
CHAPTER 8

Reducing the impact of traffic

Introduction

8.1 This chapter describes our strategy to deliver the LTP objective of:

Reducing the impact of traffic through local communities, near schools and within town centres by reducing vehicle speeds and in exceptional cases re-routing the traffic.

8.2 It includes:

- An overview of our strategy
- Key problems
- Our Solutions
- Development Funding
- The performance indicators we will use to measure and monitor progress
- A summary of the contribution our reducing the impact of traffic strategy will make to our other LTP objectives and to other quality of life issues.

Overview of our strategy for reducing the impact of traffic

8.3 This priority, which is local to Leicestershire, builds on our successful programme of speed reduction work carried out throughout LTP1. It is designed to tackle the problems of vehicle noise and speed which can have a major impact on quality of life in our communities.

8.4 Our package of measures for this LTP show how we will achieve our objective through:

- Schemes which reduce inappropriate traffic speeds, using a variety of techniques but with a particular emphasis on entry treatments and vehicle activated signs
- The further introduction of Home Zones with new development
- Following the recent completion of our heavy lorry route network, further work to minimise the impact of lorries on communities they must still travel through
- In exceptional circumstances, the provision of bypasses

8.5 The strategy requires co-operative working with a range of partners, including Leicester City Council, the district councils, the Highways Agency, neighbouring authorities, freight operators, public transport operators, schools, businesses and Sustrans. In a number of instances, partner funding contributes significantly to the success of the programme, including significant funding from developers. As with all our other investments, we ensure best value by monitoring the effectiveness of our measures, seeking additional resources to supplement our own, and introducing new and innovative techniques.

8.6 Finally we explain how we will monitor and manage our performance through a range of performance indicators and show how our strategy will contribute to the achievement of our other LTP objectives and will help improve other aspects of quality of life.

8.7 Chapter 11 draws together the measures to reduce the impact of traffic with those needed to deliver other objectives into a prioritised capital and revenue programme.

8.8 The overall approach we have adopted in the development and delivery of our strategy to reduce the impact of traffic is shown in Figure 8.1.

The problem

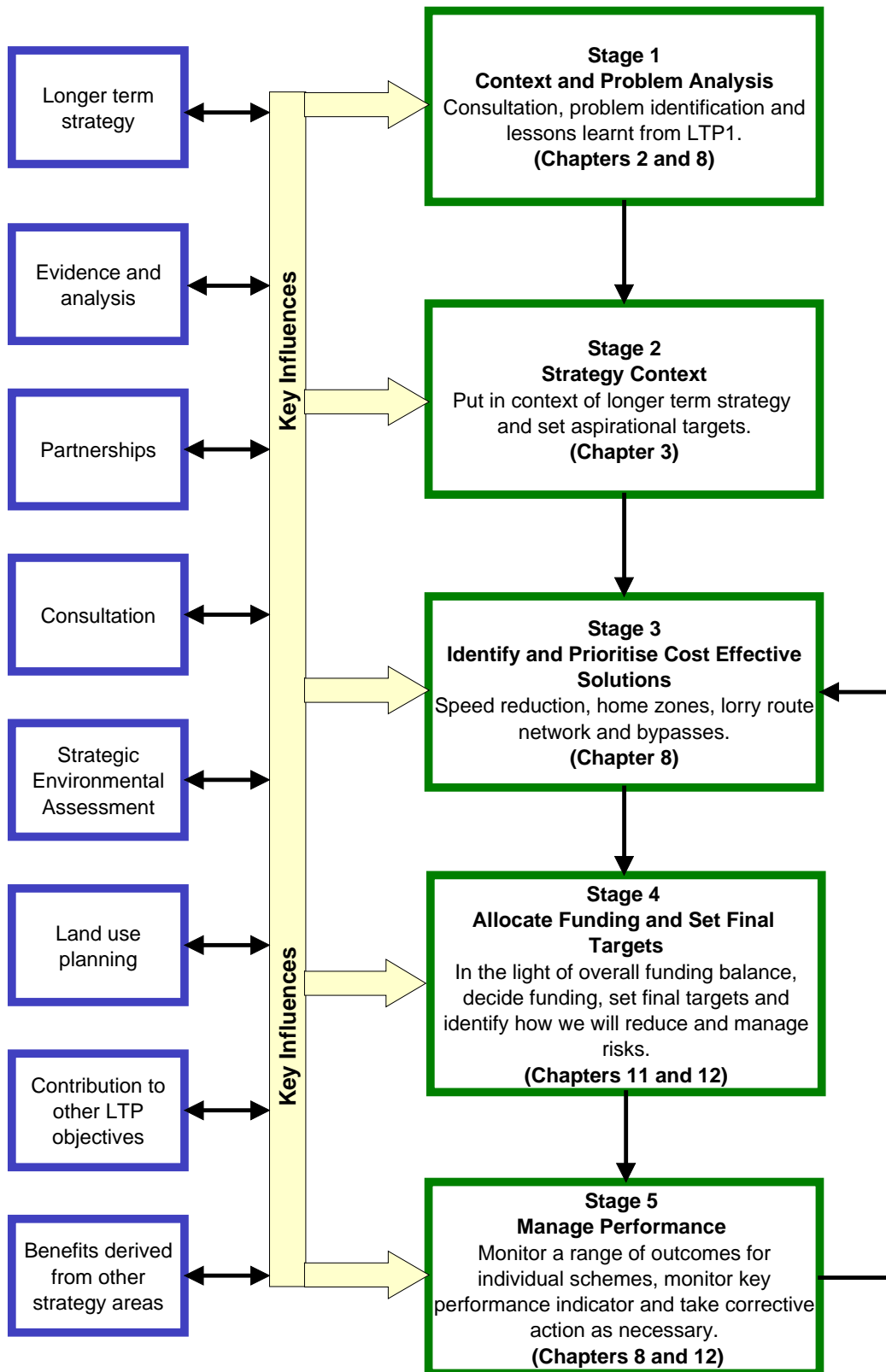
8.9 Problems caused by traffic are a major source of concern for Leicestershire people, as has been made repeatedly clear in many consultations and specific instances. Despite a vigorous programme of work during LTP1 there remain over 300 locations in the County where residents have requested action to reduce the impact of traffic.

