Northamptonshire County Council

2.5 SAFETY

Improving road safety came out as a top three priority in all seven districts during the County Council's annual opinion survey in early 2005 (Table 1.1 on page 14). It was deemed top priority in Corby and East Northamptonshire.

Between 1994 and 1998, an average of 773 people per year were killed or seriously injured on Northamptonshire roads. Of these, 104 were children aged 0-16.

Table 2.39 - KSI Casualties by Road User Type and Age, 1994-8 Average

		Road User	Types				
Age Group	Peds.	Pedal Cyclists	Motor Cyclists	Other Vehs	Total KSI Casualties	Pop'n (000s) 1998 est.	KSI Rate per 100,000
0-4	4	0	0	4	8	39.1	20
5-11	24	7	0	9	40	59.8	67
12-16	18	11	5	22	56	32.4	123
17-24	19	7	29	141	196	67.0	316
25-64	38	19	53	300	410	330.3	124
65+	20	3	2	38	63	87.4	72
Total	123	47	89	514	773	616	125
Total 0-16	46	18	5	35	104	140	74

The first LTP included three casualty reduction targets. By 2010, the aim was to achieve, compared with the baseline average for 1994-1998:

- A 40% reduction in the number of people killed or seriously injured (KSI) in road accidents;
- A 50% reduction in the number of children killed or seriously injured (Child KSI) in road accidents; and
- No increase in the number of slight casualties (despite an increase in traffic).

When these targets were adopted, a series of interim targets were set on a year-by-year basis. Each of the interim targets for 2004 has been achieved.

Table 2.40 - Comparison of Actual Performance Against Targets, 2004

Target	Actual 2004	Target 2004	Status
All KSI	498	619	ACHIEVED
Child KSI	60	78	ACHIEVED
Slight	2,275	2,316	ACHIEVED

By 2004, the overall KSI total had reduced by 36% as a result of the successful implementation of the county's Casualty Reduction Strategy, and the child KSI total by 42%. Slight casualties had fallen by 2%.



Table 2.41 - Comparison of Local and National Performance

Target	Northamptonshire performance to 2004	National performance to 2003
All KSI	-36%	-22%
Child KSI	-42%	-40%
Slight	-2%	-7%

Northamptonshire has out-performed the national achievement for KSI reductions, and currently ranks fourth of all English police force areas.

The A43 between Kettering and Corby has been classified by the European Road Assessment Programme (EuroRAP) as the most improved road in Britain, comparing fatal and serious accidents in 1997-99 with 2000-02.

However, nearly ten people per week are still suffering death or serious injury on the roads.

		Road User	Types				
Age Group	Peds.	Pedal Cyclists	Motor Cyclists	Other Vehs	Total KSI Casualties	Pop'n (000s) 1998 est.	KSI Rate per 100,000
0-4	6	0	0	2	8	38.7	21
5-11	7	0	0	6	13	59.7	22
12-16	11	5	11	12	39	42.1	93
17-24	13	5	28	84	130	57.9	225
25-64	25	13	48	181	267	341.9	78
65+	12	0	0	29	41	89.4	46
Total	74	23	87	314	498	629.7	79
Total 0-16	24	5	11	20	60	140.5	43

The success achieved in Northamptonshire to date has been a function of two key decisions. Firstly, to establish and operate through a highly committed Casualty Reduction Partnership, involving the police, Highways Agency, health authorities, Magistrates' Courts, Fire & Rescue Service and local councils as appropriate; and secondly by focusing all activity on KSI casualties rather than dispersing effort on all severities.

Casualties in Northamptonshire are dispersed throughout the network, rather than being concentrated at "black spots". In the period 2002-2004, only one classified junction had a KSI accident record worse than one per year, and none had a record worse than two per year.

As a result of this accident pattern, instead of concentrating on particular sites, the Casualty Reduction Partnership has adopted a route-based philosophy for accident investigation. It therefore categorises the entire road network by colour into Green, Amber or Red Routes. The "Red Routes" (with the worst records of KSI casualties) are identified for detailed investigation, and joint action to reduce casualties.

