



Somerset County Council
Transport Policies
Strategic Environmental
Assessment

Environmental Report

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**Somerset County Council
Taunton**

Prepared by:



**ENVIRON
Exeter, UK**

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1 Introduction

1.1 This report

This report sets out the results of the Strategic Environmental Assessment (SEA) for Somerset's Third Local Transport Plan (which Somerset County Council is calling the Somerset County Council Transport Policies). This report – the Environmental Report – will be subject to consultation with local stakeholders at the same time as the Draft Somerset County Council Transport Policies. The purpose of this report is to:

- Give consultees information on the potential environmental and sustainability effects of the Draft Somerset County Council Transport Policies to aid them in their consideration during consultation; and
- Assist Somerset County Council in improving the Final Somerset County Council Transport Policies by highlighting where there are potential environmental and sustainability effects of implementing the Draft Somerset County Council Transport Policies as written.

Please note that a Non Technical Summary of this report is also available as a separate document.

1.2 The SEA process

The Somerset County Council Transport Policies is being subject to a full SEA in line with the requirements of *Statutory Instrument 2004 No. 1633: The Environmental Assessment of Plans and Programmes Regulations 2004* (otherwise known as the SEA Regulations). These Regulations require an environmental assessment to be carried out on certain plans and programmes prepared by public authorities that are likely to have a significant effect upon the environment. Certain plans, including LTPs (the Somerset County Council Transport Policies is the equivalent of the Third Somerset LTP), have been deemed by the Government to automatically require SEA¹.

SEA extends the assessment of environmental impacts from individual development projects to county and district level plans. Strategic Environmental Assessment is a systematic way to examine (and suggest ways to reduce) the likely effects of a plan on environmental, social and economic objectives.

The SEA has been carried out by independent consultants ENVIRON, using, where appropriate, the following guidance: Department for Transport (April 2009): *Strategic Environmental Assessment for Transport Plans and Programmes. TAG Unit 2.11. "In draft" Guidance*.

1.3 The Somerset County Council Transport Policies process

The Transport Act 2000 required most local transport authorities (County Councils, Unitary Authorities and partnerships in metropolitan areas) in England to produce and maintain a

¹ This is set out as a requirement in FTP guidance and also in Appendix 1 of *A Practical Guide to the Strategic Environmental Assessment Directive* (Office of the Deputy Prime Minister, 2005).

Local Transport Plan (LTP). LTPs set out the authority's local transport strategies, policies, and an implementation programme. The first five year LTPs (LTP1) covered the period 2001/02 to 2005/06 and LTP2s cover the period 2006/7 to 2010/11.

The Local Transport Act 2008 (which amends the Local Transport Act 2000) sets out the requirements for LTPs. LTPs are still mandatory documents but the Act has changed their role slightly. The main changes between LTP2 and LTP3 are shown below.

Differences between LTP2 and LTP3

- LTP will no longer be formally assessed by DfT
- DfT will no longer impose mandatory targets or require submission of formal transport monitoring reports (although LTPs will be examined as part of the Comprehensive Area Assessment process)
- LTPs must now include separate strategies and implementation plans (although most LTPs already include these)
- LTP will not necessarily have a five year timescale. Local transport authorities may replace their Plans as they see fit but LTPs must be kept up to date

The changes to LTP place responsibility on individual authorities to consider how to use the LTP process in the way which works best for them.

The Somerset County Council Transport Policies is the equivalent of the Third Somerset Local Transport Plan.

1.4 The structure of the Environmental Report

The Environmental Report is divided into the following sections:

- Section 2 outlines the content and objectives of the Somerset County Council Transport Policies;
- Section 3 outlines the stages of the SEA and the relationship of the SEA to other assessment processes;
- Section 4 outlines the work that was undertaken to define the scope of the SEA;
- Section 5 outlines the methods used to assess the Draft Somerset County Council Transport Policies and the Somerset County Council Transport Policies options;
- Section 6 outlines the results of the assessment of the Somerset County Council Transport Policies options;
- Section 7 outlines the results of the assessment of the Draft Somerset County Council Transport Policies (including mitigation measures);
- Section 8 outlines how the effects of the plan will be monitored; and
- Section 9 outlines the next steps of the SEA, including the consultation

2 Somerset County Council Transport Policies

2.1 Outline of the plan's contents

The Somerset County Council Transport Policies document is both a long term transport strategy (2011-2026) and also a short term Implementation Plan (2011-2014). The long term strategy element of the plan is policy based and set out policies to guide transport planning and development in Somerset, presented in the following sections:

- Making a positive contribution (which addresses partnerships needed to provide more sustainable transport);
- Living sustainably (which addresses climate change and improving sustainable modes and community transport);
- Ensuring economic well-being (which addresses the transport improvements that are needed in various areas of the county, parking, freight management, asset management and integration with the planning system);
- Achieving and enjoying (which addresses school travel);
- Staying safe (which addresses road safety); and
- Being healthy (which addresses air quality and access to health).

The Implementation Plan sets out how the council intend to allocate resources over the next three year period. It also explains how the council plan to use additional investment from a range of different sources to address Somerset's transport challenges.

2.2 The objectives of the Somerset County Council Transport Policies

The objectives of the Somerset County Council Transport Policies are set out as a number of goals. These are outlined below:

- *Making a positive contribution:* People of all ages and walks of life are valued. They support others in their local communities and provide leadership on important issues. Communities are forward looking and determine what happens in their area. Organisations work well together in partnership and everyone is proud to live in Somerset and to promote its benefits to others;
- *Living sustainably:* Everyone is aware of the impact of climate change on the county and of the importance of reducing and managing its effects. They use less energy and are proud of our local production. People walk and cycle more and take public and community transport whenever they can. Homes are of good quality, affordable and sustainable. Residents can reach jobs, shops, schools and medical care easily as new communities are planned in a way that reduces the need to travel. Transport, roads and new technology links are effective. Communities work well together, are forward looking and known for their self-reliance. Somerset's countryside is treasured and valued for what it adds to the quality of people's lives;
- *Ensuring economic well-being:* Somerset is a place with high value and secure jobs and people are confident that their children have good career prospects. Working

people are well skilled and wish to improve what they can offer. Somerset has a national reputation for quality and innovation, based on our excellence in a wide range of sectors. New enterprises that will benefit the local environment are encouraged and people choose to buy locally provided food, goods and services. New building development is well planned and makes the most of economic opportunity;

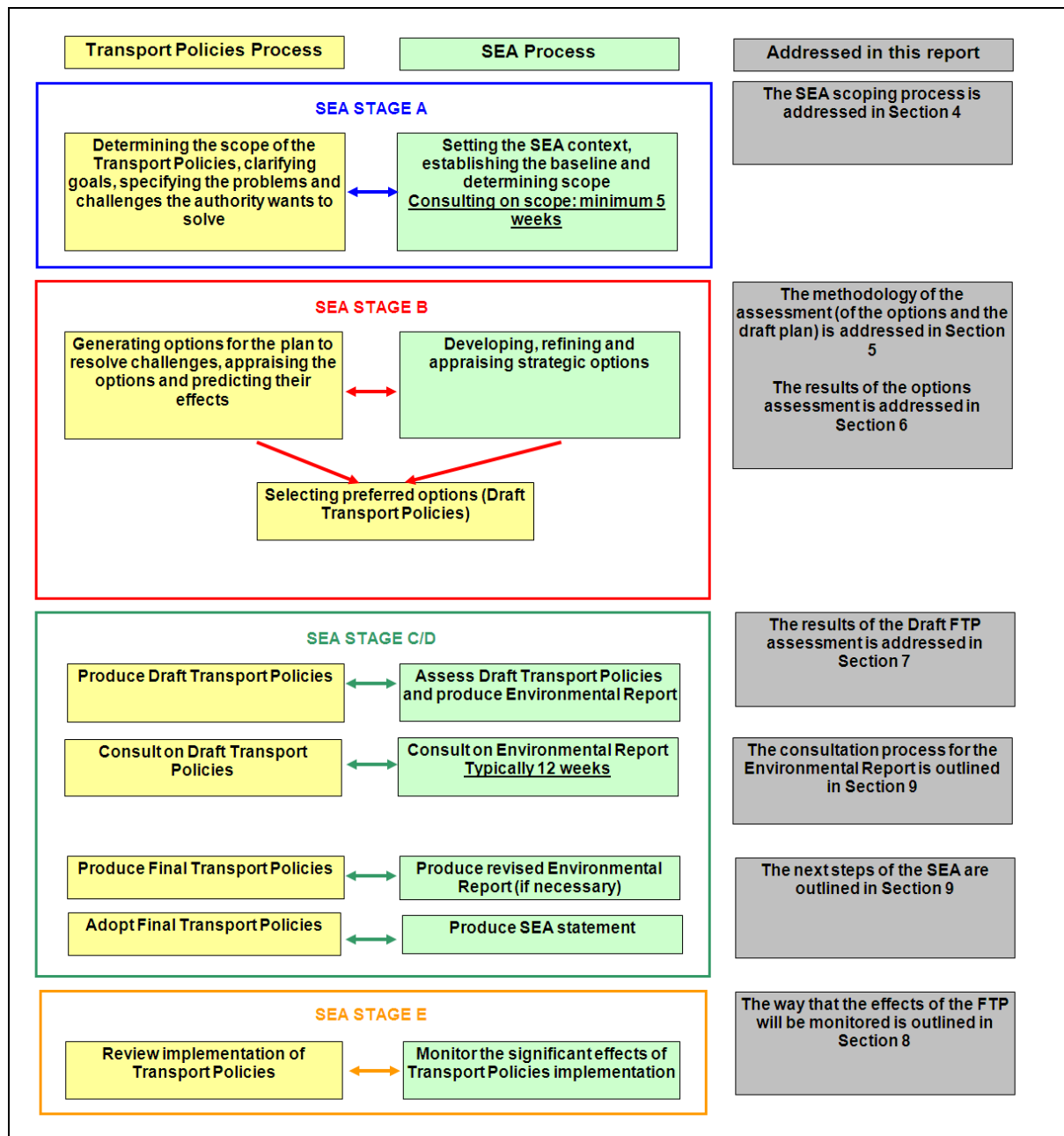
- *Enjoying and achieving:* Somerset is a great place to live and to raise children. Everyone feels able to develop and improve their skills and life opportunities, free from poverty and discrimination. People have high aims for themselves and their families. They have confidence in the high quality of all learning opportunities available and can enjoy a broad and stimulating range of cultural activities that enhance their quality of life. People have choice and control over their lives, whatever their age, situation and background; and independent living is promoted and supported;
- *Staying safe:* People of all ages feel safe in their homes and on the streets and roads of Somerset. There are strong and positive relationships between people of all ages and from different backgrounds. People take great care when driving and there are few road accidents. The number of crimes and offences committed in Somerset is low. Vulnerable people of all ages and backgrounds feel secure and action is taken to protect them when it is needed; and
- *Being healthy:* People are healthy and everyone has the information and support to be able to make the best choices about their lifestyles. There is little difference between an individual's health and life expectancy from one community to another. There is a range of health services to meet differing needs, including those who find it difficult to connect with services. People requiring care or support have good information and help that is responsive to their needs and gives them greater choice, convenience and ownership.

3 Stages of the SEA

3.1 Introduction

SEA is a tool to ensure the integration of environmental and sustainability considerations into the plan and decision making process. To achieve this aim, SEA is an iterative process informing each stage of the Somerset County Council Transport Policies development. The Somerset County Council Transport Policies and SEA processes are shown in Figure 1.

Figure 1: The Somerset County Council Transport Policies and SEA Processes



3.1.1 Habitat Regulations Assessment

The *Conservation of Habitats and Species Regulations 2010* (SI 2010/490) provides legal protection for habitats and species of European importance (so called Natura 2000 sites). The Regulations require that any plan or programme that is likely to have a significant effect on a European site is subject to Habitat Regulations Assessment (HRA). The Regulations state that “the plan-making authority for that plan shall, before the plan is given effect, make an appropriate assessment for the implications for the site in view of that site’s conservation objectives”.

