

# Chapter 13

## Programme and Targets

### Local Transport Plan Programme

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Much of the work that has been carried out by Oxfordshire County Council on improving transport in the county in the first LTP conforms with the new requirements set out for the next round of LTPs. Equally, the work carried out to develop forward programmes through, as examples, the Transport Networks Review, the development of the Premium Routes Network, the Integrated Transport Strategies in the larger towns and the ongoing encouragement of school travel plans and Better Ways to School initiatives together provide a strong platform from which to develop strategies both for the next LTP and in the longer term. A large part of the work for the next LTP is therefore to ensure that the programme is properly and sufficiently focused that it can deliver the desired transport improvement outcomes.

To make clearer the links between the programme and objectives a revised programme structure is proposed. This would divide the overall programme into 6 programme areas: Premium Routes and Public Transport; Road Safety; Smarter Choices; Towns Strategy; Oxford Transport Strategy; Network development.

A detailed programme for 2006/07 has been developed on this basis. As many of the schemes for this year will take more than one year to implement this programme does, to a large extent, fix the funding distribution for the following year (2007/08).

Following from this an indicative 5-year programme has been developed. It should be stressed that the sums included for the final three years of this budget cannot be taken as budgets reserved for those programme areas. Instead the final programme details would be dependent upon suitable and practical value for money solutions being identified to resolve the identified priority problems. The details of the 5-year programme will therefore continue to evolve over the LTP period as more details become available. The programme as identified will, though, provide a basis from which provisional targets for the Plan can be estimated.

The five year programme for transport improvement to utilise the Indicative Planning Guidelines published in December 2004 is given in the following table:

(£000s)	2006/07	07/08	08/09	09/10	2010/11	Total
Network Development Programme	2359	950	400	1200	2400	7309
Road Safety Programme	830	1000	1000	1000	1000	4830
Oxford Transport Strategy Programme	1365	2925	2000	1500	1000	8790
Towns Programmes	2070	2250	3500	3500	3000	14320
Public Transport Programme	1415	500	1550	1550	1550	6565
Smarter Choices Programme	1305	1600	1100	1100	1100	6205
Design	300	300	300	300	300	1500
Development	150	150	150	150	150	750
Allowance for Inflation	390	509	700	930	1290	3819
<b>Total</b>	<b>10184</b>	<b>10184</b>	<b>10700</b>	<b>11230</b>	<b>11790</b>	<b>55088</b>

## Environment

The benefits of increased mobility arising from better transport networks must be balanced against the need to protect the natural and built environment from the effects of motor traffic and the extension of transport infrastructure. The County Council and five district councils in Oxfordshire have a range of plans and strategies which must work together to find this balance.

To ensure the negative effects of transport on the environment are minimised and opportunities are taken to enhance the environment through transport a Strategic Environmental Assessment (SEA) has been carried out (in accordance with European Union requirements) on the broad actions and approaches to improving transport that the County Council is putting forward in this Plan. Further assessments will be carried out at every stage of programme and scheme development. The EU directive means that a range of options for achieving the objectives of the Plan must be considered and the environmental impacts of all possible options assessed. A full pre-scheme SEA is included as an annex to this Plan.

## Major Schemes

Major schemes are defined in the Local Transport Plan process as those which cost more than £5 million. The County Council has plans for two such schemes in the second Local Transport Plan period: A415 Marcham Bypass and Witney Cogges Link Road.

A415 Marcham Bypass - In the Transport Networks Review traffic levels on the A415 were predicted to increase as the route becomes an increasingly attractive alternative to the A34 and A40 as congestion levels on those roads increase. As a response to this, an improvement of the A415 was proposed to relieve the high priority congestion problems of A40 between Witney and Oxford and the A34 between Oxford and Abingdon. The first stage of this improvement will be the Marcham Bypass. Funding for this scheme will be pursued through a separate major scheme application. The contribution of this scheme to the LTP objectives is explained overleaf.

Witney Cogges Link Road - this scheme is substantially to be funded from developer contributions negotiated from developers in the town, however there is likely to be a shortfall which the County Council intends to meet with funds from the block allocation. The scheme will provide a new crossing of the River Windrush in Witney which, in conjunction with existing roads will form an alternative route for traffic avoiding the town centre. The scheme will also contribute to the solution of the problems of air quality, congestion and street environment on Bridge Street and High Street, the former being designated as an Air Quality Management Area.

The County Council has a number of larger minor schemes for which a detailed cost estimate is not yet available. In the second LTP these include the proposal to improve the junctions on the A40 at Cutteslowe, Wolvercote and Headington and a number of the proposed Premium Routes. While it is currently proposed that these should be funded from the block allocation a final decision on this will only be made when the details of the designs have been finalised.

In the longer term the County Council will consider further improvements to the A415 (Cokethorpe, Standlake, Newbridge, Kingston Bagpuize) as well as new relief roads for Watlington and South-east Banbury. The Transport Networks Review recommended that further study was needed into the case for new road schemes at Henley, Abingdon, Burford and Chipping Norton. Within the block programme for Network Development are schemes to improve the A40 junctions at Wolvercote and Cutteslowe as stage 1 of the A40 Strategy. When these have been treated it will become easier to determine the justification for further significant congestion relief for the A40 itself. Dualling the section west of Oxford may form a subsequent stage in this approach.

The longer term programme for major schemes is currently therefore:

2006-2011	2011-2016	2016-2021	After 2021
Marcham Bypass	A415 Improvements	Banbury SE Relief Road	Abingdon
Premium Routes (1)	Premium Routes (2)	Watlington Relief Road	Henley
A40 Strategy (1)	A40 Strategy (2)	A40 Strategy (3)	Burford Chipping Norton

## A415 Marcham Bypass

The A415 is a Principal Road which connects the A34 Trunk Road at Abingdon with the A420 (Oxford-Swindon) and A40 (Oxford-Cheltenham) Principal Roads at Kingston Bagpuize and Witney respectively. It serves as a main access road to a large part of the Vale of White Horse district either directly or via the A338 Principal Road which meets the A415 at Frilford just to the west of the village of Marcham. The A415 also enables through traffic to avoid congestion on the approaches to the Oxford Ring Road.

