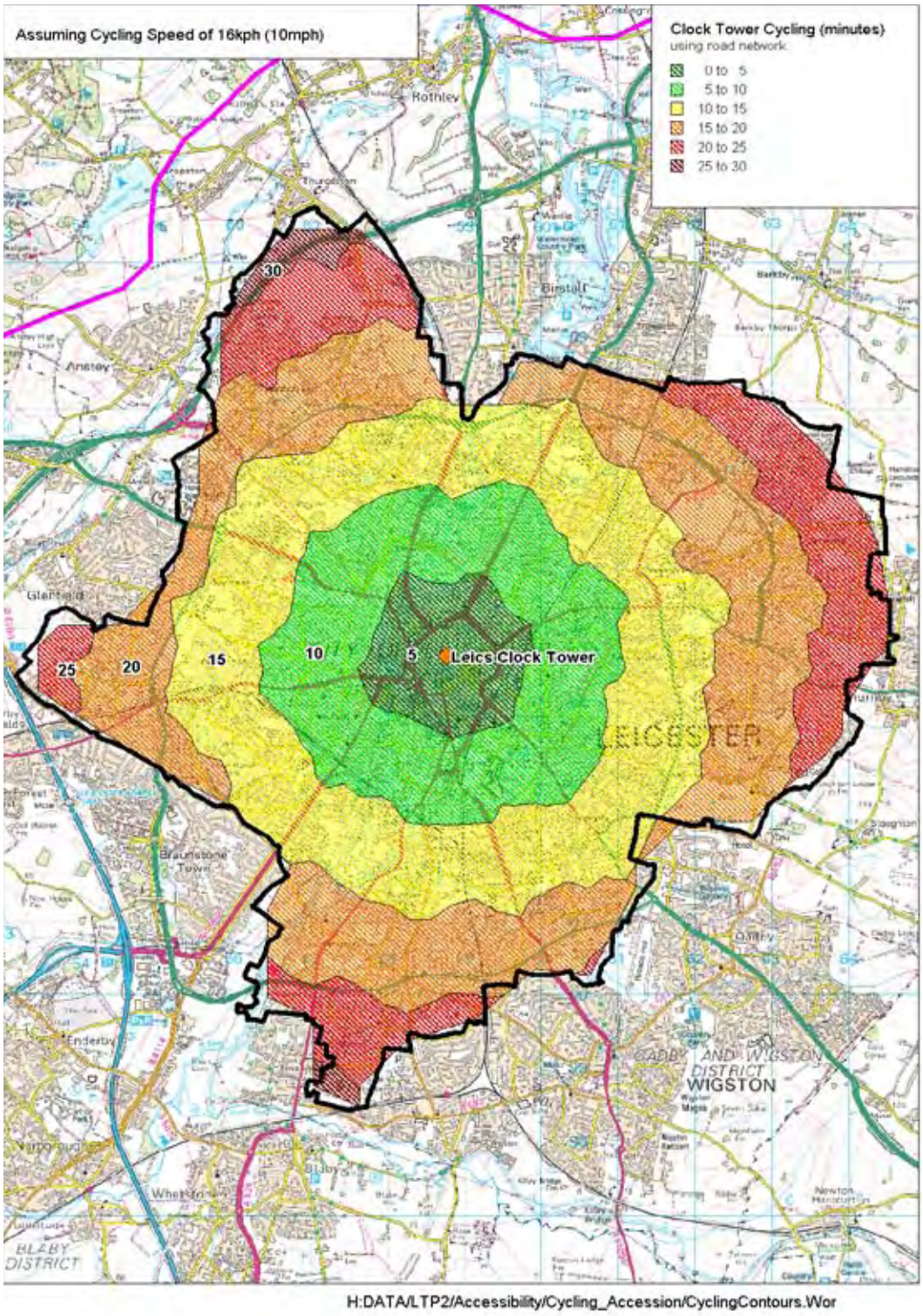
2.16 Graph 5.1 below shows how the modal share of people walking into the city centre across the inner ring road cordon has increased from 21.8% in 2006 to 28.7% in 2010 (this is an increase of 5,596 people from 29,811 to 35,407), whilst car trips have fallen from 43.7% to 35.7%.

Graph 5.1: City centre modal share by classification 2001 - 2010



2.17 Maps 5.6 and 5.7 show 10 minute journey time contours from the Clock Tower in Leicester city centre for cycling and walking respectively.

Map 5.6 – Cycling Journey Times from the Clock Tower



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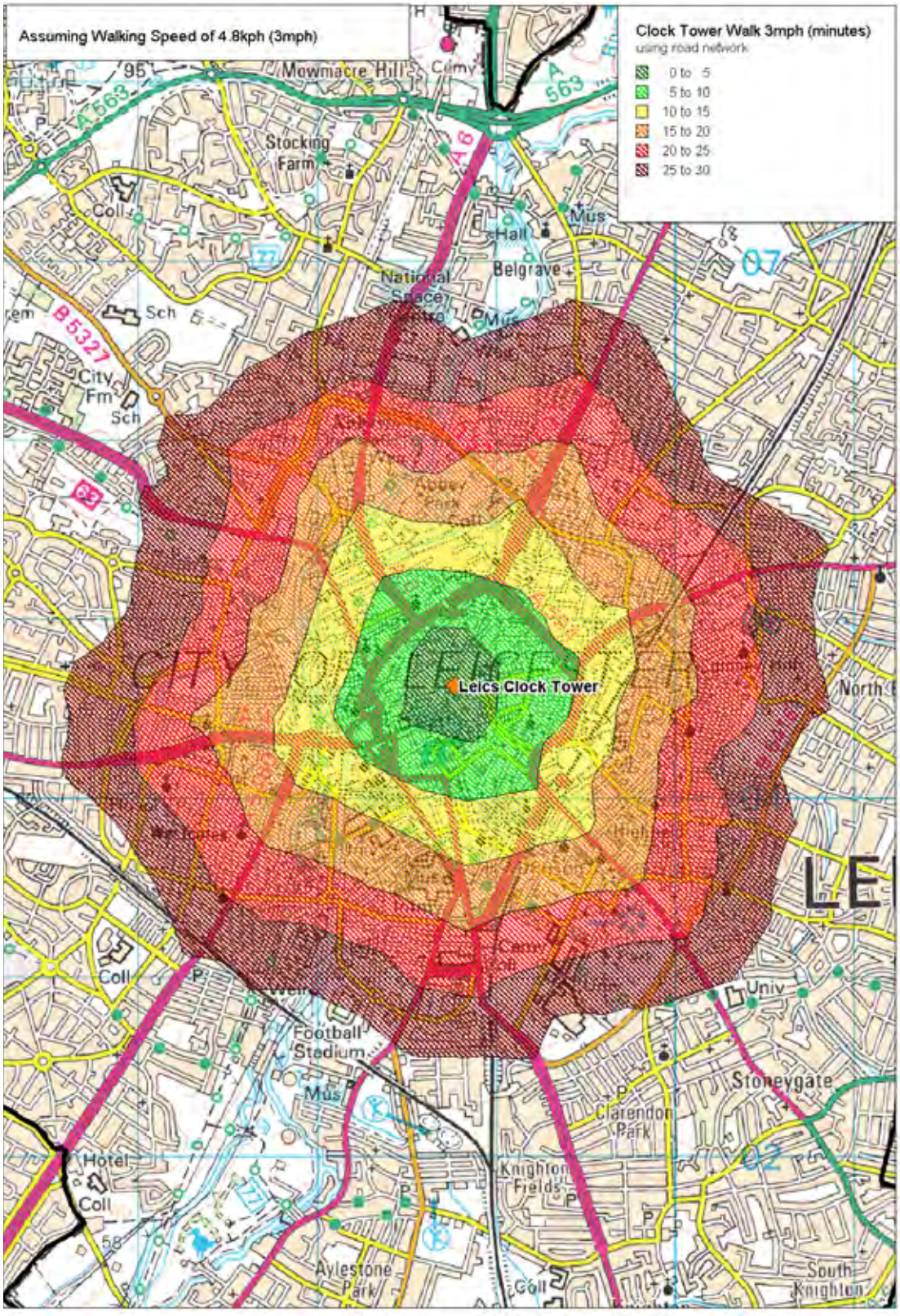
2.18 Map 5.6 above shows that any part of the city can be reached by bicycle within 30 minutes from the Clock Tower.

Map 5.7 – Walking Journey Times from the Clock Tower



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2.19 At an average walking speed the Clock Tower in the city centre can be reached within half an hour from places as diverse as the National Space Centre in the North, the Walkers Football Stadium in the South and Spinney Hill Park to the East.

Public transport, walking and cycling information

2.20 Examples of current information provision by the city council and others:

- Central Leicestershire Bus Map - available on the LCC website, and as a hard copy leaflet from various city locations including New Walk Centre Customer Services, libraries, tourist information, universities, shopping centres and the bus station.
- Various Bus Timetables - for supported bus services, these are mainly available at the bus station and from the bus operator travel shops.
- Bus Stop Timetables - provided in some of the city centre shelters, mainly Haymarket and Causeway Lane.
- Traveline - online and telephone bus information, provided nationally with a contribution made by the city council.
- Real time bus information system - supplies on street, internet and text \ messaging information on next bus arrival times.
- Bespoke point to point Leicester Public Transport and Cycling (and other modes) maps and routes are available at the Transport Direct website.

2.21 When providing information it should be remembered that Leicester has high levels of poor literacy (reading and writing in English) – 68% compared to the national average of 56%. This means that approximately two-thirds of residents cannot read or write English easily.

Accessibility and Employment

2.22 Research produced by Experian in September 2009 concluded that Leicester ranked 311th out of 324 Local Authority Areas in terms of the 'people' theme (based on workforce qualifications, earnings and employment occupations). 23% of Leicester City's working age population have no recognised qualifications, which is nearly twice the Great Britain figure (12.3%). Conversely, only 22.3% of Leicester City's resident workforce has a degree level qualification compared to 30% in Great Britain. Earnings for Leicester City residents are well below national levels and there are fewer Leicester City residents working in managerial and professional occupations than is the case nationally.

2.23 In February 2010, there were 41,710 key benefit claimants in Leicester City (20.2% of the working age population) which is a much higher proportion than seen nationally (15% in Great Britain). In some city wards such as New Parks, about a third of the working age population are claiming out-of-work benefits. More recent Job Seekers Allowance claimant figures for August 2010, show that the unemployment rate in Leicester is 5.7% compared to 3.6% in Great Britain. The following wards have male JSA unemployment rates in excess of 10%: Abbey, Beaumont Leys, Braunstone Park and Rowley Fields, Charnwood, Eyres Monsell, Freeman, New Parks and Spinney Hills.

2.24 The implications for transport planning are that jobs demanding higher level skills are likely to be taken by those residing outside the city boundary who will commute into Leicester. As the economy continues to restructure and become increasingly knowledge-based, this situation could become more marked. The up-skilling of residents, particularly those from the most deprived areas, amongst new communities and those currently out of work, is critically important and considered a priority.

2.25 Only 57% of working age females in Leicester are currently in employment. This could suggest a need for more flexible working opportunities, appropriate training and progression. Transport provision may also be important in terms of increasing female participation in the labour market.

2.26 At the Leicester and Leicestershire sub-regional level, following the boom in employment in 2006 and 2007, overall numbers in full-time employment are forecast to decrease from 413,700 in 2008 to 404,000 in 2016 (based on Experian forecasts). The Annual Population Survey provides information about where residents who are employed are working and where the workforce of a specific area actually lives. This information is useful in assessing levels of self containment and high level commuting patterns.

2.27 In terms of residence self containment, 82%[11] of those living in Leicester actually work in Leicester. This represents a very high level of self containment and is higher than the other East Midlands cities of Nottingham and Derby. Table 5.2 (below) shows where Leicester residents work; 82% work in Leicester and a further 12.6% work in the surrounding county area. Very few Leicester residents are commuting out of the sub-region (less than 1% to both Nottingham and Northamptonshire). Analysis done by the Office for National Statistics suggests that there has been no significant difference in the percentage of Leicester residents working in each of the areas shown between 2001 and 2008.

Table 5.2 - Where do Leicester residents work?

Area of work	Proportion of residents working in this location
Leicester	82.4%
Charnwood	2.8%
Blaby	2.4%
Harborough	2.3%
Hinckley and Bosworth	1.6%
North West Leicestershire	1.4%
Oadby and Wigston	1.4%
Nottingham	0.8%
Northamptonshire	0.8%
Melton	0.7%

Source: APS, 2008

[11]Confidence interval around this data is + or - 3%

2.28 Workplace self containment looks at where those working in the city of Leicester actually live. This shows that 54%[12] of Leicester's workforce lives in Leicester and 46% of the workforce lives outside the city itself. This indicates that Leicester is less workplace self contained than it is residence self contained. It is, in effect, an employment hub attracting workers from the surrounding area. The majority of those commuting into Leicester live in Leicestershire (35% of Leicester's work-force). This is not statistically different to the situation in 2001.

Table 5.3 - Where does Leicester's Workforce live?

Area of residence	Proportion of Leicester's workforce living in this location
Leicester	53.8%
Leicestershire	35.0%
Nottinghamshire	2.8%
Warwickshire	2.0%
Northamptonshire	1.2%
Nottingham	0.6%
Rutland	0.5%
Coventry	0.5%
Derby	0.4%

Source: APS, 2008

The table below provides more detail on the 35% Leicestershire figure.

Table 5.4 – Breakdown of Commuters from Leicestershire

Area of residence	Proportion of Leicester's workforce living in this location
Leicestershire	35.0%
Blaby	12.8%
Charnwood	6.4%
Oadby and Wigston	6.2%
Harborough	3.7%
Hinckley and Bosworth	3.7%
North West Leicestershire	1.4%
Melton	0.7%

Source: APS, 2008

2.29 Analysis of earnings data suggests that many of those in the high earning jobs are commuting into the city from Leicestershire and further afield. As the economy becomes more "knowledge based", this situation could increase the pressure on transport networks if people wish to commute into the city during peak periods.

[12]Confidence interval around this data is + or - 3%

2.30 Reducing worklessness is more complicated than simply using a transport resource to match up areas of greatest unemployment with available jobs. Other common barriers for people to get back into work include lack of flexibility of employers (for example, around carer responsibilities), ensuring that work pays, low levels of skills and access to training. However, problems with transport can prevent people from attending interviews, reduce their travel horizons and result in their turning down jobs. A survey carried out for the Social Exclusion Units report into links between transport and social exclusion showed that 38% of jobseekers said that transport (lack of personal transport or poor public transport) was a barrier to getting a job. This is particularly the case for people living in low-income areas and 16-25 year olds.

2.31 In the recent Leicester and Leicestershire Business Survey (December 2009) 12% of businesses in Leicester indicated that 'employees getting to and from work by car' was a problem for them. Getting to work by public transport was a problem for 13% of business located in Leicester city and for 19% of businesses located in Leicestershire. 19% of businesses in Leicester said that car parking for their employees was a problem. However, businesses were more concerned about traffic congestion, with 25% of city based businesses indicating this was a problem. When taking into account all business concerns, businesses are much more concerned about financial issues and finding customers than transport related concerns.

3. Appraising the Options

3.1 Option assessment described in chapter 3 demonstrated that many options could be considered to form part of our Accessibility Strategy (such as Public Transport Routing, Public Transport Development, Bus Stations and Interchanges and others) but many were identified to form part of our congestion and road safety and active travel strategies and have been appraised in those strategy chapters. The options identified for appraisal are:

Working with Partners to improve accessibility

3.2 A key aspect of Accessibility Planning is the need to work in partnership – at appropriate levels - with stakeholders to deliver solutions and maximize opportunities to solve local access issues.

Working with Partners – access to Health

3.3 We work with colleagues in different tiers within the Health Sector to address accessibility issues; this ranges from improving co-ordination of health promotion, contributing to the Older People's Strategy, to developing travel plans and providing Demand Responsive Transport.

Working with Partners – access to Education

3.4 Currently we are providing children with free transport to school when the student is placed at the nearest maintained school where the distance measured from home to school is in excess of the statutory two miles for under eight year olds

and three miles for those eight year olds and over. This requirement excludes independently run schools and colleges. Where a student takes up a school place in excess of the above distance as a result of parental preference being expressed, then no assistance will be provided unless special circumstances apply.

3.5 We work in partnership with individual schools via our Road Safety Team and their School Travel Plan in identifying areas of concern to be improved by Safer Routes to School schemes. This work may include 20 mph zones/areas, new/upgraded pedestrian or dual use crossings, traffic calming and improved pedestrian facilities in the area, to benefit all local residents. All schools now have level access bus stop facilities at their nearest stop to improve accessibility for parents with child buggies, or those with other requirements. The Road Safety Team work in partnership with individual schools to offer free pedestrian and cycle training to all Primary Schools. Specifically this is the 'Feet First' pedestrian training for year 2 students and Bikeability Level 1 and 2 Training for years 5 and 6.

3.6 The Leicester Post 16 Transport Partnership ensures that no post-16 student is prevented from entering or continuing further education through lack of transport. In order to ensure good quality cross boundary links, Leicestershire County Council is represented on the city Post 16 partnership and vice versa. The Partnership consists of representatives from:

- The CYPS (Children's and Young People Services): The CYPS provides universal access to childcare and to primary, secondary and special education.
- Special Educational Needs (SEN) Transport Service.
- Connexions: provides information and advice to 13-19 year olds to help them make a smooth transition to adulthood and working life.
- Further Education and Sixth Form college representatives: service delivery providers.

3.7 Initial work in the Partnership concentrated on qualitative service user data collection. Research showed that transport considerations were not important to mainstream students in the city in determining their learning location for Post 16 study. Students who left their college course part way through the year also told us that transport problems were not seen as a major factor in their decision. However, there was a lack of awareness of transport services and products (particularly bus passes) available. It has been encouraging that our Post 16 education providers have identified transport information as an area in which to expand their collaborative working.

3.8 The following initiatives are on-going, improving access to learning for students:

- Real Time Passenger Information display boards in colleges.
- Improving bus service information available to students to raise awareness of services so students can make informed transport choices at the course ap-

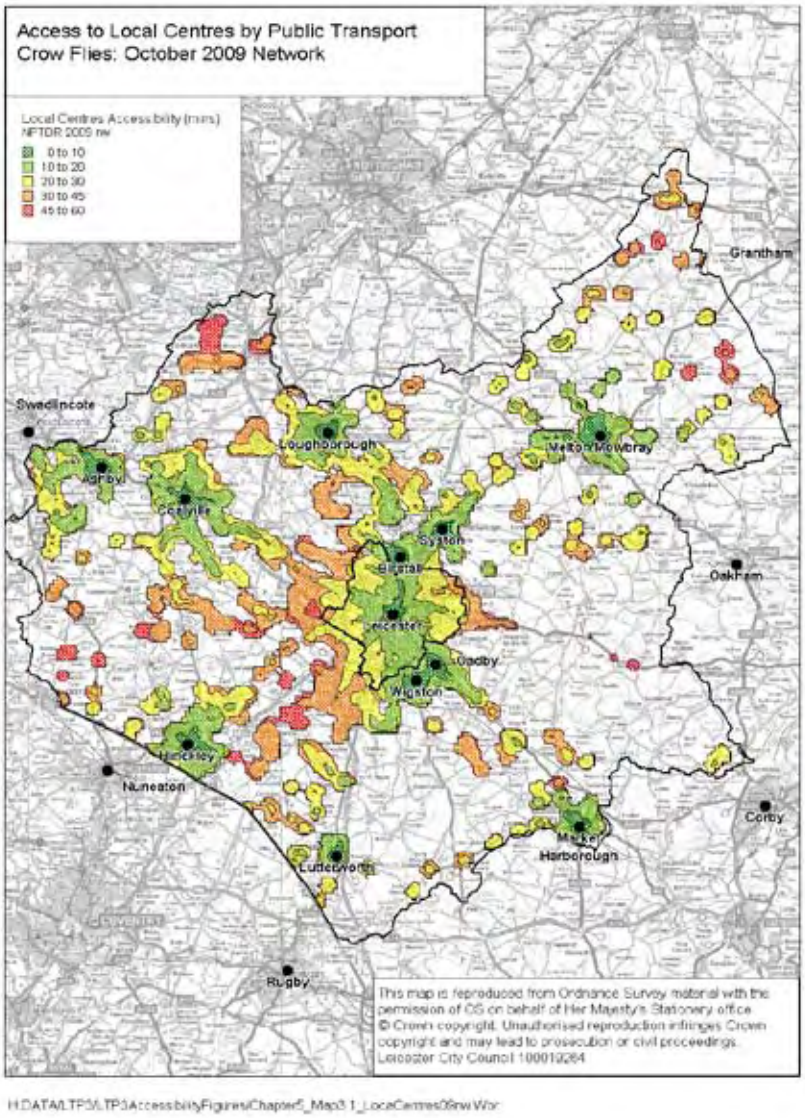
plication stage. This is currently done through Partner websites and college literature.

» Providing mobility training for disabled students through an interactive theatre company, followed up by practical travel training so they can learn to plan routes and travel independently.

Working with Partners – access to Food and Retail

3.9 What we eat is central to our health throughout life. Good nutrition through adult life helps protect against diabetes, coronary heart disease, stroke and some cancers. Through joint working with the county council, we have considered access to a relatively small number of main centres across Leicester and Leicestershire that provide a high concentration of essential facilities that local people depend on. Through work with our partners, we agreed a definition of a main centre as one providing: a large food store or choice of shops selling healthy competitively priced food, further education at a college or sixth form and a post office, bank branch, building society and chemist. The mapped access time contours are shown on Map 5.8. Nearly all residents of Leicester can access a main centre by public transport within 30 minutes or less.

Map 5.8 (Access to Local Centres)



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Working with Partners - Taxis

3.10 Around 14,000 journeys are made each week from the city's five main ranks. Taxis play a key role in providing interconnectivity between modes by filling in gaps in public transport services and offering a flexible, accessible door-to-door service. They have an essential role in the night time economy when other forms of transport are not available. The fleet of 338 hackney carriages are all wheel-chair accessible with a range of designs to cater for different mobility needs. Our aim is to improve the provision of ranks and investigate the use of innovative systems to manage the use of ranks taking into account customer need, balancing supply around the city centre and minimising the need for kerb-side space.

Campaigns

3.11 Leicester City Council participate in a wide range of campaigns promoting access via bus, cycling and walking. See Chapter 4 for more details. Consultation for this Local Transport Plan clearly shows that whilst satisfaction with the bus services in Leicester are generally high, the experience for people with disabilities and particularly those with learning disabilities can be stressful due to other passengers attitudes and also when bus drivers do not understand or realise that some passengers need more time, patience and guidance in getting on and off buses.

As a result of this, we will be working with the bus companies to provide posters for the buses and training for the drivers as part of the 'Stamp It Out Campaign'. Stamp It Out is a community led partnership with all partners committed to stamping out all forms of hate incidents and crimes to make Leicester a safer place for people to live, work and socialise.

Similarly, results of consultation over the course of LTP2 with disability groups has shown that walking in or close to areas where people are cycling can be stressful. We have along with DeMontfort University and RNIB, developed a poster campaign called 'Social Cycling' for the city centre poster sites and the university building to make cyclists more aware of the stress they can cause to the pedestrians that they are cycling amongst.

Public Transport Focused Developments

3.12 This involves organising the location and mix of land use types to suit public transport use. This includes land use planning. All new developments will be designed to be accessable on foot, by bike and by public transport as well as by car. As part of the councils Strategic Inclusive Design Aims we aim to:

- Make places (and specify products) that everyone can use safely, easily and with dignity
- To remove (and not create) barriers that cause undue effort or separation
- To enable everyone to participate equally, confidently and independently in everyday activities

- To achieve these aims through a clear commitment to achieving best practice, rather than minimum standards

See **Chapter 4** for more details.

Land Use Measures

3.13 See Chapter 4 for more details.

Buses
Working with Partners – Buses

3.14 We work with the bus companies through the Quality Bus Partnership (QBP). and we will also be working with disabled groups to help them in accessing and using public transport. See **Chapter 4** for more details.

Bus Stations and Interchanges

3.15 Bus stops are currently located in concentrated pockets spread around a large part of the city centre leading to a lack of kerb space for buses, crowded pavements, road traffic accidents and potential long walks between stops for interchanges. A new bus station and/or improved interchanges would help to significantly reduce some or all of these problems.

3.16 Interchanges are important gateways to Leicester with around 840 local bus departures from St. Margaret's Bus Station and around 11,500 people passing through Leicester railway station everyday. Easy interchange makes more complex journeys easier to achieve and market. Interchanges raise a number of issues including: the location of bus stops for connections on to local bus services, quality of waiting facilities, lack of information, through ticketing, insufficient car and cycle parking, operation of the taxi ranks, security and safety of pedestrian routes and pedestrian signing. Having many of these facilities nearby helps to reassure passengers, particularly when they are in unfamiliar locations.

3.17 St. Margaret's Bus Station is currently served by 24 different coach services to other parts of the country including Yorkshire, London, Birmingham and the South West (over 30,000 departures in 2009/10). Many more destinations are available through changing in Birmingham. Both council contracted and commercially operated bus services use the bus station with over 48 different services making over 211,218 departures each year (2009/10 figures). Consultation shows that opinions about St. Margaret's Bus Station have improved since the refurbishment in 2007. Other improvements since then include the installation of cycle racks inside and outside the station, improved signage and information both inside the station and directing you to the station. However, many people also see the bus station as being remote from the city centre; this is important as walking (primarily from the city centre) is the main method that people use to access the bus station.

3.18 We therefore plan to continue our partnership work with bus operators to improve the interchange at the bus station as and where appropriate taking into account user feedback.

Bus Fares

3.19 Between 1997 and 2009 bus fares have increased by 24% in real terms (nationally) compared to a 14% fall in motoring costs in real terms (note that this is principally due to the fall in cost of purchasing a motor vehicle, which halved in the twelve years from 1997. Vehicle running costs have increased by 24%, as with buses, over the same period). Rail fares have seen a real terms increase of 13% over the same period. In the Comprehensive Spending Review (CSR), October 2010, the government said that, including concessionary travel, overall they will make 28% savings from local transport revenue funding, in line with the wider revenue savings that the department is making from its overall budget for transport.

Bus Fares - Concessionary

3.20 Also, from 2012/13, the DfT plans to make a reduction in the subsidy paid to bus operators by reducing the rate at which subsidy is paid by 20%. This could cause bus operator costs to rise and a corresponding increase in bus fares.

3.21 The government is committed to protecting the England-wide concessionary travel scheme for older and disabled people. So while it has identified substantial efficiency savings in this area, they are focused on the way the scheme is administered, rather than on the benefits received.

3.22 In the wake of the CSR the DfT has said that the current non-statutory arrangements that enable long distance coach operators to claim Bus Service Operators Grant (BSOG) in return for offering a half-price concession to older and disabled people will be ended by October 2011, although the industry may wish to continue to offer this on a commercial basis. This does not in any way affect the statutory national concession which offers free travel on local bus services throughout England.

3.23 Difficulties in access for disadvantaged groups result from a combination of availability and affordability concerns. We currently have a comprehensive countywide scheme of concessionary travel for elderly and disabled people. This offers half-fare travel well above the minimum standards defined by government and free or flat-fare travel passes for people with some types of impairment. We regularly review the scheme to ensure that there are no barriers to eligible people claiming concessions. From April 2008 people over 60 and eligible disabled people have been able to travel for free on any local bus service in England after 9:30am. In addition to the free scheme we have continued our current concessions of a half-fare scheme that is free of time or geographical restrictions within Leicestershire for OAPs, and free travel before 9:30am for Leicester disabled passholders.

3.24 For some patients, the cost of travel to hospital can present difficulties. Financial help is available under the Hospital Travel Costs Scheme (HTCS), to those patients who do not have a medical need for an ambulance, but who cannot meet the cost of travel to hospital. Patients (and where considered medically necessary, their escort) in receipt of certain benefits are entitled to reimbursement of

travel costs to hospital. Costs are calculated on the basis of the cheapest form of public transport available to the patient. Patients travelling by private car may claim for petrol instead (and car parking charges where unavoidable). We will work with colleagues in the NHS to promote this valuable scheme to those who would benefit from it.

3.25 Consultation told us that the costs of travel can be a barrier to accessing higher education, particularly for lower income households, despite the eligibility of many to receive an Educational Maintenance Allowance (EMA) of up to £30 per week (scrapped in the October Comprehensive Spending Review, but date of demise not yet known). However, post 16 students with severe learning or physical disabilities are entitled to free travel (after payment of a £160 contribution charge) using a suitable method (e.g. bus pass, specialist vehicles, taxis etc.) depending on their needs. The £160 annual cost of a bus pass is waived for post 16 students living in a family receiving certain benefits. Leicester College – the largest Post 16 education provider in the county – issues bus passes to students directly. Those who are not eligible for a bus pass under the three mile rule are encouraged to appeal against the L.A.'s Transport Policy.

3.26 However students can be awarded a bus pass by the college, at the college's discretion. This is funded by the college's learner support fund, with the student / family making a contribution if they are not in receipt of a means tested benefit. Bus passes are not normally allocated to students who live less than one mile from their college, as they are judged able to walk. Increasing pressure on college learner support funds has prompted our Post 16 transport partnership to consider affordability issues through reviewing the suitability of the existing rigid 'three mile rule' for bus passes. We are now reviewing our subsidy to the post 16 bus pass. We are also reviewing our discretionary wavering for those on benefits.

3.27 We also fund the 'Travel Aid' scheme where a fee of £1 entitles an unemployed person to claim half-fare bus travel for a four-week period. This works to supplement the National (English) Concessionary Travel Scheme which provides free off-peak bus travel to all eligible older and disabled people. The Travel Aid scheme is discretionary and receives no specific Government funding. The total cost of the Concessionary Travel Scheme exceeded £8.5m in 2009/10 and continues to put pressure on council finances, but thus far the non-statutory additions which the city fund have been able to be continued (rail and pre-0930 concessions). We recognise the importance of the Travel Aid Scheme to users, and have been successful in being able to continue funding it.

Ticketing

3.28 The increased availability and functionality of bus tickets through the use of such things as Smart Ticketing technology and Through and Off-Bus Ticketing has the potential to improve accessibility. Further details can be found in Chapter 4.

Park and Ride

3.29 Park and Ride improves accessibility and provides an alternative to car travel. Further details can be found in Chapter 4.

Bus Corridors

3.30 See Chapter 4 for more details.

Public Transport Routing

3.31 See Chapter 4 for more details.

Bus Information

3.32 Our bus information strategy, agreed with bus company partners, recognises the need for high quality information, properly updated and delivered through a variety of media. The key commitments in the bus information strategy are to:

- Maintain the bus services database for the Traveline telephone and on-line enquiry service, with full contribution to the costs of these.
- Provide and distribute high quality timetable leaflets.
- Provide full guides to the hourly services network, one for the whole county and one for Central Leicestershire.
- Provide guides to the services in main urban areas, delivered door to door at six-monthly intervals.
- Provide and maintain bus-stop displays at all main bus stops; all new JC Decaux bus shelters include provision for bus service information.
- Provide permanent on-street displays giving comprehensive local bus information in all major town centres and in all railway stations.
- Provide data for the national Transport Direct initiative.

