Strategic Environmental Assessment (SEA)

Draft Environmental Report

Stoke-on-Trent Local Transport Plan 2011/12- 2025/26 (LTP3)

Contents

1. Introduction

What the SEA Directive says:

In the Environmental Report, '*the likely significant effects on the environment of implementing the plan … and reasonable alternatives … are [to be] identified, described and evaluated*' (Article 5(1)). The Environmental Report should include information that may 'reasonably be required taking into account current knowledge and methods of assessment, the contents and level of detail in the plan [and] its stage in the decision making process' (Article 5(2)).

Information to be provided in the Environmental Report includes:

'*the likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors. These effects should include secondary, cumulative, synergistic, short, medium and long-term, permanent and temporary, positive and negative effects*' (Annex I (f) and footnote);

'*an outline of the reasons for selecting the alternatives dealt with*' (Annex I (h));

'*the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan…*' (Annex I (g))

This is the Draft Environmental Report for the Strategic Environmental Assessment of the Local Transport Plan for Stoke-on-Trent 2011/12 to 20125/26 (LTP3). This document should be read in conjunction with the Draft Stoke-on-Trent LTP3 Strategy Document. The Stoke-on-Trent LTP3 will provide strategy and direction to 2026 and also contain an investment plan for the period 2011/12 to 2013/14 which will be reviewed and rolled forward on an annual basis.

The Stoke-on-Trent LTP3 will refresh the long term transport strategy and replace the implementation plan of the North Staffordshire LTP 2006/07-2010/11 (LTP2). The North Staffordshire LTP was jointly produced by Stoke-on-Trent City Council and Staffordshire County Council and covered all of Stoke-on-Trent plus the adjoining urban areas of Newcastle-under-Lyme and Staffordshire Moorlands. A Strategic Environmental Assessment was conducted as part of the process of producing and implementing the North Staffordshire LTP.

The scoping exercise for this SEA updated the extensive baseline information gathering and monitoring undertaken for the SEA of the North Staffordshire LTP and the information collected while monitoring the SEA and North Staffordshire LTP. In addition this SEA uses environmental baseline information collated for Sustainability Appraisal of Local Development Documents.

Government guidance and legislation relating to transport planning, requires that all new LTPs should be subject to:

- a Strategic Environmental Assessment (SEA; to encourage improved integration of environmental considerations in their widest sense into the preparation and adoption of our local transport plans and policies;
- a Health Impact Assessment (HIA); Consideration of 'Human Health' is a legal requirement in a SEA. Consideration of Health Impact is an integral part of the SEA, an HIA will be conducted on the draft LTP to identify and inform health impact in further detail;
- an Equality Impact Assessment (EqIA); The City Council has a duty under race, disability and gender legislation to carry out an Equality Impact Assessment (EqIA) of the LTP. An EqIA of the LTP will be conducted following City Council procedures; and
- a Habitats Regulations Assessment (HRA); A Habitats Regulations Assessment (HRA) Screening Report has been produced to consider if the Stoke-on-Trent LTP3 is likely to have a significant effect on a European site (European sites are Special Areas of Conservation (SACs), Special Protection Areas (SPAs), and listed Ramsar sites. Proposed SPAs and candidate SACs are also regarded as European sites). The findings on the HRA Screening Report are that a significant effect on a European Site is not likely, and therefore the Stoke-on-Trent LTP is not subject to an appropriate assessment.

This Environmental Report is published alongside the Draft LTP3 with the aim of providing stakeholders with sufficient information on the likely significant environmental effects of the plan. This is done at the Draft LTP3 stage to allow time to influence the development of the LTP3 prior to its completion. Consultation now begins on the Draft LTP and this accompanying Environmental Report. These documents are available on Stoke-on-Trent City Council's LTP Website: www.stoke.gov.uk/ltp. Hard copies or alternative formats can be obtained by request. The consultation is being run for a 12 week period from the 24th

September until **23rd December 2010**. The consultation is being run in-accordance with Article 5 (4) of the European Union Directive 2001/42/EC.

