Chapter 6 Prediction and Evaluation of Effects

6.1 Introduction

- 6.1.1 This stage of SEA and LTP3 development was used to (a) meet the SEA Directive in assessing each of our three LTP3 alternatives, but also (b) as an integral part of the development of our preferred LTP3 strategy. This appraisal was undertaken against an assessment of the likely evolution of the environmental baseline under a without the plan scenario, as reported in Chapter 5 and Annex 3.
- 6.1.2 A key stage to assist the appraisal process was the examination of the environmental baseline. This enabled us to fully understand the environmental characteristics of Derbyshire using the environmental topic areas listed in SEA Directive Annex I (f), but also how transport could affect the environment both positively and negatively. This background enabled us to undertake what was in the main a qualitative appraisal. The scoping stage also enabled us to project some trends forward to the end of the plan period to give us a better understanding of what was likely to happen, in many cases due to external influences rather than the LTP.
- 6.1.3 The examination of issues at the scoping stage resulted in the development of 13 objectives that could be used to appraise the options against and to be focussed on the environmental issues where significant effects were likely. We also used the New Approach to Appraisal methodology as a second process to ensure that we examined the options from two separate directions to ensure that we did not miss any potential environmental effects. Full details of the Appraisal stage are given in Annex 4.
- 6.1.4 Using the appraisal results we were able to conclude that all the three options would provide positive outcomes against most of the environmental objectives, albeit some mitigation would be required for two of these. The results of the appraisal stage is that the best performing strategy from an environmental point of view would be to use the Derbyshire option 1 with the measures for climate change and social improvements from option 2 and 3. This was selected as the preferred Derbyshire LTP3 strategy.

6.2 Appraisal findings: predicting the effects of the Plan's alternatives

Methodology

6.2.1 The Derbyshire LTP3 is a flexible and a strategic plan, it is uncertain in the resources that will be available and uncertain of the number and scale of the different measures that would be introduced. This therefore means that a quantitative approach to appraisal cannot be undertaken and that the following appraisals are undertaken on a qualitative basis. This obviously brings a degree of uncertainty into the findings of the appraisals and predictions. As stated in paragraph 6.1.2, we are confident that our thorough understanding of the environmental baseline and issues has given the background to ensure a good level of confidence in our predictions.

Option Appraisal Workshop

- 6.2.2 Although we have confidence in our background work to make robust predictions, we wanted to ensure that the appraisal stage was transparent. The best method for undertaking this was to include a wide range of professionals from within and outside the Authority during the appraisals to provide a knowledgeable professional input, but also to ensure that the appraisal views were balanced and moderated. 15 delegates attended the workshop, held in August 2010, following completion of the scoping stage; and consultation on the options to be considered. Representatives at the meeting were:-
 - Urban Design and Conservation Officer, Derbyshire County Council
 - Project Engineer Local Transport Plans, Derbyshire County Council
 - Consultant in Public Health, NHS Derbyshire County
 - Transport Campaigner, Friends of the Peak District
 - Senior Transport Officer, Transportation Projects, Derbyshire County Council
 - Senior Project Officer, Local Transport Plans, Derbyshire County Council
 - Policy and Monitoring Team Leader, Derbyshire County Council
 - Head of Integrated Transport Group, Derbyshire County Council
 - Specialist Registrar in Public Health, NHS Derbyshire County
 - Transportation Strategy Manager, Derbyshire County Council

- Environmental Policy Officer, Derbyshire County Council
- Technical Policies and Standards Manager, Derbyshire County Council
- Planning and Conservation Officer, Natural England
- Senior Project Officer, Accessibility, Derbyshire County Council
- Transport Policy, Peak District National Park Authority
- 6.2.3 All organisations within the group had been involved in the Scoping stage. At the workshop the group were provided with the relevant information, which included a description and list of measures for each of the different options to be tested, a list of the 13 SEA objectives against which the options would be tested and some notes of key guidance that should be considered in determining significance. A record of the conclusions of the workshop are provided in Annex 4.

Determining significance

- 6.2.4 In undertaking the assessment against both the SEA objectives and through the New Approach to Appraisal (NATA) we used the Department for Transport's Webtag 2.11 guidance. This suggests that significance of impact should be judged to whether an impact (both positive and negative) is likely to be significant. Using the list of criteria below, we have used the discussions and conclusions at the SEA workshop to judge whether the effects of each of the options are significant or not. The criteria used was:-
 - probability, duration, frequency and reversibility of effects
 - cumulative nature of the effects
 - cross-boundary nature of the effects
 - risks to human health or the environment
 - 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

6.2.5 To record significance the following key was used:-.

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

Appraisal of Options against SEA Objectives

- 6.2.6 The key appraisal stage for each of the three options was to consider the impact each of the options would have against the 13 SEA objectives. As mentioned previously, the basis for these judgements was the conclusions formed at the SEA Workshop that undertook an identical process to consider options against the SEA objectives. Within this chapter we have reproduced the final SEA appraisal tables for each option as they provide a good summary of the likely impacts from each of the options. Further information to how the measures were selected for each option is provided in Annex 4. Table 6.1 below summarises the significance to enable an easy comparison to be made.
- 6.2.7 The appraisal against the SEA objectives concludes that Option 1 would be the most environmental beneficial option available to us, if we were to select one of the three in entirety. Although Option 2 does not provide the wide range of environmental benefits, it did show that this would provide more significant positive effects for reducing carbon dioxide emissions and minimising the use of resources. Option 3 was focussed on improving the environment for the population and therefore offered significant positive effects for health and well-being, sense of community and consideration of all groups of society, including a growing elderly population. Options 2 and 3 would have negative effects on the landscape, townscape and heritage assets.