3.33 The 2008 National Place Survey found that 68% of people in Leicester were very or fairly satisfied with local bus services (compared with 56% in the East Midlands region as a whole and 55% nationally) and 54.5% were very or fairly satisfied with local transport information (compared with 48% across the East Midlands and nationally). We have joined an agreement with bus companies and local authorities across the East Midlands to change bus timetables on only six standard days each year. This helps to ensure effective publicity for changes and to reassure customers, particularly those with learning difficulties.

Bus Stops

3.34 Ensuring that the positioning of bus stops, and the access to / from them are well lit, safe, and minimise walking times for passengers is a key element of our accessibility work. We will work with the QBP and the police to identify bus stop improvements (such as improved signing and information) and implement as finance allows. Provision of high quality bus stops is relatively inexpensive, particularly as part of a larger highway improvement scheme and hence we will continue this option as part of our Accessibility Strategy.

Bus Stops - Level Access Bus Stops

3.35 We will implement raised kerbs at stops, primarily in parallel with our bus corridor projects, but we will also invest elsewhere where low floor buses are used giving priority to routes operating within and through our priority areas.

Buses/Services – Low Floor

3.36 Raised kerbs at bus stops on routes served by low-floor buses make it easier for everybody to get on and off buses, but they are particularly useful for those with mobility impairments or parents with children in buggies. On their introduction the low floor easy-access buses were the most noticed element of bus service enhancements, and this positive response was confirmed by comments made at our ward meetings and focus groups, particularly among the elderly and bus passengers with buggies. Around 79% (in 2008/09) of Arriva and First's buses operating in Central Leicestershire are low floor vehicles. We will therefore continue to improve accessibility by ensuring that investment in level access bus stops, dropped kerbs, widening or providing new footways, improving traffic signal crossings and providing information in alternative formats continues in parallel with the upgrading of bus fleets operating in Central Leicestershire to low-floor specification.

Buses/Services – Contracted/Supported services

3.37 Earlier/later opening hours do make services more accessible, especially if (where there is a need) pre-determined appointments are made around availability of public transport. City council transport planners will continue to work with service providers as and where appropriate to try to ensure services are provided at times when they are accessible to service users from a transport perspective. Whilst funding new local bus services is beyond city council resources in the current economic climate our experience shows that we should continue to seek funding opportunities to "kickstart" new services when appropriate.

3.38 We have experience of using local bus services to improve orbital movements with a successful bus route initiated under the Urban Bus Challenge scheme in Braunstone. We currently support the hourly Outer Circle service, at a cost of around £246,000 a year and the Inner Circle at a cost of around £178,000 per annum. There is clearly a demand for orbital services in Leicester (100,000 journeys a year were made on the Outer Circle in 2009/10) but any additional funding is unlikely in the current financial situation, unless external funding can be found.

Continuing to support these services should still provide better value for money and capacity than demand responsive or taxi based alternatives.

3.39 The city council supports many evening and Sunday bus services on routes operated commercially during the main part of the day. These services have an important role in providing access to work for part-time and shift workers (and to leisure activities) but they are costly to subsidise. Bus services are more expensive to operate at these times and they are relatively lightly used. We also support school services for non-statutory entitled school children.
These routes are designed to complement the commercial bus network, while providing for journeys that are most likely to be undertaken by car should the direct bus service not be available. Within the city, we regularly review our bus service support criteria, with a view to maximising the targeted access they provide within resources available.

Maps – Bus Maps

3.40 We regularly update and publish the Central Leicestershire Bus Map, which shows all the main bus routes in Central Leicestershire and provides details of which buses stops they use in the city centre. See Chapter 4 for more on maps.

Photo 5.2 Interchange facilities - London Road Railway Station

Rail

3.41 Leicester is on a rail crossroads, with north-south links being provided by East Midland Trains (Sheffield - East Midlands - London) and east-west links by Cross Country Trains (East Anglia – East Midlands – West Midlands and beyond).

3.42 We have made real progress in tackling interchange issues at the railway station through improving map-based public transport information, re-developing the central reservation on the dual carriageway outside the station to include a new city-bound bus stop as shown in Photo 5.2 and improving the quality and directness of the walking and cycling routes from the city centre via Granby Street to the station (completed in 2010). We plan to continue our partnership work with the rail industry and Prospect Leicestershire to help bring about the “New Business Quarter” at the rail station area and improve interchange at the railway station further. See Chapter 4 for additional information on rail.

Cycles - Working with Partners - Cycling

3.43 Community bike enterprises such as Bikes4all and Cyclemagic aim to get people of all ages cycling.

The project recycles bikes donated by the public and corporate sponsors and offers training, activities and services which have a positive impact on the whole community. Leicestershire Constabulary has been working with the city council to re-use stolen bikes which are unclaimed.

The idea began in September 2003 to prevent bikes going to landfill when they could be refurbished and donated or sold to families in deprived areas.

The bikes are used during Bikebility training to provide bikes for children who don't already own a bike in order that they can still benefit from the training.

This is a community project working with volunteers and provides an invaluable service for little cost.

Cycles – Cycle Routes and Lanes

3.44 We use our accessibility planning work and feedback from consultation to identify "missing links" in the network that, if completed, improve accessibility to key services. Such links can often be relatively inexpensive to provide yet produce many benefits in terms of improving health and reducing car exhaust emissions. In fact (based on evidence from the Cycle Demonstration Towns) the Cost Benefit Ratio for cycling infrastructure is 1:3 (and that is without taking account of the health benefits in the calculation, when they are included the ratio is much higher). Hence, providing and maintaining well surfaced, lit and signed links to schools, local shops, health care facilities and employment areas – both through footways, crossing points and the networks of public Rights of Way and permissive paths owned by the council - will continue as part of our Accessibility Strategy.

Monitoring of the integration of cycling into the pedestrian priority zones created in the city centre in 2008 has shown that cycling numbers have doubled within a relatively short space of time. However, whilst cyclists are generally very happy with the new zones some pedestrians are not, particularly those with visual or physical impairments. If funding permits then a study will be undertaken which will look into the success or otherwise of cyclist integration in the pedestrian priority zones.

3.45 Results from monitoring of the integration of cycling into the pedestrian priority zones created in the city centre in 2008 have shown that cycling numbers have doubled and that both cyclists and pedestrians are generally happy with allowing cyclists within the zone. Therefore, integrating cycling within urban regeneration schemes should be continued.

Cycles - Advanced Stop Lines

3.46 Continue to work to provide on carriageway facilities for example 'advanced stop lines' at junctions. Full width lanes should be the first preference; however virtual cycle lanes (coloured surfaces without the use of white lines) could be considered where there is insufficient width.[13]

Cycles - Cycle Parking

3.47 The Leicester city centre Car Parking Strategy Supplementary Planning Document (SPD) outlines areas where there is currently the greatest demand for car parking spaces and also looks towards future demand such as:

- The New Business Quarter and other Strategic Regeneration Areas
- Around the railway station/bus station interchanges

Cycle hubs which include parking and cycle hire should be provided in these locations along with other frequently used sites e.g. Highcross, the universities and the UHL Trust.

Opportunities to provide cycle parking should be taken throughout all areas of the city, particularly where local facilities are provided (e.g. doctor's surgeries).

Cycle parking has been provided at major events in Leicester for a number of years. Not only does it provide a service, and means that cycling can be publicised as a way of travelling to the event, but it also forms a monitoring tool.

Cycles - Cycle Hire Schemes

3.48 The London Barclay Bike Hire Scheme could become the first public transport system to make a profit. TfL aim to expand the scheme. However, setting up the bike hire scheme is set to cost £140m over six years. TfL expect it will cover its operating costs within two to three years and will then be able to contribute to its implementation costs.[14] Paris Velib bike hire is also expanding and making a profit.

Leicester's Smartcard for use on public transport could have the capacity to be used as cashless payment for Cycle Hire Schemes. Consultation with various groups both cyclists and non-cyclists have put the provision of bike hire as desirable. Therefore, the Cycle Hire Scheme is a long term option for Leicester's LTP3. The cost of providing a bike hire scheme will be unaffordable for the first years of LTP3. However, during this time we will be investigating the strength of the business case.

[13]Advanced stop line research study, Atkins, May 2005 *[14]Guardian.co.uk*

Maps – Cycle Maps

3.49 An area where Leicester has under performed throughout LTP2 has been in the provision of mapping and signing of cycle routes. Feedback from many cycling stakeholders and in particular from the pilot Personalised Travel Planning Team has been that the lack of mapping and signs are preventing the uptake of cycling.

A new printed map should be available in January 2011 via bike shops, city council outlets and Ride Leicester events. Bespoke point to point Leicester Public Transport and Cycling (and other modes) maps and routes are currently available at the Transport Direct website.

3.50 Main roads can act as barriers reducing peoples travel horizons. We receive many requests from the public to install new crossing facilities to enable safe access, to health centres for example, and these are relatively low cost, say £30,000. Providing safe, easy to use crossing points is therefore important in increasing the accessibility of facilities, either to a bus stop for an onward journey or to a final destination itself. Provision of pedestrian and cyclists crossing facilities are relatively inexpensive to provide, particularly as part of a larger highway improvement scheme and hence we will continue this option as part of our Accessibility Strategy.

3.51 We will prioritise the continuation of improving cycling and walking access over the ring roads and the completion of the green ringway orbital cycle route. We will also look for improved links between the universities, University Hospitals Leicester (UHL) and existing and proposed transport interchanges.

Maintenance – Footways and Cycle Routes

3.52 Chapter 9 includes details of our roads and footways maintenance strategy which aims to focus on improving the condition of the footways to maximise the contribution that they can make in helping us improve accessibility using footways particularly for less mobile people.

Major Road Improvements (over £2m)

3.53 Junction improvements can facilitate easier access for pedestrians, cyclists and vulnerable road users. See Chapter 4 for more details.

Car Schemes

3.54 See Chapter 4 for details.

Variable Message Signs

3.55 Variable Message Signs (VMS) are digital road signs used to inform car drivers about specific temporary events and real-time traffic conditions. The aim of using VMS is to provide drivers with mandatory and/or advisory information at the roadside. See Chapter 4 for more details.

Training – Independent Travel / Valuing People

3.56 The "VALUES – Travel Training" Project under Voluntary Action Leicestershire (VAL) is focussed on people with learning disabilities and has a number of different programmes under it which focus on volunteering and employment and now travel training. They support both young people and adults and are mainly funded via the council but have had independent charitable funding as well.

3.57 An integrated travel training strategy will be developed over the coming year. Leicester City Council employs a travel buddy - someone that trains people with learning disabilities how to travel independently using public transport to get to and from different destinations (e.g. home to work). The uniqueness of this post is that it is a person with a learning disability who is training other people who also have learning disabilities, and therefore provides peer-to-peer mentoring. This is more empowering for the individual being trained and has created an employment opportunity for someone with a learning disability rather than this role being undertaken by a non-disabled person.

3.58 Learning Disability awareness training was delivered to bus drivers during 2008/09 as part of the Special Olympics. An ongoing programme of training needs to be developed in partnership with the bus companies that will cover all vulnerable groups.

Traffic Management – Network Management
Leicester's Rights of Way Improvement Plan (RoWIP)

3.59 As public highways, we have recognised the significant contribution that rights of way can make to the high level objectives of the Local Transport Plan and the council's wider agenda in particular to help improve accessibility. Rights of way are a key ingredient in the development of our integrated transport network. We have carefully considered our Local Transport Plan objectives and the feedback from our Local Access Forum and have developed our high level policy statement that reflects how the development of our rights of way network is embraced by and integrated with our Local Transport Planning process.

The council's RoWIP policy statement:

'Leicester City Council aims to manage, improve and promote its rights of way network, within and around the city, to facilitate non-motorised access to services and to provide leisure and recreational opportunities to all residents of and visitors to the city'

3.60 We have developed five high level objectives to ensure alignment with our Local Transport Plan and to help guide the development of our RoWIP.

- Reduce Congestion, Reduce Carbon Emissions, Improve Air Quality and Reduce Noise – We will develop and maintain our rights of way network to assist in achieving this objective by facilitating proportionally more walking and cycling trips on the rights of way network.

- Improve Accessibility and Connectivity– We will improve access to everyday services, places of work, schools, leisure and shopping by extending the rights of way network to improve links from residential areas to such services.

- Improve Safety, Security and Health – We will help improve people's health and well being and continue to reduce the number of people killed or hurt on the road network by attracting proportionally more trips to be taken on the rights of way network by extending and promoting the rights of way network.

- Manage to Better Maintain Transport Assets – We will continue to improve the condition of our rights of way network and make it easier to use by improving our inspection and maintenance regimes.

- Quality of Life – We will take every possible opportunity to improve, extend and promote our rights of way network through the land use and transport planning processes to provide the highest possible quality leisure facilities for walkers, cyclists, equestrians and disabled users.

Legal Requirements of the RoWIP

3.61 Leicester City Council, as with every other highway authority specified within the legislation, has a requirement, under section 60 of the Countryside and Rights of Way Act 2000, to publish a Rights of Way Improvement Plan. The council shall then, not more than ten years after first publishing it, review the plan and decide whether to amend it.

The Rights of Way Improvement Plan shall include an assessment of:

i The extent to which the rights of way network meets the present and likely future needs of the public.
ii The opportunities provided by local rights of way for exercise and other forms of open-air recreation and the enjoyment of the area.
iii The accessibility of local rights of way to blind and partially sighted people and those with mobility difficulties.

3.62 It should also include a statement of the action the authority intends to take for the management of local rights of way and for securing an improved network, with particular regard to the matters dealt with in the assessment.

Leicester's First Rights of Way Improvement Plan

3.63 Leicester's first RoWIP was published in October 2007. It was integrated within the Central Leicestershire Local Transport Plan 2006 to 2011. The third Local Transport Plan will be published in March 2011. The Leicester Partnership's Sustainable Community Strategy, 'One Leicester', adopted in 2008, sets out a 25 year vision for the city. To ensure that the objectives of the RoWIP, the Local Transport Plan and One Leicester are reflected within each other it has been necessary to revise the RoWIP.

3.64 The first RoWIP resulted in a number of major improvements to the rights of way network. These improvements included:

- The resurfacing of King William's Bridge, which carries a bridleway running from Castle Hill Country Park across the Rothley Brook towards the village of Anstey
- The surfacing of a well used missing link which provides a direct link between surfaced paths leading to a large residential area and the Beaumont Shopping centre
- Provision of street lighting on a path connecting the Great Central Way with Braunstone Lane East
- Access improvements on embankment leading to a crossing point of Hamilton Way
- A threefold increase of the total length of paths recorded on the definitive map and statement
- Exceeding targets set for measurement of service under BVPI 178 and CL 19

3.65 In August 2008 Natural England published an evaluation of RoWIPs which assessed if they were 'fit for purpose'. Leicester's RoWIP was included within the assessment and report for the East Midlands Region. The assessment concluded that our RoWIP met the requirements and was fit for purpose but was lacking in detail and content. It was also considered that the document was written in a 'technical, less accessible style' and it was noted that the structure was unclear and 'jumps about a bit'. Our assessment of the needs of disabled people was considered to be excellent.

3.66 The council's first RoWIP was awarded first place in the improving accessibility for all category of Natural England's ROWIP awards, held in March 2009. The award recognised the role played by our RoWIP in improving accessibility to the network.

Leicester's Second Rights of Way Improvement Plan

3.67 The need to progress with the production of the Definitive Map and to record the other paths which form the network but are not required to be shown on the Map is one of the key objectives of the RoWIP. A desktop survey was undertaken in November 2010 to gather known information on the full extent of the network. The findings are summarised below and highlight the level of unrecorded paths within the city.

The Definitive Map included:

- 60km of footpaths
- 5.5km of bridleways

In addition to these paths shown on the Definitive Map our List of Streets included:

- 26.5km of footpaths
- 6.5km of bridleways
- 7.5km of Cycle tracks not associated with a carriageway

The following cycle tracks are shown on our cycling map but not recorded within either of the above documents:

- 33km Cycle tracks associated with a carriageway
- 19km Cycle tracks not associated with a carriageway

Finally a map based search was undertaken and the following paths where identified none of which have been included in the above:

- 11.5km Towpath
- 38km of paths in parks
- 10.5km Other paths of unknown status

3.68 We have also identified that a number of well used paths within the city (in particular sections of the cycle track network) are unadopted. This is leading to issues with the condition of these routes as they are not subjected to the levels of inspection or maintenance which is enjoyed by those highways maintainable at public expense. The unadopted sections of the Great Central Way, which forms part of National Cycle Network 6, include a number of former railway bridges which need regular inspection. We plan to undertake these inspections during the next four years.

3.69 We will also seek better ways to report and respond to maintenance issues identified on the network. This may be achieved by increased inspections on various routes, the production of a schedule of features and engaging with known path users who will be encouraged to report matters requiring attention.

Leicester City Local Access Forum

3.70 The Leicester City Local Access Forum (Local Access Forum) has held regular meetings since its inaugural meeting in January 2005. The council is required, under the Countryside and Rights of Way Act 2000, to consult with their forum on the preparation of its RoWIP. The production of the second RoWIP has been discussed at formal meetings of the Local Access Forum and within an informal workshop requested by its members. The workshop was used to help members direct the council on the content and general direction of the RoWIP.

3.71 The RoWIP is recognised, by the council and the Local Access Forum, as being one of the most important areas in which they can make significant inputs. The Handbook for Local Access Forum Members, published by Natural England in March 2008, echoes this view and encourages forums to undertake a wider role in the implementation of the RoWIP.

Programme of Public Rights of Way Schemes

3.72 The production of a forward work programme is considered necessary to give forums a clear direction and purpose. The work programme of the Local Access Forum will be developed to match, as closely as possible, the programme of work to be undertaken within the RoWIP. This should ensure that advice issued by the Local Access Forum is relevant and meaningful. It should also help to monitor and encourage continual progress on the actions identified within the RoWIP.

Freight - FQP

3.73 Freight distribution is regarded as an important area for Central Leicestershire as an essential public service and as a key part of city regeneration and the creation of jobs. The Leicester and Leicestershire Freight Quality Partnership (FQP) was established in March 2000 in order to develop environmentally sensitive, economical and efficient ways of delivering goods in Leicester and Leicestershire. The FQP comprises members from the private sector, interest groups, Highways Agency and Authorities, Police and the Chamber of Commerce.

3.74 We have almost completed a programme of implementing clear and effective road signing of key freight areas around the city to reduce lost mileage and time and published a local freight map. This work has been backed up by surveys of companies on industrial sites in the city and freight collection/delivery drivers who work in and around the city. The main reasons for this investment (coupled with minor junction improvements identified in the survey) are to bring about an improvement in the efficiency of deliveries, minimise pollution through reducing lost mileage and ensure that freight vehicles use the most appropriate routes for their size.

3.75 Freight transport is an essential part of everyday life, spanning the distribution of a wide variety of fresh produce through to the delivery of heavy materials for industry. However, achieving a balance between freight transports' contribution to economic growth and protecting the environment and our communities from excessive noise and/or pollution will be a critical success factor within this Local Transport Plan. The core of our freight strategy is to continue to work to encourage more sustainable distribution through working in partnership with our established FQP. The current Government has indicated its intention to introduce lorry road user charging – HGV RUC, by April 2014. We will take any opportunity to be involved in the development and operation of HGV RUC so that we can input into the development of the scheme from a lorry and distribution perspective. We will keep the impact of any national scheme on our local freight strategy under review as the national scheme develops.

Dial a Ride

3.76 Current demand responsive transport ('dial a ride') will have an extended role to play in meeting the access needs for those who are unable to use conventional public transport, or where there is smaller demand. The current service provides for opportunities to travel from anywhere within Central Leicestershire to the city centre or other local shopping areas at least twice a week.

Motorcycles

3.77 Motorcycles offer economy (cheaper initial purchase and running costs), easier parking, reduced journey times and greater convenience when compared to the car. They also offer a cleaner alternative, but only if the journey was not previously made by walking, cycling or using public transport. Motorcycles are therefore particularly beneficial for journeys where walking and cycling are impractical and public transport is simply not available. However, motorcyclists make up a substantial number of personal injury accident figures in proportion to their use, but our analysis in the road safety chapter shows that the majority of these accidents in the urban area would appear not to be as a result of rider error. We will continue to provide secure parking facilities in addition to encouraging employers to consider the role of motorcycles in their travel plans.

3.78 As part of looking at development proposals development co-ordinators use the city council's Parking Standards Supplementary Planning Guidance to request parking for motorcycles (See SPD - Supplementary Planning Document). The provision of Powered Two-Wheeler (PTW) parking is then conditioned as part of planning approval. Transport assessments and travel plans should indicate the expected level of demand for PTW parking. As a minimum developers will be required to provide for safe, well lit and secure (including ground anchors) parking equal to 5% of the number of parking spaces provided. If possible these facilities should be undercover. Travel plans approved as part of development can include targets for modal share for motorcycles and scooters (powered two wheelers - PTWs).

Parking - New Off Street

3.79 There has been a recent increase in the number of surface level car parks in the city centre which has encouraged more people to drive into the centre rather than use alternative modes of transport. An increase in car parking spaces, while increasing accessibility for car users, has detrimental effects on all our other goals (congestion, carbon emissions, air quality and safety) as it leads to an increase in the number of cars entering the city centre. This is our lowest scoring policy option and we will not be pursuing it as an active policy.

4. The Accessibility Strategy

4.1 In earlier sections, we looked at the current and future situations and we have appraised the options. All the options appraised in Section 3 have their merits and contribute to the promotion of equality of opportunity. Whilst we recognise the importance of an effective transport system that promotes, encourages and enables the use of sustainable modes of travel to promote equality of opportunity we acknowledge that we will not be able to afford them all. We have therefore prioritised these options relative to their appraisal score in combination with a realistic assessment of their benefit cost, affordability and deliverability.

We also need to consider options set out in the other chapters. It is likely that added benefit can be gained if we are able to combine various individual policy options into cross cutting deliverable packages.

Our strategy therefore needs to be realistic with regard to the resources that we are likely to have available and flexible to adapt to changing circumstances. Thus, our approach to the delivery of this objective is split into short-term and medium to longer-term.

Consultation, mapping and a literature review has informed us of a variety of issues, particularly relating to improving orbital, evening and Sunday services, especially where this facilitates access to employment opportunities. Although we will take opportunities to work with partners on a thematic basis (to improve access to shopping, healthcare and education facilities), as and when the opportunity arises, as economic prosperity facilitates wider social inclusion, it would seem appropriate that reducing barriers to employment and training opportunities be a key output of our strategy, particularly for those neighbourhoods and groups of people likely to obtain the greatest benefit.

4.2 Our approach to accessibility will therefore continue to be through partnership working and local area ward action planning focusing particularly on accessing employment and training opportunities from areas and neighbourhoods that suffer multiple forms of deprivation.

The main elements of our Accessibility Strategy

4.3 In addition to the interventions covered in the congestion strategy and road safety and active travel strategy the Accessibility Strategy includes the following options appraised in Section 3:

- Bus Stops
- Buses/Services - Low Floor Buses and Level Access Bus Stops
- Buses/Services – contracted/supported services
- Pedestrian Facilities
- Cycling Facilities
- Working with Partners to improve accessibility
- Improved Bus Stations and Interchanges
- Bus Fares – concessionary
- Bus Services Information
- Training – to help improve accessibility for people with learning disabilities
- Improved Rights of Way
- Freight
- Dial a Ride
- Better provision of facilities for motorcyclists
- Improved supply of taxi and private hire vehicles at peak demand time.
- Maintenance

5. Delivering the Accessibility Strategy

From the Policy Instrument Options table in the above section it can be seen that the overarching/key strategic policy options for improving accessibility and promoting equality of opportunity are:

- Buses/Services
- Bus Stops
- Dial a Ride
- Pedestrian Facilities
- Cycles
- Working with Partners
- Park and Ride
- Public Transport Focused Developments
- Bus Corridors
- Bus Stations and Interchanges
- Public Transport Routing
- Bus Services Information
- Rail
- Maintenance
- Major Road Improvements (over £2m)
- Car Schemes
- Variable Message Signs
- Land Use Measures
- Training
- Freight
- Traffic Management – RoWIP

The most effective Policy Instruments will be packaged together and be included in the Implementation Plan.

The above Policy Instruments can then be split into Short, Medium and Long Term Objectives.

To deliver this objective in the short term (within this Implementation Plan period) we are likely to:

- Continue Working with Partners (e.g. Bus Companies, Freight Quality Partnership)

- Continue to support Bus Services (subject to funding availability)

- Continue to provide High Quality Bus Stops (subject to funding availability)

- Continue to provide Dial a Ride services (subject to funding availability)

- Continue to provide Facilities for Cycles, Motorcycles and Pedestrians

- Continue to provide Training, (e.g. VALUES training helping people with Learning Disabilities to use public transport)

- Produce Business Case for new Bus Termini and Routing Strategy (Bus Stations and Interchanges)

- Improve supply of Bus Services Information

Our Implementation Plan goes into further details of what we will be doing and the measures that we will most likely be delivering in the next four years to achieve this objective in the short-term. It also explains how we intend to continue to develop our approach to ensure that we maximise the benefit cost ratio of the schemes and initiatives that we do.

Delivery of this objective in the medium to longer term: Our medium to longer-term approach is also designed to be flexible and will be influenced by what our first Implementation Plan achieves. We will monitor schemes and initiatives in order to build on our successes and review the things that do not perform as well as we had anticipated. Decisions will also be informed by the availability of funding.

Based on the information available to us at the moment, in the medium term (within the next Implementation Plan period) we believe that we are likely to continue with the short term strategy as outlined above, and also:

- Deliver first phases of new Bus Termini and Routing Strategy (Bus Stations and Interchanges)

We will review our medium term approach in the light of our monitoring results and the availability of funding.

Based on the information available to us at the moment, in the longer term (beyond the next Implementation Plan period) we believe that we are likely to continue with the approach as outlined above, and also:

- Deliver final phases of new Bus Termini and Routing Strategy (Bus Stations and Interchanges)
  We will review our longer term approach in the light of our monitoring results and the availability of funding.

6. Monitoring the Accessibility Strategy

6.1 To monitor the effectiveness of our strategy we have four accessibility key outcome indicators and two supporting indicators. The key outcome indicator is detailed here in table 5.5. The supporting indicators are provided in our Implementation Plan.

Table 5.5 Accessibility Strategy key outcome indicators and targets

PI Category	Ref. No,	Description	Target 2014/15	Baseline Data	11/12	12/13	13/14	14/15	Source of Data
Outcome	L LTP 21	Percentage households with good access to key services or work – access to employment	85%	2009 = 85% England = 83%	85%	85%	85%	85%	DfT
	L LTP 22	Access to major hospitals i) LRI ii) General iii) Glenfield 730-930am, no car households within 30 minutes	a) 90.0% b) 48.3% c) 71.7%	2009/10 = a) 90.0% b) 48.3% c) 71.7% within 30 minutes	a) 90.0%	b) 48.3%	c) 71.7%		Transport Strategy Team
	L LTP 23	Access to Leicester Railway Station (No car households)	93.6%	2009/10 = 93.6% within 30 minutes	93.6%	93.6%	93.6%	93.6%	Transport Strategy Team
Non – transport Outcome	L LTP 24	Use of public libraries (in the last 12 months)	Monitoring only	2,100,457 (08\09) 2,015,393 (09\10) 2,100,000 (10\11)	Monitoring only	Monitoring only	Monitoring only	Monitoring only	Residents Survey

6.2 The full lists of accessibility indicators and targets are presented in the Implementation Plan.

Chapter 6:

Improve Safety, Security and Health

The Road Safety and Active Travel Strategy

1. Introduction

The Goal we are helping to achieve in this chapter is:

Better Safety, Security and Health - Leicester's people are more active, healthy and secure

The two strategic challenges, identified in chapter 2, addressed by our Road Safety and Active Travel Strategy are:

Continue to find cost effective ways to further reduce the numbers of deaths and injury accidents on our roads

- The majority of killed and seriously injured casualties in Leicester City are from vulnerable road users (i.e. pedestrians, cyclists and motorcyclists)

Addressing barriers that inhibit people from using public transport and choosing to walk and cycle as physically active modes of travel

- 25% of Leicester's population were clinically obese in 2007/08

- Personal safety and security is seen as a barrier to walking and cycling (i.e. congested roads, poorly maintained surfaces, traffic speeds, consideration of other road users)

2. The Current and Future Situation – The Challenges and Opportunities

2.1 The overall Safety, Security and Health Challenges faced by the City are out lined in Chapter 2 but are discussed here in more detail.

Road Safety

2.2 We have had considerable success in reducing the number of people killed or hurt on our roads over the last ten years as illustrated in the table 6.1.

However, we are not on track to achieve our killed and seriously injured targets and hence are also not on track to achieve the National Targets as defined in the National Road Safety Strategy (2000), to reduce the number of all KSIs (from a 1994-98 average) by 40% by the end of 2010 and the number of child KSI's by 50%.

Table 6.1 Leicester's Roads Safety Performance

	1994-8 average	2009	% Reduction	National Target reduction
All KSI	127	87	31.5%	40%
Child KSI	27	18	33.3%	50%
Slight Injuries	1389	1255	9.65%	10%

2.3 A proportion of road casualties are not reported to the police and therefore do not appear in official casualty statistics. Whilst fatalities are always reported, the under-reporting of collisions becomes more prevalent with less seriously injured casualties and with certain classes of road users, such as cyclists and powered two wheeler users. To gain a fuller picture of where to target resources in the future we need to work with colleagues in the health sector at local hospital Accident and Emergency units, to attempt to compare the two data sets of Police Stats19 and A & E admissions. Road casualties in Leicester cost the NHS £4,294,400 in 2009, which is obviously a large drain on local hospital and ambulance resources.

Casualties amongst Vulnerable Road Users -Pedestrians

2.4 We have seen a 37.6% reduction in pedestrian casualties on the 1994-98 average from 351 to 219 in 2009. Within these casualties, children age 5-15 are those causing most concern. Most collisions involving pedestrians occur when they are crossing the road. The speed of vehicles involved in collisions with pedestrians is also a major factor in the severity of the resulting injury. New research from the Department for Transport suggests that the risk of fatality to a pedestrian rises steadily up to 30 mph. Above that speed the risk to pedestrians rises rapidly, so that by 40 mph the risk to a pedestrian of fatality after being hit by a car is up to five times that it is at 30 mph. Several other factors are involved here, for example the type of vehicle a person is hit by. Flat fronted vehicles, such as buses are more likely to cause fatality at lower speeds than a car. This demonstrates the importance of keeping vehicle speeds down to reasonable levels, where there are larger numbers of pedestrians. Through consultation with disability groups we learn that many disabled and older pedestrians, have been hit or thrown off balance by cyclists. Despite a huge amount of anecdotal evidence, there is a lack of hard statistics on this issue.

Casualties amongst Vulnerable Road Users - Cyclists

2.5 We have seen a 29% reduction in cyclist casualties on the 1994-98 average from 173 to 123 in 2009. In that time numbers of cyclists have risen as have the number of people wearing cycle helmets and brighter clothing. In the last three years particularly, a worrying trend has appeared in cycling collisions. A large number involve cyclists riding on the footway. These collisions either involve the cyclist riding into traffic off the footway, or failing to stop at junctions. Collisions also happen due to mistakes such as opening doors in to cyclists, and hitting them whilst they are riding straight ahead.

