Chapter 7 Evaluation of the draft Derbyshire LTP3 Preferred Strategy 2011-2026

7.1 Introduction

7.1.1   The appraisal of the options has confirmed the realism of the alternatives, in that each would on their own, offer an acceptable strategy for the improvement of transport in Derbyshire, whilst offering environmental benefits. Through the appraisals, Option 1 performs best overall; this was also selected as the most popular option for Derbyshire during the Local Transport Futures: Challenges and Option consultation carried out in early summer 2010. We have therefore selected this option as the basis for our Derbyshire LTP3 preferred strategy giving emphasis to supporting a resilient local economy, better safety, security and health, and improving quality of life and promoting a healthy natural environment. However, appraisal of the other two options highlighted other elements that perform better than option 1 longer term – option 2 offers better long term outcomes for carbon emissions reduction and climate change and option 3 performs well against the social objectives. The preferred LTP3 strategy is therefore based upon option 1 together with the climate change measures and social measures brought in from options 2 and 3.

7.1.2   This chapter evaluates the likely impact of the preferred Derbyshire LTP3 strategy. This evaluation, as before, is made against the scenario that would potentially occur where we did not have a plan. Chapter 6 and Annex 2 provide more details about the 'without the plan' scenario.

7.1.3   The preferred long term Derbyshire LTP3 strategy identifies, for each transport role, the priorities for investment for the next fifteen year period, and the measures which can be used to achieve these priorities in order to achieve the transport goals.

7.1.3   Because the identified measures are a mixture of routine work that is happening now, temporary projects, and new ideas, the measures have been grouped into three categories in Table 7.1 below:
- Core business – work that is happening now on a routine basis
- Opportunities – new ideas, including special or temporary projects
- Long term projects – significant projects which should be explored in order for us to achieve some of our longer term priorities.

7.1.4   The nature of the LTP strategy, in being a strategic and long term plan, means it is difficult at the plan development stage to set out exactly what, how much and to how the delivery measures will be undertaken. Most of our judgements are therefore based upon professional experience and assumptions to how they are delivered with reference to the baseline evidence assessment as given in the SEA Scoping Report. The evaluation of the impact of the preferred LTP3 strategy therefore builds upon the appraisals undertaken in Chapter 6 and examines in more detail the issues that need to be considered through Plan development.

7.1.5   We recognise that this methodology brings a degree of uncertainty about the outcomes of the Plan. Therefore following this evaluation, we consider in Chapter 8 mitigation measures to ensure that the delivery of the Plan follows the predicted outcomes. In essence Chapter 8 becomes a risk management framework to ensure that any potential negative environmental impacts are avoided or minimised and that the Plan takes the opportunities available to it for environmental enhancement – bringing together the assessment undertaken in the Scoping Report with the evaluation of the Derbyshire LTP3 strategy. Chapter 9 then considers how we measure our success in achieving the predicted positive benefits and risk management.

7.2 The Preferred Strategy 2011-2026 – priorities and measures to achieve them

7.2.1   The following tables are reproduced from the draft Derbyshire LTP3 longer term strategy. They set out the context for the following evaluation.

Preferred strategy 2011-2026 – priorities and measures to achieve them

Transport role: Well maintained roads and rights of way

The main things we have to do:
Highway maintenance, winter maintenance, rights of way maintenance, flood management
Common to all: disability discrimination, climate change, air quality, regard for the Peak District National Park, biodiversity, noise management, duty to involve, equalities and socio-economic disadvantage.

Our transport goals				
Local economy	Climate change	Safety, security, health	Equality	Quality of life and healthy natural environment
✓	✓	✓	✓	✓

Our priorities 2011-2026

Targeting maintenance improvements (technical and social) to make efficient use of resources

Improving public satisfaction

Improving understanding of levels of service which can be expected

Environmental improvements e.g. biodiversity

Reducing disruption caused by climate change

Carbon reduction

Our partners
e.g. Highways Agency
Midlands Highways Alliance
Statutory Undertakers
District/Borough Councils
Peak District National Park Authority
Town and Parish Councils
Landowners
User groups/volunteers

Measures to achieve priorities

Value for money

Core business
Routine maintenance of roads, routine maintenance of pavements, routine maintenance of bridges and structures, cycleway and Rights of Way maintenance, reducing light pollution, reducing street lighting carbon emissions, minimising damage to the environment, asset management, improving public satisfaction with maintenance, flooding management

Exploring opportunities
Better management and definition of Levels of Service for transport assets including roads, pavements, street lights, gullies and signs to support local journeys, removing unnecessary infrastructure, for example road signs, routine maintenance and management of rights of way and greenways, managing special road verges to preserve biodiversity, habitat protection for plants and wildlife, maintenance of vegetation, improving the local streetscape through high quality design, the use of local materials and taking a multi-disciplinary approach (to improvement)

Long term projects
Strategic, holistic review of carriageway, footway, signage, Heavy Goods Vehicle movements, weight limits, lining, signals, gullies and drainage
Prioritised list of public rights of way in most need of surface improvements or which benefit the most users

Preferred strategy 2011-2026 – priorities and measures to achieve them

Transport role: Efficient transport network management

The main things we have to do:
Network Management Duty, co-ordination of streetworks, flood management
Common to all: disability discrimination, climate change, air quality, regard for the Peak District National Park, biodiversity, noise management, duty to involve, equalities and socio-economic disadvantage.

Our transport goals

Local economy	Climate change	Safety, security, health	Equality	Quality of life and healthy natural environment
✓	✓	✓	✓	✓

Our partners
e.g. Highways Agency
Midlands Service Improvement Group
Statutory Undertakers
District/Borough Councils
Peak District National Park Authority
East Midlands Traffic Managers Forum
Landowners
Vehicle and Operator Services Agency

Our priorities 2011-2026

Co-ordination of street works

Reducing congestion and delays for all road users

Incident management and emergency responses

Efficient winter service

Management of planned events

On street parking, loading and waiting control

Direction and tourist signing

Environmental improvements

Travel information

Freight management

Measures to achieve priorities

Value for money

Core business
Junction improvements, delivery of Permits scheme, dealing with disruption on the roads, co-ordination of street works, parking controls, keeping roads clear in bad weather, keeping pavements clear in bad weather, keeping lorries out of villages, tackling bad parking in rural areas, better direction and tourist signing, providing travel information

Exploring opportunities
Expansion of Control Centre, expansion of Civil Parking Enforcement to include 'moving traffic offences,' review need and cost benefit for Intelligent Transport Systems, managing events to reduce car use, improved social contact in neighbourhoods, for example, through reduced traffic levels and slower speeds, develop a better understanding of key routes at strategic and local levels

Long term projects
Support opportunities to move freight on to rail

Preferred strategy 2011-2026 – priorities and measures to achieve them

Transport role: Improving local accessibility, achieving healthier travel habits

The main things we have to do:
Rights of way improvement, bus information, bus powers and passenger transport, travel to school, school transport services, disability discrimination, air quality, planning policy guidance and statements, equality impact assessments, *Common to all: climate change, regard for the Peak District National Park, biodiversity, noise management, duty to involve, equalities and socio-economic disadvantage.* ▼

Our transport goals

Local economy	Climate change	Safety, security, health	Equality	Quality of life and healthy natural environment
✓	✓	✓	✓	✓

Our partners
e.g. Bus and train operators
Derbyshire Partnership Forum
Councils for Voluntary Service
Community Rail Partnerships
Community Transport
Districts/Borough Councils
Peak District National Park Authority
Town and Parish Councils
Derbyshire Rural Community Council
Health sector partners
Local Access Forums
Groundwork Trusts

Our priorities 2011-2026
Public transport information

Community transport services

Community rail services

Personalised travel advice for disadvantaged people

Minimising disruption from public transport service cuts

Access to jobs and training

Home to school transport and Special Needs Transport

Rural accessibility

Travel planning and monitoring (business, schools and new developments)

Personalised travel marketing

Travel awareness initiatives

School Crossing Patrol Service

Sustainable tourism and leisure activity

Independent travel training

Rights of Way improvements

Measures to achieve priorities

Value for money

Core business
Supported bus services, Home to School Transport, Special Needs Transport Service, public transport information, concessionary fares, School and Business Travel Plans, Travel Plans for new developments, cycling facilities and networks, walking facilities and networks, support Community Transport Services, School Crossing Patrol Service, physically accessible public transport, improve access to public/green space, Equality Impact Assessments

Exploring opportunities
Reduce DCC commuting mileage, personalised travel planning project, better promotion of existing opportunities (cycling, walking), event management to reduce car use, joined up public transport information and branding, Quality bus corridors, support Wheels to Work, support more demand-responsive transport services e.g. dial-a-ride, target access to jobs and training, support tourism growth, Community Rail, Independent travel training, car clubs, vehicle technology e.g. plug in points for electric vehicles

Long term projects
Multi-operator ticketing scheme, real time information at bus stops, bike buses, electric vehicle charging infrastructure provision, 'smart' ticketing improved technology for paying on public transport

Preferred strategy 2011-2026 – priorities and measures to achieve them

Transport role: Better safety and security

The main things we have to do:
Measures to promote road safety (information, advice, training, highway schemes), Community Safety
Common to all: disability discrimination, climate change, air quality, regard for the Peak District National Park, biodiversity, noise management, duty to involve, equalities and socio-economic disadvantage.

Our transport goals

Local economy	Climate change	Safety, security, health	Equality	Quality of life and healthy natural environment
✓	✓	✓	✓	✓

Our priorities 2011-2026

Reducing vulnerable road user casualties (children, pedestrians, pedal cyclists)

Reducing motorcyclist casualties

Managing occupational road risk

Tackling problem routes

Young drivers' road safety awareness

Improving public transport waiting areas

Street lighting improvements

Our partners
e.g. Derby and Derbyshire Road Safety Partnership
Crime and Disorder Partnerships
Derbyshire Probation Trust

Measures to achieve priorities

Value for money

Core business
Road safety education, road safety training, for example cycling and walking,
road safety publicity, road safety engineering to reduce danger on the roads, road surfaces that help
reduce skidding, road safety enforcement, speed reduction schemes, improved street lighting, for
example, in waiting areas and at crossings

Exploring opportunities
The monitoring and evaluation of road safety measures, so they can be effectively targeted,
cross-boundary/partnership working, investigation of a safety/environmental education initiative,
contribution to the road safety knowledge centre

Long term projects
Preparation for future challenges e.g. older people, walking/cycling safety, vegetation growth.