Table 6.1 Summary of Derbyshire LTP3 option appraisal against SEA Objectives									
	econor better s and he quality healthy environ		th, curity rove nd	Option Tacklir change econor	ng clima e, supp mic gro	orting wth	opport	ting equa unity	,
	Times	scale of i	mpact	Times	cale of	impact	Timescale of impact		
	Short	Medium	Long	Short	Medium	Long	Short	Medium	Long
PROTECTION OF ALL LANDSCAPES (INCLUDING TOWNSCAPE AND O	CULTURA	L HERITA	GE)						
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_	+	-	_			-	
BIODIVERSITY FLORA AND FAUNA									
SEA 2 Protect and enhance nature (biodiversity, geodiversity, wildlife flora and fauna) and take measures to reduce habitat fragmentation and enhance connectivity.	0/+	+	+	1	-	-/0	0	0	0
POPULATION AND HUMAN HEALTH INCLUDING NOISE									
SEA 3 Support a resilient economy.	0	+	+	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).	+	+	+	+	+	+	0	+	_+_
SEA 5 Minimise noise and vibration impacts.	?	+	+	?	0	0	0	?	?
SEA 6 Ensure the provision of transport and services considers the needs of elderly people, particularly in rural areas.	+	+	+	0	0	0	+	+	++
SEA 7 Improve road safety through targeted interventions, and make travel feel safer particularly by non car modes.	+	+	+	0	0	?	+	+	+
SEA 8 Improve community safety, reduce crime and the fear of crime.	+	+	+	0	0	?	+	+	+
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.	+	+	+	+	+	+	+	+	++
CLIMATIC									
SEA 10 Reduce transport's emissions of carbon dioxide and other greenhouse gases, with the desired outcome of tackling climate change.	0	+	+	0	+	++	0	+	+
SEA 11 Reduce the emission of air pollutants from transport in declared Air Quality Management Areas which relate to local traffic.	0	0	0	0	0	+	0	0	0
SEA 12 Enhance the network's resilience to climate change e.g. reduce the risk of flooding.	0	0	+	0	0	+	0	0	0
MATERIAL ASSETS									
SEA 13 Minimise the use of environmental resources.	+	+	+	+	+	++	0	0	0

Appraisal of Option 1 against SEA Objectives

Option 1

This alternative would seek a combination of measures which place an emphasis on the following goals, based on the results of Derbyshire consultations carried out last year:

- · supporting economic growth
- · better safety, security and health
- quality of life and healthy natural environment.

By 2026, this option would show that we had worked on creating more opportunities for social contact and access to the natural environment to improve community well-being, an improved journey experience, enhancing the street scene in towns and villages, and a protected and enhanced natural and historic environment.

It would show that a clear link between transport planning and local sustainable economic development has helped the economy of Derbyshire in towns and villages.

It would result in safer roads, links with community safety planning for different areas of the county, and more active travel habits, particularly cycling and walking, leading to improved health.

Emphasis of Measures for OPTION 1 Supporting economic growth, better safety, security and health, improve quality of life and healthy natural environment

improve quality of life and healthy natural environment							
Maintenance and design	Accessibility						
** Improving the local streetscape through high quality design,	* Joined up public transport information and branding						
use of local materials and multi- disciplinary approach	* Volunteer car schemes						
** Removing unnecessary infrastructure	* Community Transport Services						
**Minimising damage to the environment	* More demand responsive transport services e.g. dial-a-bus						
* Routine maintenance of roads	* Wheels to Work						
* Routine maintenance of pavements	* Getting people to jobs and training						
* Routine maintenance of rights of way and greenways	* Bringing services to the people						
* Management of the transport asset to support local journeys	* Community rail						
* Managing special road verges (biodiversity)	* School Crossing Patrol service						
* Habitat protection for wildlife	* Independent travel training						
* Improving public satisfaction with maintenance	* Improve access to public and green spaces						
Network management	Behavioural change						
** Improved social contact e.g. reduced traffic levels and	** Personalised travel planning						
slower speeds	* Travel Plans for businesses and new developments, including						
* Dealing with disruption on the roads	monitoring						
* Parking controls	* School Travel Plans, including monitoring						
* Better direction and tourist signing	* DCC to tackle commuting mileage						
* Providing travel information	* Better promotion of existing opportunities for cycling and walking						
New infrastructure	Spatial planning						
** Walking networks	* Influencing spatial planning to reduce car use and enable more						
** Major schemes, congestion and safety - Ashbourne	walking, cycling, public transport						
Bypass, Ripley-Codnor	* Influencing spatial planning to minimise the impacts of road						
* Cycling facilities	freight						
* Green infrastructure – linking up habitats	Accounting/decision-making						
* Major schemes – Ilkeston Station	* Best use of resource to reduce carbon footprint						
Road and community safety	Vehicle fleets						
** Road safety training e.g. cycling and walking	** Use of alternative fuels e.g. plug in points for electric vehicles						
** Monitoring and evaluation of road safety measures, for	* Sustainable freight distribution networks						
effective targeting							
* Road safety education							
* Road safety publicity							
* Road safety engineering to reduce danger on the roads							
* Road surfaces that help reduce skidding							
* Road safety enforcement							
* Improved street lighting e.g. waiting areas and crossings							
Public transport	Economy						
* More flexible ways of paying e.g. multi-operator ticketing	* Encourage the use of local facilities and local businesses						
scheme	* Support tourism growth for specific road users and locations						
* Concessionary fare scheme	* Support moving freight from road to rail						
* Improvements to public transport services							
KEY * more than baseline (without the Pla	an scenario) ** much more than baseline						