You can respond by post, e-mail or fax by sending your responses or comments to:

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Information provided in response to this consultation may be subject to publication or disclosure in accordance with access to information regimes, such as the Freedom of Information Act 2000 and the Data Protection Act 1998. Stoke-on-Trent City Council's policy on these two regimes can be downloaded from:
http://www.stoke.gov.uk/ccm/navigation/council-and-democracy/information/

2. Strategic Environmental Assessment Methodology

2.1 The Requirement for Strategic Environmental Assessment (SEA)

The EU Directive 2001/42/EC on assessment of effects of certain plans and programmes on the environment (the 'SEA Directive') came into force in the UK on 20 July 2004 through the Environmental Assessment of Plans and Programmes Regulations 2004 (Statutory Instrument 2004/1633). A SEA of the Local Transport Plans of UK local authorities are required by this legislation.

The stated 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)

2.2 Relationship with the Stoke-on-Trent LTP3

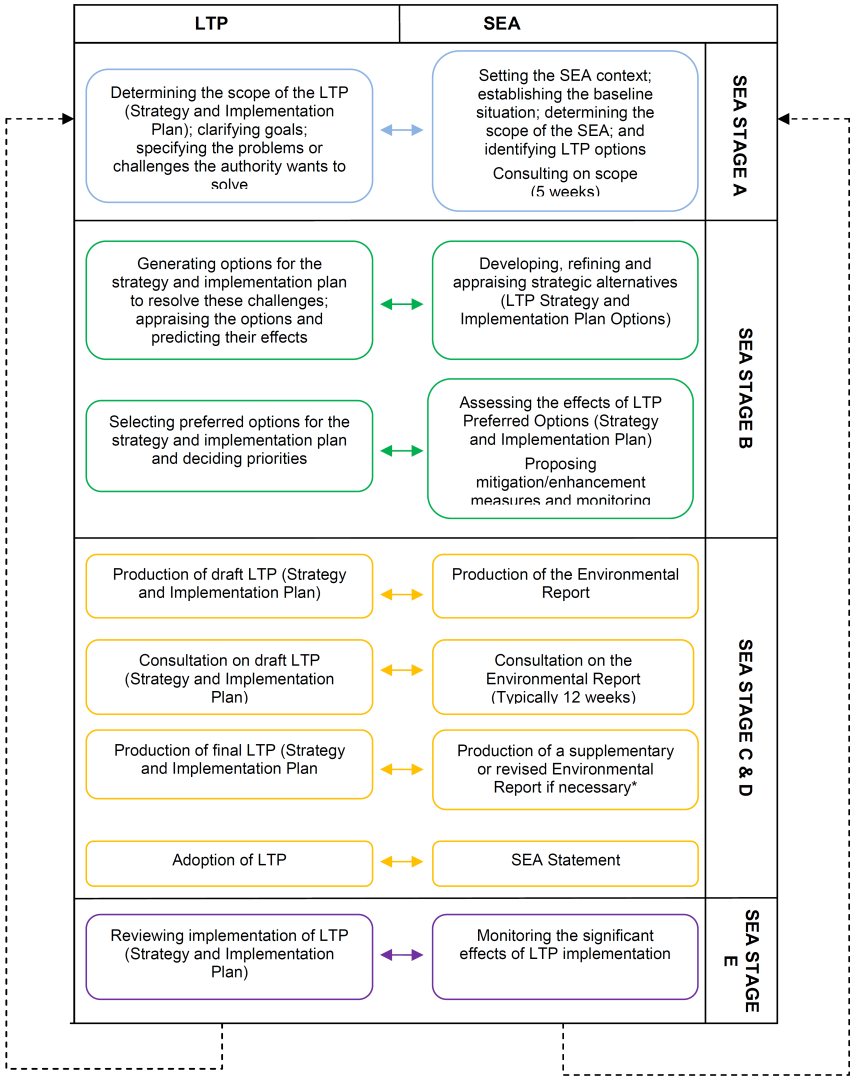
The SEA of the Stoke-on-Trent LTP3 is being carried out in-house by the Transport Policy assisted by officers within the Planning Policy team who have experience of SEA through the Sustainable Appraisal of Local Development Documents. A quality assurance checklist is provided at Appendix 3.

