



Southend-on-Sea Borough Council

Third Local Transport Plan (LTP3)

Strategic Environmental Assessment

Environmental Report

December 2010

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Glossary of Terms

Term	Meaning / Definition
Baseline	A description of the present and future state of an area, in the absence of any plan, taking into account changes resulting from natural events and from other human activities.
Consultation Body	An authority which because of its environmental responsibilities is likely to be concerned by the effects of implementing plans and programmes and must be consulted under the SEA Directive. The Consultation Bodies, designated in the SEA Regulations are English Heritage, Natural England and the Environment Agency.
Environmental appraisal	A form of environmental assessment used in the UK (primarily for development plans) since the early 1990s, supported by 'Environmental Appraisal of Development Plans: A Good Practice Guide' (DoE, 1993); more recently superseded by sustainability appraisal. Some aspects of environmental appraisal foreshadow the requirements of the SEA Directive.
Environmental assessment	Generically, a method or procedure for predicting the effects on the environment of a proposal, either for an individual project or a higher-level "strategy" (a policy, plan or programme), with the aim of taking account of these effects in decision-making. The term "Environmental Impact Assessment" (EIA) is used, as in European Directive 337/85/EEC, for assessments of projects. In the SEA Directive, an environmental assessment means "the preparation of an environmental report, the carrying out of consultations, the taking into account of the environmental report and the results of the consultations in decision-making and the provision of information on the decision", in accordance with the Directive's requirements.
Environmental Report	Document required by the SEA Directive as part of an environmental assessment, which identifies, describes and appraises the likely significant effects on the environment of implementing a plan or programme.
Health Impact Assessment	'A combination of procedures, methods and tools by which a policy, program or project may be judged as to its potential effects on the health of a population, and the distribution of

those effects within the population'¹.

Home Zone	Home Zones aim to improve the quality of life in residential roads by making them places for people, instead of just being thoroughfares for vehicles. The key elements to a Home Zone are: community involvement to encourage a change in user behaviour; and for the road to be designed in such a way as to allow it to be used for a range of activities and to encourage very slow vehicle speeds (usually involving sensitively designed traffic calming).
Indicator	A measure of variables over time, often used to measure achievement of objectives.
Mitigation	Measures to avoid, reduce or offset significant adverse effects.
Responsible Authority	In the SEA Regulations, means an organisation which prepares a plan or programme subject to the SEA Directive and is responsible for the SEA.
Scoping	The process of deciding the scope and level of detail of an SEA, including the environmental effects and options which need to be considered, the assessment methods to be used, and the structure and contents of the Environmental Report.
Significant effect	Effects which are significant in the context of the plan. (Appendix II of the SEA Directive gives criteria for determining the likely environmental significance of effects).

¹ World Health Organization. Gothenburg consensus paper. Health Impact Assessment: Main concepts and suggested approach (<http://www.who.dk/document/PAE/Gothenburgpaper.pdf>, accessed 15/08/06). Brussels: WHO European Centre for Health Policy, 1999.

1. Introduction

Purpose of this Document

- 1.1 This is the Environmental Report for the Strategic Environmental Assessment (SEA) incorporating Health Impact Assessment (HIA) of the Southend-on-Sea Borough Council (SBC) third Local Transport Plan (LTP3). It has been produced by Atkins Ltd for SBC.
- 1.2 An SEA of LTP3 is required under the European Directive 2001/42/EC 'on the assessment of certain plans and programmes on the environment' (the 'SEA Directive'). An HIA is required by a number of UK White Papers on public health strategy. Further emphasis has been given by the introduction of the Local Government and Public Involvement in Health Act 2007 and a specific requirement for HIA in the Department for Transport (DfT) LTP3 guidance published in 2009.

Southend-on-Sea's LTP3

- 1.3 SBC has commenced the development of its LTP3 which will look beyond 2011 and will replace LTP2 which set the Borough's transport strategy and programme between 2006 and 2011.
- 1.4 The Transport Act 2000 introduced a statutory requirement for local transport authorities to produce a Local Transport Plan (LTP) every five years and to keep it under review. This statutory requirement was retained in the Local Transport Act 2008 although other aspects of the statutory framework have changed. The Act now requires that LTPs contain policies (referred to as the strategy) and implementation plans (the proposals for delivery of the policies contained in the strategy). There is no longer the requirement for LTPs to be reviewed every five years. The new legislation gives local authorities powers to decide when to renew the Plan to ensure best fit with other local policies and plans.
- 1.5 The Southend LTP3 will set out a long term transport strategy and implementation plan. The Strategy will cover the period 2011/12 – 2026/27 and the Implementation Plan the period 2011/12 – 2014/15.

The Objectives of LTP3

- 1.6 The approach to LTP3 has changed from that applied to LTP2 which was based on the four shared priorities: safer roads, tackle congestion, deliver accessibility, and better air quality. These were replaced by the five goals set out in the DfT report 'Delivering a Sustainable Transport System' (DaSTS) at a national level. These goals are: support economic growth, tackle climate change, better safety, security and health, equality of opportunity and improve quality of life and a healthy natural environment. Following a change in government in May 2010 the DaSTS publication is under review, but has still been used in preparation of the

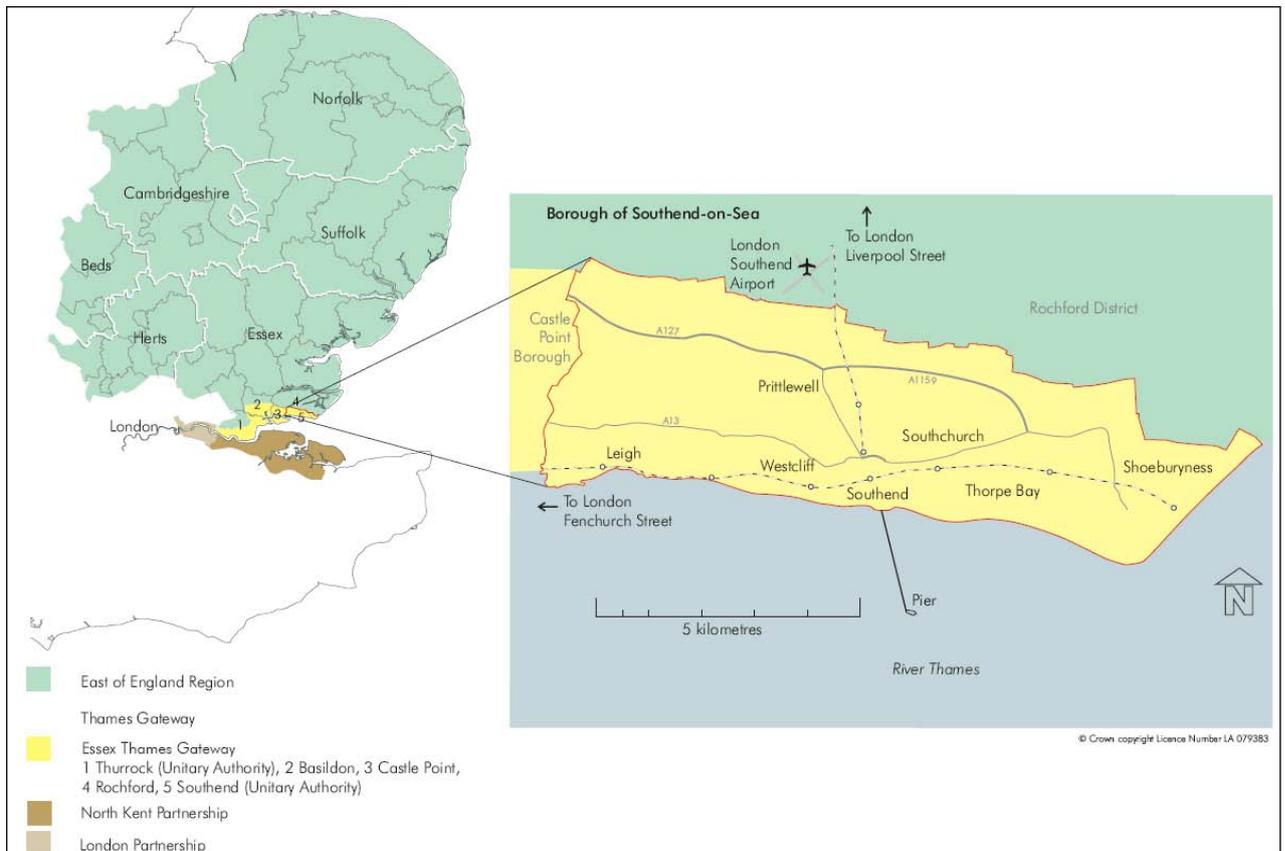
LTP3. SBC has determined objectives for the LTP3 that are in line with its vision of the Community Plan, and are as follows:

- Our transport strategy for a thriving and sustainable local economy in Southend
- Our transport strategy to minimise environmental impact, promote sustainability for a greener Southend
- Our transport strategy to create safer Southend
- Our transport strategy to reduce inequalities in health and wellbeing and for a more accessible Southend
- The objectives of the LTP3 are covered in more detail in section 8.

Current Transport Situation

1.7 Southend-on-Sea is one of a group of local authorities that make up the Thames Gateway South Essex sub-region which, itself, is part of the Thames Gateway one of the four growth areas identified by the Government. Figure 1.1 - shows the location of the Borough.

Figure 1.1 - Location of Southend-on-Sea Borough



Source: Southend-on-Sea Core Strategy 2007

- 1.8 Southend has a resident population of 164,300 (ONS, 2008). The East of England Plan (May 2008) targeted 13,000 new jobs for Southend by 2021 and 6,500 additional dwellings in the same period.
- 1.9 Located 40 miles to the east of central London, Southend's transport network is focussed on a major east-west corridor movement by rail and by road (strategic highway corridors/A127/A1159). The Borough is well served by rail with two railway lines and a total of nine stations. One line goes from Shoeburyness, via Southend Central Station, and Basildon to London (Fenchurch Street Station), the other is from Southend Victoria Station via Billericay and Romford to London (Liverpool Street Station). A further station is currently under construction at London Southend Airport. There are also many bus services serving Southend and linking to surrounding areas.
- 1.10 The main transport issues identified by LTP2 centred on the following:
- congestion on the main corridors A13/A127 leading to delays and impacting on the local economy;
 - key sections operating at or close to capacity;
 - regeneration opportunities inhibited due to poor access; and
 - significant in and out commuting principally by car.
- 1.11 London Southend Regional Airport is identified as a Major Airport in the East of England Plan. The Airport runway will be extended and a new passenger terminal and railway station will be built. This will increase passenger numbers from 48,000 (2008) to 2,000,000 (2019).
- 1.12 Southend-on-Sea has been identified as a Regional Interchange Centre (RIC) in the East of England, and a defined transport hub for the region as it meets the following criteria:
- access to key mainline railways (north/south routes and east/west routes);
 - served by strategic inter-urban bus/coach links;
 - major bus hubs with strong sub-regional bus networks; and
 - waterway connections within them or nearby.
- 1.13 It is anticipated that the planned growth for Southend and the wider Thames Gateway South Essex sub-region will exacerbate traffic and congestion levels in the Borough.

Strategic Environmental Assessment

- 1.14 The EU Directive 2001/42/EC² (the "SEA Directive") on assessment of effects of certain plans and programmes on the environment came into force in the UK through the Environmental Assessment of Plans and Programmes Regulations

² European Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment

2004³ (the “SEA Regulations”). The SEA Regulations apply to a wide range of plans and programmes, including LTPs, and modifications to them.

1.15 The overarching objective of the SEA Directive is:

“To provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans... with a view to promoting sustainable development, by ensuring that, in accordance with this Directive, an environmental assessment is carried out of certain plans... which are likely to have significant effects on the environment.”
(Article 1)

1.16 The main requirements introduced by the SEA Regulations are that:

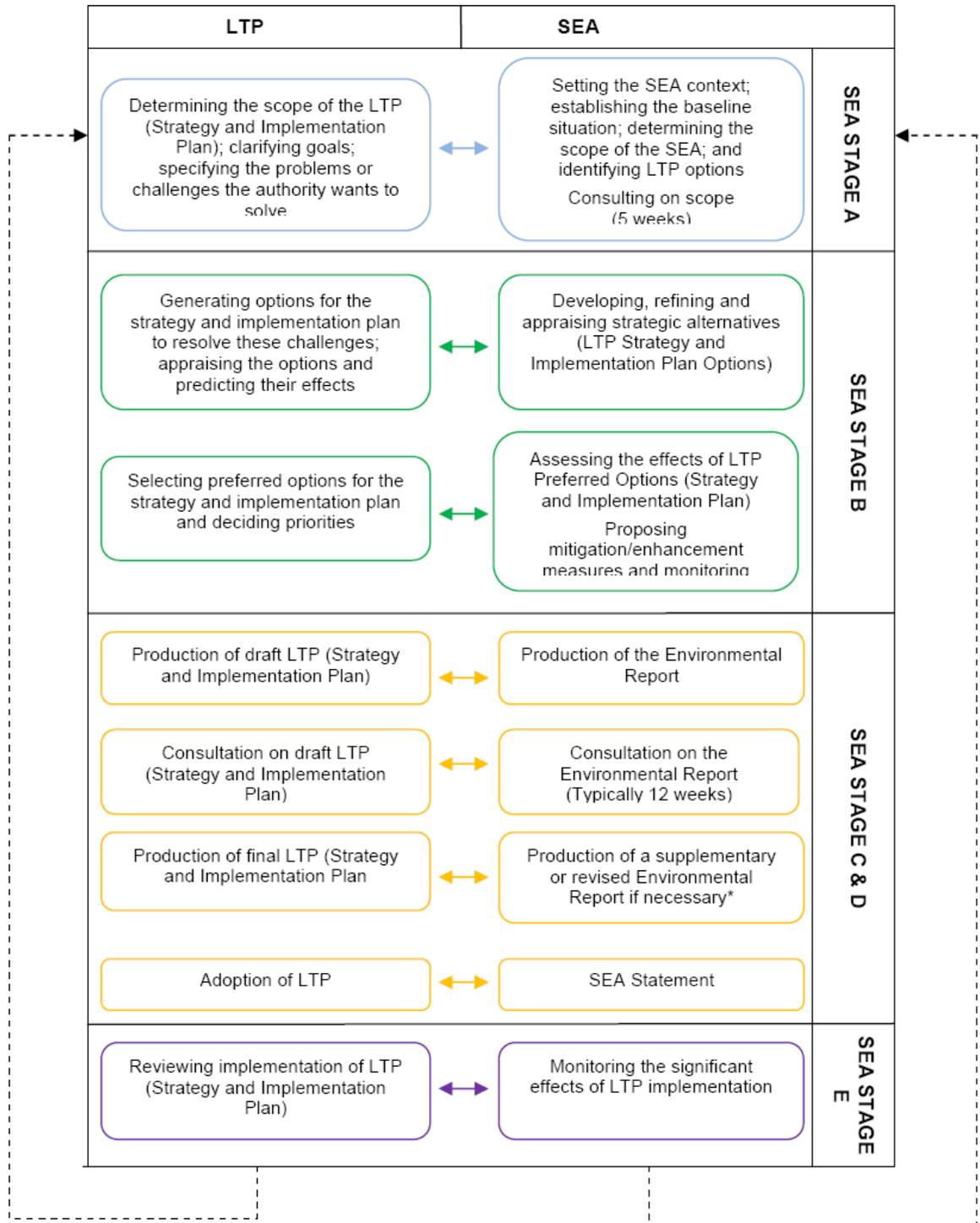
- the findings of the SEA are published in an Environmental Report (ER), which sets out the significant effects of the draft plan, in this case LTP3;
- consultation is undertaken on the plan and the ER;
- the results of consultation are taken into account in decision-making relating to the adoption of the plan; and
- information on how the results of the SEA have been taken into account is made available to the public.

1.17 SEA extends the evaluation of environmental effects from individual projects to the broader perspective of regional, county and district level plans. It is a systematic process that identifies and predicts the potential significant environmental effects of plans/programmes, informing the decision making process by testing different alternatives or options against environmental sustainability objectives.

1.18 The main work component stages for the preparation of the Southend LTP3, both from a transport planning and SEA perspective, are shown in Figure 1.2 below.

³ Statutory Instrument 2004 No. 1663, The Environmental Assessment of Plans and Programmes Regulations 2004

Figure 1.2 - LTP and SEA Process Stages and Links



* An updated Environmental Report may only be required if significant changes are made to the LTP between draft and final versions.

Source: Transport Analysis Guidance 2.11 Strategic Environmental Assessment for Transport Plans and Programmes, Department for Transport, 'In Draft' Guidance (2009)

SEA and New Approach to Appraisal

- 1.19 The New Approach to Appraisal (NATA) is an appraisal framework which aims to improve the consistency and transparency with which transport decisions are made. NATA sets out the Government’s five over-arching transport objectives, namely; environment, safety, accessibility, economy and integration. The DfT requires that all forms of transport proposals, including LTPs, are appraised against these objectives. DfT guidance on NATA, as set out in TAG, notes that NATA appraisal methodologies should be used in undertaking SEA of LTPs.
- 1.20 TAG Unit 2.11 (2009) provides guidance on integrating the requirements of the SEA Regulations with NATA reproduced below in Table 1.1. Further information on the technical scope of the SEA, based on this guidance, is provided in Section 3 of the TAG Unit 2.11.

Table 1.1 - Topics to be addressed as part of SEA

NATA Objective	NATA sub-objective	SEA Topic (SEA Directive, Annex If)
Environment	Noise	Human health, Population ⁴ , Inter-relationships
	Local air quality ⁵	Air, Human health, Population
	Greenhouse gases	Climatic factors
	Landscape	Landscape
	Townscape	
	Heritage	Cultural heritage including architectural and archaeological heritage
	Biodiversity ⁶	Biodiversity, Fauna, Flora, Soil ⁷
	Water environment	Water
	Physical fitness	Human health, Population
Safety	Accidents	Human health, Population
	Security	

⁴ Population is interpreted broadly, referring to effects on people and quality of life. Many NATA indicators incorporate population.

⁵ The NATA local air quality indicator does not cover regional air quality, though guidance is given on its assessment. Where regional air quality is likely to be an issue, a local objective may be formulated.

⁶ Biodiversity also covers geological interests.

⁷ Soil is not explicitly covered by NATA sub-objectives, but is an underlying factor affecting landscape, heritage, biodiversity and the water environment. Where effects on soil are likely to be important a local objective should be formulated.

NATA Objective	NATA sub-objective	SEA Topic (SEA Directive, Annex If)
Accessibility	Community severance	Population
	Access to the transport system	
Economy	Public accounts	Material assets ⁸
	Business users and providers	
	Consumer users	

Source: Transport Analysis Guidance 2.11 Strategic Environmental Assessment for Transport Plans and Programmes, Department for Transport, 'In Draft' Guidance (January 2010)

Health Impact Assessment

- 1.21 The DfT LTP3 guidance indicates that consideration of 'Human Health' is a legal requirement in an SEA and that an HIA is an integral part of an SEA to identify and inform health issues in Plans.
- 1.22 Undertaking an HIA as part of the SEA should provide an evidence base to help the decision making process in developing an effective LTP, and to mitigate the negative effects on health and well-being (whether physical and/or mental health). In addition, it should help:
- secure consistency between the LTP3 and work associated with Sustainable Community Strategies and Local Area Agreements;
 - coordinate the public health concerns in respect of air quality, noise and climate change; and
 - contribute to the wider agenda relating to quality of life and reducing health inequalities.

Consultation in the SEA Process (Incorporating HIA)

- 1.23 The SEA Regulations identify three organisations to act as statutory consultation authorities: the Environment Agency, Natural England (formerly English Nature and the Countryside Agency) and English Heritage.

⁸ Material assets are not explicitly covered by NATA sub-objectives, but are reflected in the money costs incurred when they are consumed. Where effects on material assets such as infrastructure and property are expected to be of particular importance, a local objective should be formulated.

- 1.24 The draft 2007 DH guidance recommends that the relevant health organisations are also involved in the consultation process. This includes the following bodies:
- the relevant Primary Care Trust (PCT) with the PCT Director of Public Health being the first point of contact;
 - Environmental Health Officers (EHOs);
 - Health Protection Units;
 - Public Health Observatories; and
 - Environment Agency area office.
- 1.25 Two consultation periods involving the statutory consultation authorities and, in the latter period, the public are set in the SEA Regulations. The consultation periods relate to:
- **Scoping.** The responsible authority is required to send details of the plan or programme to each consultation authority so that they may form a view on the scope, level of detail and appropriate consultation period of the Environmental Report. The consultation authorities are required to give their views within five weeks.
 - **The Environmental Report.** The responsible authority is required to invite the consultation authorities and the public to express their opinions on the Environmental Report and the plan or programme to which it relates.
- 1.26 A scoping workshop, attended by LTP3 and SEA team members, officers from SBC and stakeholders from other external organisations, took place in February 2010 before the finalisation of the Scoping Report. The workshop aimed to gather additional information and discuss the key issues and proposed SEA Framework. The workshop proved valuable in terms of gathering additional information which was incorporated in the SEA Scoping report. Formal consultation on the Scoping report took place between April and June 2010. Responses and how they have been incorporated in the preparation of this Environmental Report are shown in Appendix E.

Contents of this Environmental Report

- 1.27 This Environmental Report sets out the following information:
- Relevant plans, programmes and environmental protection objectives;
 - Baseline information;
 - Environmental, social and health issues in Southend-on-Sea;
 - SEA Framework;
 - Compatibility Assessment of SEA Objectives and LTP3 Objectives;
 - Appraisal of Strategic Alternatives;
 - Appraisal of the Preferred Option LTP;

- Mitigation;
- Monitoring Programme; and
- Conclusions.

- 1.28 By issuing this Environmental Report, comments are sought from statutory environmental bodies and health organisations which will help ensure that the Environmental Assessment is fit for purpose and in line with expectations.
- 1.29 Comments received from consultation on the Environmental Report will be taken into consideration and included in the SEA Statement.

Timescales for Consultation and Reporting

- 1.30 The Environmental Report will accompany the consultation of the Preferred Option LTP3 in January 2011. Following consultation the final Environmental Report and SEA Statement will be finalised.
- 1.31 The Final LTP3 and ER are anticipated to be published in March 2011.

Equalities Impact Assessment and Habitats Regulation Assessment

- 1.32 A specific requirement for Equality Impact Assessment (EqIA) of LTP3 arises from the Department for Transport (DfT) LTP3 guidance published in 2009. An evidence-led EqIA must be completed to help inform the development of LTP3 ensuring it addresses any equality issues and takes account of the impacts the Plan may have on the local communities.
- 1.33 Habitats Regulation Assessment (HRA) is required where a plan contains proposals that are likely to have a significant effect on a Special Protection Area (SPA) or Special Area of Conservation (SAC) collectively known as European sites. The requirement arises from the Habitats Regulations (1994) implementing the Habitats Directive (02/43/EEC) and the Conservation (Natural Habitats) (Amendment) Regulations (2007). HRA is also required, as a matter of UK Government policy for potential SPAs (pSPA), candidate SACs (cSAC) and listed Wetlands of International Importance (Ramsar sites) for the purposes of considering plans and projects, which may affect them.
- 1.34 Both EqIA and HRA of the Southend-on-Sea LTP3 are being undertaken as parallel exercises to the SEA/HIA and will be reported separately.

2. Scope of the SEA (incorporating HIA)

Introduction

- 2.1 The following section describes the proposed spatial, temporal and technical scope of the environmental studies to be undertaken as part of the SEA.

Spatial scope

- 2.2 The proposed study area for the SEA of LTP3 covers the Southend-on-Sea Borough (see Figure 1.1).

Temporal scope

- 2.3 The temporal scope of the SEA will be aligned with that for LTP3. Guidance for local authorities on the preparation of LTP3 allows increased flexibility over timescales of the implementation plan, which details expected funding distribution.
- 2.4 Southend's LTP3's Strategy will apply to the period 2011/12 – 2026/27; with the Implementation Plan covering 2011/12 – 2014/15. It is deemed appropriate that the LTP3's Implementation Plan covers a three year period, but is subject to a more frequent review to ensure it is up to date and relevant to the political and economic situation.

Technical scope

- 2.5 The SEA Directive and the SEA regulations require that the likely significant effects on the environment are assessed, considering the following factors and interrelationship between them:
- Biodiversity;
 - Population;
 - Human health (covering noise issues among other effects on local communities and public health);
 - Fauna and flora;
 - Soil;
 - Water;
 - Air;
 - Noise;
 - Climatic factors;
 - Material assets (covering infrastructure, waste and other assets);
 - Cultural heritage including architectural and archaeological heritage; and

- Landscape.

2.6 This effectively forms the technical scope of the SEA, namely those topics that will be addressed.

2.7 From an HIA perspective there are vulnerable social groups that need special consideration in transport planning with regards to their health. These groups are likely to experience transport-related exclusion and/or be subject to negative externalities of transport and are as follows:

- Children - who, as non-drivers, are reliant on others for motorised transport and who suffer the greatest impacts of transport policy on their health, particularly children in low-income families;
- Women – who are more likely not to own a car and find it harder to travel to shops, employment, healthcare and other services;
- Older people - who may feel vulnerable using public transport, who often need to seek health services and who are particularly vulnerable to road crash related injuries. Their continuing independence at home is often dependent on reliable transport options;
- Disabled and people with other health problems - who may not be able to access many forms of transport or need special arrangements to access those. They are likely to find it difficult to walk and may also be disadvantaged by the cost of transport;
- Those in low-income groups – who are likely to walk further because they cannot afford public transport or to own a car, and whose lack of transport options may limit life opportunities. They suffer the most from injuries, noise pollution and air pollution.

3. Methodology

- 3.1 The SEA started as the preparation of LTP3 began and it has progressed concurrently in an iterative fashion in order to integrate environmental sustainability considerations into the plan making process. The SEA has been used as a tool for improving LTP3's environmental sustainability performance. Specifically, this has been achieved through allowing environmental (and wider sustainability) objectives to be considered throughout LTP3 formulation process: from inception through development to adoption of the LTP3 proposals, measures and schemes.
- 3.2 An SEA Scoping Report, (hereafter the 'Scoping Report') was published for consultation end of April until beginning of June 2010. Prior to this, a workshop was held in February 2010 where the results of the SEA Stage A and the related tasks of the other parallel assessment processes were discussed.
- 3.3 This Environmental Report covers the scoping work undertaken during the initial stages of the SEA process and takes the process further by reporting on the significant environmental effects of the preferred proposals and schemes, proposed mitigation measures and proposals for monitoring significant environmental effects (Stage B).

Assessment Methodology

- 3.4 The SEA methodology adopted was broadly based on two published guidance documents:
- Transport Analysis Guidance (TAG) 2.11 Strategic Environmental Assessment for Transport Plans and Programmes, Department for Transport, 'In Draft' Guidance, April 2009; and
 - A Practical Guide to the Strategic Environmental Assessment Directive, by the ODPM, the Scottish Executive, the Welsh Assembly Government and the Northern Ireland Department of the Environment, September 2005.
- 3.5 The work undertaken thus far involved the completion of the SEA stages A, B and C and associated tasks as follows:

Stage A - Setting the Context and Establishing the Baseline

Other Relevant Plans and Programmes

- 3.6 Southend's LTP3 will both influence and be influenced by other plans, policies and programmes (PPPs) produced by statutory agencies and other bodies with plan making responsibilities. Legislation is a further driver that sets the framework for LTP3, both directly and indirectly. Such relevant plans and programmes have thus been identified.

- 3.7 The constraints or challenges that relevant plans and programmes pose for LTP3 were considered and broad environmental sustainability themes were identified. This is presented in section 4 of this report.

Baseline Information

- 3.8 To predict accurately how potential plan proposals will affect the environment, it is first important to understand the current state of the environment and then examine the likely evolution of the environment without the implementation of the plan.
- 3.9 Baseline information provides the basis for understanding existing local environmental as well as social issues, in particular in respect of health and equality, and alternative ways of dealing with them; formulating objectives to address these issues and predicting and monitoring environmental effects.
- 3.10 Baseline data tables (Appendix C) have been prepared where data have been listed under SEA topic areas. These tables record:
- General indicators;
 - Quantified data within the plan area;
 - Comparators and targets (if applicable);
 - Trends (if identified); and
 - Source of the information.
- 3.11 Data were collated from both Southend Borough Council and external sources. For each indicator readily available, quantified baseline data were collected in a format applicable to the issues to be assessed by the SEA and at a relevant geographical level. This is presented in section 5 of this report.
- 3.12 The initial baseline data have been reviewed and updated, incorporating consultees' comments from the Scoping Report consultation (see Appendix E).
- 3.13 Where significant gaps exist, these are identified and recommendations for filling the gaps have been included in the proposals for monitoring of the implementation of LTP3.

Key Issues

- 3.14 Key environmental and wider sustainability issues have been identified as a result of the analysis of the baseline data and the review of other plans and programmes. The identification of these issues helped focus the SEA and other assessment processes on the aspects that really matter. Opportunities for how LTP3 could assist in addressing these issues were also identified. This is presented in section 6 of this report.

Developing SEA Framework

- 3.15 A set of SEA objectives against which the policies and proposals in LTP3 can be assessed, was drawn up. They were identified by reviewing relevant policy

documents at the international, national, regional and district level (see Other Relevant Plans and Programmes above), reviewing the baseline data and identifying key sustainability issues. The SEA objectives are presented in Section 7.

- 3.16 For each objective, potential indicators have been set out to form an SA framework. Table 7.1 shows the SEA framework, identifying how relevant SEA Directive topic(s) have been covered. Existing indicators have been used as often as possible. In some cases, specific new indicators have been proposed. The SEA framework indicators aim to capture the change likely to arise from the LTP3 implementation and have played a role in the assessment.
- 3.17 An analysis of the likely evolution of the state of the environment without the implementation of LTP3 was also undertaken at this stage. Likely future trends have been examined for the continuation of LTP2 programmes only (i.e. the 'without plan' or 'business as usual' scenario). This is presented in Table 7.2

Consulting on the Scope of SEA

- 3.18 Southend sought the views from the Consultation bodies and others on the scope and level of detail of the ensuing Environmental Report through consultation of the Scoping Report. The scoping consultation results have influenced and helped shape this Environmental Report (see Appendix E).

Stage B - Developing alternatives

Testing the Plan Objectives against the SEA Objectives

- 3.19 A compatibility assessment of LTP3 objectives in its initial stages of preparation against the SEA objectives has been undertaken as part of the iterative process to assess the sustainability of LTP3 objectives. This has been undertaken to ensure that the overall objectives of LTP3 were in accordance with the SEA objectives and to provide a suitable framework for developing alternatives. The results are presented in section 8 of this report.

Developing, Refining and Appraising Strategic Alternatives

- 3.20 Consideration of alternative strategies and options for LTP3 are an integral part of the plan development. A number of options were identified by Southend.
- 3.21 Each option was considered in the context of whether it would have a likely significant effect in relation to each of the SEA objectives. The results are presented in section 9 of this report.

Assessing the Effects of LTP3 Preferred Strategy

- 3.22 Assessing the significance of predicted effects is essentially a matter of judgement. There are a number of factors that will determine the significance of an effect, e.g. its scale and permanence and the nature and sensitivity of the receptor. It is very important that judgements of significance are systematically documented, in terms of the particular characteristics of the effect which are

deemed to make it significant and whether and what uncertainty and assumptions are associated with the judgement. The assessment of significance also includes information on how the effect may be avoided or its severity reduced.

- 3.23 DfT requires that all forms of transport proposals, including LTPs, are appraised against the Government’s five over-arching transport objectives, namely: environment, safety, accessibility, economy and integration. DfT guidance on NATA, as set out in TAG Unit 2.11 notes that NATA appraisal methodologies should be used in undertaking SEA of LTPs. Table 1.1 shows how NATA objectives have been integrated with SEA topics. The methodology that has been adopted for this assessment is generally broad-brush and qualitative.
- 3.24 In the current practice of SEA and NATA, the broad-brush qualitative prediction and evaluation of effects can be often based on a qualitative seven-point scale in easily understood terms. In general, this assessment has adopted the scale shown in Table 3.1 to assess the significance of effects of the schemes and proposals in LTP3.

Table 3.1- Criteria for Assessing Significance of Effects

Assessment Scale	Significance of Effect
+++	Strong beneficial
++	Moderate beneficial
+	Slight beneficial
0	Neutral
-	Slight adverse
--	Moderate adverse
---	Strong adverse

- 3.25 Moderate and strong beneficial and adverse effects have been considered of significance whereas no effect and slight beneficial and adverse effects have been considered non-significant.
- 3.26 The results of the prediction and evaluation tasks are presented in tables highlighting how the Draft LTP3 Preferred Option performs against the SEA objectives and are included in this Environmental Report as Appendix F.
- 3.27 The assessment also considered cumulative, indirect (secondary) and synergistic effects of LTP3.

Secondary and Cumulative Effects Assessments

- 3.28 Annex I of the SEA Directive requires that the assessment of effects include secondary, cumulative and synergistic effects.
- 3.29 **Secondary or indirect effects** are effects that are not a direct result of the plan, but occur away from the original effect or as a result of the complex pathway e.g.

a development that changes a water table and thus affects the ecology of a nearby wetland. These effects are not cumulative and have been identified and assessed primarily through the examination of the relationship between various objectives during the Assessment of Environmental Effects.

3.30 **Cumulative effects** arise where several proposals individually may or may not have a significant effect, but in-combination have a significant effect due to spatial crowding or temporal overlap between plans, proposals and actions and repeated removal or addition of resources due to proposals and actions. Cumulative effects can be:

- **Additive** - the simple sum of all the effects;
- **Neutralising**- where effects counteract each other to reduce the overall effect;
- **Synergistic**– is the effect of two or more effects acting together which is greater than the simple sum of the effects when acting alone. For instance, a wildlife habitat can become progressively fragmented with limited effects on a particular species until the last fragmentation makes the areas too small to support the species at all.

3.31 Many environmental problems result from cumulative effects. These effects are very hard to deal with on a project by project basis through Environmental Impact Assessment. It is at the SEA level that they are most effectively identified and addressed.

3.32 Cumulative effects assessment is a systematic procedure for identifying and evaluating the significance of effects from multiple activities. The analysis of the causes, pathways and consequences of these effects is an essential part of the process.

3.33 Cumulative (including additive, neutralising and synergistic) effects have been considered throughout the entire SEA process, as described below:

- As part of the review of relevant strategies, plans and programmes and the derivation of draft SEA objectives, key receptors have been identified which may be subject to cumulative effects.
- In the process of collecting baseline information cumulative effects have been considered by identifying key receptors (e.g. specific wildlife habitats) and information on how these have changed with time, and how they are likely to change without the implementation of the LTP3. Targets have been identified (where possible), that identify how close to capacity the key receptor is, which is a key determining factor in assessing the likelihood of cumulative and synergistic effects occurring, and their degree of significance.
- Through the analysis of environmental issues and problems, receptors have been identified that are particularly sensitive, in decline or near to their threshold (where such information is available).

- The development of SEA objectives and indicators has been influenced by cumulative effects identified through the process above and SEA objectives that consider cumulative effects have been identified.
- The likely cumulative effects of the strategic alternatives have been identified which highlighted potential cumulative effects that should be considered later in the SEA process.
- Testing the consistency between LTP3 and SEA objectives has highlighted the potential for cumulative effects against specific LTP3 objectives.
- Cumulative effects of LTP3 proposals have been predicted and assessed through the identification of key receptors and SEA objectives that consider cumulative effects assessment.

3.34 The results are presented in section 10 of this report.

Mitigating Adverse Effects and Maximising Beneficial Effects

3.35 Mitigation measures have been identified to reduce the scale/importance of significant negative effects.

3.36 The results are presented in section 11 of this report.

Monitoring the Environmental Effects of Plan Implementation

3.37 SEA monitoring involves measuring indicators which will enable the establishment of a causal link between the implementation of the plan and the likely significant effect (positive or negative) being monitored. It thus helps to ensure that any adverse effects which arise during implementation, whether or not they were foreseen, can be identified and that action can be taken by Southend Borough Council to deal with them.

3.38 A preliminary monitoring programme has been prepared showing, for each significant effect, what data should be monitored, the source of the data, the frequency of monitoring, as well as when and what actions should be considered if problems are identified from the monitoring.

3.39 The results are presented in section 12 of this report.

Stage C – Preparing the Environmental Report

3.40 This Environmental Report has been prepared to influence and accompany the Draft LTP3 that will be out for consultation in January 2011.

Next stages in the SEA

Stage D – Consulting on Draft Plan and Environmental Report

Assessing Significant Changes

- 3.41 The results of the formal public consultation exercise may well result in changes to the Draft LTP3, and these will have implications for the Environmental Report. In addition, the consultation exercise may result in direct changes to the contents of the Environmental Report, such as revisions to mitigation or monitoring measures.
- 3.42 The Directive requires that information on the changes to the Environmental Report resulting from the formal consultation is recorded in the statement of how the SEA findings have been taken into account in the final LTP3, which should be made available to stakeholders.
- 3.43 The Environmental Report may need to be revised to reflect the decisions and actions resulting from the public consultation exercise. ,

SEA Statement

- 3.44 Following completion of the public consultation an SEA Statement will be prepared setting out the following:
- How environmental considerations have been integrated into the plan, for example any changes to or deletions from the plan 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 plan was changed to take account of issues raised, or why no changes were made.
 - The reasons for choosing the plan as adopted in the light of other reasonable alternatives dealt with.
 - The measures that are to be taken to monitor the significant environmental effects of implementation of the plan or programme.

HIA

Introduction

- 3.45 In order to ensure that potential impacts of the LTP3 on health and health inequalities have been considered, and to fulfil the requirements of health legislation, an HIA has been undertaken in an integrated fashion with the SEA process. The need for the HIA arises from the recognition that LTP3 policies and proposals may impact on the factors influencing the health of communities and

individuals, including such factors as accessibility and affordability of transport, levels of physical activity, air and noise pollution, personal safety and perception of safety and community severance. The HIA was integrated with the SEA process to maximise synergies between the two processes, as the SEA provides an important opportunity to address the wider determinants of health (e.g. air quality and climate change) and to promote health, prevent ill health and tackle health inequalities by ensuring that they are effectively covered in the plan assessment process.

3.46 The key elements of the HIA as part of the SEA include:

- PPP review and legislative context;
- Setting the context, baseline and scope of the assessment;
- Identification of health and health inequalities issues;
- Development of HIA specific objective(s);
- Assessment of impact; and
- Reporting.

3.47 The adopted approach to the HIA ensures that health issues are considered throughout the assessment process from reviewing the relevant plans and programmes, establishing the baseline and building up the area's population profile in terms of health, identifying the key issues, developing the SEA Framework and assessing LTP3 options.

Methodology

PPP Review and Legislative Context

3.48 Health related plans and programmes, as well as legislation documents, have been identified and reviewed alongside the other plans and programmes. In addition to the DH Draft guidance, the following guidance documents, setting out how the evidence should be applied to the local context, have been reviewed:

- 'Specification for Review of Evidence for Strategic Environmental Assessment of Local Transport Plans round 3 in England' for the forthcoming new DfT guidance concerning HIA for LTP3
- 'Health Impact Assessment of Transport Initiatives – A Guide'⁹.

3.49 As a result of this review, the links between transport and health and vulnerable social groups that need special consideration in respect of transport planning with regard to their health have been identified. This information is presented in Section 2 of this report. It has informed the technical scope of this study.

⁹ Health Impact Assessment of Transport Initiatives A Guide, Health Scotland, MRC Social and Public Health Sciences Unit and Institute of Occupational Medicine, 2007

3.50 The key health related themes presented in Section 4 of this report were identified as a result of the review of the relevant plans and programmes.

Setting the Context, Baseline and Scope of the Assessment

3.51 This stage enabled the HIA to be set in context, against which the likely impacts of LTP3 have been assessed.

3.52 The identification of the vulnerable groups and linkages between health and transport informed the baseline data collection (Section 5) in terms of specifying requirements for data on the demographic make-up of the local population (including vulnerable groups), health status of the local population (including vulnerable groups) and features of the local area, such as levels of noise and air pollution.

Identification of Health and Health Inequalities Issues

3.53 Health related issues have been identified, as a result of the analysis of the baseline data and the review of other plans and programmes. Opportunities for how LTP3 could assist in addressing these issues were also identified. This is presented in section 6 of this report.

Development of HIA Specific Objective(s)

3.54 Two health-specific objectives were included in the set of SEA objectives with a view to distilling the main effects of LTP3 on health and health inequalities (Section 7). The SEA framework was also designed to ensure that all the DH guidance topics and the identified linkages between transport and health in Section 2 receive an appropriate coverage in the SEA objectives, assessment prompt questions and indicators.

Assessment of Impact

3.55 The identification of the vulnerable groups and linkages between health and transport informed the assessment process against the HIA specific objective. The multi-faceted nature and complex linkages of health determinants have also been recognised in the assessment against the other relevant SEA objectives, e.g. objectives on air quality, equality and accessibility.

3.56 The assessment of LTP3 has been undertaken indicating any potential negative and/or positive health impacts occurring as a result of its future implementation. Impacts on public health have been characterised in terms of their nature, direction (i.e. increasing or decreasing) and magnitude. Specifically, the magnitude of impacts has been judged based on the following (where the data were available):

- 'Nastiness/niceness' of impacts (e.g. lethal impacts are deemed as more serious than temporal noise disturbance);
- Number/percentage of people affected;
- Timing of impact (immediate or delayed);

- Who is affected (focus on vulnerable groups identified); and
- Certainty of impacts.

3.57 The HIA identified actions that can enhance positive impacts and reduce or eliminate negative impacts of LTP3 with respect to health and health inequalities (Section 2).

Reporting

3.58 The results of the HIA are reported as an integral part of this Environmental Report.

4. Other Relevant Plans and Programmes

Introduction

- 4.1 The first task of the SEA is the identification of other relevant plans, policies, programmes (PPPs) and environmental and sustainability objectives laid down in policies and legislation. The LTP3 must be prepared taking these into account as it may influence and be influenced by them.
- 4.2 The SEA Directive specifically states that information should be provided on:
- “The relationship [of the plan or programme] with other relevant plans and programmes”
 - “The environmental protection objectives, established at international, [European] Community or [national] 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”

Methodology

- 4.3 The LTP3 should be set in the context of international, national, regional and local objectives along with strategic planning, transport, social, economic and environmental policies.
- 4.4 Relevant PPPs include those at different levels (international, national, regional, etc.) which influence the LTP3, or those in other sectors which contribute, together with the LTP3, to changes in the environmental conditions of the area to which they apply. Relevant PPPs may include land use or spatial plans, plans dealing with aspects of the physical environment, and plans and programmes for specific sectors or types of activity. Environmental protection objectives may be set by policies or legislation. Such policies and legislation may include international agreements, European Directives, UK initiatives and national planning guidance.
- 4.5 A large number of relevant PPPs were reviewed as part of the LTP2 SEA. For the preparation of this report the review of the PPPs was focused on plans and programmes and other relevant policy documents which were published after 2006. The updated list of relevant international, national, regional and local PPPs is included in Appendix A.
- 4.6 During the course of preparing this Environmental Report much of the regional PPPs have been abolished by Government thus changing influence away from regional policy. However, these regional documents have been included as correct at the time of preparation of the Scoping Report and are also relevant in terms of useful content for evidence base. Their removal does not affect the Environmental Sustainability Themes identified below.

Relevant Environmental and Sustainability Themes

4.7 The plans and programmes outlined in Appendix A were examined to gain a clearer picture of the key environmental/sustainability themes relevant to the SEA. This ensures that the SEA objectives in the Environmental Report generally adhere to and are not in conflict with objectives found in other recent plans and programmes and policy documents. The derived themes are outlined in Appendix B which builds on the analysis of relevant PPPs undertaken for the LTP2 SEA. They are further summarised in table 4.1 below. These key environmental and sustainability themes were then utilised to inform the review of the SEA Objectives on which the assessment of the LTP3 will be based.

Table 4.1 – Summary of Sustainability and Environmental Themes Derived from the Review of PPPs

Environmental / Sustainability Theme	Relevance to SEA Topics	Relationship to the SEA Objectives
To protect and maintain valuable natural regional assets, and to improve the wider environment by means of adequate investment and management	Landscape, Biodiversity	10, 2
To protect and enhance the natural environment, including its biodiversity (habitats and species) and landscape character	Biodiversity, Flora, Fauna, Landscape	2, 6
To protect and enhance the built and historic environment and encourage good quality design and use of sustainable construction methods for all new development.	Cultural Heritage	15, 16
Address the causes and implication of deprivation and social exclusion, and protect the vulnerable and disadvantaged improving their accessibility to key services and facilities by various transport modes	Population, Human Health	9, 13
Reduce the need to travel, achieve modal shift to more sustainable transport options, widen choice of more accessible and affordable means and reduce congestion	Population, Human Health, Air	7, 11
Minimise the risk of flooding	Climatic Factors, Water	5

Reduce contributions and increase resilience to climate change	Climatic Factors, Human Health, Material Assets	5, 7
To ensure good local air quality and to consider and minimise the effects of transport-related noise pollution	Air, Human Health	1, 8
Promote accessibility, provide local access to quality services including health, education, employment, community facilities, leisure and housing	Population	9, 10, 13
Enhance outcomes for all children and young people	Population	9, 13
Improve safety for all travellers, reduce crime and fear of crime	Population, Human Health	12, 14
To improve the health of the Borough's residents and to reduce inequalities in health	Population, Human Health	9
To protect and enhance the quality of the regions ground and river waters.	Water	3
To reduce the amount of waste produced and increase the amount recycled	Material Assets	16
To minimise the use of primary natural resources and conserve soil resources and quality	Soil, Material Assets	4, 16
To minimise the use of energy and optimise the use of renewable energy resources	Material Assets, Climatic Factors	7

Health Related Themes

4.8 Table A.2 - in Appendix A lists the reviewed plans and programmes of particular relevance to the HIA. The key health-related sustainability messages derived from the review of these PPPs are:

- Improve health in the UK and globally, taking account of the diverse factors influencing health, such as climate change, pollution, environmental degradation and poverty;
- Tackle poor health by improving the health of everyone, and of the worst-off in particular;
- Reduce health inequalities among different groups in the community (e.g. young children, pregnant women, black and minority ethnic people; older people, people with disabilities; low income households);
- Support the public to make healthier and more informed choices in regards to their health;
- Address pockets of deprivation;
- Provide physical access for people with disabilities;
- Consider possible differential impacts of a transport intervention across different social groups to avoid a disproportional effect on those, living on low income;
- Intervene to tackle market failures, potentially contributing to a reduction in health inequalities;
- Interventions should be evidence-based, though the lack of conclusive evidence should not, where there is serious risk to the public health, block action proportionate to that risk;
- Provide or improve access to local health and social care services and health promoting amenities;
- Reduce the rate of road accidents (the national target is to reduce rate of accidents by at least a fifth by 2010 compared with the Our Healthier Nation baseline period 1995-97¹⁰).

Review of HIA Guidance Documents

4.9 As there is no specific guidance on how to undertake HIA of LTP3s, the following HIA guidance documents have been reviewed at this stage to inform the development of a methodology for the LTP3:

¹⁰ White Paper: Saving lives: Our Healthier Nation, 1999

- Health Impact Assessment of Transport Initiatives A Guide, Health Scotland, MRC Social and Public Health Sciences Unit and Institute of Occupational Medicine, 2007;
- NICE public health guidance 8: Promoting and creating built or natural environments that encourage and support physical activity, 2008;
- Specification for Review of Evidence for Strategic Environmental Assessment of Local Transport Plans round 3 in England, 2009;
- East of England RSS Review Integrated Sustainability Appraisal Interim ISA Report, 2009;
- East of England RSS Review Integrated Sustainability Appraisal Scoping Report Topic Paper 4 - Community and Well-being.

4.10 This review identified links¹¹ between transport and health, including both health outcomes and determinants. These links are listed below in Table 1.1 and Figure 1.1 and will inform the HIA of the LTP3 at the assessment stage.

Table 1.1 - Links between Transport and Health Outcomes and Determinants

Health Outcomes and Determinants	Explanation
General physical health	<ul style="list-style-type: none"> • Accessible and affordable transport enabling good access to education, employment, fresh food, friends and family, leisure and health services enhances health. • Access to a car is linked to improved physical health through such factors as improved access to essential services and health promoting amenities, reflection of socio-economic status and raised self-esteem. A proportion of those who are at most risk of social exclusion have no access to cars.
Physical activity	<ul style="list-style-type: none"> • Walking and cycling are physically active forms of transport • Physically active transport may lead to increases in overall levels of physical activity
Injuries and deaths	<ul style="list-style-type: none"> • Road trauma is a leading cause of mortality across all age groups. Reducing the impact of road trauma has been a great public health success in the past 20 years, however vehicle crashes and collisions still

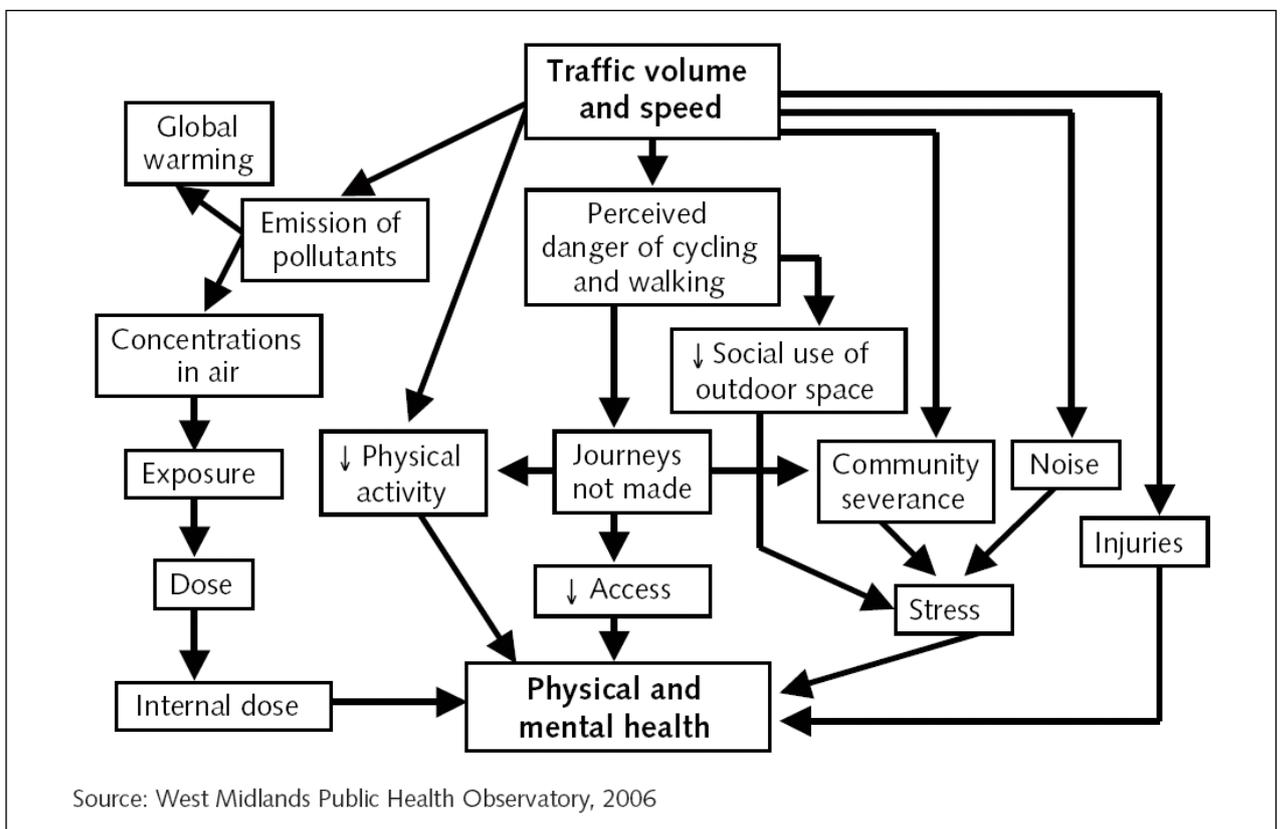
¹¹ Mainly based on Health Impact Assessment of Transport Initiatives A Guide, Health Scotland, MRC Social and Public Health Sciences Unit and Institute of Occupational Medicine 2007 and Transport, Access and Health in the East of England, Eastern Region Public Health Observatory, 2006

Health Outcomes and Determinants	Explanation
	<p>produce a great deal of avoidable death and disability.</p> <ul style="list-style-type: none"> • Travel by rail and aeroplane has the lowest rate of fatality or serious injury; • Road users at highest risk of being killed or seriously injured are cyclists and pedestrians; • The most commonly cited cause of a road crash is speed.
Air pollution	<ul style="list-style-type: none"> • The pollutants most associated with traffic are small particles (PM), nitrogen dioxide (NO₂) carbon monoxide (CO) and toxicants such as benzene. • Increased outdoor air pollution is associated with increased cardiorespiratory mortality and morbidity. Some effects are more or less immediate and affect vulnerable groups (e.g. children, people whose health is already impaired) in particular, whereas the effects of long-term exposure are more widespread. • PM are the constituent most closely associated with adverse health outcomes. Some evidence shows that PM from traffic is more toxic (per unit mass) than PM from other sources. • Ammonia (NH₃) emissions arising from the use of catalytic converters is an increasing issue. Ammonia is involved in the formation of PM.
Noise pollution	<ul style="list-style-type: none"> • Motorised forms of transport are a common source of noise pollution, with road traffic being the most common. • Noise pollution at the levels generated by traffic can lead to serious annoyance, interference with speech and sleep disturbance. • Stress has been suggested as a possible mechanism through which noise may affect mental and physical health. • Evidence suggests noise pollution may limit children's learning.
Land blight	<ul style="list-style-type: none"> • Land blight caused by roads and other transport infrastructure reduces enjoyment and discourages active recreation.

Health Outcomes and Determinants	Explanation
Stress/mental health and quality of life	<ul style="list-style-type: none"> Noise pollution generated by transport can lead to stress. Where public transport passengers feel ‘overcrowded’ this may lead to stress but the perceptions of overcrowding and related stress may be mediated by feelings of safety and control. Traffic jams can be a source of stress for transport users For low income families dependency on walking as a primary form of transport can impact on their time for other recreational activity and may add to psycho-social stress within the family. Access to a car has been linked to improved mental health. Increased levels of physical activity may have a protective effect on mental health.
Personal safety and perceptions of safety	<ul style="list-style-type: none"> Streets dominated by motorised vehicles with reduced numbers of people on the streets may create a social environment that is conducive to increased crime, which then discourages more people from walking, in particular women and children. Fear of crime is an important factor influencing travel choices. Women’s fear is greater than men’s, and women are more likely to avoid using public transport as a result. Personal safety may also affect decisions to walk or cycle.
Social capital and inclusion and community severance	<ul style="list-style-type: none"> There is an observed relationship between positive social capital and health. Good transport planning, promoting less-car dominated environment, can enhance social capital by increasing the number of people walking or cycling on the streets and making the streets a place of social interaction. Community severance results from the divisive effects of the provision and use of transport infrastructure: major roads and railways running through an existing community.
Climate change	<ul style="list-style-type: none"> Greenhouse gases from transport contribute to

Health Outcomes and Determinants	Explanation
	climate change. Climate change consequences are likely to affect the health of the population, particularly with an increase in flooding, summer temperature, levels of solar radiation and frequency of extreme weather events leading to increased levels of fatalities, injury, infectious diseases, heat related deaths, skin cancer cases and cataracts.

Figure 1.1 - Potential Effects of Traffic Volume and Speed on Physical and Mental Health



4.11 The identification of the vulnerable groups (see Section 2) and linkages between health and transport helped inform the baseline data collection in terms of specifying requirements for data on demographic make-up of the local population (including vulnerable groups), health status of the local population (including vulnerable groups) and features of the local area.

5. Baseline Information

Introduction

5.1 The next task in the SEA addresses the collection of an evidence base for the SEA.

5.2 The SEA Directive states that the Environmental Report should provide information on:

“relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan” and the “environmental characteristics of the areas likely to be significantly affected” (Annex I (b) (c))

and

“any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC (Birds Directive) and 92/43/EEC (Habitats Directive)” (Annex I (c)).