Topic	SEA Objective	Short term	Medium term	Long term	Comment
PROTECTION OF ALL LANDSCAPES (INCLUDING TOWNSCAPE AND CULTURAL HERITAGE)	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 Maintain the transport asset for local travel, to protect landscape character, sense of place and the natural and historic environment. Reduce light pollution and help to preserve dark sky areas. Avoid damage to the World Heritage Site and all heritage assets, including their setting. Help preserve remoteness and tranquillity within the Peak District National Park and other areas of tranquil countryside. Prevent damage to the landscape and biodiversity assets within it due to increases in recreational walking and cycling, motorcycling etc. Reduce the visual impact of transport infrastructure.	-	0	+	This option contains some conflicts between the landscape and delivery of transport interventions to support the local economy and better safety and security. In the short-term to medium term there would be a minor negative to neutral impact as interventions such as road safety and slowing speeds, and direction signing would add to visual intrusion whilst the maintenance and design measures such as the removal of unnecessary infrastructure and improving the local streetscape through high quality design, use of local materials and multi-disciplinary approach should lead to improvements in setting of landscapes and heritage assets. Protection of habitats and consideration of green infrastructure would contribute to landscape. In terms of landscape character and setting of heritage assets, this option would seek to encourage alternatives to the car, such as personalised travel planning and providing walking networks; and provide some demand management through parking controls and support moving freight from road to rail; there should be positives in the longer term. It is recognised in appraising this objective that despite the proactive measures to improve landscapes and heritage assets and to encourage use of alternative modes of travel that, although there may be localised improvements, it will take a long time before there is a noticeable improvement across the County. It is clear that road safety and the economy could be at conflict with the environmental aims within this option. Should this option be considered there would need to be a policy statement to ensure that this conflict was minimised. Influencing spatial planning will be required to minimise future impacts on the landscape from developments and to ensure that enhancements are secured such as green infrastructure.
BIODIVERSITY FLORA AND FAUNA	SEA 2 Protect and enhance nature (biodiversity, geodiversity, wildlife flora and fauna) and take measures to reduce habitat fragmentation and enhance connectivity.	0/+	+	+	This option would protect habitats for wildlife, manage road verges for biodiversity and seek to provide green infrastructure to help link up habitats. Again there are a number of measures which would seek to encourage alternatives to the car which would have a longer term benefit. However, it clear that these interventions would take time for improvements to be take effect.
POPULATION AND HUMAN HEALTH INCLUDING NOISE	SEA 3 Support a resilient economy.	0	+	+	This option is focussed on supporting a resilient economy seeking to improve the use of local facilities and businesses, supporting tourism growth and moving freight from road to rail. Measures to enhance the townscape and landscape would help support Derbyshire's tourist and market town economies. Many measures seek to improve transport systems to help people access work. Some concern over the inclusion of major schemes, although recognise that removal of traffic could be beneficial where areas are currently congested. It is recognised that other national influences will have a greater impact on economies and therefore transport provides a supporting role. Therefore over time there is likely to be a positive impact, but this is likely to be relative to the resilience of the national economy.

Topic	SEA Objective	Short term	Medium term	Long term	Comment
POPULATION AND HUMAN HEALTH INCLUDING NOISE	 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). 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. 	+	+	+	This option provides demand management from parking controls, although there would be limited scope for managing road-space. Many measures seek to reduce car use particularly through improving walking networks, managing traffic and speeds in town centres and personalised travel planning. Many measures are targeted at behavioural change to help encourage healthier travel habits such as the provision of walking and cycling facilities and personal travel planning. Many measures seek to improve access to key facilities including supporting sustainable tourism. Influencing spatial planning for a reduction of car use and enable more walking, cycling and public transport would provide longer term benefits.
	SEA 5 Minimise noise and vibration impacts.	?	+	+	Routine maintenance and measures to reduce speeds would reduce noise levels, although would need to clarify speed reduction measures e.g. no humps. Moving freight from road to rail would have an effect. Encouragement of alternative modes to the car would help minimise noise over the longer term. Promotion of tourism in areas such as the World Heritage Site could worsen noise in these areas, but this could also lead to a reduction of noise in the current honeypot areas if there is wider choice. Construction would lead to noise for short periods, some of which would be during the night. Short term there is uncertainty due to the impact of a recovering economy on traffic levels and associated noise. Longer term as recovery takes place and encouragement of mores sustainable travel can help make a positive contribution.
POPULATION AND HUMAN HEALTH INCLUDING NOISE	SEA 6 Ensure the provision of transport and services considers the needs of elderly people, particularly in rural areas.	+	+	+	Most measures are positive, particularly accessibility measures and the concessionary fares scheme. Older people contribute much to the community and therefore long term a larger older population mean many measures will become more positive e.g. supporting bus services. Encouragement of healthier modes of travel should mean that more people enjoy good health into older years, reducing the needs of an older population. To ensure that most impact was made, measures would need to be targeted to areas of most need or focus could be lost – public health equity.
AN HEALTH IN	SEA 7 Improve road safety through targeted interventions, and make travel feel safer particularly by non car modes.	+	+	+	This option is strongly focussed on reducing road casualties. Measures focussed on behavioural change will be important as many collision sites have already received engineering treatments. Concern that increasing the number of vulnerable road users such as walkers and cyclists could lead to an increase in casualties in these groups, particularly as these are potentially being under recorded through existing casualty recording.
N AND HUM£	SEA 8 Improve community safety, reduce crime and the fear of crime.	+	+	+	Encouragement of non-car modes would help bring about more social interaction which would help reduce fear of crime. Streetscape enhancements would help make towns and villages feel safer. Speeding would be reduced. Street lighting improvements would continue to be made in areas where crime and fear of crime at night is an issue. Crime hotspots would need to be mapped to ensure measures are targeted to areas of need.
POPULATIC	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.	+	+	+	This option includes a focus on improving social contact. There are many measures that contribute to encouraging more people to walk and cycle in centres. Use of local facilities and local businesses are encouraged. Measures focussing on community safety will help people feel safer. This option would increase access to public spaces and green spaces, particularly through providing more greenways and green infrastructure.