This route analysis shows that whilst Northamptonshire's overall accident problem is centred in built-up areas, the situation with regard to KSI accidents is the reverse. Most KSI accidents occur on roads with a speed limit of 50-mph or greater.



Table 2.43 – Accidents by Urban and Rural Areas

		All Accidents	5	KSI Accidents					
Year	Urban (20-40mph)		Rural (50-70mph)		Urban (20-40mph)		Rural (50-70mph)		
	No.	%	No.	%	No.	%	No.	%	
1994-8 Average	1,231	57	934	43	278	46	329	54	
2004	1088	55	887	45	186	44	238	56	

In the first LTP, the County Council identified a problem with the higher-than-expected proportion of accidents occurring on wet roads. Action was therefore taken to reduce the number of accidents occurring on wet road surfaces, primarily through a greatly enhanced maintenance programme. This has reduced the proportion of KSI accidents on wet roads.

Table 2.44 – Accidents by Road Surface

	Dry Road	5	Wet Road	s	Icy Roads		Other		Tatal KCI
Year	No. KSI	%	No. KSI	%	No. KSI	%	No. KSI	%	Total KSI Accidents
1994-8 Average	382	63	199	33	22	4	4	1	607
1999	282	67	127	30	10	2	5	1	424

2.5.1 Speeding

Problems with speeding traffic are a recurring complaint amongst communities across the county, with requests for camera enforcement received on a daily basis.

Prior to the period of the first LTP, Northamptonshire had no permanent anti-speeding cameras, but relied on the limited use of mobile enforcement. However, in April 2000, the County became a pilot area for the national trials of 'speeding fine hypothecation' and permanent cameras have gradually been installed at sites that comply with the DfT guidelines. As at 1st January 2006, there are now 40 Truvelo cameras and eight SPECS average speed enforcement systems in the county. Enforcement takes place regularly at these sites, as well as at 77 approved mobile enforcement sites, and from six Red Light Violation cameras at traffic lights.



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2.5.2 Child Casualties

The Council conducts yearly audits of child casualty statistics, and uses the results to direct its activities in terms of child road safety. KSI casualties are highest amongst Key Stage 3 and 4 (secondary school) pupils, and weighted heavily towards boys rather than girls (72% : 28%). Most casualties occur to pedestrians, but significant numbers of passengers and cyclists are also recorded.

Education, training and publicity programmes are devised and delivered in accordance with the results of the audits so as to have the greatest impact for the resources available.

2.5.3 Fear of Accidents

It is not just accidents themselves, but the fear of accidents which influences the way people travel. This is particularly the case for children who are often deterred, prevented or discouraged by their parents from cycling, walking or using public transport for fear of being involved in an accident or incident. This is a particular problem in respect of the journey to school.

Whilst casualty rates are higher for pedestrians and cyclists, and buses are the safest form of road transport, the casualty rates even for the most vulnerable modes are still high enough to make serious injury to any individual highly unlikely. The following figures are from the Parliamentary Advisory Committee on Transport Safety 1999:

Table 2.45 - Miles travelled per passenger KSI by Mode of Transport

Mode of Transport	Miles travelled per passenger KSI
Bus / Coach	38,812,500
Car	13,500,000
Pedestrian	855,372
Pedal Cyclist	701,695
Motor Cyclist	430,951

2.5.4 Personal Safety

It is believed that fear of accidents also contributes to fewer leisure and social trips made being both by children, and also by elderly people who may feel less able to cope with crossing roads.

Allied to risk of injury from accidents is the perceived risk of attack from persons unknown when making foot, cycle or public transport journeys, particularly at night. The threat is perceived as greatest by women, elderly people, ethnic minorities and parents of young people. In most areas, the perception is worse than the reality, often because of the high level of media portrayals, but it is their perception that governs people's choice of transport mode, not the actuality.