5.3 To accurately predict how potential LTP3 strategies and measures will affect the environment, it is important to understand the current state of the environment and then examine the likely evolution of the environment without the implementation of the plan.

Methodology

5.4 Baseline information provides the basis for the prediction and monitoring of the effects of the implementation of the LTP3 and helps to identify environmental problems and alternative ways of dealing with them.

5.5 Due to the fact that SEA is an iterative process, subsequent stages in its preparation and assessment might identify other issues and priorities that require the sourcing of additional data and/or information and identification of monitoring strategies. This makes the SEA process flexible, adaptable and responsive to changes in the baseline conditions and enables trends to be analysed over time.

5.6 The most efficient way to collate relevant baseline data is through the use of indicators (see below). This ensures that the data collation is both focused and effective. The identification of relevant indicators has taken place alongside the assessment of other relevant plans, policies and programmes (Task A1), the identification of sustainability issues (Task A3) and developing the SEA framework (Task A4).

5.7 It should be noted that the SEA process does not require the collection of primary data, but relies on the analysis of existing information. As such, where data gaps exist, this is highlighted in the report.

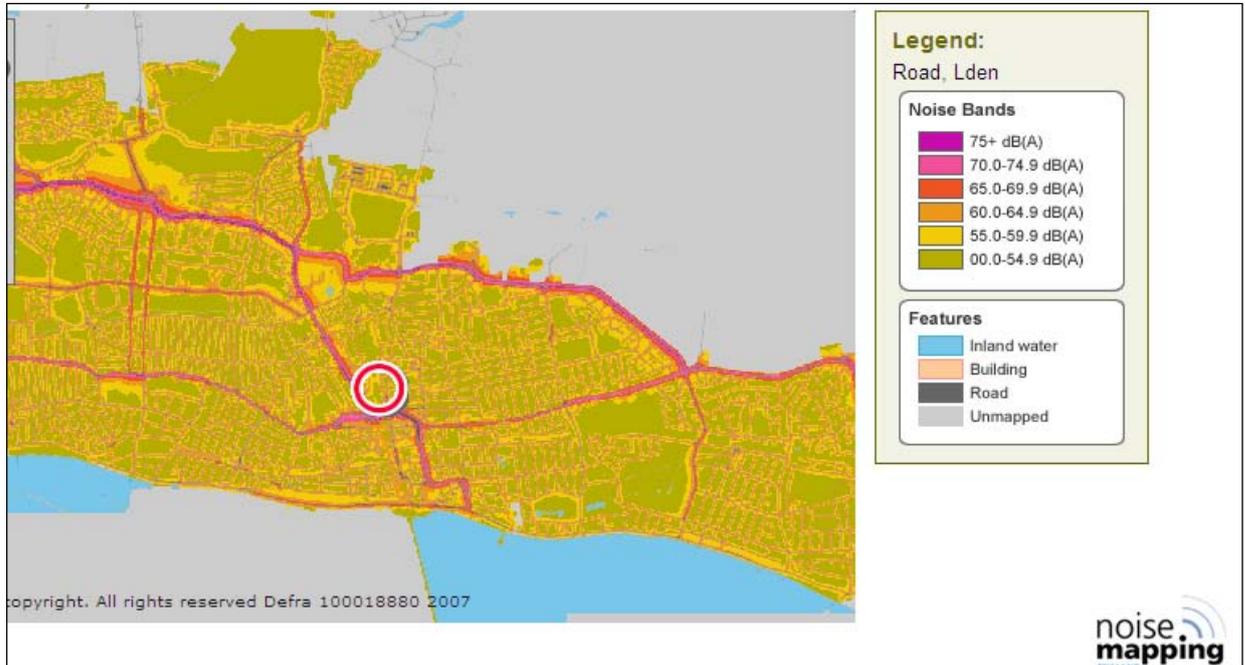
- 5.8 Indicators have been selected for their ability to provide objective data that will, over time, offer an insight into general trends taking place. Throughout the assessment process, the following issues will need to be addressed:
- What is the current situation, including trends over time?
 - How far is the current situation from known thresholds, objectives or targets?
 - Are particularly sensitive or important elements of the environment, economy or society affected?
 - Are the problems of a large or small scale, reversible or irreversible, permanent or temporary, direct or indirect?
 - How difficult would it be to prevent, reduce or compensate for any negative effect?
 - Have there been, or will there be, any significant cumulative or synergistic effects over time?

General and Transport Related Characteristics of Southend-on-Sea

- 5.9 Southend has a resident population of 164,300 (ONS, 2008) with a catchment population of around 325,000. The Council, however, questions the ONS population estimates for Southend-on-Sea for 2001 onwards because they are significantly out of step with population counts based on other sources such as residents registered with GPs (175,240 in 2002). The Borough has the highest population density in Essex and the second highest in the East of England. The town has grown rapidly over the past 20 years which has placed an increasing demand on developments and the infrastructure.
- 5.10 Southend had an unemployment rate of 7.1% (July 2008 - June 2009, NOMIS) compared to an average of 5.8% in the East of England and 6.9% nationally. As stated previously the East of England Plan targeted 13,000 new jobs for Southend by 2021 and 6,500 additional dwellings in the same period.
- 5.11 Southend plays a role of regional and sub-regional office, shopping, leisure and cultural centre. It is also a major tourist destination with 6.1 million day visitors per year.
- 5.12 Southend-on-Sea is the seventh most deprived area in the East of England and the second most deprived in Essex. It was identified as one of the Key Centres for Development and Change in the East of England Plan (now revoked), which was hoped to promote the regeneration of the area.
- 5.13 No Air Quality Management Areas (AQMAs) have been declared in the Borough. However, increasing traffic levels may affect local air quality. Evidence shows that demand management alone will not solve congestion issues in Southend-on-Sea.

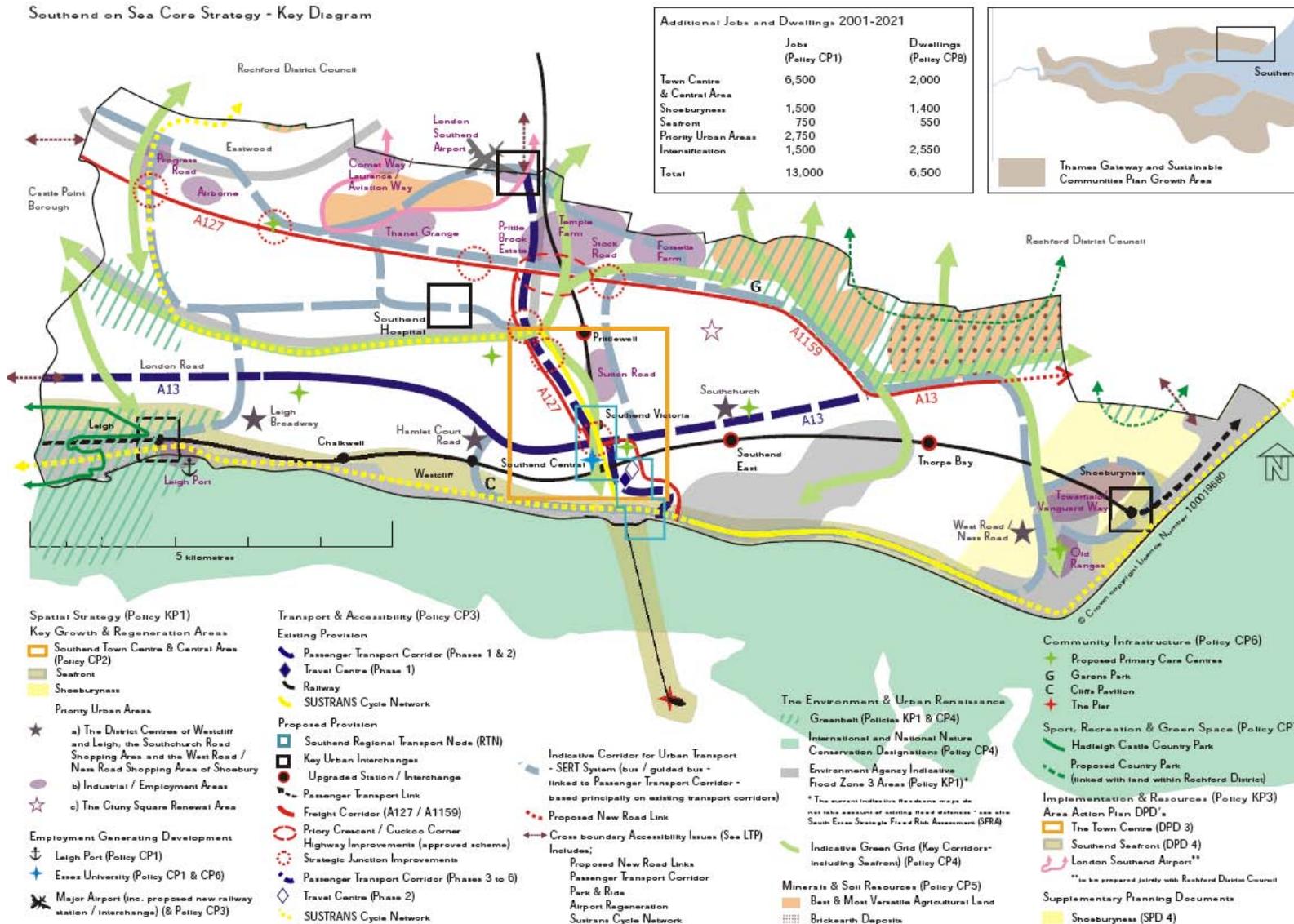
- 5.14 The Defra Noise Maps show (see Figure 5.1) elevated levels of noise of around 70.0 dB(A) to 75.5+ dB(A) along the major roads (A13, A127 and A1159).
- 5.15 Although there has been a recent reduction in road traffic accidents in Southend-on-Sea, figures are still higher than comparable authorities, and national and regional averages. Increased traffic management is important due to the current and projected number of visitors to the area.
- 5.16 The Ecological Footprint (EF) for Southend-on-Sea in 2002 was 5.55 global hectares (gha) per person, which is the same as the EF of Essex and similar to the UK average of 5.4 gha per person. This is approximately three times higher than the Earth's bio-capacity (1.8 gha per person). The high EF reflects resource and carbon intensive economy and lifestyles. Transport is one of the contributors to the local EF. A person's transport footprint counts the CO₂ sequestration land for any fossil fuel energy used. It also contains a share of the total land area under tarmac. For Southend-on-Sea Borough the urban areas would contribute the most.
- 5.17 LTP3 should play a key role in reducing transport related contribution towards the area's EF. In particular, a shift to low carbon transport and minimisation of land take are required.
- 5.18 Figure 5.2 is a Key Diagram from the Southend Core Strategy showing the main environmental designations and constraints, transport routes and planned growth.

Figure 5.1 – Noise Map



Source: Defra Noise Mapping England

Figure 5.2 – Key Diagram from Southend-on-Sea Core Strategy



Data Analysis

- 5.19 The baseline data provide an overview of the environmental and social characteristics of the LTP3 area and how these compare to the region and the UK. This overview is presented in Appendix A. The analysis of the baseline data has highlighted a number of key issues in Southend-on-Sea. These, together with implications and opportunities arising for the LTP3, have been summarised in Table 6.1.
- 5.20 Data have been collated and analysed for the following indicators (as detailed in Appendix A):
- Environmental Data
 - Area and number of sites designated for nature conservation and condition: European sites, Sites of Special Scientific Interest (SSSI), National Nature Reserve (NNR), Local Nature Reserves (LNR) and Local Nature Conservation zones under consideration by Natural England);
 - Number of Regionally Important Geological and Geomorphological Sites (RIGGS);
 - Important habitats and species in Southend-on-Sea Local Biodiversity Action Plan (LBAP);
 - Landscape Character Areas;
 - Tranquillity levels;
 - Extent of Urban Open Space;
 - Extent of Green Belt;
 - Number of Listed Buildings;
 - Listed Buildings at risk;
 - Conservation Areas;
 - Scheduled Monuments;
 - Agricultural Land;
 - Land area;
 - Housing built on Previously Developed Land (PDL);
 - Percentage of river length assessed as good or fair chemical and biological quality;
 - Groundwater Source Protection Zones (SPZ);
 - Extent of Floodplain;
 - Total CO₂ emissions/ Percentage of road transport emissions;

- Number of days PM₁₀ 24 hour standard is exceeded (in bandings 'moderate' or higher);
- Annual Mean NO₂ concentrations.
- Social Data
- Total population;
- Percentage of population by age;
- Gender split (i.e. HIA vulnerable groups: women)
- Population by age (i.e. HIA vulnerable groups: children and older people)
- Population Density;
- Ethnicity;
- Residents by religion;
- Projected population;
- Household number and average size;
- Children in poverty (i.e. HIA vulnerable groups: children in low-income families);
- Percentage of working age population who are unemployed;
- Indices of Multiple Deprivation (IMD);
- Crime rate;
- Percentage of residents who feel fairly safe or very safe outside during the day;
- Percentage of residents who feel fairly safe or very safe outside after dark;
- Vehicle crimes;
- Modes of transport used to travel to work by the resident population;
- Distance travelled to work by the resident population;
- Distance travelled to work by the workplace population;
- Traffic volume;
- Number of passenger rail journeys
- % of people using their car for journeys to work
- Public Transport Accessibility
- Cycling and Walking
- Inflow/ outflow of commuters
- Bus patronage
- Car ownership

- Percentage of residents who think that for their local area, over the past three years, the level of traffic congestion has got better or stayed the same
- Satisfaction of residents with public transport
- Percentage length of footpaths and rights of way which are easy to use
- Percentage of the footway network which may require repair
- Percentage of pedestrian crossing which have facilities for disabled people
- Percentage of the population within 20 minutes walking time of 3 different sports facilities, where at least one has achieved a quality mark
- Total number of road accidents
- Road accidents breakdown by severity
- Road accidents involving cyclists
- Road accidents involving pedestrians
- Number of children killed or seriously injured on the roads
- Health Specific Data
- Average life expectancy at birth;
- Percentage of people with a limiting long term illness (*i.e. vulnerable groups: people with health problems*);
- Proportion of population in good, fairly good and not good health;
- Mortality rates;
- Adult participation in sport;
- Children and young people's participation in high quality PE and sport;
- Obesity – adults; and
- Obesity - children.

Data Limitations

- 5.21 The purpose and use of indicators is to provide quantified, objective information in order to show how things change over time. However, they do not explain why particular trends are occurring and the secondary, or knock-on, effects of any changes.
- 5.22 There are several gaps in the data collected as a result of not all the relevant information being available at the local level for recent time periods. However, it is believed that the data sets available provide a comprehensive overview of the sustainability situation in Southend-on-Sea. Data gaps include:
- Data on number or percentage of disabled people in the area;
 - Data on public's transport adaptability for the use by disabled people;

- Working age population with access to employment by public transport, walking and cycling;
- Children living within 15 minutes travel time of a primary school by public transport;
- Children travelling to school by car;
- Detailed information on access to health facilities;
- Crime statistics associated with public transport.

6. Key Environmental Issues

Introduction

- 6.1 The SEA Directive states that the Environmental Report should provide information on:

“Any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC” (Annex I(d))

- 6.2 The analysis of environmental issues influences the development of the SEA framework (see Section 7), in particular in identifying and selecting indicators and targets.

Methodology

- 6.3 The key environmental issues that are relevant to the LTP3 were identified through discussions with Council officers, together with reviews of published documents, analysis of existing data and review of the key issues identified in the Environmental Report prepared previously for the LTP2. The analysis of environmental issues is iterative and ongoing as the SEA develops.
- 6.4 This review of key environmental issues and problems indicates that there are a number of significant environmental issues in Southend directly related to transport. These include traffic congestion, a likely increase in transport related CO₂ emissions, noise pollution, localised air quality issues, high levels of commuting, decline in the physical transport infrastructure due to funding issues, deficiency in the road network capacity, room for further improvements in the level of the use of public transport and other carbon friendly modes and the need to further improve road safety. Other identified environmental issues where transport planning may have direct or indirect effects and which should inform the Plan include flooding, water quality, need for climate change adaptation, pressure on landscape, historical assets, biodiversity, geology and tranquillity levels. This analysis also highlights the need to consider pertinent socio-economic issues such as, deprivation levels, accessibility and social exclusion, physical activity and health issues, unemployment and predicted levels of population growth.
- 6.5 These key issues have been summarised in Table 6.1. This table also includes an outline of the potential opportunities for the LTP3 to address these issues, in some instances contributing to the wider regeneration initiatives in the Borough. The relevance to the SEA topics outlined in the Directive is indicated in the third column of the table.

Table 6.1 - Key Environmental Issues

Key Issues / Problems	Opportunities / Implications for LTP3	SEA Topics
<p>Deficiency in the Road Network Capacity and Traffic Congestion</p> <p>The issues indicating the deficiency in the road network include the following:</p> <ul style="list-style-type: none"> ○ Key sections operating at or close to capacity. ○ The main routes within Southend-on-Sea which suffer from congestion are A127 and the A13. ○ Significant delays are experienced on many sections of the key routes. <p>In 2001, 66% of people used their car to travel to work. This is higher than the national average and is likely to have increased in recent years due to rising levels of car ownership within the Borough. The high levels of road traffic have a significant effect on local communities principally in terms of pollution, severance and safety particularly on the A127, A1159 and the Queensway Central Area.</p> <p>Without intervention, overall traffic levels on the local highway network during the morning peak hour are forecast to grow by over 20% by 2011 and 35% by 2016. As a result, peak hour traffic conditions will deteriorate significantly with journey times on strategic routes</p>	<p>The LTP3 should include targeted interventions to improve the efficiency of the existing road network and reduce congestion. The need to make the best use of the current transport system is desirable not only from an environmental perspective but it is also dictated by the resource limitations for new infrastructure.</p> <p>The LTP3 can contribute to reducing congestion and encouraging modal shift by facilitating a widening of travel choice through quality integrated facilities and services, public transport, walking and cycling improvements, demand management, restricting on street parking, network management, travel planning and intelligent transport systems. The introduction of cycle hire schemes, as a cost-effective option, should be considered in this respect.</p> <p>The use of financial incentives, such as a congestion charge, could also be considered to discourage reliance on the private car.</p> <p>Consideration should be given to improving coordination and integration of different public transport modes through the use of smart ticketing, allowing passengers to move seamlessly between modes.</p> <p>Consideration should be given to combining engineering</p>	<p>Climatic Factors, Air Quality, Human Health, Population</p>

Key Issues / Problems	Opportunities / Implications for LTP3	SEA Topics
<p>expected to increase by between 50% and 75% by 2011, and doubling by 2016.</p> <p>If current traffic patterns of increasing peak and off peak flows on those primary routes which are not already at capacity continue, the existing road network will have insufficient capacity to cater for any substantial growth.</p> <p>Improving public transport connections and reducing the reliance on the private car is thus a significant challenge in Southend.</p> <p>In addition, Southend is the second most popular day resort in the UK. The large volume of visitors to the area increases volumes of traffic at certain times of the year, particularly during the summer months.</p> <p>Traffic congestion was identified as one of the areas which are most in need of improvement in making Southend a good place to live by its residents.</p> <p>To retain the existing infrastructure and cater for substantial growth, a significant modal shift will be required from the car to public transport. The SEA of the LTP2 identified the need for such a shift of up to 50%.</p>	<p>and infrastructure measures with publicity or awareness-raising campaigns and/or education and practical offers to promote active modes of transport or physical activity. Travel Plans should be encouraged through the LTP3.</p>	
<p>Commuting</p> <p>In 2003, 19,500 people commuted into the Borough daily and 29,000 commuted out, of which 11,000 travelled into London. The net outflow of commuters is high for an</p>	<p>See implications for Issue on Traffic Congestion above. Education should not be overlooked, as commuters may not be aware of the ease by which they could switch to alternative modes. Therefore, initiatives by the local</p>	<p>Climatic Factors, Air Quality, Human</p>

Key Issues / Problems	Opportunities / Implications for LTP3	SEA Topics
<p>urban area of Southend’s size, and is increasing. The reliance on the private car is of particular concern.</p> <p>Strategic job-led growth has been planned in order to reduce the imbalance between workers and local jobs which should reduce the outflow of commuters from Southend. However, as a significant proportion of commuters will travel to work by car, this is likely to further elevate existing already high traffic levels.</p>	<p>authority are important in this respect.</p> <p>In addition, the LTP3 should:</p> <ul style="list-style-type: none"> • Specifically target improvements to the public transport on the key commuting routes; • Improve interchange between cycling and public transport. Facilities at railway stations must be improved to accommodate the needs of cyclists. 	<p>Health, Population</p>
<p>Use of Public Transport and Other Sustainable Ways of Travelling</p> <p>The majority of the population of Southend live within one mile of one of the Borough’s nine railway stations and all major facilities are located in close proximity to the existing rail network.</p> <p>An additional railway station is to be constructed at London Southend Airport which should promote people to get the train to the airport rather than driving.</p> <p>The existing concessionary fares system for buses is a barrier to older people using the train, where concessionary fares are available, but do not offer the same level of discount.</p> <p>Bus patronage in Southend has increased along the A13, following implementation of a focused public transport corridor scheme.</p> <p>The percentage of residents who are satisfied with the</p>	<p>The LTP3 should further enhance the coordination and integration of public transport modes and include infrastructure and fleet improvements.</p> <p>Opportunity to increase the percentage of rail travel for commuter and non-commuter journeys. Consideration should be given to using the existing rail network as a suburban metro for some parts of Southend. However, as parts of the north west of the Borough would have difficulty accessing the rail network, the focus should be on bus service improvements in this area.</p> <p>There is also an opportunity to expand the existing cycle network and other green networks and increase the number of trips made by cycling. The Rights of Way Improvement Plan seeks improvements to the Public Rights of Way Network to encourage walking.</p> <p>The LTP3 should promote cycling as a mainstream form of personal transport. Interchange between cycling and other forms of travel, in particular public transport, should</p>	<p>Human Health, Material Assets</p>

Key Issues / Problems	Opportunities / Implications for LTP3	SEA Topics
<p>public transport system in Southend has increased in recent years and is broadly comparable to that observed across England.</p>	<p>be improved.</p>	
<p>Decline in Physical Infrastructure and its Effects on Image in Southend</p> <p>The development of Southend has suffered for a number of years of under investment in local transport infrastructure affecting the image of the town. Recent strategies, such as improvements at Victoria Station, additional investments in the road network and the expansion of London Southend airport have initiated the modernisation and upgrading of the transport system.</p> <p>Road and pavement repairs and clean streets were identified amongst five areas most in need of improvement in making Southend a good place to live¹².</p>	<p>The LTP3 can reduce severance and improve linkages within the town through an improvement of the public transport network, enhanced pedestrian and cycle routes, green networks and well designed proposals which increase the attractiveness of the public realm. By promoting and integrating these types of measures the LTP3 can therefore improve the overall image of Southend, building on the work that has already been done as part of the LTP2 and LTP1.</p>	<p>Population, Human Health, Material Assets</p>
<p>Deprivation and Quality of Life</p> <p>Parts of the Borough, mainly in the town centre, are in the top 10% most deprived areas in the country. Overall deprivation in Southend has increased relative to other districts within the East of England since 2000. Approximately 45% of the Borough's population lives within the 20% most deprived areas in the East of England.</p> <p>Wages in Southend-on-Sea are lower than that in the</p>	<p>The LTP3 can contribute to tackling social exclusion and neighbourhood renewal in deprived areas through improving accessibility to key services and facilities and employment areas by public transport and cycling routes and enhancing the public realm. This in turn has the potential to attract inward investment and further reduce levels of deprivation.</p> <p>The LTP3 should:</p> <ul style="list-style-type: none"> • Consider the use of targeted fare concessions to 	<p>Population, Human Health, Material Assets</p>

¹² 2006/7 Southend Borough Council Local Government User Satisfaction Survey

Key Issues / Problems	Opportunities / Implications for LTP3	SEA Topics
<p>East of England and England average wage levels. Unemployment levels have generally followed national fluctuations. Prior to the ongoing financial crisis which started in 2008, unemployment in the Borough had consistently remained significantly above the national and regional levels. Although data regarding the effect of the recession on unemployment levels in Southend have not been identified, it is likely that unemployment levels have risen, having a negative effect on deprivation and quality of life within the Borough.</p> <p>Most notably, Milton, Victoria and Kursaal have the highest levels of deprivation in the Borough, and the lowest levels of car ownership. Milton and Victoria have been designated Objective 2 Areas aiming to reduce deprivation. Milton benefits from a Community Project, and an Advocacy for Residents group.</p> <p>Southend benefits from Neighbourhood Watch areas, crime and disorder reduction partnerships and the Crossbow Partnership. These all aim to improve the quality of life for residents in these areas.</p>	<p>reduce inequalities in income and opportunities;</p> <ul style="list-style-type: none"> Recognise and address the needs of vulnerable groups that need special consideration in transport planning; Take account of EqIA findings and recommendations. 	
<p>Low Tranquillity Levels</p> <p>Tranquillity arises from a combination of physical features and human experience. It is important for mental and physical wellbeing which improves the quality of life.</p> <p>Threats to tranquillity include new buildings and infrastructure, new roads, increasing infrastructure at airports and air traffic, increased light pollution and</p>	<p>The LTP3 should promote the use of public and non-motorised transport, avoid a significant increase in road infrastructure and aim to minimise noise and light pollution.</p> <p>Noise reduction measures are outlined below under the issue concerned with Noise and Air Pollution. Light pollution can be minimised through, for example, the use</p>	<p>Landscape , Human Health</p>

Key Issues / Problems	Opportunities / Implications for LTP3	SEA Topics
<p>inadequate funding for land management.</p> <p>The mean tranquillity score for Southend is - 55.6, which is significantly lower than the East of England score of – 3.27 and the England average of -9.34. Such a low negative score suggests that the Southend countryside character detracts from feelings of tranquillity. Amongst all English Unitary Authorities, Northumberland has the highest score of 28.6 and Slough Unitary Authority has the lowest of -79.5.</p>	<p>of street lamps with downward beam. The LTP3 could also consider the outcomes of the experiment of turning off street lighting after midnight currently being implemented and monitored by the Essex County Council.</p> <p>Careful consideration should be given as to how avoid a conflict between initiatives to reduce light pollution and safety issues.</p>	
<p>General Health Issues</p> <p>The proportion of the population of Southend who consider their health to be good or fairly good is lower than that observed for the East of England but similar to that for England as a whole.</p> <p>Smoking, cancers and circulatory disease are the main contributors to life expectancy and premature mortality.</p> <p>The proportion of the population of Southend with limiting long term illnesses (19%) is higher than that observed in the East of England (16%) and across England and Wales (18%).</p>	<p>The LTP3 should encourage healthier lifestyles by providing environments that promote good physical and mental health (e.g. through promotion of active modes of travel, improvement of local air quality and tranquillity levels).</p>	<p>Human Health, Population</p>
<p>Health Inequalities</p> <p>Significant inequalities exist in public health. Research shows that lower socio-economic groups are more likely to experience health inequalities due to:</p> <ul style="list-style-type: none"> • Inadequate level of health literacy; • Fewer resources to devote to healthy goods and 	<p>The LTP3 should help identify what forms of intervention best improve health literacy, personalising messages for population subgroups, including those with low health literacy where the prevalence of chronic diseases is often high. It should also improve accessibility to health and recreation facilities and community facilities and amenities</p>	<p>Human Health, Population</p>

Key Issues / Problems	Opportunities / Implications for LTP3	SEA Topics
<p>services¹³.</p> <p>Health inequalities exist in deprived areas across the Borough.</p> <p>Trends for life expectancy are improving both for the area average figures and for 20% most deprived areas in the Borough. However, the gap between the most deprived and the least deprived areas and average figures for the area and East of England remains significant (2005-07 data):</p> <ul style="list-style-type: none"> • Most deprived fifth: 76.5 years; • Area average: 79.5 years; • East of England average: about 81 years; • Least deprived fifth: 82 years. <p>All cause mortality rates for both males and females are higher in the most deprived areas than in the least deprived areas in the Borough, including smoking-related mortality, mortality from circulatory disease and cancer.</p> <p>Research relating to the links between transport and health inequalities¹⁴ shows that:</p> <ul style="list-style-type: none"> • People without access to a car are more likely to experience health problems as a result of lack of access to essential services and amenities and 	<p>for all by affordable and efficient transport systems.</p> <p>The LTP3 should recognise and address the needs of vulnerable groups that need special consideration in transport planning, including low-income families, children (particularly in low-income families), disabled people and older people.</p>	

¹³ Securing Good Health for the Whole Population, Derek Wanless 2004

¹⁴ Health Impact Assessment of Transport Initiatives A Guide, Health Scotland, MRC Social and Public Health Sciences Unit and Institute of Occupational Medicine 2007

Key Issues / Problems	Opportunities / Implications for LTP3	SEA Topics
<p>increased level of social exclusion;</p> <ul style="list-style-type: none"> • Disadvantaged groups are more likely to be involved in a road crash; • The pedestrian death rate for children from families in social class V is higher than for children of social class I¹⁵; • Speeding is more common in less affluent areas, leading to more accidents in these areas; • There is a disproportionately high level of pedestrian and cyclist casualties in deprived areas; • Pedestrians over the age of 70 account for a disproportionate share of deaths¹⁶. 		
<p>Plans for Economic and Employment Growth and Regeneration</p> <p>A recent decline in traditional holiday employment and seasonal employment, combined with uneven access to employment and training opportunities results in Southend having a higher unemployment rate than the East of England and national averages.</p> <p>The employment base in Southend remains narrow with many people having unskilled and seasonal tourist jobs, and those with higher skills tending to work outside the</p>	<p>The LTP, through improving accessibility and transport's affordability, can support reducing unemployment and increasing the quantity, quality and range of local jobs.</p> <p>Retention of a skilled workforce, increasing the rate of business survival and improving the quality of business support services are significant challenges in Southend.</p> <p>Regional planning requirements indicate the need for provision of an additional 13,000 jobs and 6,500 new dwellings in the Borough in the period 2001 – 2021.</p> <p>The challenge is to ensure a comprehensive regeneration</p>	<p>Population, Human Health, Material Assets, Cultural Heritage, Landscape, Air, Biodiversity, Flora,</p>

¹⁵ I - Professional etc occupations; II - Managerial and Technical occupations; III - Skilled occupations; IV Partly-skilled occupations; V - Unskilled occupations

¹⁶ Improving road safety for pedestrians and cyclists in Great Britain, DfT 2009

Key Issues / Problems	Opportunities / Implications for LTP3	SEA Topics
<p>town with a significant number commuting to London. However, recent regeneration initiatives, have improved the nature of the Borough, particularly through the construction of new educational and retail facilities and improvements in the local transport infrastructure. These initiatives, and those proposed for the forthcoming years will improve the economic viability of the Borough.</p> <p>Southend is an attractive area for tourists with more than 80 parks and green spaces and the largest pleasure pier in the world. However, it needs to offer a more diverse range of tourism activities in order to compete with tourist destinations in other parts of the UK and abroad.</p>	<p>of Southend, building on current initiatives, to ensure it provides attractive, sustainable living and working environments. Priority should be given to developing the current regeneration initiatives in the five identified regeneration areas (Town Centre and Central Area, the Seafront, Shoeburyness, other Strategic Employment Areas, and Southend Airport) in order to maximise benefits from available funding regimes such as Thames Gateway, EU Objective 2 and SRB initiatives. There is a tendency for the benefits of economic growth to favour certain areas and sections of the community.</p> <p>The provision of adequate transport infrastructure and efficient transport networks is a precondition for economic growth and regeneration in the Borough. The LTP3 should therefore support the existing regeneration initiatives within TGSE and provide improved sustainable transport linkages for the benefits of all areas and sections of the community, building on the work started during the implementation period of the LTP1 and LTP2.</p> <p>Regeneration initiatives to improve the quality of the Town Centre and the Pier may increase visitor numbers. The LTP3 should seek to accommodate this increase via provision of improved public transport and demand management on the road network.</p>	<p>Fauna, Climatic Factors</p>
<p>Crime and Road Safety</p> <p>The Borough has one of the highest rates of recorded crime in Essex, but similar to that for England and Wales.</p>	<p>The LTP3 should set out a clear strategy and programme to continue to enhance safety for all road users including pedestrians and cyclists and aim to reduce the rate of transport casualties. Road Safety should be seen as</p>	<p>Population, Human Health</p>

Key Issues / Problems	Opportunities / Implications for LTP3	SEA Topics
<p>In particular, anti-social behaviour including racial / cultural intolerance is a problem.</p> <p>The percentage of residents who feel fairly safe or very safe outside during the day and after dark in Southend has reduced since 2004/05</p> <p>Vehicle crime in Southend has reduced in recent years and is lower than the national average.</p> <p>However, crime and the fear of crime on public transport in Southend is increasingly becoming an issue. The number of reported crimes on public transport, crimes at railway stations and bus related crimes has increased since 2001 from 234 to 263 in 2004 and 22 to 57 respectively.</p> <p>The number of people killed and seriously injured (be they children, pedestrians or road users) on roads in Southend has decreased in recent years. However, it is still undesirably high.</p>	<p>integral to all transport activity and not just regarded as an add-on.</p> <p>The Crime Reduction Panel should inform the LTP3. The LTP3 should also be developed in close coordination with the other documents forming the LDF, in particular with elements of the Core Strategy and Site Allocations DPD pertaining to the vitality of the city centre. Opportunities for a busier town centre should be sought and opening up the town centre to cyclists should be considered. The LTP3 should also be informed by ‘Secured by Design’ principles as set out in the Design and Townscape Guide SPD.</p> <p>Potential measures include enhanced street lighting or extending the CCTV network in public transport and at interchanges.</p> <p>Consideration should be given to obtaining safety standards accreditation for the town centre schemes, following the example of rail stations going through the secure stations initiative.</p> <p>The LTP3 can contribute to an improvement of road safety for users of all modes of transport through measures such as:</p> <ul style="list-style-type: none"> • Traffic management such as 20mph zones, traffic calming and signing; • Accident investigation including accident databases and road safety audits; 	

Key Issues / Problems	Opportunities / Implications for LTP3	SEA Topics
	<ul style="list-style-type: none"> • Engineering schemes and enforcement. • Education, training and publicity; • Safe paths for walking and cycling. <p>The design of traffic calming should be carefully considered to avoid negative effects on the effective operation of public transport, e.g. road humps may adversely affect operation of low floor buses.</p> <p>A more radical approach to street design with people-oriented understanding of public space, known as ‘shared space’ or ‘Home Zones’ should be given serious consideration where appropriate. Such design of streets and other public spaces would allow tackling not only safety but also congestion, economic vitality and community severance. The LTP3 could draw lessons from the best practice schemes of this type within Europe, including the European Shared Space project (2004/08).</p>	
<p>Consequences of Population Growth (housing and land pressures)</p> <p>Southend is the one of the largest conurbations in the East of England and the majority of the Borough has been urbanised. The Borough has the highest population density in Essex and the second highest in the East of England. The town has grown rapidly over the past 20 years, increasing pressure on services and facilities, and elevating energy and water consumption, carbon dioxide</p>	<p>In order to ensure sustainable development, the Borough’s Core Strategy specifies that 80% of residential development must be on previously developed land.</p> <p>In addition, parts of the Borough are protected by the metropolitan Green Belt, policy C2 of the Replacement Structure Plan states that there should be no inappropriate development within the green belt.</p> <p>The LTP3 should:</p> <ul style="list-style-type: none"> • Minimise additional land take; 	<p>Population, Material Assets, Biodiversity, Flora, Fauna, Landscape, Water, Soil, Air, Human</p>

Key Issues / Problems	Opportunities / Implications for LTP3	SEA Topics
<p>emissions and the volume of traffic on the roads.</p> <p>Projected population growth, increased housing demand in the Borough and the pressure to build 6,000 new homes by 2021 is resulting in new residential development rather than conversion and refurbishment. This increased housing demand is also resulting in pressure on development of open space in built up areas. There is currently limited availability and accessibility of open space of different types and standards, especially in central Southend. These effects are exacerbated by Southend’s significantly higher proportion of 1 person households which will increase demand for housing as a result of projected population growth.</p> <p>The Borough has a rapidly changing population, composition and ethnicity, particularly in some wards, a higher than average older population with consequent impacts on infrastructure, services, and healthcare.</p>	<ul style="list-style-type: none"> • Ensure that new infrastructure and improvements to the existing one consider the needs of all residents, including those that represent vulnerable groups; • Give consideration to inclusion of proposals for the usage of fare concessions. 	<p>Health, Climatic Factors</p>
<p>Threatened Wildlife Species and Habitats</p> <p>A number of areas within Southend have been designated in order to protect their valuable wildlife and species. Five sites designated at the European level identified as relevant to the LDF include: Benfleet and Southend Marshes SPA; Foulness SPA; Essex Estuaries SAC; Crouch and Roach Estuaries SPA; and Thames Estuary and Marshes SPA.</p> <p>The urban area of Southend is also encompassed by a designated green belt and parks, gardens, open spaces</p>	<p>The LTP3 should aim to protect designated areas and other areas of ecological value, e.g. by ensuring that planning and design of transport schemes avoid sensitive areas and through the adoption of best practice wildlife friendly designs into road schemes (e.g. the use of specialist road materials). The LTP3 needs to take into account findings and recommendations set out in the HRA Screening report to ensure that the integrity of the European sites is not undermined.</p>	<p>Biodiversity, Flora, Fauna, Landscape, Soil, Material Assets, Human</p>

Key Issues / Problems	Opportunities / Implications for LTP3	SEA Topics
<p>and transport verges which all support biodiversity.</p> <p>The construction of new or improvement of existing transport infrastructure can damage biodiversity through severance, habitat loss, fragmentation and an increase in the number of road kills. Gritting of roads may also have affects on species and habitats.</p> <p>Bridges, culverts and other structures are potential habitats and maintenance and other activities can have adverse effect on species.</p> <p>Increasing tourist pressure on fragile environmental assets from proposed coastal development and associated transport infrastructure, including the regeneration of Southend Pier and Foreshore is likely to occur. Additional development such as ports and marinas are likely to have detrimental impacts on the quality of nature conservation sites.</p>	<p>The LTP3 should take into consideration the protection and enhancement of wildlife corridors which often exist along highways and railway embankments. These link wildlife sites within urban areas and provide connections with the open countryside. Other sites of urban wildlife such as parks, gardens and hedges should also be taken into consideration. Also the potential for biodiversity of brownfield sites should be considered. The LTP3 therefore has the potential to contribute to conserving and enhancing existing urban wildlife resources and create new habitats, in particular through the use of appropriate locally native species in landscaping plans. Of particular significance is the development of the Green Grid (www.greengrid.co.uk), which supports the development of the Prittle Brook Greenway in Southend and Belfairs Park. This has been designed with enhanced improvements to bio-diversity.</p>	<p>Health, Water</p>
<p>Pressure on Cultural, Historic and Geological Assets</p> <p>Southend includes a number of valuable geological sites and heritage assets, including Conservation Areas, Scheduled Monuments and listed buildings, which are vulnerable to damage and destruction as a result of increased pressure from development and regeneration within the Borough.</p> <p>Increasing tourist pressure could further increase the</p>	<p>Improvements to the Borough’s public transport system have the potential to contribute to the comprehensive preservation and refurbishment of the historic Southend Cliff Gardens, Cliffs Pavilion and the Pier.</p> <p>Transport infrastructure should be carefully developed in and around these areas of cultural and historic assets in order to maintain their character and appearance while increasing access and conforming to DDA requirements. It should be ensured that signing does not detract from</p>	<p>Cultural Heritage, Landscape</p>

Key Issues / Problems	Opportunities / Implications for LTP3	SEA Topics
<p>vulnerability of cultural, historic and geological assets.</p>	<p>the appearance of an area.</p> <p>The LTP3 can also assist in delivering renaissance projects designed to transform Southend into a thriving cultural hub for south Essex, by developing its cultural strategy, beach facilities, resort and tourism facilities and leisure attractions and the overall environmental quality of Southend and its environs.</p>	
<p>Flooding</p> <p>Much of the areas identified for regeneration in the adopted Core Strategy DPD, including the Seafront, are currently classified as Flood Zone 3a under PPS 25. Although direct inundation from the sea is largely mitigated through defences, tidal effects on rivers in the Borough are a high risk. Overall, a large proportion of the area identified in the Environment Agency’s flood maps as being at risk of flooding covers the central urban areas and town centre of Southend. The two main areas of floodplain are to the east of the city centre.</p> <p>Whilst most of Southend is on high ground and not at risk from tidal flooding, much of the sea front is at risk of flooding and there is a flood defence along the entire frontage. There are five schools, six care homes and 21 electricity sub stations within the flood risk area.</p> <p>This is an important amenity and recreation area, with a parallel road and footpaths along much of the frontage.</p> <p>The number of properties at risk is relatively small but, as the standard of protection is lower than elsewhere on the</p>	<p>The LTP3 must have regard to the risk of flooding and take into consideration the effects of climate change which could accentuate this risk.</p> <p>The LTP3 should aim to limit the frequency and severity of flooding incidents through, for example, ensuring that road infrastructure design includes improved drainage standards to allow for increases in rainfall intensity of 20% and vegetated drainage systems where appropriate. The use of impermeable hard surfacing, e.g. concrete, should be minimised to lessen effects on natural drainage.</p> <p>The LTP3 should require the use materials and techniques which have been tested for resilience to flooding.</p> <p>The forthcoming Essex Shoreline Management Plan 2 (the second generation) should inform the LTP3.</p>	<p>Climatic Factors, Landscape , Flora and Fauna, Water, Material Assets, Population</p>

Key Issues / Problems	Opportunities / Implications for LTP3	SEA Topics
<p>estuary, the flood risk is relatively high at 0.5% (or 1:200) per annum or greater compared to the general standard of 0.1% (or 1:1,000) elsewhere in the estuary.</p> <p>With rising sea levels, there may also be an increasing issue of localised tidal flooding along the seafront or of flooding due to ‘tidal-locking’ of drains. A number of the surface water drains from the Esplanade are in very poor condition: some with partially collapsed pipes, and others with badly corroded tidal flap valves. There is a linkage between drainage (which may potentially include drainage from transport infrastructure) and the instability problems affecting the seafront cliffs.</p> <p>New transport schemes can exacerbate the existing flood risk by:</p> <ul style="list-style-type: none"> • Displacing flood storage due to land-raising; • Requiring land take from waterways; and • Changing the drainage regime from land in transport use. 		
<p>Need for Climate Change Adaptation</p> <p>UK Climate Predictions 09 Marine Section predicts:</p> <ul style="list-style-type: none"> • Sea level rise of between 20 and 88cm in the Thames over the next century due to thermal expansion of the oceans • Up to +2m rise in sea levels (including thermal expansion) as a result of polar ice melt. This prediction 	<p>The LTP3 needs to take account of the predicted climate changes and investigate potential solutions for transport infrastructure and public transport fleet adaptability to these changes.</p> <p>Increased air conditioning in vehicles will increase energy consumption and transport costs, but it would make public transport more attractive and therefore it may need to be considered. Focus on energy efficiency improvement in air conditioning systems through better design, installation</p>	<p>Climatic Factors, Material Assets, Human Health, Population</p>

Key Issues / Problems	Opportunities / Implications for LTP3	SEA Topics
<p>includes a high level of uncertainty</p> <p>UK Climate Predictions 09 for East of England predicts:</p> <ul style="list-style-type: none"> • Between 0.5°C and 2.1°C increase in winter mean temperature. A rise of about 1.3°C is most likely. • Between 1.5°C and 2.6°C increase in summer mean temperature. A rise of about 0.7°C is most likely. • Between 0.5°C and 3.5°C increase in summer mean daily maximum temperature. A rise of about 2°C is most likely. • Between 6% and 7% increase in winter mean precipitation • Between 4% and 6% decrease in summer mean precipitation. <p>Climate change in Southend may lead to the increased damage to roads through flooding (e.g. different types – fluvial, coastal, surface water, sewer flooding), sea level rise and summer cracking. This would result in increased instances of disturbances to traffic flows and potentially increased air pollution.</p> <p>To ensure a comfortable travelling temperature public transport may require air conditioning for the hotter summers.</p>	<p>and operation of equipment will help reduce negative effects.</p> <p>The LTP3 should require the use materials and techniques (e.g. specialist road surfaces) which have been tested for durability outside the normal range of the UK’s climatic/weather conditions, including extreme incidents, both during winter and summer time. The LTP3 can inform asset management plans in these terms to help authorities be prepared for such events.</p> <p>The LTP3 needs to include a requirement for a periodic review of maintenance procedures to take into account climate change factors.</p> <p>See also recommendations listed for Flooding Issue above.</p>	
<p>Local and Global Air Pollutants and Noise Pollution</p> <p>The CO₂ emissions per capita from Southend are lower than that for Essex and the UK due to the relatively low</p>	<p>The LTP3 should set out a clear strategy and programme to decarbonise transport, implementing the government strategy.</p>	<p>Air, Climatic Factors,</p>

Key Issues / Problems	Opportunities / Implications for LTP3	SEA Topics
<p>levels of emissions from industrial and commercial sources. The proportion of road transport CO₂ emissions in Southend is also lower than the regional and national averages. However, the predicted growth of road traffic is likely to result in an increase of transport-related emissions of CO₂.</p> <p>Average air quality in Southend is better than National air quality standards. However, exceedences of these standards are observed in certain locations for short periods of time, affecting local air quality.</p> <p>Pollution from vehicles is the biggest contributor to air quality levels in the Borough. The future development and regeneration of Southend is likely to result in an increase in vehicle volumes, thus exacerbating pollution from road traffic.</p> <p>The Defra Noise Maps show elevated levels of noise (70.0 to 75.5+dB(A)) along the major roads (A13, A127 and A1159).</p> <p>The planned extension of the Airport is likely to result in higher levels of noise in the vicinity. According to the Southend Airport Draft Noise Action Plan¹⁷ it is expected that the numbers of people living within 57 dB L_{Aeq,16h} noise contour level will increase to 3,787 by 2020 as compared to the baseline figure of 1,552 in 2006. However, the number of people living within 66 dB L</p>	<p>This involves the encouragement of efficient and sustainable low carbon travel. Improvements in public transport and better coordination and integration of different modes, the encouragement of walking and cycling are essential to reduce road transport and contribute to improving local air quality as well as combating climate change.</p> <p>The use of local materials should be encouraged where practicable to help reduce transport costs and emissions. Sustainable procurement for wider transport infrastructure should be encouraged through the LTP3.</p> <p>Improving energy efficiency of passenger transport can also help minimise transport related CO₂ emissions. Rail routes to / from Southend are electrified and innovation such as regenerative braking on the c2c line help save demands on electricity supply. Further development and implementation of energy efficiency measures should be encouraged. Proposals for specific levels of fuel efficiency and types could be included in the LTP for public transport vehicles.</p> <p>Other measures for decarbonising transport include:</p> <ul style="list-style-type: none"> Supporting infrastructure for low emission vehicles. For example, Southend could consider establishing itself as a forerunner in the trialling and adoption of electric vehicle charging infrastructure; 	<p>Human Health, Population</p>

¹⁷ The Southend Airport Draft Noise Action Plan, October 2009, Consultation document available at: http://airportwatch.org.uk/news/detail.php?art_id=1193

Key Issues / Problems	Opportunities / Implications for LTP3	SEA Topics
<p>$A_{eq,16h}$ noise contour level is likely to stay the same (30 people) and within 69 dB $L_{Aeq,16h}$ noise contour level - to increase only marginally – by 5 people. The airport Noise Action Plan sets out measures for noise reductions. It will be monitored annually and reviewed after around five years. In addition, at night, a new limit is proposed to be imposed on the number and types of aircraft permitted to operate such that there would be a reduction in the number of people exposed to night-time noise that could give rise to sleep disturbance.</p> <p>The low level of tranquillity in the Borough is also indicative of noise pollution.</p> <p>Under current predictions, noise and air pollution will be increasingly concentrated along the already congested main transport routes as traffic volumes increase by the expected 20% over the next 10 years.</p>	<ul style="list-style-type: none"> • The use of new Intelligent Transport Systems technologies (e.g. bus priority controls and traffic signals) to reduce congestion and therefore CO₂ emissions; • Improving energy-efficiency of public transport and promoting the use of sustainable bio-fuels; • Improving drivers’ skills in driving more efficiently through training; • The use of financial incentives, such as a congestion charge. <p>In respect of noise reduction the LTP3 can play the following role:</p> <ul style="list-style-type: none"> • Include requirements for road designs aiming to minimise noise pollution (e.g. specifying quieter surfaces for new roads and for the improvements of the existing roads) and making more use of noise reducing technologies (e.g. noise barriers and double-glazing); • Measures to minimise the growth of road transport; • Promote the use of silent vehicles. <p>Monitoring and evaluation play an important role in improving local air and noise pollution.</p>	
<p>Water Quality Environment Agency figures for England and Wales</p>	<p>The LTP should seek to prevent pollution of watercourses and groundwater (e.g. by incorporating vegetated drainage systems in road drainage design to convey,</p>	<p>Water</p>

Key Issues / Problems	Opportunities / Implications for LTP3	SEA Topics
<p>water pollution show that no river in the monitored period or area achieved a rating higher than that of average/fair. The general quality of water courses in Southend is of poor quality.</p> <p>Additionally, in 2001 ten sites did not comply with list 1 dangerous substances standards. In 2002 some 173 (13%) of sites did not comply with list 2 dangerous substances targets (however the total number of list 2 sites has increased steadily since 1994).</p>	<p>store and treat runoff and by promoting porous surfacing for transport infrastructure).</p>	
<p>Landscape and Townscape</p> <p>A number of areas of valuable landscape are located within Southend. These principally comprise designated Landscape Character Areas, open spaces, parks and gardens, the coastline, and the greenbelt. The nature and quality of these areas of important landscape are vulnerable to the negative effects of the future development of Southend.</p> <p>In particular, the Thames Estuary Character area has been identified as having a high level of sensitivity to change.</p> <p>The quality of the townscape can be affected by the loss of front gardens to parking and by increased levels of on street parking.</p>	<p>Transport improvements near moorings in Southend as part of the LTP3 need to consider the sensitivity of the Thames Estuary Character Area.</p> <p>The LTP3 where possible should seek to ensure that the character of the coastal town is not compromised, through sympathetic design and complementing enhancements to the identified landscape improvements areas. The LTP3’s proposals should be informed by the Design and Townscape Guide SPD.</p> <p>The LTP3 should encourage restricted parking which should not only benefit the townscape quality but also help tackle congestion.</p> <p>See also the relevant implications under Issues on Consequences of Population Growth and Deficiency in the Road Network capacity and Traffic Congestion.</p>	<p>Landscape , Cultural Heritage</p>

Key Issues / Problems	Opportunities / Implications for LTP3	SEA Topics
<p>Physical Activity and Accessibility and Quality of Open space</p> <p>Despite the limited availability and accessibility of open space, particularly in central Southend-on-Sea, the proportion of physically active adults in Southend-on-Sea since 2005 has been higher than that observed in Essex and similar to that across England as a whole. However, the proportion of physically active adults is consistently lower than the Southend target of 25.5%.</p> <p>Three of the parks in Southend have been designated green flag parks. The nature and quality of these areas and other valuable open spaces within the Borough are at risk as a result of the proposed future development and regeneration of Southend.</p>	<p>The LTP3 should help encourage public accessibility to open space and the movement of people within open areas via an integrated network of green space into and through the study area. The LTP3 has the potential to improve accessibility to open space through the Rights of Way Improvement Plan. The LTP3 can also help create and link new areas of open space.</p> <p>It should also aim to promote countryside access and enjoyment and encourage regular physical activity for children and adults as part of a healthy lifestyle to reduce obesity levels and associated health problems.</p>	<p>Landscape , Human Health, Population</p>

7. SEA Framework

Introduction

- 7.1 The assessment framework is a key component in undertaking the SEA by synthesising the baseline information and environmental issues into a systematic and easily understood tool that allows the prediction and assessment of effects arising from the implementation of the Plan. Although the SEA Directive does not specifically require the use of objectives or indicators in the SEA process, they are a recognised and useful way in which environmental effects can be described, analysed and compared at key stages of the Plan development.
- 7.2 Defining these objectives before the Plan is written gives an early indication of the environmental issues that will require particular attention in the Plan making process. They also ensure that a new or revised Plan is consistent with the strategic aims of the partner authorities, with all related plans, and is consistent with European, UK Government and local policies.
- 7.3 The SEA framework developed for the LTP2 (see Appendix D) was used as the basis and adapted where necessary. Specifically, the relevance of the LTP2 SEA objectives and indicators has been gauged against the themes identified as a result of the review of relevant plans and programmes and the identification of key sustainability issues in order to draw up a draft set of objectives and indicators. The set of the SEA objectives was also cross-checked against the Southend Core Strategy Sustainability Appraisal objectives (see Appendix D) to ensure appropriate coverage of the topics and align the objectives' wording where appropriate.
- 7.4 The SEA objectives have been worded so that they reflect one single desired direction of change for the theme concerned and do not overlap with other objectives. They include both externally imposed socio-economic and environmental objectives and others devised specifically in relation to the context of the LTP3 being prepared. The SEA objectives have also been worded to take account of local circumstances and concerns feeding from the analysis of environmental / sustainability problems and opportunities.
- 7.5 Existing indicators have been used as often as possible¹⁸. In some cases, specific new indicators are proposed which will require monitoring by relevant bodies should significant effects relating to the SEA objectives concerned be identified as part of the assessment of effects during SEA Stage C. These proposed indicators aim to capture the change likely to arise from the LTP3

¹⁸ In many cases these are the National Indicators. In October 2010 it was announced that National Indicators were no longer to be mandatory and a new reporting process would be announced in April 2011. Given that many authorities may still continue to report on National Indicators and in light of an alternative approach yet to be disclosed, National Indicators are still deemed to be valid indicators for LTP3 monitoring.

implementation and will play a role in the assessment itself. Where known, national, regional and local targets have been included in the SEA framework.

- 7.6 The preliminary set of indicators has since been refined for the purposes of establishing a monitoring programme, which is covered in Section 12.

Results

- 7.7 The SEA framework, consisting of objectives and indicators, is set out in Table 7.1.