Somerset County Council is therefore required to assess its Somerset County Council Transport Policies through the HRA process as policies and transport projects in the plan can potentially affect Natura 2000 sites. Somerset County Council has completed a HRA screening assessment to decide whether a full assessment will be required and a HRA screening report has been published alongside the Draft Somerset County Council Transport Policies. This screening report sets out a number of recommendations to improve the performance of the plan. The screening assessment concludes that providing these recommendations are met before the final Somerset County Council Transport Policies is submitted, there is unlikely to be a significant effect on the Natura 2000 site network. The recommendations are set out below:

- Policy 17: Concerning support for biofuel production and potential impacts on several SACs supporting bat populations. The policy should refer to biofuel development being Habitats Regulations (2010) compliant. The policy also addresses new technologies, such as electric vehicles or alternative fuels. The policy should state - *Nonetheless, before supporting new technologies we also need to ensure that wildlife species and habitats that are sensitive to changes in land use be considered and that the provisions of the Conservation of Habitats and Species Regulations 2010 (the ‘Habitats Regulations’) are complied with;*
- Policy 19: Concerning access to the Public Rights of Way network and its promotion and mapping and subsequent potential recreational impacts on habitats and species from several Natura 2000 sites. An additional policy should be added that states: *Ensure that any walking route considered does not lead to increases in habitat degradation or loss, or species disturbance on or in areas ecologically supporting Natura 2000 sites and that where this is likely to occur the route is not promoted or mapped including on websites.* Further reference should also be made to the Habitat Regulations as a duty the council must perform;
- Policy 24: Concerning North Petherton Bypass and potential effects on barbastelle bat habitat and behaviour from the Exmoor & Quantocks Oak Woodlands SAC. The policy should be amended to read North Petherton *Eastern Bypass;*
- Policy 25: Concerning new access and link roads and possibly a park and ride site and potential effects on lesser horseshoe bat habitat and behaviour from the Hestercombe House SAC. The policy should be amended to say *New access and link roads to facilitate development ...but which are also routed to avoid impacts on Hestercombe House SAC;* and
- Policy 25: Add to the Bridgwater, Taunton and Wellington Future Transport Strategy after paragraph beginning with, *Somerset authorities have been planning...* a new paragraph that says “*However, new access and link roads and any other infrastructure*

servicing development may have impacts on the habitat use and behaviour of lesser horseshoe bats from the Hestercombe House Special Area of Conservation (SAC) in the area north of Taunton from Monkton Heathfield to Staplegrove. Any proposal would have to ensure that there is no adverse effect on the maintenance of the population of lesser horseshoe bats in order to comply with the Habitats Regulations.

3.1.2 New Approach to Appraisal (NATA)

The New Approach to Appraisal (NATA) is the process which the government recommends is used by transport authorities to formulate and test transport options (both scheme options and options for plans and programmes). NATA has a set of five objectives and the process involves testing options against these objectives. This appraisal is conducted through filling in worksheets for each subject and then presenting the results of each option in an Appraisal Summary Table (AST). Government guidance on SEA for transport plans makes it clear that SEA should use the NATA framework as a basis and utilise its methodologies where possible. Because of the changes to the national objectives for transport (which have not yet been fully reflected in NATA guidance), ENVIRON sought guidance from DfT on how to integrate NATA and SEA. DfT indicated that SEA does not require the production of ASTs, nor does it require the use of the National Transport Goals and/or the NATA framework. However, it may be useful to take the NATA framework as a basis when developing the SEA framework. In light of this guidance (and in light of the changes to the national objectives for transport) the following approach to the SEA in terms of its relationship with NATA has been taken:

- Ensuring that the SEA objectives address the Government's new National Transport Goals but also include local issues where relevant; and
- Review of the NATA worksheets and methodologies to see if any of these methodologies can be used in the assessment. Unfortunately, the level of detail that NATA assumes will be available to the assessment is not generally present for a strategic level SEA. Therefore, it has been necessary to rely on expert judgment as the primary methodology used to assess the plan (see Section 5 of this report for more detail). Therefore the assessment is not presented using the NATA worksheets and Appraisal Summary Tables, however it is fully consistent with SEA good practice and adheres to the requirements of the SEA Regulations.

4 Setting the Scope of the SEA

4.1 Introduction

The purpose of scoping is to decide which issues should be covered in the SEA and to what level of detail. To do this the SEA team must collect information on what the environment is like in Somerset, how it is likely to change and must decide how transport can help to deliver the targets of other plans and programmes, for example how transport can help achieve carbon emissions targets. A comprehensive scoping report and topic papers were produced in September 2009 that set out this process. The following six topic papers were produced:

- Health (Topic Paper 1);
- Community (Topic Paper 2);
- Economy (Topic Paper 3);
- Accessibility (Topic Paper 4);
- Environment (Topic Paper 5); and
- Natural resources (Topic Paper 6).

Each topic paper set out:

- The other relevant policies, plans, programmes and sustainability objectives that the Somerset County Council Transport Policies is influenced by;
- Information on the baseline environment and the key environmental and sustainability issues faced in the county; and
- A SEA framework to assess the plan against. The SEA framework is the list of sustainability criteria that the plan is measured against in order to test its sustainability. This SEA framework is based on the Government's National Transport Goals but also includes local issues where relevant.

These topic papers can be found in Appendix1 of this Environmental Report. The scoping report and topic papers were sent to consultees in September 2009 for comment. The SEA team received one response, in support of the approach taken. The results of the different scoping stages are summarised below concluding with the presentation of the SEA framework that has been used to test the plan against.

4.2 Links with related plans, programmes and objectives

The SEA Regulations (see Schedule 2) state that an Environmental Report should outline:

- The plan's relationship with other relevant plans and programmes; and
- The environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation.

In order to fulfil this requirement, a review has been undertaken of other relevant plans, policies, programmes (PPPs) and objectives. The full results can be found in each individual Topic Paper in Appendix 1. The results are summarised below.

Many plans and policies set the context for transport, some directly and some indirectly. These include the National Transport Goals, the Regional Spatial Strategy (RSS)², the Sustainable Community Strategy and the Local Area Agreement. It is vital that the Somerset County Council Transport Policies directly helps to deliver the goals of these other strategies. As well as these key documents international and national legislation and the plans and policies of other organisations (or other departments within the council) can have an influence on how the Somerset County Council Transport Policies should develop.

In each Topic Paper a summary has been included of the key documents that the Somerset County Council Transport Policies should help to deliver – the National Transport Goals, the Regional Spatial Strategy, the Sustainable Community Strategy and the Local Area Agreement. A separate review has also been undertaken on the other important policy documents that will influence the delivery of the Somerset County Council Transport Policies. A summary of these key documents has been provided below. Please see Appendix 1 for the full policy review.

4.2.1 National Transport Goals

Developing a Sustainable Transport System (DfT, 2008) outlines five National Transport Goals:

- To support national economic competitiveness and growth, by delivering reliable and efficient transport networks;
- To reduce transport's emissions of carbon dioxide and other greenhouse gases, with the desired outcome of tackling climate change;
- To promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society;
- To contribute to better safety, security and health and longer life-expectancy by reducing the risk of death, injury or illness arising from transport and by promoting travel modes that are beneficial to health;
- To improve quality of life for transport users and non-transport users, and to promote a healthy natural environment.

The Somerset County Council Transport Policies has a direct role in delivering the National Transport Goals locally and the SEA tests how well it will do this.

4.2.2 Sustainable Community Strategy and Local Area Agreement

The Sustainable Community Strategy for Somerset 2008-2026 has the following aims:

- Making a positive contribution;

² Please note that Regional Spatial Strategies have been revoked by the new government as of 6th July. At the time of the SEA scoping it was good practice to ensure that the principles and objectives of the RSS were reflected in the SEA. Because of this there may still be some references to the RSS in this Environmental Report.

- Living sustainably;
- Ensuring economic wellbeing;
- Enjoying and achieving;
- Staying safe; and
- Being healthy.

There are a number of objectives and actions relevant to this theme including:

- Aim 1: Making a Positive Contribution: The vision for 2026 – People of all ages and walks of life are valued.
- Relevant challenges highlighted under Aim 1 are:
 - Strengthen the leadership given by councils and partners through closer working together and engage local people and communities in decision making; and
 - Widen and strengthen the involvement of local people in their communities.

Relevant targets are:

- Increase the percentage of people who feel that they can influence decisions in the area in which they live; and
- Increase the involvement of people in public activities in the local area.

The Local Area Agreement (LAA) is the key delivery plan for the Sustainable Community Strategy. It sets out the Government's and partners' priorities for Somerset and what will be tackled first. Success will be gauged by measuring success against indicators. 32 indicators have been selected from a national list prepared by the Government and 18 have been selected to reflect issues of local importance. Relevant indicators include:

- NI 1 % of people who believe people from different backgrounds get on well together in their local area;
- NI 47 People killed or seriously injured in road traffic accidents;
- NI 56 Obesity in primary school age children in Year 6;
- NI 75 Access to services and facilities by public transport, cycling and walking;
- NI 121 Mortality rates from all circulatory diseases at ages under 75;
- NI 137 Healthy life expectancy at aged 65;
- NI 151 Overall Employment Rate;
- LP I6 Health of the Natural Environment (basket of indicators as follows).
 - All 7 authorities to have access to appropriate ecological expertise and a Service Level Agreement with an appropriate ecological data provider;
 - Local Biodiversity Action Plans and AONB plans included within Sustainable Community Strategy of all 6 authorities and Exmoor National Park Authority;
 - All 7 authorities' climate change adaptation plans include action on wildlife adaptation;

- Declare two additional Local Nature Reserves / National Nature Reserves per District;
 - Produce a Natural Environment Strategy for Somerset, drawing together a number of individual strategies on Biodiversity, Land , Coastal, Landscape, Woodland, Water & Catchment management; and
 - Establish a network of community woodlands near Somerset’s Towns/large villages and promote the health benefits of green space and the play agenda.
- NI 185: CO₂ reduction from Local Authority operations;
 - NI 186: Per capita CO₂ emissions in the Local Authority area; and
 - NI 188: Adapting to climate change.

The Somerset County Council Transport Policies can help deliver a number of these outcomes and targets. Where appropriate the contribution of transport to these outcomes and indicators has been built into the SEA framework.

4.3 Baseline data and issues

The SEA Regulations require an examination of the current state of the environment and the likely evolution of the environment without the implementation of the plan (the “without the plan scenario”)³. This has been done through a desk-based study with the full results reported in the individual Topic Papers in Appendix 1. It is important that the SEA is focused on how the Somerset County Council Transport Policies can influence environmental and sustainability conditions. For this reason each Topic Paper clearly outlines how transport can affect the particular issue. This has then guided the baseline data that has been collected and has ensured that the most appropriate SEA framework is designed. A summary of the main issues identified is shown in Table 2.

Table 2: Sustainability baseline issues
Health
<ul style="list-style-type: none"> • The population is ageing and this needs to be considered in the provision of services and transport • Poor and worsening air quality in Taunton and Yeovil especially and road traffic noise along a number of sensitive routes including the stretches of the M5, A38, A358, A303, A3088, A37 and the A39 • Child road accident statistics are higher than target and pedestrian accidents have increased in the last year of data • Obesity and childhood obesity are increasing; less than 25% of people in Somerset undertake as much physical activity as recommended and the number of people cycling is below target. However, cycling and walking in the Taunton Strategy Study Area in particular is higher than the national average
Community
<ul style="list-style-type: none"> • People generally feel safer in Somerset and feel that anti social behaviour is less of an issue than people in the UK on average

³ Please note that the without the plan scenario is discussed and reported in Section 5.