Government guidance[1] has divided the SEA process into the following five stages:
Stage A – Setting the context and objectives, establishing the baseline and deciding on the scope.
Stage B – Developing and refining the alternatives, and assessing effects.
Stage C – Preparing the Environmental Report.
Stage D – Consulting on the draft Plan and Environmental Report.
Stage E – Monitoring the significant effects of implementing the Plan on the environment.

[1] A practical guide to the Strategic Environmental Assessment Directive, CLG 2006
http://www.communities.gov.uk/publications/planningandbuilding/practicalguidesea

The DfT has produced guidance on Strategic Environmental Assessment for Transport Plans and Programmes'[2]. This contains the figure below summarising the LTP process and SEA stages.

Figure 1 Summary of the LTP and SEA process



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

Source: Web TAG Unit 2.11, DfT, 2009

These stages are an iterative process of assessment and refinement which will result in a more sustainable LTP3. The timetable for this SEA process and LTP3 production are set out in Table 1 below.

[2]– Strategic Environmental Assessment for Transport Plans and Programmes, DfT April 2009 http://www.dft.gov.uk/webtag/documents/project-manager/unit2.11d.php

Table 1 Links between the SEA Process and the Stoke-on-Trent LTP3 Timetable

Stage in LTP Production	SEA Stage	SEA Output	Proposed Timetable
Pre-production	**A: Setting the context and objectives, establishing the baseline and deciding on the scope** A1: Identifying other relevant plans, programmes and environmental protection objectives A2: Collecting baseline information A3: Identifying environmental problems A4: Developing SEA objectives	Draft Scoping Report	2009 June & July 2010
	A5: Consulting on the scope of the SEA	Final Scoping Report	End of July - 03 Sept 2010
Drafting the LTP document	**B: Developing and refining alternatives and assessing effects** B1: Testing the Plan objectives against the SEA objectives B2: Developing strategic alternatives B3: Predicting the effects of the draft Plan, including alternatives B4: Evaluating the effects of the draft Plan, including alternatives B5: Considering ways of mitigating adverse effects B6: Proposing measures to monitor the environmental effects of plan implementation **C. Preparing the Environmental Report** C1: Preparing an Environmental Report in which the likely significant effects on the environment of implementing the Plan, and reasonable alternatives taking into account the objectives and geographical scope of the Plan, are identified, described and evaluated	Environmental Report	Sept 2010
Consulting on the Draft LTP document with SEA Environmental Report	**D. Consulting on the draft Plan and the Environmental Report** D1: Consulting on the draft Plan and Environmental Report D2: Assessing significant changes D3: Decision making and providing information	Final SEA Environmental Report & SEA Statement	24th Sept – 23rd Dec 2010
LTP Implementation and monitoring	**E. Monitoring the significant effects of implementing the Plan on the environment** E1: Developing aims and methods for monitoring E2: Responding to adverse effects	LTP Progress Reports	April 2011 – March 2026

2.3 The New Approach to Assessment (NATA)

The Department for Transport (DfT) draft guidance 'Strategic Environmental Assessment for Transport Plans and Programmes' seeks to integrate the process of producing a Strategic Environmental Assessment with the existing DfT transport appraisal process, i.e. the 'New Approach to Appraisal' (NATA).

NATA is a framework used to appraise transport projects and proposals. This framework builds on established approaches including cost-benefit analysis and environmental impact assessment. The SEA and the NATA processes share common principles. However, SEA strengthens the assessment of environmental impacts. SEA considers environment in its widest sense, with some SEA topics linked to Safety, Accessibility and Economy NATA objectives. Table 2 demonstrates the linkages between the NATA objectives, sub-objectives and the SEA topics.