Table 7.1 –SEA Framework

Key to Data Availability for Indicators

Bold = Known data for Southend-on-Sea

Underlined = Data for Southend on Sea currently unknown

No	SEA Objective	Preliminary Indicators	Target	SEA Topics
Environment and Natural Resources				
1.	To maintain and improve local air quality	Levels of main pollutants for national air quality targets	<p>NO₂ - 40 µg/m³ annual mean (2010) and 200 µg/m³ not to be exceeded more than 18 times per year (2005)</p> <p>PM₁₀ - 40 µg/m³ annual mean (2010) and 24-hour mean concentration should not exceed 50µg/m³ more than 35 times a year</p> <p>PM_{2.5} (exposure reduction): annual mean concentration should not exceed 25 µg/m³ and urban areas: target of 15% reduction in concentrations at urban background.</p>	Air, Human Health
		NI 194: Level of air quality – reduction in NO_x and primary PM₁₀ emissions through local authority’s estate and operations		

No	SEA Objective	Preliminary Indicators	Target	SEA Topics
2.	To conserve and enhance the Borough's biodiversity, important wildlife habitats and geodiversity	Type, area and condition of designated sites and habitats	To meet the targets for the protection and enhancement of a range of individual species and wildlife habitats within the LBAP over the next 10 years	Biodiversity , Flora, Fauna, Water, Soil
		<u>Type, area and condition of locally important not designated sites and habitats</u>	Maintain and improve	
		Number of RIGGS	Maintain	
		Populations and spatial distribution of priority species	To meet the EU 2020 biodiversity target (currently being discussed)	
		<u>Number of schemes promoting conservation and enhancement of biodiversity</u>	As above	
		<u>Area and condition of designated sites affected by the LTP proposals</u>	PSA target to have 95% of SSSIs to be in a favourable condition or recovering by 2010	
		<u>Area and condition of locally important sites affected by LTP proposals</u>	To comply with the requirements of and achieve the targets contained within the LBAP.	
		Ensure that any NI197 qualifying local sites	Achieve positive management	

No	SEA Objective	Preliminary Indicators	Target	SEA Topics
		within the transport estate are in positive management	status	
3.	To maintain and improve the quantity and quality of ground, sea and river waters	% of water course classified as good or fair biological and chemical quality	91% of river's length in the UK should be of good quality by 2010 (Environment Agency)	Water, Soil
		<u>Number of pollution incidents attributable to transport related activities</u>	As above	
		<u>Numbers and % of transport schemes incorporating vegetated drainage systems to protect surface water, where these have been requested by the Environment Agency</u>	As above	
		Bathing water quality under the revised Bathing Water Directive	To improve	
		<u>Number and % of transport schemes incorporating conditions to protect groundwater, where these have been requested by the Environment Agency</u>	No reduction in groundwater quality of watercourses in the Borough	
4.	To ensure efficient use of land and maintain the resource of productive soil	NI 170: Previously developed land that has been vacant or derelict for more than 5 years	To bring back into productive use	Soil
		Area of high quality agricultural land (grade 1, 2 or 3a)	To maintain	
		<u>Area of grade 1, 2 or 3a agricultural land permanently lost as a result of transport schemes</u>	To avoid loss of high quality agricultural land	

No	SEA Objective	Preliminary Indicators	Target	SEA Topics
		<u>Number of pollution incidents attributable to transport</u>	To decrease	
5.	To ensure resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions	Area of land at risk of flooding	No target identified	Water
		<u>Number of new transport schemes in flood risk areas</u>	No target identified	
		<u>% of floodplain changing to new/planned transport related schemes</u>	To decrease	
		NI 188: Adapting to climate change	Local target 2010/11: Level 3 (LAA) To factor climate change considerations into new transport infrastructure (Highway Agency Climate Change Adaptation Strategy and Framework)	
		<u>NI 189: Flood and coastal erosion risk management</u>	To minimise the risk of flooding	
6.	To maintain and enhance the quality and character of the landscape and townscape	Number/Area of Landscape Character Areas	To maintain	Landscape, Cultural Heritage
		% and qualitative change in countryside character areas by character type (Countryside Character Counts)	Achieve Positive trends (Maintained and Enhancing)	
		<u>Number of transport measures aimed at</u>	To increase	

No	SEA Objective	Preliminary Indicators	Target	SEA Topics
		<u>improving local landscape character areas</u>		
		<u>% change in landscape areas, open space areas and green verges; area of valued townscape harmed by change</u>	No target identified	
		Extent of Green Belts	No loss of Green Belt to inappropriate development	
7.	To decarbonise transport to reduce transport related CO ₂ emissions	CO₂ emissions gases by sector, including aviation	<p>To reduce CO₂ emissions by 34% by 2020 from a 1990 baseline figure</p> <p>To reduce CO₂ emissions 80% by 2050 from a 1990 baseline figure (national targets, not sector specific)</p> <p>Regional targets:</p> <ul style="list-style-type: none"> - to stabilise car traffic levels in Southend at 1999 levels and to increase the proportion of freight carried to and from ports by rail to 30% by 2020; - to increase the proportion of energy met from renewable sources (on-shore + off-shore) 	Climatic Factors, Material Assets

No	SEA Objective	Preliminary Indicators	Target	SEA Topics
			to 44% by 2020.	
		Vehicle kilometres per average weekday	As above	
		NI 186: Per capita CO₂ emissions in the Borough	As above	
		NI 185:CO₂ reduction from local authority operations	As above	
		CO₂ emissions for transport sector (tonnes per year)	As above	
		<u>Number of transport schemes featuring energy efficient design and/or use of renewable energy</u>	15% of energy from renewables by 2020 (Government target)	
		<u>Proportion of Council and bus fleets using alternative fuel technology.</u>	As above	
		NI 198 Children travelling to school – mode of travel usually used	To increase % of a) pupils of compulsory school age and b) pupils of compulsory school age in receipt of free school meals, within 15/30 minutes of a primary school and 20/40 minutes of a secondary school by public transport (DfT accessibility indicators) To increase % travelled by public transport and active	

No	SEA Objective	Preliminary Indicators	Target	SEA Topics
			transport modes year on year	
		<u>Travel plan coverage (proportion of workforce)</u>	To achieve % increase year on year	
		Distance travelled to work by the resident population	No target identified	
		Distance travelled to work by the workplace population	No target identified	
		Modes of transport used to travel to work by the resident population	Increase % travelled by public transport and active transport modes year on year	
8.	To reduce the amount of waste requiring final disposal through minimisation, re-use and recycling	<u>Re-use of road materials and use of recycled materials in road construction and maintenance</u>	To increase	Material Assets
		<u>Proportion of recycled materials used in transport related construction</u>	To increase	
		<u>Accessibility to refuse and recyclables facilities</u>	To improve	
		NI 191: Residual household waste per head	To reduce	
Socio-Economic and Health				
9.	To reduce noise, vibration and light pollution	<u>Number of noise complaints received relating to transport activities</u>	To decrease	Human Health, Population
		<u>% of road network surfaced with low road noise materials</u>	To increase	
		<u>Noise Levels</u>	To decrease and manage	

No	SEA Objective	Preliminary Indicators	Target	SEA Topics
			transport related noise in line with the emerging national noise strategy	
		Area's tranquillity level		
		<u>Proportion of street lamps with downward beam</u>	To increase	
10.	To improve overall levels of health and reduce health inequalities between different groups and different areas <i>(HIA Specific Objective)</i>	Life expectancy	No target identified	Human Health, Population
		<u>Number of 'healthy walks' schemes created</u>	To introduce 'healthy walks' schemes	
		% of people who describe their health as good	Increase % of people in good health	
		% of people who describe their health as not good	Decrease % of people in not good health	
		Percentage of people with a limiting long term illness	To reduce	
		NI 120: All-age all cause mortality rate (focus on cardiovascular and respiratory statistics)	To reduce heart disease, stroke and related illnesses amongst people under 75 by at least 40 % by 2010 (Source: UK Sustainable Development Quality of Life Indicators)	

No	SEA Objective	Preliminary Indicators	Target	SEA Topics
		NI 137: Healthy life expectancy at age 65	No target identified	
		NI 175 Access to services and facilities by public transport, walking and cycling: b) Proportion of patients living within 30 minutes by public transport of Southend hospital	Local targets: b) 10/11: 65% (LAA) DfT accessibility indicators: To increase % of a) households and b) households without access to a car within 30/60 minutes of a hospital by public transport; To increase % of a) households and b) households without access to a car within 15/30 minutes of a GP by public transport;	
		NI 57: Children and young people's participation in high-quality PE and sport	To increase	
		NI 56: Obesity among primary school age children in Year 6	To decrease	
		NI 8: Adult participation in sport	70% of population participants in 30 mins activity, 5 times a week by 2020 (Source: The Framework for Sport in	

No	SEA Objective	Preliminary Indicators	Target	SEA Topics
			England: A Vision for 2020)	
11.	To reduce road traffic and congestion through modal shift to more sustainable transport options	NI 167 Congestion – average journey time per mile during the morning peak	To decrease	Population, Human Health, Air, Climatic Factors
NI 177: Local bus passenger journeys originating in the authority area	Local target 2010/11: 10.224m (LAA)	Vehicle kilometres per average weekday	To decrease	
Composition and volume of road traffic	To decrease/maintain volume of road traffic	Morning peak time - average journey time	To decrease	
Congestion (vehicle delay)	To decrease	<u>Number of junction improvement schemes implemented as percentage of total identified within the Borough</u>	No target identified	
% of vehicles with more than one occupant on key routes in the town centre	20%, 35%, 30% of vehicles travelling during the morning, inter-peak and evening peak period with more than one occupant respectively by 2010/11	Modal Split	To achieve a shift towards a higher proportion of low carbon modes	
<u>NI 178: Bus services running on time</u>	By 2010/11 60% of users are			

No	SEA Objective	Preliminary Indicators	Target	SEA Topics
			satisfied with local bus services. By 2015/16, 90% of buses arrive on time	
		Public transport patronage	UK target to increase rail patronage by 50% in 2010 over 2000 levels (BVPI)	
		Satisfaction with Local Bus Services	60% by 2010/11(BVPI)	
		% increase in number of bus passenger journeys on key routes	To halt a decline in bus patronage and maintain the 2003/4 level by 2010/11	
		Number of Green Travel Plans and School Travel Plans	To have workplace travel plans in place at the town's major employment sites and School Travel Plans at 35 Schools in the Borough.	
		Number of 'walking bus' routes at Primary School	Increase in the number of waking bus routes at primary schools	
		<u>% of walking and cycling trips per annum</u>	Percentage of national, regional and local cycle network completed in the Borough	
		<u>Annualised index of cycling trips</u>	15% by 2010/11	

No	SEA Objective	Preliminary Indicators	Target	SEA Topics
		<u>Number of schemes for improving transport coordination and integration, including interchange between cycling and other forms and travel</u>	To increase	
		% of residents who think that for their local area, over the past three years, the level of traffic congestion has got better or stayed the same	To increase	
		<u>Satisfaction with Local Public Transport Information</u>	To increase	
		Bus passenger journeys per day	To increase	
12.	To promote safe communities, reduce crime and the fear of crime	Overall Crime Rates	To reduce	Population, Human Health
		Vehicle crime per 1000 population	To reduce the number of vehicle crime committed per 1,000 population	
		Burglary offences per 1000 population	To reduce the number of domestic burglaries committed per 1,000 households	
		Robberies per 1000 population	To reduce the number of robberies committed per 1,000 population	
		<u>Number of reported crimes on public transport</u>	No target identified	

No	SEA Objective	Preliminary Indicators	Target	SEA Topics
		Percentage of residents who feel fairly safe or very safe outside during the day	To increase	
		Percentage of residents who feel fairly safe or very safe outside after dark	To increase	
13.	To improve accessibility and transport links to services, facilities and opportunities	ha of accessible green space per 1000 population	1ha of accessible greenspace per 1000 people Access to at least 2ha of greenspace within 300m/5minutes walk of home (based on English Nature's Accessible Natural Greenspace Standards)	Population, Human Health
		NI 175 Access to services and facilities by public transport, walking and cycling: a) Proportion of 16-19 yr olds living within 30 minutes by public transport of 4 main centres of Post 16 education	Local targets: a) 10/11: 95% (LAA) To increase % of a) households and b) households without access to a car within 15/30 minutes of a supermarket by public transport. (DfT accessibility indicators)	
		NI 176: Working age people with access to employment by public transport	Increase year on year % of a) people of working age (16 – 74) and b) people in receipt of	

No	SEA Objective	Preliminary Indicators	Target	SEA Topics
			Jobseekers' allowance within 20/40 minutes of work by public transport (DfT accessibility indicators)	
		Pedestrian crossings with facilities for disabled people	100% by 2010/11	
		Number of LTP3 initiatives to improve access to essential facilities	No target identified	
		<u>LTP3 initiatives to improve access to essential facilities for residents in the top 10% most deprived areas in the country</u>	No target identified	
		<u>Number of improvement schemes for pedestrian and cycle routes and green networks</u>	No target identified	
		<u>% of bus fleet complying with DiPTAC Levels of Accessibility for disabled and mobility impaired passengers</u>	100% by 2010/11 (LTP target Delivering Accessibility 6)	
		<u>Use of targeted fare concessions</u>	No target identified	
14.	To improve road safety (HIA Specific Objective)	NI 47 People killed or seriously injured in road traffic accidents	40% reduction from 1994-98 average by 2010/11 (BVPI)	Population, Human Health
		Rate of road accidents	To reduce rate of accidents by at least a fifth by 2010 against the baseline period 1995-97 (the national target, White Paper)	

No	SEA Objective	Preliminary Indicators	Target	SEA Topics
		Total Number of children killed or seriously injured	50% reduction from 1994-98 average by 2010/11 (BVPI)	
		Total slight injuries per vehicle kilometres	20% reduction from 1994-98 average by 2010/11 (BVPI)	
Built Environment and Infrastructure				
15.	To maintain and enhance the quality and distinctiveness of the Borough's built environment and cultural heritage	<u>Number of LTP proposals contributing to improving the built environment</u>	Reduce the number of Listed Buildings categorised as being at risk	Cultural Heritage
		<u>Number of known and unknown archaeological sites affected by transport schemes</u>	To reduce	
		NI 195: Improved street and environmental cleanliness - levels of a) litter, b) detritus, c) graffiti and d) fly posting.	Local targets 2010/11: a) 18%; c) 3%, d) 1% (LAA).	
16.	To improve efficiency of transport networks and physical infrastructure standards	Number of schemes aiming to modernise and upgrade the transport systems	No target identified	Material Assets
		<u>NI 168: Principal roads where maintenance should be considered</u>	To decrease	
		<u>NI 169: Non-principal roads where maintenance should be considered</u>	To decrease	
		<u>Unclassified Road Condition</u>	To improve	
		<u>Footway condition</u>	To improve	
		<u>Condition of Bridges</u>	To improve	

No	SEA Objective	Preliminary Indicators	Target	SEA Topics
		<u>Repair of Street Lighting</u>	To improve	
		<u>NI 178: Bus services running on time</u>	To increase	

Predicted Future Trends

- 7.8 The starting points for the prediction of future trends are current conditions and trends. The existing environmental and socio-economic baseline and associated current trends for Southend is presented in Appendix C.
- 7.9 The SEA Directive requires the consideration of the likely evolution of the state of the environment without the implementation of the Plan being assessed. There will be a number of external influences that will affect the state of Southend-on-Sea's social, natural, built and economic environment during the lifetime of the LTP3. Key local documents that will influence Southend-on-Sea's future trends without the implementation of the LTP3 are:
- Sustainable Community Strategy, Building our future, 2007 – 2017;
 - Southend-on-Sea Core Strategy 2007;
- 7.10 The SEA framework (Table 7.1) is the key tool used in the assessment of effects. The prediction of effects, in terms of their magnitude, frequency, duration, and spatial extent, is conducted via detailed analysis of the baseline data. It is thus important to ensure that critical aspects of the baseline can be directly related to the objectives and indicators of the SEA framework. Determining the significance of predicted effects is perhaps the most critical task in the SA. The picture that the baseline presents in terms of the SEA framework is the starting point for this.
- 7.11 Table 7.2 presents a preliminary analysis of the fundamental characteristics of the baseline (current conditions and predicted trends without the LTP3) against the draft SEA objectives using a simple three-point normative scale as follows:
- Current Conditions - good/moderate/poor;
 - Future Trends (without plan implementation) - improving/stable/declining.
- 7.12 Table 7.2 indicates that without the implementation of the LTP3 the predicted future trends show a decline in performance against a number of SEA objectives. In particular, without the future transport policy and schemes in Southend-on-Sea, the state of the environment and socio-economic conditions, in terms of congestion levels, air quality, transport related CO₂, levels of noise, vibration and light, flooding, resistance of transport infrastructure to climate change, road and accessibility levels are likely to experience a declining trend.

Table 7.2 – SEA Baseline Condition and Future Trends Summary

No	SEA Objective	Baseline Condition	Future Trends without LTP3	Limitations of Data	Commentary
1.	To maintain and improve local air quality	Poor	Declining	No data limitations	Despite technological improvements, localised air quality problems are likely to persist and may become worse due to increasing levels of traffic and congestion.
2.	To conserve and enhance the Borough's biodiversity, important wildlife habitats and geodiversity	Poor	Stable	No data limitations	In the longer term pressure on the development and regeneration of greenfield and brownfield sites may have the potential to have negative effects on biodiversity. This may be offset by increasing provision of open space, increasing awareness of biodiversity needs and flora and fauna friendly design. Coastal squeeze has the potential to have a detrimental effect on important sites for biodiversity.
3.	To protect and enhance surface and ground water quality	Moderate	Improving	No data limitations	Environment Agency water pollution monitoring shows that no river in the monitored period or area achieved a rating higher than that of average/fair. However, the implementation of the Water Framework Directive is likely to result in improvements to the water environment. It is likely that the water environment will be safeguarded in the future.
4.	To ensure efficient use of land and safeguard soil quality and quantity	Moderate	Declining	No data limitations	Agricultural land is likely to continue to be under threat from development pressures. The requirement to build 6,000 new homes and associated infrastructure by 2021 is likely to place pressures on the small areas of productive land and greenfield land in the Borough.

No	SEA Objective	Baseline Condition	Future Trends without LTP3	Limitations of Data	Commentary
5.	To ensure resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions	Moderate	Declining	There is lack of data on climate change adaptation responses at the local level	The effects of climate change will become more apparent in the future, increasing the risk of flooding and intrusion of the sea. Transport infrastructure, in particular roads, is likely to be affected by flooding, sea level rise and summer cracking. The comfort of public transport may also be affected by high summer temperatures. The actual impacts will depend on the climate change adaptation measures that are introduced in the Borough.
6.	To maintain and enhance the quality and character of the landscape and townscape	Moderate	Declining	Limited data available on the countryside	Pressures for development have the potential to reduce landscape quality in the future, affecting the amount and quality of open space and green belt.
7.	To decarbonise transport to reduce transport related CO ₂ emissions	Moderate	Declining	No data limitations	Current levels of transport related CO ₂ in the Borough are lower than regional and national averages. However, without intervention, overall traffic levels on the local highway network during the morning peak hour are likely to grow. This will increase the level of CO ₂ emissions from transport, counteracting technological improvements in the energy efficiency of vehicles.
8.	To reduce the amount of waste requiring final disposal through	Good	Improving	Limited data available on the use of	With more far-reaching national and European legislation related to waste, including taxes on landfill, and the impact of local and regional initiatives, waste

No	SEA Objective	Baseline Condition	Future Trends without LTP3	Limitations of Data	Commentary
	minimisation, re-use and recycling			recycled aggregates in transport infrastructure	minimisation, re-use and recycling rates are likely to increase in the Borough over the longer term. This is likely to be augmented by developments in packaging and recycling technology.
9.	To reduce noise, vibration and light pollution	Poor	Declining	There is lack of updated data on noise, vibration and light pollution	The local levels of tranquillity are low in the area, indicating noise and light pollution. Without intervention, increasing traffic levels on the local highway network and expansion of the London Southend Regional Airport are likely to increase noise and light pollution and vibration.
10.	To improve overall levels of health and reduce health inequalities between different groups and different areas (<i>HIA Specific Objective</i>)	Moderate	Stable	No data on disability rates	Life expectancy in Southend is the lowest in Essex and is marginally lower than the national average. The proportion of the population of Southend who consider their health to be good or fairly good is lower than that observed for the East of England. Improvements in medicine and health care and provision of new health facilities will have positive effects on the well being of people. However, the expected benefits may be counteracted by the nationwide rise of obesity.
11.	To reduce road traffic and congestion through modal shift to more sustainable transport options	Moderate	Declining	No data limitations	Without the implementation of an LTP, overall traffic levels on the local highway network during the morning peak hour are forecast to grow. Alternative modes of transport to the car are less likely to be encouraged without specific interventions aiming to improve non car based transport infrastructure, connectivity and

No	SEA Objective	Baseline Condition	Future Trends without LTP3	Limitations of Data	Commentary
					integration of transport modes and to induce behavioural change.
12.	To promote safe communities, reduce crime and the fear of crime	Moderate	Declining	No data limitations	The growth in traffic is likely to reduce safety on Southend's roads. This will stimulate an encouragement of car use and a discouragement of walking and cycling, reducing community interaction and increasing severance, potentially contributing to an increase in crime. More vulnerable social groups may be disproportionately affected by the growth of crime and fear of crime.
13.	To improve accessibility and transport links to key services, employment areas and recreation areas	Moderate	Declining	No data limitations	New jobs and services in peripheral areas may increasingly become inaccessible to non-car users without targeted interventions to improve public transport infrastructure.
14.	To improve road safety	Moderate	Declining	No data limitations	A growth in traffic of peak hour traffic of over 35% by 2016 in the Borough is likely to reduce safety on Southend's roads. This will discourage more vulnerable modes of transport, ultimately leading to a further encouragement of car use and a further reduction of road safety.
15.	To maintain and enhance the quality and distinctiveness of	Moderate	Improving	No data limitations	Increasing traffic levels are likely to reduce the quality of the public realm and setting of cultural and heritage assets. Regeneration efforts are likely to offset these

No	SEA Objective	Baseline Condition	Future Trends without LTP3	Limitations of Data	Commentary
	the Borough's built environment and cultural heritage				negative effects to some degree, improving the quality of the built environment, especially in the currently deprived areas.
16.	To improve efficiency of transport networks and physical infrastructure standards	Moderate	Declining	No data limitations	Local transport infrastructure suffered from under-investment in the past but a number of regeneration initiatives are currently under way. However, successful completion of the ongoing projects without LTP3 in place may be undermined. Key routes operate at capacity and increasing congestion levels will further affect the efficiency of the transport network without LTP3.

Key:

Current Conditions - good/moderate/poor

Good
Mod
Poor

Future Trends – improving/stable/declining

Improving
Stable
Declining

8. Compatibility between the SEA objectives and the LTP3 Objectives

Preliminary LTP3 Objectives

- 8.1 The LTP3 preliminary objectives mirrored the national DaSTS goals¹⁹. The wording of the goals was made more succinct in the LTP3 document and relevant DaSTS challenges have been identified under each goal as follows:

Objective 1 - Supporting Economic Growth

- D1 Reduce lost productive time including by maintaining or improving the reliability and predictability of journey times on key local routes for business, commuting and freight.
- D2 Improve the connectivity and access to labour markets of key business centres.
- D3 Support the delivery of housing by facilitating the conditions for the housing to be delivered, while limiting increased congestion.
- D4 Ensure local transport networks are resistant and adaptable to shocks and impacts such as adverse weather, accidents, terrorist attacks and impacts of climate change.

Objective 2 - Tackling Climate Change

- D5 Deliver quantified reductions in greenhouse gas emissions within cities and regional networks, taking account of cross-network policy measures.

Objective 3 - Promoting Equality of Opportunity

- D6 Enhance social inclusion and the regeneration of deprived or remote areas by enabling disadvantaged people to connect with employment opportunities, key local services, social networks and goods through improving accessibility, availability, affordability and acceptability.
- D7 Contribute to the reduction in the gap between economic growth rates for different regions.

Objective 4 - Contributing to Better Safety and Security

- D8 Reduce the risk of death, security or injury due to transport accidents.

¹⁹ 1 -To support national economic competitiveness and growth, by delivering reliable and efficient transport networks;
2- To reduce transport's emissions of carbon dioxide and other greenhouse gases, with the desired outcome of tackling climate change;
3 - To promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society;
4 - 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; and
5 - To improve quality of life for transport users and non-transport users, and to promote a healthy natural environment.

D9 Reduce social and economic costs of transport to public health, including air quality impacts

D10 Improve the health of individuals by encouraging and enabling more physically active travel.

D11 Reduce crime, fear of crime and anti-social behaviour on city and regional transport networks.

Objective 5 - Improving Quality of Life

D12 Reduce the number of people and dwellings exposed to high levels of noise from road and rail networks consistent with implementation of Action Plans prepared under the Environmental Noise Directive.

D13 Improve the quality of transport integration into streetscapes and the urban environment.

D14 Improve the journey experience of transport users of urban, regional and local networks, including at the interfaces with national networks and international networks.

D15 Enhance well-being and sense of community by creating more opportunities for social contact and better access to leisure activities and the natural environment.

Compatibility Assessment

8.2 A compatibility assessment of the LTP3 preliminary objectives was undertaken, taking into account the challenges identified under each objective. This helped in the interpretation of the scope of objectives, with a summary shown in Table 8.1.

8.3 Overall, LTP3 preliminary objectives were broadly compatible with the SEA objectives, particularly the objective seeking to contribute to better safety and security. However, a potential conflict was identified against SEA objective 2 (biodiversity) for LTP3 objective 5. In addition, compatibility of the LTP3 objectives with a number of the SEA objectives will depend on the policy interventions and implementation measures to be introduced and, therefore, cannot be ascertained with certainty so early on in the process. A series of recommendations that seek to improve the clarity of the LTP3 objectives and ensure greater compatibility with the SEA objectives at this stage were made.

LTP3 Objective 1: Supporting Economic Growth and Regeneration

8.4 The challenges identified under this LTP3 objective include maintaining and improving the reliability and predictability of journey times, improving the connectivity and access to labour markets and supporting housing development while limiting increased congestion. Firstly, this results in the LTP3 being broadly compatible with SEA objectives 13 (accessibility) and 16 (efficiency of transport

networks). Secondly, improved efficiency of networks and reduced levels of congestion would benefit local air quality and help reduce the growth of transport CO₂ emissions, resulting in positive synergies with SEA objectives 1 (air quality) and 7 (CO₂ emissions).

- 8.5 Ensuring that local transport networks are resistant and adaptable to shocks and impacts such as adverse weather, accidents, terrorist attacks and impacts of climate change is also specified under this LTP3 objective. This leads to this objective being broadly compatible with SEA objectives 5 (resilience to climate change) and 14 (safety).
- 8.6 In addition, compatibility is identified with SEA objective 10 (health), as resilience and adaptability to climate change, adverse weather and accidents will help prevent increased levels of fatalities, injury, heat related deaths and other effects on public health associated with those causes.
- 8.7 The objective and the related challenges identified are not explicit about the approach towards increasing the physical development of different types of transport infrastructure or promoting public and non-motorised forms of transport. The former may lead to increased land-take and increased traffic levels, whilst the latter would reduce levels of road traffic and its effects. Therefore, compatibility with SEA objectives 3 (water quality), 4 (soil resources), 6 (landscape and townscape), 9 (noise, vibration and light pollution), 11 (modal shift) and 15 (built environment) will depend on the implementation measures.
- 8.8 Compatibility with the SEA objective seeking to reduce waste (objective 8) will also be dependent on types of transport modes promoted and the type and design of transport infrastructure developed to achieve this objective.

Recommendations

- 8.9 No recommendations.

LTP3 Objective 2: Tackling Climate Change

- 8.10 The LTP3 objective to tackle climate change has been found to be compatible with SEA objectives seeking to reduce CO₂ emissions (objective 7) and improve air quality (objective 1), as measures aiming to reduce CO₂ emissions are also likely to deliver benefits for the local air quality. Given that at this stage, the type of the implementation measures is not known yet, uncertainty has been predicted in relation to SEA objectives 8 (reduce waste), 9 (reduce noise, vibration and light pollution), 10 (improve health), 11 (modal shift) and 16 (improve efficiency of transport networks). If the future implementation measures promote modal shift to non-motorised forms of travel and public transport and take account of embodied carbon from the use of materials, these measures will ensure compatibility the listed SEA objectives.

Recommendations

- 8.11 It is recommended that another challenge is identified under this objective that is aligned with SEA objective 11 '*To reduce road traffic and congestion through*

modal shift to more sustainable transport options' to eliminate the uncertainty identified with regard to this SEA objective. Other instances where uncertainty about compatibility has been identified are considered to be sufficiently addressed through LTP3 objectives 1 and 5, apart from compatibility with SEA objective 8, for which a recommendation has been provided under LTP3 objective 5.

LTP3 Objective 3: Promoting Equality of Opportunity

- 8.12 Promoting equality of opportunity is likely to lead to an improvement in accessibility for more sectors of the community, which is broadly compatible with SEA objectives 10 and 13 seeking to improve health levels and accessibility.
- 8.13 Compatibility with SEA objectives seeking to improve air quality (objective 1), protect land and soil quality (objective 4), reduce CO₂ emissions (objective 7), reduce noise and light pollution (objective 9) and reduce road traffic through provision of sustainable transport options (objective 11) will be dependent on the nature and extent of measures introduced. The objective could lead to the development of extensive infrastructure to provide connections to opportunities. This would result in conflicts with these SEA objectives; however the provision of public transport and promotion of non-motorised modes would be synergistic with the objectives.

Recommendations

- 8.14 No recommendations.

LTP3 Objective 4: Contributing to Better Safety and Security

- 8.15 Improving safety and security is broadly compatible with SEA objectives 10, 12 and 14 seeking to improve overall levels of health, reduce health inequalities, promote safe communities and improve road safety, respectively. Specifically, this is likely to be ensured by tackling the following challenges identified under this objective:
- Reduce the risk of death, security or injury due to transport accidents;
 - Reduce social and economic costs of transport to public health, including air quality impacts;
 - Improve the health of individuals by encouraging and enabling more physically active travel;
 - Reduce crime, fear of crime and anti-social behaviour on city and regional transport networks.
- 8.16 Acknowledging the need to ensure good air quality to benefit public health also results in compatibility with SEA objective 1 (air quality). Safety and security measures implemented under this objective may also deliver benefits for the Borough's townscape and built environment (objective 15) through possible improvements to public transport infrastructure.

Recommendations

- 8.17 No recommendations.

LTP3 Objective 5: Improving Quality of Life

- 8.18 It is considered that the objective to improve the quality of life is broadly compatible with SEA objectives seeking to enhance the quality of the townscape (6), improve reduce noise pollution (objective 9), improve overall health levels (objective 10) and improve accessibility (objective 13). Compatibility has been established through the challenges identified under this objective, which aim to reduce the number of people exposed to high levels of noise, improve quality of transport integration into streetscapes, improve journey experience and access to leisure activities and the natural environment.
- 8.19 On the other hand, the challenges listed under this LTP3 objective suggest that the element of the DaSTS goal concerned with promoting a healthy natural environment will not be translated into the future implementation measures. This is manifested through the identified ambiguity in relationship between this LTP3 objective and the following SEA environmental objectives: improve air quality (1), maintain water quality (objective 3), ensure the efficient use of land and soils (objective 4), decarbonise transport (objective 7), reduce waste (8), maintain and enhance the built environment and reduce road traffic through a modal shift (objective 11). Furthermore, a potential conflict has been identified against SEA objective 2 (conserve and enhance biodiversity), as the LTP3 objective aims to improve access to the natural environment for recreation without safeguards in place to protect the environment. This may increase pressures on the ecosystem services (such as provision of clean air and water) and endanger the local wildlife.

Recommendations

- 8.20 The current interpretation of the relevant DaSTS goal omits the need to promote a healthy natural environment. Therefore, the main recommendation stemming from the compatibility assessment of this LTP3 objective is to ensure that opportunities for enhancing the quality of the environment, whilst developing and implementing LTP3, are given proper consideration. Specifically, LTP3 objectives need to improve their compatibility with the SEA objectives covering biodiversity, water quality, soil and waste. This could be done through the identification of additional challenges to cover these four SEA objectives as follows:
- To conserve and enhance biodiversity, important wildlife habitats and geodiversity as part of transport proposals, in particular through integration with green infrastructure;
 - To maintain and improve the quantity and quality of ground, sea and river waters through ensuring that these are not affected by transport;
 - To ensure transport infrastructure uses land efficiently and maintains the resource of productive soil;

- To reduce the amount of waste requiring final disposal through minimisation, re-use and recycling through promoting the re-use and recycling of materials in transport infrastructure and ensuring good access to recycling sites.

8.21 The identified uncertainty with regard to SEA objectives on air and CO₂ emissions is considered to be sufficiently addressed by the other LTP3 objectives. Uncertainty pertaining to the SEA objective 11 (modal shift) can be dealt with through the recommendation set out under the LTP3 objective 2.

Table 8.1- Compatibility Assessment

LTP3 Objectives		SEA Objectives															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Supporting Economic Growth and Regeneration	✓	?	?	?	✓	?	✓	?	?	✓	?		✓		?	✓
2	Tackling Climate Change	✓						✓	?	?	?	?					?
3	Promoting Equality of Opportunity	?			?			?		?	✓	?		✓			
4	Contributing to Better Safety and Security	✓									✓		✓		✓	✓	
5	Improving Quality of Life	?	X	?	?		✓	?	?	✓	✓	?		✓			



Broadly compatible



Potential conflict



Not relevant



Dependent on nature of implementation

SEA Objectives

- | | |
|---|---|
| 1 To maintain and improve local air quality | 9 To reduce noise, vibration and light pollution |
| 2 To conserve and enhance the Borough’s biodiversity, important wildlife habitats and geodiversity | 10 To improve overall levels of health and reduce health inequalities between different groups and different areas |
| 3 To maintain and improve the quantity and quality of ground, sea and river waters | 11 To reduce road traffic and congestion through modal shift to more sustainable transport options |
| 4 To ensure efficient use of land and maintain the resource of productive soil | 12 To promote safe communities, reduce crime and the fear of crime |
| 5 To ensure resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions | 13 To improve accessibility and transport links to services, facilities and opportunities |
| 6 To maintain and enhance the quality and character of the landscape and townscape | 14 To improve road safety |
| 7 To decarbonise transport to reduce transport related CO ₂ emissions | 15 To maintain and enhance the quality and distinctiveness of the Borough’s built environment and cultural heritage |
| 8 To reduce the amount of waste requiring final disposal through minimisation, re-use and recycling | 16 To improve efficiency of transport networks and physical infrastructure standards |

Final LTP3 Objectives

8.22 LTP3 objectives were further reviewed as a result of recent changes in government transport policy after the compatibility assessment above was undertaken. The final LTP3 objectives to be adopted as part of the plan are as follows:

- Our transport strategy for a thriving and sustainable local economy in Southend
- Our transport strategy to minimise environmental impact, promote sustainability for a greener Southend
- Our transport strategy to create safer Southend
- Our transport strategy to reduce inequalities in health and wellbeing and for a more accessible Southend

9. Appraisal of Strategic Alternatives

Introduction

- 9.1 Stage B of the SEA process seeks to develop and refine alternatives following the initial compatibility assessment between the LTP3 objectives and the SEA objectives outlined in section 8 of this Environmental Report.
- 9.2 The SEA Directive requires that the Environmental Report should consider:
- 9.3 *'reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme'* and give *'an outline of the reasons for selecting the alternatives dealt with'* (Article 5.1 and Annex 1h).

Developing and Refining Strategic Alternatives

- 9.4 Southend developed 24 key issues that face the borough and a number of options that could be implemented to address each of these issues.
- 9.5 As part of the SEA process these options have been appraised against each of the SEA Objectives, using the following seven point scale of effect:

+++	Large beneficial
++	Moderate beneficial
+	Slight beneficial
0	Neutral or no effects
-	Slight adverse
--	Moderate adverse
---	Large adverse

- 9.6 Those effects which are either moderate or large are deemed to be significant.
- 9.7 The results of the assessment can be seen in Table 9.1, below.

Table 9.1 – Appraisal of options for LTP against SEA objectives

		SEA Objectives															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<p>Issue 1: Level of congestion on key radial routes to the town centre, particularly the A13 / A127, which may get worse with jobs and housing growth, threatening the Borough-wide economy and regeneration of the town centre.</p>																	
Option 1A	Encourage travel behavioural change to encourage use of sustainable travel modes, through tourism / event management / workplace / school / station travel plans / personalised travel plans.	+	+	+	+	0	+	++	0	+	++	+++	0	0	0	0	+
Option 1B	Encourage behavioural change through a wider and more intensive programme of Smarter Choices across the Borough, for example, personalised travel planning, improved information and marketing of sustainable travel options and events to promote sustainable travel, car share schemes and travel plans.	++	+	+	+	0	+	++	0	+	++	+++	0	0	0	0	+
Option 1C	Improve traffic management and information provision on those routes with the worst congestion, such as the A13, for example, using Intelligent Transport Systems, Urban Traffic Control and Variable Messaging Signs.	++	0	0	0	0	+	++	0	+	+	0	0	0	0	0	++
Option 1D	Improve traffic management on those routes that are more important for economic reasons, such as A127, for example, junction improvements and other low-cost, high-value	+	0	0	0	0	+	++	-	+	+	0	0	0	0	0	++

	interventions.																
Option 1E	Focus improvements to key routes such as the A13 and A127 on bus priority measures, for example, <i>sert</i> (South Essex Rapid Transit).	++	+	+	+	0	+	++	-	+	+	++	0	+	0	0	+
Option 1F	Work with other organisations, such as the Highways Agency for a consistent approach to managing the A13, and to ensure that unnecessary trips are managed down.	+	0	0	0	0	0	+	0	+	0	++	0	0	0	0	++
		SEA Objectives															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Issue 2: Declining bus patronage in the Borough as well as the need to improve bus punctuality.																	
Option 2A	Focus improvements to key routes such as the A13 and A127 on bus priority measures, for example, <i>sert</i> (South Essex Rapid Transit).	++	+	+	+	0	+	++	-	+	+	++	0	+	0	0	+
Option 2B	Encourage travel behavioural change to encourage use of sustainable travel modes, through tourism / event management / workplace / school / station travel plans / personalised travel plans.	+	+	+	+	0	+	++	0	+	++	+++	0	0	0	0	+
Option 2C	Encourage and promote behavioural change through a wider and more intensive programme of Smarter Choices across the Borough, with a focus on bus use.	++	+	+	+	0	+	++	0	+	+	+++	0	0	0	0	+

Option 2D	Where reasonable, to target residents and those commuting into Southend for Smarter Choices interventions, especially if the daily commute is less than 10km.	+	+	+	+	0	+	++	0	+	++	++	0	0	0	0	+
Option 2E	Develop high quality bus supporting infrastructure on key routes, such as shelters, bus priority, active bus management, Smart Cards and integrated ticketing, and real time passenger information.	+	+	+	+	0	+	++	-	+	0	++	0	0	0	0	+
Option 2F	Improve bus / rail integration.	+	+	+	+	0	+	++	0	+	0	++	0	++	0	0	+
Option 2G	To work in partnership with the bus operators to market and promote the bus as a viable and sustainable mode of travel.	+	+	+	+	0	+	++	0	+	0	++	0	0	0	0	+
		SEA Objectives															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Issue 3: Under use of rail for Borough wide travel, especially given that the Borough has nine rail stations.																	
Option 3A	Make the use of peak and off-peak rail travel an integral part of an intensive programme of Smarter Choices across the Borough and improve information about peak and off-peak train travel.	+	+	+	+	0	+	++	0	+	0	++	0	+	0	0	+
Option 3B	Work in partnership with the train operators to target off-peak travelling groups, such as offering reduced fares and promoting the 'Southend Metro' system.	+	+	+	+	0	+	++	0	+	0	++	0	+	0	0	+

Option 3C	Work with the rail operator to develop Station Travel Plans at all nine stations.	+	+	+	+	0	+	++	0	+	0	++	0	+	0	0	+
Option 3D	Improve bus / rail integration e.g. provide real time passenger information for nearby bus stops near to the train station.	+	+	+	+	0	+	++	0	+	0	++	0	+	0	0	+
Option 3E	Improve cycle / rail integration e.g. provide real time passenger information, for example, further develop a network of high quality cycle routes up to 5km from the town centre, particularly to access rail stations for on-going journeys.	+	+	+	+	0	+	++	0	+	++	++	0	+	0	0	+
Option 3F	Influence the refranchising of the Essex Thameside rail franchise to seek, amongst other things, increased peak time capacity, especially into London.	+	+	+	+	0	+	++	0	+	0	++	0	++	0	0	+
		SEA Objectives															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Issue 4: Opportunities for enabling more people who are commuting or who are going to the town centre and to areas of employment to go by sustainable modes, helping the regeneration of the town centre and other areas of employment.																	
Option 4A	Improved safety and priority for pedestrians and cyclists, with a focus in and around the town centre.	+	+	+	+	0	++	++	0	+	++	++	0	+	+++	0	+
Option 4B	To further enhance Southend's status as a Cycling Town, a network of high quality cycle routes up to 5km from the town centre, particularly, to access rail stations for on-going journey could be further developed.	+	+	+	+	0	++	++	0	+	++	++	0	++	0	0	+

Option 4C	Encourage behavioural change through workplace / school / rail station travel plans, marketing and promotion, especially in Southend town centre, the A13 and rail corridors.	+	+	+	+	0	+	++	0	+	++	++	0	0	0	0	+	
Option 4D	Encourage behavioural change through a wider and more intensive programme of Smarter Choices across the Borough, with a focus on walking and cycling, for example, <i>Cycle Southend</i> measures.	+	+	+	+	0	+	++	0	+	++	++	0	0	0	0	+	
		SEA Objectives																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Issue 5: Threats to the resilience of key parts of the transport network caused by incidents, especially on the A127 and A13.																		
Option 5A	Work in partnership with emergency services, public transport operators, freight operators, and neighbouring districts to consider vehicle re-routing options, for example, using Variable Messaging Signs, Urban Traffic Control, and the Traffic Control Centre.	0	0	0	0	++	0	+	0	0	0	0	0	0	0	+	0	++
Option 5B	Target accident reduction on key routes such as the A13 and A127.	0	0	0	0	0	0	+	0	0	0	0	0	0	0	++	0	+
		SEA Objectives																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Issue 6. The level of supply of car parking could be detrimental to town centre regeneration in terms of the attractiveness of the streetscape, use of public space, and redevelopment sites.																		

Option 6A	Make better use of existing off-street parking over-capacity to enable a reduction in on-street parking.	0	0	0	+	0	++	0	0	+	0	-	0	0	0	0	+
Option 6B	Make better use of existing off-street parking over-capacity to enable a reduction in on-street parking in those areas earmarked for streetscape improvements.	0	0	0	+	0	+++	0	0	+	0	-	0	0	0	0	+
Option 6C	Link reductions of on-street parking capacity to the provision of Park and Ride or other additional parking capacity.	+	0	0	+	0	++	+	0	+	0	++	0	+	0	0	+
Option 6D	Provide parking management, such as, Variable Messaging Signs, phone texts for information and paying, a website and specific information for visitors and tourists.	0	0	0	+	0	0	0	0	0	0	-	0	0	0	0	+
Option 6E	Maintain the on-street parking capacity, but make streetscape improvements that aim to soften the adverse visual impact.	0	0	0	0	0	++	0	0	+	0	-	0	0		0	+
Option 6F	Use parking sites as a means to promote regeneration	0	0	0	0	0	++	0	0	0	0	0	+	0	0	+	+
Option 6G	Provide parking bays for car club vehicles and car sharers and / or through the provision of bays with electric vehicle charging points.	+	+	0	+	0	0	0	0	0	0	+	0	0	0	0	0
		SEA Objectives															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Issue 7: Access to Shoeburyness (By public transport from Shoeburyness to the town centre takes over 30 minutes).																	

Option 7A	Improve public transport connections to the east of the Borough, for example shuttle services and bus priority measures.	+	+	+	+	0	+	++	0	+	0	++	0	+++	0	0	++
Option 7B	Focus on cycling improvements to the town centre from Shoeburyness.	+	+	+	+	0	+	++	0	+	++	+++	0	+++	0	0	++
Option 7C	Selective highway improvements to improve access to and from Shoeburyness.	0	-	-	0	0	0	-	-	+	0	0	0	+++	0	0	+++
		SEA Objectives															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Issue 8: Access to the airport and new employment areas at the airport, for both air passengers and employees.																	
Option 8A	Progressively implement <i>sert</i> to serve the airport and new employment areas	+	+	+	+	0	+	++	-	+	0	+	0	+++	0	0	++
Option 8B	Improve access to the airport, its new rail station and new employment areas by bus, walking and cycling.	+	+	+	+	0	+	++	0	+	++	+++	0	+++	0	0	+
Option 8D	To provide a number of electric vehicle charging point at key locations around the Borough in order to promote the use of alternative fuels.	+	+	0	0	0	0	++	0	0	+	0	0	+++	0	0	++
		SEA Objectives															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Issue 9: The majority of road transport emissions arise from cars and traffic using non-principal roads. Also, an increase in traffic and thus congestion and queues especially on the A13 and A127, could lead to a further increase in CO₂ emissions.																	
Option 9A	Focus modal shift / Smarter Choices measures in the vicinity of non principal roads where there is over capacity to reduce CO ₂ emissions.	+++	+	+	+	0	+	+++	0	+	++	++	0	0	0	0	0

Option 9B	Encourage modal shift / Smarter Choices measures, for example increased cycling, bus patronage, walking, train travel and car share based on congestion / economic issues rather than CO ₂ emissions.	++	+	+	+	0	+	++	0	+	++	++	0	0	0	0	0
Option 9C	Reduce CO ₂ emissions from transport at source by promoting measures that would improve the efficiency of all vehicles (car, HGV, bus etc.) through awareness raising as well as improving driving skills.	++	+	0	0	0	0	++	0	0	+	0	0	0	++	0	0
Option 9D	Reduce CO ₂ emissions from transport at source by promoting measures that would improve the efficiency of vehicles through promoting alternative fuels.	++	+	0	0	0	0	++	0	0	+	0	0	0	0	0	0
Option 9E	Neutralise transport CO ₂ emissions from growth by requiring that development offset these emissions on site.	0	0	0	0	0	0	++	0	0	+	0	0	0	0	0	0
Option 9F	Reduce the energy used by street lighting.	0	0	0	0	0	++	++	0	+++	0	0	0	0	0	0	0
Option 9G	To provide a number of electric vehicle charging point at key locations around the Borough in order to promote the use of alternative fuels.	+	+	0	0	0	0	++	0	0	+	0	0	0	0	0	++
		SEA Objectives															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<p>Issue 10: Increasing the resilience of the Southend transport network to climate change impacts, particularly from flooding and severe weather events and responding to increased maintenance costs as a result of climate change impacts.</p>																	

Option 10A	To proactively deliver resilience improvements through all transport schemes.	0	0	0	0	+++	0	0	0	0	0	0	0	0	0	0	0	+	0
Option 10B	To proactively deliver specific resilience improvements, but only in those areas which have the highest risks of flooding and / or along routes of economic importance.	0	0	0	0	++	0	0	0	0	0	0	0	0	0	0	0	+	0
Option 10C	Proactively support the delivery of specific resilience improvements to protect the railway track, including the erosion and slippage of the clay slopes.	0	0	0	0	+++	0	0	0	0	0	0	0	0	0	0	0	+	0
Option 10D	To integrate resilience measures with ongoing maintenance.	0	0	0	0	+++	0	0	0	0	0	0	0	0	0	0	0	+	0
Option 10E	To design schemes to mitigate and reduce the impact of climate change by using innovative technologies, such as, sustainable underground drainage (SUD's) and using materials which when made and used have no / small impact on climate change.	0	0	+++	++	+++	0	0	++	0	0	0	0	0	0	0	0	+	0
Option 10F	Incorporate resilience measures only into larger schemes (£200k+).	0	0	0	0	++	0	0	-	0	0	0	0	0	0	0	0	+	0
		SEA Objectives																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		

Issue 11: There is poor accessibility (over 30mins by walking or public transport) to the hospital by public transport from the east of the Borough (Shoeburyness) and there is a threat that a reduced number of GP surgeries may have an adverse impact on accessibility to healthcare.

Option 11A	Work in partnership with hospitals to promote visitor travel plans.	+	+	+	+	0	+	++	0	+	++	++	0	++	0	0	0
Option 11B	Make better use of community transport and council vehicles to improve access to hospital and GP surgeries.	0	0	0	0	0	0	+	0	0	++	+	0	++	0	0	0
Option 11C	Work in partnership with public transport operators to better coordinate routes and timetables from the east of the Borough to hospital locations.	+	+	+	+	0	+	++	0	+	++	++	0	++	0	0	0
Option 11D	Work in partnership with Primary Care Trust to ensure that access to strategic healthcare facilities is maintained or improved.	0	0	0	0	0	0	0	0	0	++	+	0	++	0	0	0
Option 11E	Focus on how accessibility to healthcare can be improved for older people in particular.	0	0	0	0	0	0	0	0	0	++	0	0	++	0	0	0
		SEA Objectives															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Issue 12: The need to improve the proportion of buses and boarding points that are fully accessible.																	
Option 12A	Work in partnership with public transport operators to encourage more accessible vehicles Borough wide, with priority on the most used routes.	0	0	0	0	0	0	0	0	0	+	0	0	+++	0	0	0
Option 12B	Work in partnership with public transport operators to encourage more accessible vehicles serving those wards with a high proportion of older people, such as Belfairs,	0	0	0	0	0	0	0	0	0	+	0	0	+++	0	0	0

	Chalkwell and Thorpe wards.																
Option 12C	Work in partnership with public transport operators to encourage better driver training and improved information for people with disabilities when using public transport.	0	0	0	0	0	0	0	0	0	+	0	0	+++	0	0	0
Option 12D	The priority for public transport improvements will be ensuring all boarding points are fully accessible.	0	0	0	0	0	0	0	0	0	+	0	0	+++	0	0	0
Option 12E	Improve boarding points as part of highway maintenance or other improvements.	0	0	0	0	0	0	0	0	0	+	0	0	+++	0	0	0
		SEA Objectives															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Issue 13: Many rail stations are not fully accessible (such as step free access).																	
Option 13A	Work with the rail operator to deliver <i>access for all</i> improvements at stations as an integral part of the roll out of station travel plans.	0	0	0	0	0	0	0	0	0	+	0	0	+++	0	0	0
Option 13B	Work with the rail operator to deliver <i>access for all</i> as the priority intervention at all rail stations.	0	0	0	0	0	0	0	0	0	+	0	0	++	0	0	0
Option 13C	Work with the rail operator to prioritise <i>access for all</i> improvements at stations in wards with a high proportion of older people, such as Chalkwell and Thorpe wards, with a focus also on improving their safety.	0	0	0	0	0	0	0	0	0	+	0	0	++	0	0	0

Option 13D	Improve information on station accessibility.	0	0	0	0	0	0	0	0	0	0	+	0	0	++	0	0	0
		SEA Objectives																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Issue 14: The need to reduce cyclist and pedestrian casualties.																		
Option 14A	Priority will be given to addressing those routes that have a higher rate of road traffic accidents and where many of those accidents involve injury to cyclists and pedestrians, such as the A13.	0	0	0	0	0	0	0	0	0	++	0	0	0	++	0	0	
Option 14B	Priority will be given to improving road safety at those accident cluster sites where there are pedestrian and cyclist casualties.	0	0	0	0	0	0	0	0	0	+++	0	0	0	+++	0	0	
Option 14C	Priority will be given to road safety campaigns and training that promote the safety of walking and cycling.	0	0	0	0	0	0	0	0	0	+++	0	0	0	+++	0	0	
Option 14D	Area wide lowering of traffic speeds, such as to 20mph, in and around the town centre, such as in the Kursaal ward, in order to reduce the large numbers of scattered accidents involving pedestrians and cyclists.	+	0	0	0	0	0	+	0	0	++	+	0	0	++	0	0	
		SEA Objectives																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Issue 15: The need to reduce motorcyclist and young car driver/passenger casualties.																		
Option 15A	Priority will be given to improving road safety at those accident cluster sites (also called blackspots) where there are motorcyclist casualties.	0	0	0	0	0	0	0	0	0	+++	0	0	0	+++	0	0	

Option 15B	Priority will be given to road safety campaigns and training that promote the safety of motorcycling.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Option 15C	Provide an education programme for road safety and driver skill.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		SEA Objectives															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Issue 16: The clustering of injury accidents, especially on key routes into Southend and around Southend town centre.																	
Option 16A	Priority will be given to addressing those routes that have a higher rate of road traffic accidents, such as the A127, A13 and areas near to hospitals and schools.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Option 16B	Priority will be given to addressing those routes that have a higher rate of road traffic accidents and where many of those accidents involve injury to cyclists, pedestrians and motorcyclists, such as the A13.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Option 16C	Improve area wide road safety in Southend by lowering traffic speed in order to reduce the large number of scattered accidents evident in and around the town centre, such as Milton / Victoria wards.	+	0	0	0	0	+	0	0	0	0	0	0	0	0	0	0
Option 16D	Focus school / workplace travel planning and related transport improvements where there are high levels of injury accidents	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		SEA Objectives															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Issue 17: The need to improve personal safety within the Borough but particularly focusing on transport interchanges and in key wards.																		
Option 17A	Work with the police and other agencies to identify transport measures that will improve community safety and personal security, especially in those areas where people feel unsafe at night. St Lukes, Southchurch and particularly Kursaal wards will be prioritised by this option.	0	0	0	0	0	+	0	0	0	0	0	0	++	0	++	0	0
Option 17B	Where concerns about personal safety are an issue during the day, all transport interventions will be developed in a way that gives the need to design out crime a high priority. Kursaal ward will be prioritised by this option.	0	0	0	0	0	+	0	0	0	0	0	0	++	0	++	0	0
Option 17C	Work with the rail and bus industry to improve actual and perceived personal safety when using public transport. Priority will be given to where crime is a proven issue, although the aim will be to support all rail stations gaining secure stations accreditation.	0	0	0	0	0	+	0	0	0	0	0	0	++	0	++	0	0
Option 17D	To improve actual and perceived personal safety when cycling and walking. Priority will be given to areas where crime is a proven issue. Sufficient amounts of safe and secure cycle parking will be provided at key interchanges and retail areas.	0	0	0	0	0	+	0	0	0	0	0	0	++	0	++	0	0
		SEA Objectives																

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Issue 18: High proportions of obese and overweight children, particularly in Year 6.																	
Option 18A	Ensure that every school adopts and implements a School Travel Plan.	+	+	+	+	0	+	++	0	+	++	+	0	+	0	0	0
Option 18B	Focus walking and cycling improvements at schools in health deprived wards.	+	+	+	+	0	+	++	0	+	+++	+	0	+	0	0	0
Option 18C	Focus school travel planning and related transport improvements such as, improved walking, cycling and road safety interventions on those schools where combined obesity and overweight levels are highest.	+	+	+	+	0	+	++	0	+	+++	+	0	+	0	0	0
Option 18D	Deliver school travel planning and related improvements on an ad hoc basis, i.e. as and when School Travel Plans are completed and funding available for measures, rather than based on children's health and/or safety data.	0	0	0	0	0	0	+	0	0	+	+	0	+	0	0	0
Option 18E	Encourage schools to participate in schemes such as, Bike It and Bike Club and to set up walking buses.	+	+	+	+	0	+	++	0	+	++	+	0	+	0	0	0
		SEA Objectives															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Issue 19: Increasing the number of people who walk or cycle to work and retail areas or to the town centre in order to improve health and increase physical activity within the Borough.																	
Option 19A	Focus walking and cycling improvements in health deprived wards.	+	+	+	+	0	+	++	0	+	+++	+	0	0	0	0	0

Option 19B	Focus walking and cycling improvements on improving access to employments areas.	+	+	+	+	0	+	++	0	+	++	+	0	++	0	0	0
Option 19C	To provide cycle parking at places of employment, retail areas and the town centre.	+	+	+	+	0	+	++	0	+	+++	+	0	++	0	0	0
Option 19D	Focus walking and cycling improvements on leisure trips, particularly in areas attractive to tourists, such as, along the sea front and through parks and other green spaces.	+	+	+	+	0	+++	++	0	+	+++	+	0	++	0	0	0
		SEA Objectives															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Issue 20: Tranquillity is very low, partly as a result of noise and light.																	
Option 20A	Introduce low noise surfacing, particularly along the A13 and A127.	0	+	0	0	0	++	0	0	+++	+	0	0	0	0	0	0
Option 20B	Introduce low noise surfacing on the higher order roads in the council's route hierarchy.	0	+	0	0	0	++	0	0	+++	+	0	0	0	0	0	0
Option 20C	Introduce low noise surfacing as standard through all maintenance schemes.	0	+	0	0	0	+++	0	0	+++	+	0	0	0	0	0	0
Option 20D	Implement more efficient street lamps with lower light emissions, which will reduce CO ₂ emissions as well as light pollution.	0	+	0	0	0	++	++	0	+++	+	0	0	0	0	+	0

Option 20E	Consider selective reduction in street lighting at quiet times, particularly in the western section of the Borough, which will reduce CO ₂ emissions as well as light pollution.	0	+	0	0	0	++	++	0	++	+	0	-	0	0	+	0	
Option 20F	Invest in the streetscape along the A127 to give residents a 'sense of place'.	0	0	0	0	0	+++	0	0	+	+	0	++	0	0	++	0	
Option 20G	Ensure parks and open spaces stay tranquil by introducing stricter measures on lighting and road surfaces around them. This may include traffic calming measures around certain areas.	+	+	0	0	0	++	+	0	+++	++	0	0	0	0	+	0	
Option 20H	Continue to monitor air quality to ensure action is taken, if required, to prevent the occurrence of future AQMAs.	+++	+	0	0	0	+	+	0	+	++	0	0	0	0	0	0	
		SEA Objectives																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Issue 21: Improving the condition of principal roads.																		
Option 21A	Focus maintenance programme on all principal roads, footpaths and cycle routes requiring maintenance, as the condition of these roads is comparatively worse than national and regional averages.	0	0	0	0	0	++	0	0	0	0	0	0	0	0	+	0	0
Option 21B	Focus maintenance on principal roads requiring maintenance that are also economically important.	0	0	0	0	0	++	0	0	0	0	0	0	0	0	+	0	0

Option 21C	Focus maintenance on principal roads requiring maintenance that are also higher order roads in the council's route hierarchy.	0	0	0	0	0	++	0	0	0	0	0	0	0	0	+	0	0
Option 21D	Focus maintenance on principal roads requiring maintenance that have the highest traffic flows and/or suffer from congestion.	0	0	0	0	0	++	0	0	0	0	0	0	0	0	+	0	0
Option 21E	Focus maintenance on roads, footpaths and cycle routes which provide access to hospitals and schools.	0	0	0	0	0	++	0	0	0	++	0	0	0	0	+	0	0
		SEA Objectives																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Issue 22: The need to improve the quality of public space and the streetscape.																		
Option 22A	Improvements to public space and streetscapes should focus on retail areas and the town centre and its regeneration by giving greater priority to pedestrian infrastructure.	0	0	0	0	0	+++	0	0	0	+	0	0	++	0	++	0	
Option 22B	Improvements to public space and streetscapes should focus on retail areas across the Borough and the town centre, including better management of on-street car parking.	0	0	0	0	0	++	0	0	0	+	0	0	+	0	++	0	
Option 22C	Improvements to public space and streetscapes should focus on the seafront so as to further improve the tourist and residents experience.	0	0	0	0	0	+++	0	0	0	+	0	0	+	0	++	0	
Option 22D	Improvements to public space and streetscapes should focus on deprived areas, such as, areas of the Kursaal, Victoria and Milton wards to support	0	0	0	0	0	+++	0	0	0	+	0	0	+	0	++	0	

	wider community action.																
		SEA Objectives															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Issue 23: Equality problems between wards. Problems of deprivation, low life expectancy and health issues in the Kursaal, Victoria and Milton wards.																	
Option 23A	Investment to increase accessibility and mobility to employment opportunities in the Kursaal, Victoria and Milton wards.	0	0	0	0	0	++	+	0	0	++	0	+	++	0	0	0
Option 23B	Ensure good accessibility from the Kursaal, Victoria and Milton wards to GP surgeries and hospitals.	0	0	0	0	0	+	+	0	0	+++	0	0	+++	0	0	0
Option 23C	Encourage increased access to and participation in walking for health schemes within or immediately adjacent to the Kursaal, Victoria and Milton wards.	0	0	0	0	0	+	+	0	0	++	0	0	+++	0	0	0
		SEA Objectives															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Issue 24: The Borough has an ageing population.																	
Option 24A	To ensure that street furniture is kept to a minimum and is used consistently.	0	0	0	0	0	0	0	++	0	+	0	0	+	0	0	0
Option 24B	To provide dropped kerbs along main routes and within areas where there are high proportions of older residents, such as, Chalkwell, Belfairs and Thorpe wards.	0	0	0	0	0	0	0	0	0	+	0	0	++	+	0	0

Option 24C	Ensure good quality street signs are provided, e.g. easy to read colours and good size fonts etc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Option 24D	To ensure pedestrian green time at traffic signals provides enough time for people to cross.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Option 24E	To provide improved access to and improved information about public transport and community transport.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SEA Objectives

1	To maintain and improve local air quality	9	To reduce noise, vibration and light pollution
2	To conserve and enhance the Borough’s biodiversity, important wildlife habitats and geodiversity	10	To improve overall levels of health and reduce health inequalities between different groups and different areas
3	To maintain and improve the quantity and quality of ground, sea and river waters	11	To reduce road traffic and congestion through modal shift to more sustainable transport options
4	To ensure efficient use of land and maintain the resource of productive soil	12	To promote safe communities, reduce crime and the fear of crime
5	To ensure resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions	13	To improve accessibility and transport links to services, facilities and opportunities
6	To maintain and enhance the quality and character of the landscape and townscape	14	To improve road safety
7	To decarbonise transport to reduce transport related CO ₂ emissions	15	To maintain and enhance the quality and distinctiveness of the Borough’s built environment and cultural heritage
8	To reduce the amount of waste requiring final disposal through minimisation, re-use and recycling	16	To improve efficiency of transport networks and physical infrastructure standards

Summary of Assessment of Options

9.8 Overall, there were no significant adverse effects identified for any of the options. Within each issue, some of the options had a significant beneficial effect against the SEA objectives. Given the nature of the assessment, it was usually the case that many options to deal with an issue would score positively against the same SEA objective e.g. all options to deal with issue 9 (CO₂ emissions from road transport) would score positively against SEA Objective 7 (To decarbonise transport to reduce transport related CO₂ emissions).