Table 2: Sustainability baseline issues

- Community severance caused by large volumes of traffic
- Development in Somerset will occur mainly in larger towns and adequate transport is needed to support this

Economy

- Up to 31% of people who live in Somerset work outside the county boundary
- Most people still travel to work by car and a large proportion of pupils are still driven to school
- There is congestion in key points in Taunton, Bridgwater and Yeovil but congestion is better than target due to the economic slowdown
- Unclear data on the growth in overall traffic mileage due to changes in fuel prices and economic performance
- Number of HGVs using Somerset's strategic routes is declining but decisions made by other authorities and the use of satellite navigation equipment can cause problems in Somerset

Accessibility

- Access to services (especially healthcare) in Somerset is poor in many areas for people without a car
- Travel by different age groups and social groups can be very different and provision needs to be tailored more effectively
- Bus punctuality is improving but there are problems with bus stop information
- Somerset has good rail access between the main towns and to areas outside the county. Use of the rail network has increased in recent years

Environment

- Somerset is a county rich in biodiversity from international, national and local sites. Many of these sites and habitats occur next to highways, cycle routes, green lanes or other transport corridors
- Somerset has a number of Special Road Verges which are identified sites within the highways that are of biodiversity interest, usually containing wild flowers of importance, such as orchids
- A large proportion of Somerset is protected landscape or is rural in character. Transport can affect landscape in a number of ways and transport is having a detrimental affect on a number of countryside character areas
- Transport planning can contribute to green infrastructure networks by enhancing biodiversity interest on rights of way and promoting new rights of way that link areas of green infrastructure
- Transport can have negative effects on the townscape and heritage of the settlements it passes through

Natural resources

- There is no data available on the amount of renewable energy used in the transport system in Somerset. The target is 10% of the total energy use in transport systems to be derived from renewable sources
- Somerset's cars emit more CO₂ than in other areas because of the rural nature of the county and the average age of the fleet. Road transport emits a higher amount of CO₂ in Sedgemoor, South Somerset and Taunton Deane. This is likely to be due to the rural nature of South Somerset and the influence of the M5 in Sedgemoor and Taunton Deane

Table 2: Sustainability baseline issues

- The county is likely to experience a number of changes due to climate change such as warmer wetter winters, more stormy weather and hotter summers. This will have numerous effects on the transport system
- Water consumption per head is higher in Somerset than in the UK as a whole. This is an important issue in terms of maintenance
- There has been deterioration in groundwater quality in the Wessex Water region. Transport can also have impacts on sensitive watercourses and soil if drainage is not adequate
- Use of recycled aggregates – Somerset re-uses a high proportion of road planings and this should continue
- Transport of minerals and waste by road can cause problems to local communities

4.4 Definition of the SEA framework

The SEA Regulations do not specifically require the use of a framework of objectives in SEA, but they are a recognised way in which environmental effects can be described, analysed and compared. Each part of the SEA framework should be a statement of what is intended for the plan, specifying a desired outcome over a specified duration.

The SEA framework for the Somerset County Council Transport Policies SEA has been chosen after a review of the important issues and policies (including the RSS, National Transport Goals and Local Area Agreement) and has been chosen to reflect the influence that transport can have on meeting objectives and resolving issues. DfT Guidance on SEA⁴ states that the performance of the plan against the SEA framework is normally measured by using indicators (to avoid confusion with monitoring indicators being developed as part of the monitoring strategy – these are being termed appraisal questions). A number of appraisal questions have been chosen and these have been phrased in the form of questions which are specific to the potential effects of strategic transport policies. Where targets exist for a particular issue this has been identified.

Links to the Local Area Agreement Indicators are highlighted where applicable to show where transport can help to meet wider Government objectives. The SEA framework is shown in Table 3.

⁴ Strategic Environmental Assessment for Transport Plans and Programmes TAG Unit 2.11 "In draft" Guidance (DfT, April 2009)

Table 3: SEA framework	
Somerset County Council Transport Policies SEA objective. Will the Transport Policies...	Somerset County Council Transport Policies SEA question. Will the Transport Policies...
1. Health	
1a: Improve the safety of the transport system?	<ul style="list-style-type: none"> • Lead to a decrease in traffic accidents /accident severity and help to meet KSI targets (link to LAA indicator NI 47 on road accidents)?
1b: Make healthier modes of travel easier and more attractive?	<ul style="list-style-type: none"> • Increase walking and cycling and help to meet the Somerset SCS target to increase the number of children and adults regularly participating in physical activity (link to LAA indicator NI 56 on obesity; NI 121 on circulatory disease; NI 137 on life expectancy)?
1c: Reduce the impact of the transport system on air and noise pollution?	<ul style="list-style-type: none"> • Reduce traffic/congestion that affects an AQMA or would help to meet air quality objectives? • Cause any changes to traffic levels (particularly a change of over 10%) or the nature of traffic (*) past sensitive receptors or on sensitive routes (**) that would help to achieve WHO noise guidelines? • Reduce traffic in tranquil areas?
2. Communities	
2a: Help to improve the quality of urban and rural centres?	<ul style="list-style-type: none"> • Reduce traffic levels, congestion or the nature of traffic (*) in residential areas / town and village centres? • Cause changes that reduce the impact of the transport system on townscape (this could include changes to highway signage, lighting and highway furniture) or introduce features that enhance the character of towns? • Support the spatial strategy for the area including providing improvements to transport in rural areas?
2b: Improve the security of the transport system?	<ul style="list-style-type: none"> • Make transport systems / interchanges more secure and contribute to the targets in the Somerset Crime Reduction and Drugs Strategy to reduce the fear of crime and reduce anti social behaviour?
2c: Reduce the community severance effects of transport?	<ul style="list-style-type: none"> • Result in a reduction in community severance (i.e. improved crossing facilities, reduced traffic speed, reduced traffic levels)?
3. Economy	
3a: Help to manage and maintain the existing transport system efficiently?	<ul style="list-style-type: none"> • Help to manage routes effectively in order to maintain journey times?
3b: Invest in transport improvements that help the economy of Somerset?	<ul style="list-style-type: none"> • Include schemes that decrease journey times, congestion, improve journey time reliability and help to meet congestion targets in the Somerset County

Table 3: SEA framework	
Somerset County Council Transport Policies SEA objective. Will the Transport Policies...	Somerset County Council Transport Policies SEA question. Will the Transport Policies...
	Council Transport Policies?
3c: Provide more sustainable transport access to rural areas, the countryside and visitor attractions?	<ul style="list-style-type: none"> • Increase access to tourist attractions, rural areas and the countryside by public transport and help to meet the objective of the Somerset Economic Strategy to revitalise the economy of Somerset's market towns and rural communities?
3d: Reduce the impact of road freight on communities?	<ul style="list-style-type: none"> • Provide / encourage the use of alternatives to road freight and provide routes for freight traffic that reduces impacts on communities and the environment?
4. Accessibility	
4a: Improve sustainable access to basic services for all groups in society	<ul style="list-style-type: none"> • Improve provision of public and community transport that makes key services (***) more accessible (link to LAA indicator NI 75 Access to services and facilities by public transport, cycling and walking). • Improve access for certain equality groups (race, gender, disability, age, religion and sexual orientation) and contribute to the DfT goal of promoting greater equality of opportunity for all citizens. This includes changes to physical infrastructure and services.
5. Environment	
5a: Protect and enhance biodiversity at all levels	<ul style="list-style-type: none"> • Cause direct habitat fragmentation / loss especially that would risk achievement of Somerset BAP priority targets? • Cause a change in traffic flows or nature of traffic (*) that will affect sensitive habitats or focal species?
5b: Protect and enhance buildings, sites, areas and features of historic, archaeological and architectural interest	<ul style="list-style-type: none"> • Cause direct impacts on sites or monuments through the provision of new infrastructure? • Cause a change in traffic flows or the nature of traffic (*) that affects townscape, sites and monuments valued for their cultural heritage or changes the number of sites at risk?
5c: Protect and enhance landscape quality and character	<ul style="list-style-type: none"> • Cause changes in traffic flows in areas that are valued for their landscape character? • Introduction of new infrastructure to existing areas. This will include new routes, changes to highways signing, lighting and highway furniture such as noise barriers?
6. Natural resources	
6a: Reduce the contribution of the	<ul style="list-style-type: none"> • Cause a change in vehicle miles or a change in the nature of traffic (*) that would cause changes in fuel

Table 3: SEA framework	
Somerset County Council Transport Policies SEA objective. Will the Transport Policies...	Somerset County Council Transport Policies SEA question. Will the Transport Policies...
transport system to carbon emissions	<p>use and CO₂ that would assist in meeting the SCS target of reducing the amount of carbon dioxide produced per person in Somerset (link to LAA indicator NI 185: CO₂ reduction from Local Authority operations; NI 186: per capita CO₂ emissions in the Local Authority area)</p> <ul style="list-style-type: none"> • Increase the use of energy from renewable sources in the transport system (to reach a target of 10% of the total energy consumed)
6b: Ensure that the transport system can cope with the unavoidable effects of climate change	<ul style="list-style-type: none"> • Reduce the unavoidable effects of climate change (link to LAA indicator NI 188: Adapting to climate change)
6c: Minimise the impact of the transport system on water resources, soil and mineral resources	<ul style="list-style-type: none"> • Cause an improvement in water quality that could help to meet the WFD target of achievement of good ecological status of water bodies by 2015? • Cause changes to maintenance regimes that may decrease the need for water or decrease the potential for flooding? • Reduce the demand for aggregate? • Help to protect loss or pollution of soils which support valued habitats or are already experiencing erosion?

(*): Nature of traffic is meant as a very broad term and refers to the make up of traffic (i.e. % of HGVs), timing of traffic, management of traffic (i.e. installation of speed humps, changes to road surfaces etc) or anything else that might cause increased nuisance and pollution.

(**): Sensitive receptor refers to homes, schools and hospitals

(***): Key services include schools and learning, open space and recreation, jobs, leisure facilities, areas of cultural heritage and health facilities.

5 Assessing the Effects of the Somerset County Council Transport Policies

5.1 Introduction

As recommended in DfT guidance, assessing the effects of the plan and the plan options has involved examining each strategy/measure in turn, and:

- Identifying the effects of the plan. This involves identifying changes to conditions in the future baseline scenario which are predicted to arise from the strategy/measure; and
- Assessing the significance of these effects. This involves (where possible) describing these changes in terms of the sensitivity of the environment and the nature and the magnitude of the impact (for example the geographical scale and the time period over which they will occur, whether they are permanent or temporary, positive or negative, probable or improbable, frequent or rare, and whether there are secondary, cumulative and/or synergistic effects). This information is then used to determine whether impacts are significant.

5.2 Identifying the effects of the plan

Many of the techniques used to provide a quantitative assessment for a transport project, for example the amount of carbon dioxide expected to be generated, are not always available to the team assessing strategic transport policies. This is because SEA is used to assess relatively broad strategies rather than site specific proposals. Because of this expert judgment is the main way that the effects of a strategic transport policies are identified as part of SEA. This has been supported by documented evidence where possible. Uncertainty will be minimised through clearly documenting the assumptions made and the evidence used in undertaking the assessment.

The SEA Regulations require an assessment of cumulative effects. These have been addressed in two ways as part of the assessment. The team has considered how the different elements of the plan might inter-relate to cause effects. The team has also considered how the plan and other plans / projects might inter-relate to cause effects.

The effects of the plan as a whole (including inter-relationships between effects) are reported through the summaries of the assessment for each SEA topic in Appendix 4.

The SEA has also considered what the effects of the plan are in combination with the effects of other developments, plans and programmes. Table 4 outlines the plans / actions that have been addressed as part of the assessment and how these have been considered in the assessment.