Topic	SEA Objective	Short term	Medium term	Long term	Comment
	SEA 10 Reduce transport's emissions of carbon dioxide and other greenhouse gases, with the desired outcome of tackling climate change.	0	+	+	There are many measures that will contribute to a reduction of carbon emissions, However, under this option there is not a focus on this and therefore the rate of achievement may not be as great. Other factors could play a greater role such as the promotion and development of cleaner fuels or fuel prices. Behavioural change will help raise awareness. Short term there would be neutral effect as measures will take time to start to make a difference. Longer term there would be a relative positive against the without the plan scenario, although progress on the baseline may be neutral.
TIC	SEA 11 Reduce the emission of air pollutants from transport in declared Air Quality Management Areas which relate to local traffic.	0	0	0	Currently there is only one house affected by an Air Quality Management Area, although Chesterfield town centre is still being considered. Short term any initiatives are likely to be neutral as traffic growth outweighs improvements. Longer term, outside factors such as cleaner fuels etc are likely to contribute to air quality no longer being an issue.
CLIMATIC	SEA 12 Enhance the network's resilience to climate change e.g. reduce the risk of flooding.	0	0	+	There is now a Duty in relation to drainage and flooding. Drainage will be improved through routine maintenance. Data collection as part of Duty will mean that significant benefits will take a while to be made so a positive outcome may take into the longer term.
MATERIAL ASSETS	 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 road and Rights of Way construction and maintenance. Use locally sourced materials wherever feasible. 	+	+	+	Use of environmental resources would be minimised under this option, including the use of local materials. There is some conflict under this objective because Derbyshire has access to cheaper local materials from quarries which means that there may be less use of recycled materials. Carbon reduction would make a contribution to less use of resources. All waste would be reused.

Appraisal of Option 2 against SEA Objectives

Option 2

This option would seek a combination of measures which put an emphasis on the following goals:

- · tackling climate change
- supporting economic growth.

This combination was described as the biggest challenge in the Department for Transport's 'Delivering a Sustainable Transport System.'

By 2026, this option would result in 'smarter' travel choices, with an emphasis on using public transport, cycling and walking, reduced use of the private car, and 'greener' vehicles, with an overall reduced carbon footprint for travel in Derbyshire.

It would show that a clear link between transport planning and local sustainable economic development has helped the economy of Derbyshire in towns and villages.

Emphasis of Measures for OPTION 2 Tackling climate change, supporting economic growth

Emphasis of Measures for OPTION 2 Tackling clir	
Maintenance and design	Accessibility
** Reducing street lighting carbon emissions	* Joined up public transport information and branding
* Routine maintenance of pavements	* More demand responsive transport services e.g. dial-a-bus
* Routine maintenance of rights of way and greenways	* Getting people to jobs and training
* Management of the transport asset to support local journeys	* Bringing services to the people
* Improving the local streetscape through high quality design,	* Community rail
use of local materials and multi- disciplinary approach	* Home to school transport
< Reducing light pollution	'
Network management	Vehicle fleets
** Managing events to reduce car use	*** Use of alternative fuels e.g. plug in points for electric vehicles
* Dealing with disruption on the roads	* Environmental specification in contracted services
* Parking controls	* Sustainable freight distribution networks
* Keeping pavements clear in bad weather	3
* Better direction and tourist signing	
* Providing travel information	
* Improved social contact e.g. reduced traffic levels and slower	
speeds	
Road and community safety	Behavioural change
* Road safety education	*** Personalised travel planning
* Road safety training e.g. cycling and walking	* Travel Plans for businesses and new developments, including
* Improved street lighting e.g. waiting areas and crossings	monitoring
The state of the s	* School Travel Plans, including monitoring
	* DCC to tackle commuting mileage
	* Better promotion of existing opportunities for cycling and walking
New infrastructure	Economy
* Cycling facilities	* Encourage the use of local facilities and local businesses
* Walking networks	* Support tourism growth for specific road users and locations
* Major schemes – Ashbourne Bypass, Ripley-Codnor	* Support moving freight from road to rail
* Major schemes – Ilkeston station	
.,	
Public transport	Spatial planning
** More flexible ways of paying e.g. multi-operator ticketing	* Influencing spatial planning to reduce car use and enable more
scheme	walking, cycling, public transport
* 'Smart ticketing' improved technology for paying	* Influencing spatial planning to minimise the impacts of road
* Discounted travel scheme – buses and trains	freight
* Improvements to public transport services	Accounting/decision-making
	*** Best use of resource to reduce carbon footprint
	< Buy carbon credits to offset unavoidable carbon emissions
KEV * more than baseline (without	the Dian accordio)

KEY

- more than baseline (without the Plan scenario)
- ** much more than baseline
- *** key measure for this option
- < less than baseline