As it passes through Marcham village (2001 population 1,800) the A415 narrows to a minimum width of 5.3 metres and follows a series of sharp, blind bends. Residential properties front onto the road along this section, a number with minimal or no footway in front of their doorways. No continuous footway exists on either side of the road for a distance of 120 metres. Visibility along the road is severely limited both for drivers and for pedestrians seeking to cross the road with a minimum forward visibility of 10 metres. To the west of Marcham village at Frilford the A415 and A338 meet at a staggered, traffic-signal controlled junction. This junction is the source of localised congestion on all legs.

The proposal is to build a 3.0 km, 7.3 metre wide single carriageway local bypass to the south of Marcham Bypass. At its eastern end it will have a roundabout junction providing access into the village while at its western end the village will be accessed by a simple t-junction with an extension to replace the present staggered traffic signals with a single higher capacity roundabout.

The scheme was estimated to cost £11.738 million based upon a 2004 cost base adjusted to estimated out-turn at 4% per annum and including a contingency of 10% and a risk allowance of £1.024 million. The scheme was submitted for funding in 2004 under the "Annex E" procedures but was unsuccessful. It is currently being assessed by the South east England Regional Assembly under their Regional Transport Prioritisation Framework. If there is a favourable outcome to this assessment then a new full scheme submission will be made.

The bypass is likely to have the following effects on the objectives of the Local Transport Plan:

**Congestion** - the improvement of the Frilford junction will result in significant reductions in congestion and queues and consequently in journey times. The estimated average time saving per vehicle will be 2 minutes during peak hours and 0.5 minutes at other times. The current alignment does not allow for two lorries to pass each other along part of the route through the village. Blockages occurs regularly when wide vehicles attempt to do so causing considerable congestion, albeit usually for relatively short durations. The bypass will eliminate these delays.

**Road safety** - the bypass is estimated to lead to a reduction of approximately 108 personal injury accidents over a 30 year assessment period. In addition, there has been a history of the buildings along the route through the village being hit by vehicles causing considerable structural damage to properties. The bypass would reduce the chances of further accidents of this kind. >>

**Accessibility** - There is likely to be a small increase in accessibility by public transport to Abingdon and Oxford due to the reduction in journey times through Frilford Crossroads.

**Air Quality** - The scheme will not impact on air quality in any Air Quality Management Areas. However it will result in 249 properties having a small reduction in exposure to PM<sub>10</sub> (6%) and NO<sub>2</sub> (15%) while only 1 property would have an increased exposure.

**Street Environment** - The scheme will directly benefit the Conservation Area by the removal of traffic from the village centre. It is also intended that an improvement scheme for the bypassed route, including the addition of a continuous footway, would be implemented when the bypass is in place. The details of this scheme would be agreed with the local Parish Council.

If the Bypass were not to be proceeded with then there would be a slight saving (£0.35 million) in design fees which could be used for other projects across the county. However it is likely that this would be required for a "do minimum" scheme to be put in place to resolve the problems in the village. This low cost alternative would comprise a system of traffic signal control through the bends to enable the roadway to be narrowed to a single track to allow for the provision of footways. The scheme would comprise:

- > Installation of traffic signals for a 65 metre long section of one-way shuttle working
- > Localised widening to provide adequate space for queueing and passing vehicles
- > Provision of a 1.2 metre wide footway
- > Improved forward visibility and visibility from accesses

Such a scheme would bring community benefits in terms of reduced community severance and would significantly reduce the risk of buildings being struck by vehicles and the problems of vehicles blocking the road when they are unable to pass each other. The scheme would, though, create a new source of congestion on the principal route (as well as not relieving the existing source at Frilford) and would, overall, have a slight negative impact on the environment.

Although it was conceived as, and has been justified in terms of being, a stand-alone scheme, the Marcham Bypass also forms part of the wider improvement for the A415 between Witney and Abingdon developed in the Transport Networks Review and being pursued as part of the Central Oxfordshire Transport Area Strategy. Traffic and congestion on the A34 and A40 in the Oxford area are likely to mean that traffic will increasingly seek alternative routes around Oxford on roads - of which the A415 is the highest standard. The overall improvement is likely to consist of four schemes:

- > Marcham Bypass (bypass and junction improvement)
- > Newbridge (replacement river crossing)
- > Standlake/Brighthampton/Cokethorpe (bypass/on-line improvement)
- > Frilford - Kingston Bagpuize (selective improvement)

These schemes are planned to be delivered over the period to 2016, with Marcham Bypass as the first phase. Together they will provide a suitable high quality alternative route for longer distance and heavy vehicles while relieving the communities along the route of the effects of through traffic.

## Policy into Practice

Effective delivery of the outcome targets is as much dependant on the processes in place as the development of the strategies and the implementation of the schemes. It has therefore been important to examine the existing systems in place to establish the degree to which current working practices support the Council in achieving its plan targets and their contribution towards the County Council's overall vision and goals.

The existing systems in place to commission, process, manage and monitor the programme have been considered to determine whether they provide the best means of delivering the second plan and indeed provide the best mechanism to achieve best value for money.

The following sections provide a summary of the key processes that are already in place that are considered crucial 'tools' to the effective delivery of the plan and hence local, regional and national goals. Details are then provided on changes that the authority has or intends to make to maximise delivery of the outcome targets within a regime of best value.

### *Corporate Focus*

The County Council is seeking to further develop its vision for the longer term through a series of workshops and discussions to gather information which will enable the County Council to get a clearer picture of how Oxfordshire should develop in the future - a picture which is being called 'Oxfordshire 20:20'. This work is being carried out under the direction of the Oxfordshire Community Partnership, and the first phase is expected to be completed by May 2005. The work will continue to ensure that Oxfordshire 20:20 includes all the latest information, and supports the planning of public services in the county.

This work cuts across all service areas of the County Council and will ensure that policy priorities and spending is focused and complementary across all service areas. The Local Transport Plan will feed directly into this process and outputs in terms of the future vision for the county will guide the longer term transport strategy.

### *Performance Management*

The County Council has a performance management framework which sets out arrangements that will ensure a robust co-ordinated planning structure throughout the authority. To ensure continuous improvement the County Council carries out performance reviews of services over a five year cycle with the inclusion of performance management systems, including specific action plans to improve any performance which is below average.

### *Customer Focus*

The County Council undertakes regular consultation with service users and local people to determine how satisfied they are with services and how they might be improved. These surveys provide good information on progress and where there is a need to direct more effort to achieve goals.

### *Effective Partnership Working*

Working in partnership both internal to the organisation and external is paramount as the County Council recognises that its plan objectives and targets cannot be achieved in isolation. There is therefore a strong emphasis on developing partnerships that will maximise opportunities to achieve outcomes being sought. Indeed partners do not only contribute to and aid delivery of outcomes but can ensure that the maximum benefits of a scheme are realised and that best value for money is achieved.