Casualties amongst Vulnerable Road Users - Motorcyclists

2.6 Casualties amongst motorcyclists have shown the smallest decrease of all the vulnerable road user groups. Casualties since the 1994-98 average have shown a 14.1% reduction, from 85 down to 73 in 2009. However, improvements in bike design and rider training have contributed to a reduction in motorcycle casualties since the early 1990's. Many of the casualties are riding smaller size commuter style bikes up to 125cc, although there are also a number of casualties in the over 500cc category. Many people see motorcycles as a way of improving their accessibility conveniently and cheaply, particularly where public transport is not available and distances involved make walking and cycling impractical. Motor-cycle usage could rise in the course of this Plan, because of the downturn in the economy and the high cost of car insurance for young drivers. We will continue to carefully monitor casualties in this group.

Vulnerable Road Users - A Summary

2.7 Despite reductions, pedal cyclist, powered two wheeler and pedestrian casual-ties remain unacceptably high, with 123 pedal cyclist casualties (including 11 serious), 73 powered two wheeler casualties (including one fatal and ten seri-ous) and 219 pedestrian casualties (including three fatal and 33 serious) in 2009. Nearly all these vulnerable road user casualties are the result of collisions with other vehicles. As mentioned earlier there are probably much higher numbers of certain classes of these casualties who are injured on the roads but do not ap-pear as reported to the police in STATS 19 statistics.

Casualties amongst Motor Vehicle Road Users

2.8 Car drivers and passengers represent the largest single group of casualties, as might be expected from the largest group of road users. In 2009 there were 819 car driver and passenger casualties in Leicester, of which two were fatal, 21 were serious. On top of this there were 59 bus and coach casualties, of which two were serious, 15 goods vehicle occupants, of which two were serious and 27 Taxi or private hire users. Many road casualties are unfortunately easily avoidable, because of human errors. All too often the following appear in road collision descriptions, and in police and other statistics collected in the city:

- Drivers and cyclists failing to stop at traffic signals and pedestrian crossings
- Drivers going too fast
- Drivers and passengers not wearing seat belts
- Drivers using hand held mobile phones
- Dangerous parking on junctions etc.
- Drink/drug driving
- Cyclists riding off the footway into traffic

- Drivers not paying attention
- Pedestrians failing to look properly whilst crossing roads

If these were to be reduced and rectified by various means we would be looking at many fewer and less severe casualties on Leicester's roads.

Casualties involving young drivers

2.9 There were 477 casualties in 2009 where at least one vehicle driver that was involved in the collision was aged 17-24. Many other road users are being hurt or killed in collisions involving these young drivers. This represents a large proportion of the total casualties. These collisions often involve mistakes due to inexperience and over-confidence on the part of the young driver. We need to look at what further interventions we can make to lower this level of young driver involvement in local collisions.

Personal Security Challenges

2.10 Home Office circular 16/04 places a duty on Community Safety Partnerships to invite public transport operators and providers to participate in the formulation and implementation of local crime and disorder reduction strategies. This was part of a wider Government strategy to encourage more widespread co-operation amongst all parties with an interest in reducing crime and the fear of crime around public transport.

2.11 National research indicates that if people felt more secure, 11.5% more journeys would be made on public transport.

- 53% women and 23% men feel unsafe waiting on a train platform
- 44% women and 19% men feel unsafe waiting at a bus stop
- 47% women and 21% men feel unsafe walking to/from the bus stop/station
- 46% women and 24% men feel unsafe walking in a multi storey car park
- Anti-social behaviour on buses – would like the presence of conductors
- Bus shelters regularly vandalised. Residents questioned whether other materials other than glass could be used.

2.12 National Community Safety Partnership (CSP) surveys reveal that for passengers, the walk to and from the stop or station is often perceived to be the most insecure part of their journey, and that the time spent on a vehicle is perceived to be the most secure. Passengers base their decision to travel, on how secure they feel about the whole journey, and so may be deterred from using public transport because of concerns about parts that are beyond the control of transport operators. CSPs can assist by focusing attention on walking routes to public transport and the environment around transport interchanges.

2.13 Leicestershire Police hold a database of complaints where people feel unsafe in the street, they also record where rubbish, graffiti, dog mess and young people are causing a nuisance. This could be used to highlight areas where the street-scape is an element in making people feel unsafe.

Leicester's crime and disorder consultation report stated that one in five people were 'very worried' about being robbed, mugged, or beaten up, yet the actual number of incidents is very small.

2.14 Many parents, children and adults are put off from walking and cycling due to perceived and real fear of danger from motor vehicle traffic. Children often don't walk or cycle comparatively short distances to school because of their own and their parent's fears of traffic issues on their routes to school. Typically these fears include drivers going too fast and not concentrating. In the 2007 Young People in Leicester city Survey recorded that 39% of pupils reported that 'an adult, who scared or made them upset, had approached them' on their journey to school.

2.15 The 'stranger danger' factor also seems a major concern to parents; 60% of parents fear their child will be killed or injured in a road traffic accident, abducted or murdered whereas only 5% fear for their child's poor health in later life due to their child's current level of physical activity. In actual terms, roughly 0.03% of the population of Leicester aged between 4 and 18 are killed or seriously injured in an accident, whereas, 25% of Leicester's children are classed as overweight and obese. Leicester's Play Partnership identified issues associated with parents perception of the safety of children travelling to play areas.

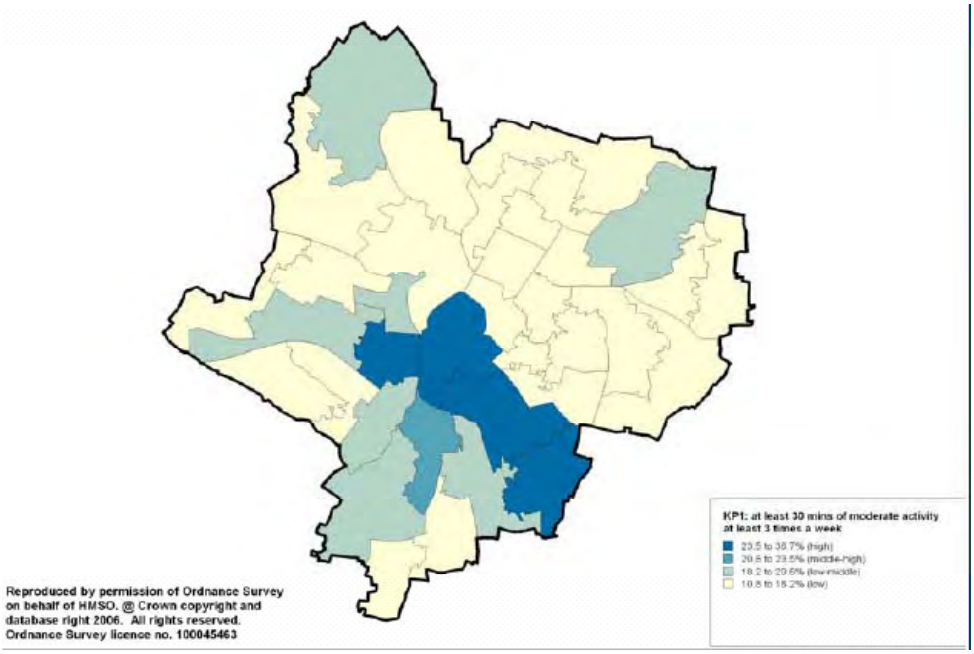
2.16 Consultation carried out over the period of LTP2, identified that people who are disabled and particularly those with learning disabilities, have concerns over their treatment by bus drivers and, their personal safety. This is backed up by Leicester and Leicestershire's 'Stamp it out' campaign which identified that people with learning disabilities often experience hate motivated abuse on public transport. The consultation also identified that people with physical, sensory and learning difficulties have concerns over cycling in pedestrian areas and in areas of shared use. The accidents recorded in by the police, in the Stats 19 database, do not reflect the actual number of near misses and pedestrian/cyclists conflicts that the disability groups are reporting.

Health - Inactivity in Adults

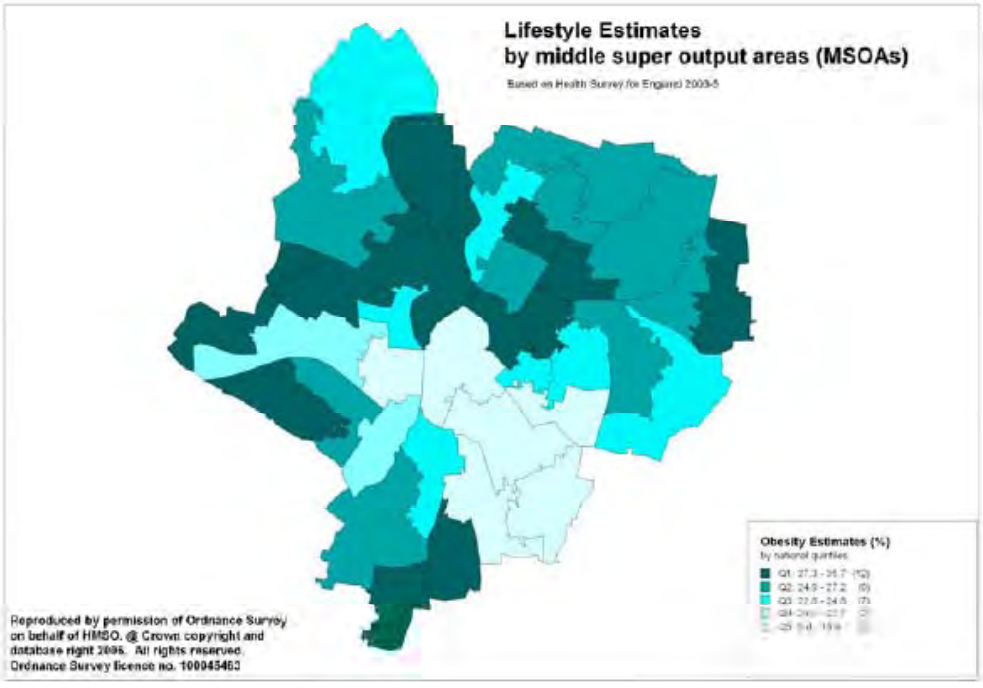
2.17 People in Leicester are not sufficiently active. The Sports and Active Recreation summary shows that in 2009 only 19% of Leicester's residents participate in sufficient physical activity and only 15 % take at least one walk of moderate intensity per week and only 6% take at least one cycle ride of moderate intensity. These are all well below national and regional averages. This inactivity leads to an increase in the risk of obesity, coronary heart disease and diabetes. According to the NHS Leicester City Commissioning and Investment Strategy 2010, inactivity cost Leicester's NHS £6million per annum.

2.18 Maps 6.1 and 6.2 show the level of obesity across Leicester in relation to the level of inactivity. Although it is likely that other lifestyle factors, such as diet, contribute to the obesity levels, it is clear that the areas where there is the highest level of physical activity there are the lowest level of obesity. Areas that currently present both the highest levels of obesity and the lowest levels of activity are Belgrave, Braunstone, Eyres Monsell, Spinney Hills, Scraptoft, and New Parks, although the patterns may alter.

Map 6.1 – Levels of Inactivity



Map 6.2 – Level of Obesity



2.19 Leicester's population is ageing and is expected to sharply increase from 2011 onwards and increase by some 17% over the next ten years. The National Health Survey 2008 for England shows that the levels of activity decrease with age and that without intervention, nine out of ten adults will be obese by 2050. Therefore it is apparent that, without intervention, the problems associated with inactivity are likely to increase in Leicester.

Health - Inactivity in Children

2.20 Leicester 's 0-18 year old population is growing more rapidly than the national average, and of these children and young people there are already high levels of obesity, with some wards showing levels of overweight and obese children as nearly 50%. Nationally, it is anticipated that by 2050 two thirds of the nation's children will be obese. Leicester's Childhood Weight Management Programme, looks at weight in both Year 6 (10 – 11yrs olds) and reception age pupils (4-5 yr olds). The 2008/09 survey showed that Leicester's level of overweight and obese children is slightly less than the national average overall. However, there are some areas where obesity levels are far higher than the national average.

2.21 High levels of obesity in Year 6 pupils are not necessarily in the same areas as the Reception age children. In 2010 Coleman and Fosse wards have higher levels of obese children in reception, whereas, in Westcotes and Eyres Monsell wards levels are almost as high as 50% in Year 6. Boys are slightly more likely to be obese than girls.

2.22 A recent YouGov poll concluded that nearly half, (49%) of parents under-estimated the amount of physical activity their children should get in a week. There are several schools in Leicester where despite living within ½ a mile of a school, large numbers of children are driven there.

Opportunities to improve safety, security and health

2.23 Whilst there are clearly many safety, security and health challenges we face, there are also many opportunities. These could be national or local guidance and policies or the demography of the city, which will support the work outlined in this plan. These opportunities are outlined below.

2.24 Much of our recent success in improving road safety can be attributed to the work of the Leicester, Leicestershire and Rutland Road Safety Partnership. Formed in 1998, its purpose is to help reduce casualties in the Leicestershire Police area through joint working between city, county and Rutland councils, representatives from the NHS, Highways Agency, Leicestershire Fire and Rescue Service and Leicestershire Police. The partnership developed the Leicester, Leicestershire and Rutland 'Road Safety Plan' in 2002, taking into account new national policies and strategies, including casualty reduction targets for 2010. The aim of the Partnership is:

'To provide a safer environment on the roads of Leicester, Leicestershire and Rutland using education, enforcement and engineering to enable all road users to travel in confidence, free from fear of death or injury'

2.25 Successes to date have been achieved through:

- Road safety education, training and publicity (Education)
- Safer routes schemes (Engineering and Education)
- Traffic calming schemes (Engineering and Enforcement)
- Local Safety schemes (Engineering)
- The Safety Camera Partnership (Enforcement)

The Leicester, Leicestershire and Rutland Road Safety Partnership provides a firm foundation to build on. We currently invest surpluses arising from enforcement into road safety education. To continue this investment in the current economic circumstances is a big opportunity and we can do this effectively and efficiently by all the partners working together.

Speed Management

2.26 Our road hierarchy has been set out in Chapter 3 and our Network Management Plan. Having defined the hierarchy in 2005/6 we have completed a review of speed limits on A and B roads to ensure their suitability. The review concluded that the speed limit on four lengths of road should be changed. These changes are due to be considered by the council's cabinet early in 2011. Traffic speeds are a key deterrent to walking and cycling, so we anticipate that the enforced reductions in speed limits will reduce the perceived danger of using these modes.

The National Road Safety Strategy

2.27 The Department for Transport's Road Safety Research Report (September 2005) compared Child Pedestrian Exposure and Accidents around Europe. Key findings were:

- Children in Britain more likely to walk to school along major through roads with higher traffic volumes and faster traffic
- Over three quarters of children's road crossing movements are at unmarked sites.
- Children are less likley to be accompanied by an adult on the walk to school or to a friends house compared to the EU.

The key implications of the report were that policy makers should:

- Consider a strategy for road safety education and training to adequately prepare all road users, including children, for the dangers.
- Focus on road crossing activity as there are some question marks over British children's crossing behaviour and encouraging appropriate choices of where to cross.
- Ensure road safety education should emphasise the dangers of main roads and encourage appropriate behaviours in proximity to traffic.

» Consider lower speed limits in residential areas.

The Safer Leicester Partnership

2.28 The Partnership was formed in 1999 as a result of the Crime and Disorder Act 1998 with the idea that it takes the joined-up efforts of a number of different agencies to make a real difference to community safety issues in our city.

The Safer Leicester Partnership's vision is;

"To ensure that all citizens of Leicester feel safe within their communities and benefit from an improved quality of life and well being as a result of partnership action to reduce crime and substance misuse."

Security - Night Bus services and taxis and private hire vehicles

2.29 The Safer Leicester Partnership funded a new scheme to provide a free shuttle bus around the city centre clubs to bring revelers to the Abbey Street area (well lit, CCTV coverage) from where people will then be able to travel onwards either by Night Bus services or taxis and private hire vehicles. Moving people swiftly out of the city centre has helped to reduce the Crime and Disorder Partnership's target of reducing violent crime in the city centre by 25% by 2008.

Stamp it out Partnership

2.30 Stamp It Out is a community led partnership with all partners committed to stamping out all forms of hate incidents and crimes to make Leicester a safer place for people to live, work and socialise. The group consists of 24 partners and part of it remit is to work with transport providers to promote courtesy amongst passengers.

Our work with Health and Sports Activities Partners

2.31 The Chief Medical Officer said recently:

'The benefits of regular physical activity to health, longevity, well-being and protection from serious illness…easily surpass the effectiveness of any drugs or other medical treatment. The challenge for everyone, young and old alike, is to build these benefits into their daily lives'.

2.32 Leicester has been proactive in tackling obesity through its Healthy Weight/ Obesity Forum. Formed in 2006, the Forum comprises statutory, community and voluntary and business sector organisations in Leicester, working together to halt the year on year rise in obesity in the city. Through the Forum a Healthy Weight Strategy has been formed, of which walking and cycling have been a major contributors to the targets. Interventions which have been co-ordinated through the Forum and of which Active Travel is a contributor are:

- 3x30 Pledge – This project encourages city residents to participate in sports and physical activities three times a week for thirty minutes. The project is currently funded by Leicester City Council, Sports Services, Leicester PCT and Sport England. Since its inception in April 2009 over 2000 residents have signed up.

- Active Lifestyle Scheme – Is a partnership between NHS, Leicester City Council, Leicestershire County Council, GP Practices and other healthcare professionals. It offers inactive people the chance to participate in exercise under guidance of a qualified exercise professional at a reduced rate. Base-line figure 09/10 - 840 Referred onto the scheme, target for 10/11 – 1215, target 11/12 – 1500

- FAB Projects - this project aims to improve health, well being and quality of life of residents in deprived areas of Leicester through the combined work of Physical Activity Activators and Community Food Workers

Leicester City Council will take a lot of responsibility from the Primary Care Trust (PCT) in 2012. These responsibilities are set out in a new government white paper. This facilitates transport and health professionals working together in closer partnership and will result in a big opportunity for improvements in health.

2.33 It is clear that the people of Leicester (both young and old) need to participate in more physical activity. Travel provides an opportunity where physical activity could become part of a daily routine as:

- We have a considerably lower car ownership level in Leicester than nationally.

- 82% of residents of Leicester work within Leicester and thus undertake journeys of less than five miles.

- 97% of Leicester's population live within two miles of an educational establishment.

- 60% of Leicester's population live within one mile of a GP practice and a hospital. 100% live within two miles.

- 48% of Leicester's residents live within half a mile of a food store. 100% live within one mile. (economic assessment).

- 86% of pupils reported that they enjoyed physical activities 'quite a lot' or 'a lot'.

- 72% of pupils owned a bicycle (young people's survey. Leicester 2007)

- An average of 38% of those questioned in Sustrans surveys in six locations around the city in 2006, 2007 and 2008 said that they intend to walk or cycle more.

The National Active Travel Strategy

2.34 In February 2010 the Department for Transport in conjunction with the Department for Health published the Active Travel Strategy, the aim is to get two million people more active by 2012/13. The National Active Travel Strategy's objectives are:

- Improving people's health and wellbeing through more active lifestyles.
- Maximising access to jobs and services without increasing congestion.
- Reducing carbon emissions from transport and supporting our climate change targets.
- Reducing harmful emissions and improve local air quality.
- Making for more attractive, safer places and communities, and ensuring greater access for everyone to local services.

Green Infrastructure Strategy

2.35 There is good evidence that proximity to green space is health promoting, and access to such space is important. People who use green spaces regularly are more likely to take exercise, and those who use it most regularly usually live nearby. Greenspace has a positive effect on physical as well as mental health.

A recent study found that all causes mortality and deaths from circulatory disease were lower in areas with the most exposure to greenspace. Everyone who lived near green space tended to be healthier, and the effect reduced the health gap between the richer and poorer income groups. The Lancet concluded: 'The evidence showed that green space does more than pretty up the neighbourhood; it seems to have real effects on health and health inequality, of a kind that politicians, planners and health staff should take seriously.'
[Mitchell & Popham Lancet 2008]

Green Infrastructure (GI) comprises the networks of multi-functional green space which sit within, contribute to, the type of high quality natural and built environment required to deliver sustainable communities. Delivering and enhancing these networks require the creation of new assets to link with existing green space. These networks should be incorporated with the cycle and pedestrian networks outlined in this plan.

The 6 C's Green Infrastructure Strategy 2010 identifies that a major step change in the scale, quality and connectivity of GI assets will be required to match the scales of new growth planned in the region.

Although parts of Leicester are deficient in access to natural green space it has very good green corridor links between north and south within the city following the course of both the river/canal and a disused railway line. However, green corridors in other directions are far more limited. Although Leicester is moderately well supplied with radial routes, it lacks good links between outer suburbs, schools and employment sites including two hospitals.

The 6 C's study has also identified two 'Greenways' running through the city. A 'Greenway' has no legal status, but can be defined as 'largely off-highway routes for shared use by people of all abilities on foot, bike or horseback, for commuting, play or leisure; connecting people to facilities and open spaces in and around towns, cities and the countryside. Greenways are especially valuable for wheelchair users. In many cases they utilize existing bridleways or rights of way.

The LTP will work with the GI to continue to provide, in some cases maintain and extend the green routes.

The first route in Leicester is through the riverside corridor where the route is already established. The second east-west route runs along the Forest Way off-road cycleway, to the west of the city but which needs extending beyond Darlington Road and to the east it uses New Walk to Evington Road and beyond it uses, a network of quiet side roads. The greenway to the east of the city will be linked to other green spaces by the extension of the Green Ringway, especially linking to Thurncourt where there is a lack of amenity space and play space.

3. Appraising the Options

3.1 The option assessment described in chapter 3 demonstrated that many options could be considered to form part of our Road Safety and Active Travel Strategy but some were also identified to form part of our Congestion, Accessibility and Carbon Reduction strategies and hence have been appraised in those chapters. The following options have been appraised and identified as forming the Road Safety and Active Travel Strategy:

Working with Partners

3.2 Existing Partners
A major strength of LTP1 and LTP2 has been establishing successful partnership working.
Several existing partnerships and forums focus on the improvement of safety, security and health and these will be continued. These are:

- National Community Safety Partnership (CSP)
- Leicester, Leicestershire and Rutland Road Safety Partnership
- Leicester Weight/Obesity Forum
- The Safer Leicester Partnership
- Schools Sports Partnership

Partnerships with national organisations such as Sustrans, CTC, Cycling England (or equivalent) and Sky Sports have been created to deliver particular campaigns and programmes such as BIKEIT and Cycling Champions..

Photo: Leicester Sky ride 2010

Local organisations such as Groundworks and Cyclemagic help deliver training whilst we are a partner in the 'Understanding Walking and Cycling Research Project' being undertaken by the Universities of Lancaster, Leeds and Oxford Brookes. Work with community safety partnerships on the likes of 'Stamp-it-Out', can improve the sense of security on the streets and on public transport

Leicestershire Police has developed the concept of Joint Action Groups (JAGs) to look at Community Safety issues raised by local groups and residents. Transport issues (including road safety) are part of the remit of these JAG's. There are nine JAGs across the city, each one reflecting local circumstances, Ward Committee boundaries and catchment areas of local policing units. The JAG's include the Crime and Disorder Partnership, Police, Highway Authority and local residents to assess ways to improve lighting, visibility on footpaths and to reduce areas of vandalism. The aim is to encourage everyone to work together to reduce crime and the fear of crime, thus removing an additional barrier to walking and cycling trips. This reporting structure forms a strand of delivering our road safety and active travel strategy.

Working with Partners

3.3 New Partners

Where resources permit we would like to actively promote partnership working and establish new partnerships with:

- Leicester Sports Partnership Trust – major sporting venues
- Stamp it out partnership
- The GP Consortiums (when established)
- Private organisations
- The Ramblers as part of the 'Get Walking – Keep Walking' initiative
- Living Streets as part of their Walking Works Campaign.
- 'Citizens Eye' community news agency and the new young people's newspaper 'Leicester Wave'.
- The establishment of partnerships with groups representing disabled people to provide accompanied trips to the city centre to establish suitable routes and journeys will help those people not travelling to the city centre due to unfamiliarity. As will partnerships with the police and city wardens to target areas where anti-social cycling is a problem

Campaigns To Promote Walking

3.4 Walking shows a cost benefit ratio of 19:1 when its benefits to health, congestion, journey time reliability, carbon reduction are taken into account[15]. It gives the best rate of return of all the modes of transport and therefore, we plan increase the number of campaigns to encourage more walking.

3.5 A study, on the DfT's 'Walk in to Work Out' campaign showed that the use of promotional interventions alone resulted in employees being twice as likely to walk to work as the control groups. The study also showed that promotion alone is more likely to result in increased numbers of pedestrians than cyclists[16]. Therefore we plan to increase the level of walking promotion in proportion to the level of pedestrian infrastructure.

3.6 Throughout LTP1 and LTP2, there has been an informal co-ordination of walking activities with the NHS and Physical Activity Partners. However, there has been no formal body to manage this. We will seek to duplicate the success of Leicester's Cycle City Workshop through the Physical Activity Forum (a branch of the Sports Partnership Trust) to co-ordinate walking related activities and campaigns.

'Lets Walk Leicester' was launched as part of the Chaloy Chalay campaign in 1999. It consisted of various poster campaigns, with good response rates. However, due to the concentration of resources into infrastructure improvements and regeneration, the promotion of walking has diminished throughout the LTP2 period.

3.7 We will increase the level of Walking Promotion through:

- Campaigns; such as at Health Events throughout the city, Star Walker Scheme aimed at parents of primary school children to encourage walking and cycling to school, National and local Walk to School campaigns National Walking Week, Leicester and Leicestershire Walking Week.
- A major Walking to Work Campaign 'Step in to Get in' working with Partners such as Leicestershire County Council Ramblers, Living Streets, Natural England, the major sports stadia and major employers such as Highcross and Walkers will bring together walking to work events such as VIP days where recruitment days are held particularly to show people how they can travel to employment sites.
- 'People not Cars' Days which includes Skyride (see cycling – mass participation bike rides) and Skywalkers events.
- Routefinders such as WalkIt.com, Walkzone and GPS phone applications. Including how to get to the bus stops through the 'Step in to Get on' campaign.

[15] *2010 study 'Value for money- an economic assessment of investment in walking and cycling DoH and GOSW'*

[16] *Mutrie et al, 2002 'Walk in to Work Out': a randomised controlled trial of self help intervention to promote active commuting, Journal of Epidemiology and Community Health, 56.*

- Community Guides are used to let people know what services are in their local area to give people more choice over facilities that they could walk or cycle to.

- Points4life links to smart cards where sustainable travel earns rewards on smart cards

Campaigns to Promote Walking for Health

3.8 Walking for Health is a tried and tested, cost-effective intervention that is proven to get sedentary people active at least three times a week for periods of over a year. It is locally run, flexible and can target: hard-to-reach groups; elderly people; those at risk of or suffering serious long-term ill health; young families. There is a cost benefit ratio to the health authority alone of 1.7. Although predominately leisure walks, and not for commuting purposes, in Leicester and Leicestershire, Health Walk Leaders are designed to encourage walking as a part of daily life and included in travel habits. The Health Walks give people back the confidence to walk, and knowledge of where to walk, which in turn, it is hoped will encourage them to walk as part of their commute. Health Walks around shopping and the commute should be developed and expanded. We will continue to work with Natural England and the Physical Activity Professionals to deliver Walking for Health and will establish new partnerships with The Ramblers to develop Get Walking-Keep Walking in Leicester.

Campaigns to Promote Cycling (General)

3.9 Leicester has held regular co-ordination meetings for cycling organisations, cycle users and cycle promoters. The meetings have allowed the authority to run co-ordinated campaigns such as ‘Summer of Cycling’ to advertise in one place all the cycling activities available in the city. It has created partnership functions in order to bid for cycle related projects e.g. Cycle Champions. Consultation with cycling stakeholders has put the co-ordination meetings as vital. The group are a useful source in terms of collecting qualitative feedback on how we are performing, and have indicated that whilst infrastructure is important in encouraging people to cycle, the promotion and ‘softer’ measures are equally, if not more important. This is borne out through the massive increase in cycling numbers in 2006/07 following an increase concentration of cycling co-ordination and promotion from 2004.

3.10 Both local (cycle city workshops) and national evidence (from the cycle demonstration towns) indicates that the promotion of cycling is vital to encouraging cycling. Leicester’s Summer of Cycling Campaigns have been well received not only for the promotion of cycling, but also as a way of ‘Talking up Leicester’. The types of campaigns that should be continued are Bike It[17], Cycle Champions[18]. These campaigns have received partner funding throughout the life of LTP2, but are proved to be value for money particularly when health benefits are included in the ratio.

- DfT considers a 1:2 Cost:Benefit ratio ‘high’

- Cycle Demonstration Towns found 1:3 Cost:Benefit ratio

- GO of the SW found an average of 1:19 in the UK when health benefits are included

Campaigns – To Promote Cycling (Mass Participation Cycle Rides)

3.11 In 2009 and 2010 Leicester held two Sky rides with estimated numbers participating increasing from 8,000 in 2009 to over 12,000 in 2010. There is anecdotal evidence that many of the participants were people who hadn't cycled in a long time. The Skyride is accompanied by summer long led cycle ride. The scheme does have benefits in raising the profile of cycling and encouraging cycling for health.

Campaigns – To Promote Cycling for Health

3.12 Studies have found that people who cycle to work experience a 39% lower rate of all-cause mortality compared to those who do not, and that the annual monitoring surveys in Leicester carried out by Sustrans show that the number of people wanting to cycle or walk for health is increasing. Initiatives to encourage cycling for health are:

- Workplace Cycle Challenge. Leicester ran its first Cycle challenge in 2010. 1,336 people took part, 261 of whom hadn't cycled in over a year. Between them 4 million kilocalories were burnt off. 10,190 trips were made for transport purposes, which if those trips were made by car over 25,000 kilograms of CO2 would have been created. The cost was below £10,000.

- Cycle Champions. Leicester has had a Cycle Champions co-ordinator since 2008 primarily funded by CTC. The aim is work with 35 'hard to reach' community groups to promote cycling within those groups. The cost over four years is £511,000 with a target of 2,625 direct beneficiaries and 5,250 indirect beneficiaries. The scheme is on target at the time of writing.

- Working with Employers e.g. NHS, the Universities to provide tax efficient bike loan scheme.

- Promoting the availability of the CTC bike to work membership, which includes breakdown cover, £10m third party insurance, accident helpline and advice amongst other benefits.

- Promoting and facilitating BUG's (Bicycle User Groups) amongst employees.
- Cycle commuter planners groups

[17]Bike It works directly with schools to encourage the children, parents and teaching staff to cycle to school.

[18]The Consortium is lead by Sustrans with CTC, Living Streets, London Cycling Campaign, the Ramblers' Association, Transport 2000 and Walk 21. Its aim is to enable 2 million people to become more physically active by walking or cycling as part of their daily lives. British Cycling, Cycling England, the National Heart Forum and the National Obesity Forum are supporters of the programme.It is particularly targeted at bringing cycling to sections of society that are known to have lower physical activity levels and are less likely to be choose cycling as a lifestyle or transport choice.