Table 4: Plans and actions included as part of the cumulative assessment

Plan / Action	Details
Transport plans and schemes	
Great Western Route Utilisation Strategy (Network Rail)	<p>Great Western Route Utilisation Strategy includes the following plans - A mix of lengthened and improved services on the Bristol Temple Meads to Paignton, Cardiff to Taunton and Gloucester to Weymouth lines; increased capacity around Bristol, on the route towards Taunton; reduced journey times between Bristol Temple Meads and Bridgwater through linespeed improvements; and the inclusion of a stakeholder aspiration to reopen a station in Wellington.</p> <p>The cumulative effect of the Somerset County Council Transport Policies and the Great Western Route Utilisation Strategy has been considered through the assessment of policy 15.</p>
M5 Route Management Strategy (Highways Agency)	The Highways Agency has been consulted by telephone and have indicated that there are no HA schemes and / or strategies that they believe need to be considered as part of the cumulative assessment.
Spatial strategy and developments	
<p><i>General note on the new planning system: The new government has indicated that future planning will be based upon local evidence of housing need and community level planning. The Somerset County Council Transport Policies assumes that strategic sites will come forward at some point in the future, (although some areas will be beyond 2026), and recognises that the precise location and scale of development at individual sites will evolve over the next few years. It is likely, therefore, that growth numbers over the lifetime of this Somerset County Council Transport Policies may be lower than those outlined below. As areas are brought forward for delivery, each site will need to be tested and reassessed proportionately on a case-by-case basis to determine the level and scale of transport intervention required to deliver the objectives of this strategy. Please note that the information below has been provided by Somerset County Council and is based on the latest information available to them.</i></p>	
<p>Taunton, Bridgwater and Wellington: Local Planning Authorities have been planning on the basis of local evidence of housing need and national housing requirements for the area to 2026 which suggested 7,700 new homes and 7,500 new jobs in Bridgwater, 18,000 new homes and 16,500 new jobs in Taunton, and 3,800 new homes in the rural remainder of Taunton Deane, including Wellington. The most up to date housing numbers were built into the Taunton Transport Strategy Transport Model. The SEA has used the information from this model as evidence and therefore, the SEA is effectively a cumulative assessment.</p> <p>Yeovil: A number of significant housing and employment developments are anticipated to take place in Yeovil over coming years, although there is uncertainty over the absolute numbers and phasing of this development. As a result of this uncertainty, planning for this growth is at an embryonic stage.</p> <p>Other areas within Somerset: On the basis of existing information, Frome, Glastonbury, Shepton Mallet, Street, Wells, Bridgwater, Burnham-on-Sea and Highbridge, Chard, Crewkerne, Ilminster, Wincanton, Yeovil, Taunton, Wellington and Minehead are likely to be the focus of locally significant scales of development. Development in small towns and villages will be on a small scale to meet the needs of the settlement and catchment area.</p> <p>The cumulative effect of the Somerset County Council Transport Policies and the spatial development strategy has been considered through the assessment of policies 24-28.</p>	
Other developments	The development of Hinkley Power Station is likely to have some effects on the M5 and A38 corridor. Due to the scale of the proposals and the uncertainty surrounding its progression, full details of the proposed

	transport strategy for Hinkley are not yet known and cannot be assessed.
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5.3 Assessing the significance of the effects

Once the effects are identified, it is important to discuss which of the effects are likely to be minor and which significant. The SEA Regulations specify the criteria that should be taken into account when determining likely significant effects. These criteria, which principally relate to the nature of the effects arising from the plan and the value and vulnerability of the receptors, are as follows:

- How valuable and vulnerable is the receptor that is being impacted?
- How probable, frequent, long lasting and reversible are the effects?
- What is the magnitude and spatial scale of the effect?
- Are the effects positive or negative?

The assessment of significance should involve, where possible, the assessor considering the above criteria for each potential impact along with a consideration of how the plan will help to achieve (or not) the SEA objectives.

In the case of the Somerset County Council Transport Policies (as with many strategic plans), it is difficult to discuss the above criteria and therefore assign significance to the effects because of the lack of detail available on the likely location and nature of the measures planned. The Somerset County Council Transport Policies is split into a long term strategy document and an Implementation Plan. The long term strategy document for Somerset is mainly policy based with little guidance given in most cases to the likely location and timescale of the measures indicated (as may be expected in a long term policy based document). Even in the area policies where locations for measures are sometimes given, the Somerset County Council Transport Policies is uncertain about when (or even if) these measures will be taken forward. This uncertainty is as a result of the lack of certainty over funding for the delivery of future transport services and schemes. This is outside of the control of Somerset County Council. The Implementation Plan is also a relatively strategic document and highlights the fact that funding levels are not yet known.

Because of these uncertainties, it is difficult to consider the criteria above as in many cases there will not be the information available on the nature of the receptors and the potential impacts. However, the SEA team feel that scoring every impact as uncertain is not helpful. Therefore, we have adopted the following approach to significance for the assessment which focuses more on the achievement of the SEA objectives and the existing baseline information (please see Table 5).

Table 5: SEA significance scores		
Score	Description	Symbol
Significant positive impact	The plan addresses all the elements that are required to protect the environment and address the sustainability issues in Somerset and would help to achieve all of the applicable SEA objectives (if implemented). The plan also sets out how, where and when these policies will be implemented and these will have a positive impact with relation to characteristics of the effect and the sensitivity of the receptors.	++
Minor positive impact	The plan addresses all the elements that are required to protect the environment and address the sustainability issues in Somerset and would help to achieve all of the applicable SEA objectives (if implemented).	+
Neutral	The plan does not have an effect on the achievement of the SEA objectives	0
Minor negative impact	The plan conflicts with some of the SEA objectives	-
Significant negative impact	The plan conflicts with some of the SEA objectives. The plan also sets out how, where and when these policies will be implemented and these will have a negative impact with relation to characteristics of the effect and the sensitivity of the receptors.	--
Uncertain	It is unclear whether there is the potential for a negative or positive effect on the SEA objective.	?

6 The Effect of the Options of the Somerset County Council Transport Policies

6.1 Introduction

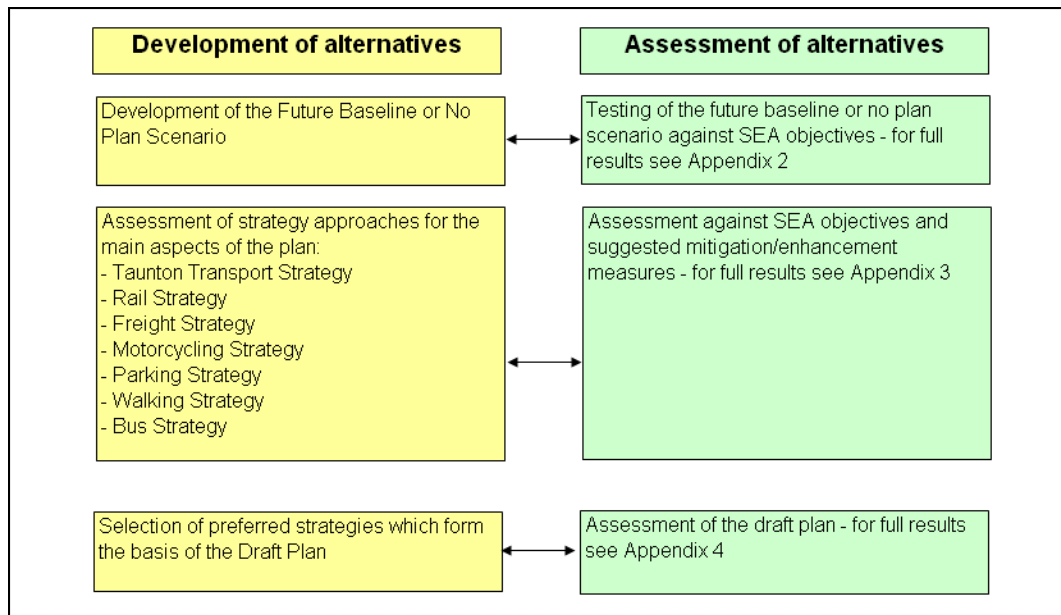
The SEA regulations state that an Environmental Report should outline of the reasons for selecting the alternatives dealt with and these reasons are outlined in this section of the report. The council has set out options/alternatives for the main policy elements of the plan. The options selected for each strategy within the Somerset County Council Transport Policies represent a range of different actions and initiatives that could be used to achieve the best results. Some options were based on education and softer measures, others were directed towards engineering solutions and some options were a combination of the two. When developing these options, Somerset County Council considered whether these options were broadly affordable, whether they would be acceptable to Somerset communities and also whether they were deliverable.

A number of options were developed for Taunton on the basis of the considerations outlined above. However, at the stage of the Draft Somerset County Council Transport Policies no alternative options have been outlined for Yeovil. There are several reasons for this. Over the last 2-3 years, Somerset County Council has been collecting data and evidence in order plan infrastructure and services to support proposed growth in housing and employment in the Taunton area (Wellington, Taunton, Bridgwater) and Yeovil. Much of this work has been guided by the land use planning work being undertaken by the District Councils in these areas. While parcels of land for development in the Taunton area have been broadly determined, in Yeovil there is still discussion amongst local decision makers as to where the best place is to allocate the growth. As a result, Somerset County Council has not been able to accurately model and test the different spatial alternatives for Yeovil and therefore, no options have been developed. Somerset County Council are therefore continuing to use their previous work on the Eastern and Western corridor improvement options as a basis for the strategy but recognise that these will eventually be superseded by a Yeovil Transport Strategy.

The strategy options made available to the SEA team were assessed against the SEA objectives and mitigation / enhancement measures suggested for the further development of the options. The results of the options assessment are discussed below. The SEA Regulations state that the SEA should identify, describe and evaluate the likely significant effects of implementing the plan or programme; and reasonable alternatives⁵. The way that reasonable alternatives are defined in the Somerset County Council Transport Policies process is through identification and testing of plan options.

The approach taken for the development and assessment of the Somerset County Council Transport Policies plan options is outlined in Figure 2 below.

⁵ Please note that for the purposes of the assessment the options presented have been considered as options and as alternative options. Therefore this report uses the terms options and alternatives interchangeably.

Figure 2: Development and assessment of options

6.2 Testing the future baseline or no plan scenario

6.2.1 Methodology

A required step in SEA is testing the likely evolution of the baseline environment in the absence of the plan. This scenario is called the 'future baseline' or the 'no plan' scenario. All of the subsequent strategies of the Somerset County Council Transport Policies are then compared against this no plan scenario to enable plan makers to see the difference the plan would make compared to a situation where no plan was implemented.

The definition of the future baseline assumes that the Somerset County Council Transport Policies will not be implemented. However, there are a number of other transport and development programmes and projects which are likely to go ahead even in the absence of the Somerset County Council Transport Policies. For this reason it is important to be clear about what is included in the future baseline. The assumptions made regarding the future baseline in Somerset are shown in Figure 3.

Figure 3: The Future Baseline

The continued operation of statutory functions of the Council:

- Home to school travel;
- Concessionary Fares
- Disability Discrimination Act measures;
- Rural Bus Subsidy Grant;
- Social services responsibilities;
- Fulfil maintenance duties;
- Promotion of road safety and measures to improve road safety and prevent accidents – through the Safety Camera Partnership;

- Road design to minimise accidents and environmental impacts (i.e. low noise surfacing);
- Highway surfacing maintenance to deal with safety related skid resistance issues relying on other agencies also to address this;
- Fulfil Air Quality Management Area duties;
- Under Transport Act 1985 - duty to formulate general policies for support of public transport services which are a requirement but are not being provided on commercial basis: subsidised services;
- Duty to maintain and strengthen bridges to meet EU requirements;
- Provision and enforcement of on and off road parking; and
- Duties under the Traffic Management Act 2004 including civil parking enforcement and network management duties;
- Accident investigation.

Assumption that other adopted plans and programmes will deliver as planned:

- Major developments and other plans if adopted will go ahead;
- Highways Agency schemes that are on the Government's Targeted Programme of Improvements will go ahead; and
- Plans of other transport agencies not reliant on the funds from the Somerset County Council Transport Policies will go ahead.