Preferred strategy 2011-2026 – priorities and measures to achieve them

Transport role: A considered approach to new infrastructure

The main things we have to do:
Integrated spatial/transport planning, Planning Policy and Guidance Statements, Environmental Impact
Common to all: disability discrimination, climate change, air quality, regard for the Peak District National Park, biodiversity, noise management, duty to involve, equalities and socio-economic disadvantage.

Our transport goals

Local economy	Climate change	Safety, security, health	Equality	Quality of life and healthy natural environment
✓	✓	✓	✓	✓

Our partners
e.g.
Local Economic Partnerships
District/Borough Councils
Peak District National Park Authority
National Forest
Developers (private)

Our priorities 2011-2026
Infrastructure and services linked with new housing developments

Walking and cycling provision

Public transport provision

Environmental mitigation measures

Contribution to a strategic network of high quality green spaces – green infrastructure

Packages for improvement where there are air quality issues due to local traffic

Liaison between spatial and transport planning on an ongoing basis

Value for money

Measures to achieve priorities

Core business
Strategic and local cycle networks, walking networks, infrastructure linked with new housing provision/development, environmental assessment and mitigation

Exploring opportunities
Major schemes – congestion and/or safety
Major schemes – environmental
Contribution to a strategic network of high quality green spaces – green infrastructure

Long term projects

Possible major schemes identified (in alphabetical order): A515 Ashbourne Bypass, A61-A617 'Avenue' link road, A61 Chesterfield Inner Relief Road Junctions, Gamesley Rail Station, A617 Glapwell Bypass, Ilkeston Rail Station, A610 Ripley-Codnor-Woodlinkin Improvements, A619 Staveley-Brimington Bypass, A514 Swarkestone Bypass, A511-A514 Woodville-Swadlincote Regeneration Route).

County wide network of Greenways.

7.3 Evaluation of the Derbyshire LTP3 preferred strategy

7.3.1   This section evaluates the preferred strategy against each of the SEA objectives. We have not undertaken a further assessment using the New Approach to Appraisal because the key issues have already been examined under NATA for the three options. Like the appraisal of the different options the compatibility of the preferred strategy is given a score according to the criteria set out within table 7.1 below.

Table 7.1 Evaluation Scoring Criteria

Key	Meaning
++	Significant positive benefit
+	Minor positive benefit
0	Neutral or no effect
-	Minor negative impact
- -	Significant negative impact
?	Uncertainty in impact or no information on which to determine

7.3.2   In determining significance, we have considered the following criteria:-
- Probability, duration, frequency and reversibility of the effects
- Cumulative nature of the effects
- The cross-boundary nature of the effects
- The risks to human health or the environment
- The magnitude and spatial extent of the effects (geographical and population)
- Value and vulnerability of the area affected (special natural or cultural heritage characteristics/ exceeded environmental quality standards or limit values/ intensive land use
- Effect on areas or landscapes which have a recognised national, community or international protection status

7.3.3   Table 7.2 below shows a summary of the evaluation of the preferred LTP3 strategy against each of the objectives.

Table 7.2 Summary of evaluation of Derbyshire LTP3 preferred option

	Timescale of impact		
	Short	Medium	Long
SEA 1 Protect and enhance the landscape character (landscapes, townscapes and the historic and natural environment) including the setting of heritage assets, of the whole plan area, with due regard to areas of multiple environmental sensitivity	–	0	+
SEA 2 Protect and enhance nature (biodiversity, geodiversity, wildlife flora and fauna) and take measures to reduce habitat fragmentation and enhance connectivity.	0/+	+	+
SEA 3 Support a resilient economy.	0	+	+
SEA 4 To reduce motorised traffic growth through a combination of demand management measures, land use planning and encouragement of the use of more sustainable transport modes (also climatic).	+	+	+
SEA 5 Minimise noise and vibration impacts.	?	+	+
SEA 6 Ensure the provision of transport and services considers the needs of elderly people, particularly in rural areas.	+	+	++
SEA 7 Improve road safety through targeted interventions, and make travel feel safer particularly by non car modes.	+	+	+
SEA 8 Improve community safety, reduce crime and the fear of crime.	+	+	+
SEA 9 Enhance well-being and sense of community by reducing traffic impacts, creating more opportunities for social contact and better access to leisure activities and the natural environment.	+	+	++
SEA 10 Reduce transport's emissions of carbon dioxide and other greenhouse gases, with the desired outcome of tackling climate change.	0	+	++
SEA 11 Reduce the emission of air pollutants from transport in declared Air Quality Management Areas which relate to local traffic.	0	0	+
SEA 12 Enhance the network's resilience to climate change e.g. reduce the risk of flooding.	0	0	+
SEA 13 Minimise the use of environmental resources.	+	+	++

Natural and Cultural Landscapes

SEA Objective

7.3.4   This section of the environmental report relates to the performance of the draft LTP3 strategy against:-
SEA Objective 1 : Protect and enhance the landscape character (landscapes, townscapes and the historic and natural environment) including the setting of heritage assets, of the whole plan area with due regard to areas of multiple environmental sensitivity

7.3.5   To achieve this objective LTP3 should maintain the transport asset for local travel, to protect landscape character, sense of place and the natural and historic environment. Light pollution should be reduced to help preserve dark sky areas. Damage to the World Heritage Sites and all heritage assets should be avoided, including their setting. Remoteness and tranquillity should be preserved within the Peak District National Park and other areas of tranquil countryside. Damage to the landscape should be prevented where recreational walking, cycling and other transport modes are encouraged. The visual impact of transport infrastructure should be reduced.

7.3.6   The draft LTP3 strategy includes a measure to minimise damage to the environment as a whole as core business and to explore opportunities to remove unnecessary infrastructure, such as road signs. There are also many measures targeting a move to more sustainable travel, including walking networks, cycle routes and public transport improvements.

7.3.7   There are however threats to landscapes from other measures contained within the draft strategy, particularly road safety engineering measures, infrastructure linked with new housing provision, potential major schemes, measures to control parking and tourist and direction signing.

Key messages of policy context

7.3.8   The Scoping Stage identified the key messages of policy context for landscape and townscape, some of these are listed below, for more details please see Annex 1 of the SEA Scoping Report:-

European Landscape Convention
7.3.9.   Recognise the value of all landscapes (an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors) and the need to protect, manage and plan in relation to landscapes i.e. the European Landscape Convention.

Derwent Valley World Heritage Site
7.3.10   LTP policies and programmes needs to ensure that the Derwent Valley Mills World Heritage Site is protected.

PPS5: Planning for the Historic Environment 2010
7.3.11   The historic environment and its heritage assets should be conserved and enjoyed for the quality of life they bring to this and future generations. Places more emphasis on the importance of locally important heritage assets as well as designated assets.

PPS7: Sustainable development in rural areas 2004
7.3.12   Sets out the principle for use of landscape characterisation for planning. Includes rural areas, country towns and villages and the wider, largely undeveloped countryside up to the fringes of larger urban areas.

Peak District National Park
7.3.12   Commitment to work with PDNPA to develop action plans by 2014, identify appropriate design standards for PDNP, and continue with the road verge reserve project. The Peak District National Park Landscape Character Assessment should be used as a key tool.

National Forest
7.3.13   Integration of public transport with tourism and recreation facilities in the National Forest.

Derbyshire/ Peak District National Park Landscape Character Assessment
7.3.14   The Landscape Character Assessment should be used as a key tool in this process.

Evaluation of impact of LTP3 Strategy

Cultural Landscapes

7.3.15 Within the Scoping Report we analysed the wealth of cultural landscapes within the County. This identified that the key threats to the cultural landscapes in Derbyshire was due to visual intrusion from traffic and transport infrastructure.

7.3.16 The preferred LTP3 strategy contains a measure to remove unnecessary infrastructure and many measures to reduce the growth in motorised traffic and to promote more sustainable travel. This will therefore have a positive effect. However, there are conflicts with measures to improve road safety and to encourage a growth in the economy. Therefore, new infrastructure will be implemented and traffic is still likely to grow above baseline conditions. However, should the implementation of the Plan be managed carefully it is likely overall that the preferred strategy will reduce infrastructure and restrict traffic growth to a lower level than the without a plan scenario.

Figure 7.1 Areas of Cultural Sensitivity

7.3.17 We have considered methods to predict areas currently under most impact. This is difficult because it is not just the number of signs etc that can lead to an impact on cultural landscapes. Other impacts can be the location, scale of a sign or the materials used. Other impacts can relate to condition of surfacing and use of locally distinctive materials. Therefore a simple desktop survey is not sufficient. Looking at the sensitivity of our landscapes to the implementation of the Plan can help us to identify appropriate interventions on a spatial basis. At a strategic scale we can highlight the cultural landscapes that are most sensitive, whilst recognising that all heritage assets should be considered when implementing the strategy. Figure 7.1 shows the assessment of cultural sensitivity outside of the Peak District National Park. At this stage we have not undertaken this assessment for the Peak District National Park, but if we consider that the National Park and that the Derwent Valley World Heritage Site should be protected in any case; the areas shaded blue are the remaining most culturally sensitive areas.