3.13 British Cycling Development project including the Skyride partnership is specifically about entry level recreational sport cycling e.g. sports and recreational cycling clubs. In Leicester it has been responsible for the, development of Beaumont Park, western park mountain bike centre and the cycle speedway amongst others. Short term match fund until 2013 with British Cycling is available to attract and develop resources which specifically provide opportunities for sports clubs with the aim to embed cycling within Leicester's culture.

3.14 The Transport Asset Management Plan (Chapter 9) covers the planned maintenance and renewal works to minimise disruption to traffic flow. Improve the surfacing, junction lining and traffic signal installations at selected junctions to increase junction capacity. Improve facilities for buses by prioritising highway maintenance work on bus routes and by providing more bus shelters and travel information. This work is all effective in keeping the roads safe.

Campaigns – Road Safety Education

3.15 Attitudinal and behavioural work will play an increasingly important role in casualty reduction. Traditionally much of this work has been "behind the scenes", but as more radical solutions are promoted to address the more difficult problems; it is increasingly necessary to educate and inform the general public and gain their support. Within Leicester and Leicestershire this is exemplified by the way proactive education and publicity campaigns are contributing to the local acceptance (and success) of the Safety Camera Scheme.

3.16 We intend to improve Road Safety Education and Publicity by careful targeting of resources into where casualties are occurring. These include:

- Motorcycling – As we have a high number of motorcycle casualties on the roads of Leicester, compared with the number of users, we are keen to promote educational and training initiatives, such as supporting the regional "Shiny Side Up" and "Bare Bones" publicity schemes, the new DSA "Enhanced Rider Scheme", and the Police "BikeSafe" training schemes.

- Pre-Driver Training – we are looking at trying to make more opportunities available to schools, for different types of pre-driver training initiatives. As mentioned earlier, young drivers are very over-represented in many types collision, and we need to look at various ways of improving the situation. One of these is to promote Theatre in Education initiatives such as "Legal Weapon". Also we would be looking to continue to promote "Driver Days" for pre / young drivers at Mallory Park or another venue.

- Junior Road Safety Officers - with limited resources our "Junior Road Safety Officer" (JRSO) scheme is an important channel for getting information out to schools. We hold an annual introductory event for the JRSO's who come from a variety of primary schools in the city. We produce a topical newsletter that goes out to the JRSO's and they use information from it for school assemblies to get messages out to the pupils. We hope to continue to expand the scheme to more schools in the next few years, and look at holding other

events for the JRSO's.

- Speed and Traffic Signal Awareness Courses – These workshops which are run by the Leicester, Leicestershire and Rutland Road Safety Partnership, allow for low level offenders to be diverted away from the courts and receive some re-education with reference to their driving. The aim is to change people's attitudes towards speeding and to gain a fuller understanding of the dangers and potential consequences of failing to comply with an automatic traffic signal and as a result to make them more aware of their own responsibility for their actions, change driver behaviour and to develop a personal speed awareness strategy.

- Local Road Safety Awareness Campaigns – we are currently involved in the East Midlands Fatal 4 Regional Road Safety Initiative which combines several key low cost elements in terms of education i.e. roadside posters, radio advertising and roadside educational workshops with the police. This DfT funded partnership initiative is being extensively evaluated and we will use it again in the future if the evaluation is positive. In future we will be using a more targeted approach for campaigns based on our local casualty probles. These campaigns will be evaluated using the new DfT evaluation toolkit "E-valu-it".

- General Road Safety Education including transition and secondary school initiatives - Several programmes are offered to schools; "Silent Killer" is to make young people aware of how easy it is for drivers not to see them and for them to be unaware of traffic, it deals with mobile phones, reflective/bright clothing, peer pressure and seat belts. "Wasted" looks at young drivers and their passengers, how easy it is just to get into a car without checking if the driver is legal or the car insured for them to drive, peer pressure when they are in the car and the effect that has on the driver, mobile phone use, drink/drug driving and seat belts.

Campaigns – Community Safety

3.17 Campaigns such as the 'politeness costs nothing' and the learning disabilities awareness posters displayed near to the drivers area of a bus as part of the stamp-it-out campaign help to raise the awareness of other passengers on the subject of hate motivated abuse and to encourage them to report any incidents or if safe to challenge the person responsible.

3.18 Campaigns such as the 'Social Cyclist' run with RNIB and De Montfort University make cyclists aware of the impact they can have on other people, particularly vulnerable pedestrians, through poster competitions promoted at the universities.

Training – Road Safety

3.19 Training will play an increasingly important role in casualty reduction. Traditionally much of this work has been "behind the scenes". Within Leicester, Leicestershire and Rutland we pro-actively promote and fund a number of training initiatives. We intend to improve training by careful targeting of resources into where

casualties are occurring. These include:

Training - Pedestrian

3.20 Child Pedestrian Training (Key Stage 1) – we are currently expanding our new child pedestrian training scheme at Key Stage 1 in primary schools.

Child Pedestrian Training – (Key Stage 2) we are expanding a new additional short scheme for lower Key Stage 2, where children are starting to walk more independently of adults. We are offering a one off session to year 6 students in their final term looking at travelling independently as they move to secondary school.

Training - Child Cycling

3.21 Child Cycle Training - Leicester Bikeability follows the new National Standard Course – "Bikeability". Level 1 typically aimed at Year 5 students, is a short off-road course often carried out on school playgrounds, which looks at basic control of the cycle. Level 2 typically aimed at Year 6 students is carried out on quiet roads near the school, and teaches manoeuvres at junctions and general principles of riding on the road. Level 3 is aimed at older students in secondary school and above. This takes the cyclist on to busy roads, and is aimed at those who are typically going to use the cycle as a means of commuting to school or work.

BikeIt is about helping children to get fit by teaching them the skills they need to cycle safely and responsibly. BikeIt not only encourages the children to cycle but is aimed at the whole school family e.g. teaching staff and parents alike. BikeIt is part funded through Sustrans. At BikeIt schools cycling is five times the national average.

Training – Adult Cycling

3.22 Adult cycle training has grown from very little interest in the early years of the LTP2 period to over 100 people trained in the autumn of 2010. This training is carried out in partnership with the Parks Department and spans from complete beginnings to returning cyclists who wish to improve their confidence on the road. A certain element of the training tackles the issue of considerate cycling. However, the level of considerate cycling training, does not match the level of concern over inconsiderate cycling held by the disability access groups.

Training – Greener Safer Driving

3.23 Greener Safer Driving – The council has recently introduced a new "Greener Safer Driving" course which will be rolled out to all those who drive a vehicle as part of their duties for the council. The concept of the course is to make drivers safer and at the same time make them more conscious of eco-driving techniques for reducing CO2 and saving fuel. Once this course has run for a while within the council, and been evaluated, it is hoped to offer it as a package to the companies in Leicester that have large vehicle fleets, and are not already carrying out a similar scheme.

Training – Independent Travel

3.24 SAGE – We offer Safer driving with age (SAGE) to any member of the public over the age of 60 requiring a driving assessment. This is part financed by the client themselves and is approximately an hour long. Within that time length the client undergoes a driving assessment, a feedback session and an improvement lesson wherever necessary on any areas of driving that need bringing in line with today's road and traffic conditions. The client is provided with a detailed report and a certificate of acknowledgement for undergoing the course.

Training – Valuing People

3.25 Road safety training for people with special needs is part of the valuing people initiative. Although not necessarily a major casualty problem, we are starting to provide a service for pedestrian training and cycle training (depending on ability) for those with special needs. We will also look at supporting wheelchair and disabled scooter training initiatives that take people out into the street environment. We are also establishing events to provide accompanied journeys into the city centre for those who are not travelling due to unfamiliarity with the routes and journeys.

Training – Cycle Mechanics Projects.

3.26 Community bike enterprises such as Bikes4all aim to get people of all ages cycling. The project recycles bikes donated by the public and corporate sponsors and offers training, activities and services which have a positive impact on the whole community. The idea began in September 2003 to prevent bikes going to landfill when they could be refurbished and donated or sold to families in deprived areas. Leicestershire Constabulary is working with the city council and they are providing unclaimed bikes to the project. The bikes are used during Bikebility training to provide bikes for children who don't already own a bike in order that they can still benefit from the training. This is a community project working with and training volunteers. It provides an invaluable service for little cost.

Accident Remedial Measures – Local Safety Schemes

3.27 Local safety schemes have been implemented on the main road network, primarily at junctions to address "accident cluster sites". They often involve kerb realignments, anti-skid surfacing, the provision of safer crossing points and the elimination of conflicting traffic movements through traffic signal improvements. Our Road Safety Team investigates locations with clusters of accidents in order to develop a proposed programme of Local Safety Schemes. Each year a list of locations is produced where there have been nine or more accidents in the previous three years. The current list for 2010 has 43 such sites in the city. These sites are then investigated, giving priority to those that are at the top of the list, have more than 50% pedestrian and cyclist casualties, or are in areas where accessibility will be improved.

3.28 Our policy is to implement schemes where the Estimated First Year Rate of Return (EFYRR) is at least 100%. Schemes with higher EFYRR are more likely to be funded. While implementing local safety schemes, we will take the opportunity to consider improving walking and cycling links in the area, thus improving accessibility.

Accident Remedial Measures – Traffic Calming

3.29 Traffic calming features are used to reduce traffic speeds and rat running and to increase the perception of road safety. A well designed scheme can improve the quality of life in the local area, with routes becoming more appealing for pedestrians and cyclists. However, our air quality action plan shows that traffic calming has a slight detrimental impact on air quality, although this is due to the way drivers react to the measures. The use of markings on the road to change its character can induce more moderate driving techniques, reducing the negative impact of the feature.

3.30 Introduction of traffic calming schemes in Leicester has resulted in local accident reductions of 55%, with schemes using road humps having a 64% reduction and schemes without humps having a 33% reduction. The cost of schemes has been typically recovered within 18 months of the scheme being implemented in terms of EFYRR.

3.31 The council's existing policy is that road humps will not normally be used on local distributor roads: other measures such as chicanes, priority workings, pedestrian refuges and signing and lining being used instead. However, in exceptional circumstances (e.g. where other measures are unlikely to/have not achieved the desired reductions in accidents) consideration will be given to the judicious use of road humps on local distributor roads, but only as part of a wider package of measures.

Accident Remedial Measures – 20mph speed limits and 20mph zones

3.32 Experience in Leicestershire and more recently in the new DfT report on the Portsmouth 20 mph blanket speed limit in residential areas, suggests that signage alone gives limited success, only achieving a 1-2mph reduction. 20 mph "zones" with traffic calming features, have proved effective over a number of years in reducing casualties and speeds. We do have some areas of the city where effective traffic calming has been introduced, but as yet the speed limit has remained at 30 mph. Hence we propose to carry out the necessary signing and Traffic Regulation Orders to convert these areas into 20 mph zones. Beyond this where vehicle speeds have been found to be low i.e. below 24 mph due to parking for example, despite there being no traffic calming, then we will look at introducing 20mph speed limits on these residential roads, with a priority list being part of our implementation plan in later phases of this strategy. Where there are residential areas where the vehicle speeds are higher than 24 mph, and accident levels are high, then we will look at continuing to use traffic calming so that 20 mph zones can be introduced.

Accident Remedial Measures – Speed and Red Light Running Cameras Safety Camera Scheme

3.33 A very valuable component of the Leicester, Leicestershire and Rutland Road Safety Partnership, is the Safety Camera Scheme. The Partnership believes that driver attitudes towards excessive speed will only be changed by a strategy of education, supported by effective enforcement. Additional enforcement using safety cameras commenced on 1st April 2002, with a 56% first year reduction in KSI casualties at camera sites being recorded. However, as 55% of all casualties in the city occur on the main road network, most of which is already covered by Safety Cameras, there is little scope for funding additional conventional fixed speed camera sites in the city, although there are some sites where further "red light" cameras could be introduced, because of collisions at traffic signal junctions. Fast driving and hard acceleration greatly increases vehicle emissions, so enforcement of speed limits not only improves safety but also reduces CO2 and NOx emissions through encouraging more moderate driving.

3.34 The safety camera scheme has received positive support both politically and from the local media, the general view from our consultation is that safety cameras have helped to reduce speed and improve road safety. In addition, independent research carried out for us by a local consultancy indicates that there has not been accident migration resulting from the speed camera scheme, that traffic speeds are down by about 4mph and that there is no evidence that shunt accidents near to camera locations have increased.

3.35 The Road Safety Partnership has calculated that the fee income surpluses from providing Driver Education Workshops, where speed and red light offenders can attend in lieu of points on their licence, will nearly fund the operation of a revised safety camera scheme operation. Hence, the safety camera scheme will continue to form part of our strategy.

Accident Remedial Measures – Vehicle Activated Signs

3.36 Vehicle Activated Signs (VAS) and Speed Indicator Devices (SIDs) – These are signs which are triggered by driver's speeds. The difference between them is that a VAS is a permanent sign used to treat a particular casualty problem, often involving drivers going too fast on the approach to a hazard, which cannot be treated easily by other measures. A SID is a similar device which is used as an educational tool to drivers to slow down, where there is a problem with speeding, but no casualties to warrant the use of regular enforcement or other measures. SID's are temporary signs which should only be left at sites for a short period of time, otherwise their effect wears off and they are ignored by regular drivers through a site after several weeks' usage. The best type of SID's, are those which give a positive reinforcement message as well as displaying the driver's speed. A priority list for VAS has been drawn up based on casualties, speeds and other factors. It is intended to deploy some SIDs as resources allow, in conjunction with Leicestershire Police who have some of the devices available, where speeding problems have been identified. Vehicle Activated Signs will continue to form part of our Road Safety and Active Travel Strategy.

Accident Remedial Measures – Road Safety Audit

3.37 The Road Safety Strategy will also include the provision of Road Safety Audits on all new schemes. New procedures for the Safety Audit of new Traffic/Highway Schemes in Leicester based on HA 19/03 were adopted in April 2004. We believe this will help to reduce the number of accidents arising from previously unanticipated effects of new highway improvement and maintenance schemes. Research by Surrey County Council covering 40 minor schemes of which half were audited and half were not has indicated that there is one casualty per year less on audited schemes. We will also continue to use the Leicester and Leicestershire Motorcycle Forum as a consultee to evaluate our traffic schemes at their design stage. This relationship has led to the production of design guidelines for motorcycles in traffic schemes. We also need to look more at traffic signal and street lighting schemes for road safety auditing purposes.

Managing Occupational Road Risk

3.38 The City Council's Risk Management Strategy includes a driving policy. This aims to reduce the number of personal collisions and loss incidents that are caused when employees are required to drive as part of their duties. We are seeking to improve the driving skills of employees required to drive as part of their employment, by providing "Safer Greener Driver Training", concentrating initially on those who have resulted in a number of insurance claims. It is intended to widen this to cover all persons who have occasion to drive vehicles in pursuance of or in connection with city council business. New starters will be expected to take part before they can drive either a council vehicle or their own on council business. We will be evaluating the effectiveness of the course and consider if it is appropriate to offer it as a package to private companies in Leicester that have large vehicle fleets, and are not already carrying out a similar scheme.

Street Lights

3.39 Fear of crime can be a major disincentive to walking or cycling, particularly after dark. The development of the street lighting improvement programme continues to be based on crime statistics and local views. The roll-out of converting High Pressure Sodium (HPS) and Low Pressure Sodium (LPS) lighting to newer and more efficient CosmoPolis or LED light, creates a safer night time environment as well as reducing energy costs and carbon. More information on the Street Lighting Maintenance Strategy can be found in Chapter 9.

Maintenance

3.40 We will continue the work, started in LTP2, to establish the relationship between casualties and road surface by continuing to look at accidents in damp or wet conditions and identifying locations where SCRIM testing can be undertaken. Details on our road surface maintenance strategy can be found in Chapter 9. We will continue to proactively manage essential maintenance work on carriageways, footways and cycleways.

Cycles – Routes and crossings

3.41 The London Road Corridor before and after study showed that whilst there had been an increase in the number of pedestrians(52%) and cyclists(400%) crossing London Road, the number of accidents have remain constant, therefore appropriate infrastructure can be used to encourage active travel and to minimise the level of accidents. More detail on cycling infrastructure can be found in Chapter 5. National inclusive design guidance and research should be considered when designing cycle facilities.

Advanced Stop Lines (ASL)

3.42 Studies show the use of ASL's can improve accessibility for cyclsts without causing additional conflict[19].

Pedestrian Facilities

Photo: Pupils of St John the Baptist using the zebra crossing on Clarendon Park Road

3.43 There have been over one hundred new pedestrian or cycle crossings installed since 2000, and we have seen a gradual decline in the number of pedestrian accidents. Where monitoring has been carried out at new crossings the numbers of pedestrians crossing the road at that point have increased and the number of accidents has decreased. The pedestrian crossing programme is detailed in Chapter 5 Accessibility. However, it is intended to continue the programme as an accident reduction measure as well as an accessibility measure. The guidance in the Inclusive Design Action Programme should be referred to when designing pedestrian facilities.

4. The Road Safety and Active Travel Strategy

4.1 In section 2 of this chapter, we looked at the current and future situations and we have appraised the options. All the options appraised in section 3 have their merits and contribute to making the roads safer and encouraging active travel. This is an extensive list of options. Whilst we recognise the importance of all these options, we acknowledge that we will not be able to afford them all. We have, therefore, prioritised these options relative to their appraisal score in combination with a realistic assessment of their benefit cost, affordability and deliverability.

[19] *Advanced stop line research study, Atkins, May 2005*

4.2 In addition to the congestion and accessibility strategies interventions that help improve road safety and encourage active travel the Road Safety and Active Travel Strategy includes the following policy options:

- Working with Partners

- Campaigns
  - Road Safety Education (Education)
  - Walking Promotion
  - Health Walks
  - Cycling Promotion
  - Mass Participation Cycle Rides
  - Initiatives to Encourage Cycling for Health

- Training
  - Road Safety Training Activities

- Accident Remedial Measures
  - Vehicle Activated Signs (Engineering and Enforcement)
  - Traffic Calming (Engineering and Enforcement)
  - 20mph speed limits and 20mph zones (Engineering and Enforcement)
  - Local Safety Schemes (Engineering)
  - Safety Camera Scheme (Enforcement)
  - Road Safety Audit

- Street Lights
- Maintenance
- Cycles
- Pedestrian facilities
- Conventional Signs and Markings
- Journey Planning

4.3 In delivering the Road Safety and Active Travel Strategy, we need to be realistic with regard to the resources that we are likely to have available and flexible to adapt to changing circumstances. Thus, our approach to the delivery of this objective is split into short-term and medium to longer-term.

Areas for Priority
Working with Partners

4.4. Our approach to implementing the strategy will continue to be through partnership working with the Crime and Disorder Partnership, the Primary Care Trust, Sustrans, the Leicester, Leicestershire and Rutland Road Safety Partnership and other local authorities through Road Safety GB and the Midlands Service Improvement Groups.

4.5 The emphasis on encouraging more walking through campaigns means that we will be developing new partnerships with the likes of The Ramblers as part of the ‘Get Walking-Keep Walking Campaign’ and living streets. The Active Travel

Strategy will form part of the Physical Activity Branch of the Sports Partnership Trust. The Sports Partnership Trust was created to co-ordinate the sport and physical activity schemes throughout the city whether they be generated from the NHS, city council or any of the sports bodies. Joint working with local media groups will also be developed.

Campaigns

4.6 Active Travel campaigns will be targeted at areas where obesity is high particularly in children and we will concentrate on campaigns where we can work with partners to increase levels of activity, particularly where the opportunity to make access to work easier is an outcome. Road Safety campaigns will be targeted at reducing vulnerable road user casualties, through local and road safety partnership campaigns.

Training

4.7 We will continue to target child pedestrian in year 2, but look to develop more advanced training for year 4 children. Cycle training will continue in years 5 and 6, and will be expanded to cover key stage 3 and adult cycle training.

Accident remedial measures

4.8 Throughout the period of LTP2 many accident remedial measures were packaged with campaigns, training and working with partners into Safer Route Projects Although, the full benefits of introducing Safer Routes schemes in terms of reduced accidents are only achieved in the longer term, there are also benefits for health and social inclusion that can be realised much sooner. Safer Routes Scheme are unlikely to continue, within the first few years of this strategy, as stand alone schemes, due to their cost. We will continue to co-ordinate measures, where the priorities are similar ie combining the work on a 20mph zone with pedestrian training to achieve better outcomes as part of our Road Safety and Active Travel Strategy.

5. Delivering the Road Safety and Active Travel Strategy

The Road Safety and Active Travel Policy Options identified above are included in the Implementation Plan either as individual interventions or as a package of measures, and are split into Short, Medium and Long Term time frames.

To deliver the Strategy in the short term (within this Implementation Plan period) are priorities are:

- Continue Working with Partners
- Continue to undertake and support Campaigns
- Undertake business cases for carrying out large Campaigns such as hosting conferences and a large scale Walking to Work Project.

- Continue to undertake Training with vulnerable road users

- To establish and begin to implement a programme to make Journey Planning available to city residents

- Continue to provide a programme of Pedestrian Facilities

- Continue to provide a programme of Cycle routes and lanes

- To develop a programme of Cycle Advance Stop Lines

- Continue to undertake Accident Remedial Measures
  - Traffic Calming (Engineering and Enforcement)
  - 20mph speed limits and 20mph zones (Engineering and Enforcement)
  - Local Safety Schemes (Engineering)
  - Safety Camera Scheme (Enforcement)

- Continue to implement a programme of Maintenance of our highway network and transport infrastructure

- Continue to promote, install and maintain a programme of Conventional Signs and Markings

- Even though Street Lights score low on the Option Assessment, it scored highly in safety terms and therefore, it is unlikely to be a stand alone priority, but will be incorporated into a package of measures.

Our Implementation Plan goes into further details of what we will be doing and the measures that we will most likely be delivering in the next four years to achieve this objective in the short-term. It also explains how we intend to continue to develop our approach to ensure that we maximise the benefit cost ratio of the schemes and initiatives that we do.

Delivery of this objective in the medium to longer term: Our medium to longer-term approach is also designed to be flexible and will be influenced by what our first Implmentation Plan achieves. We will monitor schemes and initiatives in order to build on our successes and review the things that do not perform as well as we had anticipated. Decisions will also be informed by the availability of funding.

Based on the information available to us at the moment, in the medium term (within the next Implementation Plan period) we believe that we are likely to continue with the strategy as outlined above, but build on it by:

- Continuing a phased programme to make Journey Planning available to city residents
- Undertake large scale campaigns
- To undertake a business case to establish a programme of Street Lights improvements to address identified safety concerns.

We will review our medium term approach in the light of our monitoring results and the availability of funding.

Based on the information available to us at the moment, in the longer term (beyond the next Implementation Plan period) we believe that we are likely to continue with the approach as outlined above, but build on it by:

- Making Journey Planning available to all city residents

- Implementing a phased programme of Street Lights improvements to address identified safety concerns.
  We will review our longer term approach in the light of our monitoring results and the availability of funding.

6. Monitoring the Road Safety and Active Travel Strategy

6.1 To monitor the effectiveness of our strategy we have six key outcome indicators and five supporting indicators. The key outcome indicators are detailed in Table 6.2. The supporting indicators are provided in our Implementation Plan.

Table 6.2 Improve Safety, Security and Health Performance Indicators and targets

PI Category	Ref. No,	Description	Target 2014/15	Baseline Data	11/12	12/13	13/14	14/15	Source of Data
Outcome	L LTP 27	Total number of casualties from road traffic accidents	1222	1328 2004-2008 average				1222	Police
	L LTP 28	Total number of child casualties from road traffic accidents	162	176 2004-2008 average				162	Police

	L LTP 29	a. Number of people killed or seriously injured in road traffic accidents b. Number of Children killed or seriously injuredin road traffic a ccidents c. Number of Pedestrians killed, seriously or slightly injured in road traffic accidents d. Number of Pedal Cyclists killed, seriously or slightly injured in road traffic accidents e. Number of Powered Two Wheeler Occupants killed, seriously or slightly injured in road traffic accidents	80 13 234 118 81	87 2004-2008 average 14 2004-2008 average 255 2004-2008 average 128 2004-2008 average 88 2004-2008 average				80 13 234 118 81	Police
Non – transport Outcome	L LTP 30	Perceptions of anti social behaviour							
	L LTP 31	Obesity among primary school age children in Reception Year	To be set	10%	8.8%	To be set	To be set	To be set	Local Survey
	L LTP 32	Obesity among primary school age children in Year 6	To be set	18.0%	14.8%	To be set	To be set	To be set	Local Survey

6.2 The full lists of safety, security and health indicators and targets are presented in the Implementation Plan.

Chapter 7:

Improve Air Quality and Reduce Noise

The Improving Air Quality and Reducing Noise Strategy

1. Introduction

The Goal we are helping to achieve in this chapter is:

Better Safety, Security and Health - Leicester's people are more active, healthy and secure

The two strategic challenges, identified in chapter 2, addressed by our Improving Air Quality and Reducing Noise Strategy are:

Reducing the levels of nitrogen dioxide emissions from transport

- Transport is currently the main source of nitrogen dioxide emissions in Leicester and the level of nitrogen dioxide along the main road network is well above the European directive threshold

- Population, housing and economic growth will result in additional demand on our transport network which could lead to an increase in nitrogen dioxide emissions

Reducing the levels of noise from transport

- There are approximately 200 dwellings (and associated population) in Leicester city to be investigated as a first priority due to noise from roads

2. The Current and Future Situation – The Challenges and Opportunities

Why is Air Quality Important?

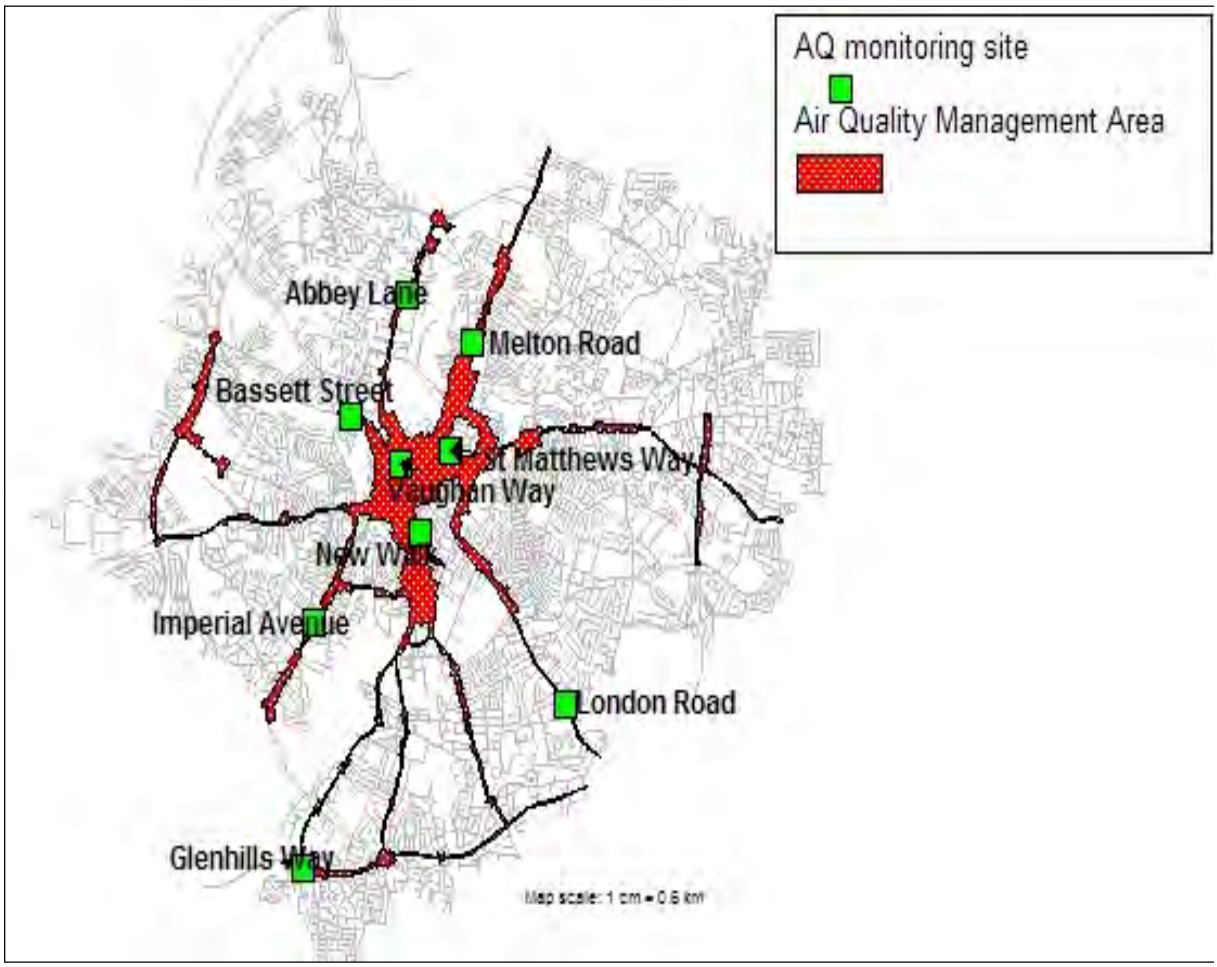
2.1 Evidence to the Parliamentary Environment Audit Committee in 2010 indicates that poor air quality –

- Reduces the life span of everyone in the UK by an average of 7 – 8 months;
- Causes up to 50,000 premature deaths each year in the UK. (In Leicester, this equates to at least 750 premature deaths).

2.2 This compares with about 3,000 fatalities every year on the roads and about 11,000 deaths per year caused by passive smoking.

2.3 National projections indicate that there is a worsening trend over the decade in the relationship between deprivation and exposure to bad air quality. There is also some evidence that deprived populations living in areas of poor air quality are more susceptible than the population as a whole to the harmful effects of air quality due to its combined impact with other social stressors. Analysis of the UK population demonstrates that the young are statistically more likely to live both in areas of social deprivation and of poor air quality.

Map 7.1 Leicester Air Quality Management Area© HMSO



2.4 The resident population of Leicester's Air Quality Management Area, Map 7.1 is estimated to be about 3% of the City's population (9,000 people), and the affected people typically live in inner city areas and/or areas in close proximity to major roads, which correspond to areas of elevated social deprivation. Therefore, any improvement in air quality in these areas will have a disproportional benefit for the actual people most seriously affected. Disadvantaged people tend to contribute least to atmospheric emissions and also tend to be the group least able to take action to address them.

2.5 Taking the mortality figures for the UK pro-rata, we can make the crude calculation that poor air quality would lead to about 250 premature deaths per annum in Leicester. However, because of the demographic factors referred to, this is almost certainly an underestimate, and the proportion of the UK mortality attributable to deprived / polluted areas within the City will be larger.

Leicester City's Air Quality Management Area

2.6 Nitrogen dioxide concentrations are measured or predicted as annual average levels over the 24 hour day for all days in the year, and this is the basis for the 40ug/m3 limit value of the National Air Quality Objective. The health concern is for people with longer term exposure to concentrations above the limit value at a particular location, in buildings where the same people regularly spend the night. Areas of exposure are taken as being the residential facades which may or may not be close to the edge of the road.