The partnerships in place are on differing levels, some being more formal than others but one of the key aims to all these successful partnerships is to seek 'common goals.'

The following sections outline the provisional programme for transport improvement in Oxfordshire 2006 - 2011.

### **Network Development Programme**

The main focus of the programme in the 2006/07 - 2010/11 period is the implementation of the measures for the Central Oxfordshire Transport Area. The highest priority schemes in this programme are those which reduce congestion and improve accessibility on the A40 between Witney and Oxford. These will address the current sources of the significant queues and delays at Cutteslowe and Wolvercote Roundabouts on the Oxford Ring Road as well as the delays at the Eynsham and Cassington junctions.

Also included is a programme of measures to implement the routeing proposals identified in the Transport Networks Review. While the majority of the proposals will only require re-classification and re-signing, together with the imposition of some new speed limits, there may be a need for physical works to be carried out to re-enforce the change. This could be either to reduce the attractiveness of routes which are proposed to be downgraded or through improvements to routes which are proposed to be raised in classification. These schemes are necessary to reduce the problems caused on minor roads by increasing levels of congestion on major routes or where the current designation no longer reflects the use made for routes.

The A415 between the A40 and A34 was identified for improvement in the Transport Networks Review to reduce congestion, relieve very poor environmental conditions and reduce accidents along the route. It was envisaged in the Review that the route would be improved in a number of stages starting with Marcham Bypass. This is to be put forward as a Major Scheme in this Local Transport Plan period. As well as contributing to the benefits of the larger route improvement this would bring particular congestion relief benefits at the junction with A338 at Frilford and significant environment and quality of life benefits to Marcham itself.

### Road Safety Programme

The Road Safety Programme will continue to focus on identifying and implementing schemes to resolve problems at locations with high levels of casualties. Allied to this the speed reduction programme will aim to reduce speed related problems on particular roads through the introduction of speed limits and education measures such as vehicle activated signs.

Where there are road safety problems at locations where other priority problems have been identified then a single scheme seeking to resolve all the identified problems will be developed. Where appropriate, the road safety programme will contribute toward the cost of such schemes.

### Oxford Transport Strategy Programme

The Oxford Transport strategy seeks to resolve the full range of problems identified in the city. A main focus of the strategy between 2006 and 2011 will be the progressive improvement of the radial routes into the city to provide improved bus priority and accessibility, reduce congestion, reduce accidents and improve the street environment. Measures in the city centre will be aimed at resolving the air quality problems in the area while improving the city's unique street environment and resolving significant accident problems.

### Towns Programme

The identified scheme in the programmes for the larger towns in the county focus on the improvement of conditions in the town centres to reduce congestion or air quality problems, or both. The opportunity will also be taken to improve the street environment as part of integrated schemes for many of the town centres.

### Public Transport Programme

In financial terms the main focus of the public transport schemes programme is the improvement of accessibility and reduction in congestion through the Premium Routes programme. The other main parts of the programme are not directly linked to specific shared priority problems but are considered important as part of the improvement of public transport that will be needed to improve accessibility across the county.

### Smarter Choices Programme

This programme includes the Better Ways to School programme and the Council's programme for improving cycle facilities outside Oxford and the major towns. Additional schemes for this programme will need to be justified in terms of whether they are likely to bring significant benefits in terms of resolving priority problems. Improvements to footways and the rights of way networks which met this criterion would potentially be part of this programme.

## LTP2 Proposed Integrated Transport Schemes Programme

### Network Development Programme

(£000s)	2006/07	07/08	08/09	09/2010	2010/2011	Total
A40 Green Road Roundabout*	1850	100				1950
A40 Eynsham Turn/Roundabout*	11					11
A40 Cassington Signals*	283					283
A40 Cutteslowe Roundabout	50	650				700
A40/A44 Wolvercote Roundabout Gyratory				800	2000	2800
A415 Improvements (Phase 1 - Marcham Bypass )	150	200				350
Hennef Way Dualling*	15					15
TNR Routeing			100	100	100	300
Preparation for future schemes			300	300	300	900
<b>Total</b>	<b>2359</b>	<b>950</b>	<b>400</b>	<b>1200</b>	<b>2400</b>	<b>7309</b>

### Road Safety Programme

(£000s)	2006/07	07/08	08/09	09/2010	2010/2011	Total
50 mph Speed Limits	100					100
A4158 Rose Hill Roundabout	40					40
A420 Botley interchange	50					50
A420 Chowle Farm	25					25
A44 Pear Tree Interchange	50					50
Cowley Road Casualty Reduction contribution*	100					100
Vehicle Activated Signs	100					100
Wheatley Traffic Calming Phase 2 *	120					120
Road Safety Improvements from PPF	245	500	500	500	500	2245
Lower Cost Improvements and Route Actions		500	500	500	500	2000
<b>Total</b>	<b>830</b>	<b>1000</b>	<b>1000</b>	<b>1000</b>	<b>1000</b>	<b>4830</b>

## Oxford Transport Strategy Programme

(£000s)	2006/07	07/08	08/09	09/2010	2010/2011	Total
Banbury Road Corridor ( inc Premium Route)	30	500	350	300		1180
Central Area Air Quality Action Plan (exc High St)	50	200				250
City Centre Bus Gate Camera Enforcement	50					50
Cowley Road Demonstration Project*	200					200
Cycle Network Improvements (inc parking)	65	65				130
Fairfax Road/Purcell Road Cycle Link	130	100				230
Headington Girdlestone Road CPZ	60					60
Headington North East	60					60
Headington Quarry CPZ	60					60
High Street Streetscape Improvements	50	200				250
London Road Corridor (inc Premium Route)*	300	1500	150			1800
Marston Road Bus Lane/Gate	20	200				220
Marston Road Cycle Improvements	20	50				70
Morrell Avenue Bus Stop Improvements	50					50
North Summertown CPZ		60				60
Ring Road Signing	50	50				100
Thames Towpath Cycle Route	120					120
The Plain Roundabout*	50					50
Oxford Transport Strategy Schemes from PPF			1500	1500	1000	4000
<b>TOTAL</b>	<b>1365</b>	<b>2925</b>	<b>2000</b>	<b>1500</b>	<b>1000</b>	<b>8790</b>