8.10 Although vehicles may become quieter and less polluting, the problems they create for local communities will remain. The impact of traffic on a community can be felt in a number of ways:

- Vehicle noise, vibration and visual intrusion, particularly from lorries, disturbs home life and detracts from the amenity of public spaces alongside the road.
- Vehicle speeds are intimidating to pedestrians and cyclists, particularly where roads are narrow or have narrow footways
- Children are much more at risk with higher traffic speeds and are therefore less likely to be allowed out unsupervised for walking to school or recreation
- Older and disabled people can be particularly disadvantaged by heavy traffic and discouraged from getting out and about as active members of the community
- At many times of day it can feel dangerous walking across the road or driving in and out of side roads, accesses or parking places.

8.11 It is clear from our consultations that Leicestershire people want us to continue with work to reduce the impact of traffic, in parallel with our speed reduction work targeted specifically at casualty reduction. We therefore plan a programme of schemes through the LTP2 period aimed at reducing the impact of traffic on communities.

Figure 8.1 Development and delivery of the reducing the impact of traffic strategy



Our solutions

8.12 We have reviewed the way in which we identify and programme our schemes, in order that those communities experiencing the worst problems are given the greatest priority. We will introduce measures to maximise benefits to those communities whilst providing value for money.

8.13 We want to reduce the adverse impact of traffic on people and on the natural and built environment. We will do this by reacting to local problems and responding to community concerns about the impact of traffic on their communities. Measures that we will introduce in those communities that are experiencing the worst problems will include:

- Speed reduction measures to reduce vehicle speeds in the communities worst affected by traffic. We will pay particular attention to communities where HGVs have no alternative routes and must therefore continue to travel through the community
- Improved crossing facilities for pedestrians and cyclists to reduce severance (funded under the accessibility strategy)
- Using various measures, such as speed reduction schemes and lorry routes, to reduce noise
- In exceptional circumstances, considering the case for providing bypasses to communities most affected by traffic.

8.14 Only in the most exceptional cases is it possible to reduce the volume of traffic passing through a community, but much can be done to slow traffic down and make people feel more secure and less intimidated by vehicles. It is clear from national research that whilst Smarter Choices implemented on their own are unlikely to address the specific traffic impact problems encountered in our communities, they are a very important complementary measure to support the other measures to reduce the impact of traffic. Therefore, Smarter Choices, as detailed in Chapter 4, such as school and workplace travel plans, routes to school, public transport information and marketing will be implemented to complement the following measures that we intend to introduce.