2.7 We completed a review and assessment of air quality in 2000 and then declared our Air Quality Management Area, in accordance with the Environment Act 1995, with respect to nitrogen dioxide levels. This review confirmed that there is not a need to proceed to a Detailed Assessment for Benzene, 1,3-butadiene, lead, sulphur dioxide, carbon monoxide and PM10 particulates.

2.8 The only exceedance of National Air Quality Objectives in Leicester is due to the level of nitrogen dioxide in close proximity to the major road network; the dominant source being vehicle exhaust emissions. Leicester city has a network-wide problem with nitrogen dioxide and so there is a single, extensive, AQMA centring on the main road network and the city centre. Some of the worst areas are: Abbey Lane, Melton Road, Glenhills Boulevard and St Matthews Way, and along the outer ring road towards the Fosse park area leading to Junction 21 of the M1. Annual mean values in the worst affected residential area (St. Matthews) are 56 microgrammes per cubic metre and at the worst site (Glenhills Way), levels were 75 microgrammes per cubic metre in 2009.

2.9 We conducted further air quality review and assessments in 2003 and in 2007. The 2007 review necessitated the extension of the AQMA in April 2008 to include an additional 102 houses on the west (northbound) frontage of the Abbey Lane corridor. Map 7.1 shows the extent of the current air quality management area. Table 7.1 provides details of the levels of nitrogen dioxide at our monitoring stations from 2005 to 2009. Computer air dispersion scenario modelling indicated that delivering our all Local Transport Plan 2006-11 Improving Air Quality Strategy activities would fail to meet the statutory Objective for nitrogen dioxide at all of our monitoring sites by 2011 by a substantial margin. This indicated that action beyond the scope of the Local Transport Plan was and is required if the National Objective level is to be met at all of the monitoring stations on the main road network.

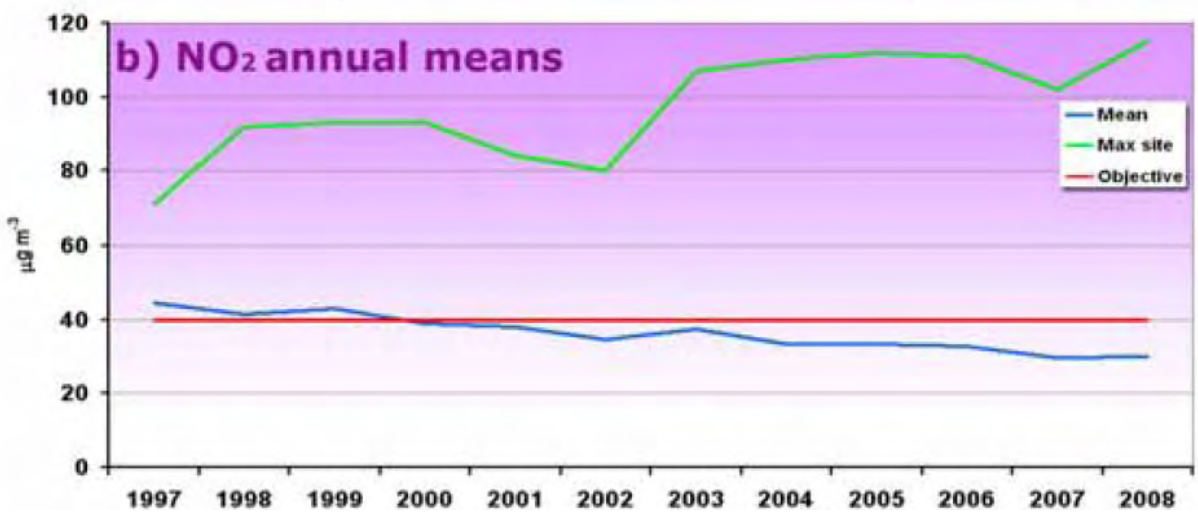
Table 7.1 Levels of Nitrogen Dioxide at Monitoring Stations

Location	Distance from curb (m)	Coordinates	Year	Data capture %	Annual Mean NO2 level (µgm-3)
AURN	35	X 458763 Y 304065	2005	97	31
			2006	98	30
			2007	99	32
			2008	99	28
			2009	94	33

Melton Road	3	X 459528 Y 306316	2005	99	52
			2006	99	50
			2007	99	53
			2008	100	53
			2009	97	56
Imperial Ave	7.5	X 457245 Y 303040	2006	99	35
			2007	99	36
			2008	99	34
			2009	98	34
Abbey Lane	7	X 458574 Y 306885	2005	98	46
			2006	97	44
			2007	99	45
			2008	99	44
			2009	99	54
Glenhills Way	3	X 457083 Y 300156	2005	97	57
			2006	100	68
			2007	99	66
			2008	99	67
			2009	99	75
Uppingham Road	2	X 461188 Y 305306	2005	99	35
			2006	99	35
			2007	94	37
			2008	99	36
			2009	99	34
St Matthews Way	2	X 459221 Y 305036	2005	98	52
			2006	87	58
			2007	99	56
			2008	91	51
			2009	97	56
Vaughan Way	3	X 458507 Y 304904	2005	41	49
			2006	99	53
			2007	99	56
			2008	99	57
			2009	99	57
London Road	3	X 460843 Y 302059	2006	84	29
			2007	92	34
			2008	97	32
			2009	98	32

2.10 As a result of these findings we were obliged to produce an Air Quality Action Plan (AQAP) aimed at addressing the levels of nitrogen dioxide. The first edition was included as an annex in the Central Leicestershire Local Transport Plan 2006-11. The measures described in the AQAP included many of the schemes and initiatives that we have been implementing to manage congestion and hence help to improve air quality.

Graph 7.1 UK monitoring network average NO2 concentrations



(UK Air Pollution, DEFRA 2008)

Central Leicestershire Districts - Air Quality Management

2.11 Since the air quality legislation came into effect in 1995 there has been joint working through the Air Quality Forum between the district councils, Leicester City Council and Leicestershire County Council. This section of the LTP has been prepared through consultation with the Air Quality Forum. At the November 2009 EPUK Conference, Leicester was amongst five local authorities chosen as good examples of air quality action planning. Leicester's managing of congestion through urban traffic management and control was highlighted as effective action to improve air quality.

National Trends in Air Quality

2.12 To what extent air quality in the UK is improving or deteriorating is difficult to say given the variation in measured concentrations relating to meteorological conditions. As a result, it is sometimes hard to tell whether measured variations in pollutant concentration are the direct result of policy measures or are associated with meteorological conditions. Nitrogen dioxide is emitted directly in motor vehicle exhausts ('primary NO2') but most of it forms secondarily from nitric oxide (NO) emitted in the exhausts. The atmospheric combination of NO plus NO2 is referred to as 'NOx':

2.13 Concentrations of NO2 should have clearly declined between 1995 and 2008, as a result of reductions in emissions of NOx. These reductions have principally been in relation to emissions from road traffic, resulting from the Euro standards for new vehicles, and emissions from industry and power stations. Further reductions in UK-wide concentrations have been predicted as emissions decline further towards 2020. UK monitoring network average NO2 concentrations (Graph 7.1) have been steadily declining over the last two decades and have been below the objective value since 2000; this trend looks set to continue. However, by contrast the highest concentrations of NO2 measured by the network appear to have been increasing over time at several of the busiest roadside monitoring sites.

While this increase may have levelled off since 2003, concentrations at the most polluted sites remain well above the objective level.

2.14 This increase in the relative proportion of NO2 in overall NOx is making it harder to meet UK air quality Objectives and EU Limit values. Indeed, the UK has failed to meet 2010 European Legislative deadline for nitrogen dioxide and now faces legal proceedings. Research has indicated that this is largely attributable to the increased proportion of primary NO2 in the exhaust of diesel vehicles, associated with the increasing penetration of light diesel vehicles into the national fleet. Euro standards regulate NOx emissions, not NO2 and some technology choices by vehicle manufacturers appear to be actually increasing the NO2 : NOx ratio especially in diesels, while overall NOx (and CO2) emissions are falling in newer vehicles (i.e. less NOx is being emitted but more of it is being emitted as NO2). Hence, increasingly stringent vehicle emissions standards are not being reflected in a fall in NO2 levels at busy roadsides and, indeed may even be exacerbating the problem.

Leicester's Noise Action Plan

2.15 The Environmental Noise Directive (END) requires the production of noise maps, which are intended to inform the production of Noise Action Plans (NAP) for large urban areas. END concerns noise from road, rail and air traffic as well as from industry. It focuses on the impact of such environmental (ambient) noise on individuals. In England, END is implemented through The Environmental Noise (England) Regulations 2006. The Regulations confirm that Secretary of State is the Competent Authority for preparing the Action Plan. In the current round of noise mapping it was not possible to gain more than an indication of the night noise impact from road traffic. As part of the long term strategy, the Competent Authority will establish a mechanism that secures robust data regarding traffic flow and associated information for the night period (23.00 – 07.00). Additionally, it will work with the Highways Agency and others, to develop a robust prediction methodology for night noise from road traffic. This will enable a greater focus to be made on the management of night time road traffic noise given the increasing emphasis being put on the effects of night noise by the World Health Organisation.

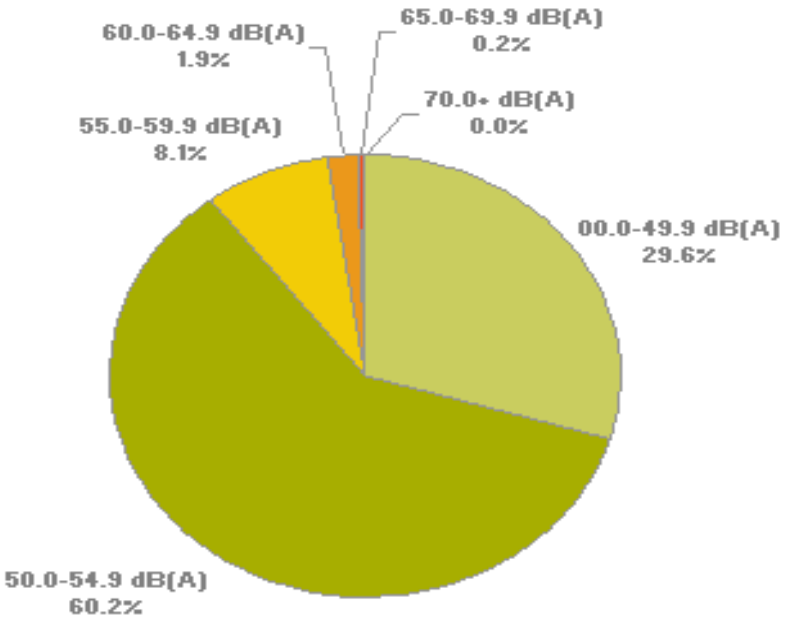
2.16 Leicester's Noise Action Plan was published by Defra in March 2010. The document can be viewed as part of the LTP3 evidence base. The management of noise in Leicester rests with various authorities including;

- For road traffic sources – the city council as highway authority and the Department for Transport
- For land use planning – the city council as planning authority and the Department for Local Government and Communities

2.17 Noise maps provide a strategic assessment of noise exposure in different areas. They can be linked to population data to estimate how many people are affected by different levels of ambient noise, and the source of that noise. In large urban areas noise from major and other roads and railways and significant industrial areas has been mapped. The current Leicester noise map is for 2006, and a segment with day time noise levels is shown below. The pink shading shows the

areas with the higher noise levels. The close correlation between areas of high road noise levels and those with poor air quality is readily apparent. The Regulations require that noise maps be produced again in 2012 (for 2011), and every five years thereafter.

Graph 7.2 Exposure of Leicester population to night time noise levels



2.18 The Environmental Noise Directive requires noise mapping to establish;

- Number of people exposed to noise levels > 55db(A) Lden
- Number of people exposed to noise levels > 50db(A) Lnight

2.19 Graph 7.2 gives the exposure of the Leicester population to differing night time noise levels.

2.20 A summary of the noise mapping results for the Leicester agglomeration (Leicester conurbation) are provided below. The Regulations required that noise level information be determined in terms of several noise indicators. These include: Lden (the average levels during Daytime, Evening and Night, where evening noise incurs a 5dB penalty and night noise a 10dB penalty), Lnight; and LA10,18h (the noise level exceeded 10% of the time in the 18 hour day). The estimated number of people and dwellings exposed above various noise levels from the strategic mapping of road traffic noise in the Leicester conurbation are shown in Tables 7.2 to 7.4 below:

Table 7.2 Estimated number of people and dwellings above various noise levels due to road traffic noise, Lden

Noise Level (Lden) (dB)	Number of Dwellings	Number of People
≥55	171,000	413,000

Map 7.2 – Leicester Noise Map

Table 7.3 Estimated number of people and dwellings above various noise levels due to road traffic noise, Lnight

Noise Level (Lnight) (dB)	Number of Dwellings	Number of People
≥50	134,000	322,000

Table 7.4 Estimated number of people and dwellings above various noise levels due to road traffic noise, LA10,18h

Noise Level (LA10,18h) (dB)	Number of Dwellings	Number of People
≥55	171,000	414,000

2.21 The Action Plan has been designed to manage noise issues and effects, including noise reduction if necessary. The Regulations require that this Action Plan should “apply in particular to the most important areas as established by strategic noise maps”. To fulfil this requirement, attention has been focused on those most exposed to noise (according to the results of the strategic noise mapping) from

those roads mapped. The Competent Authority has decided, therefore, to use the LA10,18h indicator as the basis for identifying important areas to be investigated for potential action. It has been decided that the important areas with respect to road traffic noise in this agglomeration will be where the 1% of the population that are affected by the highest noise levels from those roads mapped are located according to the results of the strategic noise mapping ("Important Areas"). This approach has been taken because the population at these locations are likely to be at the greatest risk of experiencing a significant adverse impact to health and quality of life as a result of their exposure to road traffic noise.

2.22 In addition, those locations where the LA10,18h is at least 76 dB according to the results of the strategic noise mapping have been identified as First Priority Locations ("First Priority Locations"). It is envisaged that in general the highways authorities will investigate as a priority the Important Areas that contain First Priority Locations. The LA10,18h indicator describes only the noise that occurs between the hours of 0600 and 2400 and doesn't cover the night period. Even so, the identification of Important Areas has been based solely on the LA10, 18h value. This reflects the fact that for the first round of mapping the Lnight values had to be derived. Furthermore, implementing many of the potential actions available to manage noise issues and effects would not only address the noise as measured by the LA10, 18h indicator but also the noise that occurs at night.

Important Areas

2.23 Table 7.5 below shows the approximate number of dwellings and associated population to be investigated for potential action with respect to road traffic noise in this agglomeration for any relevant local authority that is wholly or partly within this agglomeration:

Table 7.5 Approximate number of dwellings and associated population per athority to be investigated due to noise from those roads mapped

Local Authority	Number of Dwellings	Associated Population
Leicester City Council	1,550	3,500
Blaby District Council	150	500
Charnwood Borough Council	< 50	< 100
Hinckley and Bosworth Borough Council	< 50	< 100
Oadby and Wigston Borough Council	250	600
TOTAL	2,000	4,700

First Priority Locations

2.24 Table 7.6 below shows the approximate number of dwellings and associated population in this agglomeration that have been identified as First Priority Locations with respect to road traffic noise for any relevant local authority that is wholly or partly within this agglomeration:

Table 7.6 Approximate number of dwellings and associated population per authority to be investigated as a first priority due to noise from those roads mapped

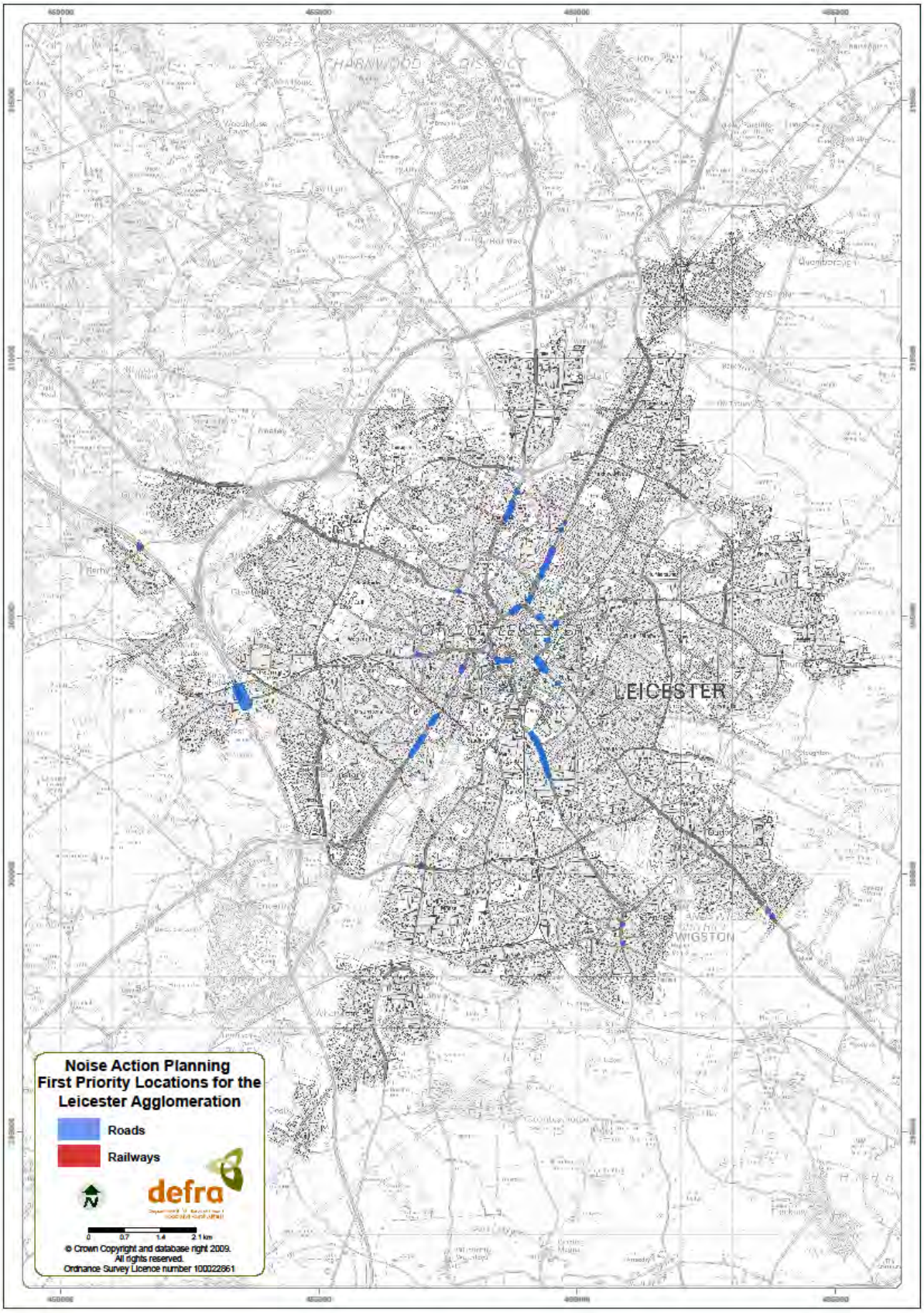
Local Authority	Number of Dwellings	Associated Population
Leicester City Council	200	600
Blaby District Council	< 50	< 100
Hinckley and Bosworth Borough Council	< 50	< 100
Oadby and Wigston Borough Council	< 50	< 100
TOTAL	250	700

2.25 It is envisaged that the highway authorities will investigate as a priority the Important Areas that contain First Priority Locations whilst having regard to any ongoing noise mitigation initiatives, schemes and plans. The highway authorities, however, may use their discretion when deciding on the investigation priority. Map 7.1 shows the location of the First Priority 200 dwellings in Leicester with respect to road traffic noise. The map has been made using computer modelling techniques, based on information such as traffic flow data, road/rail type, and vehicle type data. No actual noise measurements have been made in the production of these strategic maps. The modelling, where necessary, also took account of features which affect the spread of noise such as buildings and the shape of the ground (e.g. earth mounds), and whether the ground is acoustically absorbent (e.g. fields) or reflective (e.g. concrete or water). The calculations produced noise level results on a 10m grid at a receptor height of 4m above ground, as required by the END and the Regulations.

2.26 As required by the Environmental Noise (England) Regulations 2006, in this first round of mapping, maps have been produced for major roads which have more than six million vehicle passages a year, and major railways which have more than 60,000 train passages a year, For the second round of mapping in 2012, in addition to re-mapping the areas covered in the first round, roads having more than 3 million vehicle passages per year and railways with more than 30,000 train passages per year are to be mapped. All agglomerations with a population of over 100,000 will also be mapped. The actual roads, railways and agglomerations to be mapped in the second round will be subject to confirmation based on the most up to date data available at the time.

2.27 The noise map is only intended to be used for strategic assessment of noise levels in any given area. They should not be used to attempt to determine, represent or imply precisely the noise levels at individual locations (e.g. individual houses, windows). It should also be borne in mind that the noise levels shown are for an average day in the year, and therefore do not show the specific noise from individual vehicles, trains, or aircraft or from discrete industrial activities. We have reviewed the noise locations and assessed our own noise related records and have concluded that we haven't any specific issues with noise at these locations.

Map 7.3 – First Priority Locations for the Leicester Agglomeration



2.28 A web-based support tool is currently being developed which is scheduled to go live on 1st April 2011. This will help the local highway authorities to investigate and assess the First Priority Locations and decide at which locations it is possible to implement any action to reduce noise levels. These decisions will then be passed to the relevant department of the relevant (sometimes the same) local authority with responsibility for the communities affected by the noise source (eg the land use planning and/or environmental health department). They will have the opportunity to comment on the highway authority's assessments, and the highway authority will make changes in response to their comments (or, if not, provide an explanation as to why not). These agreed assessments will then be passed on to DEFRA. The local authority will have approximately a year to complete this process from the "going-live" date of the support tool.

National Picture - Noise

2.29 The Noise Policy Statement for England sets out the long term vision of Government noise policy:

"Promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development".

This long term vision is supported by the following aims:

- Avoid significant adverse impacts on health and quality of life;
- Mitigate and minimise adverse impacts on health and quality of life; and
- Where possible, contribute to the improvement of health and quality of life.

2.30 A key phrase within the Noise Policy Statement for England vision is "health and quality of life". It is recognised that noise exposure can cause annoyance and sleep disturbance both of which impact on quality of life. It is also agreed by many experts that annoyance and sleep disturbance can give rise to adverse health effects. The distinction that has been made between "quality of life" effects and "health" effects recognises that there is emerging evidence that long term exposure to some types of transport noise can additionally cause an increased risk of direct health effects. The Government intends to keep research on the health effects of long term exposure to noise under review in accordance with the principles of the Noise Policy Statement for England. The Noise Policy can be viewed as part of the LTP3 evidence base.

Opportunities to improve air quality and reduce noise

2.31 The most significant opportunity is that many short car journeys in and around Leicester could be converted to walking or cycling trips. Some 50% of journeys to work are less than five kilometres. Additionally, 36% of Leicester commuters who do not use public transport, walk or cycle to access employment live within 400m of a bus stop and 82% of Leicester's residents work within Leicester. We have developed good cycling promotion coupled with key projects (such as Cycle city workshop, bike projects and cycle shops) that has helped to increase the number of people cycling by 81% between 2004 – 2009. Due to the increase numbers

of people cycling, there is potential to develop and build upon our existing infrastructure, parking facilities and improvement our bike parking and cycle signing.

2.32 We can use the planning process to help implement our improving air quality and reducing noise strategy - our Principal Urban Area study has indicated that there will be an increase in the number of homes. We need to cater for this new growth but we need to ensure that we have sustainable travel.

Integrated traffic management research

2.33 Integrated Traffic Management and Air Quality (ITRAQ) is a project to develop a dynamic traffic management system for optimising use of the road network whilst meeting the growing demands, from Government across the UK and Europe and from the European Commission, to sustain high standards of air quality in urban environments.

2.34 The project is being proposed to the European Space Agency's (ESA) Integrated Applications Programme by a consortium (Infoterra Ltd, Leicester City Council, DeMontfort University and The University of Leicester) whose combined expertise includes intelligent traffic management systems using GNSS and air quality applications using space services technologies.

2.35 The approach draws on earlier research and development on traffic flow strategies and traffic induced pollution involving the council and the universities. As the industry lead, Infoterra Ltd have wide ranging interests in applications of space technologies and are long-standing collaborators with the scientists at The University of Leicester.

2.36 The ITRAQ project will proceed in three stages. A feasibility study over one year to define the dynamic traffic management system (including a pilot demonstration of feasibility), a full scale 2-3 year demonstration project to establish operational capability (together with economical and technical viability) and roll-out of an operational system.

2.37 The proposal to ESA is for the first step only, in which the system concept will be developed around an existing operational traffic control system in use in the city of Leicester, but augmented with traffic flow and air quality modelling and near real-time data from space and in-situ measurements. A pilot demonstration (included in this feasibility phase) will be specific to the Leicester environment but will serve as a test case for traffic and air quality management for a considerable number of other cities with similar post-industrial environments and populations in the UK and Europe.

2.38 However, the economic viability of ITRAQ depends on the system being portable to other traffic and living environments such as large metropolitan cities, small market towns, county zones and rural areas. Diversification of the system concept to other environments will be tackled in the demonstration phase of the project.

2.39 We will consider support for the development of the project on an on-going basis depending on any emerging outcomes. Such support will need to be considered in the context of our other priorities and the government's current priority of reducing the budget deficit.

3. Appraising the Options

3.1 The option assessment described in Chapter 3 demonstrated that many options could be considered to form part of our Improving Air Quality and Reducing Noise Strategy. Most were identified as forming part of our Congestion, Reducing Carbon, Accessibility, and Active Travel and Road Safety strategies. Hence, several of the key options are described in other strategy chapters relevant to them. Cross references are provided below to those descriptions:

Table 7.7: Further Options for improving Air Quality and Reducing Noise:

Option	Page Reference
Working with Partners (company & school travel plans, cycling, health, education, business, environment)	109, 151, 151 -152
Public transport focused development	121-122, 154
Buses/Services – Lower Emission	241
Charging (Pricing)	119 -121
Journey Planning	117
Public Transport Routing	118
Cycles	110, 161 -163, 190 -192
Pedestrian Facilities	110, 144, 148, 189 -190
Bus Stations and Interchanges	111, 155
Bus Fares	110, 156
Bus Corridors	110 - 111
Maps	94, 160
Variable Message Signs	93, 163
Buses/Services (QBP, Contracted/Supported, Relocation/Operational Times)	88 -90, 159
Rail	114- 116
Maintenance	Chapter 9
Parking (Controls and Restrictions)	92, 123 -125
Traffic Lights (If SCOOT linked)	109
Roads (Junction Improvements, High Occupancy Vehicle (HOV) lanes)	111, 116
Park and Ride	113

3.2 The effectiveness of the above measures in improving air quality and reducing noise is not discussed in the other chapters, however, it will correlate closely with their effectiveness in achieving a modal shift from car journeys to trips by other modes and in reducing congestion.

3.2 This section provides an analysis of the other options not forming part of the above Strategies which we intend to take forward as part of our approach to Improving Air Quality and Reducing Noise Strategy.

3.3 In 2009 we carried out an option identification and analysis specifically for updating the Air Quality Action Plan. This used the principles put forward in the guidance published by the National Society for Clean Air and Environmental Protection. Funding was obtained from the DEFRA Air Quality Grant Scheme to review and update Leicester's Air Quality Action Plan during the preparation of this Plan. The Transport Research Laboratory (TRL Consultants) was commissioned to review the current Air Quality Action Plan (AQAP) (Central Leicestershire Local Transport Plan 2006-11, Annex 11). TRL submitted their final report in December 2009 (Final Project Report CPR 585 – Revised Air Quality Action Plan Interventions, Savage A. and Turpin K.).

3.4 TRL carried out the following steps to produce a package of interventions that could potentially be incorporated into a revised AQAP for Leicester City Council. These steps are based on Defra's recommendations in its policy guidance (PG(03) and PG(09)) for elements to be included in a local authority AQAP (Defra, 2003 and 2009):

1. Identification and quantification of source contributions to predicted objective exceedances.

2. A review of recent local documents, policies and best practices.

3. An initial assessment of potential interventions, and prioritisation of interventions for use in Leicester

4. Consultation of interventions (a stakeholders workshop involving key disciplines was held and options evaluated and ranked).

5. Detailed assessment and quantification of preferred interventions.

6. Identification of a package of interventions for inclusion in a draft revised Air Quality Action Plan.

This work has helped inform our option appraisal work as part of this Local Transport Plan.

3.5 The main source of nitrogen dioxide is vehicle exhaust emissions from traffic. All options considered as part of our continued air quality action planning process are aimed at reducing or positively influencing one or more of the factors below:

- Vehicle-kilometres travelled;
- Emissions per vehicle-kilometre; or
- Repositioning / changing traffic flows, in relation to critical, sensitive locations, or vic versa.

3.6 In addition to the options appraised in the congestion, carbon reduction, accessibility and road safety & active travel strategy chapters; the following options are identified for appraisal as part of this strategy:

Working with Partners

3.7 We are currently working with the Quality Bus Partnership (QBP), Freight Quality Partnership (FQP), and Health Authorities. Air pollution is currently estimated to reduce the life expectancy of every person in the UK by an average of 7-8 months, with estimated equivalent health costs of up to £20 billion each year. There are significant benefits to be gained from further improvements.

About 90% of the measured nitrogen dioxide in Leicester is derived from motor vehicles. Of this, about 60% is from heavy vehicles. Encouraging the use of lower emission vehicles, and raising environmental awareness with regard to operations can help improve air quality and reduce noise. Through commissioning bus services we take the opportunity to specify low emission vehicles as and where appropriate such as on park and ride services.

Campaigns and Training – To promote more economical driving styles

3.8 Campaigns to influence driving styles and short journeys are part of the strategy as short car journeys cause up to 60% more pollution per mile than longer journeys. This is because an engine does not run efficiently and the catalytic converter does not work properly until the engine is hot. In Leicester, 41% of journeys made by car are less than two miles, and 77% are less than five miles. Promoting more economical driving styles and other simple pollution saving tips could, if widely taken up, have a relatively large impact on air quality as well as saving the motorist money. The city council is leading by example through implementation of Greener Safer Driving for employees who drive in the course of their work.

Freight – Promotion of good practice to fleet managers

3.9 Our work through the Freight Quality Partnership with fleet managers aims to continue to raise awareness of pollution issues and encourage investment in vehicles and good practice generally. We believe that a small amount of officer time doing this work is high value for money. Distribution depots outside the city where large lorries (HGVs) transfer loads to smaller, cleaner vehicles for distribution within the city could reduce congestion and emissions in Leicester. Some large stores within the city such as Marks and Spencer and BHS already operate a policy of consolidating loads to reduce delivery journeys.

Low Emission Vehicles, Infrastructure and Initiatives – Low Noise Road Surfacing

3.10 Over recent years, the use of low noise roads surfaces has become increasingly widespread. These surfaces are now routinely used for new strategic roads, and are generally used when the road surface has to be replaced due to wear and tear.