7.3.18 Because of the potential conflict contained within the strategy we should seek to minimise the risk of any negative environmental effects. Since visual intrusion from traffic and from infrastructure is considered a key risk of the implementation of the plan and that this should be monitored, see Chapters 8 and 9.
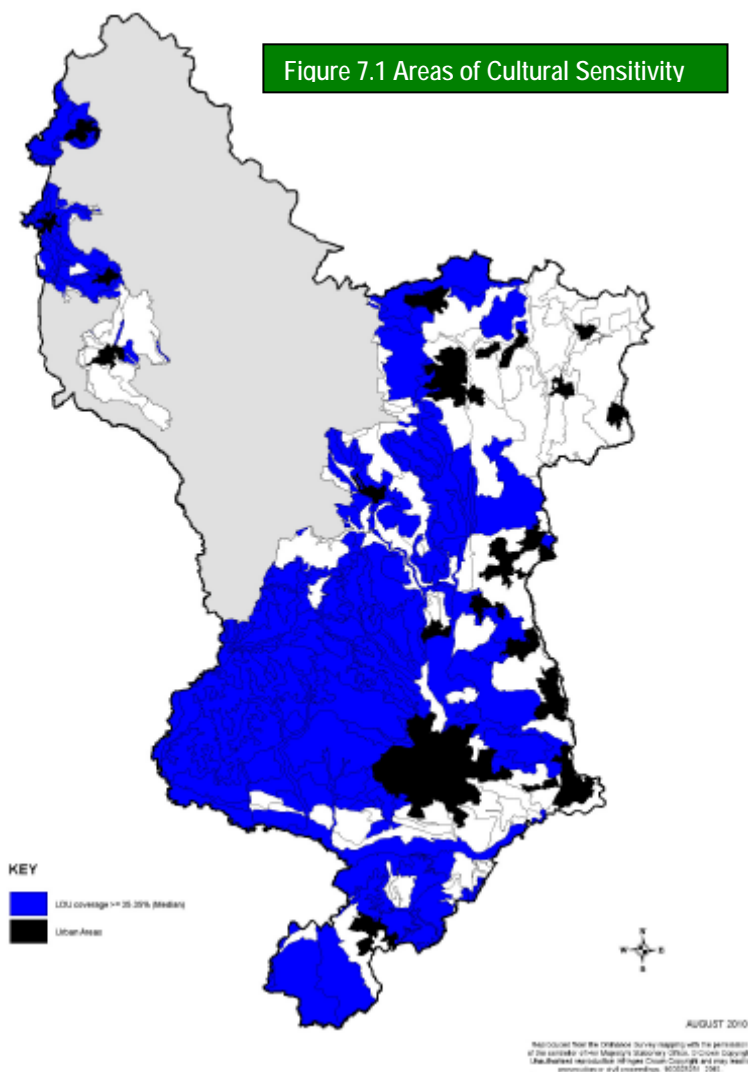
Landscape and Townscape Character

7.3.19 Within the Scoping Report we examined the Landscape Character of Derbyshire and the Peak District Landscape Character, which highlighted diverse landscapes across the County. In line with the European Landscape Convention we recognised that all landscapes matter. Again, the key threats to the landscape identified within the Scoping Report was visual intrusion from traffic and transport infrastructure and light pollution was reinstated as an issue following consultation on the Scoping Report.

7.3.20 The issues relating to the impact of the LTP3 strategy on traffic and transport infrastructure is the same as that already discussed for cultural landscapes i.e. that there should be an overall positive effect on landscapes should the implementation of the Plan be managed to ensure that this happens. As with cultural landscapes, different landscape characters are more sensitive than others from visual intrusion. The visual unity of Land Description Units has been analysed to produce Figure 7.2 to highlight the landscapes that are most sensitive.

7.3.21 Again this mapping does not include the Peak District National Park, and for these purposes we are considering the National Park as a sensitive landscape as a whole.

7.3.22 Unfortunately the mapping does not consider urban areas and therefore sensitivity of townscapes is not considered. Examination during the Scoping Stage identified four conservation areas at risk where transport infrastructure was a contributory factor. Since these designations in 2009, three have since been declared no longer at risk, mainly due to change in assessment methodology. However, discussions with the relevant local planning authorities highlighted that although transport related issues existed at within these areas they did not consider them as significant issues. However, in taking the European Landscape Convention and PPS forward in the implementation of the Plan, it will be important to consider how interventions impact upon all streetscapes and all heritage assets. The LTP3 strategy includes opportunities to explore improvements to streetscapes, through high quality design, use of local materials and taking a multi-disciplinary approach to improvement. Overall therefore we will expect a positive effect on townscapes through the Plan.

Figure 7.2 Areas of Landscape Sensitivity based on visual unity
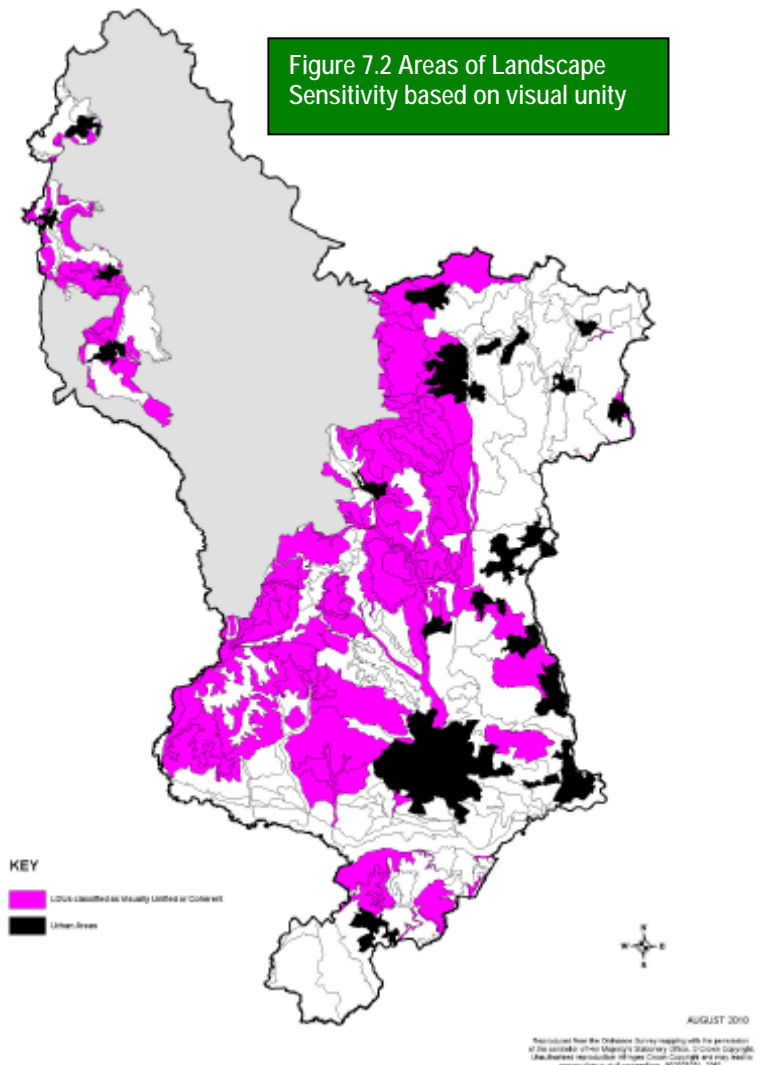
Light Pollution

7.3.23 The draft LTP3 strategy contains measures to reduce light pollution and to reduce street lighting carbon dioxide emissions. Opportunities for exploring the removal of unnecessary infrastructure could also include the removal of street lighting or lit infrastructure such as bollards and signs. Additional lit infrastructure would be introduced for road and community safety purposes such as at waiting areas and crossing points.

7.3.24 It is clear that the measures included within the draft strategy will have a positive effect on reducing light pollution because lighting levels are likely to reduce. However, the spatial application of measures to reduce light pollution will have greater benefit where darker skies can be preserved.

7.3.25 Figure 7.3 shows the current street lighting density by Landscape Character Type. These allowed us to estimate the landscapes that are most affected by light pollution. This mapping also helps to identify areas that could be targeted to help make a greater difference to light pollution and to preserving dark skies. It clearly demonstrates that the western, more rural half of the county would benefit from measures to reduce light pollution. Specifically it demonstrates the impact street lighting is having on the Ecclesbourne (B5023 and Duffield) and Derwent (A6) valleys and the settled valleys of High Peak Borough.

7.3.26 The Peak District National Park is also currently undertaking a mapping exercise for us using data from the National Oceanic and Atmospheric Administration (NOAA) Satellite Information System. In future, depending on interventions undertaken, we may be able to develop mapping related to lamp type and wattage consumption.

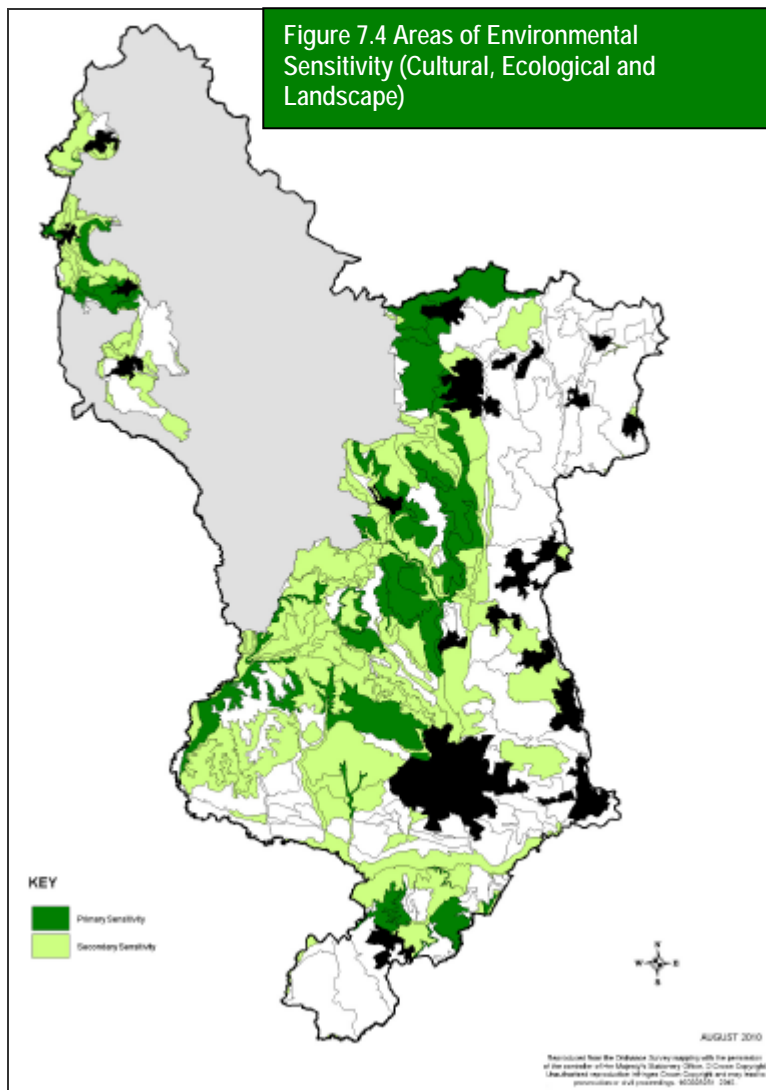Figure 7.3 Street Lighting Density By Landscape Character Type
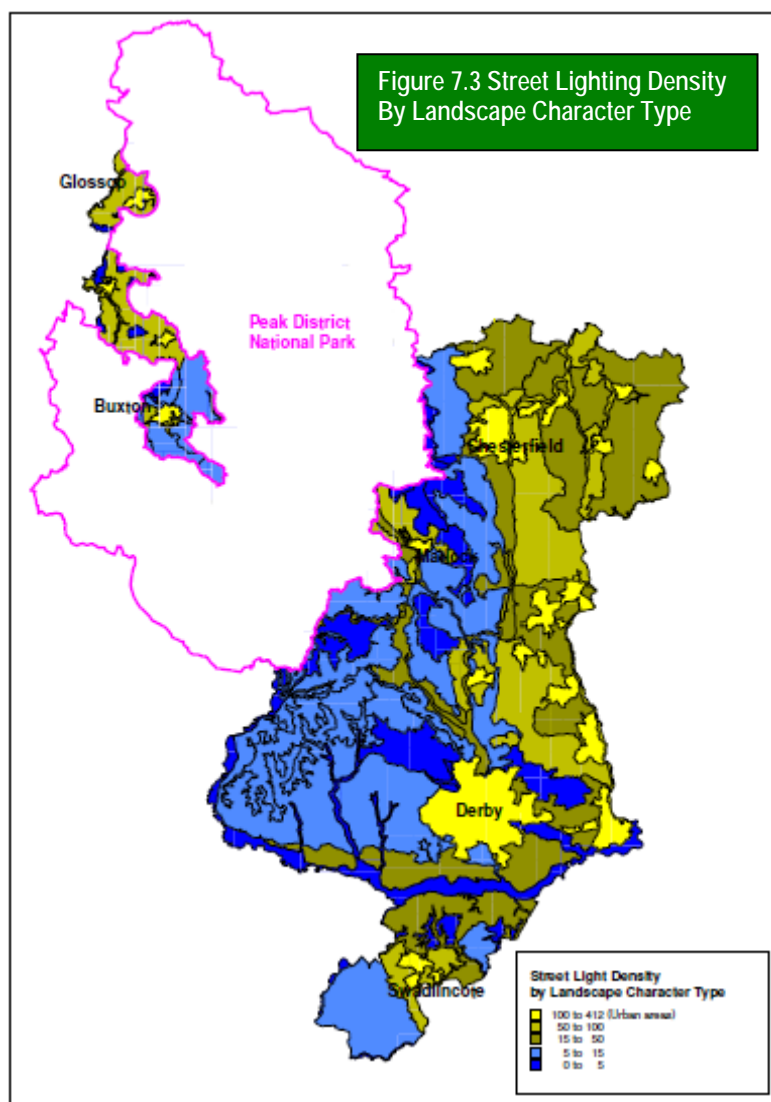
Landscape and Townscape Summary