Speed reduction

8.15 The speed which drivers choose has a significant impact on the comfort and safety of pedestrians, cyclists and other vulnerable road users, and the way they make use of their local road environment. Inappropriate traffic speed can create severance within local communities, create road safety hazards and lead to collisions or the fear of injury.

8.16 The DfT has recently published a consultation document about the setting of local speed limits in both rural and urban areas, with revised guidance for traffic authorities to be published shortly. When the final document is published we will carry out a comprehensive countywide review of all speed limits.

8.17 We have already ensured that all Leicestershire villages have a speed limit below the national speed limit for single carriageway roads, and that new speed limits are both realistic and appropriate to the road environment. In light of the new guidance we will carry out a further review, integrating this work into the operation of the safety camera scheme and our route and area-wide safety scheme programme, as described in Chapter 6.



8.18 Our primary objective is to achieve a consistent approach to implementing speed limits and speed management techniques, to increase driver awareness of appropriate speeds and to reduce the adverse effect of inappropriate speeds on the life of local communities. This, together with our work on training, education and publicity, will deliver speed limits and driver speeds that are appropriate for road safety and reduce the impact of traffic in local communities, so helping to improve quality of life. Speed reduction schemes that are implemented specifically to reduce casualties are detailed in Chapter 6.

8.19 Our speed management strategy involves a graded variety of responses ranging upwards from police enforcement of speed limits, through village entry treatments and vehicle activated signs, which display a simple message relating to road conditions, to horizontal deflections including central refuges, pinch points and mini roundabouts. At the top end are vertical deflections, particularly speed tables and speed cushions, which are highly effective.

8.20 During LTP1 we introduced many schemes with vertical deflections and these schemes were highly effective in reducing both vehicle speeds and road casualties. However, vertical deflections are not always popular with motorists and those residents who live alongside them, resulting in reduced customer satisfaction. During the first stage of the LTP2 consultation 24 (5%) of responses related to traffic calming, with the majority of responses opposing the use of vertical deflections. During the second stage of the consultation 22 (11%) of responses related to traffic calming. Opinion was split, but the majority of respondents were opposed in principle to traffic calming. Traffic calming near schools received slightly wider support during both stages of the consultation.

8.21 Given the difficulties with public support for vertical deflections we will now focus on introducing other types of measures that are effective at reducing speeds and the impact of traffic, and which will give greater customer satisfaction and value for money, rather than the more controversial and expensive vertical deflections. We are currently undertaking a review of the effectiveness of our speed reduction schemes. This review will include an investigation of the type and specification of measures that we use and how we can enhance customer satisfaction. From April 2006 we will introduce new customer satisfaction surveys, which will help us to build on previous success, ensuring that future schemes meet both the scheme objectives and expectations of the community.

8.22 These measures will include:

- Surfacing
- Signing and lining
- Gateway treatments
- Vehicle activated signs
- Horizontal deflections, such as build-outs, sheltered parking and mini-roundabouts.

8.23 In this way we will ensure that the most effective schemes are introduced, which are supported by local communities and provide the best value for money. From our analysis of the current and predicted situation, and concerns raised by local communities, we have identified where priorities for reducing the impact of traffic should be focused. This work will also contribute to the development of the future programme of schemes.

8.24 Speed reduction schemes and other highway improvements can be used to help improve the streetscape. We have learnt from other authorities, including Bedfordshire County Council, about introducing road safety and speed reduction schemes in an environmentally friendly way. One example is our introduction of timber village entry gateway signing at various locations, including Kilby and Stoughton, which were introduced as part of a package of traffic calming measures.

8.25 There is a risk that in some circumstances speed reduction schemes could be intrusive and make the appearance worse. To guard against this we undertake extensive public consultation on all such schemes to produce the minimum visual impact whilst achieving the required results.

Home zones

8.26 We are supportive of the principles and objectives of Home Zones in new developments. In the absence of formal regulations to create a home zone our design guide 'Highways, transportation and development' sets out general guidance on the issues to be considered in their design. Our guidance was developed in consultation with regional colleagues, with common principles agreed wherever possible. We intend to develop the guidance further, based on knowledge gained in what we believe to be one of the country's largest new Home Zones, which is a development of nearly 300 houses adjacent to the A5 in Hinckley. Experience gained during construction of Phase 1 of this development has already assisted with the construction of the next phases. A resident's survey will be carried out later in 2006 to find out what residents think, and to help to inform the design of any future new-build home zone.