Assumption that strategies within the current LTP that were not limited to the lifespan of the plan will not continue:

Although most of the strategies within the LTP2 are not planned to be time limited, in reality they are because many of them rely on future funding from the Somerset County Council Transport Policies allocation. Therefore, it has been assumed that no further funding will be forthcoming from the Somerset County Council Transport Policies.

6.2.2 Results

The future baseline has been assessed against the SEA objectives and these results are shown in Appendix 2. The results are summarised below:

The future baseline will have negative effects on many of the SEA objectives as road traffic and congestion increases and development continues and intensifies. The spatial strategy for Somerset will mean that most development will probably occur in the larger towns in the county. In the absence of measures promoted through the Somerset County Council Transport Policies the necessary infrastructure will not be put in place and journey times, congestion and impact on communities and townscape will increase. Network management duties under the Traffic Management Act 2004 including civil parking enforcement will continue. However, despite network management duties remaining it would be increasingly difficult to manage routes effectively in the face of increased traffic growth and congestion. Only maintaining transport assets to a statutory minimum level would increase the maintenance backlog.

Private cars in Somerset emit more CO₂ than in other areas because of the rural nature of the county and the average age of the fleet. Road transport emits a higher amount of CO₂ in Sedgemoor, South Somerset and Taunton Deane. According to the Taunton Transport

Study CO₂ levels are forecast to increase by 42% in the study area in the future baseline scenario. CO₂ levels are also likely to rise in other areas of the county in the absence of measures brought forward as part of the Somerset County Council Transport Policies as there will be little support for sustainable modes and vehicle miles and congestion will increase.

Access to services in Somerset is poor in many areas for people without a car. Without the measures taken forward as part of the Somerset County Council Transport Policies, accessibility levels will decline as services are withdrawn.

In terms of safety, total KSI accidents and children KSI accidents are both in decline (although there was a slight increase in children KSI accidents in 2007 and 2008). The severity of car accidents may decrease in the longer term due to improved vehicle design and increased safety awareness amongst the public. However, in the absence of the measures in the Somerset County Council Transport Policies vehicle miles will increase (potentially increasing the number of accidents). Therefore, the number of accidents might increase in the absence of the plan but their severity may decrease due to changes in vehicle design.

Somerset is a county rich in biodiversity, cultural heritage and has many attractive and historic landscapes. Effects on the environment from the transport system are likely to worsen in the future baseline. Increasing traffic levels and congestion is likely to impact negatively upon landscape, townscape and biodiversity.

6.3 Assessment of the alternative options

6.3.1 Methodology

The strategy options available to the SEA team were assessed against the SEA objectives and mitigation / enhancement measures suggested for the further development of the options.

6.3.2 Results

This section of the report outlines the results of the options assessment. The results of the Taunton Strategy options assessment are summarised in Table 6. The results of the assessment of the other strategy options are summarised in Table 7. Table 8 outlines the recommendations / mitigation measures that were made as part of the Taunton Strategy options assessment. Please see Appendix 3 for the full results of the assessment.

Table 6: Assessment of Taunton strategy options

Future baseline to 2026	Scenario 1: Low costs and intervention	Scenario 2:	Scenario 3
<p>The baseline anticipates significant growth in travel demand which will lead to a progressive decline in the levels of service as travel demand outstrips supply. There will be a growth in uncapped travel demand of 53% and carbon dioxide is predicted to increase by 42%. Levels of delay and congestion are likely to increase in most locations in the study area. This is likely to reduce the economic productivity of the three towns and act as a barrier to investment.</p> <p>Increases in travel demand are likely to cause negative effects on the SEA objectives. For example, the number of people killed and seriously injured will remain the same (although slight injuries will decline); the significantly increased levels of traffic that will be experienced on most roads will affect townscape and reduce the number of people walking and cycling</p>	<p>Scenario 1a will have some positive impacts but in isolation is unlikely to make a significant contribution to the strategy objectives. There is a small reduction in trip levels and some forms of accidents but this is very small in relation to the forecast growth in demand in the baseline. The scenario includes a wide range of bus measures including improved route information, fares and payments, fleet characteristics, information systems and education. The initiatives should provide better access to public transport for both established users, but more particularly, new users. However, bus service journey times would not change significantly, reducing the effect that these new measures can have.</p> <p>A number of walking and cycling schemes will be delivered as part of the scenario. Vehicle demand will reduce by about 1% which may make the walking and cycling environment slightly more pleasant. This will not lead to a significant increase in walking and cycling but should lead to a small increase, thus increasing the numbers of people participating in physical activity as per the SEA indicator. The decrease of 1% in vehicle demand will not have a</p>	<p>The probability of the impacts for scenario 2 is medium (and this relates to all the SEA objectives). As a higher cost strategy scenario 2 is likely to face more barriers to delivery.</p> <p>There is a small increase in predicted traffic demand over the baseline and this will lead to a small increase in carbon emissions compared to the baseline. The picture in relation to congestion and journey times is mixed. Congestion will improve in the AM peak and deteriorate in the PM peak. In terms of journey times there is a mixed picture but the results are more negative in Bridgewater with three out of six key junctions modelled experiencing a worsening of conditions. The modelling and testing process has shown that scenario 2 does not indicate substantive achievement of the strategy objectives indicating that demand management should be a key aspect of the strategy.</p> <p>The scenario is likely to be positive in relation to public transport availability and the scenario is likely to cause significant bus journey time improvements relative to other vehicles (which will experience deteriorations of journey times on some routes) and increase the attractiveness</p>	<p>The probability of the impacts for scenario 3 is low / uncertain (and this relates to all the SEA objectives). As the highest cost strategy scenario 3 will face a number of barriers to delivery including cost and commitment of partners.</p> <p>As with scenario 2, predicted vehicle demand will increase by 2% compared to the baseline. This suggests that the impacts of demand management are being offset by the release of suppressed demand. However, congestion and delay will reduce in many areas of the system making journey times more reliable. The modelling shows an increase in delay on the motorway but an improvement over the baseline in all other areas. There is a significant reduction in junction delay recorded at many key junctions (24% reduction in delay at junctions overall). The performance in Taunton is the most positive. In Bridgewater only two out of the five modelled junctions will see a reduction in delay. Junctions in Wellington are not modelled. The fact that only 2 junctions will see a reduction in delay in Bridgewater is a significant negative impact as the Taunton Strategy Consultation highlighted the considerable concern in Bridgewater in particular regarding congestion. Scenario 3 confers benefits in terms of journey time reliability to both private and public users relative to the baseline. Compared to Scenario 2 the results are similar for private vehicles while showing some further slight improvements for public transport.</p> <p>Scenario 3 is the most positive of all the scenarios for</p>

Table 6: Assessment of Taunton strategy options

Future baseline to 2026	Scenario 1: Low costs and intervention	Scenario 2:	Scenario 3
<p>(and therefore, the numbers participating in physical activity as per the SEA indicator); there will be increases in traffic in some areas already suffering from poor air quality (including East Reach and M5 Junction 25) and a number of communities in the study area will experience increased community severance and a lack of adequate, reliable sustainable transport access to services (due to the absence of bus priority measures to support the investment of public transport operators).</p> <p>Under the baseline, in the absence of new transport measures, the transport planning system will fail to support the spatial strategy (as set out in the Regional Spatial Strategy) by failing to provide adequate infrastructure to support development in Taunton, Bridgwater and Wellington.</p>	<p>significant impact on air and noise pollution, carbon emissions, the quality and economy of urban and rural centres and other SEA objectives, however, compared to the baseline and environmental and social conditions are still likely to decline (as per the baseline).</p> <p>Scenario 1b, in common with scenario 1a also has negligible impacts on most of the strategy objectives. In addition to the schemes identified in scenario 1a, scenario 1b will lead to small but discernable reductions in delay and queuing at some key junctions and selected routes and may lead to small reductions in community severance and the improvement of some parts of urban centres. Examples include an 11% reduction in journey times on Staplegrove Road, a 29% reduction in journey delay on Obridge/Priorswood Road junction and a 58% reduction in journey delay on A38 Bridgwater/Toneway (all at AM peak). There are smaller reductions in delay in Bridgwater as a lot of the improvements are targeted to Taunton. In terms of severance, a significant proportion of the scheme improvements encourage pedestrian movements at junctions and visibility improvements so should make it</p>	<p>of bus travel relative to the car. However, in terms of walking and cycling, traffic levels are likely to be higher than in the baseline conditions (vehicle demand will be 2% higher) so conditions for walkers and cyclists are likely to deteriorate, thus decreasing the numbers of people participating in physical activity as per the SEA indicator.</p> <p>In terms of safety, a number of the schemes are included to address safety concerns. However, the scenario will lead to a slight increase in both KSI and slight accidents compared to the baseline. The reason for this is that additional distances will be travelled compared to the baseline and scenario 1.</p> <p>In terms of other environmental and social objectives, changes in NO_x, PM¹⁰, CO₂ and noise levels show little change when compared with baseline conditions with the exception of the A358 at Henlade which shows a 37% fall in NO_x although only a 5% fall in PM¹⁰ and an 8% fall in noise, which are a product of the A358 dualling proposal. The Taunton Northern Inner Distributor Road route would experience a fall of 18% in NO_x and 4% in PM¹⁰ and a 5% fall in noise. The quality and viability of urban</p>	<p>walking, cycling and public transport. Travel demand is likely to be the same as scenario 2. However, cyclists and pedestrians are likely to be encouraged because of the reduction of traffic in the town centres and reductions in traffic speed in the restricted zones. This effect is likely to be significant in Taunton but less significant in Bridgwater and Wellington. The consultation showed that the majority of people support improvements to walking and cycling so this should be positive. The public transport measures included as part of scenario 2 are also included as part of scenario 3. In addition, the management measures in Taunton and Bridgwater town centres will make bus journeys more reliable. The significant changes to off street parking charges in Taunton are likely to make many people switch to park and ride services.</p> <p>In terms of safety, the strategy is still likely to be negative. The scenario will lead to a slight increase in both KSI and slight accidents compared to the baseline. The reason for this is that additional distances will be travelled compared to the other scenarios. A reduction in traffic in the town centre would have benefits in reducing pedestrian and cyclist accidents.</p> <p>In terms of other environmental and social objectives, there will be significant reductions in air and noise pollution in some areas including A358 at Henlade, North Street, Taunton and the Northern Inner Distributor Road. In terms of CO₂ emissions scenario 3 results in a 1% reduction relative to the baseline but</p>

Table 6: Assessment of Taunton strategy options			
Future baseline to 2026	Scenario 1: Low costs and intervention	Scenario 2:	Scenario 3
	<p>easier for pedestrians to cross the road.</p> <p>Scenario 1b will also be more positive than scenario 1a in terms of safety. Improvements include encouragement of pedestrian movements at junctions, improvements in visibility and capacity. Despite these measures, however, predictions for KSI accidents are not reduced (although slight injuries are). In terms of environmental criteria, scenario 1b performs similarly to scenario 1a and the baseline.</p>	<p>centres is likely to decline as traffic levels increase in all three centres.</p>	<p>environmental objectives of reducing CO₂ emissions are not met to any significant extent.</p> <p>There are also likely to be improvements to the quality and viability of centres although this is a mixed picture geographically. A number of measures are proposed that will be positive. These include pedestrianisation in Taunton and the implementation of restricted zones in Taunton and Bridgwater plus enhanced streetscapes. In Bridgwater the effect will not be so significant and the central shopping street will see an increase in traffic. In Wellington the High Street will experience an increase in traffic flows.</p>