9.9 A brief description of how each of the options was scored against the SEA Objectives follows.

Issue 1: Level of congestion on key radial routes to the town centre, particularly the A13 / A127, which may get worse with jobs and housing growth, threatening the Borough-wide economy and regeneration of the town centre.

9.10 All options had a beneficial effect against decarbonising transport (SEA Objective 7). Additionally, Option 1A (Encouraging modal shift to sustainable travel modes) and Option 1B (Encouraging behavioural change through Smarter Choices) had a large beneficial effect against SEA Objective 11 (Reduce road traffic and congestion through modal shift to more sustainable transport options). Overall, Option 1B (Encouraging behavioural change through Smarter Choices) has the most beneficial effects against the SEA Objectives for this issue.

Issue 2: Declining bus patronage in the Borough as well as the need to improve bus punctuality.

9.11 All options identified for this issue have significant beneficial effects against SEA Objective 7 (Decarbonising transport) and SEA Objective 11 (Reducing road traffic and congestion through modal shift to more sustainable transport options). Overall, Option 2B (Encourage travel behavioural change to encourage use of sustainable travel modes, through tourism / event management / workplace / school / station travel plans / personalised travel plans) and Option 2C (Encourage and promote behavioural change through a wider and more intensive programme of Smarter Choices across the Borough), have the most beneficial effects against the SEA Objectives for this issue.

Issue 3: Under use of rail for Borough wide travel, especially given that the Borough has nine rail stations.

9.12 All options identified for this issue have significant beneficial effects against SEA Objective 7 (Decarbonising transport) and SEA Objective 11

(Reducing road traffic and congestion through modal shift to more sustainable transport options). Overall, Option 3E (Improve cycle / rail integration e.g. provide real time passenger information, for example, further develop a network of high quality cycle routes up to 5km from the town centre, particularly to access rail stations for on-going journeys) and Option 3F (Influence the refranchising of the Essex Thameside rail franchise to seek, amongst other things, increased peak time capacity, especially into London), have the most beneficial effects against the SEA Objectives for this issue.

Issue 4: Opportunities for enabling more people who are commuting or who are going to the town centre and to areas of employment to go by sustainable modes, helping the regeneration of the town centre and other areas of employment.

- 9.13 All options identified for this issue have significant beneficial effects against SEA Objective 7 (Decarbonising transport), SEA Objective 10 (Improving levels of health and reducing inequalities in health) and SEA Objective 11 (Reducing road traffic and congestion through modal shift to more sustainable transport options). Overall, Option 4A (Improved safety and priority for pedestrians and cyclists, with a focus in and around the town centre) has the most beneficial effects against the SEA Objectives for this issue.

Issue 5: Threats to the resilience of key parts of the transport network caused by incidents, especially on the A127 and A13.

- 9.14 There are just two options identified for this issue. Of these, Option 5A (Work in partnership with emergency services, public transport operators, freight operators, and neighbouring districts to consider vehicle re-routing options, for example, using Variable Messaging Signs, Urban Traffic Control, and the Traffic Control Centre) has the most beneficial effects against the SEA Objectives. This is because it has significant beneficial effects against SEA Objective 5 (ensuring resilience to Climate Change) and SEA Objective 16 (improving efficiency of transport networks and physical infrastructure standards).

Issue 6: The level of supply of car parking could be detrimental to town centre regeneration in terms of the attractiveness of the streetscape, use of public space, and redevelopment sites.

- 9.15 Generally, there were few significant beneficial effects for the options within this issue as the majority of options are concerned with providing car parking provision, which is, by definition, promoting car usage. However, most options have significant beneficial effects against SEA Objective 6 (To maintain and enhance the quality and character of the landscape and

townscape) as they seek to reduce on street car parking. Overall, Option 6B (making better use of existing off-street parking over capacity) and Option 6C (Linking reductions of on-street parking to the provision of Park and Ride) are the most beneficial options when assessed against the SEA Objectives.

Issue 7: Access to Shoeburyness (By public transport from Shoeburyness to the town centre takes over 30 minutes).

- 9.16 There are three options identified for this issue, all of which have significant beneficial effects against SEA Objective 13 (To improve accessibility and transport links to services, facilities and opportunities) and SEA Objective 16 (To improve efficiency of transport networks and physical infrastructure standards). Overall, Option 7B (Focus on cycling improvements to the town centre from Shoeburyness) has the most beneficial effects when assessed against the SEA Objectives.

Issue 8: Access to the airport and new employment areas at the airport, for both air passengers and employees.

- 9.17 All three options for this issue have significant beneficial effects against SEA Objective 7 (To decarbonise transport to reduce transport related CO₂ emissions) and SEA Objective 13 (To improve accessibility and transport links to services, facilities and opportunities). Option 8B (Improve access to the airport, its new rail station and new employment areas by bus, walking and cycling) has the most beneficial effects when assessed against the SEA Objectives.

Issue 9: The majority of road transport emissions arise from cars and traffic using non-principal roads. Also, an increase in traffic and thus congestion and queues especially on the A13 and A127, could lead to a further increase in CO₂ emissions.

- 9.18 All options within this issue have significant beneficial effects against SEA Objective 7 (Decarbonising transport) and most have a beneficial effect against SEA Objective 1 (Maintaining and Improving local air quality). Option 9A (Focus modal shift / Smarter Choices measures in the vicinity of non principal roads where there is over capacity to reduce CO₂) has the most beneficial effects when assessed against the SEA Objectives.

Issue 10: Increasing the resilience of the Southend transport network to climate change impacts, particularly from flooding and severe weather events and responding to increased maintenance costs as a result of climate change impacts.

- 9.19 All options within this issue have significant beneficial effects against SEA Objective 5 (To ensure resilience to climate change by minimising the risk of

flooding and adapting to the predicted changes in weather conditions) as this objective is directly related to the issue. Additionally, Option 10E (To design schemes to mitigate and reduce the impact of climate change by using innovative technologies, such as, sustainable underground drainage (SUD's) and using materials which when made and used have no / small impact on climate change.) has further significant beneficial effects against SEA Objective 3 (To maintain and improve the quantity and quality of ground, sea and river waters), SEA Objective 4 (To ensure efficient use of land and maintain the resource of productive soil) and SEA Objective 8 (To reduce the amount of waste requiring final disposal through minimisation, re-use and recycling) making it the most beneficial of all options for this issue.

Issue 11: There is poor accessibility (over 30mins by walking or public transport) to the hospital by public transport from the east of the Borough (Shoeburyness) and there is a threat that a reduced number of GP surgeries may have an adverse impact on accessibility to healthcare.

- 9.20 All options in this issue have significant beneficial effects against SEA Objective 10 (To improve overall levels of health and reduce health inequalities between different groups and different areas) and SEA Objective 13 (To improve accessibility and transport links to services, facilities and opportunities). Additionally, Option 11A (Work in partnership with hospitals to promote visitor travel plans.) and Option 11C (Work in partnership with public transport operators to better coordinate routes and timetables from the east of the Borough to hospital locations) have further significant beneficial effects against SEA Objective 7 (Decarbonising transport) and SEA Objective 11 (To reduce road traffic and congestion through modal shift to more sustainable transport options) making them the most beneficial options when assessed against the SEA Objectives.

Issue 12: The need to improve the proportion of buses and boarding points that are fully accessible.

- 9.21 All options for this issue have a significant beneficial effect against SEA Objective 13 (To improve accessibility and transport links to services, facilities and opportunities). However, all options are assessed as having the same effect against the SEA Objectives and therefore there is not a preferred option when assessed against the SEA Objectives.

Issue 13: Many rail stations are not fully accessible (such as step free access).

- 9.22 All options for this issue have a significant beneficial effect against SEA Objective 13 (To improve accessibility and transport links to services,

facilities and opportunities). There are no other significant beneficial effects. As Option 13A (Work with the rail operator to deliver access for all improvements at stations as an integral part of the roll out of station travel plans) has a large beneficial effect against SEA Objective 13 and the other options have a moderate beneficial effect, Option 13A is considered to be the most beneficial when assessed against the SEA Objectives.

Issue 14: The need to reduce cyclist and pedestrian casualties.

- 9.23 All options for this issue have a significant beneficial effect against SEA Objective 10 (To improve overall levels of health and reduce health inequalities between different groups and different areas) and SEA Objective 14 (To improve road safety). Option 14B (Priority will be given to improving road safety at those accident cluster sites where there are pedestrian and cyclist casualties) and Option 14C (Priority will be given to road safety campaigns and training that promote the safety of walking and cycling) have large beneficial effects against these objectives and therefore are the most beneficial options when assessed against the SEA Objectives.

Issue 15: The need to reduce motorcyclist and young car driver/passenger casualties.

- 9.24 All Options within this issue have the same effect when assessed against the SEA Objectives; they have significant beneficial effects against SEA Objective 10 (To improve overall levels of health and reduce health inequalities between different groups and different areas) and SEA Objective 14 (To improve road safety).

Issue 16: The clustering of injury accidents, especially on key routes into Southend and around Southend town centre.

- 9.25 All Options within this issue have the same effect when assessed against the SEA Objectives; they have significant beneficial effects against SEA Objective 10 (To improve overall levels of health and reduce health inequalities between different groups and different areas) and SEA Objective 14 (To improve road safety).

Issue 17: The need to improve personal safety within the Borough but particularly focusing on transport interchanges and in key wards.

- 9.26 All Options within this issue have the same effect when assessed against the SEA Objectives; they have significant beneficial effects against SEA Objective 12 (To promote safe communities, reduce crime and the fear of crime) and SEA Objective 14 (To improve road safety).

Issue 18: High proportions of obese and overweight children, particularly in Year 6.

9.27 With the exception of Option 18D (Deliver school travel planning and related improvements on an ad hoc basis, i.e. as and when School Travel Plans are completed and funding available for measures, rather than based on children's health and/or safety data), all options within this issue have significant beneficial effects against SEA Objective 7 (To decarbonise transport to reduce transport related CO₂ emissions) and SEA Objective 10 (To improve overall levels of health and reduce health inequalities between different groups and different areas). Of all options assessed, Option 18B (Focus walking and cycling improvements at schools in health deprived wards) and Option 18C (Focus school travel planning and related transport improvements such as, improved walking, cycling and road safety interventions on those schools where combined obesity and overweight levels are highest) are the most beneficial when assessed against the SEA Objectives.

Issue 19: Increasing the number of people who walk or cycle to work and retail areas or to the town centre in order to improve health and increase physical activity within the Borough.

9.28 All options within this issue have significant beneficial effects against SEA Objective 7 (To decarbonise transport to reduce transport related CO₂ emissions) and SEA Objective 10 (To improve overall levels of health and reduce health inequalities between different groups and different areas). Option 19D (Focus walking and cycling improvements on leisure trips, particularly in areas attractive to tourists, such as, along the sea front and through parks and other green spaces) has the most beneficial effects when assessed against the SEA Objectives.

Issue 20: Tranquillity is very low, partly as a result of noise and light.

9.29 With eight options within this issue, there is a wide range of significant effects against objectives identified. Most Options have positive effects against SEA Objective 6 (To maintain and enhance the quality and character of the landscape and townscape) and SEA Objective 9 (To reduce noise, vibration and light pollution). Overall Option 20D (Implement more efficient street lamps with lower light emissions, which will reduce CO₂ emissions as well as light pollution) and Option 20G (Ensure parks and open spaces stay tranquil by introducing stricter measures on lighting and road surfaces around them. This may include traffic calming measures around certain areas) have the most significant beneficial effects when assessed against the SEA Objectives.

Issue 21: Improving the condition of principal roads.

9.30 All options within this issue have a significant beneficial effect on SEA Objective 6 (To maintain and enhance the quality and character of the

landscape and townscape). Option 21E (Focus maintenance on roads, footpaths and cycle routes which provide access to hospitals and schools) also had a significant beneficial effect on SEA Objective 10 (To improve overall levels of health and reduce health inequalities between different groups and different areas) and therefore is the most beneficial option when assessed against the SEA Objectives.

Issue 22: The need to improve the quality of public space and the streetscape.

- 9.31 All options within this issue have a significant beneficial effect when assessed against SEA Objective 6 (To maintain and enhance the quality and character of the landscape and townscape) and SEA Objective 15 (To maintain and enhance the quality and distinctiveness of the Borough's built environment and cultural heritage). Additionally, Option 22A (Improvements to public space and streetscapes should focus on retail areas and the town centre and its regeneration by giving greater priority to pedestrian infrastructure) also has a significant beneficial effect against SEA Objective 13 (To improve accessibility and transport links to services, facilities and opportunities) and is therefore the most beneficial option when assessed against the SEA Objectives.

Issue 23: Equality problems between wards. Problems of deprivation, low life expectancy and health issues in the Kursaal, Victoria and Milton wards.

- 9.32 All options within this issue have significant beneficial effects against SEA Objective 10 (To improve overall levels of health and reduce health inequalities between different groups and different areas) and SEA Objective 13 (To improve accessibility and transport links to services, facilities and opportunities). Additionally, Option 23A (Investment to increase accessibility and mobility to employment opportunities in the Kursaal, Victoria and Milton wards) also have a significant positive effect against SEA Objective 6 (To maintain and enhance the quality and character of the landscape and townscape) and therefore is the most beneficial option when assessed against the SEA Objectives.

Issue 24: The Borough has an ageing population.

- 9.33 Most of the options on this issue have a significant beneficial effect against SEA Objective 13 (To improve accessibility and transport links to services, facilities and opportunities). Option 24A (To ensure that street furniture is kept to a minimum and is used consistently) does not have a significant beneficial effect against SEA Objective 13 but does have a significant beneficial effect against SEA Objective 8 (To reduce the amount of waste requiring final disposal through minimisation, re-use and recycling). Given

that all options have one significant beneficial effect, they are all equal when assessed against the SEA Objectives.

Conclusions

9.34 The assessment against the SEA Objectives identifies the options shown in Table 9.2 as being the most beneficial.

Table 9.2: Most beneficial options from SEA assessment

Issue	Most beneficial option(s) as identified by assessment against the SEA Objectives
<p>Issue 1: Level of congestion on key radial routes to the town centre, particularly the A13 / A127, which may get worse with jobs and housing growth, threatening the Borough-wide economy and regeneration of the town centre.</p>	<p>Option 1B: Encouraging behavioural change through Smarter Choices</p>
<p>Issue 2: Declining bus patronage in the Borough as well as the need to improve bus punctuality.</p>	<p>Option 2B: Encourage travel behavioural change to encourage use of sustainable travel modes, through tourism / event management / workplace / school / station travel plans / personalised travel plans</p> <p>Or</p> <p>Option 2C: Encourage and promote behavioural change through a wider and more intensive programme of Smarter Choices across the Borough.</p>
<p>Issue 3: Under use of rail for Borough wide travel, especially given that the Borough has nine rail stations.</p>	<p>Option 3E: Improve cycle / rail integration e.g. provide real time passenger information, for example, further develop a network of high quality cycle routes up to 5km from the town centre, particularly to access rail stations for on-going journeys</p> <p>Or</p> <p>Option 3F: Influence the refranchising of the Essex Thameside rail franchise to seek, amongst other things,</p>

Issue	Most beneficial option(s) as identified by assessment against the SEA Objectives
	increased peak time capacity, especially into London ²⁰ .
Issue 4: Opportunities for enabling more people who are commuting or who are going to the town centre and to areas of employment to go by sustainable modes, helping the regeneration of the town centre and other areas of employment.	Option 4A: Improved safety and priority for pedestrians and cyclists, with a focus in and around the town centre.
Issue 5: Threats to the resilience of key parts of the transport network caused by incidents, especially on the A127 and A13.	Option 5A: Work in partnership with emergency services, public transport operators, freight operators, and neighbouring districts to consider vehicle re-routing options, for example, using Variable Messaging Signs, Urban Traffic Control, and the Traffic Control Centre.
Issue 6: The level of supply of car parking could be detrimental to town centre regeneration in terms of the attractiveness of the streetscape, use of public space, and redevelopment sites.	Option 6B: making better use of existing off-street parking over capacity Or Option 6C: Linking reductions of on-street parking to the provision of Park and Ride.
Issue 7: Access to Shoeburyness (By public transport from Shoeburyness to the town centre takes over 30 minutes).	Option 7B: Focus on cycling improvements to the town centre from Shoeburyness.
Issue 8: Access to the airport and new employment areas at the airport, for both air passengers and employees.	Option 8B: Improve access to the airport, its new rail station and new employment areas by bus, walking and cycling.
Issue 9: The majority of road transport emissions arise from cars and traffic using non-principal roads. Also, an increase in traffic and thus congestion	Option 9A: Focus modal shift / Smarter Choices measures in the vicinity of non principal roads where there is over capacity to reduce CO ₂ .

²⁰ Note that since this assessment was undertaken the Essex Thameside Rail Franchise has been suspended and therefore it is no longer considered a viable option.

Issue	Most beneficial option(s) as identified by assessment against the SEA Objectives
and queues especially on the A13 and A127, could lead to a further increase in CO ₂ emissions.	
Issue 10: Increasing the resilience of the Southend transport network to climate change impacts, particularly from flooding and severe weather events and responding to increased maintenance costs as a result of climate change impacts.	Option 10E: To design schemes to mitigate and reduce the impact of climate change by using innovative technologies, such as, sustainable underground drainage (SUD's) and using materials which when made and used have no / small impact on climate change.
Issue 11: There is poor accessibility (over 30mins by walking or public transport) to the hospital by public transport from the east of the Borough (Shoeburyness) and there is a threat that a reduced number of GP surgeries may have an adverse impact on accessibility to healthcare.	Option 11A: Work in partnership with hospitals to promote visitor travel plans Or Option 11C: Work in partnership with public transport operators to better coordinate routes and timetables from the east of the Borough to hospital locations.
Issue 12: The need to improve the proportion of buses and boarding points that are fully accessible.	All options assessed as having the same effect
Issue 13: Many rail stations are not fully accessible (such as step free access).	Option 13A: (Work with the rail operator to deliver access for all improvements at stations as an integral part of the roll out of station travel plans.
Issue 14: The need to reduce cyclist and pedestrian casualties.	Option 14B: Priority will be given to improving road safety at those accident cluster sites where there are pedestrian and cyclist casualties Or Option 14C: Priority will be given to road safety campaigns and training that promote the safety of walking and cycling.
Issue 15: The need to reduce motorcyclist and young car	All options assessed as having the same effect

Issue	Most beneficial option(s) as identified by assessment against the SEA Objectives
driver/passenger casualties.	
Issue 16: The clustering of injury accidents, especially on key routes into Southend and around Southend town centre.	All options assessed as having the same effect
Issue 17: The need to improve personal safety within the Borough but particularly focusing on transport interchanges and in key wards.	All options assessed as having the same effect
Issue 18: High proportions of obese and overweight children, particularly in Year 6.	Option 18B: Focus walking and cycling improvements at schools in health deprived wards Or Option 18C: Focus school travel planning and related transport improvements such as, improved walking, cycling and road safety interventions on those schools where combined obesity and overweight levels are highest.
Issue 19: Increasing the number of people who walk or cycle to work and retail areas or to the town centre in order to improve health and increase physical activity within the Borough.	Option 19D: Focus walking and cycling improvements on leisure trips, particularly in areas attractive to tourists, such as, along the sea front and through parks and other green spaces.
Issue 20: Tranquillity is very low, partly as a result of noise and light.	Option 20D: Implement more efficient street lamps with lower light emissions, which will reduce CO ₂ emissions as well as light pollution Or Option 20G: Ensure parks and open spaces stay tranquil by introducing stricter measures on lighting and road surfaces around them. This may include traffic calming measures around certain areas.
Issue 21: Improving the condition of principal roads.	Option 21E: Focus maintenance on roads, footpaths and cycle routes

Issue	Most beneficial option(s) as identified by assessment against the SEA Objectives
	which provide access to hospitals and schools.
Issue 22: The need to improve the quality of public space and the streetscape.	Option 22A: Improvements to public space and streetscapes should focus on retail areas and the town centre and its regeneration by giving greater priority to pedestrian infrastructure.
Issue 23: Equality problems between wards. Problems of deprivation, low life expectancy and health issues in the Kursaal, Victoria and Milton wards.	Option 23A: Investment to increase accessibility and mobility to employment opportunities in the Kursaal, Victoria and Milton wards
Issue 24: The Borough has an ageing population.	All options assessed as having the same effect

10. Appraising the Preferred Option LTP

The Preferred Option

- 10.1 The LTP3 comprises a Strategy (2011/12 – 2026/27) and an Implementation Plan (2011/12 – 2014/15). However, this assessment was undertaken on the First Draft of the Preferred Option LTP3 as at 20 September 2010, which consisted solely of the Strategy as the Implementation Plan was still under development.
- 10.2 The previous step in the SEA involved assessing the options developed by Southend in response to issues that had been identified, results of which can be seen in section 9.
- 10.3 Following the appraisal of the options, the draft preferred option for the LTP was developed. This was loosely based around the issues identified at the previous stage.
- 10.4 The LTP3 Draft Preferred Strategy’s policies can be seen in Table 10.1.

Table 10.1 – Policies in Draft Preferred Strategy (September 2010)

Our Transport Strategy for a Thriving and Sustainable Local Economy in Southend
<p>Policy 1 : Reduce congestion on A127 and the A13 into Southend</p> <ul style="list-style-type: none"> • Make use of the A127 as a key link with wider South Essex. • Work to implement bus priority measures and to deliver <i>sert</i> on the A127, which also serves London Southend Airport. • Make use of the A13 as the key corridor for local, multi-modal, journeys into Southend. • Implement wider bus priority measures along the A13. • Make use of technology to improve traffic flows, particularly at peak times, along both routes.
<p>Policy 2: Encourage and facilitate the use of sustainable modes and public transport for travel to the town centre</p> <ul style="list-style-type: none"> • With a focus on bus use, work with bus operators to encourage behavioural change through a wide and intensive programme of bus priority measures across the Borough, particularly to encourage non-car trips to the town centre. • Encourage behavioural change, especially for journeys to the town centre, to work and to school. • Target Smarter Choices at residents and those who commute into Southend. • Focus on encouraging a shift to sustainable modes such as walking and cycling for commuter journeys under 5km.

<ul style="list-style-type: none"> • Focus on encouraging a shift to travel by bus for journeys between 5km and 10km. • Work with rail operators to encourage off peak use of the rail network as a 'Southend Metro' system.
<p>Policy 3: Better manage town centre car parking capacity</p>
<ul style="list-style-type: none"> • Progressively reduce the availability on on-street parking alongside the improvement in bus frequency and punctuality. • Link reductions in on-street parking provision to the provision of Park and Ride services. • Make better use of off-street parking availability through the use of intelligent transport systems. • Reduce on-street parking with a view to improving the streetscape of the town centre and make it more visually appealing.
<p>Policy 4: Maintain the network to a high standard and ensure it remains resilient to external events</p>
<ul style="list-style-type: none"> • Focus the maintenance programme on all principal roads, key footpaths and cycle routes, focusing on those around the town centre and the seafront. • Focus maintenance programmes on principal roads that are key in ensuring both people and goods are able to travel to other areas ensuring the economic viability of Southend. • Focus maintenance on principal roads that have the highest traffic volumes.
<p>Policy 5: Ensure provision of sustainable transport services to support the regeneration of Shoeburyness</p>
<ul style="list-style-type: none"> • Work with bus operators to ensure developments are supported by frequent and punctual bus services. • Work with rail operators to ensure regeneration is supported by a frequent and punctual service, and supports the use of off peak travel by train. • Implement a range of us priority measures between Shoeburyness and the town centre to help improve bus journey times and punctuality. • Support the planning department at Southend Borough Council to ensure new developments allow for maximising opportunities to encourage walking and cycling.
<p>Policy 6: Ensure access to London Southend Airport is predominantly by sustainable modes</p>
<ul style="list-style-type: none"> • Work to ensure that <i>sert</i> is implemented and serves the Airport. • Work with the Airport and bus operators to improve public transport services to the Airport for both passengers and employees. • Work with longer distance coach operators to implement services to the Airport from key town and cities for both passengers and employees.

<ul style="list-style-type: none"> • Work with the airport to make full use of the new station for passengers and employees.
<p>Our Transport Strategy to Minimise Environmental Impact, Promote Sustainability for a Greener Southend</p>
<p>Policy 7: Reducing Carbon Dioxide Emissions from Transport</p>
<p>Transport improvements aimed at reducing carbon dioxide emissions from road transport will be focussed on local journeys beginning and ending in Southend, particularly where congestion occurs.</p> <p>For journeys that extend beyond the Southend boundary, we will work closely with partner organisations such as Network Rail, transport operators, Essex County Council and Thurrock Council, to develop a coordinated and consistent approach to reducing carbon emissions from these longer distance trips.</p>
<p>Policy 8: Increasing resilience of the transport network to climate change</p>
<p>In the shorter term, we will look to reduce vulnerability to the transport network from flooding and extreme weather events by delivering specific adaptation improvements. These will be prioritised along key routes that are also within Flood Risk Zone 3, in order to minimise economic disruption.</p> <p>To ensure that vulnerability to climate change impacts of the Southend transport network is minimised in the longer-term, we will integrate climate change adaptation considerations into the design of all new transport schemes, including through the maintenance regime.</p> <p>We will also work with Network Rail to ensure that climate change vulnerability is reduced along the Southend rail network, particularly in relation to landslip of the railway embankment.</p>
<p>Policy 9: Maintaining Air Quality</p>
<p>In order to ensure that no Air Quality Management Areas are declared in Southend from transport, we will require an Air Quality Assessment for all development proposals that:</p> <ul style="list-style-type: none"> • Will result in increased congestion, or a change in traffic volumes and/or vehicle speed; • Would significantly alter the traffic composition in an area, such as bus stations, HGV parks and new road layouts; • Include new car, coach or lorry parks; and • May affect sensitive areas or areas nearing air quality threshold limits.
<p>Policy 10: Protecting and Enhancing the Natural and Built Environment</p>
<p>We will give a high priority to conserving and enhancing Southend’s natural and built environment when making transport decisions. When</p>

designing and implementing transport improvements and maintenance schemes we will ensure that they:

- Contribute to the quality of the built environment by improving the public realm;
- Maintain the integrity our historical townscape, cultural heritage assets and their settings;
- Protect and enhance our biodiversity and their habitats;
- Improve water quality; and
- Minimise noise and light pollution.

Our Transport Strategy to Create Safer Southend

Policy 11: Safety Partnerships

We will continue to play a key role in the Road Safety Partnership. Other representatives in the Partnership include the Health Authority, police and groups representing key road user groups such as motorcyclists. We are especially keen to work even more closely with the police and others to instil greater public confidence, both in terms of road safety and personal security. This will include supporting the police in their continued efforts to target road safety offences such as speeding and drink driving. We will also endeavour to develop and/ or support local community groups.

Policy 12: Safer Communities

All residential areas in Southend will have 20mph zones by the end of this Local Transport Plan period; 2026. The priorities for 20mph zones and related safer community interventions will be neighbourhoods in those areas:

- With a relatively high number of vulnerable road user casualties;
- With high levels of concern about personal security, especially at night;
- That are around schools;
- With high levels of deprivation;
- Where interventions could be integrated with regeneration initiatives; and
- Where interventions would have strong community support.

Policy 13: Road Safety Engineering

Road safety engineering schemes will need to be good value for money. Priorities will be determined by:

- The total number of injury accidents;
- The number of Killed or Seriously Injured accidents;
- The number of children injured;
- The number of pedestrians and cyclists injured;
- The number of motorcyclists injured;
- The number of young drivers injured; and
- The number of older drivers injured.

It will also be necessary to make sure the design of any road safety scheme does not discourage walking, cycling or public transport use.

Policy 14: Education, Training and Publicity

These measures will focus on vulnerable as well as high risk road user groups and high risk behaviour, principally:

- Children, especially as pedestrians and cyclists. This will often be delivered as part of the school set up such as through the school curriculum, the School Crossing Patrol Service, and Safer Routes to School. The latter will be encouraged to use behavioural interventions, such as the walking bus. The priority will be children in the more deprived areas around the town centre;
- Young drivers and motorcyclists;
- Older road users. We will increasingly support older road users to improve their safety, and thereby stay active, healthy and independent; and
- Speeding and reckless behaviour. We will continue to support the Essex Safety Camera Partnership’s Speed Diversion courses²¹. We will also support publicity campaigns targeting speeding and other high risk road user behaviour such as drink or drug driving, seat belt wearing, and mobile phone use as determined by prevailing Road Traffic Accident causes and national campaigns.

Policy 15: Maintenance and Safety

Key priorities will be:

- Street lighting repairs and improvements should be focused particularly on the key walking routes and cycle routes, especially in those parts of the town with higher concerns about safety after dark;
- An increasing need to reduce flooding incidents, especially on fast roads in flood risk areas;
- Good skid resistance on bends, the approaches to junctions and pedestrian crossings, along on-road cycle routes, and in the vicinity of schools where there is an increased chance of children dashing into the road. This will be especially important where 20mph zones have not been implemented;
- Pot holes and similar hazards on cycle routes; and
- Tripping hazards on key walking routes as well as in the vicinity of hospitals, GPs, retirement homes and sheltered housing so as to reduce the risk to elderly and other vulnerable pedestrians.

Our Transport Strategy to Reduce Inequalities in Health and Wellbeing and for a More Accessible Southend

Policy 16: To improve accessibility to Southend Hospital from the East of the Borough by public transport

Key priorities will be:

- Work with service operators to ensure the supply of accurate and

²¹ Note that this is a draft policy and at the current time the future of the partnership is uncertain.

<p>up to date travel and route information, both at bus stops and in other public places such as libraries;</p> <ul style="list-style-type: none"> • Work with service operators to assess bus frequencies and timings to allow for changes to be made that will facilitate increased use for hospital visits; • Work with bus operators and the PCT to ensure a coordinated approach to delivering bus services that serve the hospital; and • Work with Southend hospital to promote visitor travel plans.
<p>Policy 17: To tackle health inequalities by increasing the number of adults and children who walk and cycle for work, education, and leisure</p>
<p>Key priorities will be:</p> <ul style="list-style-type: none"> • Use Southend’s status as a Cycle Town to facilitate the promotion of cycling as a way of life; • Focus walking and cycling activities and promotion in schools were obesity levels the highest; • Focus walking and cycling promotion in the most deprived wards; • Focus walking and cycling improvements on key employment areas; • To ensure all walking and cycling routes, including street lighting, are maintained to a high standard; and • Implement a cycle hire scheme.
<p>Policy 18: To ensure all public transport is fully accessible by 20XX²².</p>
<p>Key priorities will be:</p> <ul style="list-style-type: none"> • Work with bus operators to ensure the entire bus fleet and all bus boarding points are fully accessible; • Work with rail operators to ensure all stations in the Borough implement Access for All improvements as part of their station travel plans, prioritising those stations with a higher proportion of users that are either elderly or have physical disabilities; and • Ensure pavements and pedestrianised areas are maintained to a high standard to aid ease of mobility for these groups.

Assessment Rationale

10.5 An assessment rationale was developed that has been used when assessing the preferred strategy against the SEA objectives. This can be seen in Table 10.2.

Table 10.2 – Assessment Rationale

No	SEA Objective	Assessment Rationale
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²² Note that in the copy of the LTP3 that was assessed, this date was still to be confirmed.

No	SEA Objective	Assessment Rationale
1.	To maintain and improve local air quality	<p>Consideration of whether the policies would:</p> <ul style="list-style-type: none"> • result in reductions or increases in traffic derived pollutant concentrations. • lead to an increase of AQMAs. • effect of the use of more sustainable modes of transport, reductions in vehicle use leading to improvements in air quality. • recognise the importance of awareness and marketing campaigns promoting the issue of improving air quality in the region. • instigate financial incentives and measures on the basis of the polluter pays principle? (e.g. congestion charge).
2.	To conserve and enhance the Borough's biodiversity, important wildlife habitats and geodiversity	<p>Consideration of whether the policies would:</p> <ul style="list-style-type: none"> • have a positive or negative effect on designated sites and locally important habitats and species (either through fragmentation or proximity effects). • ensure that wildlife networks and corridors are protected or created. • affect greenfield and/or brownfield land which have significant biodiversity or geological interest of recognised local importance. • explore opportunities for new habitat creation and enhancement.
3.	To maintain and improve the quantity and quality of ground, sea and river waters	<p>Consideration of whether the policies would:</p> <ul style="list-style-type: none"> • protect the quality of surface and groundwater resources • protect the quality of sea water • minimise the use of impermeable hard surfacing
4.	To ensure efficient use of land and maintain the resource of productive soil	<p>Consideration of whether the policies would:</p> <ul style="list-style-type: none"> • increase or remediate soil contamination. • safeguard soil quantity and quality including high quality agricultural land. • involve land take of greenfield or brownfield land • provide safeguarding against pollution incidents affecting soil
5.	To ensure resilience to	<p>Consideration of whether the policies would:</p>

No	SEA Objective	Assessment Rationale
	climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions	<ul style="list-style-type: none"> • have positive or negative effects on flood risk to people and property from rivers and watercourses and whether unacceptably high flood risk (Zone 3 areas) are avoided. • allow successful adaptation to the predicted changes in weather conditions and frequency of extreme events • integrate with the local green infrastructure network.
6.	To maintain and enhance the quality and character of the landscape and townscape	<p>Consideration of whether the policies would:</p> <ul style="list-style-type: none"> • seek directly or indirectly, to maintain and enhance the quality of the landscape and townscape. • have a direct effect on existing natural environment assets. • seek to improve public realm (e.g. through sympathetic design).
7.	To decarbonise transport to reduce transport related CO ₂ emissions	<p>Consideration of whether the policies would:</p> <ul style="list-style-type: none"> • incorporate energy efficient design. • utilise renewable energy generating technologies. • promote the use of sustainable forms of transport and reduce reliance on the private car, thus reducing greenhouse gas (GHG) emissions, especially CO₂ emissions. • Promote better coordination and integration of different modes.
8.	To reduce the amount of waste requiring final disposal through minimisation, re-use and recycling	<p>Consideration of whether the policies would:</p> <ul style="list-style-type: none"> • directly reduce or increase the generation of waste and recycling of waste. • directly reduce or increase the use of natural resources.
9.	To reduce noise, vibration and light pollution	<p>Consideration of whether the policies would:</p> <ul style="list-style-type: none"> • increase or decrease noise and vibration levels through consideration to the type of transport, networks and proximity of receptors. • increase or decrease lighting levels through consideration to the type of transport, networks and

No	SEA Objective	Assessment Rationale
		<p>proximity of receptors.</p> <ul style="list-style-type: none"> • lead to an increase in noise, vibration, air, water and light pollution, affecting species
10.	To improve overall levels of health and reduce health inequalities between different groups and different areas	<p>Consideration of whether the policies would:</p> <ul style="list-style-type: none"> • improve or worsen access to high quality health facilities and contribute towards reducing illness and death rates. • increase or decrease overall air pollution levels, resulting in effects on human health. • improve or worsen access to recreational opportunities such as green spaces, thereby influencing healthy lifestyles. • improve or worsen health in particular for those groups that are deprived. • promote and enable measures to help all residents to adopt healthy lifestyles. • support publicity or awareness-raising campaigns and/or education and practical offers to promote active modes of transport or physical activity.
11.	To reduce road traffic and congestion through modal shift to more sustainable transport options	<p>Consideration of whether the policies would:</p> <ul style="list-style-type: none"> • promote sustainable transport mode in order to encourage modal shift and thus reduce congestion.
12.	To promote safe communities, reduce crime and the fear of crime	<p>Consideration of whether the policies would:</p> <ul style="list-style-type: none"> • reduce crime and the fear of crime through indirect measures such as incorporating particular design features in new development (such as additional lighting, CCTV) and enhancing natural surveillance.
13.	To improve accessibility and transport links to services, facilities and opportunities	<p>Consideration of whether the policies would:</p> <ul style="list-style-type: none"> • promote accessibility (particularly on foot or by cycling or public transport) to key services and facilities, employment sites and open space • improve choices (e.g. car clubs to pool together single occupancy car users).

No	SEA Objective	Assessment Rationale
		<ul style="list-style-type: none"> • improve networks (e.g. new or extended cycle routes and strategic walking routes). • improve facilities (e.g. provision of cycle hire and lockers). • improve integration (e.g. providing quality interchanges). • improve frequency and regularity of services. • improve capacity. • improve efficiency (e.g. journey times). • improve reliability (e.g. travel planning and intelligent transport systems). • reduce costs (e.g. targeted fare concessions, smart ticketing which allows passengers to more efficiently and cheaply use different transport modes). • use publicity and awareness raising campaigns (e.g. cycle training), school and education campaigns.
14.	To improve road safety	<p>Consideration of whether the policies would:</p> <ul style="list-style-type: none"> • lead to a reduction in speeds, thereby influencing numbers of people killed or injured. • ensure safe paths for walking and cycling. • promote training for drivers to promote safe driving. • promote safety talks with children and young people to raise awareness of their safety as pedestrians and cyclists.
15.	To maintain and enhance the quality and distinctiveness of the Borough's built environment and cultural heritage	<p>Consideration of whether the policies would:</p> <ul style="list-style-type: none"> • conserve, protect and enhance the region's cultural assets and their settings. • have a direct effect on non-designated features of local historical and archaeological interest. • ensure sympathetic integration of transport infrastructure with its surroundings to preserve local character. • contribute to improve local air quality and decrease traffic-related noise and vibration.
16.	To improve efficiency of	<p>Consideration of whether the policies would:</p> <ul style="list-style-type: none"> • have a positive effect on improving the efficiency of

No	SEA Objective	Assessment Rationale
	transport networks and physical infrastructure standards	the transport network thus providing environmental improvements.

Assessment Results

10.6 Full assessment tables can be found in Appendix F. The Summary assessment results can be seen in Table 10.3, below. A discussion of the results follows for each policy group.

Table 10.3 – Summary Assessment Results

SEA Objective	POLICY GROUP Our Transport Strategy...			
	... for a Thriving and Sustainable Local Economy in Southend	...to Minimise Environmental Impact, Promote Sustainability for a Greener Southend	...to Create Safer Southend	...to Reduce Inequalities in Health and Wellbeing and for a More Accessible Southend
1	+	++	0	+
2	-	++	0	0
3	-	0	+	0
4	-	-	0	0
5	+	++	+	0
6	++	++	+	+
7	++	++	0	++
8	-	-	0	-
9	-	+	0	0
10	++	+	++	+++
11	++	+	++	+
12	0	+	++	++
13	+++	+	+	++
14	+	+	+++	+
15	0	++	+	+
16	++	++	++	++
Scale of Effect (SE): +++ Large beneficial ++ Moderate beneficial + Slight beneficial 0 Neutral or no effects --- Large adverse -- Moderate adverse - Slight adverse Those effects which are either moderate or major are deemed to be significant				
No	SEA Objective			
1	To maintain and improve local air quality			
2	To conserve and enhance the Borough's biodiversity, important wildlife habitats and geodiversity			
3	To maintain and improve the quantity and quality of ground, sea and			

	river waters
4	To ensure efficient use of land and maintain the resource of productive soil
5	To ensure resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions
6	To maintain and enhance the quality and character of the landscape and townscape
7	To decarbonise transport to reduce transport related CO ₂ emissions
8	To reduce the amount of waste requiring final disposal through minimisation, re-use and recycling
9	To reduce noise, vibration and light pollution
10	To improve overall levels of health and reduce health inequalities between different groups and different areas
11	To reduce road traffic and congestion through modal shift to more sustainable transport options
12	To promote safe communities, reduce crime and the fear of crime
13	To improve accessibility and transport links to services, facilities and opportunities
14	To improve road safety
15	To maintain and enhance the quality and distinctiveness of the Borough's built environment and cultural heritage
16	To improve efficiency of transport networks and physical infrastructure standards

Our Transport Strategy for a Thriving and Sustainable Local Economy in Southend

- 10.7 Overall, this group of policies had a beneficial effect against the SEA Objectives, with a large beneficial effect identified against:
- SEA Objective 13 (To improve accessibility and transport links to services, facilities and opportunities): Due to this group of policies aiming to improve access to the airport, Southend town centre, Shoeburyness and the main industrial/employment areas.
- 10.8 Moderate beneficial effects were identified against the following SEA Objectives:
- SEA Objective 6 (To maintain and enhance the quality and character of the landscape and townscape): Due to improving parking and linking to streetscape improvements; supporting Shoeburyness' regeneration and generally reducing congestion across the borough.
 - SEA Objective 7 (To decarbonise transport to reduce transport related CO₂ emissions): Due to relieving congestion and encouraging modal shift.

- SEA Objective 10 (To improve overall levels of health and reduce health inequalities between different groups and different areas): Through improving access to health facilities and having beneficial effects on air quality.
- SEA Objective 11 (To reduce road traffic and congestion through modal shift to more sustainable transport options): Due to direct measures aimed at reducing congestion e.g. carsharing schemes and bus priority measures.
- SEA Objective 16 (To improve efficiency of transport networks and physical infrastructure standards): Due to reducing congestion and effective maintenance of the network.

10.9 Of the non-significant effects, there were five slight adverse effect, three no/neutral effects and three slight beneficial effects.

Our Transport Strategy to Minimise Environmental Impact, Promote Sustainability for a Greener Southend

10.10 Overall, this group of policies had a beneficial effect against the SEA Objectives.

10.11 There were no significant adverse effects.

10.12 Significant moderate beneficial effects were identified against the following SEA Objectives:

- SEA Objective 1 (To maintain and improve local air quality): Due to direct actions to maintain and improve air quality e.g. through development control and also measures such as electric vehicle charging points.
- SEA Objective 2 (To conserve and enhance the Borough's biodiversity, important wildlife habitats and geodiversity): Due to directly protecting biodiversity through development control decisions and also indirect improvements e.g. through the reduction of carbon emissions.
- SEA Objective 5 (To ensure resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions): Due to the inclusion of policy 8 that is specifically related to tackling climate change and also inclusion of adaptation measures such as SUDS.
- SEA Objective 6 (To maintain and enhance the quality and character of the landscape and townscape): Due to promotion of smarter choices measures and a specific policy on protecting the natural and built environment.
- SEA Objective 7 (To decarbonise transport to reduce transport related CO₂ emissions): Due to promotion of smarter travel choices and low emission vehicle infrastructure.
- SEA Objective 15 (To maintain and enhance the quality and distinctiveness of the Borough's built environment and cultural heritage): Due to protection of heritage through Policy 10.

- SEA Objective 16 (To improve efficiency of transport networks and physical infrastructure standards): Due to improved resilience of the system.

10.13 Of the non-significant effects, there were two slight adverse effect, one no/neutral effect and six slight beneficial effects.

Our Transport Strategy to Create Safer Southend

10.14 Overall, this group of policies had a beneficial effect against the SEA Objectives.

10.15 There were no significant adverse effects.

10.16 A large beneficial effect was identified against:

- SEA Objective 14 (To improve road safety): Due to this group of policies main priority being to create a safer borough.

10.17 Moderate beneficial effects were identified against the following objectives:

- SEA Objective 10 (To improve overall levels of health and reduce health inequalities between different groups and different areas): Due to this group of policies seeking to reduce the number of people killed or seriously injured and the introduction of a 20mph speed limit.
- SEA Objective 11 (To reduce road traffic and congestion through modal shift to more sustainable transport options): Due to the introduction of 20mph zones and education encouraging walking and cycling.
- SEA Objective 12 (To promote safe communities, reduce crime and the fear of crime): Due to working together with police and promoting maintenance along those areas with higher concerns for security.
- SEA Objective 16 (To improve efficiency of transport networks and physical infrastructure standards): Due to maintaining the network whilst considering safety concerns.

10.18 Of the non-significant effects, six were no/neutral effect and five had slight beneficial effects.

Our Transport Strategy to Reduce Inequalities in Health and Wellbeing and for a More Accessible Southend

10.19 Overall, this group of policies had a beneficial effect against the SEA Objectives.

10.20 There were no significant adverse effects.

10.21 A large beneficial effect was identified against:

- SEA Objective 10 (To improve overall levels of health and reduce health inequalities between different groups and different areas): Due to the primary aim of the group of policies being to promote Health and Wellbeing.

10.22 Moderate beneficial effects were identified against the following objectives:

- SEA Objective 7 (To decarbonise transport to reduce transport related CO₂ emissions): Due to promoting sustainable transport options to the hospital and promoting walking and cycling.
- SEA Objective 12 (To promote safe communities, reduce crime and the fear of crime): Due to maintenance of walking routes, and coordination of public transport times.
- SEA Objective 13 (To improve accessibility and transport links to services, facilities and opportunities): Due to improving accessibility to health facilities.
- SEA Objective 16 (To improve efficiency of transport networks and physical infrastructure standards): Due to improving physical infrastructure e.g. cycle stands etc.

10.23 Of the non-significant effects, there was one slight adverse effect, five no/neutral effects and five slight beneficial effects.

Recommendations for improvements to the LTP3 Strategy

10.24 The following recommendations, grouped by policy area, were made to improve the overall sustainability performance of the LTP3 Strategy:

Our Transport Strategy for a Thriving and Sustainable Local Economy in Southend

- Policy 4 seeks to maintain the transport network to a high standard and ensure it remains resilient to external events; although the policy title is related to resilience, there is no detail in the policy or accompanying text as to how this will be implemented in practice. The supporting text should clarify how this will be implemented.
- The wording of Policy 6 should be updated to include greater reference to approach to resilience to climatic events e.g. storms and flooding.
- The movement of freight has generally been neglected in preparation of the LTP3. There is a small reference to routing freight away from residential areas, but this could be developed further to ensure environmental benefits are realised (e.g. is there potential for freight consolidation in the borough?).

Our Transport Strategy to Minimise Environmental Impact, Promote Sustainability for a Greener Southend

- Southend is part of the Greengrid network that covers the Thames Gateway in South Essex and aims to encourage the development of a network of open spaces and green links throughout the area. This includes, amongst other things, the creation of greenways for use by cyclist, pedestrians and horse riders. However, there is no reference to this in the LTP3; reference should be

made to it. Additional emphasis could be placed on the importance of considering the creation of wildlife corridors through the Greengrid. Reference should be made in Policy 10 to the need for the design of new provision to take the needs of biodiversity into consideration (e.g. avoid disturbance and intrusive lighting) – this could potentially deliver additional benefits against SEA objective 2.

- Inclusion of a commitment to maintaining Greenfield run-off rates in the development of new infrastructure, combined with a commitment to ensure that the design of infrastructure is sensitive to the avoidance of disturbance to flora and fauna is likely to increase the benefits against SEA objectives 2, 3 and 5. This should be included in Policy 8 and cross-referenced in Policy 10.
- The LTP3 should make a commitment to using construction as a means of introducing materials that are resilient to climate change and introducing additional green infrastructure as part of the proposed schemes, where appropriate. This should be included in Policy 10.
- The LTP3 should recognise the opportunities to use the ITS and maintenance programmes as a means of introducing renewable energy to transport installations and incrementally improving the energy efficiency of the road network, thus increasing the benefits against SEA objective 7. This should be included on Policy 7 and cross-referenced in Policy 1.
- The LTP3 could include a greater level of detail regarding targeted improvements to the noise environment, specifying key locations and the way in which the Plan will contribute to Noise Action Planning, increasing this way performance of SEA objective 9. This should be included in Policy 10.

Our Transport Strategy to Create Safer Southend

- Ensure safety considerations are incorporated into visitor travel plans for Southend Hospital; Policy 16 should be updated accordingly.

Our Transport Strategy to Reduce Inequalities in Health and Wellbeing and for a More Accessible Southend

- Ensure that any station improvements undertaken as part of Policy 18 are aligned with public realm aspirations of the borough, thus improving townscape; the policy should be updated accordingly.
- Any improvements under Policy 18 e.g. station improvements, should be undertaken with consideration of crime and designing schemes so that crime and fear of crime are minimised; the policy should be updated accordingly.

General

- The LTP3 could benefit from greater clarity in terms of the planned provision of new routes for a range of transport modes. Therefore, it is recommended that a route-map be added to the Plan to improve clarity.

11. Mitigation

Introduction

- 11.1 The term mitigation encompasses any approach that is aimed at preventing, reducing or offsetting significant adverse environmental effects that have been identified. In practice, a range of measures applying one or more of these approaches is likely to be considered in mitigating any significant adverse effects predicted as a result of implementing LTP3. In addition, it is also important to consider measures aimed at enhancing positive effects. All such measures are generally referred to as mitigation measures.
- 11.2 However, the emphasis should be in the first instance on proactive avoidance of adverse effects. Only once alternative options or approaches to avoiding an effect have been examined, should mitigation then examine ways of reducing the scale/importance of the effect.
- 11.3 Mitigation can take a wide range of forms, including:
- Refining options in order to improve the likelihood of positive effects and to minimise adverse effects;
 - Technical measures (such as setting guidelines) to be applied during the implementation stage;
 - Identifying issues to be addressed in project environmental impact assessments for certain projects or types of projects;
 - Proposals for changing other plans and programmes; and
 - Contingency arrangements for dealing with possible adverse effects.

Mitigation measures

- 11.4 Mitigation measures have been proposed, where appropriate, in the assessment tables in Appendix F. A selection of these is shown below as well as additional measures:

Mitigation of Construction Impacts

- Good Environmental Management should be practised during any construction project:
 - Construction Environmental Management Plan (CEMP) to be prepared;
 - Site Waste Management Plan (SWMP) to be prepared;
 - Silt traps to reduce run off to water courses;
 - Management of dust generation;
 - Hoarding to reduce noise and visual impact; and

- Translocation of species if necessary.
- Appropriate traffic management and signage.
- The footprint of any construction schemes should be minimised wherever possible in order to reduce land take and loss of ecological resource.
- Consideration of groundwater protection zones during planning and construction phase.

Natural Environment

- Sustainable Urban Drainage Systems (SUDS) should be employed where appropriate to limit surface run off.
- Ensure that any public realm improvements such as new bus shelters and kerbs are designed sensitively to landscape and townscape. Use of sympathetically designed sustainable streetscape furniture and materials.

Materials

- Environmentally-sensitive materials and technologies should be incorporated as standard within transport network maintenance.
- Use of materials and technology that decarbonise the transport network should be incorporated into the maintenance programme.
- Ensure the efficient use of materials and resources in any programmes.

Built Environment

- Mitigation may need to be considered where the noise increases in the long-term are 3 dB or greater. Potential noise mitigation measures could include the use of alternative quieter road surfaces and roadside noise barriers.
- Light pollution can be minimised through the use of street lighting that has a downward beam. The LTP3 could also consider the outcomes of the experiment of turning off street lighting after midnight currently being implemented and monitored by the Essex County Council.
- All adaptation schemes should be implemented with consideration of the townscape and landscape to ensure that any measures are sympathetic and do not adversely affect the quality and character of the landscape and townscape.