## Towns Programme

(£000s)	2006/07	07/08	08/09	09/2010	2010/2011	Total
<b>Abingdon</b>						
Drayton Rd signalisation	5	180				230
Town Centre Improvements*	830	640				1470
Marcham Road Improvements Phase 2*	20	320				340
<b>Banbury</b>						
Western Corridor*	180	100				280
Station Interchange/Tramway Extension*	150	150				300
Signing Strategy Phase 1	120					120
Merton Street Junction Improvement	70					70
<b>Bicester</b>						
Howes Lane*	50	200				250
Middleton Stoney Road/Oxford Road*	75					75
<b>Henley</b>						
Town Centre Traffic Management*	240					240
Duke Street/Bell Street Environmental Measures*	150	450				600
<b>Witney</b>						
Cogges Link Complimentary Measures	180	210				390
Cogges Link Road			2000	2000		4000
Town Programmes Schemes from PPF			1500	1500	3000	6000
<b>TOTAL</b>	<b>2070</b>	<b>2250</b>	<b>3500</b>	<b>3500</b>	<b>3000</b>	<b>14320</b>

## Public Transport Programme

(£000s)	2006/07	07/08	08/09	09/10	2010/2011	Total
Bus Shelter Grants	25	20	50	50	50	265
Bus Stop Clearways & Traffic Management	40	30				
Kidlington Premium Route*	450					450
Eynsham Premium Route*	450					450
Premium Routes Programme			1000	1000	1000	3000
Rail Stations Development*	150	150	200	200	200	900
Real Time Information System*	300	300	300	300	300	1500
<b>TOTAL</b>	<b>1415</b>	<b>500</b>	<b>1550</b>	<b>1550</b>	<b>1550</b>	<b>6565</b>

## Smarter Choices Programme

(£000s)	2006/07	07/08 <sup>#</sup>	08/09	09/2010	2010/2011	Total
Better Ways to School	900	900	900	900	900	4500
Cholsey to Wallingford Cycle Route*	150	80				230
Garsington to Oxford Cycle Route	30	220				250
Wootton to Abingdon Cycle Route*	160	400				560
Wootton to Oxford Cycle Route (Harcourt Hill)	45					45
South Leigh to Witney Cycling Improvements	20					20
Smarter Choices Schemes from PPF			200	200	200	600
<b>TOTAL</b>	<b>1305</b>	<b>1600</b>	<b>1100</b>	<b>1100</b>	<b>1100</b>	<b>6205</b>

Schemes marked with an asterisk (\*) continue funding from earlier years.

### Developer funding and other capital support

	2006/07	07/08	08/09	09/10	2010/11
Public Transport Programme	200	150	See note below		
Road Safety Programme	0	0			
Smarter Choices Programme	30	0			
Town Programmes	1825	5600			
Oxford Transport Strategy Programme	2161	333			
Network Development Programme	0	0			
<b>TOTAL</b>	<b>4216</b>	<b>6083</b>			

Note: The County Council will be undertaking through the autumn a thorough review of the developer funding that it holds and the projects to which this is committed in the context of ensuring that this expenditure complements the LTP programme as well as meeting the needs imposed on the transport system by new developments. This should allow a full five-year programme to be included within the final LTP in March 2006.

Within the first two years of the programme the most significant schemes to be funded from these sources will be:

- > Cogges Link Road, Witney - subject to the successful completion of the necessary legal procedures the County Council intends to construct a new single carriageway link road to provide a new river crossing in Witney and provide traffic relief to the town centre. Funding for the scheme, which includes complementary works in the town centre, is predominantly through developer contributions but also includes some SCE funding.
- > Skimmingdish Lane, Bicester and Milton Heights Link Road (Stage 2), Didcot - these were two major schemes constructed in the first LTP. Some completion funding will be required for both of these in 2006/07.
- > Thornhill Interchange, Oxford - this scheme will provide a new terminal building for the existing park and ride site together with improved facilities for dealing with bus movements to allow Thornhill to function better as an interchange with express coach services.

## Maintenance Programme

The following table shows the provisional programme for maintenance schemes for implementation in 2006/07:

Location	Description	(£k) Estimated Works Cost
<b>County Roads</b>		
A420 High Street, Oxford (Stage 2)	Carriageway reconstruction and footway improvements. Public Realm and streetscape	1,250
A415 Ock Street, Abingdon Drayton Road to Colwell Drive	Plane & resurface. Localised reconstruction. Co-ordinate with ABITS works	140
A422 Ruscot Ave, Banbury Nethrop to Warwick Road (dualled) and 60m single c'way section near Southam Road	Full-depth strengthening and reconstruction. Road closure.	300
A4260 Oxford Road, Banbury	Reconstruction	175
A4095 Skimmingdish Lane A4421 Buckingham Road Roundabout and 200m east along Skimmingdish Lane.	Reconstruction. Road closure	160
A4095 Kirtlington (B430 to Middleton Park and boundary with Cranmoor Plantation)	Haunch recycling (all of S-side and intermittent N-side)	50
A338 Wantage Newbury Street and Portway (Pelican Crossing to School)	Resurfacing, local reconstruction, and drainage	65
Fees, retentions and contingency		600
<b>Total</b>		<b>2,740</b>
<b>De-trunked Roads</b>		
A40 Sandhills	Reconstruction	<i>(funds c/f from 2005/06)</i>
A420 Shrivenham Bypass	Major reconstruction and drainage remedials	1,800
A40 Eynsham	Resurfacing and reconstruction	200
A41 Bicester to M40	Surface dressing	130
<b>Total (De-trunked Roads)</b>		<b>2,130</b>

Further schemes will be identified on the basis of ongoing inspection procedures.

## Revenue Support

The County Council currently spend about £40 million per year in support of the Local Transport Plan from its revenue budget. Based on the budget for 2005/06, but taking into account previously approved budget plans and ongoing efficiency savings proposals, the revenue budget for the first year of the LTP would include:

Item	£000s
Public Transport Subsidies	3,325
Highways Maintenance	16,946
Studies	1,101
Salaries & Fees	9,732

Throughout the Local Transport Plan the budget levels will be set taking into account future pressures, efficiency savings and other economic and political factors. This means that there is much uncertainty about the future revenue budgets. The Local Transport Plan has been developed on the assumption that the current levels are maintained, in real terms, through the Plan period.

## Target Setting

The setting of targets is a major part of the LTP process and monitoring progress against the targets will form a major part of the assessment that is made by Government both of the plan and the progress that the County Council is making through the Plan period.