Table 2 Links between NATA sub-objectives and SEA topics

NATA Objective	NATA sub-objective	SEA topic (SEA Directive, Annex 1f)
Environment	Noise	Human health, population, inter-relationships
	Local Air Quality	Air, human health, population
	Greenhouse gases	Climatic factors
	Landscape	Landscape
	Townscape	
	Heritage	Cultural heritage including architectural and archaeological heritage
	Biodiversity	Biodiversity, fauna, flora, soil
	Water Environment	Water
	Physical Fitness	Human health, population
Safety	Accidents	Human health, population
	Security	
Accessibility	Community Severance	Population
	Access to the Transport System	
Economy	Public Accounts	Material assets
	Business Users and Providers	
	Consumer Users	

Source: Web TAG Unit 2.11, DfT, 2009

2.4 Consultation in the SEA Process

The Draft Scoping Report was open for a five-week period of consultation (Task A5 as set out in Table 1 above). A schedule of comments and responses is included in Appendix 4. This report is the result of Stage B: Developing and refining alternatives and assessing effects, and C, Preparing the Environmental Report. The Environmental Report is structures by these Stages. This enables Stage D, Consulting on the draft Plan and the Environmental Report. Stage E, monitoring, will take place during the period of LTP implementation.

The European Directive prescribes consultation with: 'authorities...which, by reason of their specific environmental responsibilities, are likely to be concerned by the environmental effects of implementation plans and programmes' (Article 6.3) Within England the SEA Regulations (2004) have interpreted this requirement to mean Natural England, the Environment Agency and English Heritage. The opinion of these authorities has been sought on the scope and level of detail to be included within the SEA.

The Directive also requires a process of public consultation to include: 'the public affected or likely to be affected by, or having an interest in, the decision-making subject to this Directive, including relevant non-governmental organisations such as those promoting environmental protection and other organisations concerned' (Article 6.4)

As set out in Table 1 consultation on the Draft LTP3 and this Environmental Report commenced on September 24th 2010 for more than a twelve-week period, closing on **23rd December 2010**. Final publication of LTP3, associated Environmental Report and provision of information on the SEA is timetabled for April 2011.

The Environmental Report is published alongside the Draft LTP3 with the aim of providing stakeholders with sufficient information on the likely significant environmental effects of the plan. This is done at the Draft LTP3 stage to allow time to influence the development of the LTP3 prior to its completion.

Hard copies or alternative formats of this report can be obtained by request.
The contact details for the Transport Planning Group are:

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3. Stage A: Setting the context and objectives, establishing the baseline and deciding on the scope

What the SEA Directive requires:

The Environmental Report should provide information on:
'the plan's 'relationship with other relevant plans and programmes' and 'the environmental protection objectives, established at international, [European] Community or Member State [national] level, which are relevant to the plan … and the way those objectives and any environmental considerations have been taken into account during its preparation'. (Annex I (a), (e));
'relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme' and 'the environmental characteristics of the areas likely to be significantly affected' (Annex I (b), (c));
'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 and 92/43/EEC'. (Annex I (d))

Introduction

The Stoke-on-Trent LTP3 will provide strategy and direction to 2026 and also contain an investment plan for the period 2011/12 to 2013/14. The LTP will comprise two documents:

- Strategy plan, which will provide a 15 year vision to 2026 of how the City's transport network will look, function and how it will support our regeneration ambitions. It will contain a performance management framework to monitor progress against the strategy. The 15 year time horizon for the strategy will fit neatly with the Local Development Framework's Core Spatial Strategy. Although there is no longer a requirement to produce a new plan every 5 years there is a statutory duty to keep the plan under review.
- Implementation plan, this will set out how the strategy will be delivered. It will describe a programme of improvements and include cost programme of transport improvements to meet the performance management regime of the strategy. Part of this process will also ensure that the strategy is still fit for purpose as part of the

statutory duty described above. This document will be a rolling three year plan produced annually and it will be in line with the government's comprehensive spending review.

These two documents will refresh the long term transport strategy and replace the implementation plan of the North Staffordshire LTP 2006/07-2010/11 (LTP2). The North Staffordshire LTP covered all of Stoke-on-Trent plus the adjoining urban areas of Newcastle-under-Lyme and Staffordshire Moorlands. A Strategic Environmental Assessment was conducted as part of the process of producing and implementing the North Staffordshire LTP.