12. Monitoring Programme

- 12.1 The SEA Directive states that '*member states shall monitor the significant environmental effects of the implementation of plans and programmes.....in order, inter alia, to identify at an early stage unforeseen adverse effects, and to be able to undertake appropriate remedial action*' (Article 10.1). In addition, the Environmental Report should provide information on a '*description of the measures envisaged concerning monitoring*' (Annex I (i)) (Stage E).
- 12.2 SEA monitoring will cover significant social and environmental effects and it involves measuring indicators that will enable the establishment of a causal link between the implementation of the plan and the likely significant effects (both positive and negative) being monitored. In line with the SEA Directive, these significant positive and negative effects should be monitored with the implementation of LTP3.
- 12.3 The strategic environmental assessment of the LTP3 has identified significant beneficial effects with regards to certain SEA objectives that will require monitoring. The SEA framework (Table 7.1 –SEA Framework) contains indicators that could be used to monitor significant effects post implementation.
- 12.4 The following significant beneficial effects (direct as well as cumulative effects) were identified by the assessment and should form the basis of the monitoring programme:
- SEA Objective 1: To maintain and improve local air quality
 - SEA Objective 2: To conserve and enhance the Borough's biodiversity, important wildlife habitats and geodiversity
 - SEA Objective 5: To ensure resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions
 - SEA Objective 6: To maintain and enhance the quality and character of the landscape and townscape
 - SEA Objective 7: To decarbonise transport to reduce transport related CO₂ emissions
 - SEA Objective 10: To improve overall levels of health and reduce health inequalities between different groups and different areas
 - SEA Objective 11: To reduce road traffic and congestion through modal shift to more sustainable transport options
 - SEA Objective 12: To promote safe communities, reduce crime and the fear of crime
 - SEA Objective 13: To improve accessibility and transport links to services, facilities and opportunities

- SEA Objective 14: To improve road safety
- SEA Objective 15: To maintain and enhance the quality and distinctiveness of the Borough's built environment and cultural heritage
- SEA Objective 16: To improve efficiency of transport networks and physical infrastructure standards

- 12.5 No significant adverse effects were identified and therefore there is no monitoring requirement for adverse effects.
- 12.6 The monitoring programme outlined in Table 12.1 is preliminary and will be confirmed at the time of the adoption of the Southend LTP3.
- 12.7 The programme may still evolve based on the results of public consultation, dialogue with environmental and other consultees and the identification of additional data sources on the basis that, in many cases, information will be provided by outside bodies. It should be noted, however, that there will be a need for careful consideration of the practicalities of monitoring to be taken into account in shaping the final monitoring strategy. The emphasis must be on creating a balanced, effective, yet achievable set of monitoring criteria

Table 12.1 - Proposed Monitoring Programme

No.	SEA Objective against which a significant effect has been predicted (without mitigation)	Indicator(s) to be Used ²³	Suggested frequency of analysis of monitoring data/mitigation	Responsibility for undertaking monitoring
1	To maintain and improve local air quality	Levels of main pollutants for national air quality targets	Full record – constantly update from monitoring	SBC
		NI 194: Level of air quality – reduction in NOx and primary PM10 emissions through local authority's estate and operations	Annually	SBC
2	To conserve and enhance the Borough's biodiversity, important wildlife habitats and geodiversity	Type, area and condition of designated sites and habitats	Full record – constantly update	SBC working with Natural England
		Type, area and condition of locally important not designated sites and habitats	Annually	SBC
		Number of RIGGS	Full record – constantly update	SBC
		Populations and spatial distribution of priority species	Full record – constantly update	SBC working with Natural England

²³ In many cases National Indicators are proposed. In October 2010 it was announced that National Indicators were no longer to be mandatory and a new reporting process would be announced in April 2011. Given that many authorities may still continue to report on National Indicators and in light of an alternative approach yet to be disclosed, National Indicators are still deemed to be valid indicators for LTP3 monitoring.

		Number of schemes promoting conservation and enhancement of biodiversity	Full record – constantly update	SBC working with Natural England
		Area and condition of designated sites affected by the LTP proposals	Full record – constantly update	SBC working with Natural England
		Area and condition of locally important sites affected by LTP proposals	Annually	SBC
		Number of NI 197 qualifying local sites within the transport estate that are in positive management	Annually	SBC
5	To ensure resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions	Area of land at risk of flooding	Annually	SBC working with Environment Agency
		Number of new transport schemes in flood risk areas	Annually	SBC
		% of floodplain changing to new/planned transport related schemes	Annually	SBC working with Environment Agency
		NI 188: Adapting to climate change	Annually	SBC
		NI 189: Flood and coastal erosion risk management	Annually	SBC
6	To maintain and enhance the quality and character of the landscape and townscape	Number/Area of Landscape Character Areas	Annually	SBC
		% and qualitative change in countryside character areas by character type (Countryside Character Counts)	Annually	SBC
		Number of transport measures aimed at improving local landscape character areas	Annually	SBC
		% change in landscape areas, open space areas	Annually	SBC

		and green verges; area of valued townscape harmed by change		
		Extent of Green Belts	Annually	SBC
7	To decarbonise transport to reduce transport related CO ₂ emissions	Vehicle kilometres per average weekday	Annually	SBC
		NI 186: Per capita CO ₂ emissions in the Borough	Annually	SBC
		NI 185:CO ₂ reduction from local authority operations	Annually	SBC
		CO ₂ emissions for transport sector (tonnes per year)	Annually	SBC
		Number of transport schemes featuring energy efficient design and/or use of renewable energy	Full record – constantly update	SBC
		Proportion of Council and bus fleets using alternative fuel technology.	Annually	SBC
		NI 198 Children travelling to school – mode of travel usually used	Annually	SBC
		Travel plan coverage (proportion of workforce)	Annually	SBC
		Distance travelled to work by the resident population	Annually	SBC
		Distance travelled to work by the workplace population	Annually	SBC
		Modes of transport used to travel to work by the resident population	Annually	SBC
10	To improve overall levels of health and reduce health	Life expectancy	Annually	SBC
		Number of ‘healthy walks’ schemes created	Full record – constantly update	SBC

	inequalities between different groups and different areas	% of people who describe their health as good	Annually	SBC
		% of people who describe their health as not good	Annually	SBC
		Percentage of people with a limiting long term illness	Annually	SBC
		NI 120: All-age all cause mortality rate (focus on cardiovascular and respiratory statistics)	Annually	SBC
		NI 137: Healthy life expectancy at age 65	Annually	SBC
		NI 175 Access to services and facilities by public transport, walking and cycling: b) Proportion of patients living within 30 minutes by public transport of Southend hospital	Annually	SBC
		NI 57: Children and young people’s participation in high-quality PE and sport	Annually	SBC
		NI 56: Obesity among primary school age children in Year 6	Annually	SBC
		NI 8: Adult participation in sport	Annually	SBC
11	To reduce road traffic and congestion through modal shift to more sustainable transport options	NI 167 Congestion – average journey time per mile during the morning peak	Annually	SBC
		NI 177: Local bus passenger journeys originating in the authority area	Annually	SBC
		Vehicle kilometres per average weekday	Annually	SBC
		Composition and volume of road traffic	Annually	SBC
		Morning peak time - average journey time	Annually	SBC

	Congestion (vehicle delay)	Annually	SBC
	Number of junction improvement schemes implemented as percentage of total identified within the Borough	Annually	SBC
	% of vehicles with more than one occupant on key routes in the town centre	Annually	SBC
	Modal Split	Annually	SBC
	NI 178: Bus services running on time	Annually	SBC
	Public transport patronage	Annually	SBC
	Satisfaction with Local Bus Services	Annually	SBC
	% increase in number of bus passenger journeys on key routes	Annually	SBC
	Number of Green Travel Plans and School Travel Plans	Annually	SBC
	Number of 'walking bus' routes at Primary School	Annually	SBC
	% of walking and cycling trips per annum	Annually	SBC
	Annualised index of cycling trips	Annually	SBC
	Number of schemes for improving transport coordination and integration, including interchange between cycling and other forms and travel	Annually	SBC
	% of residents who think that for their local area, over the past three years, the level of traffic	Annually	SBC

		congestion has got better or stayed the same		
		Satisfaction with Local Public Transport Information	Annually	SBC
		Bus passenger journeys per day	Annually	SBC
12	To promote safe communities, reduce crime and the fear of crime	Overall Crime Rates	Annually	SBC informed by the Police
		Vehicle crime per 1000 population	Annually	SBC informed by the Police
		Burglary offences per 1000 population	Annually	SBC informed by the Police
		Robberies per 1000 population	Annually	SBC informed by the Police
		Number of reported crimes on public transport	Annually	SBC informed by the British Transport Police
		Percentage of residents who feel fairly safe or very safe outside during the day	Annually	SBC informed by the Police
		Percentage of residents who feel fairly safe or very safe outside after dark	Annually	SBC informed by the Police
13	To improve accessibility and transport links to services, facilities and opportunities	ha of accessible green space per 1000 population	Annually	SBC
		NI 175 Access to services and facilities by public transport, walking and cycling: a) Proportion of 16-19 yr olds living within 30 minutes by public transport of 4 main centres of Post 16 education	Annually	SBC

		NI 176: Working age people with access to employment by public transport	Annually	SBC
		Pedestrian crossings with facilities for disabled people	Full record – constantly update	SBC
		Number of LTP3 initiatives to improve access to essential facilities	Annually	SBC
		LTP3 initiatives to improve access to essential facilities for residents in the top 10% most deprived areas in the country	Annually	SBC
		Number of improvement schemes for pedestrian and cycle routes and green networks	Annually	SBC
		% of bus fleet complying with DiPTAC Levels of Accessibility for disabled and mobility impaired passengers	Annually	SBC
		Use of targeted fare concessions	Annually	SBC
14	To improve road safety	NI 47 People killed or seriously injured in road traffic accidents	Annually	SBC
		Rate of road accidents	Annually	SBC
		Total Number of children killed or seriously injured	Full record – constantly update	SBC
		Total slight injuries per vehicle kilometres	Full record – constantly update	SBC
15	To maintain and	Number of LTP proposals contributing to improving	Annually	SBC

	enhance the quality and distinctiveness of the Borough's built environment and cultural heritage	the built environment		
		Number of known and unknown archaeological sites affected by transport schemes	Full record – constantly update	SBC
		NI 195: Improved street and environmental cleanliness - levels of a) litter, b) detritus, c) graffiti and d) fly posting.	Annually	SBC
16	To improve efficiency of transport networks and physical infrastructure standards	Number of schemes aiming to modernise and upgrade the transport systems	Full record – constantly update	SBC
		NI 168: Principal roads where maintenance should be considered	Annually	SBC
		NI 169: Non-principal roads where maintenance should be considered	Annually	SBC
		Unclassified Road Condition	Annually	SBC
		Footway condition	Annually	SBC
		Condition of Bridges	Annually	SBC
		Repair of Street Lighting	Annually	SBC
		NI 178: Bus services running on time	Annually	SBC

13. Conclusions

- 13.1 This Environmental Report sets out the SEA process and its key findings in relation to Southend's LTP3. Overall, it is considered that the suite of policies contained in the December 2010 Preferred Strategy offer potentially significant beneficial environmental effects on air quality, biodiversity, climate change adaptation and mitigation, landscape and townscape, health, traffic congestion, safe communities, accessibility, road safety, cultural heritage and efficiency of transport networks. No significant adverse effects are predicted.
- 13.2 The December 2010 Preferred Strategy was informed by the results of the assessment on the draft Preferred Strategy (September 2010) which made recommendations to further improve the environmental performance of LTP3. This resulted in a number of amendments to the Preferred Strategy including four new policies and a combination of policies as below:
- New Policy 7: Ensure the movement of freight in Southend is efficient, and does not adversely impact on residents or the environment
 - New Policy 8: Support businesses, tourism and regeneration
 - New Policy 12: Make use of technology to help maintain the flow of traffic and provide information to travellers
 - New Policy 19: Improve north south accessibility in the west of the Borough
 - There has been a combination of Draft Policy 11: Safety Partnerships and Draft Policy 12: Safer Communities to form Consultation Preferred Option Policy 14: Support safety partnerships and promote safer communities
- 13.3 A very brief assessment of these additional policies at this stage indicates that they are likely to offer significant beneficial effects against a number of the SEA Objectives.
- 13.4 Policy 7 on Freight, seeks to ensure that the movement of freight in Southend is efficient e.g. through the use of Intelligent Transport Systems and avoiding unsuitable roads. This is likely to have beneficial effects on air quality; landscape and townscape; noise, vibration and light pollution; road safety and efficiency of transport networks. There are unlikely to be significant adverse effects arising from this policy.
- 13.5 Policy 8 on Supporting Businesses, Tourism and Regeneration is concerned with promoting sustainable travel options and managing travel for events as well as considering implementation of river transport for business/leisure/tourist uses. This is likely to offer beneficial effects on landscape and townscape; noise, vibration and light pollution; reducing congestion through modal shift; road safety and efficiency of transport networks. There may be an adverse effect on water

quality as there is to be an increase in the amount of river transport traffic. There are unlikely to be significant adverse effects arising from this policy.

- 13.6 Policy 12 on Making use of technology to help maintain traffic flow and provide information looks to use Intelligent Transport Systems to smooth traffic flows; Variable Message Signs for key routes; Real Time Passenger Information coverage for bus users and an integrated Smart Card scheme. This policy will generally have beneficial effects, primarily through smoothing the flow of traffic having beneficial effects on air quality; decarbonising transport; noise vibration and light pollution; road safety and efficiency of transport networks. There are unlikely to be significant adverse effects arising from this policy.
- 13.7 Policy 19 aims to improve north south accessibility in the west of the Borough through working with bus operators to improve services and ensuring walking and cycling routes are clearly marked and well maintained. This policy is likely to offer beneficial effects to air quality; decarbonising transport; health; accessibility and efficiency of transport networks. There are unlikely to be significant adverse effects arising from this policy.
- 13.8 Policy 14 on supporting safety partnerships and promoting safer communities is a combination of two draft policies that were included in the assessment of the September 2010 draft. As the content of the policy remains consistent with that which was assessed as part of the draft Preferred Strategy Assessment, the previous assessment remains valid.

14. Acronyms

Acronym	Meaning / Definition
AQMA	Air Quality Management Area
AMR	Annual Monitoring Report
BAP	Biodiversity Action Plan
BVPI	Best Value Performance Indicator
CLG	Communities and Local Government
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
DaSTS	Delivering a Sustainable Transport Strategy
dB(A) Leq	Leq is a symbol that represents 'Equivalent Continuous Noise Level'. The result is expressed in dB(A), which gives a reasonable approximation of the human perception of loudness.
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
DH	Department of Health
DPD	Development Plan Document
EEC	European Economic Community
EHO	Environmental Health Officer
EIA	Environmental Impact Assessment
EqIA	Equality Impact Assessment
ER	Environmental Report
EU	European Union
GHG	Greenhouse Gases
GIS	Geographic Information System
HA	Highways Agency
HIA	Health Impact Assessment
HRA	Habitats Regulation Assessment
IMD	Indices of Multiple Deprivation
KSI	Killed or Seriously Injured (road safety)
LBAP	Local Biodiversity Action Plan
LDF	Local Development Framework
LNR	Local Nature Reserve
LDF	Local Development Framework

LSOA	Lower Layer Super Output Area
LTP	Local Transport Plan
NATA	New Approach to Appraisal
NI	National Indicator
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides. Nitric oxide (NO) and nitrogen dioxide (NO ₂) are together commonly referred to as NO _x
NNR	National Nature Reserve
ODPM	Office of the Deputy Prime Minister (now CLG)
ONS	Office for National Statistics
PCT	Primary Care Trust
PDL	Previously Developed Land
PM	Particulate Matter
PM ₁₀	Particulate Matter < 10µm
PPPs	Policies, Plans and Programmes
PPG	Planning Policy Guidance
PPS	Planning Policy Statement
PSA	Public Service Agreement
RIGGS	Regionally Important Geological and Geomorphological Sites
RoWIP	Rights of Way Improvement Plan
SA	Sustainability Appraisal
SAC	Special Area of Conservation
SBC	Southend-on-Sea Borough Council
SEA	Strategic Environmental Assessment
SPA	Special Protection Area
SPZ	Source Protection Zones
SSSI	Site of Special Scientific Interest
SuDS	Sustainable Drainage Systems
TAG	Transport Analysis Guidance
TAMP	Transport Assessment Management Plan
TaSTS	Towards a Sustainable Transport System
UK	United Kingdom
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
WHO	World Health Organisation

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- Audit Commission Profile;
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Environment Agency website: <http://www.environment-agency.gov.uk/>;

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Appendix A – Relevant Policies, Plans and Programmes

Table A.1 - Relevant Policies, Plans and Programmes and Other Documents

Plan / programme	Data source
International Plans and Programmes	
European Directives	Conservation of Natural Habitats and of Wild Flora and Fauna (92/43/EEC) Noise Directive (86/188/EEC) Conservation of Wild Birds Directive (79/409/EEC) Freshwater Fisheries Directive (78/659/EEC) Urban Wastewater Treatment Directive (91/271/EEC) Waste Directive (75/442/EEC) Hazardous Waste Directive (91/689/EEC) Water Framework Directive (2000/60/EC), Air Quality Directive (96/62/EC) and their daughter directives Environmental Liability Directive (2004/35/EC) EIA Directive (85/337/EEC) EU Directive for the Promotion of Bio-fuels for Transport (2003/30/EC) EU Directive 97/11/EC (Environmental Assessment) amending Directive 85/337/EEC
Johannesburg Declaration on Sustainable Development, 2002	http://www.un-documents.net/jburgdec.htm
Kyoto Protocol to the UN Framework Convention on Climate Change, 1997	www.unfccc.int
EU 6th Environmental Action Plan, September, 2002	www.europa.eu.int
EU Rural Development Policy 2007-2013	http://ec.europa.eu/agriculture/rurdev/index_en.htm
EU Biodiversity Action Plan to 2010 and beyond, 2006	http://ec.europa.eu/environment/nature/biodiversity/comm2006/index_en.htm
The Renewed EU Sustainable Development Strategy, 2006	http://ec.europa.eu/environment/eussd/
EU action against climate	http://www.eudevdays.eu/docs/post_2012

change: Leading global action to 2020 and beyond, 2008	en.pdf
EC Green Paper on Adaptation to Climate Change in Europe, 2007	http://ec.europa.eu/environment/climat/eccp_impacts.htm
European Funds Objective 3	http://www.esf.gov.uk/about/objectives/objectives/objective3.asp
Bern Convention on the Conservation of European Wildlife and Natural Habitats, 1979	http://conventions.coe.int/Treaty/en/Treaties/html/104.htm
Bonn Convention on the Conservation of Migratory Species of Wild Animals, 1979	http://www.cms.int/documents/convtxt/cms_convtxt.htm
EU Biodiversity Strategy, 1998	http://europa.eu/legislation_summaries/environment/nature_and_biodiversity/l28183_en.htm
Convention for the Protection of the Architectural Heritage of Europe	http://conventions.coe.int/Treaty/EN/Treaties/Html/121.htm
UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage	http://whc.unesco.org/en/conventiontext
National Plans and Programmes	
Climate Change Act 2008	http://www.opsi.gov.uk/acts/acts2008/ukpga_20080027_en_1
Building a low-carbon economy - the UK's contribution to tackling climate change, 2008	http://www.theccc.org.uk/reports
A New Deal for Transport White Paper, 1998, DfT	Hard copy
The Future of Transport White Paper, 2004, DfT	http://www.dft.gov.uk/stellent/groups/dft_about/documents/divisionhomepage/031259.hcsp
Sustainable Development Action Plan 2009, DfT	http://www.dft.gov.uk/about/howthedftworks/sda/secsusdevactplan09/
Guidance on Local Transport Plans, DfT 2009	http://www.dft.gov.uk/adobepdf/165237/ltp-guidance.pdf
Transport 10 year plan, 2001, DfT	http://www.dft.gov.uk/stellent/groups/dft_about/documents/page/dft_about_023008.hcsp

The Future of Air Transport – Government White Paper, 2003, DfT	http://www.dft.gov.uk/stellent/groups/dft_aviation/documents/divisionhomepage/029650.hcsp
Strategic Environmental Assessment Guidance for Transport Plans and Programmes TAG Unit 2.11, 'In draft' Guidance April 2009, DfT	www.webtag.org.uk
Road Traffic Reduction Act 1997	www.hmso.gov.uk
Road Traffic Reduction (National Targets) Act 1998	www.hmso.gov.uk
Road Safety Act 2006	http://www.opsi.gov.uk/Acts/acts2006/ukpga_20060049_en_1
Building Sustainable Transport into New Developments, 2008	http://www.dft.gov.uk/pgr/sustainable/sustainabletransnew.pdf
Creating Sustainable Communities: Building for the future, 2003, ODPM	http://www.odpm.gov.uk/stellent/groups/odpm_communities/documents/downloadable/odpm_comm_037677.pdf
Creating Sustainable Communities: Making it Happen: Thames Gateway and the Growth Areas, 2003. ODPM	http://www.odpm.gov.uk/stellent/groups/odpm_communities/documents/page/odpm_comm_023301.hcsp
Creating Sustainable Communities: Greening the Gateway: a Green Space Strategy for Thames Gateway, 2004, ODPM	http://www.odpm.gov.uk/stellent/groups/odpm_communities/documents/downloadable/odpm_comm_026750.pdf
Creating Sustainable Communities: Greening the Gateway: Implementation Plan, 2005, ODPM	http://www.odpm.gov.uk/stellent/groups/odpm_communities/documents/page/odpm_comm_035445.pdf
Securing the Future : UK Sustainable Development Strategy 2005	http://www.defra.gov.uk/sustainable/government/publications/uk-strategy/

<p>Planning Policy Guidance (PPGs) and Planning Policy Statement (PPSs)</p>	<p>PPS1: Delivering Sustainable Development Supplement to PPS1: Planning and Climate Change PPG2: Greenbelt PPS3: Housing PPG4: Industrial, Commercial Development and Small Firms PPS 6: Planning for Town Centres PPS7: Sustainable Development in Rural Areas PPG8: Telecommunications PPS9: Biodiversity and Geological Conservation (and accompanying ODPM circular and good practice guidance)</p>	<p>PPS10: Planning for Sustainable Waste Management PPG15: Planning and the Historic Environment PPG16: Archaeology and Planning PPS11: Regional Spatial Strategies PPS12: Local Spatial Planning PPG13: Transport PPG17: Planning for Sport, Open Space and Recreation PPG 21: Tourism PPS22: Renewable Energy PPS23: Planning and Pollution Control PPG24: Planning and Noise PPS25: Development and Flood Risk</p>
<p>Towards an Urban Renaissance: The Report of the Urban Task Force, Chaired by Lord Rogers of Riverside, 1999, ODPM</p>	<p>http://www.urbantaskforce.org/UTF_final_report.pdf</p>	
<p>Our Towns and Cities: the Future - Delivering an Urban Renaissance, Government White Paper, 2000, ODPM</p>	<p>http://www.odpm.gov.uk/stellent/groups/odpm_urbanpolicy/documents/page/odpm_urbpol_608358.hcsp</p>	
<p>Planning for a Sustainable Future: White Paper 2007</p>	<p>http://www.communities.gov.uk/publications/planningandbuilding/planningsustainablefuture</p>	
<p>UK Air Quality Strategy 2007</p>	<p>http://www.defra.gov.uk/environment/quality/air/airquality/strategy/index.htm</p>	
<p>The Air Quality Standards Regulations 2007</p>	<p>http://www.opsi.gov.uk/si/si2007/uksi_20070064_en_1</p>	

Waste Strategy for England 2007	http://www.defra.gov.uk/Environment/waste/strategy/
UK Climate Change Programme 2006	http://www.decc.gov.uk/en/content/cms/what_we_do/change_energy/tackling_climate/programme/programme.aspx
Stern Review on the Economics of Climate Change 2007	http://www.hm-treasury.gov.uk/sternreview_index.htm
Adapting to Climate Change in England: a framework for action 2008	http://www.defra.gov.uk/environment/climate/programme/index.htm
PSA Delivery Agreement 27: Lead the global effort to avoid dangerous climate change 2007	http://www.hm-treasury.gov.uk/d/pbr_csr07_psa27.pdf
DfT Delivering A Sustainable Transport System 2008	http://www.dft.gov.uk/about/strategy/transportstrategy/dasts/
Towards a Sustainable Transport System: Supporting Economic Growth in a Low Carbon World, DfT	http://www.dft.gov.uk/about/strategy/transportstrategy/htmlsustaintranssys
Low Carbon Transport: A Greener Future, DfT 2009	http://www.dft.gov.uk/pgr/sustainable/carbonreduction/
Ultra-Low Carbon Vehicles in the UK, Dft 2008	http://www.dft.gov.uk/about/strategy/whitepapers/ultralowcarbonvehicles
Carbon Pathways Analysis – Informing Development of a Carbon Reduction Strategy for the Transport Sector 2008	http://www.claverton-energy.com/carbon-pathways-analysis-informing-development-of-a-carbon-reduction-strategy-for-the-transport-sector.html
Older people: Their transport needs and requirements, DfT	http://www.dft.gov.uk/pgr/inclusion/older/olderpeopletheirtransportnee3260
Delivering a Sustainable Railway - White Paper CM 7176	http://www.dft.gov.uk/about/strategy/whitepapers/whitepapercm7176/
Powering Future Vehicles Strategy 2002	http://www.dft.gov.uk/pgr/roads/environment/poweringfuturevehicles/
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Rural Strategy 2004, Defra	http://www.defra.gov.uk/rural/policy/strategy.htm
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PSA Delivery Agreement 28: Secure a healthy natural environment for today and the future 2007	http://www.hm-treasury.gov.uk/d/pbr_csr07_psa28.pdf
Future Water: The Government's water strategy for England	http://www.defra.gov.uk/environment/quality/water/strategy/pdf/future-water.pdf
A Better Place to Play	http://www.environment-agency.gov.uk/homeandleisure/recreation/31435.aspx
Regional Plans and Programmes	
East of England Regional Environment Strategy 2003	http://www.eera.gov.uk/What-we-do/developing-regional-strategies/environment-strategy/
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Regional Planning Guidance 6 for East Anglia to 2016	http://www.gos.gov.uk/goee/docs/Planning/Regional_Planning/Regional_Spatial_Strategy/Regional_Planning_Guidance_1.pdf
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Growth and Regeneration in the Thames Gateway - Interregional Planning Statement by the Thames Gateway Regional Planning Bodies, 2004, ODPM	http://www.southeast-ra.gov.uk/our_work/planning/area_studies/thames_gateway/thames_gateway.pdf
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Regional Housing Strategy for the East of England 2005 – 2010, 2005	http://www.eera.gov.uk/What-we-do/developing-regional-strategies/regional-housing-strategy/
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Essex Police Best Value Performance Plan, contained within the Essex Local Policing Plan	http://www.essex.police.uk/cms/global/documents/pp0506.pdf
Performance Plan 2005-2006: Our Performance Results and Targets	http://www.essexcc.gov.uk/vip8/ecc/ECCW_ebsite/content/binaries/documents/Performance_plan_04b.pdf
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	s/106100.aspx
Essex Coast and Estuaries Coastal Habitat Management Plan 2002	http://www.essex-estuaries.co.uk/EastAnglianStrategies/Default.htm
Essex Shoreline Management Plan 2 (Draft)	http://www.colne-estuary.org/
UK Climate Projections (UKCP09): East of England	http://ukclimateprojections.defra.gov.uk/content/view/2147/680/Integrated Sustainability Framework for the East of England,
Essex Thames Gateway Water Cycle Study Scoping Study Final Report 2009	http://www.castlepoint.gov.uk/file/D122596_Essex_Thames_Gateway_WCS_Scoping_Report_final_v2.pdf
Local Plans and Strategies	
Southend-on-Sea Local Transport Plan 1 2001 - 2006	http://www.southend.gov.uk
Southend-on-Sea Local Transport Plan 2 2006-2011	http://www.southend.gov.uk
Sustainable Community Strategy, Building our future, 2007 – 2017	http://southendtogether.web.officelive.com/SCS.aspx
Southend-on-Sea Core Strategy 2007	http://www.southend.gov.uk/content.asp?content=10634
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Southend-on-Sea Corporate Plan 2006-09	http://www.southend.gov.uk/content.asp?content=7628
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Southend-on-Sea Design and Townscape Guide Final Draft, 2009	http://www.southend.gov.uk/content.asp?section=193

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Planning Obligations Guide to Developers Development Plan Documents Regulation 25 Pre-submission Consultation Issues and Options, September 2005	http://www.southend.gov.uk/content.asp?section=229&content=5051
Southend-on-Sea Corporate Assessment Report, September 2002	http://www.southend.gov.uk
Southend-on-Sea Corporate Plan 2005-08	http://www.southend.gov.uk
Southend-on-Sea Local Performance Plan, 2004/05	http://www.southend.gov.uk
Southend Children's Partnership Children And Young People's Plan 2007 – 2010	http://www.southend.gov.uk/resources/200809childrenandyoungpeoplesplan.pdf
Rights of Way Improvement Plan 2009	http://www.southend.gov.uk/content.asp?content=7629
Sustainable Modes of Travel Strategy 2009	http://www.southend.gov.uk/content.asp?section=473&content=12677

Southend-on-Sea Borough Council Race, Disability and Gender Equality Schemes	Hard copy
Southend Regeneration Studies Working Paper No. 3 Park & Ride Feasibility (Draft)	Hard copy
Southend Central Area Masterplan final report, March 2008	http://www.renaissancesouthend.co.uk/central-area-masterplan.aspx

Table A.2 - Health PPPs

International
Promoting and Supporting Integrated Approaches for Health and Sustainable Development at the Local Level. World Health Organisation, 2004
Transport, Environment and Health, WHO Regional Publications, European Series, No. 89
Air Quality Framework Directive 96/62/EC and Daughter Directives
Health effects of transport-related air pollution, WHO 2005
Collaboration between the health and transport sectors in promoting physical activity, WHO 2006
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National
White Paper: Our health, our care, our say: a new direction for community services 2006
White Paper: Saving lives: Our Healthier Nation, 1999
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Strong and Prosperous Communities: The Local Government White Paper (2006)
White Paper: Choosing Health: Making Healthy Choices Easier (2004)
Securing Good Health for the Whole Population, Derek Wanless 2004
PPS12 – Local Spatial Planning (June 2008)
PPG13 – Transport (March 1994)
PPG24 – Planning and Noise (Sept 1994)
Planning and Access for Disabled People: A Good Practice Guide (CLGD, March 2003)

Health Impact Assessment of Transport Initiatives A Guide, Health Scotland, MRC Social and Public Health Sciences Unit and Institute of Occupational Medicine 2007
NICE public health guidance 8: Promoting and creating built or natural environments that encourage and support physical activity, 2008
Specification for Review of Evidence for Strategic Environmental Assessment of Local Transport Plans round 3 in England, 2009
Regional
Transport, Access and Health in the East of England, Eastern Region Public Health Observatory, 2006
A Regional Health Strategy for the East of England: Healthy Futures 2005 - 2010
Sustainable Futures: Integrated Sustainability Framework for the East of England, 2009
Delivering a Sustainable Transport System, east of England Regional study

Appendix B - Sustainability and Environmental Themes

Table B.1 - Sustainability and Environmental Themes Derived from the Review of PPPs

16.	Source			Relevance to Assessment			
	Environmental / Sustainability Theme	National/International	Regional	Local	SEA Topics	NATA Sub-objective	SEA Objective
	To protect and maintain valuable natural regional assets, and to improve the wider environment by means of adequate investment and management	Directive 79/409/EEC (EC Birds Directive), Directive 92/43/EEC (EC Habitats Directive), EU 6th Environmental Action Programme, EU Sustainable Development Strategy, EU Rural Development Policy, Directive 2004/35/EC: Environmental Liability, EIA Directive, EU Biodiversity Action Plan Securing our Future: Delivering the UK Sustainable Development Strategy, PPS1, PPG2, PPS7, PPS9 (and supporting circular), PSA Delivery Agreement 28, Natural Environment and Rural Communities Act, Strategic Environmental	Regional Planning Guidance 6 for East Anglia to 2016, A Sustainable Development Framework for the East of England, Regional Environment Strategy, The East of England Plan, An Integrated Regional Strategy for the East of England, Sustainable Futures: Integrated Sustainability Framework for the East of England, 2009, East of England RSS Review Integrated Sustainability Appraisal Interim	Sustainable Community Strategy, Building our future, 2007 – 2017, Southend-on-Sea Core Strategy 2007	Landscape, Biodiversity	Landscape, Townscape, Biodiversity	10, 2

16.	Source			Relevance to Assessment			
	Environmental / Sustainability Theme	National/International	Regional	Local	SEA Topics	NATA Sub-objective	SEA Objective
		Assessment Guidance for Transport Plans and Programmes TAG Unit 2.11, DfT Delivering A Sustainable Transport System 2008	ISA Report 2009				
To protect and enhance the natural environment, including its biodiversity (habitats and species) and landscape character	European Directive: Conservation of Natural Habitats and of Wild Flora and Fauna, EU 6th Environmental Action Programme, EU Sustainable Development Strategy, Directive 79/409/EEC, Directive 92/43/EEC, EU Biodiversity Strategy, EU Biodiversity Action Plan, EIA Directive, Freshwater Fish Directive, Bern Convention on the Conservation of European Wildlife and Natural Habitats, Bonn Convention on the	Regional Planning Guidance 6 for East Anglia to 2016, A Sustainable Development Framework for the East of England, Regional Environment Strategy, Integrated Sustainability Framework for the East of England, Creating Sustainable Communities, The East of England Plan, A Revision to the Regional Spatial Strategy for the East	Sustainable Community Strategy, Building our future, 2007 – 2017, Southend-on-Sea Core Strategy 2007, Southend-on-Sea Local Biodiversity Action Plan 2006, Nature Conservation – Southend. – A Reference Guide, Essex Wildlife Trust, Essex Coast and Estuaries Coastal Habitat Management Plan 2002	Biodiversity, Flora, Fauna, Landscape	Biodiversity, Landscape	2, 6	

16.	Source			Relevance to Assessment			
	Environmental / Sustainability Theme	National/International	Regional	Local	SEA Topics	NATA Sub-objective	SEA Objective
		Conservation of Migratory Species of Wild Animals. PPS 1, PPG 2, PPS 7, PPS9, Securing our Future: Delivering the UK Sustainable Development Strategy, UK Biodiversity Action Plan, England's biodiversity framework 2006, Working with the Grain of Nature - A Biodiversity Strategy for England, Defra (2002), Wildlife and Countryside Act, The Conservation (Natural Habitats, &c.) Regulations,	of England, An Integrated Regional Strategy for the East of England, The Regional Woodland Strategy for the East of England.				
To protect and enhance the built and historic environment and encourage good quality design and use of sustainable construction	EIA Directive, European Convention on the Protection of the Archaeological Heritage, UNESCO Convention Concerning the Protection of the World Cultural and Natural	Regional Planning Guidance 6 for East Anglia to 2016, A Sustainable Development Framework for the East of England, Integrated	The Essex Design Guide 2005, Essex Design Guide Urban Place Supplement 2005, Southend-on-Sea LTP 2001/2 – 2005/6 and 2006 – 2011, Sustainable	Cultural Heritage	Heritage	15, 16	

16.	Source			Relevance to Assessment		
	Environmental / Sustainability Theme	National/International	Regional	Local	SEA Topics	NATA Sub-objective
methods for all new development.	Heritage Securing the Future - UK Government Sustainable Development Strategy, PPG 15, PPG 16, Draft Heritage Protection Bill, Ancient Monuments and Archaeological Areas Act, Heritage Protection for the 21st Century: White Paper, Planning (Listed Buildings and Conservation Areas) Act, Strategic Environmental Assessment Guidance for Transport Plans and Programmes TAG Unit 2.11, The Historic Environment: A Force for Our Future	Sustainability Framework for the East of England, The East of England Plan, A Revision to the Regional Spatial Strategy for the East of England, Regional Environment Strategy for the East of England, Creating Sustainable Communities: Making it happen: Thames Gateway and the Growth Areas	Community Strategy, Building our future, 2007 – 2017, Southend-on-Sea Core Strategy 2007			
Address the causes and implication of deprivation and social exclusion, and protect the	EU Sustainable Development Strategy, EU Rural Development Policy, EU Charter of	Regional Planning Guidance 6 for East Anglia, Regional Economic Strategy for the East of	Southend-on-Sea Corporate Plan 2006-09, Southend-on-Sea Local Performance Plan,	Population, Human Health	Access to the transport system, Consumer	9, 13

16.	Source			Relevance to Assessment		
	Environmental / Sustainability Theme	National/International	Regional	Local	SEA Topics	NATA Sub-objective
vulnerable and disadvantaged improving their accessibility to key services and facilities by various transport modes	Fundamental Rights Securing the Future - UK Government Sustainable Development Strategy, PPS1, PPS3, PPG4, PPS6, PPS7, PPG13, The Countryside in and Around Towns, Rural Strategy, Older People: Their Transport Needs and Requirements, DfT Sustainable Development Action Plan, Building Sustainable Transport into New Developments, Guidance on Local Transport Plans	England, A Sustainable Development Framework for the East of England, Integrated Sustainability Framework for the East of England, Sustainable Communities in the East of England Plan, Regional Social Strategy for the East of England	Corporate Strategy, Southend-on-Sea Best Value Performance Plan, Southend-on-Sea Corporate Assessment Report, Southend-on-Sea LTP 2000/1-2005/6 and 2006 – 2011, Southend-on-Sea Sustainable Community Strategy, Building our future, 2007 – 2017, Southend-on-Sea Core Strategy 2007, Southend-on-Sea Borough Council Disability Equality Scheme, Race, Disability and Gender Equality Schemes		users, Community severance	
Reduce the need to	EU Sustainable	Regional	Southend-on-Sea	Population,	Local Air	7, 11

16.	Source			Relevance to Assessment		
Environmental / Sustainability Theme	National/International	Regional	Local	SEA Topics	NATA Sub-objective	SEA Objective
travel, achieve modal shift to more sustainable transport options, widen choice of more accessible and affordable means and reduce congestion	Development Strategy, EU Rural Development Policy, Transport, Environment and Health, Collaboration Between the Health and Transport Sector in Promoting Physical Activity, Directive 96/62/EC (Air Quality) Towards a Sustainable Transport System: Supporting Economic Growth in a Low Carbon World (TaSTS), Delivering a Sustainable Transport System (DaSTS), Securing the Future - UK Government Sustainable Development Strategy, Delivering a Sustainable Railway, PPS3, PPG4, PPG13, Transport 10 Year Plan, The Future of Transport	Environment Strategy for the East of England, Regional Planning Guidance 6 for East Anglia, Regional Economic Strategy for the East of England, A Sustainable Development Framework for the East of England, Sustainable Communities in the East of England Plan, Creating Sustainable Communities – In the East of England, The East of England Plan, An Integrated Regional Strategy for the East of England, The Thames Gateway	Sustainable Community Strategy, Building our future, 2007 – 2017, Southend-on-Sea Core Strategy 2007, Southend-on-Sea LTP 2006 – 2011, Essex Design Guide Urban Place Supplement	Human Health, Air	Quality, Physical fitness, Access to the transport system	

16.	Source			Relevance to Assessment			
	Environmental / Sustainability Theme	National/International	Regional	Local	SEA Topics	NATA Sub-objective	SEA Objective
		White Paper, Building Sustainable Transport into New Developments, The Countryside and Rights of Way Act, Guidance on Local Transport Plans,	Delivery Plan 2007, Regional Freight Strategy for the East of England Region 2008				
Minimise the risk of flooding	Water Framework Directive, Groundwater Directive, EIA Directive, EU Sustainable Development Strategy Securing the Future - UK Government Sustainable Development Strategy, PPS 1, PPS25, Future Water: The Government's water strategy for England, Strategic Environmental Assessment Guidance for Transport Plans and Programmes TAG Unit 2.11	Integrated Sustainability Framework for the East of England, Sustainable Communities in the East of England Plan, A Sustainable Development Framework for the East of England, The East of England Plan, Creating Sustainable Communities: Making it happen: Thames Gateway and the Growth	Thames Gateway South Essex Strategic Flood Risk Assessment, Thames Gateway South Essex Strategic Flood Risk Assessment Review, Southend-on-Sea Core Strategy 2007, The Thames Estuary 2100, Essex Coast and Estuaries Coastal Habitat Management Plan 2002	Climatic Factors, Water	Water Environment	5	

16.	Source			Relevance to Assessment		
Environmental / Sustainability Theme	National/International	Regional	Local	SEA Topics	NATA Sub-objective	SEA Objective
		Areas				
Reduce contributions and increase resilience to climate change	EU 6th Environmental Action Programme, EU Sustainable Development Strategy, Kyoto Protocol to the UN Framework Convention on Climate Change, National Emissions Ceiling Directive, EU Directive for the Promotion of Bio-fuels for Transport, EU action against climate change: Leading global action to 2020 and beyond, EC Green Paper on Adaptation to Climate Change in Europe Towards a Sustainable Transport System: Supporting Economic Growth in a Low Carbon	Regional Environment Strategy for the East of England; UK Climate Projections (UKCP09): East of England, Integrated Sustainability Framework for the East of England, The East of England Plan, Living with Climate Change in the East of England	Emerging Shoreline Management Plan 2: Harwich to Canvey Island; Southend-on-Sea Core Strategy 2007, The Thames Estuary 2100; Southend Central Area Masterplan	Climatic Factors, Human Health, Material Assets	Greenhouse gases, Public accounts, Business Users & providers	5, 7

16.	Source			Relevance to Assessment		
Environmental / Sustainability Theme	National/International	Regional	Local	SEA Topics	NATA Sub-objective	SEA Objective
	World (TaSTS), Delivering a Sustainable Transport System (DaSTS), Low Carbon Transport: A Greener Future, Securing the Future - UK Government Sustainable Development Strategy, Ultra-low Carbon Vehicles in the UK, Delivering a Sustainable Railway, Powering Future Vehicles Strategy, UK Climate Change Programme, Planning for a Sustainable Future, Adapting to Climate Change in England: a framework for action PPS 1 (Supplement), PSA Delivery Agreement 27 Lead the Global Effort to Avoid Dangerous Climate Change, Carbon					

16.	Source			Relevance to Assessment		
Environmental / Sustainability Theme	National/International	Regional	Local	SEA Topics	NATA Sub-objective	SEA Objective
	Pathways: Informing Development of a Carbon Reduction Strategy for Transport, Climate Change Act, Building a Low-Carbon Economy – The UK’s Contribution to Tackling Climate Change, Adapting to Climate Change in England, 10 Year Transport Plan, The Future of Transport White Paper, Strategic Environmental Assessment Guidance for Transport Plans and Programmes TAG Unit 2.11, Road Traffic Reduction Act, Road Traffic Reduction (National Targets) Act, Stern Review of the Economics of Climate Change, DfT Delivering A Sustainable Transport					

16.	Source			Relevance to Assessment			
	Environmental / Sustainability Theme	National/International	Regional	Local	SEA Topics	NATA Sub-objective	SEA Objective
		System 2008, Guidance on Local Transport Plans					
To ensure good local air quality and to consider and minimise the effects of transport-related noise pollution	Directive 96/62/EC (Air Quality), EU Directive on Ambient Air Quality and Management, EU Thematic Strategy on Air Quality, National Emissions Ceiling Directive, EU Directive for the Promotion of Bio-fuels for Transport, EIA Directive, Health Effects of Transport-Related Air Pollution, Transport, Environment and Health, European Transport Policy for 2010: A Time to Decide, Directive 2002/49/EC (Noise), Environmental Liability Directive Guidelines for Community	Regional Planning Guidance 6 for East Anglia, A Sustainable Development Framework for the East of England, Integrated Sustainability Framework for the East of England, The East of England Plan, East of England Plan: A Revision to the Regional Spatial Strategy for the East of England, An Integrated Regional Strategy for the East of England	Southend-on-Sea Core Strategy 2007, LTP2	Air, Human Health	Local air quality, noise	1, 8	

16.	Source			Relevance to Assessment		
Environmental / Sustainability Theme	National/International	Regional	Local	SEA Topics	NATA Sub-objective	SEA Objective
	Noise, Transport, Environment and Health, Delivering a Sustainable Transport System, Securing the Future - UK Government Sustainable Development Strategy, Ultra-low Carbon Vehicles in the UK, Delivering a Sustainable Railway, Powering Future Vehicles Strategy, National Air Quality Strategy, PPG 13, PPS 23, Air Quality Regulations and The Air Quality (Amendment) Regulations, 10 Year Transport Plan, DfT Sustainable Development Action Plan, The Future of Transport White Paper, Road Traffic Reduction Act, Road Traffic Reduction (National					

16.	Source			Relevance to Assessment			
	Environmental / Sustainability Theme	National/International	Regional	Local	SEA Topics	NATA Sub-objective	SEA Objective
		Targets) Act, Environmental Noise (England) Regulations, PPG 24, Strategic Environmental Assessment Guidance for Transport Plans and Programmes TAG Unit 2.11					
Promote accessibility, provide local access to quality services including health, education, employment, community facilities, leisure and housing	EU Sustainable Development Strategy, EU Rural Development Policy, European Transport Policy for 2010: A Time to Decide Securing the Future - UK Government Sustainable Development Strategy, PPS1, PPS3, PPG4, PPS6, PPS7, PPG13, PPG17, The Countryside in and Around Towns, Rural Strategy, DfT Sustainable Development Action Plan, Building	Urban Renaissance in the East of England; Regional Planning Guidance 6 for East Anglia, The East of England Plan, A Regional Health Strategy for the East of England	Southend-on-Sea LTP1 and LTP2; Southend-on-Sea Core Strategy 2007, LTP2; Rights of Way Improvement Plan; Sustainable Modes of Travel Strategy; Best Value Review of Parks and Open Spaces	Population	Access to the transport system, Community severance	9, 10, 13	

16.	Source			Relevance to Assessment			
	Environmental / Sustainability Theme	National/International	Regional	Local	SEA Topics	NATA Sub-objective	SEA Objective
	Sustainable Transport into New Developments, Delivering a Sustainable Railway, The Countryside in and Around Towns, Rural Strategy, 10 Year Transport Plan, DfT Sustainable Development Action Plan, Building Sustainable Transport into New Developments, Guidance on Local Transport Plans, Accessible Natural Greenspace Standards						
Enhance outcomes for all children and young people	DfT Sustainable Development Action Plan, Building Sustainable Transport into New Developments, Guidance on Local Transport Plans		Southend-on-Sea Sustainable Community Strategy, Building our future, 2007 – 2017, Southend Children’s Partnership Children And Young People’s Plan 2007 – 2010,	Population	Access to the transport system, Physical fitness	9, 13	

16.	Source			Relevance to Assessment			
	Environmental / Sustainability Theme	National/International	Regional	Local	SEA Topics	NATA Sub-objective	SEA Objective
				Sustainable Modes of Travel Strategy			
Improve safety for all travellers, reduce crime and fear of crime	EU Sustainable Development Strategy Securing the Future - UK Government Sustainable Development Strategy, PPS3, PPG4, PPS6, PPG13, Child Road Safety Strategy, DfT Sustainable Development Action Plan, Road Safety Act	An Integrated Regional Strategy for the East of England	Southend-on-Sea LTP 2001/2 –2005/6 and 2006 – 2011; Southend-on-Sea Corporate Plan 2006-09 Southend-on-Sea Local Performance Plan	Population, Human Health	Community severance, Security, Accidents	12, 14	
To improve the health of the Borough's residents and to reduce inequalities in health	European Directive: Noise Directive, Directive 96/62/EC (Air Quality), EU 6th Environmental Action Plan, EU Sustainable Development Strategy, Health Effects of Transport-Related Air Pollution, Transport,	Regional Planning Guidance 6 for East Anglia, An Integrated Regional Strategy for the East of England, A Regional Health Strategy for the East of England	Southend-on-Sea Sustainable Community Strategy, Building our future, 2007 – 2017, Southend-on-Sea Core Strategy 2007, LTP2 2006 – 2011	Population, Human Health	Not explicitly covered by NATA	9	

16.	Source			Relevance to Assessment		
Environmental / Sustainability Theme	National/International	Regional	Local	SEA Topics	NATA Sub-objective	SEA Objective
	Environment and Health, Collaboration Between the Health and Transport Sectors in Promoting Physical Activity Securing the Future - UK Government Sustainable Development Strategy, PPS1, PPS7, PPG13, PPG17, The Countryside in and Around Towns, Air Quality Standards Regulations, New Deal for Transport, Creating Sustainable Communities, ODPM					
To protect and enhance the quality of the regions ground and river waters.	Directive 2004/35/EC: Environmental Liability, Directive 2000/60/EC Water Framework, Groundwater Directive, EIA Directive, EU Sustainable Development Strategy, Freshwater Fish	Regional Planning Guidance 6 for East Anglia, A Sustainable Development Framework for the East of England, The East of England	Southend-on-Sea Core Strategy 2007, Essex Thames Gateway Water Cycle Study Scoping Study 2009	Water	Water environment	3

16.	Source			Relevance to Assessment		
Environmental / Sustainability Theme	National/International	Regional	Local	SEA Topics	NATA Sub-objective	SEA Objective
	Directive Securing the Future - UK Government Sustainable Development Strategy, PPS 1, PPG 9, A Better Place to Play, The Government's water strategy for England, Strategic Environmental Assessment Guidance for Transport Plans and Programmes TAG Unit 2.11	Plan				
To reduce the amount of waste produced and increase the amount recycled	Directive 75/442/EEC Waste, EIA Directive, Environmental Liability Directive, EU Sustainable Development Strategy Securing the Future - UK Government Sustainable Development Strategy, PPS 10, The Countryside in and Around Towns, Waste Strategy for	Regional Planning Guidance 6 for East Anglia, A Sustainable Development Framework for the East of England, Integrated Sustainability Framework for the East of England, The East of England	The Essex and Southend Waste Local Plan 1997-2010, Southend Central Area Masterplan	Material Assets	Not explicitly covered by NATA	16

16.	Source			Relevance to Assessment			
	Environmental / Sustainability Theme	National/International	Regional	Local	SEA Topics	NATA Sub-objective	SEA Objective
	England	Plan, An Integrated Regional Strategy for the East of England, Regional Waste Management Strategy					
To minimise the use of primary natural resources and conserve soil resources and quality	EU 6 th Environmental Action Plan, EU Sustainable Development Strategy, EU Rural Development Policy, EIA Directive, Environmental Liability Directive Securing the Future - UK Government Sustainable Development Strategy, Planning for a Sustainable Future, PPS 6, Strategic Environmental Assessment Guidance for Transport Plans and Programmes TAG Unit 2.11, Natural Environment and Rural	East of England RSS Review Integrated Sustainability Appraisal Interim ISA Report, 2009; Regional Planning Guidance 6 for East Anglia, A Sustainable Development Framework for the East of England, The East of England Plan	Essex & Southend-on-Sea Joint Structure Plan; Southend-on-Sea Sustainable Community Strategy, Building our future, 2007 – 2017, Southend-on-Sea Core Strategy 2007, The Essex and Southend Waste Local Plan 1997-2010, Southend Central Area Masterplan, Adopted Minerals Local Plan First Review 1996	Soil, Material Assets	Landscape, Water environment	4, 16	

16.	Source			Relevance to Assessment			
	Environmental / Sustainability Theme	National/International	Regional	Local	SEA Topics	NATA Sub-objective	SEA Objective
	Communities Act, PPG2, PPS7, PPS10						
To minimise the use of energy and optimise the use of renewable energy resources	EU Sustainable Development Strategy, Kyoto Protocol to the UN Framework Convention on Climate Change, EIA Directive Supplement to PPS1, PPS 22; Securing the Future - UK Government Sustainable Development Strategy, The Climate Change Act 2008, Planning for a Sustainable Future, Strategic Environmental Assessment Guidance for Transport Plans and Programmes TAG Unit 2.11	Regional Planning Guidance 6 for East Anglia, The East of England Plan	Southend-on-Sea Sustainable Community Strategy, Building our future, 2007 – 2017; Southend-on-Sea Core Strategy 2007	Material Assets, Climatic Factors	Business users and providers	7	

Appendix C – Baseline Data Tables

Table C.1 - Social Baseline

Indicator	Quantified Data for Southend-on-Sea	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source																														
Population																																					
Total population and gender split	<p>Although the Office for National Statistics originally assessed the population of Southend as 160,257, the Office for National Statistics (ONS) has since agreed that there is a case for redefining this figure based on the consideration of a number of other sources (such as GPs' registers). Following this re-evaluation, the population of Southend-on-Sea is likely to be in the region of 177,500.</p> <p>The ONS Statistics mid-2007 population estimate of Southend was 162,000 and 164,300 in 2008.</p> <p>2008 Gender Split: Male: 80,000 (49%) Female: 84,300 (51%)</p>	<p>Mid-2007 population: - England: 51,092,000</p> <p>Mid-2008 population: England: 51,446,200</p> <p>Gender split 2008: - Male: 25,318,800 (49) - Female: 26,127,500 (51%)</p>	No target identified	<p>According to ONS figures, the total population of Southend increased by 3% between 1981 and 2001. However, if the data on 2001 residents registered with GPs is used, a population increase of 12.5% is indicated.</p> <p><i>% population change 2001-2006:</i> - England: 2.59%</p>	<p>The population Southend-on-Sea has grown rapidly over the last 20 years, increasing pressure on services and facilities, and elevating energy and water consumption, carbon dioxide emissions and the volume of traffic on the roads.</p> <p>Gender split in Southend-on-Sea is similar to the one in England.</p>	Population	Office for National Statistics. Southend-on-Sea Annual Monitoring Report 2008, Southend-on-Sea Health Profile 2009																														
Population by age	<table border="1"> <thead> <tr> <th colspan="2">2008:</th> </tr> <tr> <th>Age group</th> <th>Southend -on-Sea (%)</th> </tr> </thead> <tbody> <tr> <td>0-15</td> <td>19</td> </tr> <tr> <td>16-29</td> <td>17.1</td> </tr> <tr> <td>30-44</td> <td>20.7</td> </tr> </tbody> </table>	2008:		Age group	Southend -on-Sea (%)	0-15	19	16-29	17.1	30-44	20.7	<table border="1"> <thead> <tr> <th colspan="2">2008:</th> </tr> <tr> <th>Age group</th> <th>East of England %</th> </tr> </thead> <tbody> <tr> <td>0-15</td> <td>19</td> </tr> <tr> <td>16-29</td> <td>17.3</td> </tr> <tr> <td>30-44</td> <td>21.1</td> </tr> </tbody> </table>	2008:		Age group	East of England %	0-15	19	16-29	17.3	30-44	21.1	No targets identified	<table border="1"> <thead> <tr> <th colspan="2">2007:</th> </tr> <tr> <th>Age group</th> <th>Southend -on-Sea (%)</th> </tr> </thead> <tbody> <tr> <td>0-15</td> <td>19.1</td> </tr> <tr> <td>16-29</td> <td>16.8</td> </tr> <tr> <td>30-44</td> <td>21.1</td> </tr> </tbody> </table>	2007:		Age group	Southend -on-Sea (%)	0-15	19.1	16-29	16.8	30-44	21.1	<p>The demographic characteristics of Southend-on-Sea are broadly similar to those of the East of England and England as a whole.</p>	Population	Office for National Statistics Neighbourhood Statistics
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Population Density	<p>2001: -Southend-on-Sea: 38.38 persons/ha (based on Census population estimate of 160,257 people) -Southend-on-Sea: 42.50 persons/ha (based on assumed corrected population of 177,500 people).</p>	<p>2001: - East of England: 2.82 persons/ha - England: 3.77 persons/ha</p>	No targets identified	No trend data available	Southend-on-Sea has the highest population density in Essex and the second highest in the East of England region.	Population	Office for National Statistics. Census 2001.																																																								
Ethnicity	<p>2001:</p> <table border="1"> <thead> <tr> <th colspan="2">Southend-on-Sea</th> </tr> <tr> <th>Ethnic group</th> <th>%</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> </tr> </tbody> </table>	Southend-on-Sea		Ethnic group	%			<p>2001:</p> <table border="1"> <thead> <tr> <th>Ethnic group</th> <th>East of England</th> <th>England</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Ethnic group	East of England	England				No targets identified	No trend data available	The proportion of the population of Southend-on-Sea which is white is	Population	Office for National Statistics.																																												
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Projected population	5% increase between 2006 and 2012 is projected for Southend-on-Sea.	It is estimated that the population of the East of England will grow by 15% between 1994 and 2029. The East of England has the highest projected increase in households between 2004 and 2026 of all of England and Wales: to around 3 million. However, projected population increase for Southend-on-Sea is, along with Essex and Thurrock the lowest in the East of England.	No targets identified	The average population of Southend-on-Sea is expected to become older. Over the next 15 years a 14.4% increase in the over 65's is projected and a 12.2 % increase in the over 85's.	The projected increase in population of the East of England including Southend-on-Sea is likely to increase pressure on existing services and facilities.	Population	Southend-on-Sea Joint Strategic Needs Assessment 2008 (Office for National Statistics, Census 2001) Environment Agency State of the Environment Report 2008																																																		
Household number	2001:	2001:	No targets identified	No trend data	The proportion of 1	Population	Southend-on-Sea																																																		