The level of targets should be related to the outcomes that could be expected from the programme set out. To do this a three-stage process has been developed:

- > Assessment of baseline figure
- > Assessment of changes that are likely to occur if no schemes are implemented
- > Assessment of the likely impact of the schemes.

This process will only be able to be completed when a complete five-year programme has been developed. Even then there are likely to be a number of assumptions that will have had to be made in assessing the second and third stages in the process outlined above. The following gives Oxfordshire's current position with respect to developing targets for each of the government's mandatory indicators. Final targets will be completed for each of these in the full LTP in March 2006.

## Target 1: Principal Road Condition (BVPI 96)

### Baseline figure

2003/2004	6%
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The proportion of principal roads needing structural maintenance roads fell during the first LTP as the funding available for these works was increased. At between 5 and 6 percent the figure is at a level where a stable long term programme for these works can now be developed.

### Expected change if no measures taken

Normal deterioration	+8
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The following table uses trended deflectograph data to project the effects of zero expenditure on the condition of the Principal Road network (14% with less than zero residual life by 2011). The table also provides conservative estimates of the cost of maintaining the network in its current condition, as well as the cost of improving its overall condition to 1% with zero residual life.

		Principal Roads Maintenance Projections 2005 - 2011							
Structural		2005	2006	2007	2008	2009	2010	2011	£ (million)
Required	lane km < 0 yrs	76	11.3	10.5	14	13	13	14	
	% (before maint.)	7.2	1.1	1.0	1.3	1.2	1.2	1.3	
	£ (million)	13	1.9	1.8	2.3	2.1	2.1	2.5	25.7
Min spend	lane km < 0 yrs	76	49	51	56	59	63	68	
	% (before maint.)	7.2	4.7	4.9	5.3	5.6	6.0	6.5	
	£ (million)	6.5	1.5	1.5	1.5	1.5	1.5	1.5	15.5
Zero spend	lane km < 0 yrs	76	87	98	111	124	136	150	
	% (before maint.)	7.2	8.3	9.3	10.6	11.8	13.0	14.3	
	£ (million)	0	0	0	0	0	0	0	

**Impact of measures proposed in LTP programme**

Public Transport Programmes	+1
Road Safety Programme	minimal
Smarter Choices Programme	minimal
Town Programmes	-1
Oxford Transport Strategy Programme	-1
Network Development Strategy	-1
Maintenance programme	-8
<b>Overall Impact</b>	<b>-10%</b>

Buses, as large and heavy vehicles, place an excessive burden on roads over that of smaller vehicles. Therefore a programme to encourage more use of public transport, and therefore to encourage more public service vehicles, could be expected to increase the maintenance burden.

The Road Safety and Smarter Choices Programmes are unlikely to have any significant effect on maintenance need.

The Towns and the Oxford Transport Strategy Programmes would be expected to improve the standards of maintenance as roads are improved, such as through route improvements or the introduction of Premium Route schemes. While the impact with the town areas is likely to be significant these will only have a small impact on the overall county standard because roads in these areas are only a small proportion of the total network.

The network development strategy will include some schemes which will replace old roads with newer ones and thus reduce the need for maintenance. However this is also likely to only cover a small proportion of the county's network.

The programme of schemes for Principal Road Maintenance would be designed to maintain the levels of roads requiring maintenance at a stable rate, within the overall spending limits..

**Provisional Target for Principal Road Condition 2011**

Baseline figure (2004)	6%
Expected change if no measures taken	+8%
Impact of Proposed Measures	-10%
<b>Target for 2011</b>	<b>4%</b>

## Target 2: Non-Principal Classified Road Condition (BVPI 97a)

### Baseline figure

2003/2004	40%
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While there was significant improvement in the proportion of non-principal classified roads which required structural maintenance in the first LTP period this figure is still at a considerably higher level than would be desired

### Expected change if no measures taken

Normal deterioration	0
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The 2004/05 BVPI is 25.3%, an improvement on the previous years results. However, the effects of no further funding would result in a return to the 2003/04 figure. The following over demonstrates the effects of zero expenditure on the condition of Oxfordshire's non-Principal Classified road network.

### Impact of measures proposed in LTP programme

Public Transport Programmes	+2
Road Safety Programme	minimal
Smarter Choices Programme	minimal
Town Programmes	-2
Oxford Transport Strategy Programme	-2
Network Development Strategy	-2
Maintenance programme	-20
<b>Overall Impact</b>	<b>-24</b>

Buses, as large and heavy vehicles, place an excessive burden on roads over that of smaller vehicles. Therefore a programme to encourage more use of public transport, and therefore to encourage more public service vehicles, could be expected to increase the maintenance burden.

The Towns and the Oxford Transport Strategy Programmes would be expected to improve the standards of maintenance as roads are improved, such as through route improvements or the introduction of Premium Route schemes. While the impact with the town areas is likely to be significant these will only have a small impact on the overall county standard because roads in these areas are only a small proportion of the total network.

Oxfordshire B And C Roads					
			<b>Single Count</b>		
<b>2004/2005 BVPI</b>	Structural	29.057	29.057	Design Life yrs	30
	Wearing	158.765	19.610		
	Edge	285.519	162.482	Cway Width m	5.5
	Above Threshold	388.762	211.149		
	Survey Length	1535.684		Str Cost m <sup>2</sup>	£34.79
	Network Length	1557.297		Wear Cost m <sup>2</sup>	£13.08
	PI	25.315	%	Edge Cost m	£43.24
km above threshold for network	394.233				
km over threshold by 2010/2011	232.613				
Projected PI 2010/2011		40.252	%		
Existing PI 2010/2011		25.3	%		
Required km of treatments up to 2010/2011	232.616				
<b>Projected BVPI 2010/2011</b>		<b>Current Proportions (km)</b>			
		No Treatment	Rqd Treatment		
	Structural	46.852	29.466		
	Wearing	255.995	160.998		
	Edge	460.375	289.535		
Overall	626.846	394.230			
<b>Current Proportions</b>	<b>Length km</b>	<b>Cost</b>			
Treat Str	17.386	£3,326,782			
Treat Wear	77.611	£5,583,335			
Treat Edge	137.619	£5,950,649			
Total	232.616	£14,860,766			
Cost per year		£2,476,794			
Note: Scanner replaces CVI from 2005/06. Actual BVPI's produced by this survey method are likely to differ from those produced by CVI					

The Road Safety and Smarter Choices Programmes are unlikely to have any significant effect on maintenance need.