Topic	SEA Objective	Short term	Medium term	Long term	Comment
PROTECTION OF ALL LANDSCAPES (INCLUDING TOWNSCAPE AND CULTURAL HERITAGE)	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 Maintain the transport asset for local travel, to protect landscape character, sense of place and the natural and historic environment. Reduce light pollution and help to preserve dark sky areas. Avoid damage to the World Heritage Site and all heritage assets, including their setting. Help preserve remoteness and tranquillity within the Peak District National Park and other areas of tranquil countryside. Prevent damage to the landscape and biodiversity assets within it due to increases in recreational walking and cycling, motorcycling etc.	-	1	-	There is minimal focus on enhancing the landscape under this option and light pollution would not be tackled. Townscapes would be enhanced. Road safety interventions are focussed on behavioural change and therefore likely to be a slower worsening of visual intrusion from engineering measures, but there would be no focus on removing unnecessary infrastructure.
BIODIVERSITY FLORA AND FAUNA	SEA 2 Protect and enhance nature (biodiversity, geodiversity, wildlife flora and fauna) and take measures to reduce habitat fragmentation and enhance connectivity.	-	-	-/0	No measures directly aim to improve biodiversity. Therefore in the short to medium term conditions for biodiversity could worsen. In the longer term, benefits from tackling climate change could make a positive contribution to biodiversity, but changes are likely to be more longer term than the Plan's horizon. The LTPs contribution to overall climate change is likely to be minimal.
ш	SEA 3 Support a resilient economy.	0	+	+	Measures provide a focus for encouraging the use of local facilities and local businesses. Tourism growth is supported for specific road users and locations. However, there are no enhancements for the landscape to help attract more visitors. Encouragement of sustainable transport modes such as public transport, walking and cycling should help provide accessibility.
POPULATION AND HUMAN HEALTH INCLUDING NOISE	 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). 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. 	+	+	+	There is a strong focus on reducing the carbon footprint and therefore reducing the carbon footprint of road traffic will be important. There is therefore a focus on behavioural change such as personalised travel planning and provision of walking and cycling networks and public transport services to help encourage healthier and more sustainable travel habits. Demand management is focussed on parking controls. Tourism growth is supported. Accessibility is important with a range of initiatives to help people access services. Would require measures to be targeted to areas of need to be most effective. Spatial planning would be targeted to influence development for longer term benefits.

Topic	SEA Objective	Short term	Medium term	Long term	Comment
	SEA 5 Minimise noise and vibration impacts.	?	0	0	Minimal reduction of speeds and routine maintenance is focussed on maintaining status quo, rather than seeking improvements. Various measures such as supporting moving freight from road to rail would contribute. In the short term there is uncertainty over what the impact will be as the economy recovers, longer term it is unlikely that measures will significantly improve noise and vibration.
ALTH	SEA 6 Ensure the provision of transport and services considers the needs of elderly people, particularly in rural areas.	0	0	0	Although a number of measures would seek to provide transport opportunities for older people it is unlikely that there would be a targeting of interventions towards this. Therefore situation would likely stay static.
HUMAN HE	SEA 7 Improve road safety through targeted interventions, and make travel feel safer particularly by non car modes.	0	0	?	Less focus on reducing casualties or improving the road network. Behavioural change and ongoing road safety programmes would remain but it is likely that benefits would take much longer to achieve. Longer term there is uncertainty to whether a lack of planning could increase casualties in various road user groups e.g. walking and cycling and to how the condition of the network might deteriorate.
POPULATION AND HUMAN HEALTH INCLUDING NOISE	SEA 8 Improve community safety, reduce crime and the fear of crime.	0	0	?	There is a focus on reducing light pollution, but it is unlikely that this would be in areas of community safety needs, but this would need ensuring. There is a focus on improving social contact and would still be able to undertake interventions to make locations safer. However, other than tackling particular problem areas there would be a neutral effect and as into the longer term uncertainty to the impact of other measures would have on community safety.
POPUL	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.	+	+	+	Improved social contact is a focus. Walking and cycling routes will be provided. Personalised travel planning will help create more opportunities to get around by non car modes.
	SEA 10 Reduce transport's emissions of carbon dioxide and other greenhouse gases, with the desired outcome of tackling climate change.	0	+	++	This option is strongly focussed towards this objective and therefore most measures will be targeted towards reducing transport emissions of carbon dioxide. Change is likely to take time though and although improvements will take a while to get off the ground, over time a significant positive would be expected against this objective.
TIC	SEA 11 Reduce the emission of air pollutants from transport in declared Air Quality Management Areas which relate to local traffic.	0	0	+	Improvements targeted at carbon reduction could have benefits for air quality e.g. use of sustainable transport modes. However, it is clear that a reduction in carbon does not necessarily mean an improvement in other greenhouse gases that cause poor air quality. Therefore it may take a lot longer for air quality to improve, which will be assisted by influences outside the LTP.
CLIMATIC	SEA 12 Enhance the network's resilience to climate change e.g. reduce the risk of flooding.	0	0	+	Management of surface water and flooding is now a duty. It is clear that climate change will take a long time and therefore measures will be required to mitigate against this. With less focus on routine maintenance it is clear that overall improvements will take longer for the benefits to be realised.
MATERIAL ASSETS	 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 road and Rights of Way construction and maintenance. Use locally sourced materials wherever feasible. 	+	+	++	Targeting a reduction in carbon dioxide emissions will mean many measures are focussed on minimising use of resources and by seeking to use alternative fuels. Focus will be on more sustainable travel and a focus on behavioural change and the County Councils role in promoting change. Over time the County Council may produce own energy and reduced light pollution will be focussed around reducing energy usage. There would be positives from the short term but as momentum was gained significant positives could be achieved.

Appraisal of Option 3 against SEA Objectives

Option 3

This option would seek a combination of measures which put an emphasis on the following goal:

promoting equality of opportunity

Although this goal was not a popular choice in the consultations, it is one which is particularly relevant to Derbyshire. This goal helps disadvantaged people to access services, and is relevant to Derbyshire in terms of rural accessibility, and also in the more deprived urban areas of the county.

By 2026, this option would ensure that investment relates to the varying nature of problems in both urban and rural areas, with the aim of reducing inequalities relating to transport.