The perception of danger must, therefore, be addressed. The problem is heightened by the lack of social activity in some areas, again particularly at night as is often the case around bus stations and informal transport interchanges, including car parks.



2.5.5 Fear of Physical danger

Fear of being involved in a road accident can discourage people from making their journey by particular means. This is a particular deterrent to people cycling, and to a lesser extent walking. Fear of physical assault is also a major deterrent to people using some forms of transport, particularly at night or in quiet places. Pedestrians are the most obvious potential victims, but so are cyclists, public transport users and lone car drivers. Some people can even feel threatened in town centres in the middle of the day by 'gangs of youths' who they perceived as threatening even though they may have no ulterior motive.

The County Council and the seven Northamptonshire districts were leaders in developing Supplementary Planning Guidance for 'Planning Out Crime' which aims to improve safety and security through good design in street layouts, footpaths, cycle ways, parking areas and the provision of effective lighting. This guidance has been recognised as good practice and emulated by other local authorities.



2.5.6 Cyclists

Cyclists (and potential cyclists) are particularly mindful of the potential danger posed by the motor vehicles with which they mix. Available historic data on cycling in Northamptonshire's main towns shows that levels of cycling fell consistently between the mid 1970's and 1980's, but since then have remained around a low base.

The opinion of many current cyclists is that the roads should be engineered to make their journeys safer. There are conflicts between the needs of cyclists and measures which make the roads generally safer. For examples, right-turn lane refuges, put in to avoid collisions between motor vehicles, narrow the available carriageway and may cause problems if motorists try to overtake cyclists at these locations.

Although this may reflect the aspiration of experienced and confident cyclists, it is unlikely that such measures would encourage many people to take up cycling. Off-road cycle routes are the areas where they are most likely to feel safe. Their introduction to cycling is likely to be as a leisure pursuit, and if suitable facilities exist they may then be encouraged to make cycle trips for transport purposes.

2.5.7 Current and Emerging Problems in Road Safety

Lack of progress with fatalities

Whilst the number of KSI casualties has fallen by 36%, within that number fatalities have declined by only 4%. There is still an average of one fatality every week in the county. This raises the prospect that the KSI target could be met whilst at the same time fatalities had not declined. This would detract from the success of achieving the overall target.

Historically the number of fatalities has varied in a very volatile manner from year to year, and it remains the case that the difference in severity between serious and fatal casualties can often be a consequence of what happens after the accident, rather than of different types of accident.

The increase in fatal casualties during the lifetime of the strategy to date is a continuing cause for concern. Fatal casualties are always more emotional events than serious injuries, and our relative lack of progress in this area, whilst not untypical, is a disturbing fact.

Motor cyclists

Whilst overall KSI figures have declined almost across the board amongst specific user-groups, the figures for motor-cyclists have not followed the trend. By 2003, motor-cyclist KSI were 36% above the baseline.

Whilst the total has fallen back to the baseline level as a result of the interventions launched in 2004, this is still an area which presents particular problems to us, as well as to the country as a whole.

Deprivation

In 2003, the Council conducted an investigation of the link between casualties and deprivation, employing the Institute of Public Policy Research to reprise their national research in Northamptonshire. This investigation found that the link found between casualties and deprivation at national level held good at local level too.

As a result, the Council has re-directed its Safer Routes to School programme and various education initiatives to focus on deprived areas. We have also launched our Safer Roads for Corby initiative on the same basis.



Drink - drive accidents

Accidents involving drivers who either fail or refuse to provide a breath test are also maintained by the Partnership. The figures for 2004 showed a worrying rise on previous years' totals, and work has begun on drawing up operational plans to step up enforcement and education on this issue.



2.6 ENVIRONMENT

All transport systems have an impact on the environment: both in terms of the land they use and the vehicles that use them.

2.6.1 Air Quality

The results of the County Council's annual opinion survey in early 2005 (Table 1.1 on page 14) showed that although air quality did not rank as a top three priority, a total of 17% of people questioned expressed it to be in their top three.