7.3.27 Overall the Plan's implementation should have a positive benefit to all landscapes and townscapes across the County. All landscapes and heritage assets should be protected and enhanced, but there are sensitive landscapes that should also be considered such as the Peak District National Park and the Derwent Valley World Heritage Site. The sensitivity mapping described above has been combined with ecological mapping to produce a map of 'multiple environmental sensitivity', see Figure 7.4. This mapping can be used as a framework for making judgements about the introduction of transport interventions. Monitoring visual intrusion may require a more simple methodology such as recording the number of signs on a spatial basis. More information on monitoring can be found in Chapter 9.

Appraisal of significance

Short term:	(-) potential minor negative effects
Medium term:	(0) neutral effect
Long term:	(+) minor positive effect

Figure 7.4 Areas of Environmental Sensitivity (Cultural, Ecological and Landscape)

KEY

Primary Sensitivity

Secondary Sensitivity

AUGUST 2010

Protecting and enhancing nature

SEA Objective

7.3.28 This section of the environmental report relates to the performance of the draft LTP3 strategy against:-
SEA Objective 2: Protect and enhance nature (biodiversity, geodiversity, wildlife, flora and fauna) and take measures to reduce habitat fragmentation and enhance connectivity.

7.3.29 The draft LTP3 strategy includes a measure to minimise damage to the environment as a whole as core business and to explore opportunities to maintain vegetation, manage special road verges to preserve biodiversity, protect habitats for plants and wildlife and to provide green infrastructure to help link up habitats. There are also many measures targeting a move to more sustainable travel, including walking networks, cycle routes and public transport improvements which should assist in reducing negative impacts of road traffic.

Key messages of policy context

7.3.30 Listed below are some of the key messages of policy context that were identified at the Scoping Stage, see Annex I of the Derbyshire LTP3 SEA Scoping Report for more details:-

Habitats directive 1992/43/EC
7.3.31 Introduces the concept of Special Areas of Conservation (SAC's) designed to maintain and restore natural habitats and species to sustainable levels. LTP strategy and implementation plans need to ensure any such sites are protected.

Wild birds directive 1979/409/EC

7.3.32 Introduces the concept of Special Protection Areas (SPA's), designed to sustain habitats in order to maintain important bird populations at "ecologically and scientifically sound levels." LTP strategy and implementation plans need to ensure any such sites are protected

Natural Environment and Rural Communities Act 2006

7.3.33 Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.

PPS9: Biodiversity and Geological Conservation

7.3.34 Sets out policies on nature conservation. Identifies obligations under EU and other environmental designations

PPG7: Countryside/ PPS7: Sustainable development in rural areas (Aug 2004)

7.3.35 Objective to balance agricultural, conservation and economic factors when considering development in the countryside. Planning policies for rural areas, including country towns and villages and the wider, largely undeveloped countryside up to the fringes of the larger urban areas

Local Biodiversity Action Plans

7.3.36 Their aim is to conserve and enhance existing wildlife and to redress past losses through habitat restoration and targeted action for key species.

Evaluation of impact of LTP3 Strategy

7.3.37 During the Scoping Stage of this SEA, two threats were identified for further consideration which were damage to habitats through an increase in recreational walking and cycling and nitrogen deposition from traffic.

Recreational damage to habitats

7.3.38 The draft LTP3 strategy contains priorities to achieve sustainable tourism and leisure activity and to explore opportunities to support tourism growth. Measures that may lead to an increase in recreational walking and cycling include providing walking and cycling networks and facilities, the maintenance of existing rights of way and cycleways and improved access to public and green spaces. The strategy also includes the opportunity to explore habitat protection for plants and wildlife. Other measures include walking and cycling provision.

7.3.39 It is clear therefore that the LTP3 strategy will be seeking to increase the number of people walking and cycling for tourism, encouraging more sustainable travel modes and for health benefits. We do not have any data on current levels of usage of the rights of way or cycleway network at present, although this data will be collected in future years. Therefore we need to make a judgement using other data available. For the Screening Report to meet the Habitats Directive, we explored this issue in relation to the heavily used footpaths on the South Pennines Moors using data supplied by Moors for the Future. We have reused some of this information below because the Peak District National Park acts as a good proxy to the impact elsewhere because it draws most visitors to Derbyshire being host to 10 million recreational visits per year[1]; the north western area of Derbyshire hosts the majority of public rights of way in the County; and the largest SACs vulnerable to recreation are in this area.

Impact on habitats

7.3.40 In terms of examining whether there is a potential significant impact in relation to soil erosion and trampling we need to look at whether there is currently a significant issue and whether the plan is likely to increase this. In terms of walking and cycling, impact is likely to occur where footpaths or cycleways become eroded or are extended and begin to significantly impact upon a wider area.

7.3.41 A study of footpath condition has been undertaken by the Moors for the Future Partnership focussed on the moorland areas within the Peak District National Park. Some of these footpaths are located within the South Pennine Moors SAC area. Footpath condition is examined under a number of parameters which relate to flora. Those that relate to flora are bare ground width, worn vegetation width, water scarification and soil structure. Footpath condition was assessed on 50 metre sections and grouped into various banding levels depending on their condition against the parameters. Of the

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[1] http://www.peakdistrict.gov.uk/index/news/mediacentrefacts.htm

length of surveyed footpaths in the SAC (119 km) only 2.9% were classified in the worst two levels for bare ground (where bare ground was 2.7 metres or more); 0.6% were in a similar category for worn vegetation; and 9.1% had soil structure damaged and evidence of water scarification . Some of these sections were associated with the busiest footpaths such as the Pennine Way. The Moors for the Future website highlights such routes as being restored by the Moors for the Future Partnership to reduce this damage and further damage in future is likely to reduce.

7.3.42   Integrating people with the landscape and wildlife is a key aspiration for Natural England and is an aspiration that fits with a number of our Council Plan priorities. During the third LTP period it is unlikely that a significant number of new routes will be introduced within the SACs during the Plan period. Therefore it is unlikely that flora would be impacted upon significantly from new infrastructure. As already mentioned, we do not have data about usage of routes, but it is clear from anecdotal evidence that many of the paths are used by high numbers of visitors. Encouragement of walkers and cyclists is likely to be through other policies and organisations and an in-combination effect could be considered. However, many agencies such as the Moors for the Future Partnership are working towards reducing the environmental impact of walking and cycling and therefore any increases will no doubt be mitigated through the protection of habitats and species resulting in further significant damage being unlikely.

Impact on species
7.3.43   The Special Protection Area for the South Pennines relates to the breeding of five species of birds – Golden Plover, Merlin, Peregrine, Short Eared Owl and Dunlin. Of these, all but Peregrine are ground nesting birds which are potentially vulnerable to disturbance from walkers and cyclists. An analysis of Peak District moorland breeding bird distribution and change, which covers most of the SPA in Derbyshire, has been produced by the Moors for the Future Partnership[2]. This analysis considered recreational disturbance. Although this did not focus on all species that we are concerned with, it provides a proxy to the likelihood of disturbance to ground nesting species.

7.3.44   This report concluded that a number of species, particularly ground nesting waders such as Curlew, Golden Plover, Lapwing, and Snipe avoid areas of habitat close to footpaths. However, over a 1km area it was found that this did not appear to have an impact on overall density of population. Indeed, the study found that populations of wader species regarded as sensitive to visitor pressures are increasing in the Peak District. This suggests that visitor pressure is not currently a major driver of population change. In relation to SPA key species, the report notes that Golden Plover populations are stable and Merlin populations have increased since the early 1970s alongside considerable increases in recreational pressures. Mitigation measures such as paving busy routes along the Pennine Way is helping to reduce the spatial impact. Since 2000 large areas of open access land have been designated by Natural England and in Derbyshire only one site has required mitigation measures – Beeley Moor which requires dogs to be on leads through the nesting season suggesting that disturbance is a more localised issue.

In Summary
7.3.45   In summarising the impact from a potential increase in recreational walking and cycling on habitats we recognise that there are localised issues of soil erosion, loss of flora and disturbance to species alongside some of the busiest footpaths. Where this is an issue, mitigation measures are being undertaken which allows habitats to recover and to reduce impacts on species such as through the breeding season. In taking LTP3 forward habitat and species protection will be a feature of the strategy and therefore an overall positive effect is likely, particularly when combined with the aspiration to integrate more people with the landscape and wildlife. In taking forward the implementation of the Plan we should recognise the importance that footpath restoration works, such as stone flagging busy footpaths, have in restoring flora and habitats and localised management regimes can protect species and should be considered alongside policies to increase recreational walking and cycling.