Strategy	Options	Assessment results	Recommendations
Freight	<p>P1 = Do minimum</p> <p>P2 = Reacting to demand for information</p> <p>P3 = Stimulating demand for information</p> <p>P4 = Reacting to demand for physical measures</p> <p>P5 = Area wide restrictions</p> <p>Please note that all the packages above include the measures proposed in Package 1. The preferred strategy is a mix of the measures included in all of the above packages.</p>	<p>It is difficult to assess the effectiveness of the freight measures in the absence of information on the funding available and the location and timescale of likely measures. However, all the packages show some positive attributes that help drivers to choose more suitable routes, help with the provision of research on alternative freight modes and help to reduce the impact of freight traffic (including on the last mile of the journey in town and village centres). There are likely to be some issues regarding the restrictions enforced in packages 4 and 5. Whilst physical restrictions can be useful they can be cost prohibitive and very difficult to target. They are also likely to increase vehicle miles and therefore carbon emissions. However, none of these measures are included in the preferred strategy.</p>	<p>It is uncertain what the safety record of freight travel is in Somerset and whether residents feel that freight travel is less safe (and causes more accidents in their communities) than it actually is in reality. This would be a useful issue to address for the preferred strategy as liaison with communities (as part of measure 1.2, for example) is undertaken.</p> <p>Whilst physical restrictions such as those proposed under packages 4 and 5 can be useful but they should be guided by information (and monitoring) to ensure that the impact does not move to another community or make other sustainability impacts (including carbon emissions) worse. The preferred strategy at the moment does not include traffic regulation orders but care should be taken if these are used in the future.</p>
Rail	<p>P1 = Lobbying and partnerships (do minimum)</p> <p>P2 = Learning, lobbying and partnerships</p> <p>P3 = Supporting station A (contributing)</p> <p>P4 = Supporting station B (doing)</p> <p>P5 = Supporting services</p> <p>Please note that all the packages above include the measures proposed in Package 1. The preferred strategy is a mix of the</p>	<p>The rail strategy options will help to make rail services and railway stations more accessible to a larger group of people and will help to improve journey time reliability by rail. Only package 5 is likely to increase the number of services available through direct funding. However, package 5 is subject to a high degree of uncertainty regarding funding.</p>	<p>Due to the fact that all stations in Somerset currently have inadequate cycle parking and increasing cycling is a key objective of the plan, it would be appropriate for the preferred strategy to refer to improved cycle parking directly. It would also be useful to refer directly to security improvements in the preferred strategy.</p>

Table 7: Assessment of modal strategy options			
Strategy	Options	Assessment results	Recommendations
	measures included in all of the above packages.		
Parking	<p>P1 =Do minimum</p> <p>P2 = Do something</p> <p>P3 = Do something plus</p> <p>Please note that all the packages above include the measures proposed in Package 1. A preferred strategy had not been chosen for the parking strategy at the time of the appraisal.</p>	<p>All of the packages in the parking strategy will have some positive impacts on traffic in town centres, congestion, carbon emissions and air pollution through reducing opportunities to park easily in towns, through enforcing parking restrictions and through provision of alternatives. Packages 2 and 3 contain many positive measures that will help to reduce the impact of parking and package 3 has the potential to score the highest. However, because some of the measures in the strategy appear to be working against each other (some measures aim to reduce parking and others aim to increase provision and reduce cost) they have been scored as uncertain against many of the SEA objectives.</p>	<p>Packages 2 and 3 seem to contain some elements (increasing parking provision and decreasing car parking charges) that work against the measures to reduce the impact of traffic in town centres. For the preferred strategy, if these measures are taken forward, the strategy needs to be clear regarding the purpose of these measures and the impact they are likely to have in reaching sustainability and wider transport objectives.</p> <p>It would be helpful if the preferred strategy gave more detail on the types of situation where controlled and restricted parking zones might be used and whether they can be used for townscape or heritage reasons.</p> <p>Package 2 will include small scale park and ride facilities for sensitive rural locations. There is an uncertainty over this measure though, as the measure also seems to commit to increasing visitor parking at sensitive rural locations which could have a negative effect. This should be clarified.</p> <p>If infrastructure needs to be built or maintained this will have an effect on mineral resources. It would be useful if the Somerset County Council Transport Policies made a commitment within a policy to reducing the impact of the resources used to build new transport infrastructure.</p>
Motorcycling	<p>Please note that the motorcycle strategy has not put forward different option packages for testing. It has put forward a long list of measures that could be taken forward under the following headings:</p>	<p>The Motorcycling Strategy will have positive impacts on the safety of motorcyclists through seeking opportunities to extend safety training and awareness, ensure that highway maintenance and design considers</p>	<p>Some schemes that are listed as medium and low priority would appear to be low cost ways to improve safety and the strategy would be stronger if they were listed as high priorities. The measures are further engaging with key stakeholder groups (RS5), continuing to seek opportunities</p>

Table 7: Assessment of modal strategy options

Strategy	Options	Assessment results	Recommendations
	<ul style="list-style-type: none"> • Road safety measures; • Highway design measures; • Land use planning measures; • Parking measures; • Social inclusion measures; and • Policy integration measures. <p>These measures have been formulated into an action plan and prioritised as high, medium and low. The assessment below has assessed this action plan as the preferred strategy. A do minimum strategy has not been presented. The assessment has also considered the appropriateness of the assigned priorities. Where we feel that there are measures where a change in priority could improve the strategy's sustainability effects we have indicated this within the assessment.</p>	<p>motorcyclists, creating clear zones on bends and anti skid service covers and ensuring that planning procedures also consider the needs of motorcyclists. Getting people to switch to motorcycles can have other sustainability benefits through improving accessibility to groups who cannot afford a car (such as young people and those on a low income) and through reducing air pollution and CO₂ (if smaller motorcycles are promoted).</p>	<p>to gather feedback from riders (RS7) and ensuring that the needs of motorcyclists are considered in traffic calming schemes (HD11). Other measures which could be moved up the priority list include such measures as replacing safety barriers with ones that are safer for motorcyclists (HD7 and HD8). These will clearly have safety benefits but these measures are subject to budget constraints and it is the decision of Somerset County Council where resources are best targeted.</p> <p>The preferred strategy needs to include measures that more pro-actively encourage the use of smaller machines.</p> <p>If infrastructure needs to built or maintained this will have an effect on mineral resources. It would be useful if the Somerset County Council Transport Policies made a commitment within a policy to reducing the impact of the resources used to build new transport infrastructure.</p>
Bus	<p>Please note that the bus strategy has not put forward different option packages for testing. It has put forward a long list of measures that could be taken forward under the following headings:</p> <ul style="list-style-type: none"> • Co-operation and efficiency; • Bus and community transport services; • Integrated network development; 	<p>The bus strategy aims to promote improvements to the quality of the bus service which is aimed at improving accessibility and influencing people's travel behaviour away from car use towards more sustainable modes of transport. If the strategy is successful in moving people from cars to public transport there will be benefits in reducing CO₂ emissions and pollution.</p>	<p>Any park and ride facilities planned in sensitive rural locations create an element of uncertainty as land take at sensitive rural locations could have a negative effect. This should be clarified.</p> <p>Increases in temperature and rainfall at certain times of the year (under climate change scenarios) may make people less willing to use the bus. It would be useful if the strategy recognised this and integrated climate issues into work undertaken to improve bus stops and interchanges – ensuring that shade is available at as many bus stops as</p>

Strategy	Options	Assessment results	Recommendations
	<ul style="list-style-type: none"> • Access to health; • Access to education; • Sustainable development planning; • Park and ride/bus priority and ticketing). <p>A do minimum strategy has not been presented. These measures have been assessed generically (as detail is not available on their timescale or their likely location in most instances).</p>		<p>possible, for example.</p> <p>If infrastructure needs to built or maintained this will have an effect on mineral resources. It would be useful if the Somerset County Council Transport Policies made a commitment within a policy to reducing the impact of the resources used to build new transport infrastructure.</p>
Walking	<p>Please note that the walking strategy has not put forward different option packages for testing. It has put forward a long list of measures that could be taken forward under the following headings:</p> <ul style="list-style-type: none"> • Accessibility; • Quality of the walking environment; • Safety and security; • Promotion; and • The planning process. <p>A do minimum scenario has not been presented. These measures have been assessed generically (as detail is not available on their timescale or their likely location in most instances).</p>	<p>The strategy focuses on improving the pedestrian environment and encourages more walking. Walking has the additional benefit of promoting social inclusion, and the strategy is also concerned with making access easier for all users of the street environment, including those in wheelchairs and mobility scooters and those with sensory impairments. The strategy includes measures for the creation of high quality and attractive pedestrian environments within town centres and improving pedestrian access to public transport services. Walking also has the additional benefit of promoting health and quality of life. Therefore, the strategy is likely to have a positive impact particularly with relation to safety, health and accessibility. There is uncertainty related to whether significant new infrastructure will need to be built (and the effect of this on mineral resources).</p>	<p>It would be useful if the strategy integrated climate issues into the pedestrian standards checklist under measure 2A-2. Examples of measures include shaded walk ways, avoiding areas at risk from flooding, use of materials which don't contribute to surface water runoff etc.</p> <p>If infrastructure needs to built or maintained this will have an effect on mineral resources. It would be useful if the Somerset County Council Transport Policies made a commitment within a policy to reducing the impact of the resources used to build new transport infrastructure.</p>

Table 8: Taunton strategy option recommendations

SEA objective	Recommendation / mitigation measures
Health	
Improve the safety of the transport system?	None of the scenarios will lead to a significant positive effect on the numbers of people killed and seriously injured and this is a concern. The reason for this should be investigated and if possible further measures should be proposed that would help to meet KSI targets.
Make healthier modes of travel easier and more attractive?	A strategy should be taken forward that improves walking and cycling infrastructure but also improves the cycling and walking environment in terms of traffic flow. This would suggest that some demand management measures (i.e. scenario 3 measures) are needed.
Reduce the impact of the transport system on air and noise pollution?	Scenarios 2 and 3 have positive impacts on air and noise pollution. However, the level of demand management needed to have a positive impact particularly on air pollution is high. This will need to be considered carefully in relation to the amount of funding available as the most successful demand management measures are likely to be high cost.
Communities	
Help to improve the quality of urban and rural centres/ Reduce the community severance effects of transport?	Scenario 3 is the only option that will significantly improve the quality of centres (and even scenario 3 will have a negligible impact on Bridgwater and Wellington). It is clear that some demand management measures are needed to help improve the quality of centres. However, as noted above, this will need to be considered carefully in relation to the amount of funding available as the most successful demand management measures are likely to be high cost.
Improve the security of the transport system?	No measures are proposed to improve the security of interchanges. It is assumed that this is because security of interchanges is not a problem in Somerset. However, if this is not the case, measures should be proposed as the strategy develops.
Economy	
Help to manage and maintain the existing transport system efficiently?	No maintenance or specific management measures are included in the strategy. Other sections of the Somerset County Council Transport Policies will deal with management and maintenance.
Invest in transport improvements that help the economy of Somerset?	Scenario 3 is the only option that will significantly improve the viability of the economy of centres (and even scenario 3 will have a negligible impact on Bridgwater and Wellington). It is clear that some demand management measures are needed to help improve the quality of centres. However, as noted above, this will need to be considered carefully in relation to the amount of funding available as the most successful demand management measures are likely to be high cost.
Provide more sustainable transport access to rural areas, the countryside and visitor attractions?	Measures within the scenarios will not affect access to tourist attractions, rural areas and the countryside. Measures in other parts of the Somerset County Council Transport Policies are likely to meet this objective.
Reduce the impact of road freight on communities?	Only scenario 3 will have a positive impact on this objective. The pedestrianisation measures in Taunton will reduce the impact of service vehicles on certain areas during the peak period. There are no measures proposed for Bridgwater and Wellington. HGV traffic

Table 8: Taunton strategy option recommendations

SEA objective	Recommendation / mitigation measures
	<p>was raised as an issue in Wellington during the consultation and it would be positive if some measures were included.</p> <p>Measures in other parts of the Somerset County Council Transport Policies will also help to meet this objective.</p>
Accessibility	
Improve sustainable access to basic services for all groups in society?	Scenarios 2 and 3 will have a significant positive impact on this objective. Both scenarios include bus priority measures, fleet and passenger information improvements and park and ride sites. To maximise success, the final strategy should reduce overall congestion and also lead to bus journey time improvements relative to other vehicles (through re-allocation of road space).
Environment	
Protect and enhance biodiversity at all levels?	The changes in traffic levels will mainly affect routes in town centres or strategic routes so there will be no significant effect on habitats and species of value. There are no mitigation measures suggested.
Protect and enhance buildings, sites, areas and features of historic, archaeological and architectural interest?	The visual appearance of the study area has been defined in relation to the volume of traffic at key locations. Only scenario 3 will have a positive impact in this regard and still only in Taunton. Demand management will be key in the final strategy. However, as noted above, this will need to be considered carefully in relation to the amount of funding available as the most successful demand management measures are likely to be high cost.
Protect and enhance landscape quality and character	No new infrastructure will be introduced in the future baseline and there will be no changes in traffic flows in area valued for their landscape character. Most of the changes in traffic flows will occur in the three towns and on the M5.
Natural resources	
Reduce the contribution of the transport system to carbon emissions	None of the scenarios will help to meet carbon targets and this is a significant concern. The reason for this should be investigated and if possible further measures should be proposed that would help to meet carbon reduction targets.
Ensure that the transport system can cope with the unavoidable effects of climate change	No measures are proposed to reduce the impact of the effects of climate change in the future baseline. Appropriate measures should be developed through other parts of the Somerset County Council Transport Policies.
Minimise the impact of the transport system on water resources, soil and mineral resources	All of the scenarios will have some negative impacts as they involve the use of natural resources to build/maintain infrastructure. Other parts of the Somerset County Council Transport Policies will address the sustainable use of natural resources to minimise this effect.