Low Emission Vehicles, Infrastructure and Initiatives – Traffic Management Schemes

3.11 These can manifest themselves in several ways:

- The re-routing of traffic away from sensitive receptors; restrictions on the type of traffic (e.g. heavy vehicles) that can use certain roads at certain times of day; and
- The design and building of new roads to provide an alternative route away from noise sensitive premises.

Low Emission Vehicles, Infrastructure and Initiatives – Low Emission Zones

3.12 A Low Emission Zone (LEZ) refers to a geographic area within which a low emission strategy applies. An LEZ supported by active barrier control on major routes, combined with traffic management to prevent non-compliant vehicles finding alternative routes, could bring high and medium reductions in air pollutant and carbon emissions respectively. LEZs need to be combined with other interventions to be successful.

3.13 The immediate imposition of an LEZ, where only vehicles of, say, less than three years old are permitted to enter, would harm the economy as it will take time for business to adapt to new working practices and purchase and operate new vehicles. We need to work with businesses over time to reduce pollution from vehicles to ensure that our measures as a complete package support a vibrant city centre and thriving economy. We will ensure that new development does not prejudice a possible future LEZ. We will note progress with better air quality and keep the case for an LEZ under review as regeneration proceeds. We will also learn from Cambridge's proposal for an emissions envelope for the city centre area by facilitating reduced emissions from buses in total. Bus operators will be expected to work within an overall emissions allowance with a year on year reduction. The ability to run extra services to cater for growth and patronage increases will depend on emission improvements elsewhere in the fleet. We will be considering options for improved partnership working with the bus companies as part of the city centre bus improvements and we will take into account the experiences from Cambridge as part of this development work.

Low Emission Vehicles, Infrastructure and Initiatives – Tree planting initiatives

3.14 Trees and foliage are well known for improving air quality and reducing noise transmission. We therefore support tree planting as part of highway schemes where appropriate.

Land Use Measures – Low Emission Strategies

3.15 Toxic air pollutants and greenhouse gases arise from similar emission sources. The planning systems for land use and transport are an important part of an integrated approach to air quality improvements and carbon reduction. Low emission strategies aim to provide a package of measures to help mitigate the transport impacts of development by accelerating the uptake of low emission transport

fuels and technologies in and around new development.

Measures may address both construction and operational phases of a development.Typical operational phase measures include parking policies, investment in low emission infrastructure, fleet emission improvement, emission based tolling, procurement and supply chain initiatives and contributions to local transport projects and strategic monitoring. The cumulative impacts of transport emissions from development can be mitigated by requiring contributions to a central low emission fund to assist the implementation of air quality action plans, climate change action plans and local transport plans.

4. The Improving Air Quality and Reducing Noise Strategy

4.1 Continued close cooperation between transport planning, environmental (air quality, noise and carbon reduction) and spatial planning professionals within the city council, as well as with partner organisations, provides a strategic approach to improve air quality and reduce noise to those living in areas of exposure, near to busy roads and junctions. This will therefore help to improve peoples' quality of life. The "transport" strategy for Improving Air Quality and Reducing noise in Leicester is focused on reducing air and noise pollution caused by traffic by encouraging and facilitating more people to travel by public transport, walking and cycling. This will be achieved mainly through delivering the congestion strategy (Chapter 4), the road safety and active travel (Chapter 6) and the carbon reduction strategy (Chapter 8). The congestion, carbon reduction and active travel strategies and programme of schemes therein are informed by and have influenced the preparation of the latest edition of Leicester's Air Quality Action Plan. This plan has also been prepared on the basis of the need to be realistic and achievable in the context of the government's current priority of reducing the budget deficit. This means that progress will not be as fast as we would like due to limited funding opportunities.

Leicester's Air Quality Action Plan 2011 - 2026

4.2 Leicester City Council has a duty under the Environment Act 1995 to publish and keep up to date an Air Quality Action Plan (AQAP). The second edition of Leicester's AQAP is published as Annex 4 to this document. It shows how the measures contained in the proposed LTP Programme (Delivering our Transport Goals: Leicester's Implementation Plan 2011 to 2015) and beyond will enable the Authority to continue to move towards meeting the air quality objectives. It also justifies the selection of the measures in terms of value for money.

Leicester's Noise Action Plan

4.3 The implementation of the part of the Action Plan concerned with road traffic noise in this agglomeration will be a continuous process commencing from the adoption of the plan. As required by the Regulations, this Action Plan will be reviewed at least once every five years. In addition to the options considered for appraisal in section 2 of this chapter future noise impacts will be controlled through the operation of the national, regional and local transport and land use planning system. For large scale projects, an Environmental Impact Assessment

is required by law, which normally includes a noise impact assessment. Mitigation such as optimising route alignment and the use of noise barriers, either through landscaping or purpose built walls or fences, is included in the design of new schemes to minimise any adverse noise impact. In the case of a new or improved highway this can be through the provision of compensation and insulation.

4.4 In addition to the congestion strategy and road safety and active travel strategy interventions the Improving Air Quality and Noise Reduction Strategy includes the following options appraised above:

- Campaigns to promote more economical driving styles
- Promotion of good practice to fleet managers (through our FQP)
- Low Noise Road Surfacing

5. Delivering the Improving Air Quality and Noise Reduction Strategy

5.1 From the Policy Instrument Options table in Chapter 3 it can be seen that the overarching/key strategic policy options for improving air quality and reducing noise, excluding any additional specifically for delivering the congestion strategy, are:

- Working with Partners
  - QBP, FQP
- Campaigns and Training
  - To promote more economical driving style
  - To attract car drivers to switch to other mode
- Freight
  - To promote good practice to fleet manager
- Lower Emission Vehicles, Infrastructure and Initiatives
  - Low noise road surfacing
  - Traffic management schemes
  - Low Emission Zone
  - Planting trees
- Land Use Measures
  - Low Emission Strategies
- Working with Partners (Other Policy Instruments – see Table 7.7)
- Public Transport Focused Development (Appraised in Chapter 4)
- Buses/Services – Low Emissions (Appraised in Chapter 8)
- Charging (pricing) (Appraised in Chapter 4)
- Journey Planning (Appraised in Chapter 4)
- Public Transport Routing (Appraised in Chapter 4)
- Cycles (Appraised in Chapters 5 & 6)
- Pedestrian facilities (Appraised in Chapter 5)

5.2 The above Policy Instruments can then be split into Short, Medium and Long Term Objectives. The most effective Policy Instruments options will be packaged

together to deliver the Strategy.

5.3 To deliver this objective in the short term (within this Implementation Plan period) we are likely to:

» Continue Working with Partners (QBP, FQP and Health authorities) to deliver

Lower Emission Vehicles

» Continue to undertake and support Campaigns such as to promote more economical driving styles and, through the city council's grey fleet project dis courage staff use of their own cars on business trips
» Continued implementation of Greener Safer Driver Training Courses

» Through our Freight Quality Partnership continue raise awareness of pollution issues and encourage investment in 'greener' vehicles and operational practice.

» Lower Emission Vehicles, Infrastructure and Initiatives:

- To continue the roll out of low noise road surfacing when and where appropriate, often in association with maintenance schemes
- To seek opportunities to re-route traffic away from sensitive receptors and consider restrictions on certain types of traffic using certain roads at certain times
- Promote the merit of further investigations into a Low emission zone
- To promote the use of Land Use Measures in the planning process to accelerate the uptake of low emission transport, fuels and technologies in and around new development

5.4 The measures and schemes that will deliver the strategy are detailed in our Implementation Plan. It goes into further details of what we will be doing and the measures that we will most likely be delivering in the next four years to achieve this objective in the short-term. It also explains how we intend to continue to develop our approach to ensure that we maximise the benefit cost ratio of the schemes and initiatives that we do.

5.5 Delivery of this objective in the medium to longer term: Our medium to longer-term approach is also designed to be flexible and will be influenced by what our first Implementation Plan achieves. We will monitor schemes and initiatives in order to build on our successes and review the things that do not perform as well as we had anticipated. Decisions will also be informed by the availability of funding.

5.6 Based on the information available to us at the moment, in the medium term (within the next Implementation Plan period) we believe that we are likely to continue with the strategy as outlined above, but build on it by:

- Working with Partners (QBP, FQP and Health authorities) to produce a business case for a Low Emission Zone
- Lower Emission Vehicles, Infrastructure and Initiatives:
  - Produce business case for a Low emission zone
- To use Land Use Measures in the planning process to accelerate the uptake of low emission transport, fuels and technologies in around new development

5.7 We will review our medium term approach in the light of our monitoring results and the availability of funding.

5.8 Based on the information available to us at the moment, in the longer term (beyond the next Implementation Plan period) we believe that we are likely to continue with the approach as outlined above, but build on it by:

- Working with Partners (QBP, FQP and Health authorities) to deliver a Low Emission Zone if a successful business case has been established
- Lower Emission Vehicles, Infrastructure and Initiatives:
  - To deliver a Low emission zone if a successful business case has been established

5.9 We will review our longer term approach in the light of our monitoring results and the availability of funding.

6. Monitoring the Improving Air Quality and Noise Reduction Strategy

6.1 To monitor the effectiveness of our strategy we have three key outcome indicators. Supporting indicators are shown in **Table 3.12** of our Air Quality Action Plan. The key outcome indicators are detailed in **Table 7.7**.

6.2 The full lists of air quality and reduce noise and quality of life indicators and targets are presented in the Implementation Plan. The supporting indicators are provided in our Implementation Plan. For the Central Leicestershire Local Transport Plan 2006 – 11 we set the target for the indicators through computer air dispersion modelling that reflected the implementation of our improving air quality strategy.

6.3 For current targeting setting we considered the extent to which schemes in the 2006/11 programme had been delivered, the availability of accurate up to date traffic flow information from our proposed congestion strategy in this Local Transport Plan, the results measured over the last four years, the likely programme of works over the next four years noting the country's economic situation and the cost of computer modelling and officer time. We concluded that we would use

analysis of past data to help set our target for 2014/15. Targets are set for four key sites on the air quality monitoring network and are provided in the Table 6.2. The targets show that we are continuing to try to reduce the levels of nitrogen dioxide but will not achieve the National Objective level of 40 ug.m-3.

6.4 As the noise mapping is at an early stage and the noise map is only intended to be used for strategic assessment of noise levels in any given area we are not setting noise related targets but will used the following indicator to help monitor the situation.

Table 7.8 Improve Air Quality and Reduce Noise, Quality of Life Performance Indicators and targets

PI Category	Ref. No,	Description	Target 2014/15	Baseline Data	11/12	12/13	13/14	14/15	Source of Data
Non – transport Outcome	L LTP 38	Self-reported measure of people's overall health and wellbeing		In 2008/09 Place Survey 72%					Residents Survey
Outcome	L LTP 39	Air Quality Annual Mean Nitrogen Di-Oxide		Average, measured annual mean NO2 2007-9	Not set monitoring only	Not set monitoring only	Not set monitoring only		Local Survey
		Abbey Lane	45	48				45	
		Melton Road	50	54				50	
		St Matthew's Way	48	54				48	
		Glenhills Way	63	69				63	
	L LTP 40	Approximate number of dwellings and associated population per authority to be investigated as a first priority due to noise from those roads mapped	Not set – monitoring only	200 2009/10	Not set – monitoring only	Not set – monitoring only	Not set – monitoring only	Not set – monitoring only	DEFRA

Chapter 8:

Reduce Carbon Emissions

The Carbon Reduction Strategy

1. Introduction

The Goal we are helping to achieve in this chapter is:

Carbon Emissions Reduced – Leicester' carbon footprint is reduced

The three strategic challenges, identified in Chapter 2, addressed by our Carbon Reduction Strategy are:

Reducing the levels of carbon dioxide emissions from our transport

- Transport is currently one of the main sources of carbon dioxide emissions in Leicester
- Population, housing and economic growth will result in additional demand on our transport network which could lead to an increase in carbon dioxide emissions

Increase the level of action amongst individuals, businesses and schools to reduce levels of transport-related emissions

- National research shows there is limited understanding amongst residents and businesses of the relationship between climate change and travel behaviour / habits
- There are barriers to changing travel behaviour to more sustainable modes (i.e. reliability, cost, convenience, safety)

Ensuring that our transport is resilient and adaptable to the impacts of climate change
Potential effects of climate change on the highway network include damage to roads, bridges and other structures from both heat and flooding.

2. The Current and Future Situation – The Challenges and Opportunities

Leicester's Transport Greenhouse Gas Emissions

2.1 Helping deliver strong national economic growth at the same time as cost-effectively cutting greenhouse gas emissions is the biggest strategic-level transport challenge we face. Carbon Dioxide (CO2) is the principal greenhouse gas emitted by road transport. Estimates of CO2 emissions by local authority area have been provided on an annual basis by the Government for national performance indicator NI186: Per Capita reduction in CO2 emissions in the Local Authority Area. Data is currently available from 2005-8. As Graph 8.1 shows, Leicester is currently estimated to emit about 2 million tonnes of CO2 each year. Road transport is not the biggest contributor to this, but is nonetheless very significant – accounting for nearly 18% of emissions in 2008. This is broadly comparable with the national picture, where road transport emissions account for 19% of the total[20]. The small estimated reduction in Leicester's CO2 emissions between 2005 and 2008 shown in Graph 8.1 is largely due to reductions from industry and commerce.

[20] 21% of emissions are from domestic transport, of which 92% are from road transport (see paragraph 2.11) This gives a figure of 19% of UK emissions from road transport.

Graph 8.1: Leicester's CO2 Emissions

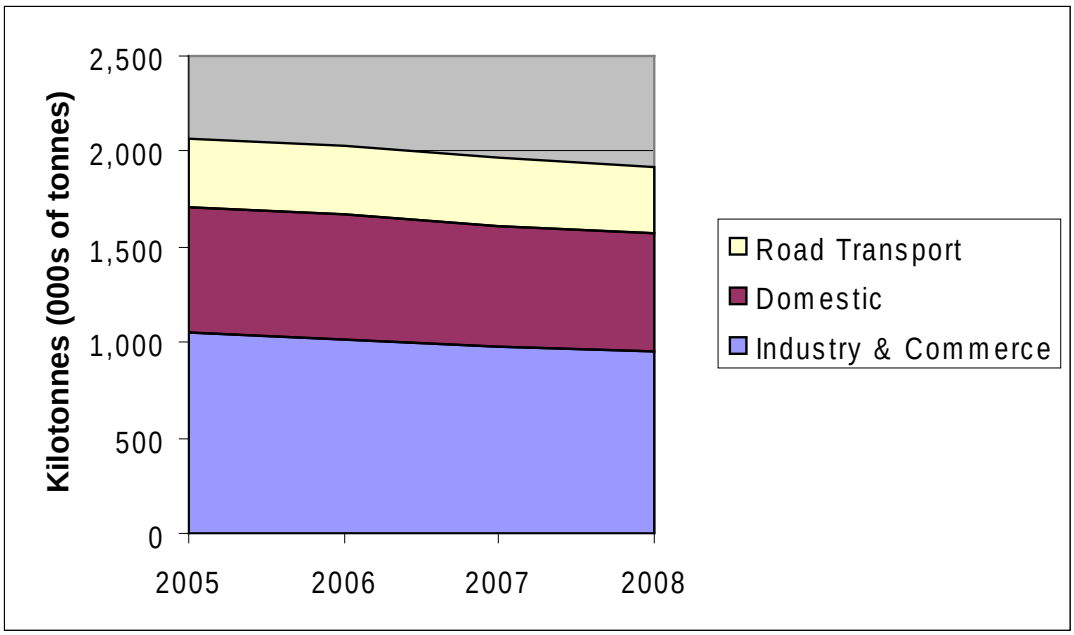


Table 8.1: Leicester's CO2 Emissions (Source: AEA Technology)

Year	CO2 Emissions (000s of tonnes)				Transport Emissions as % of Total	Population ('000s mid year estimates)
	Industry and Commercial	Domestic	Road Transport	Total		
2005	1,052	657	364	2,073	17.56	291.4
2006	1,018	652	354	2,024	17.49	296.8
2007	981	628	356	1,965	18.12	300.9
2008	949	628	341	1,917	17.79	303.8

2.2 Table 8.1 shows that Leicester's transport emissions are trending downwards. The 2008 figure is 15,000 tonnes lower than that for 2007, despite an estimated slight increase in population (column 8, table 8.1). Graph 8.2 and Table 8.2 put Leicester's emissions in context by presenting them on a per capita basis alongside the UK average and those of a number of other local authority areas. Cambridge has been chosen as an area with a reputation for higher levels of sustainable travel (specifically cycling), whilst the other areas have been chosen as comparators as they are to some degree comparable with Leicester in terms of population size (within the local authority area boundary) and urban character. Graph 8.2 and Table 8.2 show that Leicester's transport emissions per capita are towards the lower end of the range.

Graph 8.2: Leicester's 2008 Per Capita CO2 Emissions in Context

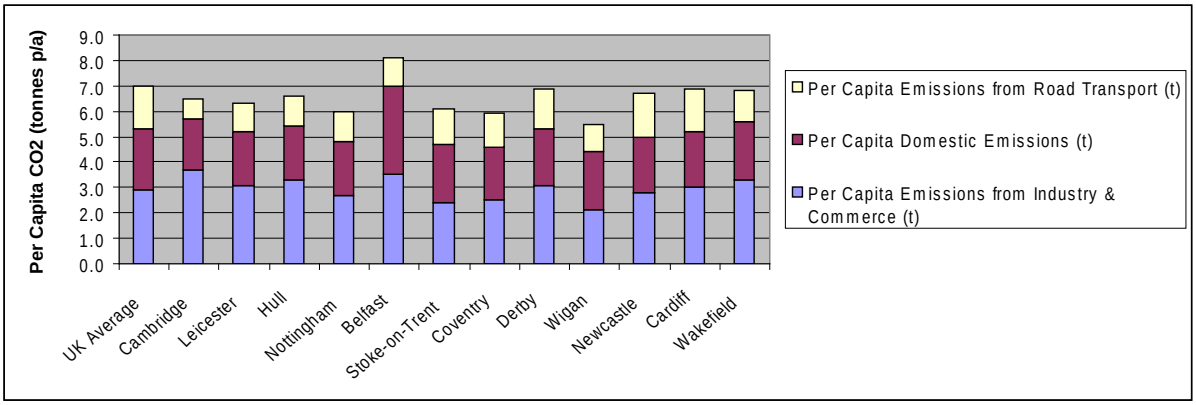


Table 8.2: Leicester's 2008 Per Capita tonnes CO2 Emissions in Context

	UK Average	Cambridge	Leicester	Hull	Nottingham	Belfast	Stoke-on-Trent	Coventry	Derby	Wigan	Newcastle	Cardiff	Wakefield
Per Capita Emissions from Industry & Commerce (t)	2.9	3.7	3.1	3.3	2.7	3.5	2.4	2.5	3.1	2.1	2.8	3.0	3.3
Per Capita Domestic Emissions (t)	2.4	2.0	2.1	2.1	2.1	3.5	2.3	2.1	2.2	2.3	2.2	2.2	2.3
Per Capita Emissions from Road Transport (t)	1.7	0.8	1.1	1.2	1.2	1.1	1.4	1.3	1.6	1.1	1.7	1.7	1.2

Source: AEA Technology

Leicester's Approach to Reducing Emissions – progress so far

2.3 Leicester City Council has had a long-standing commitment to tackling climate change, with a Climate Change Strategy first published in October 2003 and a long term aspirational target to reduce city-wide carbon dioxide emissions to 50% of the 1990 level by 2025/26 established corporately in 2006/07. We had a Local Area Agreement target to reduce per capita CO2 emissions in the city area, from 6.9 to 6.1 tonnes by 2010/11 as measured through National Indicator NI186.

2.4 The council commisioned the Institute of Energy and Sustainable Development at De Montfort University to produce a 1990 baseline for estimated over all carbon dioxide emissions in Leicester. Subsequent monitioring suggests that carbon dioxide emissions have fallen by around 15% between the 1990 baseline and 2008. However, this is the result of reductions in emissions from commerce and industry. Emissions from transport are estimated to have risen during this period.

2.5 Working on the basis that the city-wide target will require broadly equivalent pro rata emissions cuts from each of the main emissions sources: domestic, commerce/industry and transport between 2008 and 2025, an average reduction rate

of 2.41% (8.22 kT) per annum would be required for transport. This rate has been used to calculate the proposed target L LTP12. This is more than twice the rate inferred from the Government's 2020 target. it will be necessary if Leicester is to achieve its overall 2025 target - unless the commerce/industry and/or domestic sectors were to achieve greater pro rata levels of reduction. The council and its partners will be developing a 'roadmap' during 2011 for achieving the city-wide 2025 target. If this work suggests that a rebalancing of the relative reductions targeted for transport, commerce/industry and domestic sectors is recommended, target L LTP12 may need to be reviewed. This city-wide target is mirrored by an equivalent target to reduce the council's own emissions by 50% of the 2008/09 level by 2025/6 and the authority has recently signed up to the 10:10 campaign, committing to an 8.95% reduction of its CO2 emissions by July 2011.

2.6 A public awareness and attitudes survey was conducted in the period June-August 2002, using a survey tool designed by De Montfort University, in close collaboration with Leicester City Council, and sent to the members of the Leicester People's Panel, who had volunteered to participate in consultative processes of this type. Whilst the panel members are likely to represent individuals with more of a motivation to engage with policy making than the public generally, this survey forms a first step towards future monitoring that can access representative samples of the city's social and ethnic groups. 98 respondents completed the survey tool. The sample consisted of 53 women and 45 men, aged between 17 and 82 years.

2.7 Results indicated that 94% had read the Climate Change Strategy and 90% considered it either 'good' or 'excellent' overall. 87% reported feeling 'concerned' or 'extremely concerned' about the potential local weather changes reported in the Strategy, and 89% indicated that the Strategy had increased their awareness of climate change. Therefore, the results are very encouraging in showing local interest and engagement with the problem.

2.8 The results also gave some indication about what behavioural responses could be expected from Leicester residents who have read the Strategy. These results are useful in pointing to differences between people's willingness, and perceived ability, to carry out certain climate-change related actions. For example, whilst high numbers (e.g. 82% in the case of energy efficiency) reported their intention to find out more about energy efficiency, renewable energy, and use low energy light bulbs at home, fewer reported an intention to use their car less (50%) and public transport more often (58%). Related to this, relatively few numbers indicated an intention to encourage their employer to switch to renewable energy or adopt a 'green' transport plan, having read about climate change.

National Picture - climate change

2.9 There is now a broad scientific consensus that recently observed changes in climate are partly a result of human activity. For some time, everyday emissions from businesses and households have altered naturally occurring levels of carbon gases, and the outcome has been an acceleration in the earth's warming. If we continue as usual, average temperatures will rise by 2-3 degrees centigrade within the next 50 years or so. The impacts this will have include:

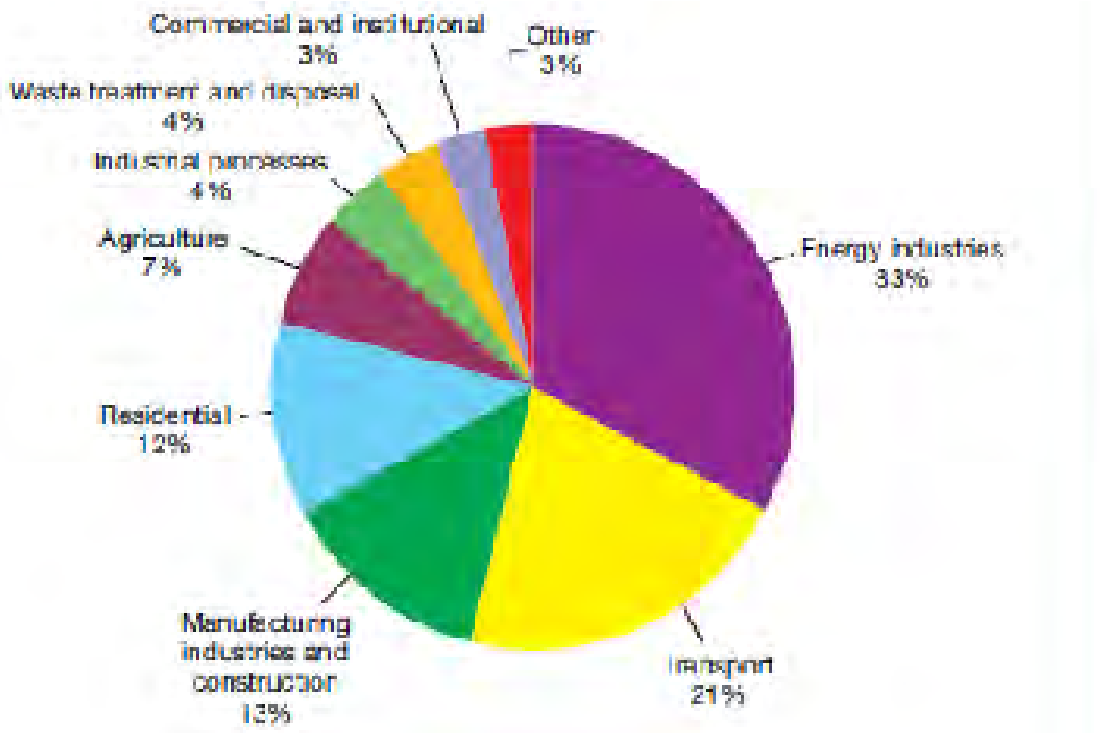
- Reduction of water supplies for one-sixth of the world's population
- Declining crop yields
- Rising sea levels will result in tens to hundreds of millions more people flooded each year leading to permanent displacement of 200 million people by mid-century
- 15-40% of species facing extinction after only two degrees centigrade of warming
- Ocean acidification will have major impacts on marine ecosystems with possible adverse impacts on fish stocks
- Increased damage from extreme weather. In the UK annual flood losses alone could increase from 0.1% of GDP today to 0.2–0.4% once the increase in global temperatures reaches 3o-4oC

2.10 According to UKCP09 scenarios, by 2050 these impacts in Leicestershire are expected to include:

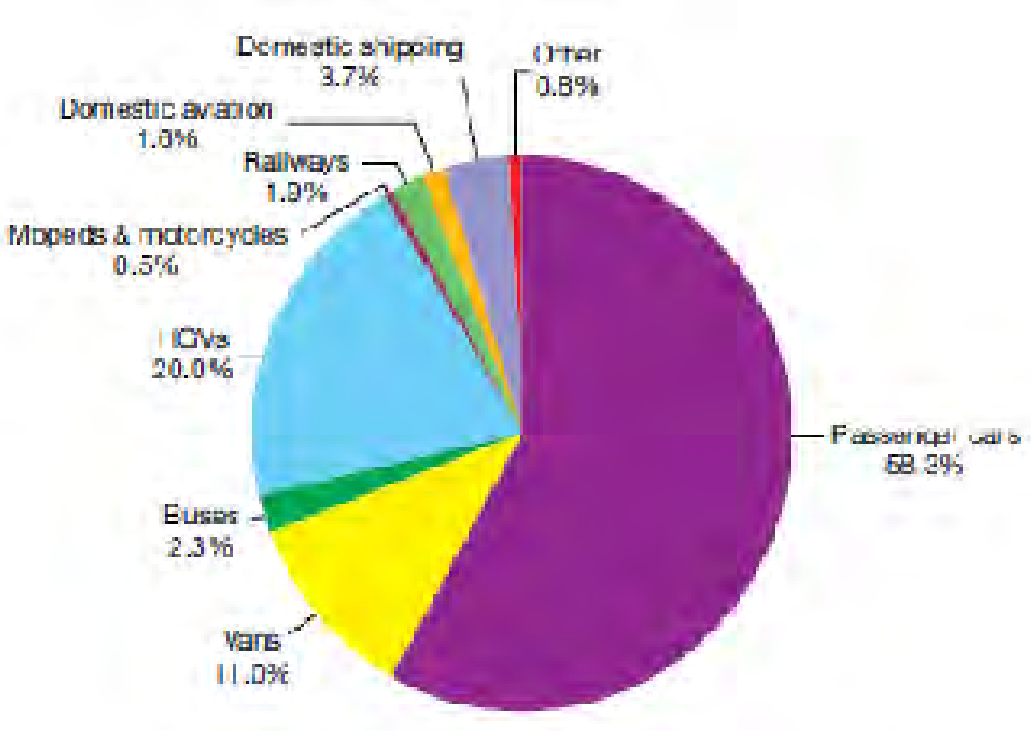
- Temperature increases of around +2.20C in winter and +2.50C in summer.
- Similar levels of rainfall overall but more of that rain in winter (+14%) and that which falls in summer (-15%) becoming more intense, meaning more summer flooding but also more periods of summer droughts.
- Milder winters and longer growing seasons.

2.11 The UK is committed to reduce its greenhouse gas emissions by at least 80% of 1990 levels by 2050, achieving at least 34% by 2020. A system of five yearly national Carbon Budgets has been established through the Climate Change Act 2008 and these set additional milestones along the way. Transport greenhouse gas emissions have risen by 12% since 1990 and now account for 21% of UK emissions, with 92% of this generated by road transport.
See Graphs 8.3 and 8.4.

Graph 8.3 - Transport is a significant source of domestic greenhouse gas emissions (7)

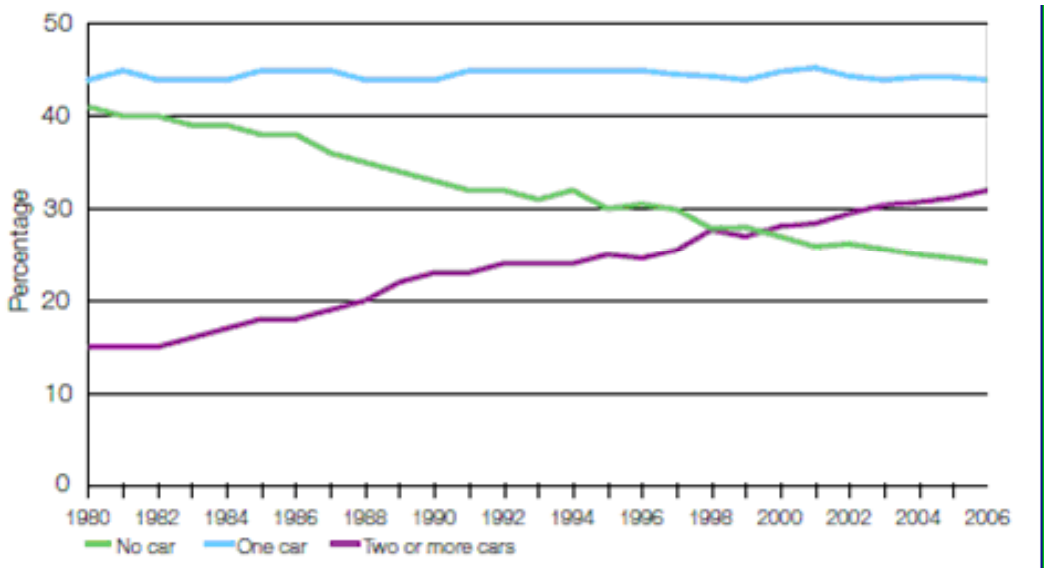


Graph 8.4 – Travelling by road accounts for 92% of the domestic transport sector's greenhouse gases (7)



2.12 Research also shows that transport behaviours are amongst the most difficult to change – there are strong links between transport and people's lifestyle choices. Some people see little reason to make greener transport choices. This could be due to a number of factors, such as not having access to, or being aware of, the lower carbon options available. For many of us, our lifestyles are built around the car and our propensity for owning them continues to grow. As Graph 8.5 shows, for around the last ten years, more households have had access to two or more cars than those without a car.