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[2] A project to restore large parts of internationally important Peak District moors

Nitrogen Deposition

7.3.46 During consultation on our Scoping Report nitrogen deposition was highlighted as an issue for consideration that had not been covered at the Scoping Stage. Emissions from traffic contributes to nitrogen deposition with most common effects usually within 500m of the source. Nitrogen deposition particularly impacts upon lower, slower growing plant communities such as mosses, liverworts and algae etc. Therefore, to examine this further we examined SSSIs located within 500m of a road, which highlighted that 59 were potentially at risk. Using data from the Air Pollution Information System (APIS) website, we examined the levels of nitrogen deposition at sites that were dissected by roads or close to busy roads, we also projected this data to 2026 to compare traffic levels in 2026 to the baseline, as showed in figure 7.5. Most sites showed deposition levels in excess of threshold levels. However, it was difficult to establish any pattern with traffic flow as there was little difference between low and high flows. Indeed an examination of levels further from source did not show significant reduction in levels either. One factor that seemed to play a significant role was topography with higher degrees of nitrogen deposition in valleys. Following this, we examined topography in relation to the SSSIs in the County to see what impact there was. Although we may not be able to specifically relate transport to the nitrogen deposition levels, we have decided to consider this within this Environmental Report in respect to whether more or less traffic is likely to be generated by the Derbyshire LTP3 strategy.

7.3.47 There is some uncertainty to how traffic levels will change over the Plan period due to external influences such as fuel prices and the recent economic downturn and uncertainty over the recovery period. However, over the Plan period there will no doubt be some growth in traffic from the baseline. In terms of the impact of increased traffic we need to examine how this preferred strategy compares to the 'without the plan' scenario.

7.3.48 The preferred strategy is focussed on promoting sustainable travel and a reduction in the rate of traffic growth. Measures include behavioural change, influence of spatial planning to reduce car use, provision of better facilities for walking, cycling and public transport. Influencing traffic growth and reducing nitrogen deposition is likely to be a long term aspiration and it is likely that any positive benefits will take many years to be fully realised.

Figure 7.5 Derbyshire SSSIs within 500m of the road network
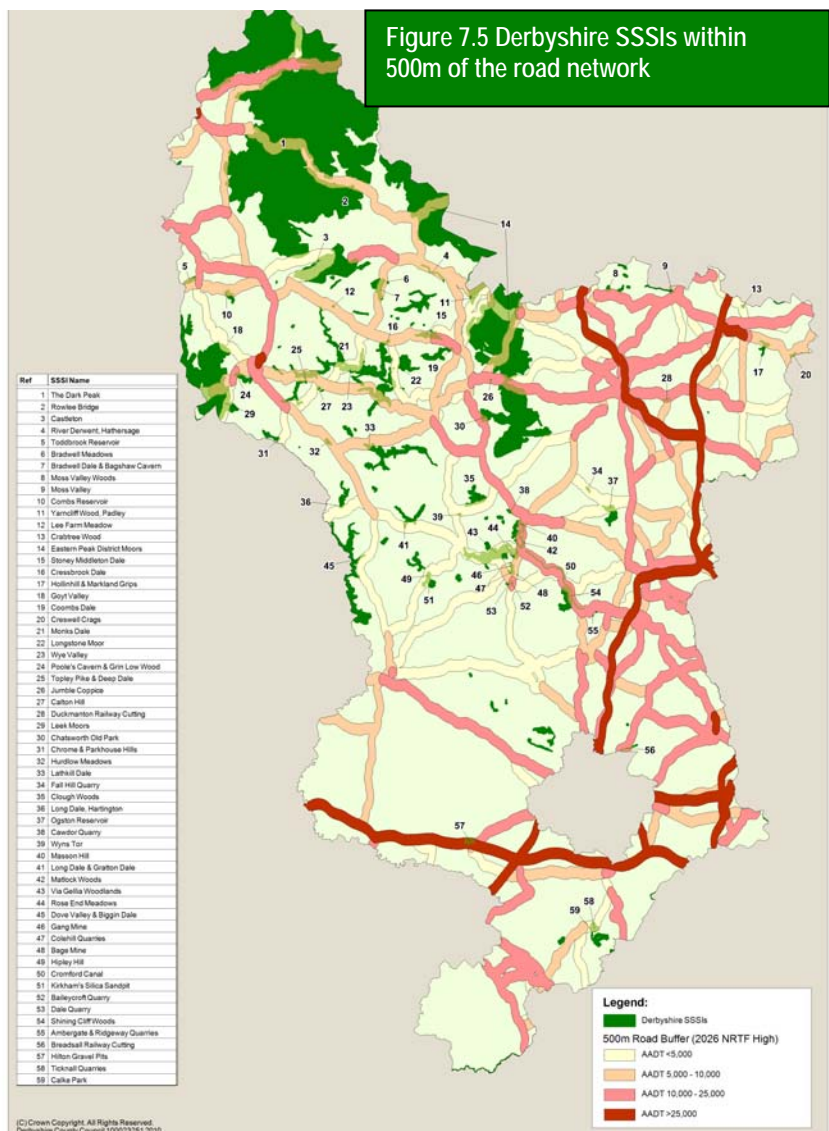
Appraisal of significance

Short term:	(0/+) neutral to very minor positive
Medium term:	(+)minor positive effect
Long term:	(+) minor positive effect

Supporting a resilient economy

SEA Objective

7.3.49 This section of the environmental report relates to the performance of the draft LTP3 strategy against:-
SEA 3 Support a resilient economy

Evaluation of impact of LTP3 Strategy

7.3.50 The Scoping stage focussed on undertaking a Strategic Environmental Assessment, rather than undertaking a full Sustainability Appraisal. Therefore, the baseline situation for the local economy was not undertaken. However, since the SEA Scoping Report was published, the Authority has undertaken a Local Economic Assessment: Initial Evidence Base collection which identified a number of key findings which are associated with many of the issues within the SEA topics. It was also clear that there could be conflict between the economy and the environmental topics and that the economy should be considered within this environmental report. Therefore following the Scoping stage we added a SEA objective to support a resilient economy.

7.3.51 The key transport-related findings, of the initial evidence base collection for the Local Economic Assessment were:-
- The county's economic market is complex by having a number of smaller secondary centres rather than a single centre with five major cities in close proximity
- The county is a net exporter of commuters. Derby, Nottingham and Sheffield are the most important cities for supply of jobs and labour
- Population is set to increase and an older population has implications for service provision
- Decline of traditional industries has left a concentration of areas of higher unemployment and deprivation
- Derbyshire's high quality landscape and cultural sites are important assets to its economy
- The county is well served by transport networks, but access to employment sites needs improving
- Levels of CO_2 emissions need to be reduced and to adapt to climate change

7.3.52 It is clear from the recent economic downturn that the economy largely depends upon worldwide factors. However, the more resilient the local economy is the more it can survive periods of downturn. The preferred LTP3 strategy includes many measures which will help local economies either through the enhancement of the landscape and cultural assets, reducing congestion and delays for all road users, routine maintenance of transport networks, and measures to encourage more use of sustainable modes of transport, including supporting moving freight from road to rail. Other measures such as those targeted at reducing a dependency on fossil fuels etc through CO2 emission reduction will help the economy become more resilient to the impacts of peak oil.

Appraisal of significance

Short term:	(0) neutral effect
Medium term:	(+)minor positive effect
Long term:	(+) minor positive effect

Reducing motorised traffic growth

SEA Objective

7.3.53 This section of the environmental report relates to the performance of the draft LTP3 strategy against:-
SEA Objective 4: To reduce motorised traffic growth through a combination of demand management measures, land use planning and encouragement of the use of more sustainable transport modes (also climatic).
- **Promote behavioural change to encourage healthier and more sustainable travel habits**
- **Support sustainable tourism**
- **Improve access to key services and facilities using sustainable modes of transport e.g. jobs, training and skills, shops, healthcare and leisure**

- **Improve health by encouraging walking and cycling, reducing pollution and reducing health inequalities**
- **Influence the location of development to make efficient use of existing physical infrastructure and to help reduce the need to travel.**

Key messages of policy context

7.3.54 Listed below are some of the key messages of policy context that were identified at the Scoping Stage, see Annex I of the Derbyshire LTP3 SEA Scoping Report for more details:-
- Ensure that tackling the barriers to behavioural change are addressed
- Importance of integrating public transport with tourism and recreational facilities
- Continue to address barriers to work and training
- Ensure that adequate consideration is given to the public health value of schemes to increase walking and cycling
- Importance of locating new developments in existing built up areas with good links to the road and public transport network, rather than locate in low density areas which require new infrastructure

Evaluation of impact of LTP3 Strategy

7.3.55 The LTP3 strategy includes a number of priorities and measures which contribute to reducing car use. There are priorities such as public transport improvements, personalised travel planning, improving access to jobs and training, sustainable travel, walking and cycling provision, infrastructure and services linked with new housing developments, packages for improvement where there are air quality issues due to local traffic; and liaison between spatial and transport planning on an ongoing basis.

Figure 7.6 2008 Baseline Two-way Annual Average Daily Traffic Flows

Traffic growth

7.3.56 The Scoping stage highlighted that Derbyshire's population was estimated to increase from 762,110 to 873,500 by 2026. It also highlighted that because of the rural nature of the County there was also a high level of car ownership and car use for work and leisure purposes. Housing provision was likely to be increased by 62,600 by the end of the Plan period. Therefore it is a high likelihood of increased car use during the lifetime of the plan period.