The network development strategy will include some schemes which will replace old roads with newer ones and thus reduce the need for maintenance. However this is also likely to only cover a small proportion of the county's network.

The programme of schemes for non-Principal Classified Road Maintenance would be designed to at least maintain the levels of roads requiring maintenance at a stable rate and, if possible within the overall spending limits and bearing in mind the need to maintain standards of principal roads, to reduce the overall proportion of roads requiring maintenance.

#### **Provisional Target for Non-Principal Classified Road Condition 2011**

Baseline figure (2004)	40%
Expected change if no measures taken	0%
Impact of Proposed Measures	-24%
<b>Target for 2011</b>	<b>16%</b>

### Target 3: Unclassified Road Condition (BVPI 97b)

#### Baseline figure

2003/2004	38%
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This figure deteriorated during the first LTP period from 21 to 38%. This figure disguises the improvements that were made to the small numbers of roads whose condition was worst and which had been declared as "failed".

#### Expected change if no measures taken

Normal deterioration (av of 03-04 & 04-05 PI)	+36%
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The value of the 2005/06 BVPI is 13.36% - a marked improvement, and one that should not be taken in isolation. The projections are therefore based on an averaged figure for the last two years. The table opposite illustrates the effects of zero expenditure on the condition of Oxfordshire's Unclassified road network.

#### Impact of measures proposed in LTP programme

Public Transport Programmes	+2
Road Safety Programme	minimal
Smarter Choices Programme	minimal
Town Programmes	-1
Oxford Transport Strategy Programme	-1
Network Development Strategy	minimal
Maintenance programme	-36
<b>Overall Impact</b>	<b>-36</b>

Buses, as large and heavy vehicles, place an excessive burden on roads over that of smaller vehicles. Therefore a programme to encourage more use of public transport, and therefore to encourage more public service vehicles, could be expected to increase the maintenance burden by a small amount.

The Towns and the Oxford Transport Strategy Programmes would be expected to improve the standards of maintenance as roads are improved, such as through route improvements or the introduction of Premium Route schemes. While the impact with the town areas is likely to be significant these will only have a small impact on the overall county standard because roads in these areas are only a small proportion of the total network.

Oxfordshire Unclassified. Roads					
			Single Count		
2003-2005 BVPI (av)	Structural	33.846	33.846	Design Life yrs	40
	Wearing	173.720	139.874		
	Edge	226.260	163.730	Cway Width m	4.5
	Above Threshold	337.450	337.450		
	Survey Length	1360.992		Str Cost m <sup>2</sup>	£31.24
	Network Length	2270.974		Wear Cost m <sup>2</sup>	£12.78
	PI	24.794	%	Edge Cost m	£34.92
km above threshold for network		563.075			
km over threshold by 2010/2011		256.185			
Projected PI 2010/2011		36.075	%		
Existing PI 2010/2011		24.8	%		
Required km of treatments up to 2010/2011		256.194			
			Current Proportions (km)		
			No Treatment	Rqd Treatment	
Projected BVPI 2010/2011	Structural	82.171	56.475		
	Wearing	421.757	289.867		
	Edge	549.313	377.535		
	Overall	819.260	563.065		
Current Proportions	Length km	Cost			
Treat Str	25.696	£3,612,359			
Treat Wear	106.193	£6,107,176			
Treat Edge	124.305	£4,340,728			
Total	256.194	£14,060,263			
Cost per year		£2,343,377			

The Road Safety and Smarter Choices Programmes are unlikely to have any significant effect on maintenance need. The network development strategy will be unlikely to affect a significant proportion of the county's network of unclassified roads.

The programme of schemes for non-Principal Classified Road Maintenance would be designed to at least maintain the levels of roads requiring maintenance at a stable rate and, if possible within the overall spending limits and bearing in mind the need to maintain standards of principal roads, to reduce the overall proportion of roads requiring maintenance.

#### **Provisional Target for Unclassified Road Condition 2011**

Baseline figure (2004)	38
Expected change if no measures taken	+36
Impact of Proposed Measures	-36
<b>Target for 2011</b>	<b>38</b>

## Target 4: Footway Condition (BVPI 187)

*Target to be developed*

**Target 5: Total numbers killed or seriously injured (BVPI 99(x))****Baseline figures**

1994/98 average	552
2004	381

The 1994/98 average is the basis for the County Council's previous target of reducing the annual number of persons killed or seriously injured in road accidents to 326 by 2010. Steady progress has been made in reducing this figure since the target was set. The 2004 figure therefore represents a "snapshot" rather than a stable baseline.

**Expected change if no measures taken**

Traffic growth	+53
National Initiatives	-76
<b>Overall change</b>	<b>-23</b>

It would be expected that the number of accidents would increase with any overall growth in the level of traffic in the county. Assuming that traffic levels would increase by an average of 2% per year this would, if unchecked, result in a further 53 accidents per year by 2011. National advertising campaigns and the impact of improvements in vehicle safety standards, as well as other national initiatives, would be likely to result in reduced numbers of accidents.

**Impact of measures proposed in LTP programme**

Public Transport Programmes	-8
Road Safety Programme	-42
Smarter Choices Programme	-4
Town Programmes	-4
Oxford Transport Strategy Programme	-8
Network Development Strategy	neutral
Maintenance programme	-10
<b>Overall Impact</b>	<b>-76</b>

The impacts of these are likely to be relatively minor, however, amounting in each programme to approximately 1-2% of current accident levels. The network development strategy includes some schemes which would be expected to reduce accident numbers by improving traffic flow and

removing conflicts, particularly those between motor vehicles and vulnerable road users. Other schemes in this programme may, though, act to increase local traffic levels and therefore tend to increase accident risk. The impact of these measures is therefore considered to probably be neutral.

The proposed programmes for public transport, smarter choices, and the programmes of measures in Oxford and the county's major towns would act to counterbalance the expected traffic growth and consequently the impact of this on the expected number of accidents. Improvements in the standard of maintenance, particularly with regard to improving skid resistance, would be expected to bring some casualty reduction benefits. The main impact on the numbers of killed or seriously injured would be from the road safety programme. It has been assumed that the County Council would deal with 6 major accident sites per year and that there would be an average of 1 accident per year reduction achieved from each of these. This would amount to a reduction in the number of annual accidents by 42 per year by 2011.