Of all the environmental consequences of transport, that on air quality is widely regarded as the most serious due to its global impact and the difficulty/impossibility of rectifying any damage done.

Global climate change occurs naturally over time but people's impact on this process, through emissions of greenhouse gases including carbon dioxide (CO2) and methane (CH4), is now evident and causing more marked effects than would occur naturally. The 1990s were the warmest decade on record. Climate change has implications in terms of flood risk, biodiversity, fauna and flora, soils, cultural heritage and human health.

The Government is legally bound under the Kyoto Protocol (ratified in 2002) to cut greenhouse gas emissions to 12.5% below 1990 levels between 2008 and 2012. The Government, however, has already set the UK a tougher target of a 20% cut by 2010.

The current Air Quality Objectives are set out in the Air Quality Regulations (England) (Wales) 2000 and in the Air Quality (England) (Wales) (Amendment) Regulations 2002 which are made under the Environment Act 1995. The objectives currently included in the regulations for the purposes of Local Air Quality Management are given in the table below.

Pollutant	Air Quality	Date to be achieved by	
	Concentration	Measured as	
Benzene:			
All authorities	16.25 mg/m3	Running annual mean	31.12.2003
Authorities in England and Wales only	5.00 mg/m3	Annual mean	31.12.2010
1,3-butadiene:	2.25 mg/m3	Running annual mean	31.12.2003
Carbon monoxide:			
Authorities in England, Wales and Northern Ireland only	10.0 mg/m3	Maximum daily running 8 hour mean	31.12.2003
Lead:	0.5 mg/m3 0.25 mg/m3	Annual mean Annual mean	31.12.2004 31.12.2008
Nitrogen dioxide:	200 mg/m3 not to be exceeded more than 18 times a year	1 hour mean	31.12.2005
	40 mg/m3	annual mean	31.12.2005
Particulates (PM10) (gravimetric):	50 mg/m3 not to be exceeded more than 35 times a year	24 hour mean	31.12.2004
	40 mg/m3	annual mean	31.12.2004
Sulphur dioxide:	350 mg/m3 not to be exceeded more than 24 times a year	1 hour mean	31.12.2004
	125 mg/m3 not to be exceeded more than 3 times a year	24 hour mean	31.12.2004
	266 mg/m3 not to be exceeded more than 35 times a year	15 minute mean	31.12.2005

Table 2.46 - Air Quality Objective by Pollutant

Northamptonshire County Council

All district and borough councils are required under Section 88(2) of Part IV of the Environment Act 1995 (Local Air Quality Management) to review air quality in their area and to assess present and likely future air quality against set objectives. Where a local authority anticipates that an objective defined in regulations is expected to be breached, they must designate an Air Quality Management Area and develop an action plan to improve pollution levels.

A large quantity of Air Quality Management Areas are traffic related and have an impact on our shared priorities of road safety, congestion, air quality and accessibility. Road transport is a major source of local air pollution, particularly in urban areas. Poor air quality can have an impact on health for humans and animals, the environment, materials and structures.



Air pollution can have both short and long-term effects on health. This effect will vary depending, amongst other things, on the concentration of the pollutant(s) and the period of exposure.

There is evidence to show that some people with lung diseases or heart conditions are at greater risk (especially if they are elderly) from day-to-day changes in the levels of air pollution. This is not surprising since people with asthma are especially sensitive to a range of irritant substances. Air pollution should be regarded as one of a number of factors that may affect people with breathing disorders.