7.3.57 As mentioned elsewhere, there is uncertainty to how other factors such as the economy will influence car usage and traffic growth. Examination of the environmental baseline highlights the impact car usage and traffic growth has on many of the environmental issues highlighted and thereby the benefits that reducing car use and road freight can have.
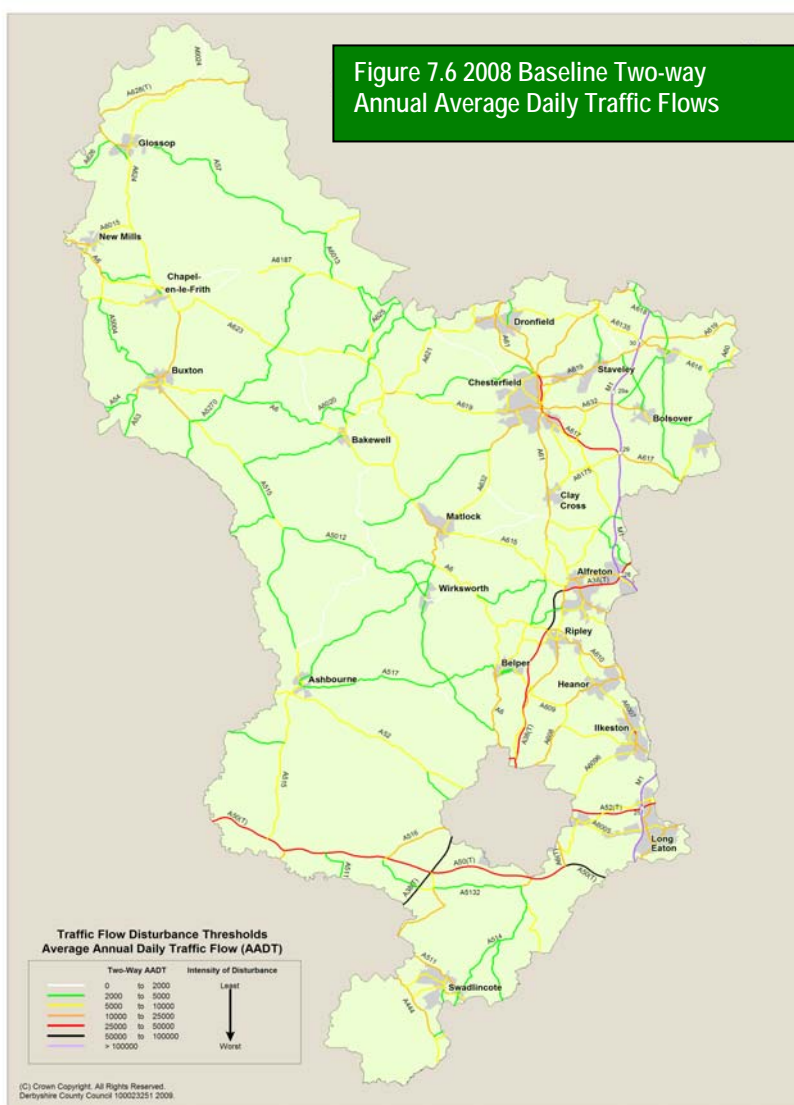
7.3.58 Figure 7.6, 7.7 and 7.8 shows the difference between 2008 baseline traffic flows and a best-case scenario of low growth scenario and a worse-case high traffic growth scenario based upon National Road Traffic Forecasts. It is clear that many parts of Derbyshire would be largely unaffected by a growth in traffic, showing that most impact would be on the key routes, particularly the trunk road network (which are outside the responsibility of the Derbyshire LTP3). There are visual differences between the impact a high growth would have compared to a low growth and there are obvious benefits in seeking to reduce the rate of growth of traffic, even where traffic growth cannot be halted. However, it is clear under both scenarios of growth that impacts would be more prevalent in the more urban areas, particularly where new housing provision is to be located, which is where the measures described above to reduce car use would need to be targeted.

7.3.59 The preferred LTP3 strategy contains many measures and priorities targeted towards reducing car use and therefore reducing the rate of traffic growth. Because of the many factors involved in traffic growth it is difficult to say whether this will concur with the low growth scenario at this stage. The scope of influence of the Plan will be through behavioural change and encouragement to use alternative modes of travel by improving walking, cycling and public transport. Therefore, change is likely to be long term but overall it will offer a positive effect on this objective.

Figure 7.7 2026 High Growth Scenario Two-way Annual Average Daily Traffic Flows

Figure 7.8 2026 Low Growth Scenario Two-way Annual Average Daily Traffic Flows

Health and health inequalities

7.3.60 The Scoping Report highlighted a number of issues relating to health and health inequalities. Two key issues were identified – road casualties and physical exercise/ obesity. Examination of the environmental baseline highlighted that health issues and inequalities existed in Derbyshire. Transport had a clear role in encouraging more people to undertake exercise by walking and cycling to help reduce obesity. Road casualties are considered in a separate section, see paragraph 7.3.77.

7.3.61 The Scoping Report identified that obesity affects 28.7% of adults in Derbyshire and 18.3% of children in Year 6. It was clear that obesity levels were higher in Derbyshire than England and was increasing. Spatially, obesity is more prevalent in the north east of Derbyshire and in the Boroughs of Amber Valley and Erewash. Lack of physical exercise is a key contributing factor to obesity and

inactivity levels in the same areas were higher than other parts of Derbyshire. The same areas showed less years of healthy life expectancy at age 65. We do not have any data to project forward the impact that a continued trend would have, but it is clear that a worsening of levels of obesity in combination with an increase in population and an older population will have an effect.

7.3.62 Levels of obesity would likely worsen where a plan did not seek to encourage more people to walk and cycle for health purposes. The preferred strategy includes more walking and cycling networks and facilities and seeks to explore opportunities for better promotion. Access to green and public spaces will be improved. These should contribute to a positive effect in reducing obesity and longer term should help more people enjoy a healthier life expectancy in older age. However, measures will need to be targeted to areas of most need in order to gain the most positive effects. Behavioural change will also be important because there are currently many opportunities for walking and cycling in those areas identified as having more prevalent obesity, less physical exercise and less years of healthy life in older age.

Access to key services

7.3.63 The Scoping Report examined accessibility to key services across Derbyshire. As would be expected, there was a general urban/ rural split in accessibility. The preferred LTP3 strategy contains many measures that seek to improve accessibility, particularly to help address poorer accessibility in the more rural parts of the County through supported bus services, concessionary fares, community transport services, accessible transport, personalised travel planning, supporting more demand responsive services and community rail. Whilst accessibility has been modelled for the baseline condition, it would be difficult to predict what services would be provided in future and therefore it is not possible to quantify the impact of the preferred strategy on accessibility to key services. However, without a plan there would be minimal forward planning and less analysis of accessibility issues, particularly within rural areas and therefore the preferred strategy clearly has a positive effect when compared to 'without the plan'. However, the implementation of the Plan would need to consider the role of all interventions in assisting accessibility and to target them to areas of most need.

Appraisal of significance

Short term:	(+)minor positive effect
Medium term:	(+)minor positive effect
Long term:	(+) minor positive effect

Minimising noise and vibration impacts

SEA Objective

7.3.64 This section of the environmental report relates to the performance of the draft LTP3 strategy against:-
SEA 5 Minimise noise and vibration impacts.

Key messages of policy context

7.3.65 Listed below are some of the key messages of policy context that were identified at the Scoping Stage, see Annex I of the Derbyshire LTP3 SEA Scoping Report for more details:-
- LTP policies need to include measures to reduce the impact of traffic noise and safeguard tranquil areas

Evaluation of impact of LTP3 Strategy

7.3.66 The Scoping stage considered noise and vibration in relation to heritage assets, biodiversity and the effect on the population. Tranquillity was considered as part of the landscape. Although issues were identified in relation to noise, vibration and tranquillity in relation to heritage assets, biodiversity and landscape, these were scoped out for further consideration due to it being unlikely that there would be a significant worsening over the Plan period, see the Derbyshire LTP3 SEA Scoping Report for more details. Therefore, this environmental report relates to the impact upon population when considering noise and vibration.

7.3.67   Examination of the baseline situation relating to traffic noise highlighted five, county controlled roads, that had been identified by the Department for Environment, Food and Rural Affairs (DEFRA) as First Priority Locations for further consideration under the terms of the Environmental Noise (England) Regulations 2006. These were A617, A6096, A511, A61 and A6. The remaining areas of Derbyshire were scoped out of further consideration.

7.3.68   We do not have the data behind the DEFRA First Priority Locations so we have estimated noise levels as shown in Figures 7.9 and 7.10 below using the formula from the Noise Regulations $L_{A10\ 18h}$. These appear to begin to correlate under both and low and high traffic growth scenario, although only the A617 would seem to exceed DEFRA thresholds of 76dBA. Vibration was scoped out as an issue, but it has been retained within the SEA objective, as vibration was seen as an important issue for Derbyshire residents during consultation.

7.3.69   The preferred strategy contains measures that would contribute to noise reduction such as routine maintenance of roads, bridges and structures, reducing speeds, supporting opportunities to move freight from road to rail. Encouraging the use of more sustainable modes will also contribute to noise reduction, although as already described in relation to traffic growth, this is a relative reduction compared to a without the plan scenario, rather than being a reduction on the baseline i.e. the low growth scenario as shown in Figure 7.9. Uncertainty again exists as to how the economy will influence traffic growth in the future.

7.3.70   Road safety measures such as road humps and skid resistance surfacing may contribute to higher noise levels and the implementation of these should consider the noise implications, particularly in areas where noise thresholds are being approached. Noise may increase during the construction phase of interventions. This will be a temporary issue which when balanced against the benefits the intervention brings, anecdotal evidence suggests that noise is generally accepted during construction.

7.3.71   Whilst there would be benefits overall for noise, it would appear that these measures may not tackle the issue of noise at some of the First Priority Locations such as the A617 and A61 north of Chesterfield. This is because they perform key roles within the County Road Hierarchy and because some are dual carriageways, significant speed reduction would be unlikely and therefore mitigation for the noise generated may be more appropriate.