Emphasis of Measures for OPTION 3 Promoting equality of opportunity

Emphasis of Measures for OPTION 3 Promoting	
Maintenance and design	Accessibility
** Management of transport asset to support local journeys	*** Independent travel training
* Routine maintenance of rights of way and greenways	** Equality Impact Assessments
< Routine maintenance of roads	* Joined up public transport information and branding
< Reducing light pollution	* Volunteer car schemes
	* Community Transport Services
	* More demand responsive transport services e.g. dial-a-bus
	* Wheels to Work
	* Getting people to jobs and training
	* Bringing services to the people
	* Community rail
	* Home to school transport
	* Improve access to public and green spaces
Network management	Vehicle fleets
** Improved social contact e.g. reduced traffic levels and	
slower speeds	
* Keeping local roads clear in bad weather	
* Keeping pavements clear in bad weather	
* Providing travel information	
Road and community safety	Behavioural change
* Road safety education	* Travel Plans for businesses and new developments, including
* Road safety training e.g. cycling and walking	monitoring
* Road safety engineering to reduce danger on the roads	* Personalised travel Planning
* Road safety enforcement	* Better promotion of existing opportunities for cycling and walking
* Speed reduction schemes	
* Improved street lighting e.g. waiting areas and crossings New infrastructure	Custial planning
	Spatial planning
* Cycling facilities * Walking networks	* Influencing spatial planning to reduce car use and enable more
	walking, cycling, public transport
* Major schemes – Ilkeston Station	
Public transport	Economy
*** More flexible ways of paying e.g. multi-operator ticketing	Loonomy
scheme	Accounting/decision-making
* 'Smart ticketing' improved technology for paying	7.000 antingracolololi maining
* Review of supported public transport network	
* Concessionary fare scheme	
* Discounted travel scheme – buses and trains	
* Improvements to public transport services	
KEV * more than baseline (without	the Discourse (a)

KEY

- more than baseline (without the Plan scenario)
- ** much more than baseline
- *** key measure for this option
- < less than baseline

Topic	SEA Objective	Short term	Medium term	Long term	Comment
PROTECTION OF ALL LANDSCAPES (INCLUDING TOWNSCAPE AND CULTURAL HERITAGE)	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 Maintain the transport asset for local travel, to protect landscape character, sense of place and the natural and historic environment. Reduce light pollution and help to preserve dark sky areas. Avoid damage to the World Heritage Site and all heritage assets, including their setting. Help preserve remoteness and tranquillity within the Peak District National Park and other areas of tranquil countryside. Prevent damage to the landscape and biodiversity assets within it due to increases in recreational walking and cycling, motorcycling etc.	-	-	-	No focus on enhancing or protecting the landscape or townscape which would lead to a deterioration over time. Focus on improving road safety would lead to more infrastructure cluttering landscapes and townscapes with minimal regard to their impact.
BIODIVERSITY FLORA AND FAUNA	SEA 2 Protect and enhance nature (biodiversity, geodiversity, wildlife flora and fauna) and take measures to reduce habitat fragmentation and enhance connectivity.	0	0	0	No focus on enhancing or protecting nature. Likewise it is unlikely that this option would impact on nature.
ш	SEA 3 Support a resilient economy.	?	?	?	No focus on supporting a resilient economy. Many of the measures would be essential for a resilient economy e.g. routine maintenance of roads, supporting local journeys, supporting access to jobs and public transport enhancements. However, without any focus on the economy they are supporting it is unclear to the effect or magnitude these would have.
POPULATION AND HUMAN HEALTH INCLUDING NOISE	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). 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.	0	+	+	There are behavioural change measures which would encourage more healthier and sustainable travel. However, there would be minimal demand management. There is no focus on the economy and therefore sustainable tourism would be a by-product of overall behavioural change. Access to key services and facilities would be enhanced under this option, particularly through independent travel training and equality impact assessments. Spatial planning would be influenced to ensure longer term benefits. Without any demand management, a reliance on behavioural change means that it will be medium to long term before benefits are realised.

Topic	SEA Objective	Short term	Medium term	Long term	Comment
OING	SEA 5 Minimise noise and vibration impacts.	0	?	?	Within this option there would be a reduced routine maintenance of roads, but the degree to which roads would deteriorate produced some uncertainty to the effect on noise and vibration over time. Some benefits may be observed through a focus on more sustainable travel modes but this option is much focussed on residents so there would be minimal focus on sustainable freight.
POPULATION AND HUMAN HEALTH INCLUDING NOISE	SEA 6 Ensure the provision of transport and services considers the needs of elderly people, particularly in rural areas.	+	+	++	Many of the measures would benefit the needs of older people, particularly in rural areas, but this would need to be targeted to gain most benefit. Independent travel training would target those who potentially could not get about without special transport provision. EQIAs would understand the needs of older people and set actions to tackle these. Overall the measures would combine to have a significant positive.
HUMAN HE	SEA 7 Improve road safety through targeted interventions, and make travel feel safer particularly by non car modes.	+	+	+	A full range of measures targeted at road safety and casualty reduction are included within this option. Independent travel training would help more vulnerable road users feel safer. Improvements to make walking and cycling safer would be included, although some uncertainty to whether an increased number of walkers and cyclists would increase casualties.
ATION AND	SEA 8 Improve community safety, reduce crime and the fear of crime.	+	+	+	There would be a focus on improving street lighting for community safety. Independent travel training would help more people to get about without fears of personal security. Many measures would help get more people about and more social contact making places feel safer. Few improvements to the public realm could mean that places do not feel as safe visually which means that full benefits would not be realised.
POPUI	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.	+	+	++	Many measures contribute to make stronger communities and more social contact, including access to public and green spaces. In the longer term it is expected that these would combine to have a significant positive benefit.
	SEA 10 Reduce transport's emissions of carbon dioxide and other greenhouse gases, with the desired outcome of tackling climate change.	0	+	+	Behavioural change such as personal travel planning and business travel plans and provision for and encouragement of more sustainable travel modes would help contribute to reduced carbon dioxide emissions. Progress would be slower without a focus on carbon dioxide reduction.
	SEA 11 Reduce the emission of air pollutants from transport in declared Air Quality Management Areas which relate to local traffic.	0	0	0	Many measures to encourage the use of more sustainable travel modes would contribute to a relative improving of air quality against the without the plan scenario, but without a focus it is likely that this could not be considered a positive and would likely remain neutral over the plan period.
CLIMATIC	SEA 12 Enhance the network's resilience to climate change e.g. reduce the risk of flooding.	0	0	0	This option would manage the transport asset to cater for local journeys which would mean that its resilience to climate change would be enhanced in some areas. Use of other sustainable travel modes should help provide more alternative travel options. However, a reduced level of routine maintenance would most likely lead to other parts of the network becoming less resilient making this an overall neutral effect.
MATERIAL ASSETS	 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 road and Rights of Way construction and maintenance. Use locally sourced materials wherever feasible. 	0	0	0	Many of the measures included within this option rely less on construction and more on training and encouragement which would use less environmental resources. However, there would still be a reasonable level of construction required and without any measures to actively seek a reduction, including a less likelihood of reducing street lighting energy usage means that overall there would be a neutral effect.