**Provisional Target for Total numbers killed or seriously injured 2011**

Baseline figure (2004)	381
Expected change if no measures taken	-23
Impact of Proposed Measures	-76
<b>Target for 2011</b>	<b>282</b>

**Target 6: Child numbers killed or seriously injured (BVPI 99(y))****Baseline figures**

1994/98 average	52
2004	28

The 1994/98 average is the basis for the County Council's previous target of reducing the annual number of persons killed or seriously injured in road accidents to 26 by 2010. Annual values for child casualties have been at or near the target level since 2003.

**Expected change if no measures taken**

Traffic growth	+4
National Initiatives	-5
<b>Overall change</b>	<b>-1</b>

It would be expected that the number of accidents would increase with any overall growth in the level of traffic in the county. Assuming that traffic levels would increase by an average of 2% per year this would, if unchecked, result in a further 4 accidents per year by 2011. National advertising campaigns and the impact of improvements in vehicle safety standards, as well as other national initiatives, would be likely to result in reduced numbers of accidents as well as improve the effectiveness of other initiatives.

**Impact of measures proposed in LTP programme**

Public Transport Programmes	minimal
Road Safety Programme	-4
Smarter Choices Programme	-2
Town Programmes	minimal
Oxford Transport Strategy Programme	-1
Network Development Strategy	neutral
Maintenance Programme	-1
<b>Overall Impact</b>	<b>-8</b>

The network development strategy includes some schemes which would be expected to reduce accident numbers by improving traffic flow and removing conflicts, particularly those between motor vehicles and vulnerable road users. Other schemes in this programme may, though, act

to increase local traffic levels and therefore tend to increase accident risk. The impact of these measures is therefore considered to probably be neutral. Improvements in the standard of maintenance, particularly with regard to improving skid resistance, would be expected to bring some casualty reduction benefits.

While it is hard to attribute specific accident reductions to the Smarter Choices Programme it would be expected that there would be some child casualty benefits from implementing these schemes. The proposed programmes for public transport and the programmes of measures in the county's major towns would be expected to have a minimal effect on accident levels but that any effect would be likely to be positive. The main impact on the numbers of killed or seriously injured would be the road safety programme. There are relatively few sites in the county with a child safety record that is bad enough to justify action for this alone but it would be expected that child casualty reductions would come from schemes justified on overall accident and casualty numbers.

**Provisional Target for Child numbers killed or seriously injured 2011**

Baseline figure (2004)	28
Expected change if no measures taken	-1
Impact of Proposed Measures	-8
<b>Target for 2011</b>	<b>19</b>

**Target 7: Total Slight Casualties (BVPI 99(z))***Target to be developed***Baseline figures**

1994/98 average	
2004	

**Expected change if no measures taken**

Traffic growth	
National Initiatives	
<b>Overall change</b>	

**Impact of measures proposed in LTP programme**

Public Transport Programmes	
Road Safety Programme	
Smarter Choices Programme	
Town Programmes	
Oxford Transport Strategy Programme	
Network Development Strategy	
<b>Overall Impact</b>	

**Provisional Target for Total Slight Casualties 2011**

Baseline figure (2004)	
Expected change if no measures taken	
Impact of Proposed Measures	
<b>Target for 2011</b>	

**Target 8: Bus Patronage (BVPI 102)****Baseline figure**

2004	34.49 (million bus journeys per year)
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**Provisional Target for Bus Patronage 2011**

Baseline figure (2004)	34.49
Expected change if no measures taken	0
Impact of Proposed Measures	+2.71
<b>Target for 2011</b>	<b>37.20</b>

The County Council set an ambitious PSA target in 2003. While progress to date has not been at the level required to meet this target the introduction of the Premium Routes in the second LTP should mean that significant future growth can be expected. The target level represents a 10% increase on 2002 levels.

**Target 9: Bus Service Satisfaction (BVPI 104)****Baseline figure**

2004	55%
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**Impact of measures proposed in LTP programme**

Public Transport Programmes	+3%
Road Safety Programme	No change
Smarter Choices Programme	+2%
Town Programmes	
Oxford Transport Strategy Programme	
Network Development Strategy	minimal
<b>Overall Impact</b>	<b>+5%</b>

**Provisional Target for Bus Service Satisfaction 2011**

Baseline figure (2004)	55%
Impact of Proposed Measures	+5%
<b>Target for 2011</b>	<b>60%</b>

### Target 10(a) Accessibility Targets (LTP 1): Access to Work

#### Baseline figures

	A		B	
	20 mins	40 mins	20 mins	40 mins
2004				

(a) Percentage of people of working age within 20/40 minutes of work by public transport

(b) Percentage of people in receipt of Jobseekers allowance within 20/40 minutes of work by public transport

*National core indicators due to be published by DfT July 2005 (letter from DfT 13 May 2005) - the County Council is considering whether to replace this with a local indicator based on analysis from the LTP model which reflects better the local situation with regard to job opportunities and workforce:*

% of population of working age able to access three or more town-centre employment opportunities within 30 or 60 minutes by public transport

### Target 10(b) : Accessibility Targets (LTP 1): Access to Hospitals

#### Baseline figures

	A		B	
	30 mins	60 mins	30 mins	60 mins
2004	42.7	77.3	61.2	86.3

(a) Percentage of households within 30/60 minutes of a hospital by public transport

(b) Percentage of households without access to a car within 30/60 minutes of a hospital by public transport

*National core indicators due to be published by DfT July 2005 (letter from DfT 13 May 2005), future year target levels will be developed based upon these and the analysis from the Accession model (data above based on Accession modelling).*

## Target 11: Area-wide Traffic Mileage (LTP 2)

### Baseline figure

2004	11.49 million vehicle kilometres
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### Expected change if no measures taken

Traffic growth	+2% per year
<b>Overall change</b>	<b>14% by 2011</b> <b>= +1.61</b>

### Impact of measures proposed in LTP programme

Public Transport Programmes	-0.3
Road Safety Programme	Minimal
Smarter Choices Programme	-0.1
Town Programmes	-0.1
Oxford Transport Strategy Programme	-0.2
Network Development Strategy	-0.1
<b>Overall Impact</b>	<b>-0.8</b>

The largest element of reducing traffic growth is expected to come from the Public Transport strategy through the introduction of the Premium Routes. Of particular importance to reducing the overall vehicle mileage across the county will be the promotion of longer distance bus travel through the introduction of "Expressway" services including remote park and ride. These measures are also included in the Oxford Transport Strategy and Towns Programmes.