Graph 8.5 – Households have access to more cars



2.13 Survey evidence suggests that the public's general awareness of the term 'climate change' is almost universal and concern about climate change is high across the population. However, this is a complex area. There is evidence demonstrating both willingness and resistance to change travel behaviour. There is particular resistance to travel change when it is considered to constitute a significant lifestyle change. Findings from a major study on this topic were published in January 2009, with further work underway to support future policy development. More detailed research findings are available at: http://www.dft.gov.uk/pgr/scienceresearch/social/.

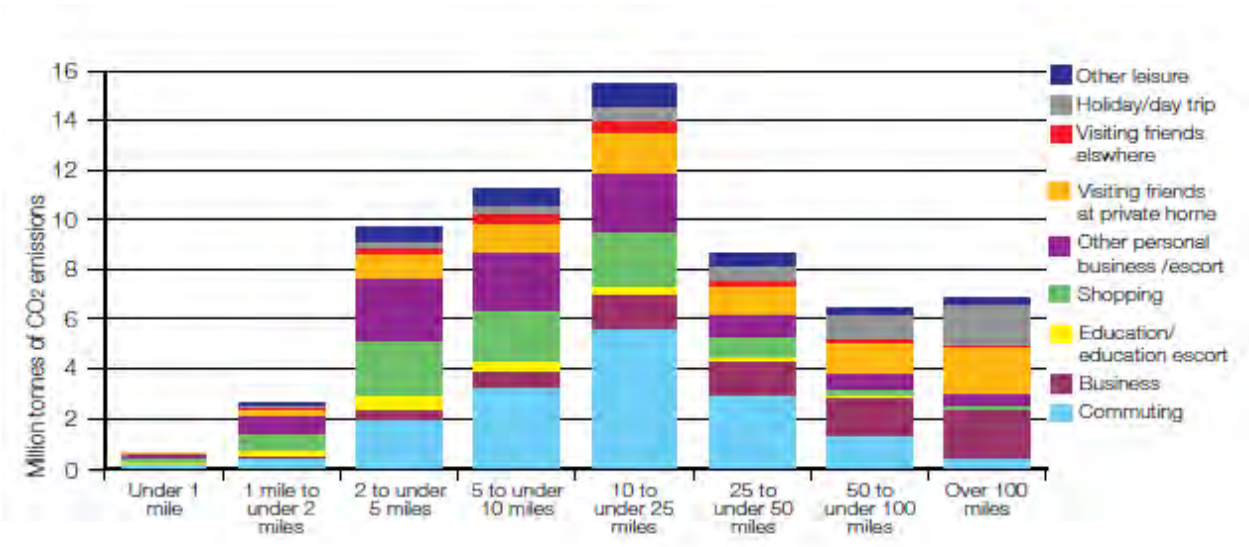
Opportunities to reduce carbon emissions in Leicester

2.14 Table 8.2 showed that Leicester's transport emissions per capita are towards the lower end of the range. To understand why this might be, and what could be done to reduce them further, we would ideally want to disaggregate the figures to understand the emissions sources in more detail – for example based on the purpose of the travel, journey lengths and so on.

2.15 Unfortunately this is not possible from the data sources. Instead, we have to rely on an analysis of national figures carried out by the Department for Transport, which provides a breakdown both by journey purpose and length. Graph 8.6 below reproduces Chart 2.6 from the DfT report Low Carbon Transport – A Greener Future which summarises this breakdown. It is important to note that the DfT analysis is for passenger transport only ie. it does not include freight transport.

2.16 A significant opportunity is that many short car journeys in and around Leicester could be converted to walking or cycling trips. Some 50% of journeys to work are less than 5 kilometres. Additionally, 36% of Leicester commuters who do not use public transport, walk or cycle to access employment, live within 400m of a bus stop; and 82% of Leicester's residents work within Leicester.

Graph 8.6 CO2 Emissions From Passenger Transport by Journey Purpose and Trip Length



Reproduced from: Low Carbon Transport – A Greener Future, DfT 2009

2.17 If Leicester's passenger transport CO2 emissions are similar to these UK averages; commuting journeys should be a strong focus of attention. They are the biggest emissions source, by journey purpose, from passenger transport. Also, they may be easier to tackle in terms of behaviour change than some of the other sources, due to the regular nature of the journeys, the clustering of journey destinations and the ability to channel information, promotional messages and incentives to commuters via their employers.

2.18 We have developed good cycling promotion coupled with key projects (such as Cycle city workshop, bike projects and cycle shops) that has helped to increase the number of people cycling by 81% between 2004 – 2009. Due to the increase numbers of people cycling, there is potential to develop and build upon our existing infrastructure, parking facilities and improvement our bike parking and cycle signing.

2.19 However, a shift from car to foot and cycle for these short journeys will not, on its own, deliver the scale of emissions reductions required. This is because the longer journeys, whilst accounting for fewer trip numbers, generate higher emissions per journey. To have a significant impact on CO2 emissions it will be important to address journeys over 10 miles as well as the shorter ones – as these may be where the majority of emissions are generated. So another key opportunity is to facilitate a shift from car to public transport journeys for the longer trips – such as commuter trips into the city from the surrounding area. Here, bus improvements, including Park and Ride, are important.

2.20 Freight is likely to be a significant emissions source – perhaps responsible for 20-30% of transport's carbon emissions in Leicester, but considerably less important than passenger transport. In terms of emissions sources within the freight category, HGVs are currently the main source and emissions from both HGVs and LGVs are predicted to increase nationally between now and 2025 .

2.21 Support for the uptake of Low Carbon Vehicles (principally electric) is another potential means to reduce the emissions from these longer journeys.

2.22 We can use the planning process to help implement our carbon reduction strategy - our Principal Urban Area study has indicated that there will be an increase in the number of homes. We need to cater for this new growth but we need to ensure that we have sustainable travel.

The 4M Research Project (Measurement, Modelling, Mapping and Management)

2.23 4M project is intended to provide an evidence-based methodology for understanding and shrinking the urban carbon footprint.
4M is an Engineering and Physical Sciences Research council (EPSRC) funded study investigating the urban carbon footprint. It is a £2.5 million project and is being carried out by Loughborough University, De Montfort University, Newcastle University, the University of Sheffield and the University of Leeds, in partnership with Leicester City Council.

2.24The research focuses on the city of Leicester and is divided into four areas:

- Domestic Buildings: Investigating the nature of energy use and carbon emissions in the city's homes.
- Non-domestic buildings: These include the city's offices, schools, factories and shops.
- Transport: Looking at the current modes of transport in the city and the options for more environmentally friendly options
- Biological sequestration: A study of the city's gardens, parks and other green spaces and how these can be managed to 'lock in' carbon dioxide.
- The project began in October 2008 and finishes in October 2012.

3. Appraising the Options

3.1 The option assessment described in Chapter 3 demonstrated that many options could be considered to form part of our Reducing Carbon Strategy, Most were identified as forming part of our Congestion, Accessibility, Improving Air Quality and Reducing Noise Strategy and Road Safety & Active Travel and strategies. Hence, several of the key options are described in other strategy chapters relevant to them. Cross references are provided below to those descriptions:

Table 8.3: Further Options for Reducing Carbon Emissions

Option	Page Reference
Working with Partners	109, 151 -152
Journey Planning	93, 117
Maps	94, 160
Public Transport Routing	118
Public Transport Focussed Development	121 -122, 154
Bus Stations and Interchanges	111, 155
Bus Information	158
Buses/Services (QBP, Contracted/Supported, Relocation/Operational Times	88 - 90, 159
Charging (Pricing)	119 -121
Cycles	110, 161 -163, 190 -192
Low Emission Zone	222
Traffic Lights (If Low Carbon and SCOOT linked)	88, 109
Street Lights (If Low Carbon)	198
Freight	91, 168
Bus Fares	110, 156
Ticketing	113
Bus Corridors	110 - 111
Accidental Remedial Measures	201
Variable Message Signs	93, 163
Pedestrian Facilities	110, 144, 148, 189 -190
Parking (controls and restrictions)	92, 123 - 125
Traffic Management	84 -88
Roads (Junction Improvements, High Occupancy Vehicle (HOV) lanes)	111, 116
Park and Ride	113
Rail	114 -116

3.2 The effectiveness of the above measures in reducing carbon emissions is not discussed in the other chapters, however, it will correlate closely with their effectiveness in achieving a modal shift from car journeys to trips by other modes and in reducing congestion.

3.3 This section provides an analysis of the other options not forming part of the above Strategies which we intend to taken forward as part of our approach to Carbon Reduction

3.4 First two key terms relating to carbon reduction work are defined; climate mitigation and adaptation. The options included in the Carbon Reduction Strategy will contribute to one or both of these outcomes.

3.5 Climate mitigation is any action taken to permanently eliminate or reduce the long-term risk and hazards of climate change to human life, property. The International Panel on Climate Change (IPCC) defines mitigation as: “An anthropogenic intervention to reduce the sources or enhance the sinks of greenhouse gases.”

3.6 Climate adaptation refers to the ability of a system to adjust to climate change (including climate variability and extremes) to moderate potential damage, to take advantage of opportunities, or to cope with the consequences. The IPCC defines adaptation as the “adjustment in natural or human systems to a new or changing environment. Adaptation to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities. Various types of adaptation can be distinguished, including anticipatory and reactive adaptation, private and public adaptation, and autonomous and planned adaptation.”

Primary Local Factors Influencing Leicester’s Transport CO2 Emissions

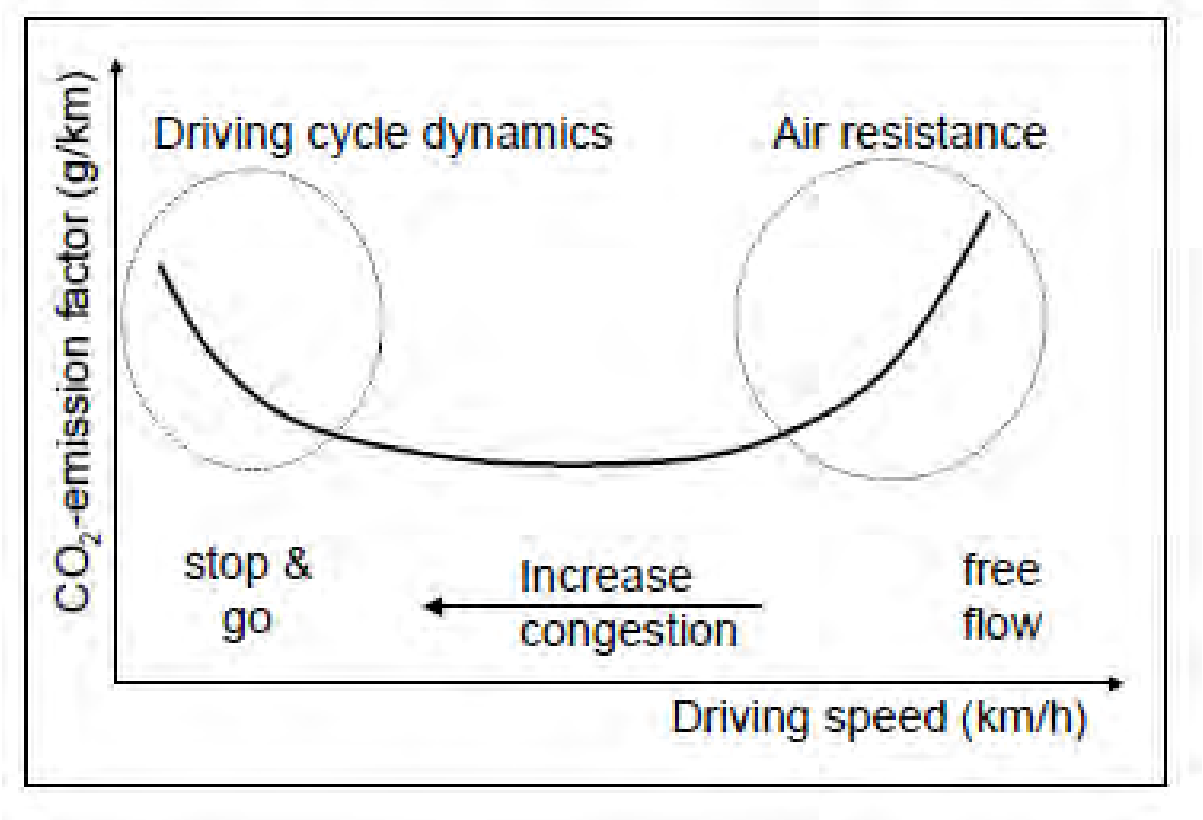
3.7 To help analyse the options we consider that in simple terms Leicester’s carbon dioxide emissions from transport are a product of the following ‘primary factors’:

- Journey-specific factors governing how efficiently carbon-based fuels are used by vehicles - such as traffic speed and levels of stop-start driving (both affected by congestion), driving style, gradient and vehicle maintenance.
- Distance travelled
- Carbon intensity of the travel mode and vehicle technology used

3.8 With regard to journey-specific factors Graph 8.7 shows that the CO2-emission increases at low driving speeds as a consequence of congestion or within urban areas. At higher speeds the air resistance becomes determinative for CO2-emissions and increases exponential. The biggest factor in CO2 output is the amount of stopping (wasting energy) and starting (using energy) that occurs. Our Leicester data base can show some correlation between; AM inbound peak hour car speeds, and average junction delays. This suggests that reducing CO2 levels, like improving air quality, depends (to a large extent) on controlling congestion

and hence the options taken forward in our congestion strategy (Chapter 4) will also form the major part of our Carbon Reduction Strategy.

Graph 8.7 Relationship between CO2-emission and driving speed



3.9 In addition to the options appraised in the congestion, improving air quality and reducing noise, accessibility and road safety & active travel strategy chapters the following options are identified for appraisal as part of this strategy:

Working with Partners

3.10 We are currently working with the Quality Bus Partnership (QBP), Freight Quality Partnership (FQP), to reduce carbon emissions. Encouraging the use of lower emission vehicles, and raising environmental awareness with regard to operations can help to reduce carbon emissions.

Campaigns and Training – To promote more economical driving styles

3.11 The way in which vehicles are driven, has considerable implications in terms of CO2 emissions from them. Estimates vary from between 10% – 25% from different studies in terms of reduction of CO2 output, from fleets whose drivers have undergone “greener driving” courses. Ford in Germany has trained 50,000 drivers in these techniques over the last 10 years. These drivers have reduced their CO2 emissions by between 10% and 25%. Because CO2 emissions are linked to fuel consumption fleets that have received “greener driving” courses have experienced similar reductions in terms of fuel consumption.

3.12 Approximately 9% of the city council's carbon dioxide emissions arise from our transport and travel in delivering council services. We have identified Greener Driver training as a key corporate action that can be taken as it is cost effective per tonne of carbon delivered and a straightforward action. With an estimated 856 drivers and potential savings of 0.38 tonnes CO2 per driver trained we estimate savings of 325 tonnes. Techniques taught to drivers enable them to drive in a style that is more fuel efficient (therefore also reducing the CO2 output of the vehicle they are driving). These techniques go hand in hand with driving in a safer fashion. We plan to roll out the training to local businesses.

3.13 The primary factor of "distance travelled" will addressed by implementing the options forming our congestion strategy and particularly our road safety and active travel strategy.

3.14 The options to address the primary factor of 'carbon intensity' of the travel mode and vehicle technology used are discussed in the following paragraphs.

Low Emission Vehicles, Infrastructure and Initiatives – buses

3.15 Through commissioning bus services we take the opportunity to specify low emission vehicles as and where appropriate such as on park and ride services. But opportunities will be limited for the time being due to the government's current policy of prioritising the reduction of the budget deficit. Through our Quality Bus Partnership we encourage bus companies to use low emission vehicles on commercial services and have a successful working relationship in this regard. We will prioritise any opportunities to lever in extra funding to speed up the roll out of low emission buses in Leicester.

Low Emission Vehicles, Infrastructure and Initiatives – Electric Car Charging Points

3.16 We have secured electric charging points, through the planning process, in our prestigious Highcross shopping centre development. Building on this, Leicester is part of a successful Midlands bid, (including Nottingham and Derby), for funds from the second round of the Government's "Plugged in Places" initiative, for financing infrastructure to support use of electric vehicles. The Plugged in Places project presents us with an ideal opportunity to provide charging facilities for electric vehicles at a range of strategic locations across Leicester. The initiative dove-tails with the Government's 'Plug-In-Car Grant' of up to £5,000 per car for the new wave of electric vehicles to be launched in 2011. Together, these initiatives will enable motorists to switch to electric vehicles.

Low Emission Vehicles, Infrastructure and Initiatives – HyTrue Project

3.17 The project is intended to use 30 hydrogen fuel cell powered cars in a real time setting with drivers from across the social spectrum for a period of 12 months. River Simple LLP has designed and built the first road-going technology demonstrator and approached Leicester City Council to work in partnership with them to develop a full production model. The project is expected to result in a reduction in CO2 emissions and noise in the urban environment. The three main outcomes

that the HyTrue project hopes to achieve are;

- Acceptance of hydrogen technology by urban residents and hydrogen fuel cell vehicle users
- The onward development of a hydrogen vehicle
- Development of a guidance document that other EU policy makers can follow to ease the introduction of hydrogen vehicles into their cities.

Low Emission Vehicles, Infrastructure and Initiatives – Low Emission Street Lights and Traffic Signals

3.18 We have investigated the feasibility of converting our street lighting and traffic signal stock to “low carbon” and concluded it is feasible on a “spend to save” basis. We now have projects in progress to convert the stocks. There is a programme to install LEDs at all new traffic signal installations and roll out to older installations through a replacement programme. A business case is being developed to install a Central Management System onto Leicester’s street lighting system. This will give superior control to allowing pin-point dimming and switch off. Teamed with the change over of bulbs to energy efficient models it is anticipated that this will save 50% of street lighting energy.

Low Emission Vehicles, Infrastructure and Initiatives – Low Emission Zone

3.19 This is likely to be of medium benefit to lowering carbon emissions but is estimated to be of greater benefit to reducing air pollution and therefore the option is appraised in Chapter 7.

Land Use Measures – Low Emission Strategies

3.20 Toxic air pollutants and greenhouse gases arise from similar emission sources. The planning systems for land use and transport are an important part of an integrated approach to air quality improvements and carbon reduction. Low emission strategies aim to provide a package of measures to help mitigate the transport impacts of development by accelerating the uptake of low emission transport fuels and technologies in and around new development.

Measures may address both construction and operational phases of a development. Typical operational phase measures include parking policies, investment in low emission infrastructure, fleet emission improvement, emission based tolling, procurement and supply chain initiatives and contributions to local transport projects and strategic monitoring. The cumulative impacts of transport emissions from development can be mitigated by requiring contributions to a central low emission fund to assist the implementation of air quality action plans, climate change action plans and local transport plans.

4. The Carbon Reduction Strategy

4.1 In earlier sections, we looked at the current and future situations and we have appraised the options. All the options appraised in Section 3 have their merits and will contribute to our approach to cutting carbon emissions. We have appraised an extensive list of options and we recognise the importance of an effective transport system that promotes, encourages and enables the use of sustainable modes of travel to reduce carbon emissions. We acknowledge however that we will not be able to afford them all. We have therefore prioritised these options relative to their appraisal score in combination with a realistic assessment of their benefit cost, affordability and deliverability.

4.2 We also need to remember that certain key options set out in the other chapters are likley to form a key part of our approach to reducing carbon emissions. It is likely that added benefit can be gained if we are able to combine various individual policy options into cross cutting deliverable packages.

4.3 Our strategy therefore needs to be realistic with regard to the resources that we are likely to have available and flexible to adapt to changing circumstances. Thus, our approach to the delivery of this objective is split into short-term and medium to longer-term.

4.4 It is important that Local Transport Plans are effectively co-ordinated with climate change, air quality and public health priorities; and measures to achieve these goals are often complementary. Leicester City Council considers it important to implement transport and traffic-related interventions which benefit both climate change and air quality, whilst avoiding policy clashes. This has led to the integration of Local Air Quality Management into the council's Climate Change Programme to ensure that synergies and initiatives are properly managed and exploited".

4.5 Continued close cooperation between transport planning, environmental (carbon reduction, air quality and noise) and spatial planning professionals within the city council, as well as with partner organisations, provides a strategic approach to reducing carbon emissions from transport. Alongside the Local Transport Plan, The Local Development Framework is also key to achieving Leicester's climate change mitigation goals for transport. The Core Strategy establishes climate change mitigation as a key priority for spatial planning in the city (alongside climate change adaptation) in CS Policy 2 and includes policies CS 14 and 15 which are designed to support the delivery of reduced transport emissions as well as other goals. A Climate Change Supplementary Planning Document has been adopted, which provides guidance to developers and other about complying with Policy CS2.

4.6 Leicester City Council has signed up to the Low Emission Strategies Development Programme. This initiative was launched by the Local Authorities which gained Beacon Status for Air Quality in 2008 and is endorsed and supported by Defra. The chosen theme is; 'Using the Land Use Planning system to reduce transport emissions'. The main LES benefit is to reduce transport emissions by accelerating uptake of LE fuels and technologies in and around a new develop-

ment, and to promote modal shift away from car travel.

4.7 In common with the 'Improving Air Quality and Reducing Noise Strategy'; the "transport" strategy for reducing carbon in Leicester is focused on reducing carbon emissions from transport by encouraging and facilitating more people to travel by public transport, walking and cycling and secondly to encourage use of alternative fuelled vehicles and then low emission vehicles. This will be achieved mainly through delivering the Congestion Strategy (Chapter 4), the Accessibility Strategy (Chapter 5) and the Road Safety and Active Travel Strategy (Chapter 6) in addition to the options specific to the carbon reduction strategy carried forward from the appraisal. These options include:

- Training - Greener Safer Driver Training
- Low Emission Vehicles
- Low Emission Street Lights and Traffic Signals

4.8 In addition to measures to reduce greenhouse gas emissions, it is important that we put in place measures to improve the resilience of local transport to the impacts of climate change, such as flooding and deterioration of roads, in line with the Government's Adapting to Climate Change Programme. This is addressed in our emerging Surface Water Management Plan and covered in our Transport Asset Management Plan.

4.9 The city council's Climate Change Adaptation Action Plan identifies several projects:

- Reduce the impact of flooding on council services and infrastructure
  - Map of Flood Hotspots
  - Map of Drainage Asset
  - Improvements to Storm Sewer Network
  - Emergency Response to Flooding
  - Roadside Maintenance

- Reduce the impact of summer heat waves and increased average temperatures on council services and infrastructure
  - Heatwave Recovery Plan

5. Delivering the Carbon Reduction Strategy

5.1 From the Policy Instrument Options table in Chapter 3 it can be seen that the overarching/key strategic Policy options for reducing carbon emissions, are mainly those forming key parts of the Congestion Strategy. Beyond these, the main carbon reduction options, are:

- Working with Partners
  - QBP, FQP
- Campaigns and Training
  - To promote more economical driving styles
  - To attract car drivers to switch to other modes
  -

- Lower Emission Vehicles, Infrastructure and Initiatives
  - Buses
  - Electric car charging points
  - HyTrue project
  - Low emission street lights and traffic signals
  - Low Emission Strategies

- Working with Partners (Other Policy Instruments – see Table 8.3)

- Buses/Services
  - Low emission buses

- Public Transport Focused Development (Appraised under Chapter 4)
- Low Emission Zone (Appraised under Chapter 7)
- Traffic Lights (Appraised under Chapter 4)
- Street Lights (Appraised under Chapter 6)
- Freight (Appraised under Chapter 4)
- Journey Planning (Appraised under Chapter 4)
- Maps (Appraised under Chapter 4)
- Public Transport Routing (Appraised under Chapter 4)
- Bus Stations and Interchanges (Appraised under Chapter 4)
- Charging (pricing) (Appraised under Chapter 4)
- Bus Information (Appraised under Chapter 4)
- Bus/Services (Appraised under Chapter 4)
- Cycles (Appraised under Chapters 5 & 6)

5.2 The above Policy Instruments can then be split into Short, Medium and Long Term Objectives. The most effective Policy Instruments options will be packaged together to deliver the Strategy.

5.3 To deliver this objective in the short term (within this Implementation Plan period) we are likely to:

- Continue Working with Partners (QBP and FQP) to deliver Lower Emission Buses and freight operations

- Continue to undertake and support Campaigns such as to promote more economical driving styles and, through the city council's grey fleet project discourage staff use of their own cars on business trips

- Provision of Greener Safer Driver Training Courses

- Low Emission Vehicles, Infrastructure and Initiatives
  - Provision of electric car charging points, Plugged in Places
  - Implement the HyTrue Project if bid is successful
  - Continue a phased conversion of Street Lights and Traffic Signals to "low emission"
  - Support tree planting initiatives
  - Promote the merit of further investigations into a Low Emission Zone

» To promote the use of Land Use Measures in the planning process to accelerate the uptake of low emission transport, fuels and technologies in around new development

5.4 The measures and schemes that will deliver the strategy are detailed in our Implementation Plan. It goes into further details of what we will be doing and the measures that we will most likely be delivering in the next four years to achieve this objective in the short-term. It also explains how we intend to continue to develop our approach to ensure that we maximise the benefit cost ratio of the schemes and initiatives that we do.

5.5 Delivery of this objective in the medium to longer term: Our medium to longer-term approach is also designed to be flexible and will be influenced by what our first Implementation Plan achieves. We will monitor schemes and initiatives in order to build on our successes and review the things that do not perform as well as we had anticipated. Decisions will also be informed by the availability of funding.

5.6 Based on the information available to us at the moment, in the medium term (within the next Implementation Plan period) we believe that we are likely to continue with the strategy as outlined above, but build on it by:

» Working with Partners (QBP, FQP and Health authorities) to produce a business case for a Low Emission Zone

» Lower Emission Vehicles, Infrastructure and Initiatives:
- Produce a business case for installation of further electric car charging points, if experience from the Plugged in Places project suggests this is appropriate
- If we are able to implement the HyTrue Project, produce business case to continue/expand this work if our experience suggests this is appropriate
- Produce business case for a Low Emission Zone

» To use Land Use Measures in the planning process to accelerate the uptake of low emission transport, fuels and technologies in around new development

5.7 We will review our medium term approach in the light of our monitoring results and the availability of funding.

5.8 Based on the information available to us at the moment, in the longer term (beyond the next Implementation Plan period) we believe that we are likely to continue with the approach as outlined above, but build on it by:

» Working with Partners (QBP, FQP and Health authorities) to deliver a Low Emission Zone if a successful business case has been established

» Lower Emission Vehicles, Infrastructure and Initiatives:
- Continued implementation of electric car charging points if appropriate

- Continue the development of the HyTrue Project if appropriate
- To deliver a Low emission zone if a successful business case has been established

5.9 We will review our longer term approach in the light of our monitoring results and the availability of funding.

Through our transport asset management work we will be tackling the impacts of climate change by:

» Reduce the impact of flooding on council services and infrastructure
- Map of Flood Hotspots
- Map of Drainage Asset
- Improvements to Storm Sewer Network
- Emergency Response to Flooding
- Roadside Maintenance

» Reducing the Impact of summer heat waves and increased average temperatures on council services and infrastructure
- Heatwave Recovery Plan

6. Monitoring the Carbon Reduction Strategy

6.1 To monitor the effectiveness of our strategy we have two key outcome indicators and seven supporting indicators. The key outcome indicator is detailed in Table 8.3. The supporting indicators are provided in our Implementation Plan. The target for the key outcome indicator of carbon reduction from transport is set as per the explanation in paragraphs 2.3 to 2.5.

Table 8.3 Carbon Reduction Strategy key outcome indicators and targets

Reference	Description	Baseline 2009/10	Target 2011/12	Target 2012/13	Target 2013/14	Target 2014/15
L LTP 12	Volume of CO2 (carbon dioxide) emitted by Leicester road transport	340.71 kT (2008)	316.05kT (2011)	307.83 kT (2012)	299.61 kT (2013)	291.39 kT (2014)
L LTP 13	Adapting to climate change	Level 3	Level 4	Level 4	Level 4	Level 4

6.2 Progress towards these targets will be reported to the Council's Priority Board for Reducing Our Carbon Footprint in addition to the main lines of reporting for the LTP as whole. The full lists of carbon reduction indicators and targets are presented in the Implementation Plan.

Chapter 9:

Manage to Better Maintain Transport Assets
The Asset Management Strategy

1. Introduction

1.1 The maintenance of our transport infrastructure is crucial to the council meeting its strategic goals. The council's Transport Asset Management Plan (TAMP) sets out the council's strategy for the way it will manage the maintenance of its transport assets. This is against a background of deteriorating assets, increasing costs, a wide ranging reduction in funding from central government and a cap on increases in Council Tax. At the same time as the population grows and the climate is changing, there is ever increasing pressure on our transport assets.

1.2 The TAMP explains how the transport assets in Leicester will be managed by:

- Integrating the recording and maintenance of a comprehensive inventory of the assets,
- Carrying out regular inspection and assessment of the condition of the assets,
- Designing, planning and programming of the maintenance works balancing the council's duty of care to the travelling public, with the budget available in one continuous process.

All the inputs and outputs to this process will be monitored on a regular basis to ensure performance is optimised.

1.3 The maintenance strategy for each grouping of our transport assets is designed to contribute to achieving the objectives of the Local Transport Plan. The strategy acknowledges the different standards of maintenance; safety, serviceability and sustainability. For each asset we aspire to the sustainability level, where we can minimise the maintenance cost over the life of the asset and maximise the value of the asset to the community and the environment. However, the financial constraints are such that over the majority of our transport assets we will just comply with our statutory obligations and meet our users need for safety and we will only be able to ensure availability, integrity, reliability and the enhancement of the service in a very limited number of areas.

2. Highways Maintenance Strategy

2.1 Currently the highway network consists of 91.25km of principal Roads ('A'), 60.5km of Non-Principal Classified Roads ('B' and 'C') and 686.9km of unclassified roads. The majority of our roads are evolved roads, have footways on both sides of the carriageway and some include cycle-ways. The remaining highway network consists of other public rights of way such as footpaths, cycle-paths and bridleways, some of which are surfaced (See Rights of Way Improvment Plan - Annex 2) .

2.2 Through increased investment over the past five years, the condition of our classified road network has improved. In 2005/06, around 13% of the network was 'in need of maintenance soon' (NI 168 Principal and NI 169 Non-Principal). This has fallen to 5% in 2009/10. However, the improvement in the main roads was at

the expense of our unclassified network which has deteriorated significantly over the same period. In 2005-06, 6% of the unclassified road network was in 'need of maintenance soon'. This has risen to 19% (BV 224B) in 2009/10. Similarly the condition of our category 1, 1a and 2 footways which are in need of maintenance has increased from around 28% (2005/06) to 44% (2009/10) (BV 187). This is in spite of major investment in our city centre footways and pedestrian areas.