Indicator	Quantified Data for Southend-on-Sea	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
and average size	<ul style="list-style-type: none"> - Total number of households in - Southend-on-Sea: 70,978 - Average household size in Southend-on-Sea: 22.2 persons - Proportion of 1 person households - Southend-on-Sea: 35% of total households 	<ul style="list-style-type: none"> - Total number of households: England: 24,479,439 - Average household size: East of England: 2.37 persons England & Wales: 2.36 persons - Proportion of 1 person households: East of England: 28% of total households England & Wales: 30% of total households 		available	person households in Southend-on-Sea is significantly higher than that observed in the East of England and across England as a whole. If these characteristics continue, then the requirement for additional housing as a result of projected population growth will be exacerbated.		Annual Monitoring Report 2008 (2001 Census).
Number of tourists visiting the plan area	2007: 6.1 million day visitors per day		No targets identified	No trend data available	Southend-on-Sea is the second most popular day resort in the UK. The large volume of visitors to the area will increase volumes of traffic at certain times of the year, particularly during the summer months.	Air Quality, Population	Southend-on-Sea Core Strategy 2007
Deprivation							
Average Weekly Pay	<p>2006-2008: Change in mean weekly pay: - Southend-on-Sea: increase of 7.8%</p> <p>2004: Workplace based gross median weekly pay: - Southend-on-Sea: £299</p>	<p>2006-2008: Change in mean weekly pay: - East of England: increase of 5.7% - England: increase of 7.3%</p> <p>2004: Workplace based gross median weekly pay: - East of England: £348 - England: £356</p>	No targets identified	Average pay is increasing in Southend-on-Sea at a faster rate than that observed for the East of England as a whole but in line with the average increase observed across England.	Gross median and gross mean pay in Southend-on-Sea is lower than that of the East of England and England as a whole. This will contribute to increasing levels of deprivation.	Population	Southend-on-Sea Annual Monitoring Report 2008

Indicator	Quantified Data for Southend-on-Sea	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
	<p>Workplace based gross mean weekly pay: - Southend-on-Sea: £353</p>	<p>Workplace based gross mean weekly pay: - East of England: £415 - England: £430</p>					
<p>Indices of Deprivation</p>	<p>2007: Southend-on-Sea: 7th most deprived District in the East of England and the second most deprived in Essex.</p> <p>Five Super Output Areas within Southend-on-Sea fall within the 10% most deprived areas in England and approximately 45% of the Borough's population lives within the 20% most deprived areas in the East of England. However, the Super Output Areas within West Leigh rank among the 20% least deprived in England.</p>	<p>2004: 1099 out of the Super Output Areas (SOAs) are in the East of England. 2% of SOAs in the East of England are in the 10% most deprived Two thirds of SOAs are in the 50% least deprived</p>	<p>No targets identified</p>	<p>2004: Southend-on-Sea: 8th most deprived District in the East of England</p> <p>2000: Southend-on-Sea: 13th most deprived District in the East of England</p>	<p>Southend-on-Sea has high levels of deprivation when compared to other districts within the East of England. Deprivation in Southend-on-Sea has increased relative to other districts within the East of England since 2000.</p>	<p>Population</p>	<p>Southend-on-Sea Annual Monitoring Report 2008 (IMD), Southend-on-Sea Joint Strategic Needs Assessment 2008</p>
<p>% of children living in families receiving means-tested benefits (Children in poverty)</p>	<p>2007: 25.2% (7,819)</p>	<p>2007: England average: 22.4% England worst: 66.5%</p>	<p>No targets identified</p>	<p>2005: Southend-on-Sea: 25.2% England average: 22.4% England worst: 66.5%</p> <p>2001: Southend-on-Sea: 24.2% England average:</p>	<p>% of children living in low-income families in Southend-on-Sea has increased over 2001-2007 period, mirroring the nation-wide trend.</p>	<p>Population</p>	<p>Southend-on-Sea Health Profiles 2007-09</p>

Indicator	Quantified Data for Southend-on-Sea	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
				21.3% England worst: 58.8%			
Annual dwelling completions	<i>Southend-on-Sea net additional dwelling completions 2007/08: 234 units</i>	<i>England housing completions: 2003: 142,875 2002: 137,057 2001: 129,768</i>	The minimum housing target for Southend-on-Sea set out in the East of England Plan Policy H1 allocates 6,500 new homes to the Borough for the period 2001 to 2021. This equates to a required annual average completion rate of 325 net additional dwelling units.	The number of housing completions in England increase between 2001 and 2003. The number of housing completions in Southend-on-Sea fluctuates and has recently decreased as a result of the economic downturn.	The Regional Housing Policy H1 identifies that to 2006 Southend-on-Sea had built 2,130 dwellings at an annual average rate of 430 leaving a minimum of 4,370 dwellings to be built by 2021. This equates to an annual average rate of 290. This lower completion figure for the period 2007-08 reflects the national slow down in house building.	Population, Material Assets	Southend-on-Sea Annual Monitoring Report 2008, UK Housing Review 2004/05
Gross Affordable Housing Completions	<i>2007/08: Number of affordable completions (percentage of total completions): - Southend-on-Sea: 32 (11.4%)</i>	53,730 additional affordable homes were supplied in England in 2007-08. This is an increase of 21 per cent from additional affordable homes supplied in 2006-07, and is the highest number of new affordable homes provided in England since 1996-97.	No target identified	Number of affordable completions (percentage of total completions) in Southend-on-Sea: 2006/7: 25 (5.3%) 2005/6: 32 (5.0%) 2004/5: 61 (11.9%) 2003/4: 10 (3.26%) 2002/3: 12 (3.13%) 2001/2: 14 (4.0%)	The provision of affordable housing in Southend-on-Sea is a key issue due to increasing polarisation between household income and house prices. The proportion of affordable housing completions in 2007/08 was higher than that of the previous two years.	Population, Material Assets	Southend-on-Sea Annual Monitoring Report 2008
Unemployment Rate	<i>2008: - Southend-on-Sea: 2.8% of the economically active population</i>	<i>2008: - East of England: 1.8% of the economically active population - England: 2.3% of the economically active population</i>	No target identified	<i>2006 - Southend-on-Sea: 3.1 of the economically active population 2001: - Southend-on-Sea: 3.3% of the economically active</i>	Whilst unemployment levels in Southend-on-Sea have generally followed national unemployment trends, they have consistently remained significantly above the national and regional levels despite regeneration efforts	Population	Southend-on-Sea Annual Monitoring Report 2008, Southend-on-Sea Core Strategy 2007

Indicator	Quantified Data for Southend-on-Sea	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source																					
				population - East of England: 1.7% of the economically active population - England: 2.6% of the economically active population 1996: - Southend-on-Sea: 8.3% of the economically active population	which have resulted in some narrowing of the gap.																							
Health specific																												
Average life expectancy at birth	<p>2003-05, Southend-on-Sea: - Males: 76.7 - Females: 80.8</p> <p>Life expectancy at birth for males and females (2003-07) by nation deprivation quintiles (1 is the least deprived quintile and 5 is the most deprived quintile):</p> <table border="1"> <thead> <tr> <th>Quintile</th> <th>Male</th> <th>Female</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>79.8</td> <td>85.5</td> </tr> <tr> <td>2</td> <td>79.2</td> <td>83.5</td> </tr> <tr> <td>3</td> <td>78.0</td> <td>80.7</td> </tr> <tr> <td>4</td> <td>76.3</td> <td>80.4</td> </tr> <tr> <td>5</td> <td>71.3</td> <td>77.2</td> </tr> <tr> <td>All</td> <td>76.9</td> <td>81.1</td> </tr> </tbody> </table>	Quintile	Male	Female	1	79.8	85.5	2	79.2	83.5	3	78.0	80.7	4	76.3	80.4	5	71.3	77.2	All	76.9	81.1	<p>England Average: 2008: - Male: 77.3 - Female: 81.6</p>	No targets identified	<p>Southend-on-Sea 2002-2004: - Males: 76.3 - Females: 80.5</p> <p>Southend-on-Sea 2001-2003: - Males: 75.6 - Females: 80.2</p> <p>England Average: 2007: - Male: 76.9 - Female: 81.1</p> <p>2003-05 - England: - Males: 76.92 - Females: 81.14</p> <p>2002: England: Males: 76.2 Females: 80.7 East of England: Males: 76.2</p>	Life expectancy in Southend-on-Sea is the lowest in Essex and is marginally lower than that of England as a whole.	Human health, Population	Audit Commission Profile, Health Profile 2009, ODPM Neighbourhood Renewal Unit, National Statistics
Quintile	Male	Female																										
1	79.8	85.5																										
2	79.2	83.5																										
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All	76.9	81.1																										

Indicator	Quantified Data for Southend-on-Sea	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
				Females: 80.7			
Proportion of population in good/ fairly good/not good health	<p><i>2001:</i> Health self-assessed as: - Good: 66.89% - Fairly Good: 23.82% - Not Good: 9.29% Based on population of 160,257 people</p>	<p><i>2001 East of England:</i> Health self-assessed as: - Good: 70.35% - Fairly Good: 22.05% - Not Good: 7.60%</p> <p><i>2001 England:</i> Health self-assessed as: - Good: 68.76% - Fairly Good: 22.21% - Not Good: 9.03%</p> <p>Southend-on-Sea was ranked 149 out of 354 Local Authorities in England and Wales, and ranked 8 out of 48 Local Authorities Regionally.</p>	No targets identified	No trend data is available.	The proportion of the population of Southend-on-Sea who consider their health to be good or fairly good is lower than that observed for the East of England but similar to that for England as a whole. The Borough has a high ranking regionally and nationally, suggesting that Southend-on-Sea has a high proportion of the population not in good health.	Human health, Population	Southend-on-Sea Annual Monitoring Report 2008, 2001 Census, Office of National Statistics
Mortality rates	<p><i>Southend-on-Sea 1991-97 (all ages per 100,000 population):</i> <i>All cancers:</i> - Male: 246.41 - Female: 170.80</p> <p><i>Ischaemic disease:</i> - Male: 228.54 - Female: 105.26</p> <p><i>Stroke:</i> - Male: 73.45 - Female: 75.83</p> <p><i>Respiratory disease:</i> - Male: 134.53 - Female: 98.82</p>	<p><i>UK 1991-97 (all ages per 100,000 population):</i> <i>All cancers:</i> - Male: 253.03 - Female: 171.78</p> <p><i>Ischaemic disease:</i> - Male: 257.34 - Female: 121.02</p> <p><i>Stroke:</i> - Male: 78.62 - Female: 70.53</p> <p><i>Respiratory disease:</i> - Male: 136.23 - Female: 85.19</p>	No targets identified	No specific trend data available. The all cancer mortality rate for males of all ages in Southend-on-Sea has shown an overall improvement over the last 10 years (from 1993/95 to 2003/05).		Human health, Population	Audit Commission Profile
Percentage of people with a limiting	<p><i>2001:</i> Southend-on-Sea:</p>	<p><i>2001:</i> East of England: 16%</p>	No targets identified	No trend data is available.	The proportion of the population of Southend-	Human health,	Southend-on-Sea Annual

Indicator	Quantified Data for Southend-on-Sea	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
long term illness	19%	England & Wales: 18%			on-Sea with limiting long term illnesses is higher than that observed in the East of England and across England as a whole.	Population	Monitoring Report 2008 (2001 Census).
Adult participation in sport	<i>Physically active adults:</i> 2007-08: 9.8%	<i>Physically active adults:</i> <i>England:</i> 2007-08: 10.8%	2009/10 target: 25.5%	<i>Physically active adults</i> <i>Southend-on-Sea:</i> 2005-06: 12.2 <i>England:</i> 2005-06: 11.6	The proportion of physically active adults in Southend-on-Sea in 2007/08 was similar to that across England as a whole, but significantly lower than that observed in 2005/06.	Human health, Population	Southend-on-Sea Health Profiles 2007, 2008 and 2009. LAA indicators and targets 2008.
Children and young people's participation in high quality PE and sport	2009: Southend-on-Sea: 96.8%	2009: - England: 90.0%	No targets identified	<i>Southend-on-Sea:</i> 2007: 95.9% <i>England:</i> 2007: 85.7%		Human health, Population	Southend-on-Sea Health Profiles 2007, 2008 and 2009.
Obesity (adults)	2006: - Southend-on-Sea: 22% of population	2006: - England: 22.1% of population	No targets identified		Obesity in Southend-on-Sea is broadly similar to that observed across England as a whole. However, 9 of Southend-on-Sea's 17 wards have obesity higher than England's average obesity level.	Human health, Population	Southend-on-Sea Joint Strategic Needs Assessment 2008
Obesity (children)	% of school children in reception year 2007/08: -Southend-on-Sea: 9.2	% of school children in reception year 2007/08: -England average: 9.6	2009/10 target: 11.6%	% school children in Reception year 2006-2007: -Southend-on-Sea: 10.8 - England average: 9.9	Childhood obesity in Southend-on-Sea is broadly similar to that observed across England as a whole and has reduced since 2006/07.	Human health, Population	Southend-on-Sea Health Profiles 2008 and 2009. LAA indicators and targets 2008.
Crime							
Crime rate	2006/07: -Southend-on-Sea: 60 crimes per 1000 population	2006/07: -Essex: 46 crimes per 1000 population -England and Wales: 60	No targets identified	Recorded crime rate per 1000 population in Southend-on-Sea, Essex and England all	Southend-on-Sea has one of the highest rates of recorded crime in Essex, but similar to that		Southend-on-Sea Joint Strategic Needs Assessment 2008

Indicator	Quantified Data for Southend-on-Sea	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
		crimes per 1000 population		decreased between 2003/04 and 2006/07.	for England and Wales.		
Percentage of residents who feel fairly safe or very safe outside during the day	2006/07: 96.65% of residents say that they feel fairly safe or very safe outside during the day.	2005/06: - UK Average: 97.24	No targets identified	2005/06: 97.7% 2004/05: 98.0%	The percentage of residents who feel fairly safe or very safe outside during the day in Southend-on-Sea has reduced since 2004/05 but is broadly similar to that observed across the UK as a whole.	Population	Audit Commission Profile.
Percentage of residents who feel fairly safe or very safe outside after dark	2006/07: 68.93% of residents say that they feel fairly safe or very safe outside after dark.	2005/06: - National Average: 70.17	No targets identified	2005/06: 73.6% 2004/05: 74.7%	The percentage of residents who feel fairly safe or very safe outside after dark in Southend-on-Sea has reduced since 2004/05 but is broadly similar to that observed across the UK as a whole.	Population	Audit Commission Profile.
Vehicle Crime per 1000, population	Southend-on-Sea 2003/04: 12.8 offences per 1000 population CCTV cameras to be located in areas of need in Southend-on-Sea: 01/02 – 124 02/03 – 154 03/04 – 241 04/05 – 268	Essex: 2003/04 – 12.8 2004/05 – 12.8 2006/07 – 12.6 National Average – 18.6	Southend-on-Sea Police aimed to have reduced instances of vehicle crime from 2293 to 2285 by March 2005 Essex Crime reduction target is 12.7% by 2005/06 The Southend Annual Performance Review sets targets for CCTV cameras to be located in areas of need – Target of 265	Southend-on-Sea: 2000/01 – 12.0 2001/02 -12.6 2002/03 – 13.1 Southend Community Safety Plan target was implemented to reduce offences from 2293 to 2285 by March 2005	The number of vehicle crime offences reported in Southend-on-Sea is in line with that experienced across Essex, and lower than the national average.	Material assets, population	Essex Police Best Value Performance Plan Southend Community Safety Plan Atkins APR5 Southend BC

Indicator	Quantified Data for Southend-on-Sea	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
			cameras by 04/05				
Burglary Offences per 1000 households	Southend-on-Sea, 2003/2004: 10.5 offences per 1000 households		The Local Community Safety Plan aimed to reduce the number of household burglaries from 835 offences (average of 8.4 offences per 1000 households) by March 2005 Essex Crime Reduction Target is to reduce offences to 10.2 per 1000 households by 2005/2006	2000/01 – 8.1 2001/02 – 8.3 2002/03 – 10.6 National Average in 2002/03 – 19.1	The number of burglary offences reported in Southend-on-Sea increased between 2000/01 and 2003/04, attributed, principally, to a growing class A drug culture tied, in part, to the red light district in the town.	Material assets, population	Essex Best Value Performance Plan Southend Community Safety Plan
Robberies per 1,000 population National Crime Survey	2003/04 – 0.9	National Average = 2.1	No targets identified	2000/01 – 0.4 2001/02 – 0.6 2002/03 – 0.8 Essex 2003/04 – 10.5 2004/05 – 10.3 2006/07 – 10.1	Robberies per 1000 population have increased by 0.5% in the last 4 years Southend-on-Sea is the only Borough in the Essex Policing Area to have a red light district.	Material assets, population	Essex Police Best Value Performance Plan
Transport, Connectivity and Accessibility							
Modes of transport used to travel to work by the resident population	2001: Percentage of the resident population who travel to work by: - Private motor vehicle (car, taxi or motorbike): 58.1% - Public transport: 19.4% - Foot or cycle: 14.1%	2005-06, East of England: - 44% of trips undertaken as car drivers - 23% of trips undertaken as car passenger - 22% of trips undertaken on foot 2001: In England	No targets identified	1981: 51% - drive to work 15% - travel to work by train 12% - travel to work by bus 7% - cycle 15% - walk	In the past 20 years the number of people travelling by modes other than the car has increased. Car usage, as a form of transport to work has stayed the same.	Population	Audit Commission Profile. 2001 Census ONS Southend-on-Sea LTP2

Indicator	Quantified Data for Southend-on-Sea	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
	<ul style="list-style-type: none"> - Train, tram or other rail: 13.4% - Bus or coach: 6.0% - Taxi: 0.6% - Car: 56.5% - Motorcycle: 1% - Bicycle: 2.7% - Foot: 11.4% 	69% travelled to work by car England and Wales average 14.5% uses public transport to get to work					
Distance travelled to work by the resident population	<p><i>2001:</i> Percentage of the resident population travelling:</p> <ul style="list-style-type: none"> - Less than 2km to work: 23.4% - Between 2 and 5km to work: 21.7% - Between 5 and 10km to work: 11.6% - Between 10 and 20km to work: 7.6% - Over 20km to work: 22.1% - Working mainly at or from home: 8% 	<p><i>2001, East of England:</i> Percentage of the resident population travelling:</p> <ul style="list-style-type: none"> - Less than 2km to work: 20.1% - Between 2 and 5km to work: 17.0% - Between 5 and 10km to work: 13.7% - Between 10 and 20km to work: 14.7% - Over 20km to work: 19.7% - Working mainly at or from home: 9.4% <p><i>2001, England:</i> Percentage of the resident population travelling:</p> <ul style="list-style-type: none"> - Less than 2km to work: 20.0% - Between 2 and 5km to work: 20.1% - Between 5 and 10km to work: 18.2% - Between 10 and 20km to work: 15.2% - Over 20km to work: 12.6% - Working mainly at or from home: 9.2% 	No targets identified	No trend data available	A significantly larger proportion of the residents of Southend-on-Sea travel over 20km to work than that observed for both the East of England and England as a whole.	Population	Audit Commission Profile.
Distance travelled to work by the workplace population	<p><i>2001:</i> Percentage of the resident population</p>	<p><i>2001, East of England:</i> Percentage of the resident</p>	No targets identified	No trend data available	A significantly lower proportion of those who work in Southend-on-	Population	Audit Commission Profile.

Indicator	Quantified Data for Southend-on-Sea	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
	travelling: - Less than 2km to work: 25.7% - Between 2 and 5km to work: 24.1% - Between 5 and 10km to work: 22.4% - Between 10 and 20km to work: 7.5% - Over 20km to work: 5.4% - Working mainly at or from home: 14.9%	population travelling: - Less than 2km to work: 21.7% - Between 2 and 5km to work: 18.3% - Between 5 and 10km to work: 14.7% - Between 10 and 20km to work: 15.2% - Over 20km to work: 14.3% - Working mainly at or from home: 15.7% 2001 England: Percentage of the resident population travelling: - Less than 2km to work: 20.0% - Between 2 and 5km to work: 20.2% - Between 5 and 10km to work: 18.3% - Between 10 and 20km to work: 15.3% - Over 20km to work: 12.6% - Working mainly at or from home: 13.6%			Sea travel over 20km to work than that observed for both the East of England and England as a whole. A higher proportion travel between 2 and 5km than that observed for the East of England and England as a whole.		
% Change in road traffic volume	19,500 people commute daily to work in Southend, nearly all from South East Essex; 26,000 Southend residents out-commute, 11,000 of them to London; The car accounts for over 80% of traffic movements on these	2003 in the East of England vehicles travelling on motorways - 82.8 thousand vehicles per kilometre per day England - 78.0 thousand vehicles per kilometre per day Vehicles travelling on all roads (thousand per day)– East of England - 3.7	Morning peak travel is expected to increase by 40% over 2003 levels by 2016	1993-1999 data: Limited capacity on the A13 is one of the reasons why flows on this route have not increased since 1993, flows having actually decreased by 3% over this period. The road has become busier early in the morning but quieter during the	Essex has a road network that is approximately 4,660 miles in length and over the next ten years traffic is expected to grow in line with the national trends by about 20%. Main routes suffering from congestion are A127 and the A13.	Population Climatic Factors	Southend-on-Sea LTP2 Essex CC LTP East of England Regional Environment Strategy Summary 2003 Southend-on-Sea Joint Strategic Needs Assessment 2008

Indicator	Quantified Data for Southend-on-Sea	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
	<p>main routes (2003/04); A127 - 66,000 vehicles daily. Specifically, between (8.00am and 9.00am 2,300 vehicles travel eastbound and 2,500 westbound per day resulting in an average speed of 15.5mph eastbound and 18mph westbound. A13- 32,000 vehicles daily. Specifically in the am period 1,000 vehicles travel eastbound and just over 800 westbound Southern Relief road – 15,000 vehicles used this road per year at 1999 rates. A1159 – 30,000 vehicles daily.</p> <p>The Transport Data Report reveals that the percentage of vehicles containing only the driver ranges from 65% off peak to 91% in the peak period on the Borough's network.</p>	<p>England – 3.9</p> <p>GB statistics for cars and taxis: 1995 – 351 billion vehicle kms 2000 – 377 billion vehicle kms 2003 – 393 billion vehicle kms</p> <p>Nationally traffic has increased by 19% since 1990.</p>		<p>day and evening; A127 volume has increased above the national rate of traffic growth and is now 15% higher than 1993 levels. A1159 link experienced a steady rise of 8%. Peak flows have not increased, however off peak traffic has increased on this route; The Southend northern relief road (B1013), 36% rise in traffic flows to a total of 15,000 vehicles daily.</p> <p>Growth in travel demand is expected to increase by up to 20% between 2008 and 2013 and 35% by 2016.</p>			
Number of passenger rail journeys	9,500 residents travel out of the Borough to work by train per day	GB statistics for rail passenger journeys: 1995 – 761 million 2000 – 957 million 2003 – 1014 million	Annual Performance Review SRA target – 33% increase in Patronage in	National Rail and London Underground accounted for 48 and 45 per cent, respectively, of all rail	The majority of Southend's population lives within one mile of the Borough's nine railway stations.	Population, climatic factors	Census 2001 Southend-on-Sea LTP2 Atkins APR5

Indicator	Quantified Data for Southend-on-Sea	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
			London and South East between 00-10	<p>journeys in 2003/04. The number of passenger journeys on National Rail rose to above 1 billion in 2003/04. On the London Underground, the number of journeys rose to 948 million.</p> <p>Travel to work – rail 1981 = 15% Travel to work - rail 1991 = 16%</p>	A further railway station is proposed at London Southend Airport. All major facilities are also in close proximity to the rail network.		Southend BC
% of people using their car for journeys to work	<p>66% of people use their car to travel to work in 2001</p> <p>Ranked 328 in England out of 378 LA's. Ranked 46 out of 48 LA's Regionally</p>	England and Wales average 61.5%		<p>Travel to work by car 1981 = 51% Travel to work by car 1991 = 60% Travel to work by car 2001 = 66%</p>	<p>High proportion of people using public transport possibly due to proximity to London and the amount of commuter journeys made.</p> <p>A higher than average percentage of people travel to work by car in the Borough</p>	Population, climatic factors, air	2001 Census Southend-on-Sea LTP2
Bus patronage	<p>Currently 8,456,000 p.a.</p> <p>No. of passenger journeys by bus on A13 Passenger Transport Corridor route: 04/05 – 3540</p> <p>Bus patronage has increased by 10%</p>	<p>GB statistics for bus passenger journeys: 1995 – 3757 million 2000 – 3756 million 2003 – 3978 million</p> <p>30.23 million people boarded buses in 2002/03 in GB</p>	<p>Minimum Target is to maintain existing levels of patronage</p> <p>Achieve growth of 35% in bus passenger journeys between 2001/02 to 2010/11</p>	<p>Southend Travel to work by bus 1981 = 12%</p> <p>Travel to work by bus 1991 = 7%</p> <p>Travel to work by bus 2001 = 20% (including travel made within, into and out of the Borough)</p>	Bus patronage in Southend has increased along the A13 after a Public transport corridor scheme has been put in place.	Population, climatic factors, air	Southend-on-Sea LTP2 Atkins Annual Performance Review for Southend BC

Indicator	Quantified Data for Southend-on-Sea	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
	along this corridor (A13) between 2000-04, after LTP1 schemes have been put in place			No of passenger journeys by bus on A13 PTC route: 01/02 – 3050 02/03 - no data 03/04 – 3390 04/05 – 3540			
Public Transport Accessibility	40% of local residents never use public transport to either travel around or to and from Southend-on-Sea		<p>In accordance with Guidance, target to be set in Full LTP2 (March 2006) when Accessibility Strategy is completed</p> <p>Complete Regional Route GG1 by 2007/08 (subject to Green Grid funding contribution)</p> <p>Complete off-road sections of Sustrans National Cycle Network route 16 by 2010/11 (subject to funding beyond 1st LTP planned spend)</p> <p>Local Cycle network Complete 2 routes per annum until 2010/11 (12 routes, S1 – S12) (subject to funding beyond</p>	Over 4.5 billion journeys were made by local bus in Great Britain in 2003/04, more than double the number of journeys made by rail (2.1 billion).	<p>The new renaissance company being formed (see 'Delivering the Future') will be responsible of improving the accessibility of Southend by improving surface access, both road and rail, and upgrading London Southend Airport to support stronger links with Europe</p> <p>Southend aims to increase the number of journeys undertaken by sustainable modes of transport (cycling, walking and public transport)</p> <p>35 schools to be covered by a Travel Plan by 2006 - Target met early; new target set as part of LTP2</p>	Population, climatic factors, air	<p>Thames Gateway South Essex Partnership – Delivering the Future, July 2003</p> <p>Southend-on-Sea LTP2</p>

Indicator	Quantified Data for Southend-on-Sea	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
Cycling and Walking	<p>2.73% of people in Southend cycle to work approximately 18% of residents walk to work and 4% cycle ;</p> <p>Walking – trips to Town Centre by Walking, 04/05- 40%</p> <p>Cycling – trips to the town centre by cycle, 04/05 – 2.82%</p>	<p>GB Statistics for cycling (billion kms) 1995 – 4.1 2000 – 4.2 2003 – 4.5 (NB: peak in 1982/84 of 6.4)</p>	<p>1st LTP planned spend)</p> <p>Increase walking as a percentage of all trips to the Town Centre to 40% by 2005/06- (target met).</p> <p>Increase cycling of all trips to the Town Centre by 3% by 05/06.</p>	<p>Travel to work – walk 1981 = 15% Travel to work – walk 1992 = 13%</p> <p>Travel to work – cycle 1981 = 7% Travel to work - cycle 1991 = 4%</p> <p>Walking 01/02 – 30% 02/03 – 35% 03/04 – 33% 04/05 – 40%</p> <p>Cycling 01/02 – 1.30% 02/03 – 1.80% 03/04 – 2.80% 04/05 – 2.82% 05/06 – 3.00%</p>	<p>Southend aims to increase the number of journeys undertaken by sustainable modes of transport (cycling, walking and public transport) The town has an extensive pedestrianised central core which is covered by CCTV surveillance; The Borough has approximately five miles of dedicated cycle routes the use of which has steadily increased since their introduction; Southend’s high population density and compact area, together with the number of short trips generated in the town, also offers significant potential for encouraging cycling.</p>	<p>Population climatic factors, landscape</p>	<p>Southend LTP 01/02-05/06 Census 2001 Atkins APR5 Southend BC</p>
% of households with a car	<p>2001: All households = 70,978 % no car = 28.60 % 1 car = 45.52 % 2 cars = 20.83 % 3 cars = 3.91 % 4 cars = 1.15 All cars/ vans in the area = 73,811</p>	<p>2002: - East of England 19% of the population did not have a car 45% owned one car 36% owned 2+ cars</p> <p>England and Wales average statistics: • 26.8% - no access to a car</p>	<p>No targets identified</p>	<p>A third of households in the Borough do not have access to a car, well above the regional and national average;</p> <p>Despite a 4% reduction in Household size levels</p>	<p>Car ownership in the Borough has increased adding further to pressure to the road network. The lowest levels of car ownership in the Borough are in Milton, Kursaal and Victoria.</p>	<p>Population, material assets</p>	<p>ONS Regions in Figures Southend-on-Sea Annual Monitoring Report 2008 (2001 Census) Southend-on-Sea LTP2 Environment</p>

Indicator	Quantified Data for Southend-on-Sea	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
	<p>Victoria, Milton and Usaal have the lowest levels of car ownership in the Borough at 2,145, 1,896 and 1,879 households without a car, respectively (2001)</p> <p>Additionally car ownership has increased by over 13% between 1991 and 2001, adding 10,500 cars in Southend.</p>	<p>or van</p> <ul style="list-style-type: none"> • 43.8% – access to one car or van • 29.4% – access to 2+ car(s) or van(s) <p>The East of England has the second highest level of car ownership in England and Wales.</p>		<p>of car ownership have increased by over 13% between 1991 and 2001</p>			<p>Agency State of the Environment Report 2008</p>
<p>Inflow/ outflow of commuters</p>	<p>2001: - Southend-on-Sea: net daily outflow of 6,900</p>	<p>2001: - Luton: net daily inflow of 1,100 - Peterborough: net daily inflow of 17,300</p>	<p>No target identified</p>	<p>1981: - Southend-on-Sea: net daily outflow of 5,500</p>	<p>The net outflow of commuters is high for an urban area of Southend's size, and is increasing. Strategic job-led growth has been planned for Southend-on-Sea in order to reduce the imbalance between workers and local jobs which should reduce the outflow of commuters from Southend.</p>		<p>Southend-on-Sea Annual Monitoring Report 2008 (2001 Census).</p>
<p>Percentage of residents who think that for their local area, over the past three years, the level of traffic congestion has got better or stayed the same</p>	<p>2003-04: - Southend-on-Sea: 22.12%</p>	<p>2003-04: - England: 32.03%</p>	<p>No target identified</p>	<p>No trend data available.</p>	<p>The proportion of residents of Southend-on-Sea who think that traffic congestion has got better or stayed the same in 2003/04 was significantly lower than that observed for England as a whole.</p>	<p>Population</p>	<p>Audit Commission Profile.</p>

Indicator	Quantified Data for Southend-on-Sea	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
Satisfaction of residents with public transport	<p>2006-07:</p> <ul style="list-style-type: none"> - Percentage of residents satisfied with the frequency of buses: 58% <p>2003-04:</p> <ul style="list-style-type: none"> - Percentage of residents satisfied with the local bus service: 54% - Percentage of residents satisfied with the provision of public transport information: 49% - Percentage of residents who think that for their local area, over the past 3 years, the public transport has got better or stayed the same: 70.1% 	In 2006, the East of England was the region with the least accessible bus service, partly as a result of the lack of accessibility or rural areas. 8% of trips in the East of England are made by public transport, compared with a national average of 10%.	No target identified	<p>2003-04:</p> <ul style="list-style-type: none"> - Percentage of residents satisfied with the frequency of buses: 59% <p>2000-01:</p> <ul style="list-style-type: none"> - Percentage of residents satisfied with the local bus service: 47% - Percentage of residents satisfied with the provision of public transport information: 40% 	The percentage of residents who are satisfied with the public transport system in Southend-on-Sea is broadly comparable to that observed across England and has increased in recent years.	Population	Audit Commission Profile.
Percentage length of footpaths and rights of way which are easy to use	2005-06: 88%	2005-06:		<p>2004-05: 91%</p> <p>2003-04: 98%</p>		Population, Material Assets	Audit Commission Profile.
Percentage of the footway network which may require repair	2005-06: 13%	2005-06:		<p>2004-05: 52%</p> <p>2003-04: 51%</p>		Population, Material Assets	Audit Commission Profile.
Percentage of pedestrian crossing which have facilities for disabled people	2005-06: 98.2%	2005-06:		<p>2004-05: 98.0%</p> <p>2003-04: 98.0%</p>		Population, Material Assets	Audit Commission Profile.
Children living within 15 minutes travel time of a primary school by public	N/A					Population	

Indicator	Quantified Data for Southend-on-Sea	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
transport							
Children travelling to school by car	N/A					Population	
Access to Health facilities	N/A					Population	
Working age population with access to employment by public transport, walking and cycling	N/A					Population	
Percentage of the population within 20 minutes walking time of 3 different sports facilities, where at least one has achieved a quality mark	2006-07: - Southend-on-Sea: 72.3%	2005-06: - England: 31.64%		2005-06: - Southend-on-Sea: 69.9% 2004-05: - Southend-on-Sea: 68.4%		Population	Audit Commission Profile.
Number of people killed and seriously injured (KSI) on the roads (all)	2006: -Southend-on-Sea: 68 KSI		Reduce the number of people killed or seriously injured in Great Britain by 40% by 2010 based on 1994-1998 average. Reduce number of children killed or seriously injured by 50%. (Public Service Agreement target) Southend target for 2009/10: 69 on average per year	Southend-on-Sea: -2005: 78 KSI -2004: 88 KSI -2003: 101 KSI -2002: 99 KSI -2001: 87 KSI -2000: 106 KSI		Population	Southend-on-Sea Joint Strategic Needs Assessment 2008 (Southend-on-Sea Council), Audit Commission Profile. LAA Indicators and Targets 2008
Number of people killed and seriously injured (KSI) on the roads (children)	2005: - Southend-on-Sea: 8			2004: - Southend-on-Sea: 10 2003:		Population	Audit Commission Profile.

Indicator	Quantified Data for Southend-on-Sea	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
				- Southend-on-Sea: 14			
Number of pedestrians killed or seriously injured (KSI) on all roads in the LTP area	2006: - Southend-on-Sea: 24 KSI			<i>Southend-on-Sea:</i> -2005: 15 KSI -2004: 28 KSI -2003: 29 KSI -2002: 37 KSI -2001: 27 KSI -2000: 37 KSI		Population	Southend-on-Sea Joint Strategic Needs Assessment 2008
Total number of road accident casualties (all)	2005: - Southend-on-Sea: 670			2004: - Southend-on-Sea: 707 2003: - Southend-on-Sea: 759		Population	Audit Commission Profile.
Total number of road accident casualties (pedestrian)	2005: - Southend-on-Sea: 92			2004: - Southend-on-Sea: 120 2003: - Southend-on-Sea: 118		Population	Audit Commission Profile.
Total number of road accident casualties (cyclists)	2005: - Southend-on-Sea: 73			2004: - Southend-on-Sea: 60 2003: - Southend-on-Sea: 74		Population	Audit Commission Profile.

Table C.2 - Environmental Baseline

Indicator	Quantified Data for Southend	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
Biodiversity, Flora and Fauna							
Number of sites designated for nature conservation	<p>SSSI: Benfleet and Southend Marshes Great Wood and Dodds Grove Foulness Garrold's Meadow</p> <p>European Sites relevant to the LDF (identified in the Core Strategy): a) Benfleet and Southend Marshes SPA; b) Foulness SPA; c) Essex Estuaries SAC; d) Crouch and Roach Estuaries SPA; and e) Thames Estuary & Marshes SPA.</p> <p>NNR- Leigh</p> <p>LNR - Shoeburyness Belton Hills Belfairs Foreshore</p> <p>Local Nature Conservation zones under consideration by Natural England Stour Valley to</p>	<p>The East of England contains 567 SSSI, covering 6.6% of the land area. The majority of these are in favourable condition.</p> <p>Essex has 6 national identified nature reserves, 80 SSSI's, some as Ramsar sites, Special Protection Areas and Special Areas of Conservation.</p> <p>Marine Special Area of Conservation covers Colne, Blackwater Crouch and Roach</p> <p>East of England has 97 SACs and SPAs covering 124,990ha across the region</p> <p>The East of England supports 23% of England's resource of Lowland dry acidic grassland, supporting shepherds needle and the corn bunting bird Bog/ Swamps and Ferns support bitten birds</p> <p>The Nene, Ouse and Cam rivers are of regional importance</p> <p>The region is the richest in the UK of wetland habitat Woodlands which covers 7.3% of the region support oxslip and rare orchids</p> <p>Water courses support Native</p>	<p>PSA (Public Service Agreement) target is to have 95% of SSSIs to be in favourable condition or recovering by 2010.</p> <p>% Meeting PSA Target- May 2010</p> <p>Benfleet and Southend Marshes = 73.85%</p> <p>Foulness = 99.18%</p> <p>Great Wood and Dodd's Grove = 100%</p> <p>Garrold's Meadow = 100%</p> <p>1.0 ha per 1000 population (English Nature)</p>	<p>No new SSSI sites are likely to be designated.</p>	<p>Hadleigh Marshes contain important flora and fauna and are a feeding ground for Brent Geese.</p> <p>Benfleet and Southend Marshes supports an internationally important assemblage of overwintering waterfowl which includes significant populations of Brent Goose, Grey Plover, Red Knot and Dunlin. Although pressure on these areas is currently mainly from natural events, human activities have the capacity to significantly affect the special interest of the site. This SSSI is not meeting the PSA target.</p> <p>Essex and Southend-on-Sea Replacement Structure Plan, Policy C2 states: <i>Protection of the greenbelts target is to allow: No inappropriate development permitted within the Metropolitan</i></p>	<p>Biodiversity, Landscape, Fauna, Flora</p>	<p>www.naturalengland.org.uk, East of England Environment Strategy 2003 Southend-on-Sea LBAP Essex and Southend Replacement Structure Plan Southend-on-Sea LDF Sustainability Appraisal Nature on the map website, Environment Agency State of the Environment Report 2008 SA Report of the Core Strategy 2007</p>

Indicator	Quantified Data for Southend	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
	<p>Staford Leigh Hope covering the coast, Hocey and Hadleigh woods including Roach Valley</p> <p>% of Local Sites where positive conservation management has been or is being implemented (NI 197): 30</p>	<p>oyster laying and along coastal sections dolphins and whales</p> <p><i>England:</i> 4000+ SSSI 1280+ LNR</p>			<p><i>Green Belt. Benfleet and Southend Marshes support Brent Goose, Grey Plover, Red Knot and Dunlin.</i></p>		
<p>Population of species and areas of priority habitat</p>	<p>Southend-on-Sea LBAP Habitats:</p> <ul style="list-style-type: none"> • Monitor Mudflat and Sandflat Communities • Restore Local Ponds • Continue work on Green Corridor programme and encourage the growth in hedgerow habitat • Prevent further degradation of unimproved grassland and consider areas to create flower rich grassland <p>Species:</p> <ul style="list-style-type: none"> • Dark Bellied Brent goose • Skylark 	<p>There are 40 habitats of international importance in the East of England.</p> <p>Five UK Biodiversity Action Plan habitats are located in the East of England.</p>	<p>Southend-on-Sea LBAP Habitats:</p> <ul style="list-style-type: none"> • Monitor Mudflat and Sandflat Communities • Restore Local Ponds • Continue work on Green Corridor programme and encourage the growth in hedgerow habitat • Prevent further degradation of unimproved grassland and consider areas to create flower rich grassland <p>Species:</p> <ul style="list-style-type: none"> • Dark Bellied Brent goose 	<p>Based on current trends an estimated 34,000 plant and 5,200 animal species including one in eight of the world's bird species face extinction.</p> <p>Between 1994 and 2005, there was no significant change in the population of native, farmland and woodland bird species in the East of England. Overall there was a 6% increase in all bird species populations in the East of England, similar to the trend for England.</p>	<p>Southend-on-Sea had set up 5 conservation working parties: Hadleigh Great Wood Belton Hills LNR St Mary's Church Nature Reserve Tow Tree island Hadleigh Castle Country Park</p> <p>The East of England has seen a dramatic reduction in habitats in recent years, which has led to a decline in the number and variety of species in the region. All of the region's rare habitats are rarer than they were 50 years ago, some dramatically so. Nonetheless, several habitats in the East of England are internationally important,</p>	<p>Biodiversity, flora, fauna, soil</p>	<p>Southend-on-Sea LBAP East of England Regional Assembly Environmental Strategy 2003, Environment Agency State of the Environment Report 2009</p>

Indicator	Quantified Data for Southend	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
	<ul style="list-style-type: none"> • Heath Fritillary Butterflies • Shriill Carder Bee • Bats • Cetaceans • Dormouse • Water Vole • Great Crested Newt • Black Poplar • Deptford Pink <p>Species where proactive conservation has already been undertaken include:</p> <ul style="list-style-type: none"> • Heath Fritillary Butterfly • Deptford Pink [wild flower] • Water Vole • Black Poplar [tree] • Great Crested Newt 		<ul style="list-style-type: none"> • Skylark • Heath Fritillary Butterflies • Shriill Carder Bee • Bats • Cetaceans • Dormouse • Water Vole • Great Crested Newt • Black Poplar • Deptford Pink <p>Species where proactive conservation has already been undertaken include:</p> <ul style="list-style-type: none"> • Heath Fritillary Butterfly • Deptford Pink [wild flower] • Water Vole • Black Poplar [tree] • Great Crested Newt 		<p>particularly fens, saltmarsh, coastal lagoons and heathland.</p>		
<p>Number of Regionally Important Geological and Geomorphological Sites (RIGGS)</p>	<p>15 regionally or locally important Geological Sites are identified within Southend-on-Sea:</p> <ul style="list-style-type: none"> • Bournes Green Ice Wedge Polygons • Eastwood Pumping Station • Fossil mammals from Prittlewell • Jubilee Beach 				<p>The location of Southend-on-Sea in an area which was heavily influenced by glacial, proglacial and interglacial processes has resulted in the formation of many valuable geological sites which are at risk from damage and destruction as development of East</p>	<p>Soil</p>	<p>www.essexfieldclub.org.uk</p>

Indicator	Quantified Data for Southend	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
	<ul style="list-style-type: none"> Leigh cement works Leigh spring Roots hall gravel pit Shoebury brick pits Shoeburyness foreshore St. Lawrence Church boulder Thorpe Bay 'eolith' Thorpe Bay brickworks 				of England continues.		
Ecological Footprint	2001-2002 Southend-on-Sea: 5.55 global hectares per person	2001-2002: - Essex: 5.55 global hectares per person -UK: 5.4 global hectares per person The East of England has the second largest ecological footprint of all regions in England and Wales.			The Southend-on-Sea ecological footprint is approximately three times higher than the Earth's bio-capacity (1.8 gha per person).		Southend-on-Sea Joint Strategic Needs Assessment 2008 Environment Agency State of the Environment Report 2008 Global Footprint Network: 2006 Edition of the National Footprint Accounts http://www.footprintnetwork.org/webgraph/graphpage.php?country=uk
Landscape and Townscape							
Landscape Character Areas	Two Landscape Character Areas are found in the Borough: Thames Estuary Southend Coastal Town					Landscape	Southend-on-Sea Borough Council
Tranquillity	Southend-on-Sea is	Mean tranquillity score			The mean tranquillity	Landscape	Campaign to

Indicator	Quantified Data for Southend	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
	ranked as No.75 (where No.1 is most tranquil) among 87 English Unitary Authorities. The Southend-on-Sea mean tranquillity score: -55.6	East of England:-3.27 England: -9.34			score for Southend-on-Sea is - 55.6, which is significantly lower than East of England score of – 3.27 and England average of -9.34. The positive tranquillity score indicates that countryside features that make its visitors feel tranquil predominate, whilst negative scores suggest that countryside character detracts from feelings of tranquillity. Amongst all English Unitary Authorities Northumberland has the highest score of 28.6 and Slough Unitary Authority has the lowest of -79.5.	Human Health	Protect Rural England: http://www.cpre.org.uk/campaigns/landscape/tranquillity/local-tranquillity-scores
Extent of Green Belts	The scale of the urban area of Southend-on-Sea is protected by Southend's green belt which is on its boundary with Rochford and Castle Point by Marine Parade and Belton Hill	<i>Area of designated green belt (2008/09):</i> - England: 1,638,840ha		No target but demonstrates need for considering protecting green belt.		Biodiversity, Fauna, Flora Landscape	Environment Agency State of the Environment Report 2008
Urban Open Space	14 Parks ranging from nature reserves to formal gardens. Green Flag Awards for Chalkwell Park, Priory Park, Southchurch Park, Belfairs Park and Shoebury Park. Other parks include:	The East of England was awarded 30 Green Flag Awards in recognition of its high quality parks and open spaces.			Three out of the parks in Southend-on-Sea have been designated green flag parks. Attempts are being made to raise the standard of all parks in the Borough	Landscape, cultural heritage	Southend-on-Sea Borough Council Environment Agency State of the Environment Report 2008

Indicator	Quantified Data for Southend	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
	<p>Churchill Gardens Edwards Hill Park Gunners park Marine Parade Prittlewell Square Eastwood Park Shoebury Park Southend Cliffs Southchurch Hall Gardens South Church Park</p> <p>14 allotments in Southend-on-Sea: Ewards Hill Allotments Bridgewater Drive Springfield Drive Rochford Road Manners Way Norwich Avenue Eastern Avenue Sandringham Road Lifstan Way Hamstel Road Herbert Road St Andrews Road Delaware Crescent Vincent Crescent</p> <p>Southend Pier and foreshore are also recreation destinations</p>						
Agricultural land	<p>Southend-on-Sea contains very little undeveloped land used for agriculture. Land that is used covers the northern edge of the Borough</p>	<p>The main area of excellent quality, grade 1, agricultural land in the East of England occurs in the low lying Fens, where soils are developed in marine silt or deep peat.</p>			<p>Southend-on-Sea is predominantly urbanised with little agricultural land, however land that is used for agriculture is of the significant importance and quality.</p>	Landscape	<p>Southend-on-Sea LDF Sustainability Appraisal</p>

Indicator	Quantified Data for Southend	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
	and is of Grades 1 & 2, the highest quality and therefore of significant importance.						
Historic Environment							
Listed Buildings	Southend-on-Sea has 148 Listed Buildings: - 6 Grade I - 138 Grade II - 1 Grade II* - 3 Grade B	East of England 5258 Listed Buildings East of England – 11 entries were removed from this region, however 7 additions to the registrar were received 2004/05	No targets identified	The number of listed buildings is increasing as more valuable buildings are afforded protection. However, this increase is progressing at a slow rate.		Cultural Heritage	
Listed Buildings at Risk	Southend-on-Sea has 1 entry on the buildings at risk ▪ Manor House, Suttons Road	2009: East of England: 1.6% of Grade 1 and Grade II* listed entries are on the 'at risk' register. England and Wales: 3.1% of Grade 1 and Grade II* listed entries are on the 'at risk' register.		England 2004: 94 buildings were removed from the buildings at risk registrar. the target of removing 32% of properties a year was exceeded by 0.2% The total number of buildings at risk has decreased since 1999 by 6.3% However, the number of buildings in need of public subsidies for restoration is increasing		Cultural Heritage	English Heritage Heritage at Risk Register 2009
Conservation Areas	14 conservation areas (Cliff town, Shorefields, Milton, Warrior Square, Leigh, Leigh Cliff, Leigh Old Town, Chapmanslord, Prittlewell, Shoebury Garrison, Crewstone, Eastern Esplanade,	There are around 1,200 conservation areas in the East of England.	Percentage of Conservation Areas with published appraisals and management plans by 2010: 100%			Cultural Heritage	Southend-on-Sea Core Strategy 2007, www.southend.gov.uk English Heritage Heritage at Risk Register 2009

Indicator	Quantified Data for Southend	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
	<p>Kursaal and The Leas)</p> <p>Percentage of Conservation Areas with completed appraisals: 43%</p> <p>Conservation Areas at Risk: Kursaal</p>						
Scheduled Monuments	<p>Southend-on-Sea has a number of nationally important scheduled monuments:</p> <ul style="list-style-type: none"> • Prittlewell Camp • The Danish Camp • Prittlewell Priory • South Church Hall • Cold War defence Boom • World War 2 Garrison <p>None of these scheduled monuments are considered to be at risk.</p>	<p>2009:</p> <p>East of England: 1,725 scheduled monuments, of which 12.6% (221) were at risk</p> <p>England: 19,719 scheduled monuments, of which 17.9% (3,535) were at risk</p>		<p>2006:</p> <p>East of England: 1,706 scheduled monuments, of which 17% (288) were at risk</p>	<p>Although none of the scheduled monuments in Southend-on-Sea are considered to be at risk, a significant proportion of those in the East of England are at risk, and the potential sources of risk continue to threaten valuable heritage features. The number of sites at risk decreased between 2006 and 2009.</p>	Cultural Heritage	English Heritage Heritage at Risk Register 2009
Soil and Water including Flooding							
Extent of brownfield land	<p>2007:</p> <p>- Approximately 220ha of brownfield land</p>					Soil, Landscape	
Proportion of new homes built on previously developed land	<p>2005-06:</p> <p>-Southend-on-Sea: 100%</p>			<p>2004-05:</p> <p>-Southend-on-Sea: 100%</p> <p>2003-04:</p> <p>-Southend-on-Sea: 100%</p>		Soil, Landscape	Audit Commission Profile.