New Approach to Appraisal (NATA)

- 6.2.8 At the scoping stage of this SEA we examined the different topic-based assessments that were available to us and incorporated these within the baseline assessment. This included the New Approach to Appraisal which is an approach to improve the consistency and transparency in which transport decisions are made. Although NATA and its topics have been integrated within our whole SEA process, we are now revisiting it to provide a separate appraisal stage of our options. This is recommended in SEA guidance Webtag Unit 2.11 because of a risk of missing potential environmental effects if the appraisal is undertaken purely against the SEA objectives. Although, we are confident that all the SEA issues are included within the SEA objectives, or their sub-objectives; this methodology provided a second chance to appraise each of the options, which in some cases provided an alternative view of their impact. Therefore it was a useful exercise. The full appraisals are given in Annex 4 but as they conclude with the same results to the assessment against the SEA objectives, we have not reproduced these here to save over-lengthening this document.
- 6.2.9 We have though produced a summary table showing the assessment of significance for each option to enable an easy comparison, see Table 6.2. The table has challenges based upon the Appraisal Summary Tables (AST) that are usually used for NATA. We have amended them slightly because during the LTP3 development a 'refresh' document was produced that suggested changes from the original NATA to be based around the National Transport Goals (as selected for the Derbyshire transport goals). This new table introduced new challenges to replace the old sub-objectives. To gain a full understanding of the likely impacts we decided to use a combination of the old and new forms to ensure that the appraisals were undertaken from as wider a view as possible. The Table below shows which challenges and sub objectives were taken from which AST. Both ASTs usually require a quantitative assessment, however as discussed elsewhere, the uncertainty at this stage means that we are currently only able to make a qualitative assessment.

Table 6.2 Summary of Derbyshire LTP3 Option Appraisal using New Approach to Appraisal

Transport Goal	NATA AST	DaSTS AST	Challenge	Relevant Derbyshire LTP3 SEA Objectives	Option 1: Supporting economic growth, better safety security and health, improve quality of life and healthy natural environment	Option 2: Tackling climate change, supporting economic growth	Option 3: Promoting equality of opportunity
Tackle climate change	✓	✓	Reduce greenhouse gas emissions	SEA 4 SEA 10	+	++	+
Support economic growth	✓	✓	Improve reliability	SEA 3 SEA 4 SEA 12	+	+	0
		✓	Improve connectivity	SEA 3 SEA 4 SEA 9	+	+	++
		✓	Enhance resilience	SEA 3 SEA 4 SEA 7	+	+	0
	✓		Economic efficiency for business users, transport providers and consumers	SEA 1 SEA 3 SEA 4 SEA 12	+	+	0/+
		√	Support the delivery of housing	SEA 3 SEA 4	+	+	+
	√	√	Wider economic impacts	SEA 3 SEA 4	+	+	+
Promote the equality of opportunity	✓	√	Improve accessibility Access to the transport system	SEA 4 SEA 6 SEA 9	+	+	++
	√		Interchange	SEA 4	+	+	+
		√	Improve affordability	SEA 4 SEA 6	+	+	+

Transport Goal	NATA AST	DaSTS AST	Challenge	Relevant Derbyshire LTP3 SEA Objectives	Option 1: Supporting economic growth, better safety security and health, improve quality of life and healthy natural environment	Option 2: Tackling climate change, supporting economic growth	Option 3: Promoting equality of opportunity
Promote the equality of opportunity (continued)	√		Option values	SEA 4 SEA 6 SEA 8 SEA 9	+	+	+
	√	√	Reduce severance	SEA 4 SEA 6 SEA 7 SEA 8 SEA 9	+	+	++
		✓	Enhance regeneration	SEA 1 SEA 3 SEA 4	+	+	0
		√	Reduce regional economic imbalance	SEA 3	0	0	0
Improve quality of life and promote a healthy natural environment	√	√	Reduce exposure to noise	SEA 5	+	0	?
	√	√	Minimise impact on biodiversity	SEA 2 SEA 10	+	-/0	0
	√	√	Minimise impact on the water environment	SEA 2	0	0	0
	√	√	Minimise impact on heritage	SEA 1 SEA 4	+	-	-
	√	√	Minimise impact on landscape	SEA 1 SEA 4	+	-	-
	√	✓	Improve experience of travel or journey ambience	SEA 4 SEA 6 SEA 9	0	0	0
	√	√	Townscape/ improve the urban environment	SEA 1 SEA 4	+	0	
		√	Improve access to leisure	SEA 1 SEA 4 SEA 9	+	+	+
Better safety, security and health	√	√	Reduce the risk of death or injury – road collisions	SEA 7	+	0/?	+
	√	√	Improve health through physical activity	SEA 4 SEA 9	+	+	+
	√	√	Reduce air quality health costs	SEA 4 SEA 10 SEA 11 SEA 13	+	+	+
		√	Reduce vulnerability to terrorism	SEA 8	0	0	0
	√	✓	Reduce crime	SEA 1 SEA 8 SEA 9	+	+	+
Other	√	√	Wider public finance impacts/ public accounts	SEA 3 SEA 10	+	++	+
		√	Broad transport budget	N/A	0	0	0
	√		Land use policy Other government policy	All SEA Objectives	0	0	0