Daily changes in air pollution trigger increased admissions to hospital and contribute to the premature death of those who are seriously ill. It is not possible, at the moment, to say by how much the deaths of those affected are advanced but most people studying this field believe that in general it may be a matter of weeks or months rather than years. These deaths do not occur "out of the blue": they seem to affect people who already have a serious pre-existing condition which has made them extremely susceptible to a variety of external factors of which high levels of air pollution may be one amongst many. Scientific evidence suggests that exposure to air pollution has a long-term effect on health, though the effects will vary depending where you live (urban or rural) and the type of pollutant to which you are predominantly exposed. The full extent of this is hard to quantify, but, if life-long exposure to fine particles was cut by half, life expectancy from birth could be increased, on average, by between 1 and 11 months. Other lifestyle factors such as diet can also make a large contribution. The mechanism for this effect of long term exposure to particles is not understood. It appears to mainly affect deaths from heart disease.

COMEAP advice: The effects of Air Pollutants July 2000

The seven Borough and District councils that cover Northamptonshire all continuously monitor Air Quality within their area. They monitor for all of the Pollutants that are relevant for the environment which they serve. Throughout Northamptonshire there are over 170 nitrogen dioxide diffusion tube sites used to monitor NO2.

An Air Quality Management Area was designated in the area of Northampton Borough adjacent to the M1 in January 2003. Northampton Borough Council and Northamptonshire County Council will continue to work with the Highways Agency to determine the best course of action for this area.

Two additional Air Quality Management Areas were designated by Northampton Borough Council in April 2005 - one in St James and the other on Victoria Promenade. In both Air Quality Management Areas the problems are mainly transport-related. Real Time Analysers have now been installed in both of these areas in order to accurately monitor NOx levels. The data from this equipment is downloaded every two days in order to provide a clearer picture of the air quality situation.

St James Road / Harlestone Road Air Quality Management Area (Zone 2)

The area defined is based upon the results from nitrogen dioxide monitoring since 2002 using diffusion tubes. The initial measurement sites in the area are one on St James Road, and the other in Harlestone Road.

Table 2.47 - Monitoring Results

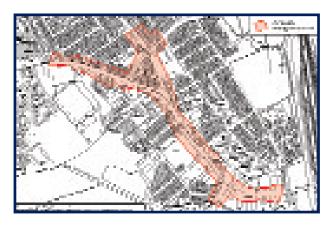
St James Road			St James Road				
Annual Mean			Annual Mear				
2002	2003	2004	2005	2002	2003	2004	2005
24.6	28.9	33.8	??	22.5	26.11	25.6	??
ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb

2005 figures have not been ratified at this time



The number of monitoring sites in this area has now been increased from two to nine.

Figure 2.48 – St James Road / Harlestone Road Air Quality Management Area



Victoria Promenade Air Quality Management Area (zone 3)

The area as defined is based upon results from nitrogen dioxide monitoring since 2002.

There was initially one measuring site since this is a relatively small area.

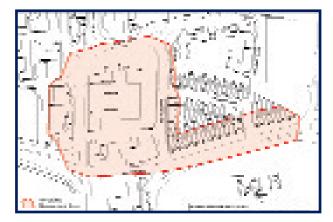
Table 2.49 – Monitoring Results

Victoria Promenade Annual Mean						
2002	2003	2004	2005			
22.1ppb	30.2ppb	31.0ppb	?????			

2005 figures have yet to be ratified.

The number of monitoring sites in the area has now been increased from one to four.

Figure 2.50 - Victoria Promenade Air Quality Management Area



Measurements indicate that a number of other areas have pollutant levels approaching the limit of what is acceptable including further areas of Northampton.