Indicator	Quantified Data for Southend	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
<p>Water Quality (Biological and Chemical)</p>	<p>The main water courses in Southend are Prittlebrook rated grade D-C* between 1988-2002 in the latter years grade C</p> <ul style="list-style-type: none"> • Eastwood Brook rated E-C between 1988-2002 in the latter years grade C • Drainage Ditch – Southchurch Park East • Drainage Ditch - Willingale Way • Drainage Ditch - Royal Artillery Way • Rochford Reservoir – Rated E-D between 1988-2002 in the latter years grade C • Rayleigh Ditch rated E-D between 1988-2002 in the latter years grade D • Harwell Brook rated D-C between years 1991-2002 in the latter years grade C <p>* ratings, Grade A-very good- Grade F-very bad</p>	<p><i>2006 East of England:</i> 97% of river length assessed as good or fair biological quality 87% of river length assessed as good or fair chemical quality</p> <p><i>2005, UK:</i> 54.2% of river length assessed as good biological quality 49.32% of river length assessed as good chemical quality</p> <p><i>2003, UK:</i> Approximately 95% of rivers were of good or fair chemical quality Approximately 73 % of rivers were of good chemical quality. Approximately 96% of rivers were of good or fair biological quality</p>	<p>National Standards - By 2005 initiate action to restore to favourable condition (typical plant and animal communities present) other important sites that have been damaged by human activity.</p> <p>There are no agreed UK Habitat Action Plan targets for all rivers and streams.(<i>Southend LBAP</i>)</p>	<p><i>2006-07</i> - UK: 71%</p> <p><i>2003, England::</i> 93 % of river lengths were of good or fair chemical quality, compared with 84 % in 1990. 62 % were of good quality, compared with 43% in 1990. 95 % of river lengths were of good or fair biological quality compared with 89 % in 1990. 69 % were of good biological compared with 60 % in 1999.</p> <p>The percentage of rivers with a good chemical grading decreased from 54% in 2001 to 44% in 2006. Despite this, the chemical quality of our rivers has improved since the early 1990s. The biological quality of rivers since 2000 is a vast improvement on the 1990 levels, and the level of phosphates in river water has reduced</p>	<p>Environment Agency figures for England and Wales water pollution show that no river in the monitored period or area achieved a rating higher than that of average/fair. The general quality of water courses in Southend is of poor quality.</p> <p>Additionally, in 2001 10 sites did not comply with list 1 dangerous substances standards 2002 173 (13%) of sites did not comply with list 2 dangerous substances targets (however the total number of list 2 sites has increased steadily since 1994)</p>	<p>Water</p>	<p>www.defra.gov.uk, www.environment-agency.gov.uk Environment Agency State of the Environment Report 2008</p>

Indicator	Quantified Data for Southend	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
				<p>over the same period. River quality in the area is improving, however in relation to the Environment Agencies rating no main river/ brook surveyed has been given higher than a grade C.</p>			
<p>Groundwater source protection zones (SPZ)</p>	<p>Southend-on-Sea does not include any Groundwater SPZs.</p>	<p>The Environment Agency has designated 2000 groundwater SPZs across England and Wales which identify areas where the quality of the groundwater is at risk from contamination.</p>	<p>No targets identified</p>	<p>No trend data identified</p>	<p>Southend-on-Sea does not include any Groundwater SPZs.</p>	<p>Water</p>	<p>Environment Agency website</p>
<p>Extent of Floodplain</p>	<p>Leigh-on-Sea round the coast to the boom has a low chance of flood (1 in 200 years).</p> <p>Southchurch Park to Thorpe Hall golf course, at Shoebury Common and Cambridge Town, and south of the boom at Pig's Bay, the area susceptible to coastal flooding comes more than 400m inland</p> <p>Flood risk in the centre of the built up area of Southend-on-Sea, is</p>	<p>Around 190,000 business or residential properties are at risk of flooding in the East of England.</p>			<p>A large area to the North East border of the Borough is classified by the Environment Agency as being in risk of flooding from rivers or sea without defences</p> <p>Associated impacts of these defences is the 'coastal squeeze' problem that is adversely affecting the important nature conservation and biodiversity habitats of the Thames Estuary.</p>	<p>Water, landscape</p>	<p>Environment Agency Southend-on-Sea LDF Sustainability Appraisal</p>

Indicator	Quantified Data for Southend	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
	<p>moderate to significant, with a 1 in 75 year risk of flooding.</p> <p>A large section of the beach between Southend Pier to Thorpe Hall has benefited from improved flood defences.</p>				<p>Flood risk is predominantly from tidal inundation; however the majority of the Borough is protected against flood.</p>		
Air Quality and GHG emissions							
CO ₂ Emissions	<p><i>Southend-on-Sea 2007:</i></p> <ul style="list-style-type: none"> - 5.8 tonnes CO₂ per capita - 160kt (17.2%) CO₂ from road transport - 414kt (44.5%) CO₂ from domestic activities - 356kt (37%) CO₂ from industrial and commercial activities - 931kt - total CO₂ 	<p><i>2004:</i></p> <ul style="list-style-type: none"> - Essex: Total CO₂ emissions per capita: 8.5 tonnes <p>East of England</p> <ul style="list-style-type: none"> - transport: 14,439kt (32.7%) - total CO₂: 44,106kt <p>- UK: Total CO₂ emissions per capita: 9.2 tonnes</p> <ul style="list-style-type: none"> - transport: 136,361kt (26.6%) - total: 513,216kt <p>97 sites in the East of England generate electricity from renewable sources, principally biomass, wind and wave power. The region is likely to achieve its offshore targets for renewable energy by 2010.</p>	<p>The UK contribution to the Kyoto target is to reduce greenhouse gas emissions by 12.5% from 1990 levels by 2008-2012.</p> <p>The UK target is to reduce carbon dioxide emissions by 20% by 2010 and an aspiration to reduce by 60% by 2050 based on 1990 levels. The East of England is aiming to achieve this target by 2025.</p> <p>The UK target to produce 10% of our electricity from renewable sources</p>	<p><i>Southend-on-Sea 2006:</i></p> <ul style="list-style-type: none"> 6.0 tonnes CO₂ per capita - 160kt CO₂ from road transport - 430kt CO₂ from domestic activities - 373kt CO₂ from industrial and commercial activities <p><i>2005:</i></p> <ul style="list-style-type: none"> 6.1 tonnes CO₂ per capita - 160kt CO₂ from road transport - 433kt CO₂ from domestic activities - 367kt CO₂ from industrial and commercial activities <p><i>2004:</i></p> <ul style="list-style-type: none"> - Domestic CO₂ 	<p>The CO₂ emissions per capita from Southend-on-Sea are lower than that for Essex and UK due to the relatively low levels of emissions from industrial and commercial sources. The volume of CO₂ emissions produced by road transport has stayed roughly the same but emissions for domestic, commercial and industrial activities in Southend-on-Sea reduced between 2005 and 2007. Proportion of road transport CO₂ emissions in Southend are lower than the regional and national averages. However, there is still a need to reduce CO₂ emissions.</p>	Air, Climatic Factors	<p>Audit Commission Profile. Southend-on-Sea Joint Strategic Needs Assessment 2008</p> <p>DECC 2007 UK carbon dioxide emissions for Local Authority areas, revised Nov 2009</p> <p>http://www.decc.gov.uk/en/content/cms/statistics/climate_change/climate_change.aspx</p>

Indicator	Quantified Data for Southend	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
			<p>such as wind, sun and wave by 2010 and 15% by 2015.</p> <p>The East of England aims to produce 14% of energy from renewable sources by 2010.</p>	<p>emissions per capita: 2.5 tonnes</p> <ul style="list-style-type: none"> - Total CO₂ emissions per capita: 5.2 tonnes <p>2003:</p> <ul style="list-style-type: none"> - Domestic CO₂ emissions per capita: 2.7 tonnes - Total CO₂ emissions per capita: 5.3 tonnes <p>By 2080 the climate in the East of England is expected to be 3 to 5 degrees Celsius warmer; wetter winters and drier summers are predicted, along with an increase in the number of storms and their intensity, and in the number of flooding events. Sea levels are expected to rise by 22 to 82 cm on the Essex coast.</p>			
UK national air quality objectives	<p>2004/05 roadside monitoring data (A127, A1159)</p> <p>2004 NO₂: 23.6 µg/m³ PM₁₀: 20.3 µg/m³</p> <p>There are no designated Air Quality Management Areas (AQMAs) in Southend-on-Sea.</p>	<p>Southend-on-Sea</p> <p>NO₂ (µg/m³)</p> <p>2001/02: 32 2002/03: 27 2003/04: 31 2004/05: 23 2005/06: 17 2006/07: 22</p> <p>PM₁₀ (µg/m³)</p> <p>2001/02: 26 2002/03: 25</p>	<p>NO₂ - 40 µg/m³ annual mean (2010) and 200 µg/m³ not to be exceeded more than 18 times per year (2005)</p> <p>PM₁₀ - 40 µg/m³ annual mean (2010) and 24-hour mean concentration should not exceed 50µg/m³ more than</p>	<p>Regular exceedences of certain targets, additional monitoring is required. (<i>Essex County State of the Air Report</i>)</p> <p>There is no clear long-term trend for air pollution in the East of England, although the region has above-average poor</p>	<p>The LDF core Strategy Sustainability Appraisal states that: Pollution from vehicles is the biggest contributor to the air quality in the borough, and it is important that development takes place within the Borough so as not to cause large increases in road transport and hence</p>	Air, climatic factors	<p>Environment Agency Air Quality Standards 2005</p> <p>Southend HCEA Report 1996</p> <p>Atkins APR5 Southend BC</p> <p>Southend-on-Sea LTP 5th Annual Progress Report</p>

Indicator	Quantified Data for Southend	Comparator	Targets	Current Trends	Issue Identified	SEA topic	Source
		<p>2003/04: 22 2004/05: 20 2005/06: 16 2006/07: 24</p> <p>(Figures are based on the LTP APR)</p> <p>There are 24 designated AQMAs in the East of England, the majority of which are in urban centres, associated with vehicle emissions.</p>	<p>35 times a year</p> <p>PM_{2.5} (exposure reduction): annual mean concentration should not exceed 25 µg/m³ and urban areas: target of 15% reduction in concentrations at urban background.</p> <p>(Based on National Air Quality Strategy)</p>	<p>air quality days compared to the UK average.</p>	<p>detriment to air quality.</p> <p>Essex Air quality consortium is involved in a number of air quality studies</p> <p>Southend LTP is committed to Local Air Quality Management. Initiatives to improve air quality are pursued through the Integrated Transportation Plan and in conjunction with local community groups, businesses and transportation providers including awareness measures.</p> <p>Analysis of relevant monitoring results confirms that exceedences of the annual mean AQS objective are currently monitored at busy roadsides where monitoring is undertaken.</p>		<p>July 2005 and Progress Report 2008</p> <p>Southend LDF Core Strategy Sustainability Appraisal</p> <p>Essex CC</p>

Appendix D – LTP2 SEA Framework

Table D.1 - LTP2 SEA Framework

Key to Data Availability for Indicators

Bold = Known data for Southend-on-Sea
Underlined = Data for Southend on Sea currently unknown

Key to Targets

Bold = Southend's agreed target
Italic = Non-Southend target

No	SEA Objective	Headline Indicator	Detailed Indicators	Target	SEA Topics
Environment and Natural Resources					
1	To maintain and improve local air quality	<i>Levels of main air pollutants</i>	<i>Levels of main pollutants for national air quality targets</i>	NO ₂ - 30 µg/m ³ annual mean (2005) and 200 µg/m ³ not to be exceeded more than 18 times per year (2005) PM ₁₀ - 23 µg/m ³ annual mean (2010) and 50 µg/m ³ not to be exceeded more than 10 days per year (2010)	Air, human health
			<i>Number of days of poor or moderate air quality</i>	Urban 9-19 days per annum Rural 42 per annum	
2	To conserve and enhance the Borough's biodiversity	Number, area and condition of designated sites	Type, area and condition of locally important habitats (not designated)	To meet the targets for the protection and enhancement of a range of individual species and wildlife habitats within the LBAP over the next 10 years	Biodiversity, flora, fauna, water, soil
			<u>Populations and spatial distribution of priority species</u>	To halt the loss of biodiversity by 2010 (European Biodiversity Strategy target)	
			<u>Number of schemes promoting conservation and enhancement of biodiversity</u>	To halt the loss of biodiversity by 2010 (European Biodiversity Strategy target)	
3	To avoid damage and fragmentation of designated and other important habitats	Number, area and condition of designated sites affected by LTP schemes	<u>Area and condition of designated sites affected by the LTP proposals</u>	PSA target to have 95% of SSSIs to be in a favourable condition or recovering by 2010	Biodiversity, flora, fauna, water, soil
			<u>Area and condition of locally important sites affected by LTP proposals</u>	To comply with the requirements of and achieve the targets contained within the LBAP.	
4	To protect and enhance surface and ground water quality	% of water course classified as good or fair biological and chemical quality	<u>Number of pollution incidents attributable to transport related activities</u>	No reduction in biological and chemical quality of watercourses in the Borough	Water, soil
			<u>Numbers of transport schemes incorporating conditions (such as SUDS) to protect surface water, where these have been requested by the Environment Agency</u>	No reduction in biological and chemical quality of watercourses in the Borough	

No	SEA Objective	Headline Indicator	Detailed Indicators	Target	SEA Topics
		Groundwater quality	<u>Number of transport schemes incorporating conditions to protect groundwater, where these have been requested by the Environment Agency</u>	No reduction in groundwater quality of watercourses in the Borough	
5	To safeguard soil quality and quantity and maintain the resource of productive soil	Area and quality of agricultural land	<u>Number of pollution incidents attributable to transport</u>	No target identified	Soil
			<u>Area of grade 1, 2 or 3a agricultural land</u>	No target identified	
			<u>Area of grade 1, 2 or 3a agricultural land permanently lost as a result of transport schemes</u>	No target identified	
6	To reduce the risk of flooding	Area of land at risk of flooding	<u>Number of new transport schemes in flood risk areas</u>	No target identified	Water
			<u>% of floodplain changing to new/planned transport related schemes</u>	No target identified	
7	To maintain and enhance the quality and character of the landscape	Number/Area of Landscape Character Areas	<u>Number of transport measures aimed at improving local landscape character areas</u>	No target identified	Landscape, cultural heritage
			<u>% change in landscape areas and open space areas</u>	No target identified	
8	To reduce greenhouse gas emissions	Emissions of greenhouse gases by sector	<u>Vehicle kilometres travelled in the Borough per year</u>	To reduce CO ₂ emissions by 20% by 2010 from a 1990 baseline figure (national target, not sector specific)	Climatic factors
			<u>Number of vehicles powered by alternative low-carbon fuels within the Council fleet</u>	To reduce CO ₂ emissions by 20% by 2010 from a 1990 baseline figure (national target, not sector specific)	
			<u>CO₂ emissions for transport sector (tonnes per year)</u>	To reduce CO ₂ emissions by 20% by 2010 from a 1990 baseline figure (national target, not sector specific)	
Built Environment and Socio-Economic					
9	To reduce noise pollution	<u>Noise Levels</u>	<u>Number of noise complaints received relating to transport activities</u>	No target identified	Human health, population
			<u>% of road network surfaced with low road noise materials</u>	No target identified	
			<u>Noise Levels</u>	No target identified	
10	To improve overall levels of health and reduce health inequalities between different groups and different areas	Mortality rates by cause	Life expectancy	No target identified	Human health, population
			<u>Mortality rates by cause and age range per 100,000</u>	No target identified	
			<u>Number of 'healthy walks' schemes created</u>	To introduce 'healthy walks' schemes	
			% of people who describe their health as good	No target identified	

No	SEA Objective	Headline Indicator	Detailed Indicators	Target	SEA Topics
			% of people who describe their health as not good	No target identified	
11	To reduce road traffic and congestion through modal shift to more sustainable transport options	Composition and volume of road traffic	Vehicle kilometres per average weekday	To keep traffic growth below 11% from its 1999 level of 1.5 million vehicle kilometres per average weekday (Based on STAT modelling)	Population, human health, air, climatic factors
			Congestion (vehicle delay)	To keep traffic growth below 11% from its 1999 level of 1.5 million vehicle kilometres per average weekday (Based on STAT modelling)	
			<u>Number of junction improvement schemes implemented as percentage of total identified within the Borough</u>	No target identified	
			% of vehicles with more than one occupant on key routes in the town centre	20%, 35%, 30% of vehicles travelling during the morning, inter-peak and evening peak period with more than one occupant respectively by 2010/11 (LTP target: Tacking Congestion 2)	
		Modal Split	<u>Frequency/reliability of public transport</u>	By 2010/11 60% of users are satisfied with local bus services. By 2015/16, 90% of buses arrive on time	
			Public transport patronage (BVPI102)	UK target to increase rail patronage by 50% in 2010 over 2000 levels (BVPI)	
			Satisfaction with Local Bus Services (BVPI104)	60% by 2010/11(BVPI)	
			% increase in number of bus passenger journeys on key routes	To halt a decline in bus patronage and maintain the 2003/4 level by 2010/11	
			<i>Number of Green Travel Plans and School Travel Plans</i>	To have workplace travel plans in place at the town's major employment sites and School Travel Plans at 35 Schools in the Borough.	
			<u>Number of 'walking bus' routes at Primary School</u>	Increase in the number of waking bus routes at primary schools by 2010/11	
<u>% of walking and cycling trips per annum</u>	Percentage of national, regional and local cycle network completed in the				

No	SEA Objective	Headline Indicator	Detailed Indicators	Target	SEA Topics
				Borough	
			<i>Annualised index of cycling trips</i>	15% by 2010/11	
12	To promote safe communities, reduce crime and the fear of crime	Overall Crime Rates	Vehicle crime per 1000 population	To reduce the number of vehicle crime committed per 1,000 population	Population, human health
			Burglary offences per 1000 population	To reduce the number of domestic burglaries committed per 1,000 households	
			Robberies per 1000 population	To reduce the number of robberies committed per 1,000 population	
			<u>Number of reported crimes on public transport</u>	No target identified	
13	To improve accessibility and transport links to key services and employment areas	No headline indicator identified	<u>ha of accessible green space per 1000 population</u>	1ha of accessible greenspace per 1000 people (based on English Nature's Accessible Natural Greenspace Standards)	Population, human health
			<u>Pedestrian crossings with facilities for disabled people</u>	100% by 2010/11	
			<u>Number of LTP2 initiatives to improve access to essential facilities</u>	No target identified	
			<u>% of bus fleet complying with DiPTAC Levels of Accessibility</u>	100% by 2010/11 (LTP target Delivering Accessibility 6)	
14	To improve road safety	Number of Traffic Accidents	Total Number of adults killed or seriously injured overall (BVPI99x)	40% reduction from 1994-98 average by 2010/11 (BVPI)	Population, human Health
			Total Number of children killed or seriously injured (BVPI99y)	50% reduction from 1994-98 average by 2010/11 (BVPI)	
			Total slight injuries per vehicle kilometres (BVPI99z)	20% reduction from 1994-98 average by 2010/11 (BVPI)	
15	To maintain and enhance the quality and distinctiveness of the Borough's built environment and cultural heritage	Condition of Conservation Areas	<u>Number of LTP proposals contributing to improving the built environment</u>	Reduce the number of Listed Buildings categorised as being at risk	Cultural heritage
		No of Listed Buildings and proportion considered at risk	<u>Number of known and unknown archaeological sites affected by transport schemes</u>	No target identified	
		Local Environmental Quality	LEQ score for BVPI 199 Cleanliness	Continual improvement in LEQ score	

No	SEA Objective	Headline Indicator	Detailed Indicators	Target	SEA Topics
16	To reduce the amount of waste requiring final disposal through minimisation, re-use and recycling	Use of recycled materials in transport scheme construction	<u>Re-use of road materials and use of recycled materials in road construction and maintenance</u> <u>Proportion of recycled materials used in transport related construction</u>	To recover 70% of household waste by 2015 (East of England Regional Waste Strategy) No target identified	Material assets, water, soil
17	To increase energy efficiency and the use of renewable energy sources	No headline indicator identified	<u>Number of transport schemes featuring energy efficient design and/or use of renewable energy</u> <u>Proportion of Council and bus fleets using alternative fuel technology.</u>	10% renewable energy target by 2010 (Government target)	Climatic factors, material assets

Table D.2 - Core Strategy Sustainability Appraisal Framework

Figure 7.1: Sustainability appraisal framework for the SA of Southend on Sea LDF

Concern	Explanation and desirable direction of change	Means of identifying and reporting impact and contribution of the proposals and policies in the LDF
Social progress which recognises the needs of everyone		
Accessibility	<ul style="list-style-type: none"> to enable people all to have similar and sufficient levels of access to services, facilities and opportunities 	<ul style="list-style-type: none"> doc – likelihood of increase in facilities and mix of uses
Housing	<ul style="list-style-type: none"> to provide the opportunity for people to meet their housing needs 	<ul style="list-style-type: none"> quan – no of dws created quan – no of affordable dws (by different types) likely to arise - regional target is for a minimum of 30% of all housing to be affordable
Education & Skills	<ul style="list-style-type: none"> to assist people in gaining the skills to fulfil their potential and increase their contribution to the community 	<ul style="list-style-type: none"> doc – but little reliability of prediction
Health, safety and security	<ul style="list-style-type: none"> to improve overall levels of health, reduce the disparities between different groups and different areas, and reduce crime and the fear of crime 	<ul style="list-style-type: none"> quan – area and population subject to increased or decreased risk of flooding doc – likelihood of increased or decreased health standards (but little reliability of prediction)
Community	<ul style="list-style-type: none"> to value and nurture a sense of belonging in a cohesive community, whilst respecting diversity 	<ul style="list-style-type: none"> doc – but little reliability of prediction
Effective protection of the environment		
Biodiversity	<ul style="list-style-type: none"> to maintain and enhance the diversity and abundance of species, and safeguard these areas of significant nature conservation value 	<ul style="list-style-type: none"> quan – area of significant habitat affected quan – potential area of significant habitat created / better managed doc – likelihood of increase in biodiversity from creation of opportunities
Landscape character	<ul style="list-style-type: none"> to maintain and enhance the quality and character and cultural significance of the landscape, including the setting and character of the settlement 	<ul style="list-style-type: none"> quan – area of open land affected quan – area of designated landscape affected doc – likelihood of harmful change to character of landscape creating setting of the urban area

Built environment	<ul style="list-style-type: none"> to maintain and enhance the quality, safety and distinctiveness of the built environment and the cultural heritage 	<ul style="list-style-type: none"> quan – area of useable and amenity open space affected quan – potential area of useable and amenity open space created quan – area of valued townscape harmed by change doc – likelihood of increase in urban quality through new provision and investment doc – likelihood of increase in urban quality through emphasis on quality
Prudent use of natural resources		
Air	<ul style="list-style-type: none"> to reduce all forms of air pollution in the interests of local air quality and the integrity of the atmosphere 	<ul style="list-style-type: none"> doc – likelihood of increase or decrease in emissions. Regional target is for stabilising car traffic levels in Southend at 1999 levels and to increase the proportion of freight carried to and from ports by rail to 30% by 2020. Regional target to increase the proportion of energy met from renewable sources (on-shore + off-shore) to 44% by 2020.
Water	<ul style="list-style-type: none"> to maintain and improve the quantity and quality of ground, sea and river waters, and minimise the risk of flooding 	<ul style="list-style-type: none"> doc – likelihood of increase or decrease in emissions quan – number of planning applications granted contrary to Environment Agency advice on flood risk.
Land	<ul style="list-style-type: none"> to use land efficiently, retaining undeveloped land and bringing contaminated land back into use 	<ul style="list-style-type: none"> quan – area of open land affected irreversibly by development. quan – area of damaged land likely to be brought back into use - national and regional previously developed land target is 60% and minimum dwelling densities at 30 dwellings per hectare.
Soil	<ul style="list-style-type: none"> to maintain the resource of productive soil 	<ul style="list-style-type: none"> quan – area of productive land affected
Minerals and other raw materials	<ul style="list-style-type: none"> to maintain the stock of minerals and other raw materials 	<ul style="list-style-type: none"> quan – area of potential minerals extraction put beyond viable exploitation by development doc – efficiency of the use of primary and secondary materials doc – likely affect on reuse and recycling of materials - regional target to recover 70% of household waste by 2015

Energy sources	<ul style="list-style-type: none"> to increase the opportunities for energy generation from renewable energy sources, maintain the stock of non renewable energy sources and make the best use of the materials, energy and effort embodied in the product of previous activity 	<ul style="list-style-type: none"> quan – contribution likely from energy generation from renewable source schemes quan – contribution likely from energy generation within new buildings doc – likelihood of increase in efficiency of energy use in new development
Maintenance of high and stable levels of economic growth and employment		
Local economy	<ul style="list-style-type: none"> to achieve a clear connection between effort and benefit, by making the most of local strengths, seeking community regeneration, and fostering economic activity 	<ul style="list-style-type: none"> doc – likelihood of increase in desirable economic characteristics
Employment	<ul style="list-style-type: none"> to maintain and enhance employment opportunities matched to the size of the local labour force and its various skills, and to reduce the disparities arising from unequal access to jobs 	<ul style="list-style-type: none"> quan – potential number of new jobs in different sectors and match to predicted needs of workforce
Wealth creation	<ul style="list-style-type: none"> to retain and enhance the factors which are conducive to wealth creation, including personal creativity, infrastructure, accessibility and the local strengths and qualities that are attractive to visitors and investors 	<ul style="list-style-type: none"> doc – likelihood of increase in desirable economic characteristics

Notes: **doc** – matter where prediction of outcome likely to be presented in terms of ‘likely direction of change’

quan – matter where prediction of outcome likely to be presented in quantified terms

Appendix E – Consultation Comments

Table E.1 - Consultation Comments on SEA LTP3 Scoping Report

Relevant section in the report	Comments	Response to the Comment
Natural England, Harbour House, Hythe Quay, Colchester, Essex		
Section 1, Temporal Scope of LTP3	Natural England supports the principle that the LTP3 should cover a 15 year period, although we believe that there should also be scope for an earlier review if there were to be a large change in material circumstances (eg major modal shift in transport modes triggered by unforeseen external factors; or a major change in the circumstances of Southend Airport). We also support the proposal that the accompanying Implementation Plan should be subject to review every 3 years.	Comment noted and will be taken into consideration by LTP3 team
General comment	Natural England considers that the SEA Scoping Report, which follows the methodology laid out in A New Approach to Transport Appraisal (NATA), appears to have adequately identified all of the key issues.	Noted and appreciated.
Section 3, Table 3.1 'Sustainability and Environmental Themes Derived from the Review of PPPs'	In Table 3.1, against the theme 'To protect and enhance the quality of the regions ground and river waters', the 'Local' column should probably include a reference to the relevant Water Cycle Study. Similarly, against the theme 'To minimise the use of primary natural resources and conserve soil resources and quality', alongside the reference to The Essex and Southend Waste Local Plan 1997-2010, there should probably also be a reference to the corresponding Minerals Plan.	Noted. Essex Thames Gateway Water Cycle Study Scoping Study 2009 and Adopted Minerals Local Plan First Review 1996 have been reviewed and added to the relevant tables in the main report and Appendix A.
Section 3, Table 3.2 'Links between	In Table 3.2, under 'Air pollution', whilst the pollutants listed are indeed those most commonly associated with transport, there is	Noted. Ammonia emissions have been referenced in Table 3.2 in terms of their health

Relevant section in the report	Comments	Response to the Comment
Transport and Health Outcomes and Determinants'	also an increasing issue, especially in urban areas, relating to ammonia emissions arising from the use of catalytic converters. In addition to being a pollutant in its own right, ammonia also contributes to the deposition of both nitrogen and acidity. Ammonia is not currently included within the NATA or Design manual for Roads and Bridges (DMRB) methodologies. However recent research indicates that, beside major roads, about half of the total nitrogen deposition may be attributable to ammonia.	effects (i.e. involved in the formation of PM).
Baseline Section – Environmental data	In section 4.20, under 'Environmental Data', the first bullet point would benefit from clarification as to exactly which sites are to be included (European & international sites, SSSIs, CWS/LoWS).	The first bullet point has been extended to specify which sites were included in the baseline tables.
Section 5, table 5.1 – Issues on Flooding and/or Need for Climate Change Adaptation	<p>In Table 5.1, the section(s) on 'Flooding' and/or 'Need for Climate Change Adaptation' could possibly be expanded to include an acknowledgement of the linkage between drainage (which may potentially include drainage from transport infrastructure) and the instability problems affecting the seafront cliffs.</p> <p>With rising sea levels, there may also be an increasing issue of localised tidal flooding along the seafront or of flooding due to 'tidal-locking' of drains. A number of the surface water drains from the Esplanade are in very poor condition: some with partially collapsed pipes, and others with badly corroded tidal flap valves.</p>	Noted. This information has been added to the description of the issue on Flooding. The implications under this issue are already linked to climate change; therefore this information was not repeated under the issue on Need for Climate Change Adaptation.
Section 6, Table 6.1 'Draft SEA	In Table 6.1, under Objective 2 'To conserve and enhance the Borough's biodiversity, important	Noted. The suggested indicator has replaced the previous indicator (NI

Relevant section in the report	Comments	Response to the Comment
Framework'	wildlife habitats and geodiversity', a suitable target for 'NI 197 Improved local biodiversity – active management of local sites' could be: "Ensure that any NI197 qualifying local sites within the transport estate are in positive management".	197), as a more focused one for the transport plan.
Section 6, Table 6.1 'Draft SEA Framework'	Also in Table 6.1, under Objective 8 'To reduce the amount of waste requiring final disposal through minimisation, re-use and recycling', we consider that the first target should relate more directly to transport rather than to household waste – either in terms of recycling of road materials in place of primary aggregates, or by balancing cut and fill to reduce import/export of spoil.	Noted. The comment has been addressed.
Section 6, Table 6.1 'Draft SEA Framework'	Under Objective 13, 'To improve accessibility and transport links to services, facilities and opportunities', we welcome the reference to our Accessible Natural Greenspace Standards, but consider that some of the other targets within these standards may also be of relevance (eg access to at least 2ha of greenspace within 300m/5minutes walk of home).	Noted. Additional target has been added to Objective 13 as per the comment.
Appendix C - Environmental Baseline	In Appendix C, in the Environmental Baseline, under the first indicator ' <i>Number of sites designated for nature conservation</i> ', the SSSI condition data quoted is rather old (2005). The most recent figures can be found on our website: www.naturalengland.org.uk	Noted. Updated information (2010) on the compliance with the PSA target has been added to the baseline table.
Environment Agency, Mareth Bassett, External Relations Officer.		
Section 5, table 5.1 – Issues on Flooding	We are concerned that is there is no reference to the increased risk of more surface water flooding occurring as a result of climate	One of the implications under the issue on Flooding states that climate change may

Relevant section in the report	Comments	Response to the Comment
and/or Need for Climate Change Adaptation	change, the main focus of the document is based on fluvial and coastal flooding. While we note that you are aware of the requirements of PPS25. Once you start to design any new roads or plan similar works we would appreciate being consulted again so we can ensure that the surface water management is appropriate.	accentuate flood risk. However, a more specific reference to surface water flooding has been added to the description of the issue on Climate Change Adaptation.
Section 5, table 5.1 – Issue on Local and Global Air Pollutants and Noise Pollution	We also note that there is little acknowledgement that reducing CO ₂ emissions from transport will help mitigate future climate change.	One of the aspects covered under the issue on Local and Global Air Pollutants and Noise Pollution is carbon emissions from transport. It is believed that implications under this issue send a clear message that the reduction of carbon emissions from transport is needed to combat climate change.
Section 6, Table 6.1 – Draft SEA Framework; Accessibility Indicators	<p>We are also concerned about the target for NI 175 - To increase % of a) households and b) households without access to a car within 15/30 minutes of a supermarket by public transport.</p> <p>We do not believe that a supermarket is a sufficient definition of services and facilities and should include other services like banks, post offices and libraries. As this is a locally defined accessibility indicator this should be re-defined to include services other than a supermarket.</p>	<p>Noted. NI 175 (Accessibility Indicator) comprising two parts, as endorsed by the Local Strategic Partnership have been added under objectives 10 and 13:</p> <ul style="list-style-type: none"> - AC1 % increase 16-19's travelling to the 4 main 16+ education centres by Public Transport within 30 minutes - AC5 % patients travelling to Southend Hospital by Public Transport within 30 minutes. <p>Other proposed indicators cover</p>

Relevant section in the report	Comments	Response to the Comment
		accessibility to GPs and employment; and also number of LTP3 initiatives to improve access to essential facilities.

Appendix F – Assessment Results

Table F.1- Assessment of the Preferred Strategy: Our Transport Strategy for a Thriving and Sustainable Local Economy in Southend

Scale / significance of effect: 0 – neutral or no effect; +++ large beneficial; ++ moderate beneficial; + slight beneficial; --- large adverse; -- moderate adverse; - slight adverse

SEA Objective		Description of effect on resources and receptors ²⁴	Scale / significance of effect	Description of mitigation / enhancement and its implementation	Level of certainty	Summary for AST
1	To maintain and improve local air quality	<p>Southend does not have any AQMAs at present; however, it is still a priority to ensure that local air quality is maintained and that no detrimental effects are introduced.</p> <p>This group of policies seeks to reduce congestion through a number of measures including bus priority lanes on the A127 and A13; carsharing schemes; behavioural change mechanisms; promotion of <i>sert</i> promotion of travel plans; discouraging car travel on to the town centre through reducing the provision of on street parking and encouraging Park and Ride. All of these measures will have a positive effect on air quality through reducing congestion.</p> <p>Regular maintenance on principal routes will reduce the need for major works and thus</p>	+	Mitigation measures are not proposed. Improvements in vehicle design between now and 2026 are likely to result in a decline in the emission of pollutants and particles from road traffic, both with and without the LTP measures.	Medium	<p>Overall, given the range of measures, it is likely that this group of policies would have a slight positive effect on Air Quality.</p> <p>The effects would be permanent and reversible.</p>

²⁴ This includes the effects' magnitude, geographical scale, time period over which they occur, whether they are permanent or temporary, positive or negative, probable or improbable, reversible or irreversible, frequent or rare, and whether or not there are secondary, cumulative and/or synergistic effects

		<p>reduce the need for road closures which inevitably lead to congestion and thus increase emissions.</p> <p>By requiring close liaison with the Planning department for the regeneration of Shoeburyness, it is hoped that transport will be integrated into any new development and that integrated transport e.g. coordination of bus and rail services, will ensure that sustainable modes of transport are used over car based travel, thus having a positive effect on air quality.</p> <p>The Airport is a major employer in the area and there is a policy that seeks to encourage sustainable modes of transport to the airport including <i>sert</i> (South East Rapid Transit)²⁵. This will have the effect of reducing car based travel thus reducing air pollution.</p> <p>Overall, given the range of measures, it is likely that this group of policies would have a slight positive effect on Air Quality.</p> <p>The effects would be permanent and reversible.</p>				
2	To conserve and	The borough has a country park to the	-	The section of <i>sert</i>	Medium	On balance,

²⁵ *sert* (South East Rapid Transit) is an innovative mass transit system that has many of the benefits of tram travel at a lower capital cost. In many places it will run on its own dedicated lines.

	<p>enhance the Borough's biodiversity, important wildlife habitats and geodiversity</p>	<p>western edge of the borough – Hadleigh Castle Country Park. There are also two proposed country parks to the northeastern edge of the borough that are on linked land with Rochford District Council.</p> <p>Additionally, there are a number of patches of greenbelt land surrounding the town.</p> <p>The strategy includes the provision for implementing bus priority measures on the A127 and the A13. There are also a number of junction improvements on the A127 and the A1159. Any interventions that require construction works of this sort can have an effect on areas of green space, principally through noise pollution affecting fauna and possible pollution incidents. This is likely to be short term, with long terms effects likely to be beneficial through reducing congestion and thus improving air quality. Bus priority lanes are also likely to encourage modal shift and reduce the amount of congestion on the routes, thus having beneficial effects on the wildlife habitats and biodiversity.</p> <p>The development of <i>sert</i> will require construction works and in some places the proposed route runs through greenbelt land and is in close proximity to the Hadleigh Castle Country Park or proposed country parks. The construction works are likely to</p>		<p>that passes through greenbelt land (i.e. near Leigh and the A1159/A13), should be reviewed to ensure that it will not have a significant permanent effect on wildlife through habitat fragmentation.</p> <p>The footprint of any construction schemes should be minimised wherever possible in order to reduce land take and loss of ecological resource.</p> <p>Best practice ecological management procedures should be used in any construction activity e.g. minimisation of noise pollution through use of appropriate hoarding and methods to ensure that pollution incidents are minimised.</p>	<p>there are likely to be adverse effects in the short term due to construction of <i>sert</i> and a number of junction improvements etc. There will also be adverse effects in the longer term due to habitat fragmentation caused by <i>sert</i>. There will be positive effects caused by modal shift away from the car. Therefore the overall effect is likely to be slight adverse.</p>
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		<p>have a temporary, reversible impact due to noise levels affecting fauna and increased chance of pollution incidents. Additionally, being a linear development, there may be issues with habitat fragmentation and its associated impact on biodiversity. These effects are likely to be permanent. In the longer term, <i>sert</i> is likely to encourage modal shift and reduce congestion thus having a positive effect in the borough through reduced air and noise pollution and reducing the need for future road construction.</p> <p>Many other measures included in this group of policies seek to reduce car usage and encourage sustainable transport modes e.g. to encourage sustainable modes to the town centre such as focussing on smarter choices. This will have a wider positive effect through generally reducing air and noise pollution and in the longer terms reducing the need for new road infrastructure.</p> <p>On balance, there are likely to be adverse effects in the short term due to construction of <i>sert</i> and a number of junction improvements etc. There will also be adverse effects in the longer term due to habitat fragmentation caused by <i>sert</i>. There will be positive effects caused by modal shift away from the car. Therefore the overall effect is likely to be slight adverse.</p>				
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		<p>Reference should be made to the HRA which considers the effects of the LTP3 on European designated sites.</p> <p>Southend is part of the Greengrid network that covers the Thames Gateway in South Essex and aims to encourage the development of a network of open spaces and green links throughout the area. This includes, amongst other things, the creation of greenways for use by cyclist, pedestrians and horse riders. However, there is no reference to this in the LTP3; reference should be made to it.</p>				
3	To maintain and improve the quantity and quality of ground, sea and river waters	<p>Being on the coast, the LTP3 has potential to have a significant effect on coastal waters. There are also a number of areas within the borough that are within the floodzone; mainly due to tidal effects on the rivers in the borough rather than direct inundation from the sea (there are sea defences in place along much of the seafront).</p> <p>Any schemes that involve construction e.g. implementation of <i>sert</i> on the A127 and bus priority measures on the A13, are likely to have a short term adverse effect on the quality of ground, sea and river waters due to there being larger amounts of suspended solids in run off to water courses. This can be mitigated through appropriate best practice on</p>	-	<p>Employ forms of pollution prevention and control for construction and operation including sediment and oil traps</p> <p>Consideration of groundwater protection zones during planning and construction phase</p>	Medium	<p>Overall, effects can be mitigated and are likely to be minor adverse and thus not significant. Effects are characterised as local, temporary and reversible.</p>

		<p>site.</p> <p>Longer term, there is likely to be a slight adverse effect due to the provision of the new <i>sert</i> route and the new Park and Ride involving further land take thus reducing recharge of groundwater and increasing floodrisk and run off of sediment in to watercourses from hard surfaces.</p> <p>Overall, effects can be mitigated and are likely to be minor adverse and thus not significant. Effects are characterised as local, temporary and reversible.</p>				
4	To ensure efficient use of land and maintain the resource of productive soil	<p>There is a Park and Ride proposed for the Nestuda way. This will require land take for a car park and thus will have an adverse effect.</p> <p>More generally, this group of policies seek to reduce congestion (e.g. through Intelligent Transport Systems) and encourage modal shift away from the car (e.g. smarter choices measures). In the longer term, this should reduce the need for new roads to be constructed and thus reduce the need for land take.</p> <p>Overall, given the loss of land for the new Park and Ride, this group of policies will have a slight adverse effect. Effects are characterised as local, permanent and irreversible.</p>	-	Where the Park and Ride is to be constructed, the landtake should be minimised where possible.	High	Overall, given the loss of land for the new Park and Ride, this group of policies will have a slight adverse effect. Effects are characterised as local, permanent and irreversible.

5	To ensure resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions	<p>Being on the coastline, Southend is particularly susceptible to changes in climate that may cause increased risk from tidal flooding. Policy 4 seeks to maintain the network to a high standard and ensure it remains resilient to external events; this is focussed on principal roads, key footpaths and cycle routes. This is likely to have a slight beneficial effect against this objective. However, although the policy title is related to resilience, there is no detail in the policy or accompanying text as to how this will be implemented in practice. The policy should clarify how this will be implemented.</p> <p>Overall, this group of policies will have a slight beneficial (and thus non significant) effect due to the inclusion of Policy 6 on Maintenance. Effects are characterised as local, temporary and irreversible.</p>	+	<p>The wording of Policy 6 should be updated to include greater reference to approach to resilience to climatic events e.g. storms and flooding.</p> <p>In terms of practical measures, Sustainable Urban Drainage Systems (SUDS) should be employed where appropriate to limit surface run off.</p>	Low	Overall, this group of policies will have a slight beneficial (and thus non significant) effect due to the inclusion of Policy 6 on Maintenance. Effects are characterised as local, temporary and irreversible.
6	To maintain and enhance the quality and character of the landscape and townscape	<p>Policy 3 on managing town centre car parking capacity seeks to reduce the availability of on-street parking and link this to improvements in streetscape around the town centre, thus having a moderate beneficial effect.</p> <p>Policy 5 is related to supporting the regeneration of Shoeburyness through sustainable transport services. The policy looks to work closely with the planning department to ensure that sustainable transport measures are considered and</p>	++	Ensure that any public realm improvements such as new bus shelters and kerbs are designed sensitively to landscape and townscape. Use of sympathetically designed sustainable streetscape furniture and materials	High	In general, this group of policies will have a moderate beneficial (and thus significant) effect. The effects can be characterised as local,

		<p>implemented where appropriate. This will have a moderate beneficial (thus significant) effect against this objective as the townscape will benefit from lack of congestion and the provision of walking and cycling routes.</p> <p>Other policies in this group seek to reduce congestion on major routes into Southend and promote sustainable transport choices. This can have a beneficial effect on townscape due to less traffic in the town centre. In the longer term it will also have further beneficial effects as less land will be required for new roads to be built.</p> <p>In general, this group of policies will have a moderate beneficial (and thus significant) effect. The effects can be characterised as local, permanent and reversible.</p>		<p>Ensure implementation of good practice in construction, for example through adherence to a Code of Construction Practice.</p>		<p>permanent and reversible.</p>
7	<p>To decarbonise transport to reduce transport related CO₂ emissions</p>	<p>Congestion leads to elevated carbon emissions; therefore Policy 1 which seeks to reduce congestion along the A127 and A13 through measures such as Intelligent Transport Systems and interventions to encourage modal shift, is likely to have a slight beneficial effect against this objective.</p> <p>Generally, the other policies in this group of policies seek to encourage modal shift and promote sustainable modes of transport e.g. through bus priority lanes, <i>sert</i> and walking</p>	++	<p>As the LTP3 includes a number of measures to reduce traffic numbers / congestion and encourage sustainable transport modes, no further mitigation has been considered.</p>	Medium	<p>Generally, the other policies in this group of policies seek to encourage modal shift and promote sustainable modes of transport e.g. through bus</p>

		<p>and cycling initiatives.</p> <p>On balance, this group of polices would have a moderate beneficial effect due to the range of measures promoting sustainable travel and reducing congestion. Effects are characterised as geographically widespread, permanent and reversible.</p>				<p>priority lanes, <i>sert</i> and walking and cycling initiatives.</p> <p>On balance, this group of polices would have a moderate beneficial effect due to the range of measures promoting sustainable travel and reducing congestion. Effects are characterised as geographically widespread, permanent and reversible.</p>
8	To reduce the amount of waste requiring final disposal through	Generally, any project that requires construction will generate waste in the short term; this includes the new Park and Ride, proposed link roads and <i>sert</i> .	-	Adhere to a Construction Environmental Management Plan	Medium	On balance, the construction of a number

	<p>minimisation, re-use and recycling</p>	<p>In the longer term, the range of measures to encourage modal shift should reduce the need for additional road building, thus reducing waste generation.</p> <p>On balance, the construction of a number of new schemes will have a slight adverse (thus non significant) effect against this objective. Effects are characterised as geographically widespread due to the nature of waste disposal, permanent and irreversible.</p>		<p>(CEMP) during construction incorporating the requirements for Site Waste Management Plans (SWMPs). Explore opportunities to identify and reuse materials on site and give preference to locally sourced materials to reduce transport requirements.</p>		<p>of new schemes will have a slight adverse (thus non significant) effect against this objective. Effects are characterised as geographically widespread due to the nature of waste disposal, permanent and irreversible.</p>
9	<p>To reduce noise, vibration and light pollution</p>	<p>There are elevated levels of noise of around 70.0 dB(A) to 75.5+ dB(A) along the major roads (A13, A127 and A1159). By reducing congestion along the main routes, traffic will be able to travel at higher speeds and therefore may lead to noise pollution. However, more generally, this group of policies seeks to promote sustainable transport with a range of bus priority lanes, smarter choices measures, <i>sert</i> and travel plans. These should lead to reduced noise levels due to fewer cars being on the road.</p>	-	<p>Mitigation may need to be considered where the noise increases in the long-term are 3 dB or greater. Potential noise mitigation measures could include the use of alternative quieter road surfaces and roadside noise barriers.</p>	Medium	<p>On balance, new schemes and faster flowing traffic on existing principal roads are likely to have a slight adverse (and thus non significant)</p>

		<p>With the introduction of Park and Ride at Nestuda way and development of the <i>sert</i> there may be noise and vibration effects introduced in locations where there were previously no effects.</p> <p>On balance, new schemes and faster flowing traffic on existing principal roads are likely to have a slight adverse (and thus non significant) effect against this objective. Effects are characterised as local, temporary and reversible.</p>		<p>Light pollution can be minimised through the use of street lighting that has a downward beam. The LTP3 could also consider the outcomes of the experiment of turning off street lighting after midnight currently being implemented and monitored by the Essex County Council.</p>		<p>effect against this objective. Effects are characterised as local, temporary and reversible.</p>
10	<p>To improve overall levels of health and reduce health inequalities between different groups and different areas</p>	<p>Having a beneficial effect on air quality (see objective 1) will also have a beneficial effect on health as poor air quality can lead to respiratory problems.</p> <p>The borough has six proposed Primary Care Centres; five of which are in close proximity to the principal routes. Policy 1 on reducing congestion on these routes will therefore have a beneficial effect; particularly as it considers bus priority routes as well as junction improvements etc.</p> <p>The additional Primary Care Centre is in Shoeburyness, therefore Policy 5 that supports the regeneration of Shoeburyness, including provision of public transport will have a beneficial effect against this objective.</p>	++	None identified.	Medium	<p>Given the additionally accessibility to health facilities and potential improvement in air quality, this group of policies is assessed as having a moderate beneficial effect against this objective. Effects are characterised</p>

		<p>The development of <i>sert</i> will also provide additional accessibility to the majority of the Primary Care Centres and also Southend Hospital.</p> <p>Given the additionally accessibility to health facilities and potential improvement in air quality, this group of policies is assessed as having a moderate beneficial effect against this objective. Effects are characterised as being borough wide, permanent and irreversible.</p>				as being borough wide, permanent and irreversible.
11	To reduce road traffic and congestion through modal shift to more sustainable transport options	<p>This group of policies seeks to reduce road traffic and congestion, principally through Policy 1 which aims to reduce congestion on the A127 and A13 through a series of measures, including sustainable transport options (bus priority measures, carsharing schemes etc.). The remaining policies in this group also aim to reduce congestion and promote sustainable transport options.</p> <p>As all policies in this group have the aim of promoting sustainable transport options, this group of policies is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as being borough wide, temporary and reversible.</p>	++	None identified.	Medium	As all policies in this group have the aim of promoting sustainable transport options, this group of policies is assessed as having a moderate beneficial effect against this objective. Effects are characterised as being borough wide,

						temporary and reversible.
12	To promote safe communities, reduce crime and the fear of crime	<p>None of the policies in this group include an explicit reference to promoting safe communities or reducing crime and the fear of crime (this is covered by Policies 11 to 15).</p> <p>This group of policies is assessed as having no effect against this objective.</p>	0	With reference to Policies 11 to 15, there should be adequate lighting and CCTV provision at any car parks, and in particular the new Park and Ride and Nestuda Way.	High	This group of policies is assessed as having no effect against this objective
13	To improve accessibility and transport links to services, facilities and opportunities	<p>The majority of services and facilities are within Southend town centre itself and Shoeburyness; Policy 2 and Policy 5 deal with access to these areas respectively. Both policies aim to promote sustainable modes of transport to improve access to these areas.</p> <p>Policy 6 is directly related to providing access to London Southend Airport through sustainable means (e.g. <i>sert</i> and public transport services) and thus has a beneficial effect against this objective.</p> <p>The majority of Industrial/employment areas are to the North of the borough, in close proximity to the airport. The introduction of <i>sert</i> (Policy 6) will provide greater access to these areas.</p> <p>Given the wide range of initiatives covered by</p>	+++	None identified	Medium	Given the wide range of initiatives covered by this group of policies, they are assessed as having a large beneficial effect against this objective. The effect can be characterised as borough wide, permanent and reversible.

		<p>this group of policies, they are assessed as having a large beneficial (and thus significant) effect against this objective. The effect can be characterised as borough wide, permanent and reversible.</p>				
14	To improve road safety	<p>The promotion of sustainable transport modes through the majority of policies in this group will encourage modal shift away from the car, thus assisting in reducing car related fatalities. However, this is considered in more detail in Policies 11 to 15.</p> <p>Given that this group of policies seeks to promote sustainable transport modes and encourage modal shift from the car, it is assessed as having a slight beneficial (and thus non significant) effect against this objective.</p>	+	None identified.	Low.	Given that this group of policies seeks to promote sustainable transport modes and encourage modal shift from the car, it is assessed as having a slight beneficial (and thus non significant) effect against this objective.
15	To maintain and enhance the quality and distinctiveness of the Borough's built environment and cultural heritage	<p>Cultural heritage in Southend includes the historic Cliff Gardens, Cliff Pavilion and the Pier.</p> <p>None of the policies will have any effect upon the pier. Cliff Gardens and Cliff Pavilion are to the west of Southend. None of the policies in this group will have a direct effect upon the Gardens or Pavilion. Garon Park is to the</p>	0	Ensure that best practice environmental management procedures are used during construction to include appropriate hoardings etc. to minimise impact upon Garon Park.	Medium	More generally, the policies seek to promote sustainable transport modes which tend to be more

		<p>north of the borough and is in close proximity to the proposed <i>sert</i> route and the A1159. Any construction works in this area may therefore have an effect due to visual impact, noise and dust pollution in the short term.</p> <p>More generally, the policies seek to promote sustainable transport modes which tend to be more sympathetic to the built environment and cultural heritage and in the long term will require fewer roads to be constructed.</p> <p>On balance, there is likely to be a slight adverse effect on Garon Park due to works in the vicinity but the group of policies generally promote sustainable transport modes and thus are sympathetic to the built environment and cultural heritage. Effects are therefore neutral.</p>			<p>sympathetic to the built environment and cultural heritage and in the long term will require fewer roads to be constructed.</p> <p>On balance, there is likely to be a slight adverse effect on Garon Park due to works in the vicinity but the group of policies generally promote sustainable transport modes and thus are sympathetic to the built environment and cultural heritage.</p>
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						Effects are therefore neutral.
16	To improve efficiency of transport networks and physical infrastructure standards	<p>Policy 1 aims to reduce congestion and thus improve the efficiency on the principal routes into Southend, thus having a beneficial effect against this objective. Additionally, Policy 4 on Network Maintenance aims to maintain the network to a high standard to ensure it remains resilient to external events, again having a beneficial effect against this objective.</p> <p>More generally, the remaining policies in this group aim to promote sustainable transport options, which should reduce congestion and therefore promote efficiency of the network.</p> <p>Given the improvements to congestion and better system maintenance, this group of policies is likely to have a moderate beneficial effect against this objective. Effects are characterised as borough wide, permanent and reversible.</p>	++	None identified.	Medium.	<p>Given the improvements to congestion and better system maintenance, this group of policies is likely to have a moderate beneficial effect against this objective. Effects are characterised as borough wide, permanent and reversible.</p>

Table F.2 - Appraisal Summary Table for the Preferred Strategy: Our Transport Strategy for a Thriving and Sustainable Local Economy in Southend

SEA Objective		NATA Sub-objective	Qualitative Impacts	Assessment
1	To maintain and improve local air quality	Local Air Quality	Overall, given the range of measures, it is likely that this group of policies would have a slight positive effect on Air Quality. The effects would be permanent and reversible.	Slight positive
2	To conserve and enhance the Borough's biodiversity, important wildlife habitats and geodiversity	Biodiversity	On balance, there are likely to be adverse effects in the short term due to construction of <i>sert</i> and a number of junction improvements etc. There will also be adverse effects in the longer term due to habitat fragmentation caused by <i>sert</i> . There will be positive effects caused by modal shift away from the car. Therefore the overall effect is likely to be slight adverse.	Slight adverse
3	To maintain and improve the quantity and quality of ground, sea and river waters	Water environment	Overall, effects can be mitigated and are likely to be minor adverse and thus not significant. Effects are characterised as local, temporary and reversible.	Minor adverse
4	To ensure efficient use of land and maintain the resource of productive soil	Biodiversity ²⁶	Overall, given the loss of land for the new Park and Ride, this group of policies will have a slight adverse effect. Effects are characterised as local, permanent and irreversible.	Slight adverse
5	To ensure	Water	Overall, this group of policies will have a slight beneficial (and thus non	Slight

²⁶ Soil is not explicitly covered by NATA sub-objectives, but is an underlying factor affecting landscape, heritage, biodiversity and the water environment. Where effects on soil are likely to be important a local objective should be formulated

	resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions	environment	significant) effect due to the inclusion of Policy 6 on Maintenance. Effects are characterised as local, temporary and irreversible.	beneficial
6	To maintain and enhance the quality and character of the landscape and townscape	Landscape; Townscape	In general, this group of policies will have a moderate beneficial (and thus significant) effect. The effects can be characterised as local, permanent and reversible.	Moderate beneficial
7	To decarbonise transport to reduce transport related CO ₂ emissions	Greenhouse gases	Generally, the other policies in this group of policies seek to encourage modal shift and promote sustainable modes of transport e.g. through bus priority lanes, <i>serf</i> and walking and cycling initiatives. On balance, this group of policies would have a moderate beneficial effect due to the range of measures promoting sustainable travel and reducing congestion. Effects are characterised as geographically widespread, permanent and reversible.	Moderate beneficial
8	To reduce the amount of waste requiring final disposal through minimisation, re-use and recycling	Not covered by NATA sub-objectives	On balance, the construction of a number of new schemes will have a slight adverse (thus non significant) effect against this objective. Effects are characterised as geographically widespread due to the nature of waste disposal, permanent and irreversible.	Slight adverse
9	To reduce noise, vibration and light pollution	Noise	On balance, new schemes and faster flowing traffic on existing principal roads are likely to have a slight adverse (and thus non significant) effect against this objective. Effects are characterised as local, temporary and reversible.	Slight adverse

10	To improve overall levels of health and reduce health inequalities between different groups and different areas	Physical fitness	Given the additionally accessibility to health facilities and potential improvement in air quality, this group of policies is assessed as having a moderate beneficial effect against this objective. Effects are characterised as being borough wide, permanent and irreversible.	Moderate beneficial
11	To reduce road traffic and congestion through modal shift to more sustainable transport options	Noise; Physical fitness	As all policies in this group have the aim of promoting sustainable transport options, this group of policies is assessed as having a moderate beneficial effect against this objective. Effects are characterised as being borough wide, temporary and reversible.	Moderate beneficial
12	To promote safe communities, reduce crime and the fear of crime	Accidents; Security	This group of policies is assessed as having no impact against this objective	No impact
13	To improve accessibility and transport links to services, facilities and opportunities	Access to the transport system; Community severance	Given the wide range of initiatives covered by this group of policies, they are assessed as having a large beneficial effect against this objective. The effect can be characterised as borough wide, permanent and reversible.	Large beneficial
14	To improve road safety	Accidents; Security	Given that this group of policies seeks to promote sustainable transport modes and encourage modal shift from the car, it is assessed as having a slight beneficial (and thus non significant) effect against this objective.	slight beneficial

15	To maintain and enhance the quality and distinctiveness of the Borough's built environment and cultural heritage	Townscape; Heritage	More generally, the policies seek to promote sustainable transport modes which tend to be more sympathetic to the built environment and cultural heritage and in the long term will require fewer roads to be constructed. On balance, there is likely to be a slight adverse effect on Garon Park due to works in the vicinity but the group of policies generally promote sustainable transport modes and thus are sympathetic to the built environment and cultural heritage. Effects are therefore neutral.	Slight adverse
16	To improve efficiency of transport networks and physical infrastructure standards	Not covered by NATA sub-objectives	Given the improvements to congestion and better system maintenance, this group of policies is likely to have a moderate beneficial effect against this objective. Effects are characterised as borough wide, permanent and reversible.	Moderate beneficial

Table F.3 - Assessment of the Preferred Strategy: Our Transport Strategy to Minimise Environmental Impact, Promote Sustainability for a Greener Southend

Scale / significance of effect: 0 – neutral or no effect; +++ large beneficial; ++ moderate beneficial; + slight beneficial; --- large adverse; -- moderate adverse; - slight adverse

SEA Objective		Description of effect on resources and receptors ²⁷	Scale / significance of effect	Description of mitigation / enhancement and its implementation	Level of certainty	Summary for AST
1	To maintain and improve local air quality	<p>Policy 9 is directly concerned with maintaining air quality in the borough through requiring and Air Quality Assessment for development proposals that are likely to have an effect on air quality. This will be implemented through the development control procedure.</p> <p>Additionally, Policy 7 is primarily concerned with reducing carbon emissions in order to tackle climate change; however the measures outlined e.g. smarter choices measures, low emissions vehicle infrastructure (Electric vehicle charging points) will all have a beneficial effect on air quality. The remaining policies in this group (Policy 8 and Policy 10) are unlikely to have any effect against this objective.</p> <p>Given the direct actions to maintain and improve air quality (Policy 9) and the wide</p>	++	Mitigation measures are not proposed as improvements in vehicle design result in the emission of pollutants and particles from road traffic to decline between now and 2026 both with and without the LTP measures.	Low.	Given the direct actions to maintain and improve air quality (Policy 9) and the wide range of measures in Policy 7 that will have a beneficial effect on air quality, this group of policies is assessed as having a moderate

²⁷ This includes the effects' magnitude, geographical scale, time period over which they occur, whether they are permanent or temporary, positive or negative, probable or improbable, reversible or irreversible, frequent or rare, and whether or not there are secondary, cumulative and/or synergistic effects

		range of measures in Policy 7 that will have a beneficial effect on air quality, this group of policies is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as geographically widespread, temporary and reversible.				beneficial (and thus significant) effect against this objective. Effects are characterised as geographically widespread, temporary and reversible.
2	To conserve and enhance the Borough's biodiversity, important wildlife habitats and geodiversity	Policy 10 on Protecting and Enhancing the Natural and Built Environment looks to proactively protect and enhance biodiversity and their habitats through planning, decision making and delivery of transport improvements and, wherever possible, maximising opportunities for habitat creation. Policy 7 on decarbonising transport and Policy 9 on maintaining air quality will also directly contribute to conserving and enhancing biodiversity through reducing pollution in the borough. Policy 8 on adaptation to climate change seeks to implement physical measures to adapt to climate change e.g. flood measures. As with any construction works, these could have an adverse effect on biodiversity, wildlife habitats and geodiversity. Most works however, will be in the floodzone which is not located in	++	The footprint of any construction schemes should be minimised wherever possible in order to reduce land take and loss of ecological resource. Best practice ecological management procedures should be used in any construction activity e.g. minimisation of noise pollution through use of appropriate hoarding and methods to ensure that pollution	Medium.	The beneficial effects associated with Policy 10 directly promoting protection of the natural environment and Policy 7 and Policy 9 that reduce pollution are assessed as large beneficial and the short term effect associated

		<p>proximity to Hadleigh Castle Country Park or the Proposed Country Parks (on linked land with Rochford District Council).</p> <p>The beneficial effects associated with Policy 10 directly promoting protection of the natural environment and Policy 7 and Policy 9 that reduce pollution are assessed as large beneficial and the short term effect associated with construction of adaptation schemes are assessed as slight adverse. On balance, effects against this objective are assessed as moderately beneficial (and thus significant). Effects are characterised as local to the areas of interest, temporary and reversible.</p>		incidents are minimised.		with construction of adaptation schemes are assessed as slight adverse. On balance, effects against this objective are assessed as moderately beneficial (and thus significant). Effects are characterised as local to the areas of interest, temporary and reversible.
3	To maintain and improve the quantity and quality of ground, sea and river waters	Policy 10 on Protecting and Enhancing the Natural and Built Environment looks to proactively improve water quality, primarily through implementing Sustainable Drainage Systems, where appropriate, in order to minimise diffuse water pollution from transport sources. Policy 7 on decarbonising transport and Policy 9 on maintaining air quality will	0	Employ forms of pollution prevention and control for construction and operation including sediment and oil traps Consideration of	Medium.	The beneficial effects associated with Policy 10 directly promoting protection of water quality

		<p>also contribute to improving water quality through reducing air pollution. Policy 8 on adaptation to climate change seeks to implement physical measures to adapt to climate change e.g. flood measures. As with any construction works, these could have an adverse effect on water quality, mainly through run off with high levels of suspended solids. With most works being in the floodzone, this adverse effect may be exacerbated due to proximity to water courses.</p> <p>The beneficial effects associated with Policy 10 directly promoting protection of water quality and Policy 7 and Policy 9 that reduce pollution are assessed as moderate beneficial and the short term effect associated with construction of adaptation schemes are assessed as moderate adverse. On balance, effects against this objective are therefore assessed as neutral.</p>		groundwater protection zones during planning and construction phase		and Policy 7 and Policy 9 that reduce pollution are assessed as moderate beneficial and the short term effect associated with construction of adaptation schemes are assessed as moderate adverse. On balance, effects against this objective are therefore assessed as neutral.
4	To ensure efficient use of land and maintain the resource of productive soil	Policy 7, Policy 9 and Policy 10 are unlikely to require any land take and thus they are likely to have no effect against this objective. Policy 8 on climate change adaptation may require some land take in order to undertake adaptation improvements on existing infrastructure (concentrating on those in the floodzone). The best and most versatile	-	Ensure that any construction schemes undertaken (e.g. adaptation schemes) minimise the amount of land take where possible.	Medium.	Policy 8 on climate change adaptation may require some land take in order to undertake