Stage A of the SEA updated the extensive baseline information gathering and monitoring undertaken for the SEA of the North Staffordshire LTP and the information collected while monitoring the SEA and North Staffordshire LTP, in order to help understand trends in the baseline situation.

Stage A of the SEA of the Stoke-on-Trent LTP3 presented an opportunity for the "sharing" of baseline data collation and other scoping activities associated with the SEAs of other plans and programmes being prepared for Stoke-on-Trent. For these efficiencies to be realised, collaboration with the Planning Policy Team responsible for Development Plan Documents is taking place.

To meet the SEA Directive requires the DfT Transport Analysis Guidance[3] sets out the following tasks for Stage A:
A1: Identifying other relevant plans, programmes and environmental protection objectives
A2: Collecting baseline information
A3: Identifying environmental problems
A4: Developing SEA objectives
A5: Consulting on the scope of the SEA

Before these tasks, the Stoke-on-Trent LTP3 Goals and Objectives, temporal scope, and geographical scope of the SEA are explained.

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[3] Strategic Environmental Assessment for Transport Plans and Programmes, DfT April 2009 http://www.dft.gov.uk/webtag/documents/project-manager/unit2.11d.php

Stoke-on-Trent LTP3 Goals

The DfT LTP guidance[4] expects authorities to consider their contribution to national transport goals as over-arching priorities for their LTPs. DfT set out national goals in Delivering a Sustainable Transport System (DaSTS)[5]. DaSTS identified five national priorities or goals for the future of the transport system:

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

There have been two recent major studies completed for the area. In 2005 the North Staffordshire Integrated Transport Study (NSITS) reported its findings, which informed the LTP2. More recently, the North Staffordshire Connectivity Study was chosen as one of four regional 'Delivering a Sustainable Transport System' (DaSTS) studies. This study completed stage 1 in June 2010 and was commissioned to consider transport problems in relation to underlying problems and causes and consider more innovative approaches to promoting economic growth. This study was commissioned jointly by the West Midlands Regional Leaders Board, Advantage West Midlands, Stoke-on-Trent City Council and Staffordshire County Council and was part funded by the Department for Transport. The stage 1 report outlined the key base evidence, which will be used to inform proposals and

[4] Guidance on Local Transport Plans, DfT July 2009
http://www.dft.gov.uk/pgr/regional/ltp/guidance/localtransportsplans/

[5] Delivering a Sustainable Transport System (DaSTS), DfT November 2008
http://webarchive.nationalarchives.gov.uk/+/http://www.dft.gov.uk/about/strategy/transportstrategy/dasts/

potential interventions developed and appraised under the subsequent stages of the study (should it continue).

The aim of the North Staffordshire Connectivity Study is to use existing evidence, including NSITS, to identify the key challenges in North Staffordshire in relation to the way the transport system impacts on the economy of the sub-region. The study identified the underlying economic and transport problems and to ensure that proposals were developed with these in mind and to be compliant with the DaSTS goals. The socio-economic issues identified within the area from this study have led to the development of three key overarching and interlinked goals for the Stoke-on-Trent LTP3:

- **Economy; improving the local economy through increasing productivity for existing businesses and encouraging new investment by making the area more attractive**
- **Environment; improving the local built and natural environment through reducing the impact of traffic (air and noise) and moving towards more sustainable transport technology and modes, coupled with improving the appearance of local areas**
- **Health; caring for local health through improving access to transport, transport safety and encouraging walking and cycling.**

As set out in Chapter 5 of the draft LTP3, the goals have been tightly drawn to reflect the biggest priorities in the area and also to ensure that schemes and interventions are targeted towards these priorities.