Appraisal of significance

Short term:	(?) Uncertain
Medium term:	(+)minor positive effect
Long term:	(+) minor positive effect

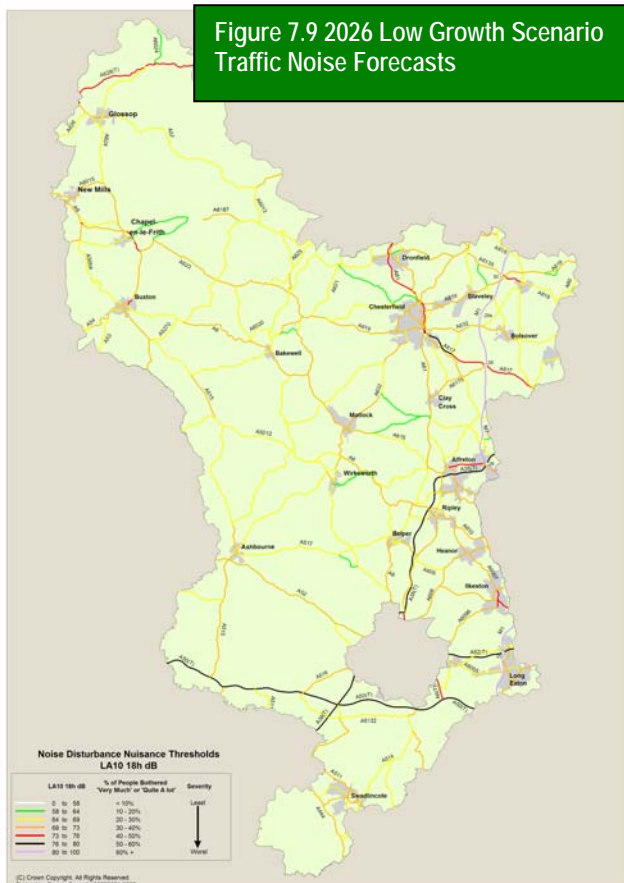Figure 7.9 2026 Low Growth Scenario Traffic Noise Forecasts

Figure 7.10 2026 High Growth Scenario Traffic Noise Forecasts

Provision of transport and services for older people

SEA Objective

7.3.72 This section of the environmental report relates to the performance of the draft LTP3 strategy against:-
SEA 6 Ensure the provision of transport and services considers the needs of elderly people, particularly in rural areas.

Key messages of policy context

7.3.73 Listed below are some of the key messages of policy context that were identified at the Scoping Stage, see Annex I of the Derbyshire LTP3 SEA Scoping Report for more details:-
- Ensure adequate consideration is given to the public health value of schemes to increase walking and cycling
- Be mindful of the importance of allowing opportunities for social interaction within communities, reducing community severance where possible

Evaluation of impact of LTP3 Strategy

7.3.74 The scoping stage identified a faster growth in an older population of Derbyshire. Between 2001 and 2008, the number of older people had increased by 16.2% to 187,510 people and was expected to grow by a further 42% by 2026, compared to 36.2% in England. This will increase the share of the population of over 60 from 24.6% in 2008 to 30.5% in 2026 leading to differences in dependency ratios between younger and older people. Spatially, by 2026, Derbyshire Dales, North East Derbyshire, Amber Valley and Bolsover are likely to host higher proportions of older people. In combination with a growth in an older population, is the healthy life expectancy of older people and their social care needs. The Derbyshire Joint Strategic Needs Assessment 2008 highlights that there is a clear relationship between deprivation and life expectancy. Other than the more rural area of Derbyshire Dales, the other areas where a growth in an older population is predicted also currently

have lower life expectancies than the average for the region and nationally. This again correlates with data on social care needs.

7.3.75   In providing transport and services for older people there are two strands that can contribute. Firstly the preferred strategy includes many measures that provide transport services for older people such as supported bus services, special needs transport services, concessionary fares, support of community transport, physically accessible transport, support for more demand responsive transport services, community rail, equality impact assessments and independent travel training. Longer term the strategy can help contribute to the health of the older population by encouraging more healthier lifestyles through the provision of walking and cycling networks and facilities.

7.3.76   From the numerous social measures included within the preferred strategy, there is likely to be a positive effect and cumulatively this could be significant. However, to ensure that most benefit is realised measures will need to be targeted to areas of most need e.g. areas of deprivation and areas of higher growth of an older population which should lead to a significant positive benefit.

Appraisal of significance

Short term:	(+)minor positive effect
Medium term:	(+)minor positive effect
Long term:	(++) significant positive effect

Improve road safety

SEA Objective

7.3.77   This section of the environmental report relates to the performance of the draft LTP3 strategy against:-
SEA 7 Improve road safety through targeted interventions, and make travel feel safer particularly by non-car modes.

Evaluation of impact of LTP3 Strategy

7.3.78   The scoping stage identified that during 2008, 425 people were killed or seriously injured on Derbyshire's roads, 34 of which were children. A further 2,797 slight casualties were recorded. Since the 1995-98 average, casualties have reduced by 40%. This has been achieved alongside an increase in traffic levels. However certain casualty categories had not reduced as well such as motorcyclists, young car drivers, problem routes on rural roads and collisions during the hours of darkness.

7.3.79   The preferred strategy contains the full range of road safety interventions focussed on the casualty groups described above including education, training, publicity, engineering to reduce danger, skid resistance surfacing, enforcement, speed reduction and lighting of key locations such as crossings.

7.3.80   If current trends were observed then casualty levels by the end of the plan period would not be so significant. However, it is clear that further reductions will be more difficult as many sites with collision clusters have been tackled and further reductions are more likely to depend on behavioural change. As explained above, there is likely to be a further increase in the number of road users. Encouragement of more sustainable modes will help restrict traffic growth, but this will also mean a greater likelihood of a increased numbers of more vulnerable road users travelling on our roads. Currently walkers and cyclists are believed to be mis-recorded under current collision reporting systems as casualties are not always categorised as transport related.

7.3.81   Overall there will be a greater degree of collision analysis and planning in regard to casualty reduction and therefore the preferred strategy will provide a positive effect, although this cannot be deemed a significant positive at this stage because of the uncertainty and longer term nature of behavioural change interventions.

Appraisal of significance

Short term:	(+)minor positive effect
Medium term:	(+)minor positive effect
Long term:	(+)minor positive effect

Improve community safety

SEA Objective

7.3.82 This section of the environmental report relates to the performance of the draft LTP3 strategy against:-
SEA 8 Improve community safety, reduce crime, and fear of crime.

Evaluation of impact of LTP3 Strategy

7.3.83 The Scoping stage identified that crime and fear of crime was important for most communities. However, crime in relation to transport is not a significant issue, although fear of crime was with 11.3% of residents saying that they feel fairly or very unsafe when using public transport alone and 17.4% said they felt fairly or very unsafe when out in their neighbourhood alone at night.

7.3.84 The preferred strategy offers a number of measures that will help people feel safer in their communities or when using public transport. Such measures include improving the local streetscape through high quality design, improving public transport waiting areas - including better lighting and independent travel training for people whose fears prevent them getting about in their communities. There are many measures to bring more people into communities and for more social interaction which will also bring about positive effects in relation to reducing people's fears of crime when using Derbyshire's transport network.

Appraisal of significance

Short term:	(+)minor positive effect
Medium term:	(+)minor positive effect
Long term:	(+)minor positive effect

Enhance community well-being

SEA Objective

7.3.85 This section of the environmental report relates to the performance of the draft LTP3 strategy against:-
SEA 9 Enhance well-being and sense of community by reducing traffic impacts, creating more opportunities for social contact and better access to leisure activities and the natural environment.

Key messages of policy context

7.3.86 Listed below are some of the key messages of policy context that were identified at the Scoping Stage, see Annex I of the Derbyshire LTP3 SEA Scoping Report for more details:-
- Be mindful of the importance of allowing opportunities for social interaction within communities, reducing community severance where possible.

Evaluation of impact of LTP3 Strategy

7.3.87 The Scoping stage identified that three potential barriers could cause community severance:-
- Physical barriers: caused by transport infrastructure and traffic creating a physical barrier
- Psychological barriers: caused by road safety fears, acceptability of mitigation measures and limited travel horizons
- Accessibility barriers: barriers to people's ability to 'self-mitigate' the physical/ psychological barriers in order to reach key services.

7.3.88 Within the scoping stage we concluded that most market towns had one or more roads carrying upwards of 5,000 vehicles which no doubt caused community severance. Representing this data spatially showed that outside urban areas levels of traffic were likely to be less than 5,000 a day but that community severance would be likely to be suffered by virtue that traffic travelled through village centres and that severance would be linked to exposure i.e. lower traffic levels in a village would be deemed a comparable issue with high levels in a market town by the residents of each.

7.3.89　Accessibility and psychological barriers are more likely to be for people without access to a car such as those people with restricted mobility e.g. disabled people, older people or mothers with pushchairs; school children and younger people; and harder to reach groups. In the scoping report we considered the likelihood of community severance due to accessibility by considering households without a car or the location of the older populations. These were generally the more rural areas in western Derbyshire.

7.3.90　The preferred strategy includes many measures which would combine to enhance well-being and sense of community. These include maintenance and improvements of walking routes, improving the local streetscape, keeping lorries out of villages, improving social contact in neighbourhoods by lowering speeds and reducing traffic levels, personalised travel planning, independent travel training for those who may not feel safe to get out in communities, various public transport improvements, walking and cycling networks and facilities which would include safer crossing points, concessionary fares, equality impact assessments, road safety education, engineering, enforcement, improved street lighting in waiting areas and crossings and influencing spatial planning to encourage more use of sustainable modes of transport. Localised severance therefore will begin to be tackled from the beginning of the plan period e.g. through better crossing points. However, because of the large range of measures it will no doubt take time for these all to combine to start to realise an overall reduction in community severance. It will be necessary to ensure that community well-being is considered as a whole and to how individual elements combine. Should this be done successfully there is the opportunity to achieve a significant positive effect. A threat to this will be where traffic levels continue to grow, albeit at a likely slower rate, through encouragement of more sustainable transport.

Appraisal of significance

Short term:	(+)minor positive effect
Medium term:	(+)minor positive effect
Long term:	**(++) significant positive effect**

Reducing carbon dioxide emissions

SEA Objective

7.3.91　This section of the environmental report relates to the performance of the draft LTP3 strategy against:-
SEA 10 Reduce transport's emissions of carbon dioxide and other greenhouse gases with the desired outcome of tackling climate change.

Key messages of policy context

7.3.92　Listed below are some of the key messages of policy context that were identified at the Scoping Stage, see Annex I of the Derbyshire LTP3 SEA Scoping Report for more details:-
- Importance of all agencies cutting down carbon emissions through reviewing vehicle fleets and managing commuter and business travel

Evaluation of impact of LTP3 Strategy

7.3.93　The scoping stage examined carbon dioxide (CO_2) emissions from both the road transport network as a whole and also where the county council had a direct influence through its operations, particularly its fleet and energy consumption in relation to the transport asset. The largest contributor to CO_2 emissions on Derbyshire's road network is diesel vehicles on the A road network, closely followed by petrol vehicles. In terms of the county council's fleet and transport, the largest contributor to CO_2 emissions is through use of staff own vehicles for business usage, followed by the medium to large diesel van fleet and minibuses. Energy usage was 7.5 megawatts per night for lighting the street lights and other illuminated transport infrastructure. The anticipated trend for CO_2 emissions throughout the plan period was one of reduction such as through the development of cleaner fuels.