2.3 The specific aim of our Highways Maintenance strategy is to maintain the highway in a safe and accessible condition for use by all members of the travelling public. It is therefore necessary for us to reverse the decline in the condition of the unclassified road network over the last five years. Accordingly, we will now focus our planned maintenance spending to improve the condition of the unclassified road network and the general footway network whilst maintaining the classified road network at its current condition. Priority on the unclassified road network will be given to those roads that are on cycle routes, bus routes or close to schools, hospitals, older person homes etc. Our strategy also includes reactive maintenance to ensure the overall network is safe and accessible for all road users.

2.4 This priority, given to the unclassified road network will focus on bringing this element of the network back to a good serviceable standard. To achieve this, we propose to apportion the allocated funding into approximately three equal parts covering works to i) principal and non-principal classified roads, ii) unclassified roads and iii) footways.

2.5 The principals of "The Code of Practice for Well Maintained Highways" will continue to be adopted throughout as we look to further improve our highway asset management regime. In line with recognised "best practice", we propose to undertake works to a combination of roads and footways from both the red band (roads and footpaths which have structurally failed) and the amber band (those that require immediate planned maintenance to prevent them structurally failing).

2.6 The data from our highway condition surveys will be linked to our "One Leicester" and transport strategy objectives in order to prioritise the roads, footways and cycle-ways to be maintained. Other factors which will also play a part in determining highway maintenance priority will include the move towards "Whole Government Accounting" and working closer with neighbourhoods through the Community Ward meetings.

3. Bridge Maintenance Strategy

3.1 Critical elements in our highway network are our bridges and highway structures. We currently maintain 135 highway bridges and 60 footbridges. The other highway structures include retaining walls, embankments, cuttings gantries, tee posts and high mast lighting. 'The Management of Highway Structures' A Code of Practice produced by the Roads Board guides our maintenance regime. Our highway road bridge stock condition is 88% in 2009/10 up from 86% in 2007/08. Over the last five years we have strengthened and/or maintained five bridges on the primary route network, six other bridges on the highway and five footbridges on the Public Rights of Way.

3.2 The bridge maintenance strategy aims to maximise the benefits of the funding available to keep all bridges fit for purpose and safe for use. It includes a mixture of bridge strengthening and major maintenance works on bridges on both the Primary and Non-Primary Route Network which are highlighted in the Implementation Plan.

4. Street Lighting Maintenance Strategy

4.1 The majority of our lighting stock is in a good condition due to a proactive column replacement work program carried out over the last 20 years. However, there are still over 1,100 structurally unsound steel columns and 1,750 concrete columns that require replacing. We are continuing with the replacement of our High Pressure Sodium units by CosmoPolis or LED units resulting in a reduction in our energy usage and therefore our carbon emissions.

4.2 The aim of our street lighting maintenance strategy is to support the public highway network with safe, energy efficient, effective, appropriate lighting and illuminated traffic signs and bollards. With our street lighting we aim to maintain a night-time highway environment that is safe and attractive to the public. Improving the quality of lighting is key to reducing crime and the fear of crime, thus encouraging more walking and cycling after dark, which then increases natural surveillance of routes. This will be achieved by improvements as part of highway schemes, revenue and capital maintenance funded and our Community Safety Lighting works programme.

4.3 We will aim to continue to replace our remaining concrete columns and structurally unsound steel columns with new steel columns as they are beyond their design life. We are re-testing our ‘at risk’ columns every five years. We are identifying and replacing or repairing our steel columns that have corroded at ground level due to road salt and dog urine. We are assessing the replacement of illuminated bollards with reflective ones to cut down on energy consumption and the retrofitting of illuminated sign lighting units with LED gear trays.

4.4 We intend to convert our High Pressure Sodium (HPS) and Low Pressure Sodium (LPS) lighting to newer and more efficient CosmoPolis or LED light source, saving up to 40% on our energy usage and thus reduce our carbon footprint providing a safer night time environment with white light which is estimated to have an eight year payback period with savings from energy, carbon tax and maintenance cost. We are investigating a Central Management System (CMS) to enable dimming and part night switching to provide efficient energy monitoring and control and reduce our energy usage and thus our carbon emission and lighting maintenance costs with a reduction in night patrols.

5. Traffic Signals and Systems Maintenance Strategy

5.1 There are 356 installations in the city, including junctions, pelican, puffin, pedestrian and toucan crossings. These contribute to the overall management of traffic and congestion reduction. Over the past five years 66 installations have been replaced, approximately 70% of which were capital funded.

5.2 Lifetime of installations is 15 years. There are still 69 installations in the city which are 15 or more years old and the table below shows the age profile of installations

Table 9.1 Traffic signal installations by age profile

Age of Installation	21 years	20 years	19 years	18 years	17 years	16 years	15 years
No of Installations	6	6	10	11	7	19	10

5.3 The aim of our strategy is to maintain and operate the traffic control equipment to a safe and efficient standard, optimising the capacity of the network, minimising traffic congestion and ensuring that the benefits gained from the recent significant investments continue to be realised. There are also other Intelligent Transport Systems that form a key role in the strategy, such as the Traffic Information Service and associated databases, Car Park Signing System and Traffic and Travel Websites. All of these systems will need to be upgraded as advances and developments in systems and technology take place. This particularly applies to the renewal of computer software and hardware.

5.4 Similarly the Traffic Control System is supported by a communication network that, whilst needs to be maintained, also needs to be updated to reflect new initiatives around the developments in digital communications, which should produce reductions in ongoing revenue commitments. This also applies to the CCTV system which is a vital component in using the Traffic Control System to manage the network.

5.5 The strategy involves using latest signal equipment will be a combination of Extra Low Voltage (ELV) and Light Emitting Diodes (LED) signals which will reduce electricity consumption and in turn help to reduce CO2 emissions.

5.6 The need to ensure installations are renewed at the appropriate times crucial to the safety and longevity of those installations. The proposed four year renewal programme is based on the replacement of those sites which will become life-expired or which develop an excessive fault rate during the period. The indicator and target for installation condition are under development and will include an analysis of the fault history and maintenance records for all older installations. The strategy involves a renewal programme that will be achieved as part of the Integrated Transport and Capital Maintenance programmes and developer funded schemes.

6. St Margaret's Bus Station and Car Parks

6.1 St Margaret's Bus Station provides a facility for members of the public wishing to use public transport. It acts as an important interchange for passengers travelling across the county as well as being a departure and arrival point for many coach companies travelling throughout the country and abroad. It serves as a key arrival point for visitors to Leicester. A Bus Station Manager is contracted from Arriva to oversee the day-to-day running of the bus station and to report any problems/occurrences. The bus station was built in 1985. Between January and November 2006, the bus station underwent refurbishment and redevelopment works. The bus station is therefore deemed to be in good condition.

Haymarket centre Multi-storey Car Park

6.2 All of the old (approximately 16 years old) pay and display machines at the Haymarket Centre Multi-storey Car Park were replaced with new metric machines in November 2007. This has resulted in a dramatic improvement in reliability and reduced maintenance costs. A heat detection system was installed during February and March 2010 and links the car park to the shopping centre alarm system. The roof parking level on the car park was re-surfaced and drainage repairs carried out during May and June 2010. As part of the works the car park was completely re-lined to assist circulation and to clarify dedicated parking spaces for disabled users. The existing CCTV equipment within the Haymarket centre multi-storey car parks has been in place for over 10 years and is now in need of replacement/ refurbishment. The intention is to replace the existing 16 cameras and to transmit the images to the city council's Security Control Room at York House where they will be both monitored and recorded.

Newark Street Car Park

6.3 The existing CCTV equipment within Newark Street car park has been in place for over 10 years and is now in need of replacement/ refurbishment. At Newark Street it is proposed to replace the existing 36 cameras and to transmit the images to the city council's Security Control Room at York House where they will be recorded.

St Margaret`s Pastures surface car park

6.4 Over recent years incidents of car-crime have been reported at the St Margaret's Pastures surface car park. This has been mainly confined to thefts from vehicles parked in connection with visits to Abbey Park and the adjacent sports centre. It is now proposed to fund the installation of two cameras located within the middle of the car park. Cabling would be installed to link the cameras to the Security Control Room at York House where the images will be both monitored and recorded.

Granville Road car park

6.5 The existing stoned car park surface at Granville Road car park is in a very poor condition and is uneven with several pot holes and areas of ponding. It is now

proposed to provide a new tarmac surface complete with drainage system. The re-surfacing will also enable parking spaces to be marked out and will maximise efficient use of the car park capacity as well as allowing for dedicated bays to be marked out for disabled users.

7. Winter Service Strategy

7.1 Our Winter Service operation has successfully kept the city's highway network operational, despite the severity of the weather over the last two winters. The frost and snow has, however, damaged the surface of our roads. Our salt stock has a maximum holding of 2,700 tonnes which proved resilient during the extreme weather and we did not have to source emergency supplies. We have bought new snowploughs for our six gritters and we replace one of the gritters each year. Driver training is kept up to date and we have recently placed satellite navigation into each of the gritters incorporating the revised routes. We have a new weather station in the city and staff have been re-trained in interpreting weather data from our supplier. We have purchased four footway gritting trolleys to enhance our service provision in times of snow.

7.2 The aim of our winter service strategy is to provide a service that, as far as reasonably possible, permits the safe movement of traffic including buses (and pedestrian access to bus stops) and keeps delays and accidents caused by adverse weather conditions to a minimum on roads within Leicester. This will be achieved by providing a consistent and well co-ordinated service in the city area and by deploying resources in an efficient manner. This will be achieved by:

- Preventative Measures i.e. precautionary salting/gritting.
- Salting/gritting following the formation of snow and/or ice.
- Clearance of snow and/or ice.
- Provision of salt bins in appropriate locations.

7.3 Over the next five years we intend to increase the effectiveness of our winter service by continuing the gritter replacement programme and introducing GPRS technology into each of the gritters to target the gritting more precisely to whether it is most needed. We will also be taking on any of the many initiatives that are being developed for winter service nationally that are appropriate for our authority.

8. Signing and Lining

8.1 Signing is an important strand of a number of our strategies:

- General route signing (congestion)
- Freight signing (accessibility)
- Walking and cycling (congestion, safety, but mainly accessibility)

8.2 Improvements to general traffic signing will be primarily implemented through our asset management strategy. However, because of the age and condition of the cycle signing network, extra funds will have to be allocated to bring the signs up to standard. Where appropriate, the new signs will include adding in bridleway

and footway information determined through the Rights of Way Improvement Plan (RoWIP). The city centre re-development scheme provided an ideal opportunity to improve the quality of pedestrian signing, while reducing general street furniture clutter. In addition, we will continue to develop the freight-signing programme.

8.3 Lining and road markings will be replaced as they become less visible through wear and general deterioration. An annual replacement programme will be drawn up following visual inspection by both day and night. The amount of traffic overrunning and the quality and thickness of the lining material has a direct result on the visibility of the lining over a given time. The amount of lining and markings renewed will be strictly limited to the budget set aside for this purpose. Priority will be given to areas where the safety of the road user is being compromised.

9. Highway Trees and Street Furniture

9.1 We have over 21,000 highway trees. Our stock is generally in a good condition and the intention is to maintain this level. Street trees play a significant part in promoting biodiversity across the city and in reducing air pollution, in part through carbon sequestration. Trees provide a visual enhancement to the landscape, boundary demarcation, the provision of shelter and screening. However, this ever growing resource needs to be properly managed including by pruning on a regular basis or removing and re-planting trees showing signs of ill health.

9.2 We aim to keep our Street Furniture in a fit for purpose condition and ensure it contributes positively to the street scene and to deliver the objectives in our transport strategy. Regular inspections by our highway inspectors and being responsive to feedback from the public helps us to keep to that standard.

9.3 In total, within the city boundary, there are 1,399 bus stops that are owned and maintained by the city council. Of these, 538 stops also have bus shelters, (76 belonging to the city council and 462 belonging to JCDecaux). A survey of all stops in the city is undertaken at least once a year. Bus stops themselves tend to require little maintenance unless damaged in accidents etc. Information on them, however, requires updating as and when the bus services operating to them changes. JCDecaux bus shelters are maintained by JCDecaux themselves. LCC bus shelters are cleaned and maintained once a month.

10. Biodiversity

10.1 We will improve the landscape and biodiversity at every opportunity. We will also prevent loss of flora and habitat by adopting as a policy the presumption against building on green amenity areas or the extinguishment of highway rights over them so that full control can be exercised. The areas will be retained for the benefit of flora and fauna and the community overall. We are also able to plant more trees in such amenity areas, as suitable tree locations within the main highway areas are very limited for operational reasons. The provision and the maintenance of trees on the highway contribute to air quality improvements. Habitat severance will be avoided where possible. Where this is not possible the effects will be minimised by providing connecting channels.

11. Drainage Asset Management Plan

11.1 Highway drainage is an essential, but often ignored, part of the highway infrastructure. It allows rainfall on the highway to drain away in a safe manner. Standing water poses a danger to drivers and passengers of vehicles and it can also be a problem to pedestrians or cyclists. The effectiveness of the highway drainage system is also an essential element in managing the flood risk to properties from surface water flooding. This would form part of the authority's new wider role as Lead Local Flood Authority, to develop, maintain, apply and monitor a Local Flood Risk Management Strategy.

11.2 The specific aim of our Drainage Maintenance Strategy is to maintain the highway drainage system in a safe and efficient manner. Our highway drainage assets are visually inspected as part of our highway safety inspections. We also react to reports from the public on highway drainage issues. We are currently developing our Drainage Asset Management regime in partnership with Derby and Nottingham City Council's to improve our asset inventory, data management and inspection processes, funded by the DfT. This work will also help us to prioritise our planned maintenance works according to various criteria, e.g. the number of people and properties which are affected by the inadequacy.

11.3 The Highway Maintenance service would also want to influence the type of highway drainage asset that may be designed by developers for future adoption by the highway authority by involvement in the planning process. More sustainable methods of highway drainage will want to be promoted such as the use of swales, soak-a ways and other Sustainable Urban Drainage (SUDS) methods. We will encourage the take up of bio-diversity initiatives within drainage schemes to improve the city's environment.

12. Delivering the Asset Management Strategy

12.1 The schemes that will deliver the strategy are detailed in our Implementation Plan. A high level summary is provided below:

Road and footway maintenance

12.2 In the next four years priority will be given mostly to the unclassified road network and we will focus on bringing this element of the network back to a good serviceable standard. An approximate amount of £6 million will be required every year for annual maintenance, but the actual provision of budget to the (i) Classified Roads, (ii) Un-classified Roads and (iii) Footways will be decided based on the actual funding allocation. The following are the principal roads that are proposed for maintenance during 2011-15.

- Abbey Lane
- Aylestone Road
- Lutterworth Road
- Asquith Way
- Groby Road

Maintenance will be carried out on the worst sections of these roads by the most appropriate treatment. The list of unclassified roads for maintenance is currently being reviewed to take into account the latest condition survey data which reflects the impact of the last two severe winters on the network.

Bridge Maintenance

12.3 We intend to carry out both strengthening works and major maintenance works for the next four years period to keep the bridges in good repair. Some of the listed highway bridges planned for strengthening/major maintenance works in the next implementation period 2011-15, subject to funding availability and the government's priority of reducing the budget deficit, are:

- Belgrave Road Flyover (major maintenance)
- St Margaret's Way (major maintenance)
- Kitchener Road (strengthening)
- Abbey Park Road (strengthening and major maintenance)
- Asquith Way (major maintenance)

Traffic Signal Renewals

12.4 It is proposed that all the 66 installations that are more than 15 years old are replaced in the next four year period. Approximately £300k is required every year for the maintenance programme. It should be noted that additional investment will be required when funding is available as the age of some of the newer installations will have expired over and above that recommended. At present there is a maintenance contract to carry out reactive maintenance to repair all traffic lights when fault occurs. Following are some of the signal installations proposed to be taken up for maintenance works in the next implementation period 2011-15:

- St Georges Way/Charles Street junction
- Welford Road/University Road junction
- Abbey Lane/Beaumont Leys Lane junction
- Belgrave Gate/Orchard Street pelican
- Granville Road/New Walk pelican

Street Lighting Maintenance

12.5 There are 2,850 lighting columns which require replacing. It would cost approximately £1.6 million to replace them. Additional maintenance works like lamp cleaning, bollard cleaning, sign cleaning also need to be undertaken. A comprehensive maintenance programme will be worked out based on the budget allocations. As part of reactive maintenance, at present all faults highlighted by the Mayrise system are being repaired immediately like lamp changing.

13. Monitoring the Asset Management Strategy

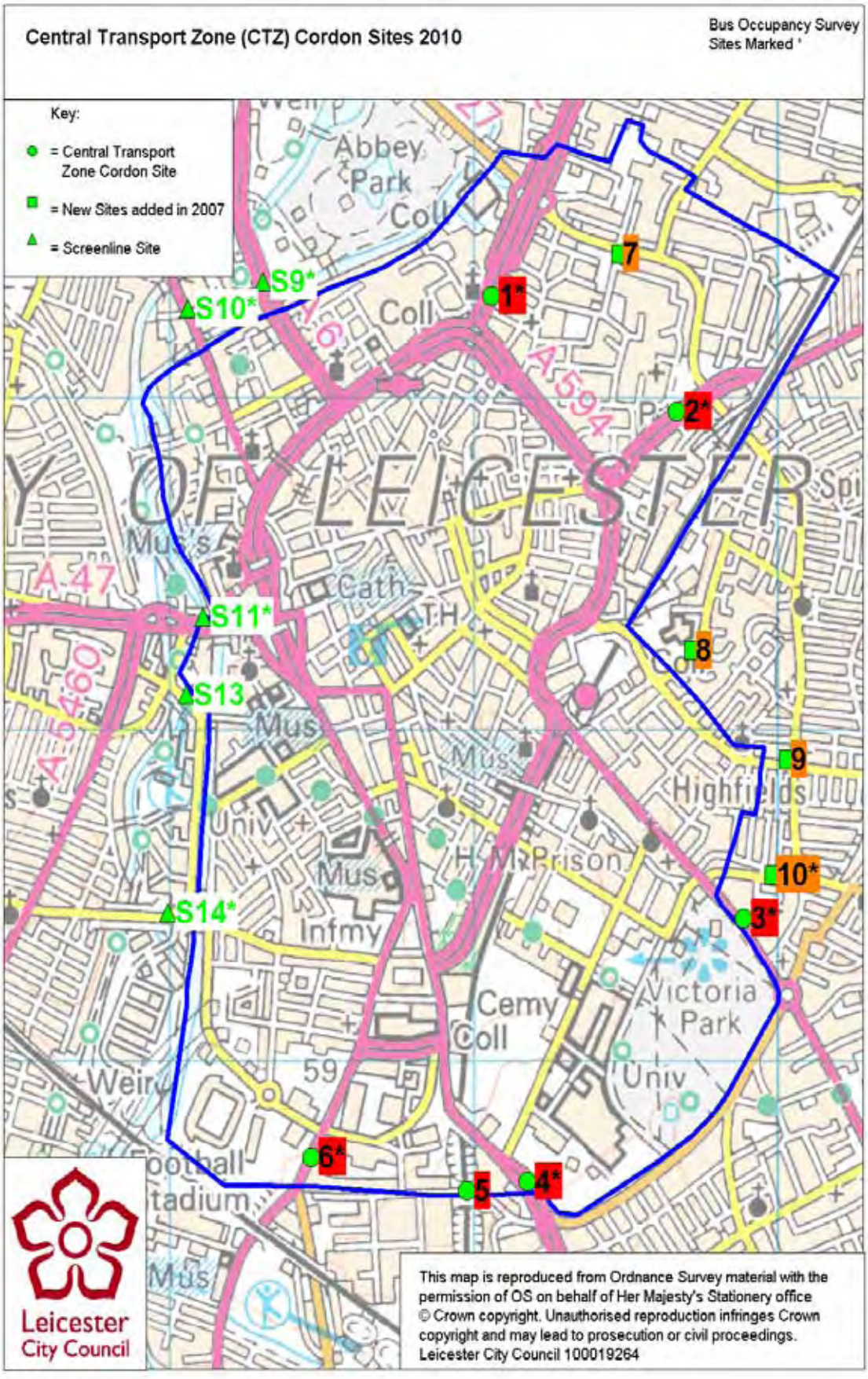
13.1 To monitor the effectiveness of our strategy we have eight key outcome indicators. The key outcome indicators are detailed here in Table 9.2. The full details of both the outcome and supporting indicators are provided in our Transport Asset Management Plan (TAMP).

Table 9.2 Asset Management Strategy key outcome indicators and targe

PI Category	Ref. No,	Description	Target 2014/15	Baseline Data	11/12	12/13	13/14	14/15	Source of Data
	L LTP 41	Principal roads where maintenance should be considered	5%	5% 2009/10	5%	5%	5%	5%	Local Survey
	L LTP 42	Non-principal roads where maintenance should be considered	5%	5% 2009/10	5%	5%	5%	5%	Local Survey
	L LTP 43	Unclassified Road Condition		19% 2009/10	20%	18%	16%	14%	Local Survey
	L LTP 44	Footway Condition		50% 2009/10	50%	45%	36%	32%	Local Survey
	L LTP 45	Percentage of Footpaths easy to use - that is: signed, well surfaced and way-marked	97.5%	2009/10 95%	96%	96.5%	97%	97.5%	Local Survey
	L LTP 46	Bridge Condition Index	87%	87% 2009/10	87%	87%	87%	87%	Local Survey
	L LTP 47	Traffic Signal Condition Index							Local Survey
	L LTP 48	**Street Lighting Condition Index**	**40%**	**40% 2009/10**	**40%**	**40%**	**40%**	**40%**	**Local Survey**

13.2 The full lists of asset management indicators and targets are presented in the Implementation Plan.

Map A


Central Transport Zone (CTZ) Cordon Sites 2010
Bus Occupancy Survey Sites Marked *
Key:
= Central Transport Zone Cordon Site
= New Sites added in 2007
= Screenline Site
S9*
S10*
S11*
S13
S14*
1*
2*
3*
4*
5
6*
7
8
9
10*
Abbey Park
Coll
A594
A47
A50
A607
Cath
Mus
Univ
Highfields
Prison
Infmy
Cemy
Victoria Park
Weir
Stadium
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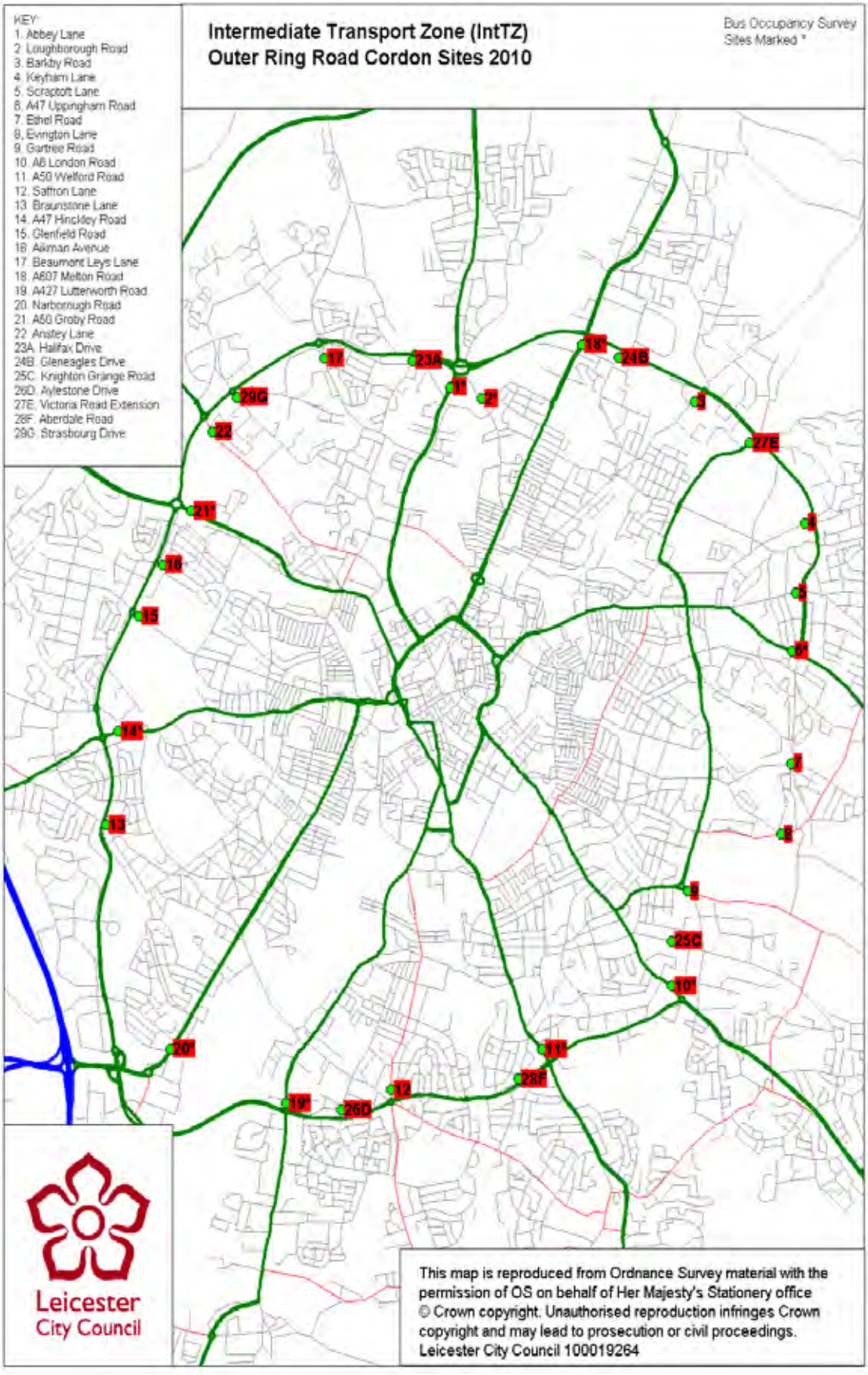
Leicester City Council

Map B


KEY
1. Abbey Lane
2. Loughborough Road
3. Barkby Road
4. Keyham Lane
5. Scraptoft Lane
6. A47 Uppingham Road
7. Ethel Road
8. Evington Lane
9. Gartree Road
10. A6 London Road
11. A50 Welford Road
12. Saffron Lane
13. Braunstone Lane
14. A47 Hinckley Road
15. Glenfield Road
16. Aikman Avenue
17. Beaumont Leys Lane
18. A607 Melton Road
19. A427 Lutterworth Road
20. Narborough Road
21. A50 Groby Road
22. Anstey Lane
23A. Halifax Drive
24B. Gleneagles Drive
25C. Knighton Grange Road
26D. Aylestone Drive
27E. Victoria Road Extension
28F. Aberdale Road
29G. Strasbourg Drive
Intermediate Transport Zone (IntTZ)
Outer Ring Road Cordon Sites 2010
Bus Occupancy Survey
Sites Marked *
Leicester
City Council
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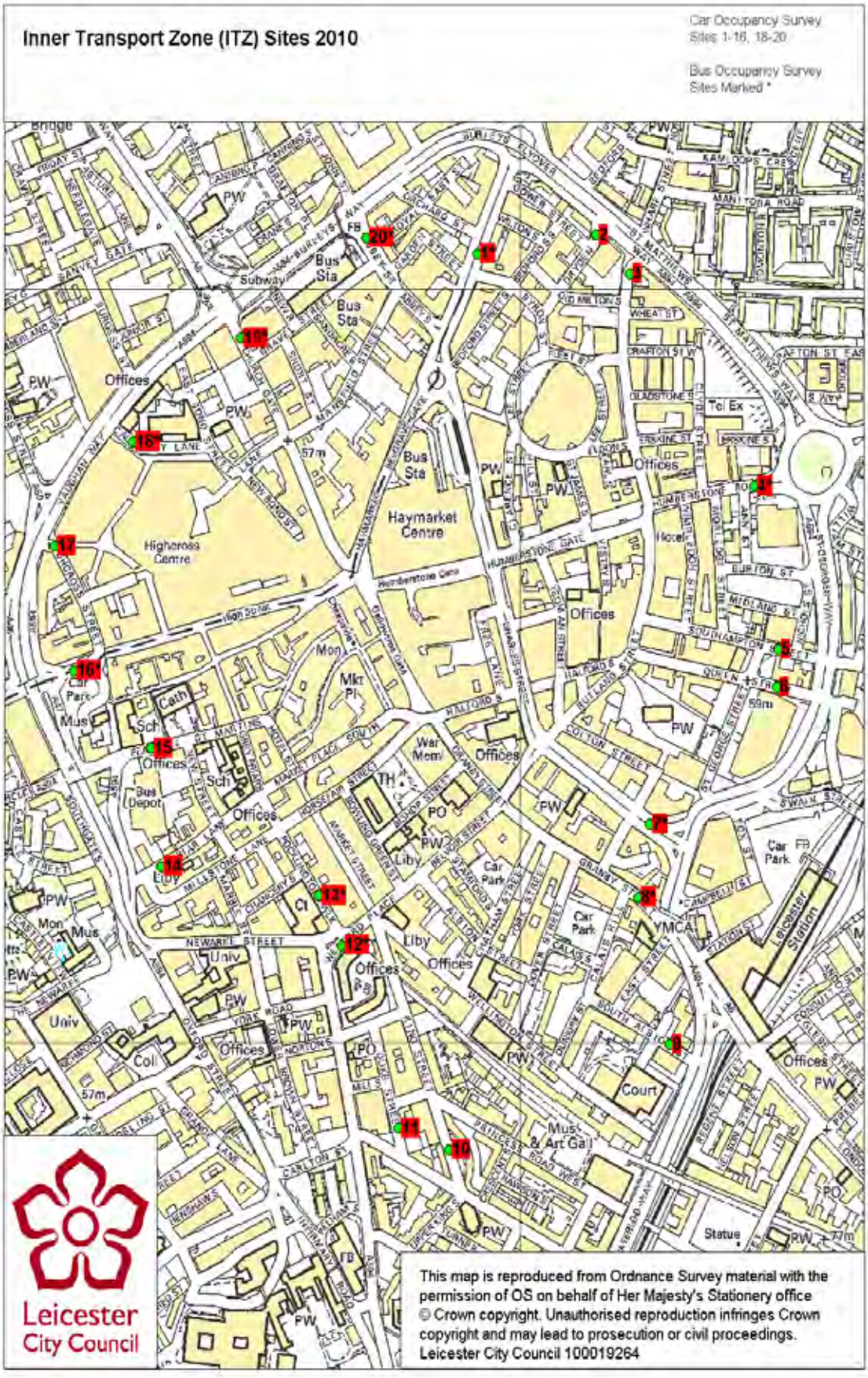
Inner Transport Zone (ITZ) Sites 2010
Car Occupancy Survey
Sites 1-16, 18-20
Bus Occupancy Survey
Sites Marked *
Haymarket Centre
Highcross Centre
Offices
Bus Sta
Subway
Bus Depot
Car Park
Leicester Station
YMCA
Court
Mus & Art Gal
Statue
Leicester City Council
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Map D

LEICESTER

March 2011

Key transport network
7am-10am inbound
peak vehicle flows 2010