Temporal Scope

The SEA of the Stoke-on-Trent LTP needs to take account of effects that may occur over different timescales. For example effects resulting from the strategy may occur in the long-term, towards the end of the 15 year long term strategy, whilst effects resulting from construction of new transport infrastructure will occur in the short term and be temporary. The varying timescales of different LTP elements will also influence the temporal scope of the SEA. In the assessment stage of the SEA effects will be identified as likely to occur in the short term (within the first implementation plan period 2011/12-2013/14), medium term

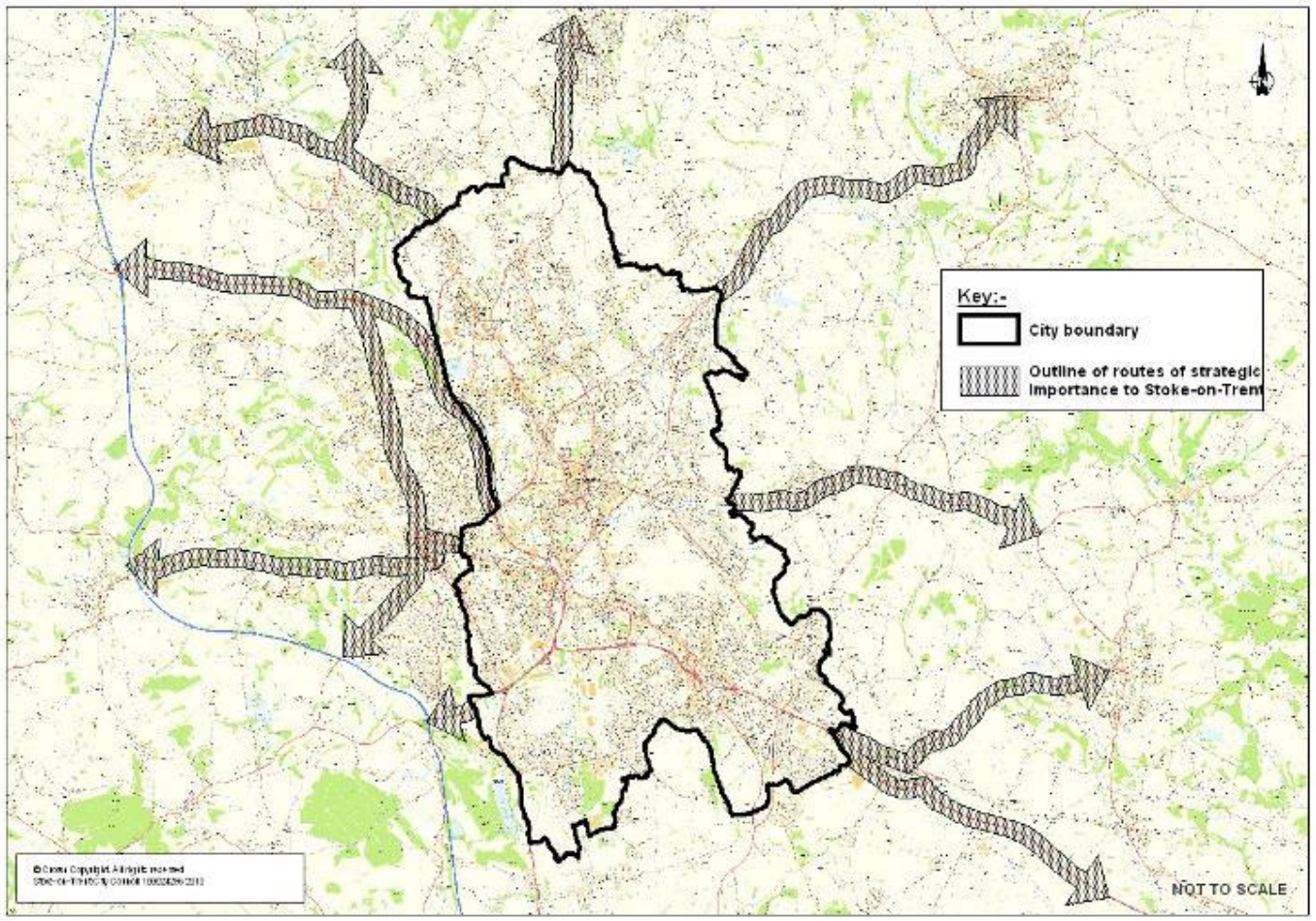
(within the following 2 comprehensive spending review periods 2014/15-2019/20) or long term (2019/20-2025/26) and identified as temporary or permanent.