7.3.94　Alongside the development of the preferred strategy and this environmental report, we have also been developing a Road Transport Carbon Reduction Strategy which seeks to further quantify CO_2 emissions from each aspect of the Derbyshire road transport network and to assess where emission

reduction could be achieved. The strategy can be found in Annexes of the draft Derbyshire LTP3 strategy document.

7.3.95   The preferred Derbyshire LTP3 strategy focuses upon carbon reduction, as referred to by the development of a carbon reduction strategy. The preferred strategy contains many measures that target a reduction in CO_2. This shows that the many measures included within the preferred strategy to improve and encourage more walking, cycling and public transport and supporting opportunities to move freight from road to rail should all have positive effects of developing a more efficient and sustainable transport network which should be far reaching in terms of CO_2 emissions. There are also direct measures attributable to county council operations to help reduce CO_2 emissions such as reduced street lighting targeted at reducing CO_2 emissions. Although not under the control of the county council the strategy seeks to reduce commuting mileage by its employees. To help encourage more use of cleaner fuels the preferred strategy enables opportunities to be taken such as providing plug in points for electric vehicles.

7.3.96   It is recognised that CO_2 reduction will be a long term aspiration and will take the short to medium term before benefits start to be achieved, but by using the LTP3 carbon reduction strategy to examine the benefits of differing measures and introducing each in combination, by the end of the Plan period we would expect the preferred strategy to have a significant positive effect on reducing CO_2 emissions.

Appraisal of significance

Short term:	(0) neutral effect
Medium term:	(+)minor positive effect
Long term:	(++)significant positive effect

Reducing air pollutants in Air Quality Management Areas

SEA Objective

7.3.97   This section of the environmental report relates to the performance of the draft LTP3 strategy against:-
SEA 11 Reduce the emission of air pollutants from transport in declared Air Quality Management Areas which relate to local traffic.

Key messages of policy context

7.3.98   Listed below are some of the key messages of policy context that were identified at the Scoping Stage, see Annex I of the Derbyshire LTP3 SEA Scoping Report for more details:-
- The development of an Air Quality Action Plan for Chesterfield may be relevant to LTP3, if Chesterfield Borough Council declares an Air Quality Management Area.

Evaluation of impact of LTP3 Strategy

7.3.99   The scoping stage identified one Air Quality Management Area (AQMA) in Derbyshire that related to local traffic. This affects one property at the A616/ A619 Treble Bob roundabout at Barlborough. Monitoring at this location shows air quality levels just below the declaration threshold which means the location remains an AQMA. In addition to this, Chesterfield Borough Council has been monitoring air quality around the town centre for a number of years. No declaration has been made to date, but it is clear that air quality is an issue for some key locations due to local traffic levels.

7.3.100   Within the scoping report we identified that projections of air quality levels suggest that this will not be a significant issue by the end of the Plan period because of fuel and vehicle technology improvements and that we should only need to consider this issue for the short to medium term.

7.3.101   The preferred LTP3 strategy includes measures to tackle air quality issues where an AQMA had been declared such as providing and encouraging more sustainable travel, particularly through interventions such as personalised travel planning. Within Chesterfield Borough, liaison will also be required in relation to land use planning to reduce car use and encourage more walking, cycling and use of public transport.

7.3.102 Many of the measures are of a behavioural change nature and will take a longer term for the positive effects to be fully realised. Few physical measures can be introduced without conflicts with other objectives such as supporting the economy. A reliance on behavioural change and a need to realise benefits in the short to medium term before outside influences remedy this issue, would mean that any interventions would need targeting significantly in areas of poor air quality to make a significant positive effect. It is therefore likely that against a background of increased traffic growth and time taken to make change means that a neutral effect is likely in the short to medium term before positive effects are realised in the longer term.

Appraisal of significance

Short term:	(0) neutral effect
Medium term:	(0) neutral effect
Long term:	(+)minor positive effect

Enhancing the transport networks resilience to climate change

SEA Objective

7.3.103 This section of the environmental report relates to the performance of the draft LTP3 strategy against:-
SEA 12 Enhance the network's resilience to climate change e.g. reduce the risk of flooding.

Key messages of policy context

7.3.104 Listed below are some of the key messages of policy context that were identified at the Scoping Stage, see Annex I of the Derbyshire LTP3 SEA Scoping Report for more details:-
* LTP3 development should consider strengthening policy objectives around adaptation and resilience of the transport network to extreme weather events.

Evaluation of impact of LTP3 Strategy

7.3.105 Carbon dioxide emissions and other greenhouse gases are contributing to the warming of the earth's atmosphere; the effects of this will continue throughout the Plan period even through a sustained effort to reduce carbon dioxide emissions. The scoping stage examined the current trends related to climate change highlighting that there was a likelihood that summers and winter mean temperatures would increase during the plan period. It was likely that summers would become drier and winters wetter. Extreme weather events were more likely, including flooding, severe cold spells and hot spells. This has implications for the management of the transport network in keeping the networks open, but it also has an impact on growth of vegetation which could increase cutting requirements etc. Since the publication of the Scoping Report, the Flood and Water Management Act has been passed which sets out Derbyshire County Council as the lead local flood authority for Derbyshire and now makes flood management a statutory duty.

7.3.106 The preferred LTP3 strategy contains many measures that would contribute to enhancing the network's resilience including keeping roads and pavements clear in bad weather, flooding management, maintenance of vegetation, routine maintenance of roads, footways, rights of way and greenways.

7.3.107 Measures included within the preferred strategy offer an opportunity to be better prepared for extreme weather events. The Flood and Water Management Act will be implemented following a survey of areas likely to flood and a programme of measures planned to make the network more resilient and to manage flooding events. The baseline situation is that many roads, footways, rights of way and greenways are in good condition and resilient to a degree, but it was clear that achieving a high degree of resilience to extreme weather such as during the snow of 2010 that it can be difficult to achieve, resulting in many damaged parts of the network which required transport funds to be reallocated to restore its condition. Other effects due to climate change such as increased growing seasons for vegetation will change over time and maintenance regimes will need to adapt as this occurs.

7.3.108 Therefore in summary, the preferred strategy contains many measures to increase the networks resilience, but these will take time to implement. Achieving a high level of resilience will be difficult, but positive effects can be achieved, and it is likely that it will take into the medium to long term of the Plan before these are realised.

Appraisal of significance

Short term:	(0) neutral effect
Medium term:	(0) neutral effect
Long term:	(+)minor positive effect

Use of environmental resources

SEA Objective

7.3.109 This section of the environmental report relates to the performance of the draft LTP3 strategy against:-
SEA 13 Minimise the use of environmental resources
- **Minimise energy usage and reduce dependency on non-renewable resources**
- **Increase the proportion of re-used and recycled materials used in rights of way construction and maintenance**
- **Use locally sourced materials wherever feasible.**

Key messages of policy context

7.3.110 Listed below are some of the key messages of policy context that were identified at the Scoping Stage, see Annex I of the Derbyshire LTP3 SEA Scoping Report for more details:-
- The bulk minerals and waste transport aspects of Derby and Derbyshire Minerals and Waste Local Plans are relevant to the Local Transport Plan. The process of reviewing these commenced in 2009, with the adoption of the waste documents expected in 2012, and mineral documents in 2013. These processes will therefore be interlinked.
- Asset management will enable a strategic approach to better manage assets to meet customer expectations and ensure the long term sustainability of the transport infrastructure. Lifecycle planning and costing will consider a long term period of 15-20 years, to achieve timely maintenance and value for money.

Evaluation of impact of LTP3 Strategy

Minimise Energy Usage

7.3.111 The scoping stage identified that energy usage from county council operations included the use of 31 million kilowatts per year for highway lighting. We did not know the full amount of fuel used by the fleet, but it included 310,000 litres of derv and 70,000 litres of gas oil at county council depots during 2009/10. Obviously, the largest amount of fuel usage was by people and businesses using our networks on a daily basis. Without a plan it is likely that energy usage would be influenced by outside factors, particularly to reduce carbon emissions and cost efficiencies, but progress would likely to be slower without a focus on carbon emissions and reducing energy usage.

7.3.112 The preferred strategy includes a number of measures to reduce energy usage. Reducing light pollution and reducing street lighting emissions will include measures to reduce energy usage. The draft Derbyshire Road Transport Carbon Reduction Strategy includes measures such as LED technologies that can reduce energy usage up to 70%. The lighting stock includes 85,500 street lamps and many other types of lit infrastructure such as bus shelters. It will take time to make significant positive effects on energy usage. During LTP2 there have been programmes to replace lighting units with more energy efficient units and we would expect that during a 15 year period a significant proportion of the lit infrastructure would be replaced by more energy efficient lighting, combined with measures such as turning lamps off completely or for parts of the night.

7.3.113 The preferred strategy also includes measures to reduce fuel usage. There are many measures to reduce car and road freight use as described above. Measures focussed on using fuel include reducing county council commuter mileage, personalised travel planning, providing for alternative

fuels e.g. plug in points for electric vehicles and vehicle technology when replacing county council fleet vehicles.

Material Usage, Reuse and Waste

7.3.114 Derbyshire has an unusual situation in being host to many quarries that offer less expensive primary materials which means that use of recycled materials may not appear cost effective, particularly when considering the transportation costs of delivery and energy usage to do so. During the Scoping stage we found it difficult to calculate volumes of different materials used because this was kept on a scheme by scheme basis which would not be feasible to calculate with over 400 schemes implemented each year. Road salting for winter maintenance uses considerable volumes of material each year and is significantly influenced by weather conditions, which can double in severe winters such as that during early 2010.

7.3.115 However, it was clear that we reused at least half of our highway waste and we generally used recycled materials for construction of our rights of way and greenways networks. The county council also has an Environmental Management System in place to manage the work of the environmental services department to meet environmental requirements.

7.3.116 The preferred strategy includes a measure to manage the transport asset and high quality design to use local materials. This would offer minor positive effects because asset management would also focus on cost-effectiveness which with less expensive primary materials available may not realise significant positive effects.

Summary of material usage

7.3.117 The preferred strategy includes a number of measures to reduce both energy usage and material usage and to reduce waste. A reduction in energy usage is likely to be a significant positive effect over the lifetime of the plan particularly due to influences such as cost savings and the need to reduce carbon dioxide emissions. Material usage and reuse has threats due to cost effectiveness likely to lead to use of cheaper, although locally sourced primary materials and the asset management process will need to consider this.

Short term:	(+)minor positive effect
Medium term:	(+)minor positive effect
Long term:	(++)significant positive effect