8.27 In 2004, and with support from Sustrans, we completed a scheme in Higham on the Hill, which was based on the principles of a Home Zone. The village, which lies on the national cycle network, suffered from traffic diverting to avoid congestion on the nearby A5 trunk road, to the particular detriment of children travelling to the village primary school. Officers worked with a design panel of local residents to develop the scheme, which has been very well received by the local community.



8.28 It is apparent from our experience, and the conclusions of the 2005 Department for Transport report 'Home Zones - challenging the future of our streets', that the costs of developing and constructing retrofit Home Zones is considerable, particularly in relation to the transport benefits obtained. We are not, therefore, proposing to fund any more during the LTP2 period. We will, however, use every effort to ensure that Home Zones are included where appropriate in new development and we will also take any opportunities to use Home Zone principles in other speed reduction and environmental schemes we are engaged in.

Lorry route network

8.29 Work has continued on the lorry control network since 1993, with the network being completed in March 2006. Our objective has been to concentrate goods vehicles on the most suitable routes. Working with freight representatives and operators we reduced the impact of lorries, removing noisy goods vehicles from many Leicestershire communities and reducing the structural damage to many roads caused by lorries.

8.30 Where appropriate we also work with neighbouring authorities to deliver lorry controls that benefit a wide area. The recent weight restriction in the Bottesford area is an excellent example, where we led a scheme with Lincolnshire and Nottinghamshire County Council to deliver a scheme that significantly reduces the impact of heavy goods vehicles in the Bottesford area. We have also taken care to ensure that displaced vehicles use only the main roads and do not pass through other similar communities.

8.31 In forming the lorry route network, a number of roads have been re-classified to reflect the revised hierarchy of routes. This has been an important contribution to making better use of the existing road network. The routes that make up the lorry route network are shown in Figure 8.2.

Figure 8.2
Main lorry route network

8.32 In addition to the benefits enjoyed by rural communities relieved of through heavy goods traffic, an effective lorry control strategy enables the efficient channelling of highway maintenance funds into the designated lorry routes, rather than being dispersed over a wider road network.

8.33 However, there are a few locations on the lorry network itself where HGVs still have to be routed through communities, with consequent nuisance for residents. We have taken a number of steps to reduce this nuisance, including speed reduction schemes and some road alterations to reduce the noise made by passing lorries.

8.34 We will continue to pay particular attention to speed and noise reduction where HGVs must still pass through communities. Measures to reduce the impact of lorries will include speed reduction schemes, pedestrian and cyclist facilities to reduce the impact of severance, and maintenance work to minimise noise over patching, ironworks etcetera. We do also recognise, however, that future traffic growth may worsen existing traffic nuisance in a number of these towns and villages and some communities may have limited options for improvements by speed reduction measures.

8.35 In exceptional circumstances, for those communities experiencing the worst problems and where no alternatives solutions are available, consideration will be given to providing a bypass. However, further in-depth investigation into each individual case will need to take place, with the costs and benefits assessed. During the LTP period we will assess the case for longer-term lorry bypasses for the worst affected of these communities.

Bypasses

Earl Shilton Bypass

8.36 We constructed two bypasses during LTP1, for Ashby-de-la-Zouch and Rearsby, and these have provided significant improvements for the two communities.

8.37 Our immediate priority now is to gain early DfT approval and funding for the **Earl Shilton Bypass**, which has completed all the statutory processes. This scheme will bring relief from the major current traffic problems in the town centre and has strong local public support, with over 80% supporting the scheme during consultation. It is described further in Chapter 11.



Other bypasses

8.38 In a small number of cases a bypass is the only feasible way to reduce the substantial traffic nuisance suffered by communities. The schemes noted below are proposed for further investigation, with those for Kegworth and Melton Mowbray considered to be particularly important. It may be noted that the Melton Mowbray Bypass was rated as medium priority for the third LTP period in the winter 2005 regional prioritisation exercise as detailed in Chapter 2. The Kegworth Bypass, integral to M1 widening, will be funded as part of the national programme.

8.39 The **Kegworth Bypass** will be built by the Highways Agency as part of its programme for improving capacity on the M1 motorway and its junctions. The works will take place as part of the major Junction 23a to 24 scheme, for construction during the next LTP after 2011. The new road will run to the south of the village, connecting with the M1 at Junction 23a and making the A6 from the south a direct route to Nottingham East Midlands Airport.