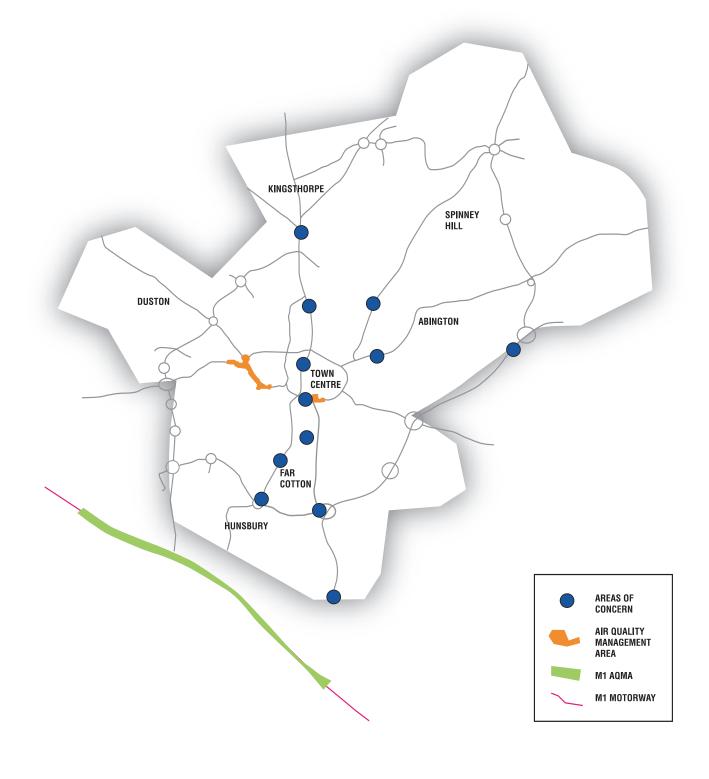
The plan below identifies a further 12 monitoring sites in Northampton where air quality levels are approaching the acceptable limit.

Next Page - Figure 2.51 - Monitoring Sites Close to Acceptable Limit

Air Quality monitoring results in Towcester, South Northamptonshire, show that the air quality objective would not be achieved by the end of 2005 on a section of the A5 running through the town. In March 2004, a chemiluminescent real time analyser was installed in Towcester Town Hall to monitor NOx. From the diffusion tube monitoring undertaken since 1997, this particular stretch of road is considered to be a hot spot due to frequent congestion and poor dispersal caused by the high buildings and narrow street. When comparing data of the collocated diffusion tubes with the chemiluminescent monitor, it would appear that the diffusion tubes are presently over reading and therefore results need bias adjusting. After correction, it can be seen that the hot spot is at 78 Watling Street, Towcester. South Northamptonshire Council declared an Air Quality Management Area for a stretch of the A5 in Towcester in September 2005.



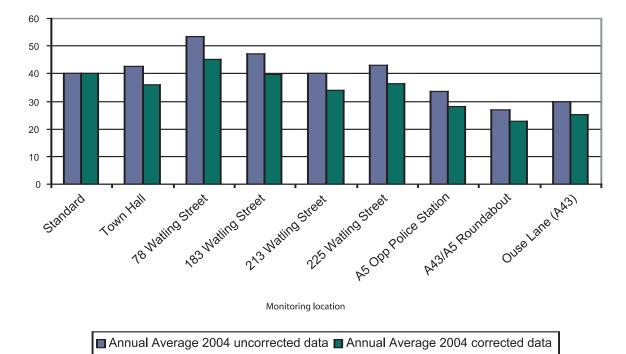
Figure 2.51 – Monitoring Sites Close to Acceptable Limit



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Figure 2.52 - Towcester Air Quality Results



It is considered that an air quality strategy for South Northamptonshire should be formalised, to ensure policies of transport, planning and land use take into account air quality at a local level. South Northamptonshire Council is committed to working closely with the Highways Agency and have already commented on the Route Management Strategies regarding works being proposed on the A43, A5 and the M1. It is important that the Highways Agency is consulted on this strategy, as air quality issues within the district stem from transport using trunk roads and motorways rather than local traffic.

Northamptonshire County Council is working closely with Northampton Borough Council and South Northamptonshire Council to develop Air Quality Action Plans for the designated Air Quality Management Areas in order to monitor and reduce the levels of NO2 in line with Government targets.

Although there are no other Air Quality Management Areas currently declared within the county, there are areas which are causing concern. Levels of NO2 and particulates in Rushden are elevated and a detailed review and assessment is being carried out on behalf of East Northamptonshire Council in order to determine the current situation. We will continue to liaise with East Northamptonshire Council on this matter and work with them as necessary once the review is completed.