7 The Effect of the Draft Somerset County Council Transport Policies

7.1 Introduction

The Somerset County Council Transport Policies was assessed within appraisal matrices. The full assessment matrices can be found in Appendix 4. Six assessment matrices have been produced (one for each SEA theme). The results of the assessment are summarised below in three ways. Table 9 sets out the significant effects that have been highlighted by the assessment (significantly positive or significantly negative). Sections 7.2 – 7.8 summarise the general performance of the plan under the six SEA themes and Table 10 outlines mitigation and enhancement measures.

Table 9: Significant effects identified as part of the Somerset County Council Transport Policies

Policy No	Effect identified
Please note that no significant negative effects were identified.	
Policy 25 on Taunton	Significant positive effect with regards to air pollution. Modelling undertaken as part of the Taunton Transport Strategy Review showed significant reductions in nitrogen dioxide on some routes in the town as a result of the schemes presented as part of the policy. However, please see below regarding the likelihood of implementation of schemes in the plan.

7.2 Effects on health

Only one of the policies is likely to have a significant positive effect on the health SEA objectives. This is the policy for Taunton in Annex B which shows a significant positive effect with regards to air pollution. Modelling undertaken as part of the Taunton Transport Strategy Review showed significant reductions in nitrogen dioxide on some routes in the town as a result of the schemes presented as part of the policy. None of the other policies are likely to have a significantly positive effect on the health SEA objectives. The Somerset County Council Transport Policies largely performs well against the health SEA objectives as the Somerset County Council Transport Policies includes policies that will:

- Help improve health through encouraging modal shift from private car to more sustainable modes of travel (thus improving air quality and reducing nuisance from traffic noise);
- Help to make healthier modes of transport more attractive through improving walking and cycling routes;
- Improve the safety of the transport system through effective highway maintenance;
- Help to manage the impacts of freight traffic; and
- Introduce safety education programs and programmes such as safer routes to schools.

All of these measures, when implemented (recognising that the assessment of the Implementation Plan has shown that they are not likely to be implemented in the short term), will help to improve health and safety within Somerset. Many of the policies are likely to inter-relate to have a cumulative positive effect on health and safety. Many of the policies on public and community transport, parking, walking and development planning will be mutually

re-enforcing in helping people to decide to switch to more sustainable modes. As people switch to more sustainable modes, traffic and congestion improve as does air quality, accident rates and noise. These improvements are then positive in helping more people to decide that walking and cycling is safe and pleasant.

The rail policy and the parking policies have an uncertain impact on the health SEA objective. Although the rail policy discusses improving station facilities it is not clear whether this includes increasing cycle parking. Due to the fact that all stations in Somerset currently have inadequate cycle parking it would be useful for this policy to directly address the issue. The parking policy also shows an uncertain impact. This is firstly, because there is currently no information available about the likely impact of the park and ride sites proposed, and secondly because of uncertainties regarding the intent of the policy regarding departure from parking standards.

Some of the policies are likely to cause a minor negative impact. The policies for Taunton, Bridgwater and Wellington show a minor negative effect on accidents. This is because modelling has shown that the policies would not help fully to meet targets of reducing people killed and seriously injured on the road. However, many of the schemes identified will help contribute positively towards the safety of the transport network for pedestrians through the implementation of 20 mph zones, traffic calming, pedestrian priority, shared spaces etc in town centres and by improving junctions considering needs of non-car users.

As with the other SEA objectives, there is some uncertainty over the implementation of the schemes in the strategies and the Implementation Plan in its current form is likely to have a minor negative effect due to the likely reduction in funding available (it is recognised that the Implementation Plan is a draft and may change once levels of resources are known). The plan stresses that maintenance of the highway network is likely to be a priority and that funding will be set aside to deliver the road safety objectives as agreed through the road safety partnership. This should be positive for safety but it is likely that the funding available to encourage healthier modes of travel is going to be much reduced for the foreseeable future.

7.3 Effects on communities

The policies in the Somerset County Council Transport Policies largely perform well against the SEA objectives as they include measures to help improve the quality of urban and rural centres through:

- Measures to manage traffic better;
- Provision of better pedestrian facilities;
- Measures to manage the impact of freight traffic;
- Parking policies and other measures to reduce congestion; and
- Measures to reduce the impact of vehicular traffic in certain areas.

All of these measures, when implemented (recognising that the assessment of the Implementation Plan has shown that they are not likely to be implemented in the short term), will help the communities of Somerset. In a similar way to the health SEA objective, many of the policies are likely to inter-relate to have a positive cumulative effect on communities. Many of the policies on public and community transport, parking, walking and development

planning will be mutually re-enforcing in helping people to decide to switch to more sustainable modes. As people switch to more sustainable modes, traffic and congestion will improve as will air quality, accident rates and noise (thus helping to improve rural and urban centres). These improvements are then positive in helping more people to decide that walking and cycling is safer and pleasant. None of the policies assessed are likely to have a significant positive impact on the community SEA objectives.

The rail policy will have an uncertain impact. Although the policy discusses improving station facilities it is not clear whether this includes security improvements. As security of stations is a concern to some passengers it would be useful for this policy to directly address the issue.

The Somerset County Council Transport Policies goal on living sustainability is likely to cause a minor negative impact as it excludes reference to townscapes.

As with the other SEA Objectives, there is some uncertainty over the implementation of the schemes in the strategies and the Implementation Plan in its current form is likely to have a minor negative effect due to the likely reduction in funding available (it is recognised that the Implementation Plan is a draft and may change once levels of resources are known). The plan stresses that maintenance of the highway network is likely to be a priority and that funding for other areas of the transport system is likely to decline. This will cause a negative effect in the short term on the quality of centres and community severance as traffic is likely to increase in the absence of infrastructure to support more sustainable modes.

7.4 Effects on the economy

The policies in the Somerset County Council Transport Policies document largely perform well against the SEA objectives as they include measures to:

- Manage, maintain and enhance the existing transport system;
- Reduce traffic volumes and congestion; and
- Manage freight traffic.

All of these measures, when implemented (recognising that the assessment of the Implementation Plan has shown that they are not likely to be implemented in the short term), will help the economy of Somerset. In a similar way to the health and community SEA objectives, many of the policies are likely to inter-relate to have a positive cumulative effect on congestion, journey time reliability and therefore, the economy. None of the policies assessed are likely to have a significant positive impact on the economy SEA objectives.

The policies in relation to Taunton, Wellington and Bridgwater will have an uncertain impact on the economy. All of these policies include a list of schemes and little information is available on the likely effect of these schemes on parameters such as congestion and journey time reliability.

The goals are likely to cause a minor negative impact as they do not address access to rural areas and the countryside or management of freight.

As with the other SEA objectives, there is some uncertainty over the implementation of the schemes in the strategies and the Implementation Plan in its current form is likely to have a

minor negative effect due to the likely reduction in funding available (it is recognised that the Implementation Plan is a draft and may change once levels of resources are known). The plan stresses that maintenance of the highway network is likely to be a priority and that funding for other areas of the transport system is likely to decline. This is likely to have a negative effect in the short term on the economy if development occurs without the necessary transport infrastructure.

7.5 Effects on accessibility

The policies in the Somerset County Council Transport Policies document largely perform well against the SEA objectives as they include measures to:

- Improve the provision of public and community transport that will help improve access to key facilities; and
- Help improve access and facilities for certain groups of people, such as people with disabilities.

All of these measures, when implemented (recognising that the assessment of the Implementation Plan has shown that they are not likely to be implemented in the short term), will help improve accessibility for people in Somerset.

None of the policies assessed are likely to have a significant positive impact on the accessibility SEA Objectives. None of the policies will have an uncertain effect or a minor negative effect on the accessibility SEA Objectives.

As with the other SEA Objectives, there is some uncertainty over the implementation of the schemes in the strategies and the Implementation Plan in its current form is likely to have a negative effect due to the likely reduction in funding available (it is recognised that the Implementation Plan is a draft and may change once levels of resources are known). The plan stresses that maintenance of the highway network is likely to be a priority and that funding for other areas of the transport system is likely to decline (funding could be cut by up to 50%). This will cause a negative effect in the short term on accessibility in the absence of infrastructure to support public and community transport services.

7.6 Effects on the environment

The policies in the Somerset County Council Transport Policies document largely perform well against the SEA objectives as they include measures that will help reduce the impact of transport on the environment. The policies contained within the plan should help to provide alternative modes of transport and manage traffic to reduce the impact on communities and townscape and reduce congestion and traffic. All of these measures should help to reduce the impact of traffic on biodiversity and heritage and improve landscapes and townscapes. All of these measures, when implemented (recognising that the assessment of the Implementation Plan has shown that they are not likely to be implemented in the short term), will help improve the environment of Somerset. There are a number of impact-interactions between the environmental SEA objectives and the other SEA objectives. For example, there is a clear inter-relationship between air quality and biodiversity. A positive impact on air quality (as highlighted in the health section above) could have an indirect and cumulative effect on biodiversity as improved air quality can help to reverse the degradation of some habitats. There is also a clear inter-relationship between effects on urban and rural centres

and heritage/townscape. If traffic management measures are put in place to improve the quality of centres this is likely to have a positive impact on heritage (as many of Somerset's towns and villages have historic cores). None of the policies assessed are likely to have a significant positive impact on the environment SEA Objectives.

Several policies are likely to have an uncertain impact. This includes the effects of the Taunton, Bridgwater and Wellington schemes in Annex B on heritage and landscape. The Council has indicated that there are no details available on these schemes and their locations so the impact has been scored as uncertain. The Implementation Plan could also have an uncertain effect as it is highlighting potential significant funding cuts. The effect of this is that the schemes highlighted above are unlikely to be implemented in the short term. This could mean that some negative environmental effects are avoided in the short term but also means that schemes to reduce the negative impacts of traffic on townscape are not taken forward. In the absence of information on the likely timescales for schemes the impact has been scored as uncertain.

Several aspects of the plan are likely to cause a minor negative impact. This includes the goal on living sustainability as it excludes reference to townscapes. The only policy that will have a minor negative effect is the policy on freight management. This is because Traffic Regulation Orders pose the risk of moving HGV traffic to more sensitive areas in terms of environmental impact.

7.7 Effects on natural resources

The policies in the Somerset County Council Transport Policies document largely perform well against the SEA objectives as they include measures to:

- Encourage modal shift;
- Manage traffic better; and
- Plan for the impacts of climate change.