8.40 Our study for **Melton Mowbray** showed a clear case for a bypass as the only effective solution to reduce the impact of traffic in the town centre and consultation in spring 2005 demonstrated very strong local support. The initial testing using the new model indicates that a higher than previously expected volume of through traffic would divert to a bypass, giving substantial relief to the town centre. Whilst this will much reduce or eliminate congestion, the main purpose will be to reduce the impact of traffic in the town rather than reducing vehicle delays and improving journey times. A complete ring road for the town would produce a substantial further reduction in traffic and help to deliver the objectives of the emerging local development framework for Melton Borough. We will plan the bypass as the first stage in the long-term completion of a ring road.

8.41 We will undertake initial work to prepare a Melton Mowbray Bypass scheme for possible construction in the next LTP period after 2011. We are in close liaison with Melton Borough Council to ensure that we maximise the potentially considerable scope for developer funding through the local development framework.

8.42 Other communities where a bypass may be justified in the longer term, and for which we will undertake preliminary investigation are:

- **Kibworth** (substantial traffic nuisance in the village and the only community on the A6 not bypassed between Leicester and the A14)
- **Lutterworth** (substantial traffic nuisance despite the completion of the southern bypass, with air quality predicted to remain above the EU threshold (see Chapter 7))
- **Wymeswold and Sharnford** (neither community can be excluded from the lorry route network but both suffer substantial nuisance from HGVs)
- **Syston** (has western and northern bypasses but still suffers nuisance from through traffic).

Development funding

8.43 Speed reduction schemes are often needed when additional traffic movements to and from new development add significantly to traffic volumes on existing roads through communities. Many such schemes have been funded by development agreements and we expect this to continue. This will particularly apply where developments generate additional lorry movements through communities. In certain circumstances, as noted earlier, Home Zone treatments can be used to minimise traffic problems generated within the development itself.

Performance management

8.44 To monitor and manage our performance, in addition to monitoring the outcomes of individual measures, we have identified the following outcome performance indicator:

- Percentage reduction in 85th percentile speed for all schemes in the year

8.45 The benefits of reducing the impact of traffic can be perceived in many ways and are not easily measurable. We therefore propose only this single indicator, which directly reflects the main outcome of our objective for all but the exceptional schemes. This will be backed up by detailed monitoring of the impact of individual schemes so that we can be sure that each is having the most beneficial impact in reducing traffic nuisance.

Contribution to other LTP and quality of life objectives

8.46 Whilst our strategy to reduce the impact of traffic has been developed specifically to achieve its stated objectives, it will also contribute to other LTP and quality of life objectives. The contribution it can make has been borne in mind in the development of the strategy. Table 8.1 summaries these contributions.

Table 8.1 Contribution of our strategy to reduce the impact of traffic to other LTP and quality of life objectives

Objective	Contribution of our strategy to reduce the impact of traffic	
Tackling congestion.	✓	Measures to reduce the impact of traffic will make walking and cycling more attractive modes of transport in communities and will therefore help tackle congestion.
Improving access to facilities	✓✓	Measures to reduce the impact of traffic will improve access to facilities by reducing the severance caused by traffic.
Reducing road casualties	✓✓✓	Measures to reduce the impact of traffic will reduce vehicle speeds and contribute to a reduction in road casualties.
Improving air quality	✓✓✓	Measures to reduce the impact of traffic, particularly bypasses, will remove traffic from communities and will improve air quality in these areas.
Managing transport assets.	-	Limited contribution.
Quality of public spaces and better streetscapes	✓✓✓	Reducing the impact of traffic will improve the quality of public spaces and streetscapes.
Landscape and biodiversity	-	Limited contribution.
Community safety, personal security and crime	✓✓	Reducing the impact and speed of traffic in communities will help people feel more secure and improve community safety.
Healthy communities	✓✓	Measures to reduce the impact of traffic will make walking and cycling attractive modes of transport that will lead to a direct improvement in people's health.
Sustainable and prosperous communities	✓	Measures to reduce the impact of traffic will make local communities attractive places to live and work.
Noise	✓✓✓	Measures to reduce the impact of traffic, particularly bypasses, will remove traffic from communities and lower traffic speeds, and both will help to reduce noise levels.
Climate change and greenhouse gases	-	Limited contribution.

✓ = Modest contribution

✓✓ = Moderate contribution

✓✓✓ = Significant contribution