		<p>agricultural land in the borough is not located near the floodzone and therefore this is only likely to be a minor adverse (and thus non significant effect against this objective). Effects are characterised as locally specific to the adaptation schemes, permanent and irreversible.</p>			<p>adaptation improvements on existing infrastructure (concentrating on those in the floodzone). The best and most versatile agricultural land in the borough is not located near the floodzone and therefore this is only likely to be a minor adverse (and thus non significant effect against this objective). Effects are characterised as locally specific to the adaptation schemes, permanent and</p>
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						irreversible.
5	To ensure resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions	<p>Policy 8 is specifically related to ensuring resilience to climate change. It includes adaptation improvements prioritised by flood risk zone. It also looks to integrate adaptation considerations into the design of all new transport schemes, including through maintenance which will ensure an integrated approach across the borough. Policy 10 on protecting and enhancing the Natural and Built Environment will also contribute to adaptation through promoting the use of sustainable urban drainage systems which will minimise flood risk.</p> <p>The other policies in this group are related to reducing carbon emissions and maintain air quality and will therefore have no effect on climate change adaptation.</p> <p>Given the specific emphasis on adaptation that Policy 8 has, this group of policies is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects can be characterised as geographically widespread, temporary and reversible.</p>	++	None identified.	Medium.	Given the specific emphasis on adaptation that Policy 8 has, this group of policies is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects can be characterised as geographically widespread, temporary and reversible.
6	To maintain and enhance the quality and character of the landscape and	Policy 7 includes provision to educate drivers on “eco-driving” i.e. smoother, less erratic driving. This is likely to have a beneficial effect on the quality of the townscape as due to less erratic driving causing a nuisance.	++	All adaptation schemes should be implemented with consideration of the townscape and	Medium.	Given the specific inclusion of protection of the built

	townscape	<p>Smarter choices measures promoted by this policy e.g. car sharing are likely to have beneficial effects through reducing congestion. Policy 8 has the potential to have either adverse or beneficial effects on townscape and landscape depending on how schemes, particularly flood mitigation schemes, are implemented (see mitigation). Policy 9 on Maintaining Air Quality is unlikely to have a direct impact on landscape and townscape. Policy 10 on Protecting and Enhancing the Natural and Built Environment includes provisions to ensure that the quality of the built environment is maintained through improving public realm in the town centre and seafront by giving greater priority to pedestrian infrastructure and better management of on-street car parking. Signage and street furniture will also be in keeping with the character of Southend.</p> <p>Given the specific inclusion of protection of the built environment in Policy 10 and a number of other beneficial effects from the other policies in this group, this group is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible.</p>		landscape to ensure that any measures are sympathetic and do not adversely affect the quality and character of the landscape and townscape.		environment in Policy 10 and a number of other beneficial effects from the other policies in this group, this group is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible.
7	To decarbonise transport to reduce transport	Policy 7 is specifically related to reducing carbon emissions from transport and seeks to do this through a number of means including	++	For all climate change adaptation schemes, ensure that carbon is	Medium.	On balance, as Policy 7 is specifically

	related CO ₂ emissions	<p>promoting smarter travel choices and low emission vehicle infrastructure e.g. electric vehicle charging points. The policy includes a comprehensive group of measures that looks cross boundary to partnership work as well as just within Southend. Policy 8 on climate change adaptation does not seek to reduce carbon emissions and if embodied emissions are taken into consideration, adaptation schemes (e.g. flood protection) can be detailed engineering projects with high embodied carbon. Policy 9 on Maintaining Air Quality will have a beneficial effect on reducing carbon emissions as it seeks to reduce all air pollutants. Policy 10 includes provision to minimise light pollution through consideration of selective reduction in streetlighting at night; this will have a beneficial effect on reducing carbon emissions.</p> <p>On balance, as Policy 7 is specifically related to reducing carbon emissions and most of the other policies in this group contribute to reducing carbon emissions, this group of policies is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as geographically widespread, temporary and reversible.</p>		a consideration in specifying materials and techniques that are to be utilised.		related to reducing carbon emissions and most of the other policies in this group contribute to reducing carbon emissions, this group of policies is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as geographically widespread, temporary and reversible.
8	To reduce the amount of waste	Waste is generated through construction schemes. In general, this group of policies	-	A Site Waste Management Plan	Medium.	On balance, given the

	requiring final disposal through minimisation, re-use and recycling	<p>does not require considerable construction and therefore waste generation is likely to be minimal. Policy 8, however, includes the provision for adaptation schemes, many of which will be flood related and therefore considerable engineering/infrastructure projects. These may generate waste which can be minimised through good waste practice (see mitigation).</p> <p>On balance, given the waste that is likely to be generated through adaptation infrastructure schemes this group of policies is assessed as having a slight adverse (and thus non significant) effect against this objective. Effects are characterised as geographically widespread due to the nature of waste disposal, permanent and irreversible.</p>		should be developed for any construction project to ensure that waste is minimised.		waste that is likely to be generated through adaptation infrastructure schemes this group of policies is assessed as having a slight adverse (and thus non significant) effect against this objective. Effects are characterised as geographically widespread due to the nature of waste disposal, permanent and irreversible.
9	To reduce noise, vibration and light pollution	Policy 7 on reducing carbon emissions includes provision for electric vehicles, eco-driving and smarter choices measures, all of which are likely to contribute to reducing noise	+	Light pollution can be minimised through the use of street lighting that has a downward	Medium.	On balance, given the short term adverse

		<p>pollution. There is also consideration on low energy street lighting which may reduce light pollution. Policy 8 on climate change adaptation will include a number of projects that require construction and there will therefore be noise impacts in the short term. Policy 9 on air quality is not likely to have any impact on noise, vibration and light pollution. Policy 10 includes specific reference to minimising noise and light pollution e.g. through considering selective reduction in streetlighting.</p> <p>On balance, given the short term adverse effects associated with construction of adaptation schemes and the beneficial effects associated with other policies in this group, particularly Policy 10, this group of policies is assessed as having a slight beneficial (and thus non significant) effect against this objective. Effects are characterised as borough wide, temporary and reversible.</p>		<p>beam. The LTP3 could also consider the outcomes of the experiment of turning off street lighting after midnight currently being implemented and monitored by the Essex County Council.</p>		<p>effects associated with construction of adaptation schemes and the beneficial effects associated with other policies in this group, particularly Policy 10, this group of policies is assessed as having a slight beneficial (and thus non significant) effect against this objective. Effects are characterised as borough wide, temporary and reversible.</p>
10	To improve	Policy 7 includes a number of measures e.g.	+	None identified.	Medium.	On balance

	overall levels of health and reduce health inequalities between different groups and different areas	<p>promotion of electric vehicles and smarter choices measures that will have a beneficial effect on health through the reduction of respiratory illness; and likewise with Policy 9. Policy 8 will have a beneficial effect on health through reducing incidences of flooding which may lead to casualties. Policy 10 will have an indirect effect on health through improving the natural and built environment which can have a beneficial effect through promoting a positive state of mind.</p> <p>On balance all policies in this group will have a beneficial effect on health in the borough, however there is no consideration of reducing health inequalities; it is therefore assessed as having a slight beneficial (and thus non significant) effect against this objective. Effects can be characterised as borough wide, temporary and reversible.</p>				all of the policies in this group will have a beneficial effect on health in the borough, however there is no consideration of reducing health inequalities; it is therefore assessed as having a slight beneficial (and thus non significant) effect against this objective. Effects can be characterised as borough wide, temporary and reversible.
11	To reduce road traffic and	Policy 7 includes a number of measures that are primarily to reduce carbon emissions but	+	None identified.	Low.	On balance, given the

	<p>congestion through modal shift to more sustainable transport options</p>	<p>will also have the effect of reducing congestion e.g. promotion of smarter choices measures. Policy 8 on climate change adaptation is generally unlikely to affect congestion on a day-to-day basis, but if there were climate change related incidences e.g. flooding, this would cause significant congestion and disruption, therefore this policy is likely to have a beneficial effect. Policy 9 on Maintaining Air Quality requires an air quality assessment in a development is likely to result in increased congestion. This may therefore have a beneficial effect to congestions if development is refused permission on air quality grounds. Policy 10 is unlikely to have an effect on congestion.</p> <p>On balance, given the beneficial effects associated with promotion of smarter choices measures, air quality assessments and reducing disruption and congestion from climate related incidents this group of policies is assessed as having a slight beneficial (and thus non significant) effect. Effects are characterised as borough wide, permanent and reversible.</p>			<p>beneficial effects associated with promotion of smarter choices measures, air quality assessments and reducing disruption and congestion from climate related incidents this group of policies is assessed as having a slight beneficial (and thus non significant) effect. Effects are characterised as borough wide, permanent and reversible.</p>
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12	To promote safe communities, reduce crime and the fear of crime	<p>As this group of policies is associated with protection of the environment, they generally will have no impact against reducing crime and the fear of crime. However, Policy 10 may have a slight beneficial effect as it looks to working with the police in selecting appropriate neighbourhoods for selective streetlighting reduction and also looks to enhance the public realm which can have an effect on reducing the fear of crime.</p> <p>On balance, this group of policies is assessed as having a slight beneficial (and thus non significant) effect against this objective. Effects are characterised as borough wide, temporary and reversible.</p>	+	None identified.	Medium.	On balance, this group of policies is assessed as having a slight beneficial (and thus non significant) effect against this objective. Effects are characterised as borough wide, temporary and reversible.
13	To improve accessibility and transport links to services, facilities and opportunities	<p>Policy 7 looks to promote smarter choices measures e.g. personal travel planning which will have a beneficial effect of improving accessibility. The other policies in this group are primarily concerned with environmental protection and are unlikely to have an effect against this objective.</p> <p>On balance, given the beneficial effect of promoting smarter choices measures through Policy 7, this group of policies is assessed as having a slight beneficial (and thus non significant) effect against this objective. Effects are characterised as borough wide,</p>	+	None identified.	Medium.	On balance, given the beneficial effect of promoting smarter choices measures through Policy 7, this group of policies is assessed as having a slight

		temporary and reversible.				beneficial (and thus non significant) effect against this objective. Effects are characterised as borough wide, temporary and reversible.
14	To improve road safety	<p>Policy 7, although primarily concerned with reducing carbon emissions, will have a beneficial effect against improving road safety e.g. through the promotion of smarter choices measures and eco-driving training. The other policies in this group are primarily concerned with environmental protection and are unlikely to have an effect against this objective.</p> <p>On balance, given the beneficial effect of promoting smarter choices measures and eco-driving through Policy 7, this group of policies is assessed as having a slight beneficial (and thus non significant) effect against this objective. Effects are characterised as borough wide, temporary and reversible.</p>	+	None identified.	Medium.	On balance, given the beneficial effect of promoting smarter choices measures and eco-driving through Policy 7, this group of policies is assessed as having a slight beneficial (and thus non significant) effect against this objective.

						Effects are characterised as borough wide, temporary and reversible.
15	To maintain and enhance the quality and distinctiveness of the Borough's built environment and cultural heritage	<p>Policy 10 actively seeks to contribute to the quality of the built environment by improving the public realm and to maintain the historical townscape, cultural heritage and their settings e.g. through ensuring that signage and street furniture etc. are in keeping with the character of Southend. The other policies in this group are primarily concerned with environmental protection and are unlikely to have an effect against this objective.</p> <p>Given the beneficial effects of Policy 10 in protecting and enhancing the cultural heritage and public realm, this group of policies is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible</p>	++	None identified.	Medium.	<p>Given the beneficial effects of Policy 10 in protecting and enhancing the cultural heritage and public realm, this group of policies is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible</p>

16	To improve efficiency of transport networks and physical infrastructure standards	<p>Policy 8 will actively improve the efficiency of transport networks as the network will be more resilient to climate change effects e.g. flooding and extreme temperatures. The other policies in this group are primarily concerned with environmental protection and are unlikely to have an effect against this objective.</p> <p>Given the beneficial effects of Policy 8 in ensuring the network is resilient to the effects of climate change, this group of policies is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as borough wide, temporary and reversible.</p>	++	None identified.	Medium,	<p>Given the beneficial effects of Policy 8 in ensuring the network is resilient to the effects of climate change, this group of policies is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as borough wide, temporary and reversible.</p>
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Table F.4- Appraisal Summary Table for the Preferred Strategy: Our Transport Strategy to Minimise Environmental Impact, Promote Sustainability for a Greener Southend

SEA Objective		NATA Sub-objective	Qualitative Impacts	Assessment
1	To maintain and improve local air quality	Local Air Quality	Given the direct actions to maintain and improve air quality (Policy 9) and the wide range of measures in Policy 7 that will have a beneficial effect on air quality, this group of policies is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as geographically widespread, temporary and reversible.	Moderate beneficial
2	To conserve and enhance the Borough's biodiversity, important wildlife habitats and geodiversity	Biodiversity	The beneficial effects associated with Policy 10 directly promoting protection of the natural environment and Policy 7 and Policy 9 that reduce pollution are assessed as large beneficial and the short term effect associated with construction of adaptation schemes are assessed as slight adverse. On balance, effects against this objective are assessed as moderately beneficial (and thus significant). Effects are characterised as local to the areas of interest, temporary and reversible.	Slight adverse
3	To maintain and improve the quantity and quality of ground, sea and river waters	Water environment	The beneficial effects associated with Policy 10 directly promoting protection of water quality and Policy 7 and Policy 9 that reduce pollution are assessed as moderate beneficial and the short term effect associated with construction of adaptation schemes are assessed as moderate adverse. On balance, effects against this objective are therefore assessed as neutral.	Neutral
4	To ensure efficient use of land and	Biodiversity ²⁸	Policy 8 on climate change adaptation may require some land take in order to undertake adaptation improvements on existing infrastructure (concentrating on those in the floodzone). The best and most versatile agricultural land in the	Minor adverse

²⁸ Soil is not explicitly covered by NATA sub-objectives, but is an underlying factor affecting landscape, heritage, biodiversity and the water environment. Where effects on soil are likely to be important a local objective should be formulated

	maintain the resource of productive soil		borough is not located near the floodzone and therefore this is only likely to be a minor adverse (and thus non significant effect against this objective). Effects are characterised as locally specific to the adaptation schemes, permanent and irreversible.	
5	To ensure resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions	Water environment	Given the specific emphasis on adaptation that Policy 8 has, this group of policies is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects can be characterised as geographically widespread, temporary and reversible.	Moderate beneficial
6	To maintain and enhance the quality and character of the landscape and townscape	Landscape; Townscape	Given the specific inclusion of protection of the built environment in Policy 10 and a number of other beneficial effects from the other policies in this group, this group is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible.	Moderate beneficial
7	To decarbonise transport to reduce transport related CO ₂ emissions	Greenhouse gases	On balance, as Policy 7 is specifically related to reducing carbon emissions and most of the other policies in this group contribute to reducing carbon emissions, this group of policies is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as geographically widespread, temporary and reversible.	Moderate beneficial
8	To reduce the amount of waste requiring final disposal through	Not covered by NATA sub-objectives	On balance, given the waste that is likely to be generated through adaptation infrastructure schemes this group of policies is assessed as having a slight adverse (and thus non significant) effect against this objective. Effects are characterised as geographically widespread due to the nature of waste	Slight adverse

	minimisation, re-use and recycling		disposal, permanent and irreversible.	
9	To reduce noise, vibration and light pollution	Noise	On balance, given the short term adverse effects associated with construction of adaptation schemes and the beneficial effects associated with other policies in this group, particularly Policy 10, this group of policies is assessed as having a slight beneficial (and thus non significant) effect against this objective. Effects are characterised as borough wide, temporary and reversible.	Slight beneficial
10	To improve overall levels of health and reduce health inequalities between different groups and different areas	Physical fitness	On balance all of the policies in this group will have a beneficial effect on health in the borough, however there is no consideration of reducing health inequalities; it is therefore assessed as having a slight beneficial (and thus non significant) effect against this objective. Effects can be characterised as borough wide, temporary and reversible.	Slight beneficial
11	To reduce road traffic and congestion through modal shift to more sustainable transport options	Noise; Physical fitness	On balance, given the beneficial effects associated with promotion of smarter choices measures, air quality assessments and reducing disruption and congestion from climate related incidents this group of policies is assessed as having a slight beneficial (and thus non significant) effect. Effects are characterised as borough wide, permanent and reversible.	Slight beneficial
12	To promote safe communities, reduce crime and the fear of crime	Accidents; Security	On balance, this group of policies is assessed as having a slight beneficial (and thus non significant) effect against this objective. Effects are characterised as borough wide, temporary and reversible.	Slight beneficial
13	To improve	Access to	On balance, given the beneficial effect of promoting smarter choices measures	Slight

	accessibility and transport links to services, facilities and opportunities	the transport system; Community severance	through Policy 7, this group of policies is assessed as having a slight beneficial (and thus non significant) effect against this objective. Effects are characterised as borough wide, temporary and reversible.	beneficial
14	To improve road safety	Accidents; Security	On balance, given the beneficial effect of promoting smarter choices measures and eco-driving through Policy 7, this group of policies is assessed as having a slight beneficial (and thus non significant) effect against this objective. Effects are characterised as borough wide, temporary and reversible.	Slight beneficial
15	To maintain and enhance the quality and distinctiveness of the Borough's built environment and cultural heritage	Townscape; Heritage	Given the beneficial effects of Policy 10 in protecting and enhancing the cultural heritage and public realm, this group of policies is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible	Moderate beneficial
16	To improve efficiency of transport networks and physical infrastructure standards	Not covered by NATA sub-objectives	Given the beneficial effects of Policy 8 Policy 10 in ensuring the network is resilient to the effects of climate change, this group of policies is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as borough wide, temporary and reversible.	Moderate beneficial

Table F.5 - Assessment of the Preferred Strategy: Our Transport Strategy to Create Safer Southend

Scale / significance of effect: 0 – neutral or no effect; +++ large beneficial; ++ moderate beneficial; + slight beneficial; --- large adverse; -- moderate adverse; - slight adverse

SEA Objective		Description of effect on resources and receptors ²⁹	Scale / significance of effect	Description of mitigation / enhancement and its implementation	Level of certainty	Summary for AST
1	To maintain and improve local air quality	<p>Policy 12 introduces 20mph zones within residential areas. Reducing vehicle speed can have a variable effect on air quality: 20mph generally produces greater emissions than travelling at 30mph, however, the less erratic driving with fewer start/stops at 20mph can reduce emissions. Further modelling would be required to ascertain the likely effects of this policy.</p> <p>Likewise, other policies within this policy group may have an effect on vehicle speed and therefore have variable effects on air quality.</p> <p>On balance, it is difficult to predict what the effect on air quality is likely to be without further modelling and therefore it has been assessed as neutral (and thus not significant).</p>	0	Mitigation measures are not proposed as improvements in vehicle design result in the emission of pollutants and particles from road traffic to decline between now and 2026 both with and without the LTP measures.	Low.	On balance, it is difficult to predict what the effect on air quality is likely to be without further modelling and therefore it has been assessed as neutral (and thus not significant).
2	To conserve and	This group of policies generally promotes	0	Best practice	Medium	Given the

²⁹ This includes the effects' magnitude, geographical scale, time period over which they occur, whether they are permanent or temporary, positive or negative, probable or improbable, reversible or irreversible, frequent or rare, and whether or not there are secondary, cumulative and/or synergistic effects

	enhance the Borough's biodiversity, important wildlife habitats and geodiversity	<p>lower speed limits which will lead to less noise pollution which will have a beneficial effect on fauna. There may be some construction associated with infrastructure required for the introduction of 20mph zones (Policy 12) that will have an adverse effect on biodiversity if it is in the locality.</p> <p>Given the potential beneficial effects associated with lower noise levels and the potential adverse effects associated with construction impacts, this group of policies is assessed as having a neutral effect against this objective.</p>		Environmental Management procedures e.g. use of hoardings should be employed on site during any construction activities.		potential beneficial effects associated with lower noise levels and the potential adverse effects associated with construction impacts, this group of policies is assessed as having a neutral effect against this objective.
3	To maintain and improve the quantity and quality of ground, sea and river waters	This group of policies is concerned with promoting safety and in general there are no obvious links to ground, sea and river waters. However, Policy 15 on maintenance considers flooding to be a key issue and seeks to reduce flooding incidents; therefore having a slight beneficial effect. This effect is characterised as local, permanent and reversible.	+	None identified.	Medium.	This group of policies is concerned with promoting safety and in general there are no obvious links to ground, sea and river

						waters. However, Policy 15 on maintenance considers flooding to be a key issue and seeks to reduce flooding incidents; therefore having a slight beneficial effect. This effect is characterised as local, permanent and reversible.
4	To ensure efficient use of land and maintain the resource of productive soil	This group of policies is concerned with promoting safety and in general there are no obvious links to efficient use of land and maintaining the resource of productive soil; therefore it has been assessed as having no effect.	0	None identified.	Medium.	This group of policies is concerned with promoting safety and in general there are no obvious links to efficient

						use of land and maintaining the resource of productive soil; therefore it has been assessed as having no effect.
5	To ensure resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions	This group of policies is concerned with promoting safety and in general there are no obvious links to climate change adaptation. However, Policy 15 on maintenance considers flooding to be a key issue and seeks to reduce flooding incidents; therefore having a slight beneficial effect. This effect is characterised as local, permanent and reversible.	+	None identified.	Medium.	This group of policies is concerned with promoting safety and in general there are no obvious links to climate change adaptation. However, Policy 15 on maintenance considers flooding to be a key issue and seeks to reduce flooding incidents;

						therefore having a slight beneficial effect. This effect is characterised as local, permanent and reversible.
6	To maintain and enhance the quality and character of the landscape and townscape	<p>Policy 12 on Safer Communities introduces 20mph zones in residential areas and looks to integrate these improvements with existing regeneration initiatives and streetscape improvement to achieve a more pleasant environment. Effective maintenance of streetlighting (Policy 15) will also add to a pleasant streetscape. Policy 14 looks to discourage speeding and reckless driving, so will again contribute to a pleasant environment.</p> <p>The remaining policies in this group are unlikely to have any effect on landscape and townscape as they are primarily concerned with safety measures.</p> <p>Given the lower speed levels that are likely to be achieved from this group of policies, it is assessed as having a slight beneficial effect against this objective. The effect is</p>	+	None identified.	Medium	Given the lower speed levels that are likely to be achieved from this group of policies, it is assessed as having a slight beneficial effect against this objective. The effect is characterised as borough wide, permanent and reversible.

		characterised as borough wide, permanent and reversible.				
7	To decarbonise transport to reduce transport related CO ₂ emissions	<p>As with Air Quality, the emission of CO₂ from the introduction of 20mph zones (Policy 12) cannot be determined without further modelling. CO₂ emissions travelling at 20mph are generally higher than travelling at 30mph, however the less erratic driving associated with a 20mph speed limit can reduce CO₂ emissions. The effect is therefore assessed as neutral. Policy 12 also acknowledges the need for street lighting to improve personal safety after dark. If introduced in areas where there is currently no lighting, this will have an adverse effect on CO₂ emissions.</p> <p>Policy 14 on Education looks to educate on speeding and reckless driving, which is likely to have a beneficial effect on CO₂ emissions.</p> <p>On balance, polices that seek to encourage smoother driving will have a slight beneficial effect on CO₂ emissions; the policy to introduce 20mph zones and streetlighting may have slight adverse effects. This group of polices is therefore assessed as having a neutral effect on CO₂ emissions.</p>	0	Ensure that any streetlighting installed has low energy bulbs to minimise CO ₂ emissions.	Low.	On balance, the polices that seek to encourage smoother driving will have a slight beneficial effect on CO ₂ emissions; the policy to introduce 20mph zones and streetlighting may have slight adverse effects. This group of polices is therefore assessed as having a neutral effect on CO ₂ emissions.
8	To reduce the amount of waste requiring final	High levels of waste are generally associated with construction works. This group of policies is mainly focussed on softer initiatives that	0	None identified.	Medium.	This group of policies is mainly

	disposal through minimisation, re-use and recycling	aim to reduce speed etc. and therefore are likely to have a minimal impact, with little waste being generated. This group of policies is therefore assessed as having no effect.				focussed on softer initiatives that aim to reduce speed etc. and therefore are likely to have a minimal impact, with little waste being generated. This group of policies is therefore assessed as having no effect.
9	To reduce noise, vibration and light pollution	<p>Policy 12 on safer communities introduces 20mph zones in residential areas. This is likely to have a beneficial effect on noise pollution. It also considers improved street lighting in order to promote safer communities; this could have an adverse effect on light pollution. Likewise, Policy 15 on maintenance looks to focus streetlighting repairs and improvements on key routes that are particularly dark; again posing potential adverse effects on light pollution.</p> <p>On balance, given the beneficial effects with</p>	0	Light pollution can be minimised through the use of street lighting that has a downward beam. The LTP3 could also consider the outcomes of the experiment of turning off street lighting after midnight currently being implemented and monitored by the Essex County Council.	Medium.	On balance, given the beneficial effects with reduced noise levels and the potential adverse effects of increased light pollution, this group of policies is

		reduced noise levels and the potential adverse effects of increased light pollution, this group of policies is assessed as having a neutral effect against this objective.				assessed as having a neutral effect against this objective.
10	To improve overall levels of health and reduce health inequalities between different groups and different areas	<p>This group of policies has a strong focus on directly promoting health, particularly through aiming to reduce the number of people Killed or Seriously Injured in the borough.</p> <p>Policy 11 on safety partnerships promotes partnership working between the Council and a number of bodies including the Health Authority, thus having a coordinated and beneficial effect on health.</p> <p>Policy 12 introduces a 20mph speed limit in residential areas, which is likely to have a beneficial effect on health through the reduction in accidents. Policies 13, 14, and 15 also seek to reduce accidents through a range of measures thus having a beneficial effect on health.</p> <p>In general, as this group of policies is concerned with promoting safety and thus reducing the number of accidents, it is assessed as having a moderate beneficial effect against this objective. This effect can be characterised as borough wide, permanent and reversible.</p>	++	None identified.	Medium.	In general, as this group of policies is concerned with promoting safety and thus reducing the number of accidents, it is assessed as having a moderate beneficial effect against this objective. This effect can be characterised as borough wide, permanent and reversible.
11	To reduce road	Policy 12 introduces 20mph zones, which as	++	None identified.	Medium.	In general,

	<p>traffic and congestion through modal shift to more sustainable transport options</p>	<p>well as promoting safety are likely to encourage walking and cycling. Policy 14 may also encourage modal shift through focussing education, training and publicity on vulnerable groups including Children especially as pedestrians and cyclists.</p> <p>Policy 14 on maintenance is likely to have a positive effect on congestion through reducing the risk of accident (and the delays associated with this). However, this is not through the encouragement of a shift to sustainable transport modes.</p> <p>In general, this group of policies seeks to reduce accidents and therefore are likely to have a beneficial effect on reducing congestion associated with road closures etc. when an accident has occurred. Many of the measures e.g. 20mph zones will also encourage a shift to more sustainable transport modes. This group of policies is therefore assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible.</p>			<p>this group of policies seeks to reduce accidents and therefore are likely to have a beneficial effect on reducing congestion associated with road closures etc. when an accident has occurred. Many of the measures e.g. 20mph zones will also encourage a shift to more sustainable transport modes. This group of policies is therefore assessed as having a moderate beneficial</p>
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						(and thus significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible.
12	To promote safe communities, reduce crime and the fear of crime	<p>Policy 11 seeks to work closely with the police, among others, to instil greater public confidence. Additionally, Policy 15 on Maintenance looks to ensure that Street lighting repairs and improvements should be focused particularly on the key walking routes and cycle routes, especially in those parts of the town with higher concerns about safety after dark. The strategy also includes a section on Personal Security and Public Transport (although no direct policy related to it); in this section the importance of working with the rail industry is highlighted in order to ensure that safety and personal security is a key consideration. There is also a commitment to work with transport operators to support in their efforts to reduce crime and anti-social behaviour on trains and buses.</p> <p>The remaining policies in this group are concerned with improving safety and are</p>	++	None identified.	Medium.	<p>In general, given the approach for partnership working and maintenance of streetlighting, this group of policies is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as borough</p>

		<p>unlikely to affect crime levels.</p> <p>In general, given the approach for partnership working and maintenance of streetlighting, this group of policies is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible.</p>				<p>wide, permanent and reversible.</p>
13	<p>To improve accessibility and transport links to services, facilities and opportunities</p>	<p>Although this group of policies does not seek to improve accessibility, there are a number of policies that may have a secondary impact of increasing accessibility e.g. improving pot holes and similar hazards on cycle routes may encourage people to cycle thus allowing them to access a range of services, facilities and opportunities with ease. However, in general, the policies in this group are unlikely to have an impact upon improving accessibility.</p> <p>On balance, given the secondary impact that some of the policies may have on increasing accessibility (e.g. through promotion of cycling) this group of policies is assessed as having a slight beneficial (and thus non significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible.</p>	+	None identified.	Medium.	<p>On balance, given the secondary impact that some of the policies may have on increasing accessibility (e.g. through promotion of cycling) this group of policies is assessed as having a slight beneficial (and thus non significant) effect against this objective. Effects are</p>

						characterised as borough wide, permanent and reversible.
14	To improve road safety	<p>This group of policies is generally concerned with promoting road safety, with all policies in the group contributing to this aim. Policy 11 promotes partnership working to provide a coordinated approach to improve road safety in the borough, working with health organisations and the police for example. Policy 12 principally introduces 20mph speed limits in residential areas as well as promoting sustainable communities through measures such as improved streetlighting. Policy 13 further promotes safety through integrating safety improvements within other wider policies for works. Policy 14 uses education, training and publicity to promote safety and Policy 15 considers how maintenance can be used to promote safety.</p> <p>With all policies in this group directly contributing to improving road safety, this group is assessed as having a large beneficial (and thus significant) effect against this objective. The effect is characterised as borough wide, permanent and reversible.</p>	+++	None identified.	High.	With all policies in this group directly contributing to improving road safety, this group is assessed as having a large beneficial (and thus significant) effect against this objective. The effect is characterised as borough wide, permanent and reversible.
15	To maintain and enhance the	Generally, these policies seek to create a safer borough, which is likely to create a more	+	None identified.	Medium.	Generally these policies

	<p>quality and distinctiveness of the Borough's built environment and cultural heritage</p>	<p>pleasant built environment around the borough.</p> <p>In terms of cultural heritage in the borough, there is unlikely to be any direct impact, but Policy 12 looks to create 20mph zones including along the seafront which is likely to have a beneficial effect on Cliff Gardens and Cliff Pavilion.</p> <p>Generally these policies will seek to promote a safer, more pleasant borough which will have a slight beneficial (and thus non significant) effect against this objective. Effects can be characterised as borough wide, permanent and reversible.</p>				<p>will seek to promote a safer, more pleasant borough which will have a slight beneficial (and thus non significant) effect against this objective. Effects can be characterised as borough wide, permanent and reversible.</p>
16	<p>To improve efficiency of transport networks and physical infrastructure standards</p>	<p>Policy 15 on maintenance and safety seeks to maintain existing infrastructure to a high standard and ensure that safety concerns are paramount; this will have a beneficial effect against this objective.</p> <p>More generally, reducing accidents (as policies 11-14 seek to do) will have a beneficial effect on efficiency of the transport network as when accidents occur they can cause large delays.</p> <p>Generally, given the promotion of</p>	++	None identified.	Medium.	<p>Generally, given the promotion of maintenance of existing infrastructure combined with improving efficiency from reduced accident rates, this</p>

		<p>maintenance of existing infrastructure combined with improving efficiency from reduced accident rates, this group of policies is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible.</p>				<p>group of policies is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible.</p>
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Table F.6 - Appraisal Summary Table for the Preferred Strategy: Our Transport Strategy to Create Safer Southend

SEA Objective		NATA Sub-objective	Qualitative Impacts	Assessment
1	To maintain and improve local air quality	Local Air Quality	On balance, it is difficult to predict what the effect on air quality is likely to be without further modelling and therefore it has been assessed as neutral (and thus not significant).	Neutral
2	To conserve and enhance the Borough's biodiversity, important wildlife habitats and geodiversity	Biodiversity	Given the potential beneficial effects associated with lower noise levels and the potential adverse effects associated with construction impacts, this group of policies is assessed as having a neutral effect against this objective.	Neutral
3	To maintain and improve the quantity and quality of ground, sea and river waters	Water environment	This group of policies is concerned with promoting safety and in general there are no obvious links to ground, sea and river waters. However, Policy 15 on maintenance considers flooding to be a key issue and seeks to reduce flooding incidents; therefore having a slight beneficial effect. This effect is characterised as local, permanent and reversible.	Slight beneficial
4	To ensure efficient use of land and maintain the resource of productive soil	Biodiversity ³⁰	This group of policies is concerned with promoting safety and in general there are no obvious links to efficient use of land and maintaining the resource of productive soil; therefore it has been assessed as having no effect.	No effect
5	To ensure	Water	This group of policies is concerned with promoting safety and in general there	Slight beneficial

³⁰ Soil is not explicitly covered by NATA sub-objectives, but is an underlying factor affecting landscape, heritage, biodiversity and the water environment. Where effects on soil are likely to be important a local objective should be formulated

	resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions	environment	are no obvious links to climate change adaptation. However, Policy 15 on maintenance considers flooding to be a key issue and seeks to reduce flooding incidents; therefore having a slight beneficial effect. This effect is characterised as local, permanent and reversible.	
6	To maintain and enhance the quality and character of the landscape and townscape	Landscape; Townscape	Given the lower speed levels that are likely to be achieved from this group of policies, it is assessed as having a slight beneficial effect against this objective. The effect is characterised as borough wide, permanent and reversible.	Slight beneficial
7	To decarbonise transport to reduce transport related CO ₂ emissions	Greenhouse gases	On balance, the policies that seek to encourage smoother driving will have a slight beneficial effect on CO ₂ emissions; the policy to introduce 20mph zones and streetlighting may have slight adverse effects. This group of policies is therefore assessed as having a neutral effect on CO ₂ emissions.	Slight beneficial
8	To reduce the amount of waste requiring final disposal through minimisation, re-use and recycling	Not covered by NATA sub-objectives	This group of policies is mainly focussed on softer initiatives that aim to reduce speed etc. and therefore are likely to have a minimal impact, with little waste being generated. This group of policies is therefore assessed as having no effect.	No effect.
9	To reduce noise, vibration and light pollution	Noise	On balance, given the beneficial effects with reduced noise levels and the potential adverse effects of increased light pollution, this group of policies is assessed as having a neutral effect against this objective.	Neutral

10	To improve overall levels of health and reduce health inequalities between different groups and different areas	Physical fitness	In general, as this group of policies is concerned with promoting safety and thus reducing the number of accidents, it is assessed as having a moderate beneficial effect against this objective. This effect can be characterised as borough wide, permanent and reversible.	
11	To reduce road traffic and congestion through modal shift to more sustainable transport options	Noise; Physical fitness	In general, this group of policies seeks to reduce accidents and therefore are likely to have a beneficial effect on reducing congestion associated with road closures etc. when an accident has occurred. Many of the measures e.g. 20mph zones will also encourage a shift to more sustainable transport modes. This group of policies is therefore assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible.	Moderate beneficial
12	To promote safe communities, reduce crime and the fear of crime	Accidents; Security	In general, given the approach for partnership working and maintenance of streetlighting, this group of policies is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible.	Moderate beneficial
13	To improve accessibility and transport links to services, facilities and opportunities	Access to the transport system; Community severance	On balance, given the secondary impact that some of the policies may have on increasing accessibility (e.g. through promotion of cycling) this group of policies is assessed as having a slight beneficial (and thus non significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible.	Slight beneficial
14	To improve road safety	Accidents; Security	With all policies in this group directly contributing to improving road safety, this group is assessed as having a large beneficial (and thus significant) effect against this objective. The effect is characterised as borough wide, permanent and reversible.	Large beneficial

15	To maintain and enhance the quality and distinctiveness of the Borough's built environment and cultural heritage	Townscape; Heritage	Generally these policies will seek to promote a safer, more pleasant borough which will have a slight beneficial (and thus non significant) effect against this objective. Effects can be characterised as borough wide, permanent and reversible.	Slight beneficial
16	To improve efficiency of transport networks and physical infrastructure standards	Not covered by NATA sub-objectives	Generally, given the promotion of maintenance of existing infrastructure combined with improving efficiency from reduced accident rates, this group of policies is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible.	Moderate beneficial

Table F.7 - Assessment of the Preferred Strategy: Our Transport Strategy to Reduce Inequalities in Health and Wellbeing and for a More Accessible Southend

Scale / significance of effect: 0 – neutral or no effect; +++ large beneficial; ++ moderate beneficial; + slight beneficial; --- large adverse; -- moderate adverse; - slight adverse

SEA Objective		Description of effect on resources and receptors ³¹	Scale / significance of effect	Description of mitigation / enhancement and its implementation	Level of certainty	Summary for AST
1	To maintain and improve local air quality	This group of policies is concerned with improving accessibility, mainly through promotion of sustainable modes of transport e.g. coordination of bus timetables to improve accessibility to Southend Hospital and promoting walking and cycling in order to reduce health inequalities. Promotion of sustainable modes of transport is likely to encourage modal shift from the car to sustainable modes thus having a slight beneficial (and non significant) effect. This effect is characterised as borough wide, temporary and reversible.	+	Mitigation measures are not proposed as improvements in vehicle design result in the emission of pollutants and particles from road traffic to decline between now and 2026 both with and without the LTP measures.	Low.	Promotion of sustainable modes of transport is likely to encourage modal shift from the car to sustainable modes thus having a slight beneficial effect. This effect is characterised as borough wide, temporary

³¹ This includes the effects' magnitude, geographical scale, time period over which they occur, whether they are permanent or temporary, positive or negative, probable or improbable, reversible or irreversible, frequent or rare, and whether or not there are secondary, cumulative and/or synergistic effects

						and reversible.
2	To conserve and enhance the Borough's biodiversity, important wildlife habitats and geodiversity	<p>There are very few physical interventions required by this group of policies (except for some cycling improvements with Policy 17 and some station improvements with Policy 18) and therefore there are likely to be only slight adverse general effects on biodiversity, wildlife habitats and geodiversity through construction in the short term. In the longer term, this group of policies encourages the use of sustainable modes particularly walking and cycling (Policy 17) and public transport (Policy 16 and Policy 18), which is likely to have a slight beneficial effect due to encouraging modal shift from the car and therefore reducing impacts such as noise and air pollution.</p> <p>Overall, given the slight adverse effect due to construction impacts of cycling infrastructure and station improvements, and the slight beneficial effect of encouraging modal shift from the car, this group of policies is assessed as having a neutral effect.</p>	0	Best practice Environmental Management procedures e.g. use of hoardings should be employed on site during any construction activities.	Medium.	Overall, given the slight adverse effect due to construction impacts of cycling infrastructure and station improvements, and the slight beneficial effect of encouraging modal shift from the car, this group of policies is assessed as having a neutral effect.
3	To maintain and improve the quantity and quality of ground, sea and	There are very few physical interventions required by this group of policies (except for some cycling improvements with Policy 17 and some station improvements with Policy 18) and therefore there are likely to be only slight adverse effects to water quality through construction in the short term. In the longer	0	Employ forms of pollution prevention and control for any construction projects e.g. station improvements, including sediment	Medium.	Overall, given the slight adverse effect due to construction impacts of cycling

	river waters	<p>term, this group of policies encourages the use of sustainable modes particularly walking and cycling (Policy 17) and public transport (Policy 16 and Policy 18), which is likely to have a slight beneficial effect due to encouraging modal shift from the car and therefore requiring fewer roads to be built and therefore limiting surface run off to water courses.</p> <p>Overall, given the slight adverse effect due to construction impacts of cycling infrastructure and station improvements, and the slight beneficial effect of encouraging modal shift from the car, this group of policies is assessed as having a neutral effect.</p>		and oil traps		<p>infrastructure and station improvements , and the slight beneficial effect of encouraging modal shift from the car, this group of policies is assessed as having a neutral effect.</p>
4	To ensure efficient use of land and maintain the resource of productive soil	<p>There are minimal interventions included within this group of policies (e.g. cycle infrastructure and station improvements) and therefore land take is going to be negligible and this group of policies is assessed as having no effect.</p>	0	None identified.	Medium.	<p>There are minimal interventions included within this group of policies (e.g. cycle infrastructure and station improvements) and therefore land take is going to be negligible and</p>

						this group of policies is assessed as having no effect.
5	To ensure resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions	This group of policies is concerned with Promoting Health and Reducing Inequalities and there are no obvious links with adaptation to climate change; it is therefore assessed as having no effect.	0	None identified.	Medium.	This group of policies is concerned with Promoting Health and Reducing Inequalities and there are no obvious links with adaptation to climate change; it is therefore assessed as having no effect.
6	To maintain and enhance the quality and character of the landscape and townscape	Policy 16 seeks to increase accessibility to Southend hospital through better coordination of public transport. It is mainly concerned with better coordination rather than introducing new modes or physical infrastructure; there is therefore unlikely to be an effect on landscape or townscape. Policy 17 promotes walking and cycling as a means to improve Health and Wellbeing; this will have a slight	+	Ensure that any station improvements undertaken as part of Policy 18 are aligned with public realm aspirations of the borough, thus improving townscape.	Medium.	Overall, given the promotion of walking and cycling (Policy 17) and station improvements (Policy 18), this group of

		<p>beneficial effect on the landscape and townscape through reducing the need for road building in the long term through modal shift. The policy also looks to reduce unappealing street furniture and excessive signage on cycle routes, thus improving the townscape. Policy 18 seeks to ensure that all public transport is accessible. Although not directly related to townscape improvements, it would be hoped that station improvements as part of this policy would improve the aesthetics of the stations as well as just improving accessibility, thus having a positive effect on townscape.</p> <p>Overall, given the promotion of walking and cycling (Policy 17) and station improvements (Policy 18), this group of policies is assessed as having a slight beneficial (and thus non significant) effect on landscape and townscape. Effects are characterised as borough wide, permanent and reversible.</p>				<p>policies is assessed as having a slight beneficial (and thus non significant) effect on landscape and townscape. Effects are characterised as borough wide, permanent and reversible.</p>
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7	To decarbonise transport to reduce transport related CO ₂ emissions	<p>Policy 16 aims to improve access to the hospital through working with public transport operators etc. to provide a coordinated approach. This may have a slight beneficial effect on carbon emissions due to encouraging a modal shift from private car use. Policy 17 has further beneficial effects on reducing carbon emissions due to encouraging walking and cycling, with the aim of improving health. Policy 18 has the primary aim of improving accessibility, but if accessibility to public transport is improved, usage is likely to increase, with some of this being due to modal shift from the car, thus having a beneficial effect on carbon emissions.</p> <p>Given the general emphasis to encourage modal shift to public transport, walking and cycling, this group of policies is likely to have a moderate beneficial (and thus significant) effect on decarbonising transport. This effect is characterised as geographically widespread, temporary and reversible.</p>	++	None identified.	Low.	<p>Given the general emphasis to encourage modal shift to public transport, walking and cycling, this group of policies is likely to have a moderate beneficial (and thus significant) effect on decarbonising transport. This effect is characterised as geographically widespread, temporary and reversible.</p>
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8	To reduce the amount of waste requiring final disposal through minimisation, re-use and recycling	Waste is generally associated with construction schemes. There are few physical interventions included in this group of policies (potential cycle infrastructure with Policy 17 and station improvements with Policy 18), however, all construction will have an impact, therefore this group of policies is assessed as having a slight adverse (thus non significant) effect against this objective. Effects are characterised as geographically widespread due to the nature of waste disposal, permanent and irreversible.	-	Adhere to a Construction Environmental Management Plan (CEMP) during construction incorporating the requirements for Site Waste Management Plans (SWMPs). Explore opportunities to identify and reuse materials on site and give preference to locally sourced materials to reduce transport requirements.	Low.	There are few physical interventions included in this group of policies (potential cycle infrastructure with Policy 17 and station improvements with Policy 18), however, all construction will have an impact, therefore this group of policies is assessed as having a slight adverse (thus non significant) effect against this objective. Effects are characterised as geographically
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						y widespread due to the nature of waste disposal, permanent and irreversible.
9	To reduce noise, vibration and light pollution	<p>This group of policies is unlikely to have a direct effect on noise, vibration and light pollution, except possibly through Policy 17 where additional streetlighting may be required in order to light new cycle paths, this should be implemented sympathetically (see mitigation). In general, the policies seek to encourage public transport and walking and cycling, which if increases are due to modal shift, this is likely to have a beneficial effect on noise pollution.</p> <p>Overall, given the slight adverse effect that there may be on light pollution due to additional cycle infrastructure and the slight beneficial effect that there may be on noise pollution due to fewer cars, this group of policies is assessed as having a neutral effect.</p>	0	Light pollution can be minimised through the use of street lighting that has a downward beam. The LTP3 could also consider the outcomes of the experiment of turning off street lighting after midnight currently being implemented and monitored by the Essex County Council.	Medium.	Overall, given the slight adverse effect that there may be on light pollution due to additional cycle infrastructure and the slight beneficial effect that there may be on noise pollution due to fewer cars, this group of policies is assessed as having a neutral effect.
10	To improve overall levels of	This group of policies has the primary aim of reducing inequalities in health and wellbeing	+++	None identified.	Medium.	Given the emphasis on

	health and reduce health inequalities between different groups and different areas	<p>as well as improving accessibility, therefore it fares well against this objective. Policy 16 aims to improve access to healthcare and in particular to Southend Hospital from the east of the borough, this is through a range of initiatives including coordination of public transport and visitor travel plans. Policy 17 further aims to increase health levels by actively promoting walking and cycling particularly in deprived wards. Policy 18 aims to assist those with disabilities by ensuring that all public transport is accessible.</p> <p>Given the emphasis on improving health and reducing inequalities between groups, this group of policies is assessed as having a large beneficial (and thus significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible.</p>				improving health and reducing inequalities between groups, this group of policies is assessed as having a large beneficial (and thus significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible.
11	To reduce road traffic and congestion through modal shift to more sustainable transport options	Although the primary aim of encouraging walking and cycling (Policy 17) and promoting public transport options (Policy 16 and Policy 18) is to improve accessibility and health, they are likely to also have a secondary benefit of encouraging modal shift from the car and thus will reduce road traffic and congestion. The effect of the modal shift on traffic and congestion is likely to be slight beneficial (and thus non significant). Effects can be	+	None identified.	Low.	The effect of the modal shift on traffic and congestion is likely to be slight beneficial (and thus non significant).

		characterised as borough wide, permanent and reversible.				Effects can be characterised as borough wide, permanent and reversible.
12	To promote safe communities, reduce crime and the fear of crime	<p>Policy 16 looks to coordinate public transport timings in order to improve accessibility to Southend hospital. This may assist in reducing the fear of crime, if waiting times for public transport are reduced. Policy 17 aims to encourage walking and cycling generally across the borough and includes provision that all walking routes should be maintained, particularly with street lighting, thus reducing the fear of crime. Policy 18 is concerned with accessibility of public transport and therefore is unlikely to have an effect on crime or fear of crime, unless additional measures are built in (see mitigation).</p> <p>On balance, these policies will have a moderate beneficial (and thus significant) effect on reducing crime and fear of crime. Effects are characterised as borough wide, permanent and reversible.</p>	++	Any improvements under Policy 18 e.g. station improvements should be undertaken with consideration of crime and designing schemes so that crime and fear of crime are minimised.	Low.	On balance, these policies will have a moderate beneficial (and thus significant) effect on reducing crime and fear of crime. Effects are characterised as borough wide, permanent and reversible.
13	To improve accessibility and transport links to services, facilities and	This group of policies has a primary aim of improving accessibility so fares well against this objective. Policy 16 seeks to improve accessibility to healthcare and in particular to Southend hospital from the east of the	++	None identified.	Medium.	In general, as all policies in this group have an aim of increasing

	opportunities	<p>borough. Policy 17 looks to increase walking and cycling, including a particular focus on key employment areas. By improving accessibility to public transport for older people and those with disabilities, Policy 18, has further positive effects against this objective.</p> <p>In general, as all policies in this group have an aim of increasing accessibility, it is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible.</p>				<p>accessibility, it is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible.</p>
14	To improve road safety	<p>Although this group of policies does not have a direct aim of improving road safety, there may be some secondary effects to road safety. Policy 16 includes provision of visitor travel plans for Southend Hospital; safety could be an integral consideration in these plans (see mitigation). Policy 17 seeks to promote walking and cycling and includes provision that they are maintained to a high standard, thus reducing the risk of accident related to pot holes etc. Likewise, Policy 18 seeks to ensure that pavements and pedestrian areas are maintained to a high standard to ease mobility for older people and people with disabilities.</p>	+	<p>Ensure safety considerations are incorporated into visitor travel plans for Southend Hospital.</p>	Low.	<p>In general, given the inclusion of maintenance of cycling infrastructure, pavement and pedestrian areas which may assist in reducing accidents, this group of policies is assessed as having a</p>

		In general, given the inclusion of maintenance of cycling infrastructure, pavement and pedestrian areas which may assist in reducing accidents, this group of policies is assessed as having a slight beneficial (and this non significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible.				slight beneficial (and this non significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible.
15	To maintain and enhance the quality and distinctiveness of the Borough's built environment and cultural heritage	<p>There are unlikely to be any effect to the following of cultural importance in Southend: Cliffs Gardens, Cliffs Pavilion and Garons Park. In terms of more general effects on the borough's built environment, collectively the group of policies aim to improve public transport and walking and cycling and thus they are likely to encourage a modal shift away from the car, thus reducing traffic and congestion and having a beneficial effect on the built environment.</p> <p>In general, given the general aim of the policies to encourage walking, cycling and public transport thus having a beneficial effect on the borough's built environment, this group of policies is assessed as having a slight beneficial effect. Effects are characterised as borough wide, permanent and reversible.</p>	+	None identified.	Medium.	In general, given the general aim of the policies to encourage walking, cycling and public transport thus having a beneficial effect on the borough's built environment, this group of policies is assessed as having a

						slight beneficial effect. Effects are characterised as borough wide, permanent and reversible.
16	To improve efficiency of transport networks and physical infrastructure standards	<p>Policy 17 will improve physical infrastructure standards by providing cycle related infrastructure e.g. cycle parking. Policy 18 also improves physical infrastructure standards primarily through improvements to stations to ensure they are accessible to all and to pavements and pedestrianised areas. Although not providing improvements to physical infrastructure, Policy 16 will improve efficiency to transport networks through working with public transport providers to coordinate public transport to Southend Hospital.</p> <p>Generally, given the improvements to physical infrastructure and the improved efficiency of transport networks, this group of policies is assessed as having a moderate beneficial effect (and thus significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible.</p>	++	None identified.	Medium.	Generally, given the improvements to physical infrastructure and the improved efficiency of transport networks, this group of policies is assessed as having a moderate beneficial effect (and thus significant) effect against this objective. Effects are

						characterised as borough wide, permanent and reversible.
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Table F.8 - Appraisal Summary Table for the Preferred Strategy: Our Transport Strategy to Reduce Inequalities in Health and Wellbeing and for a More Accessible Southend

SEA Objective		NATA Sub-objective	Qualitative Impacts	Assessment
1	To maintain and improve local air quality	Local Air Quality	Promotion of sustainable modes of transport is likely to encourage modal shift from the car to sustainable modes thus having a slight beneficial effect. This effect is characterised as borough wide, temporary and reversible.	Slight beneficial.
2	To conserve and enhance the Borough's biodiversity, important wildlife habitats and geodiversity	Biodiversity	Overall, given the slight adverse effect due to construction impacts of cycling infrastructure and station improvements, and the slight beneficial effect of encouraging modal shift from the car, this group of policies is assessed as having a neutral effect.	Neutral.
3	To maintain and improve the quantity and quality of ground, sea and river waters	Water environment	Overall, given the slight adverse effect due to construction impacts of cycling infrastructure and station improvements, and the slight beneficial effect of encouraging modal shift from the car, this group of policies is assessed as having a neutral effect.	Neutral.
4	To ensure efficient use of land and maintain the resource of	Biodiversity ³²	There are minimal interventions included within this group of policies (e.g. cycle infrastructure and station improvements) and therefore land take is going to be negligible and this group of policies is assessed as having no effect.	No effect.

³² Soil is not explicitly covered by NATA sub-objectives, but is an underlying factor affecting landscape, heritage, biodiversity and the water environment. Where effects on soil are likely to be important a local objective should be formulated

	productive soil			
5	To ensure resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions	Water environment	This group of policies is concerned with promoting Health and reducing inequalities and there are no obvious links with adaptation to climate change; it is therefore assessed as having no effect.	No effect.
6	To maintain and enhance the quality and character of the landscape and townscape	Landscape; Townscape	Overall, given the promotion of walking and cycling (Policy 17) and station improvements (Policy 18), this group of policies is assessed as having a slight beneficial (and thus non significant) effect on landscape and townscape. Effects are characterised as borough wide, permanent and reversible.	Slight beneficial.
7	To decarbonise transport to reduce transport related CO ₂ emissions	Greenhouse gases	Given the general emphasis to encourage modal shift to public transport, walking and cycling, this group of policies is likely to have a moderate beneficial (and thus significant) effect on decarbonising transport. This effect is characterised as geographically widespread, temporary and reversible.	Moderate beneficial.
8	To reduce the amount of waste requiring final disposal through minimisation, re-use and recycling	Not covered by NATA sub-objectives	There are few physical interventions included in this group of policies (potential cycle infrastructure with Policy 17 and station improvements with Policy 18), however, all construction will have an impact, therefore this group of policies is assessed as having a slight adverse (thus non significant) effect against this objective. Effects are characterised as geographically widespread due to the nature of waste disposal, permanent and irreversible.	Slight adverse.
9	To reduce noise,	Noise	Overall, given the slight adverse effect that there may be on light pollution due	Neutral.

	vibration and light pollution		to additional cycle infrastructure and the slight beneficial effect that there may be on noise pollution due to fewer cars, this group of policies is assessed as having a neutral effect.	
10	To improve overall levels of health and reduce health inequalities between different groups and different areas	Physical fitness	Given the emphasis on improving health and reducing inequalities between groups, this group of policies is assessed as having a large beneficial (and thus significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible.	Large beneficial.
11	To reduce road traffic and congestion through modal shift to more sustainable transport options	Noise; Physical fitness	The effect of the modal shift on traffic and congestion is likely to be slight beneficial (and thus non significant). Effects can be characterised as borough wide, permanent and reversible.	Slight beneficial.
12	To promote safe communities, reduce crime and the fear of crime	Accidents; Security	On balance, these policies will have a moderate beneficial (and thus significant) effect on reducing crime and fear of crime. Effects are characterised as borough wide, permanent and reversible.	Moderate beneficial.
13	To improve accessibility and transport links to services, facilities and opportunities	Access to the transport system; Community severance	In general, as all policies in this group have an aim of increasing accessibility, it is assessed as having a moderate beneficial (and thus significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible.	Moderate beneficial.

14	To improve road safety	Accidents; Security	In general, given the inclusion of maintenance of cycling infrastructure, pavement and pedestrian areas which may assist in reducing accidents, this group of policies is assessed as having a slight beneficial (and this non significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible.	Slight beneficial.
15	To maintain and enhance the quality and distinctiveness of the Borough's built environment and cultural heritage	Townscape; Heritage	In general, given the general aim of the policies to encourage walking, cycling and public transport thus having a beneficial effect on the borough's built environment, this group of policies is assessed as having a slight beneficial effect. Effects are characterised as borough wide, permanent and reversible.	Slight beneficial.
16	To improve efficiency of transport networks and physical infrastructure standards	Not covered by NATA sub-objectives	Generally, given the improvements to physical infrastructure and the improved efficiency of transport networks, this group of policies is assessed as having a moderate beneficial effect (and thus significant) effect against this objective. Effects are characterised as borough wide, permanent and reversible.	Moderate beneficial.

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Atkins Limited

Woodcote Grove, Ashley Road,
Epsom, Surrey KT18 5BW, England

Contact: Cristina West
Telephone number: +44 (0) 1372 756043
Fax number: +44 (0) 1372 746608

Email: cristina.west@atkinsglobal.com
Web address: www.atkinsglobal.com/environment