All of these measures, when implemented (recognising that the assessment of the Implementation Plan has shown that they are not likely to be implemented in the short term), will help to conserve the natural resources of Somerset and reduce carbon emissions. In a similar way to the health, community and economy SEA objectives, many of the policies are likely to inter-relate to have a cumulative effect on traffic miles and therefore, carbon emissions. None of the policies assessed are likely to have a significant positive impact on the natural resources SEA objectives.

Some of the policies have an uncertain impact. This includes policies related to bus interchanges and walking and cycling networks which would benefit from consideration of how to integrate climate change adaptation issues into walking and bus interchange infrastructure – i.e. planning for suitable shade etc. The Taunton, Bridgwater, Yeovil and Wellington schemes in Annex B will also have an uncertain impact on natural resources. The Council has indicated that there are no details available on these schemes and their locations so the impact on natural resources has been scored as uncertain. Other policies likely to have an uncertain impact are the policy on parking and this is because of uncertainties about the intent of the policy regarding departure from parking standards.

The only policy that will have a minor negative effect is the policy on freight management. This is because Traffic Regulation Orders pose the risk that HGV routes are lengthened and so can increase carbon emissions.

As with the other SEA objectives, there is some uncertainty over the implementation of the schemes in the strategies and the Implementation Plan in its current form is likely to have a minor negative effect due to the likely reduction in funding available (it is recognised that the Implementation Plan is a draft and may change once levels of resources are known). The plan stresses that maintenance of the highway network is likely to be a priority and that funding for other areas of the transport system is likely to decline (funding could be cut by up to 50%). However, in terms of emissions of CO₂ the effect is likely to be negative in the short term as traffic is likely to rise as development and growth continues and in the absence of schemes to encourage modal shift.

7.8 Mitigation and enhancement measures

Incorporation of mitigation measures to directly prevent or reduce an effect is an iterative part of the SEA process. Where a policy is likely to have significant adverse effects, measures should be considered to prevent, reduce or offset these effects. Measures to enhance beneficial effects should also be considered where appropriate. Mitigation effects to both reduce negative and enhance positive effects have been reported in the matrices in Appendix 4 and are also reported in Table 10.

Table 10: Mitigation and enhancement measures identified**Health SEA Objectives****Mitigation measures identified to address potential negative or uncertain effects are as follows:**

- Under Policy 17, further assessment work is needed on the new park and ride sites before development goes ahead and appropriate mitigation measures need to be put in place if needed. Policy 17 or its supporting text should make reference to the scheme appraisal processes that Somerset County Council has in place and should make it clear when and how this process will be undertaken.
- Policy 17 should make it clear what is meant by departure from the parking standards and whether this means that more parking would be sanctioned for certain sites.
- As schemes are implemented as part of Annex B their impact on accidents should be investigated and options for improving their safety performance considered. Annex B should make reference to the scheme appraisal processes that Somerset County Council has in place and should make it clear when and how this process will be undertaken.

Enhancement measures identified in order to improve the performance of the plan are as follows:

- A number of measures were suggested as part of the options assessment that could be low cost ways of improving motorcycle safety and these should be considered for the final plan under Policy 22. These measures are further engaging with key stakeholder groups, continuing to seek opportunities to gather feedback from riders and ensuring that the needs of motorcyclists are considered in traffic calming schemes.
- If other measures can be included in the plan (apart from a Moped Loan Scheme) to promote smaller powered two wheelers they should be included in Policy 22.
- Policy 11 could be clearer in setting out how it will mitigate for the safety effects of electric vehicles (i.e. the fact that they are quieter and more difficult for pedestrians and other vehicles to hear).

Community SEA Objectives**Mitigation measures identified to address potential negative or uncertain effects are as follows:**

- The living sustainably goal should be extended to address protection of the heritage and townscape of Somerset.
- As security at stations is a concern of some passengers, it would be appropriate for Policy 10 to refer to security improvements directly.

Enhancement measures identified in order to improve the performance of the plan are as follows:

- Annex B should clarify what the following means and how it will be achieved: “*reduce severance caused by roads carrying high volumes of traffic*”.

Table 10: Mitigation and enhancement measures identified**Economy SEA Objectives****Mitigation measures identified to address potential negative or uncertain effects are as follows:**

- If access to rural areas and the countryside is seen as a priority it should be addressed in the goals.
- If freight issues are seen as a priority they should be addressed in the goals.
- Once more detail is known on the schemes listed in Annex B assessment work should be undertaken to assess the effects of the schemes on congestion and journey times. The policies or their supporting text should make reference to the scheme appraisal processes that Somerset County Council has in place and should make it clear when and how this process will be undertaken.
- Annex B should be clearer whether better routes to rural areas (for example, West Somerset) will be provided through the policy.

No enhancement measures have been identified.

Accessibility SEA Objectives

There are no mitigation or enhancement measures suggested.

Environment SEA Objectives**Mitigation measures identified to address potential negative or uncertain effects are as follows:**

- The living sustainably goal should be extended to address protection of the heritage and townscape of Somerset.
- Under Annex B, further environmental assessment work is needed on all the schemes before development goes ahead and appropriate mitigation measures need to be put in place. Annex B should make reference to the scheme appraisal processes that Somerset County Council has in place and should make it clear when and how this process will be undertaken.
- If Traffic Regulation Orders are taken forward under Policy 18 their routing should be carefully planned and monitored to ensure that they do not move HGV traffic onto more sensitive routes in terms of biodiversity, heritage and landscape. The policy or its supporting text should commit to this.
- Environmental factors and issues should form a consideration in the site selection of the Drivers Centre under Policy 21 and the policy or supporting text should commit to this.

Enhancement measures identified in order to improve the performance of the plan are as follows:

- The supporting text of Policy 13 that refers to loss or disturbance to Natura 2000 sites should be extended to include cycle routes.

Table 10: Mitigation and enhancement measures identified

- The Habitat Regulations Screening Assessment made the recommendation that the supporting text to Policy 11 (previously Policy 17) should stipulate that, before supporting new technologies, consideration should be given to wildlife species and habitats that are sensitive to changes in land use, and the provisions of the Conservation of Habitats and Species Regulations 2010 should be complied with.

Natural Resources SEA Objectives**Mitigation measures identified to address potential negative or uncertain effects are as follows:**

- It would be useful if Policy 4 discussed climate change adaptation and integrated climate issues into work undertaken to improve bus stops and interchanges – ensuring that shade is available at as many bus stops as possible, for example.
- It would be useful if Policy 7 and 8 integrated climate issues into pedestrian and cycling standards. Examples of measures include shaded walk ways, avoiding areas at risk from flooding, use of materials which don't contribute to surface water runoff etc.
- Further environmental assessment work is needed on all the schemes in –Annex B before development goes ahead and appropriate mitigation measures need to be put in place. This work should address the effects of the schemes on carbon emissions and other natural resources. The policies or their supporting text should make reference to the scheme appraisal processes that Somerset County Council has in place and should make it clear when and how this process will be undertaken.
- Policy 17 should make it clear what is meant by departure from the parking standards and whether this means that more parking would be sanctioned for certain sites.
- If Traffic Regulation Orders are taken forward as part of Policy 18 their routing should be carefully planned and monitored to ensure that they do not increase the level of carbon emissions unacceptably. The policy or its supporting text should commit to this.

Enhancement measures identified in order to improve the performance of the plan are as follows:

- It would be useful if the final climate action plan stated how the Council could work towards climate change targets through the funding available in the short term and the schemes likely to be implemented.
- Policy 19 should outline what the community objectives are or are likely to be in different locations. It is suggested that these objectives should include reducing the unavoidable effects of climate change.
- Policy 19 would be more positive if it included consideration of responsible sourcing and sustainability of material.
- If other measures can be included in the plan (apart from a Moped Loan Scheme) to promote smaller powered two wheelers they should be included in Policy 22.

8 Monitoring Measures

8.1 Introduction

The SEA Regulations require authorities to:

...monitor the significant environmental effects of the implementation of each plan or programme with the purpose of identifying unforeseen adverse effects at an early stage and being able to undertake appropriate remedial action (Section 17 (1)).

Monitoring measures proposed in this section refer to the significant and uncertain effects that have been predicted to result from measures included in the Draft Somerset County Council Transport Policies. However the monitoring programme itself will not commence until the Final Somerset County Council Transport Policies is adopted in March 2011. By then the monitoring requirements may have changed, either as a result of changes to the plan or due to other external influences on the baseline situation. European Commission guidance⁶ provides advice on monitoring which suggests a phased approach to the design of a monitoring programme. This phased process will be used for Somerset County Council Transport Policies, further details of which will be included in the SEA statement once the impacts of the Final Somerset County Council Transport Policies are known. The monitoring programme is outlined in Table 11.

Significant / uncertain effect identified⁷	Monitoring required
Uncertain effect - the effect of Policy 10 (the rail policy) on healthier modes of travel: The policy does not directly mention cycle parking so it is unclear whether it will help to encourage people to cycle to stations.	The action that is needed to change this effect from an uncertain effect is to include the required information in the Somerset County Council Transport Policies. If this is done no monitoring will be needed. If this is not incorporated then necessary monitoring will be set out in the final Somerset County Council Transport Policies
Uncertain effect – the effect of Policy 10 (the rail policy) on transport security issues. The policy does not directly address security issues directly so it is unclear whether it will help to improve station security.	
Uncertain effect – the effect of Policy 4, 7 and 8 (on public transport, walking and cycling networks) on climate change adaptation. The policies would benefit from integration of climate change adaptation issues into the planning of bus stop infrastructure and walking networks.	
Uncertain effect – the effect of policy 17 (parking) on carbon emissions and air pollution. It is unclear from this policy the implication of providing parking levels that depart from the standards and this should be clarified.	

⁶ European Commission (2003): Implementation of Directive 2001/42 on the assessment of the Effects of Certain Plans and Programmes on the Environment.

⁷ The effects have been grouped into similar effects for the purpose of the monitoring programme. Please note that the assessment identified no significant negative effects.

Uncertain effect – Annex B includes various transport schemes and Somerset County Council has indicated that little information about the impact of these schemes is available. The mitigation suggested for these schemes is that further assessment work should be undertaken on their sustainability effects once more detail is known.

The further assessment that is undertaken for these schemes should also involve setting up a system to monitor the effects of the schemes on the SEA objectives.

9 Next Steps

9.1 Consultation on the Environmental Report

The primary role of the Environmental Report is to facilitate consultation with interested parties, including the public. The Environmental Report is published alongside the Draft Somerset County Council Transport Policies with the aim of providing stakeholders with sufficient information on the likely significant environmental effects of the plan. This is done at the Draft Somerset County Council Transport Policies stage to allow time to influence the development of the Somerset County Council Transport Policies prior to its completion.

Comments received on the content of the Environmental Report will be taken into consideration in the next stages of the SEA (see below).

9.2 Adoption of the Somerset County Council Transport Policies

If significant changes are made between the consultation on the Draft Somerset County Council Transport Policies and the Final document, these changes will be assessed and information made available to the public.

Once the Somerset County Council Transport Policies has been adopted it is necessary to produce a statement which reports how the Somerset County Council Transport Policies team have taken the findings of the SEA and consultation results into account (a SEA Statement). This SEA Statement should be made available to stakeholders. It must cover:

- How environmental considerations have been integrated into the Somerset County Council Transport Policies, for example any changes to or deletions from the Somerset County Council Transport Policies in response to the information in the Environmental Report;
- How the Environmental Report has been taken into account;
- How the opinions and consultation responses have been taken into account. The summary should be sufficiently detailed to show how the Somerset County Council Transport Policies was changed to take account of issues raised, or why no changes were made;
- The reasons for choosing the Somerset County Council Transport Policies as adopted in the light of other reasonable alternatives dealt with; and
- The measures that are to be taken to monitor the significant environmental effects of implementation of the Somerset County Council Transport Policies. The Environmental Report will already have documented proposed measures concerning monitoring; these can now be confirmed or modified in the light of consultation responses.