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2.6.2 Noise

Noise affects people's health and well being, in particular schools, hospitals, retirement and nursing homes are sensitive land uses in terms of noise disturbance. Noise can also impact upon biodiversity and fauna as it can, for example, disrupt breeding birds. Road traffic noise is caused by the combination of rolling noise (arising from tyre-road interaction) and propulsion noise (comprising engine noise, exhaust systems and transmission intake). Generally the situation is getting worse as a result of the ever increasing traffic volume on the roads.

There are no specific limits on noise from roads, but noise levels may be taken into account when planning to build houses or offices near to roads. Noise barriers or noise insulation (e.g. acoustic double glazing, alternative means of ventilation) may be used to reduce the impact. If noise from new roads exceeds certain limits at existing houses the householders may be eligible for noise insulation grants through the local highway authority.

A noise map is a study which shows, usually graphically, the expected noise levels in an area from particular sources, such as roads, railways, aircraft and large industrial units. The map is usually produced by a combination of direct measurements and computer modelling. The computer uses the measurements along with data concerning various aspects, such as traffic levels, building locations and heights, aircraft movements, etc. to produce the map.

The Highways Agency has a target to install quieter road surfaces over 60% of the trunk road network by 31 March 2011. The Government announced in April 2003 the timetable for resurfacing all stretches of concrete roads, and that within the next four years the 26 stretches affecting the largest number of people would be resurfaced, with the remaining stretches resurfaced between 2007 and 2011. The early work would benefit some 11,500 properties and cost in the order of £77 million.

2.6.3 Landscape

Although there are no national statutory designated landscape sites in Northamptonshire, such as National Parks or Areas of Outstanding Natural Beauty, the County Council has set up the Northamptonshire Character Partnership which has undertaken an Environmental Character Assessment (ECA). The process involves a detailed assessment of the current and historic landscape and biodiversity, combined to create a composite environmental character map of the county. These assessments provide a solid foundation for making informed judgements and decisions regarding environmental guidance and planning policy. The Countryside Agency has divided the country up into distinctive landscape areas known as Countryside Character Areas. These are defined by systematic descriptions of the features and characteristics that make up the landscape. Northamptonshire includes seven of these Countryside Character Areas each with their own defining characteristics.

Northamptonshire County Council aims to better develop and maintain the built, natural and public environment whilst balancing this with the needs of the county. With the growth expected within the county we need to enhance its economic vitality and provide the necessary infrastructure for our current and future residents and visitors.

2.6.4 Townscape

Townscape includes the physical and social characteristics of the built and un-built urban environment and the way these are perceived by people. There are strong links between townscape, landscape and heritage. The road network and traffic within urban areas form an integral part of the townscape. Inappropriate highways signing, road markings, coloured surfaces and street furniture along with increased traffic levels in urban areas can all contribute to the degradation of the townscape. This can be particularly significant in historic centres. The use of pedestrian zones and appropriate traffic management, for example by reducing traffic on roads which run alongside parks and gardens, can help to reduce these impacts. Appropriate lighting is also important as over-lighting can reduce the ability of people living in urban areas to enjoy the night sky. Lighting that does not allow light to spill upwards reduces this effect

As part of the Growth Area Funding, Northamptonshire County Council has put forward a bid for a project entitled Cultural Mile - Concept to Reality. This project aims to assist in the regeneration of Northampton town centre utilizing the already established Cultural Mile concept and taking the first steps towards full implementation. The project will improve the public realm and streetscene through high quality urban design and setting a new standard for best practice within the public realm. Opportunities for public art will also be key to the project. The project will focus on encouraging sustainable movements through and to the town centre and improving accessibility for the disabled. The decision for the allocation of funding will be made by West Northamptonshire Development Corporation in spring 2006. The new standard for best practice within the public realm will be used as a blueprint for other urban areas in the county.