Conclusion and Preferred Option

6.2.10 Both the appraisal processes (against SEA objectives and NATA) conclude that Option 1 would be the most environmentally beneficial option available to us. Although Option 2 does not provide the wide range of environmental benefits, it did show that this would provide more significant positive effects for reducing carbon dioxide emissions and minimising the use of resources. Option 3 was focussed on improving the environment for the population and therefore offered significant positive effects for health and well-being, sense of community and consideration of all groups of society, including a growing elderly population. Options 2 and 3 would have negative effects on the landscape, townscape and heritage assets.

The preferred option for the Derbyshire LTP3 Strategy

6.2.11 What has been clear throughout the SEA process has been that the preferred Derbyshire LTP3 strategy is likely to have a positive effect on environmental issues. Therefore in selecting a preferred option we have taken the basis for this as aspiring to select the option that would give us the most environmental benefits. Therefore using this appraisal stage we have developed our preferred strategy as:-

Derbyshire LTP3 Preferred Strategy:-

Gives emphasis to:-

- Supporting economic growth
- · Better safety, security and health
- · Quality of life and healthy natural environment

But also includes an emphasis on:-

- · Reducing carbon dioxide emissions
- · Minimising use of resources
- Consideration of transport and services for all groups of society including a growing elderly population
- · Enhancing health/ well-being and sense of community

What measures are included within the preferred option?

6.2.13 All the measures that formed Option 1 are all included within the preferred option. To provide the greater benefits long term from Options 2 and 3 for reducing carbon dioxide emission, minimising use of resources, health and well-being and sense of community and consideration of transport and services for all groups of society including a growing elderly population; we have either given greater importance to measures already included within the list or have introduced new measures from the other options into the list. This is shown in the Table below:-

Maintenance and design

- ** Improving the local streetscape through high quality design, use of local materials and multi-disciplinary approach
- ** Removing unnecessary infrastructure
- ** Minimising damage to the environment

** Reducing street lighting carbon emissions

**Management of the transport asset to support local journeys

- * Routine maintenance of roads
- * Routine maintenance of pavements
- * Routine maintenance of rights of way and greenways
- * Managing special road verges (biodiversity)
- * Habitat protection for wildlife
- * Improving public satisfaction with maintenance
- = Flooding management
- = Maintenance of vegetation
- = Reducing light pollution

Behavioural change

Accessibility

* Independent travel training Equality impact assessments

* Community Transport Services

* Getting people to jobs and training

* Bringing services to the people

* School Crossing Patrol service

* Volunteer car schemes

* Wheels to Work

* Community rail

Joined up public transport information and branding

* More demand responsive transport services e.g. dial-a-bus

*** Personalised travel planning

Home to school transport

- * Travel Plans for businesses and new developments, including monitoring
- School Travel Plans, including monitoring

* Improve access to public and green spaces

- * DCC to tackle commuting mileage
- * Better promotion of existing opportunities for cycling and walking

Network management

** Improved social contact e.g. reduced traffic levels and slower speeds

** Managing events to reduce car use

- * Dealing with disruption on the roads
- * Parking controls
- * Better direction and tourist signing
- * Providing travel information
- * Keeping local roads clear in bad weather
- * Keeping pavements clear in bad weather
- = Coordination of streetworks
- = Keeping lorries out of villages
- = Tackling bad parking in rural areas

Spatial planning

- * Influencing spatial planning to reduce car use and enable more walking, cycling, public transport
- * Influencing spatial planning to minimise the impacts of road freight

New infrastructure

- ** Walking networks
- ** Major schemes, congestion and safety Ashbourne

Bypass, Ripley-Codnor

- * Cycling facilities
- * Green infrastructure linking up habitats
- * Major schemes Ilkeston Station
- = Infrastructure linked with new housing

*** Best use of resource to reduce carbon footprint

Road and community safety

- ** Road safety training e.g. cycling and walking
- ** Monitoring and evaluation of road safety measures, for effective targeting
- * Road safety education
- * Road safety publicity
- * Road safety engineering to reduce danger on the roads
- * Road surfaces that help reduce skidding
- * Road safety enforcement
- * Improved street lighting e.g. waiting areas and crossings
- = Speed reduction schemes

Vehicle fleets

*** Use of alternative fuels e.g. plug in points for electric vehicles

* Sustainable freight distribution networks

* Environmental specification in contracted services

= Low emission zones

Accounting/decision-making

Public transport

*** More flexible ways of paying e.g. multi-operator ticketing

- * Concessionary fare scheme
- * Improvements to public transport services
- * 'Smart ticketing' improved technology for paying
- * Review of supported public transport network
- * Discounted travel scheme buses and trains
- = Making public transport physically accessible

Economy

- * Encourage the use of local facilities and local businesses
- * Support tourism growth for specific road users and locations
- * Support moving freight from road to rail

KEY

- = same as baseline (without the Plan scenario)
- * more than baseline
- ** much more than baseline
- *** Key measures

Xxxx

New measures introduced into Preferred Option over Option 1

Xxxx

Greater importance given to measures in this Preferred Option than Option 1