### Provisional Target for Area-wide Traffic Mileage 2011

Baseline figure (2004)	11.49
Expected change if no measures taken	+1.61
Impact of Proposed Measures	-0.8
<b>Target for 2011</b>	<b>12.30</b>

This figure represents a re-basing of the target included in the first LTP and Road Traffic Reduction Report to the observed 2004 traffic level. When the final LTP comes into force this should be taken to replace the previous target.

## Target 12: Cycling Index (LTP 3)

### Baseline figure

2005	100
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Cycling levels will be measured by an index based on a network of around 30 manual and automatic counting points across the county. This network contains a mixture of on- and off-carriageway points in Oxford, the other major towns and in rural areas.

Experience has shown that while it is possible to increase cycling levels in particular corridors through specific improvements to facilities it is much more difficult to achieve network-wide increases which would show up in a more general measure - even when a widespread monitoring programme is used. Consequently it is proposed that a target of no change be set for this indicator.

The County Council will, though, continue to monitor that individual schemes have an effect on cycling levels along improved routes or corridors. Together with the general index this should give a more complete picture of cycling level changes in the county.

### Target 13: Mode Share of Journeys to School (LTP 4)

Oxfordshire County Council welcome the decision to re-think the methodology for LTP4 at this stage. There has been considerable confusion around this indicator, and conflicting requirements in terms of content and timing for surveys from the School Travel Action Plan Project Board. Organising a survey on the scale proposed under LTP4 would be a costly and time-consuming exercise for both schools and local authorities, and it is important that Councils have the time to plan the exercise properly and give schools reasonable notice of what for many will be a major undertaking.

The County Council was particularly concerned about the proposed sample size which in Oxfordshire would equate to around 50,000 pupils. Attempting to secure the sample as proposed will have a negative impact on the Council's efforts to engage and motivate schools in taking action on school journeys, whilst being unnecessarily costly.

Oxfordshire County Council is considering a target to **reduce car journeys to school by approximately 3%** by the end of the second LTP. To achieve this goal resources will need to be targeted where they are likely to yield the greatest changes in travel behaviour. Consequently, the Council has a strong interest in persuading schools to do more detailed surveys (albeit less frequently than that required by LTP4) which generate individualised data from pupils, and include their home location. The County Council has worked closely with *Young Transnet* over the years to achieve a survey template which will deliver this sort of data, but data from this source will not be valid for LTP4.

### Target 14: Bus Punctuality (LTP 5)

The guidance on monitoring states that this indicator should report the percentage of buses not running to (or close to) their schedule. However, in the County Council's view this is more a measure of how generous is the time allowance in the bus companies' schedules than it is a measure of how effective the highway authority is in ensuring free movement of buses. Bus operators are also reluctant to release this information because of fears of enforcement action.

The County Council's experience with the congestion pathfinder project suggests that a measure of the variability of journey times would be more appropriate.

The County Council would welcome the opportunity to discuss this with government before the completion of the final LTP.

## Target 15: Peak Hour Traffic Flows to Urban Centres (LTP 6)

### Baseline figure

2005	36400
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This figure refers to the annual average daily 12 hour flow on the average figure was the Oxford inner cordon. In the five years leading up to this the average was 36,200 vehicles per day.

Given that through traffic levels are low within the inner cordon the total level of traffic is likely to be proportional to the number of trips with origins and destinations within the cordon. If these remain relatively constant then the overall cordon flow would have no growth.

If any significant development does take place within the cordon, for instance related to Oxford's West End, then this will inevitably lead to increased pressure for movement within the cordon.

The County Council will be introducing camera enforcement of the entry restrictions into the town centre, subject to the powers being granted to use these, and measures in the city centre related to the action plan for the Air Quality Management Area. Both of these will act to reduce traffic crossing the central cordon, although the extent to which they will do this is not known.

A provisional target of **no growth** in traffic levels crossing the inner cordon to 2011 is therefore considered reasonable, although this will need to be confirmed when the details of the measures included in the action plan and other developments in the city centre have been confirmed.

## Target 16: Congestion (LTP 7)

Although Oxfordshire is not required to produce a target for congestion the County Council considered that, in view of the importance which this issue has been given during the preparation of this Plan, a measure should be developed for inclusion in the Plan.

Guidance already exists for those transport authorities governed by the mandatory indicator on congestion, principally focusing on network-wide congestion monitoring in larger urban areas. This approach is difficult to follow in shire counties as congestion is often confined to specific parts of the network. This means that in areas like Oxfordshire there is a need to develop additional advice on how best to monitor congestion to demonstrate clear progress towards LTP objectives and hence assist in decision-making.

For this reason Oxfordshire applied to take part in a Pathfinder project on monitoring congestion, in association with the Local Government Association. The project has involved a comprehensive review of current thinking and best practice and an examination of how suitable different measures would be in the shire county context, considering in particular:

- > How well the measures reflect national and local policy;
- > How well the measures show changes over time; and
- > How intuitive and relevant to scheme prioritisation the results are.

The study has recommended that a two level monitoring network should be adopted. Firstly, a base network would be defined using existing data from traffic monitoring points across the County. This information, along with data from consultation and studies, has already been used to help identify the worst problems in the County's prioritization framework.

Secondly, where specific problems are identified and measures are proposed to tackle this, more detailed monitoring will be carried out. This will include the use of journey time information (through Automatic Number Plate Recognition), including separate monitoring of bus reliability where they are affected. This data will be used to set targets and measure progress.

### Target 17: Air Quality (LTP 8)

Air Quality Management Areas (AQMAs) have been declared for the following areas:

- > Oxford: City Centre
- > Henley: Duke Street
- > Chipping Norton: Horsefair
- > Witney: Bridge Street

In each case the AQMA designation responds to the annual mean concentrations of nitrogen dioxide.

The County Council is working with the district councils responsible for monitoring air quality in Oxfordshire to develop a suitable methodology for establishing baselines and producing single mean pollutant concentration figures annually for each of the county's AQMAs. The main challenge for developing such a method is likely to be the identification of monitoring sites whose data can be combined to produce a single concentration figure that is representative of relevant exposure across the AQMA, and the Council is keen to work with other authorities, DfT and DEFRA to find ways of achieving this.

The measure will also need to take into account meteorological and emissions (traffic flow) data in interpreting annual changes.

In each of the AQMAs an action plan will be developed in co-operation with the relevant District Council. Target levels will be set based on the likely effect of the measures included in the action plans as estimated through detailed air quality modeling.