Geographical Scope

The geographical scope of the LTP is inclusive of all the areas within the Stoke-on-Trent City boundary, however, the issue is more complex. Stoke-on-Trent's economy and subsequent travel patterns are also highly linked to the areas under the control of Newcastle-under-Lyme Borough and Staffordshire Moorlands District Councils. In terms of transport, both areas are managed by Staffordshire County Council who have been involved in the development of this LTP and the North Staffordshire Connectivity Study that informs this LTP and the Newcastle-under-Lyme and Staffordshire Moorlands District Strategies of the Staffordshire LTP. As a result there are cross boundary issues which broaden the geographical scope of this LTP, there is a long history of joint working between the highway authorities, from the previous LTP to local road safety partnerships. So while the absolute boundary for analysis is linked to the City boundary there are likely to be a number of locations where the scope will be extended due to the nature of travel movements. This is illustrated in Figure 2 overleaf which shows some of the key corridors which are critical to transport planning.

The SEA will also need to take account of the different geographical scope of plan measures. Effects relating to individual transport schemes may be very localised, whilst effects from the high level strategies will cover the whole plan area. It is also likely that some plan elements may result in effects being felt beyond the local authority boundary and the SEA will need to take this into consideration. Effects will be identified as localised, Stoke-on-Trent wide, or North Staffordshire wide.

Figure 2 Map showing City Boundary and wider Geographical Scope for this LTP



A1: Identifying other relevant plans, programmes and environmental protection objectives

The LTP is likely to be affected by, and affect, a wide range of other relevant plans and programmes, and environmental objectives both within and outside the City Council's jurisdiction. It must be determined whether the LTP3 gives rise to conflicts with such plans/programmes.

There are a number of documents which are considered to be of key significance. They provide the framework within which the LTP will operate: Table 3 below sets out relevant plans and programmes to the LTP.

Table 3 Relevant Plans and Programmes

Plan / Programme	Comments
International	
International United Nations agreements, for example; Rio Conference – Local Agenda 21 Johannesburg Summit Kyoto Agreement	Non-binding unilateral agreements regarding sustainability at varying levels
European Directives, Conventions and Plans for example; Environmental Impact Assessment Directive, Water Framework Directive, 'Habitats' Directive & the 'Birds' Directive European Spatial Development Perspective 6th Environmental Action Plan	Legislation from the European Commission regarding the protection of the environment. Translated through planning guidance and national legislation
European directives relating to equality: Race equality duty - linked to Race Relations (Amendment) Act 2000 Gender equality duty - linked to Equality Act 2006 Disability equality duty - linked to Disability Discrimination Act 2005	Requirement to produce and publish a Race Equality Scheme, Disability Equality Scheme and a Gender Equality Scheme.
European Landscape Convention	The Convention aims to encourage public authorities to adopt policies and measures at local level for protecting, managing and planning landscapes throughout Europe. It promotes interaction and partnerships between local and central authorities. The Convention recognises that the landscape is a product of both natural and cultural influences (and hence the historic environment).

Plan / Programme	Comments
European Water Framework Directive	The European Water Framework Directive came into force in December 2000 and became part of UK law in December 2003. Requirement to plan and deliver a better water environment, focussing on ecology.
National	
The Coalition: our programme for government	http://programmeforgovernment.hmg.gov.uk/ Promotes values of freedom, fairness and responsibility. For local transport it states that: "We will reform the way decisions are made on which transport projects to prioritise, so that the benefits of low carbon proposals (including light rail schemes) are fully recognised." "We will support sustainable travel initiatives, including the promotion of cycling and walking, and will encourage joint working between bus operators and local authorities." "We will stop central government funding for new fixed speed cameras and switch to more effective ways of making our roads safer, including authorising 'drugalyser' technology."
Planning Policy Guidance Notes & Planning Policy Statements	Government Policy on various aspects of planning eg. Planning Policy Statement 5: Planning for the Historic Environment
Mineral Planning Guidance Notes	Government Policy relating to mineral extraction
Government White Papers e.g. The Future of Transport White Paper	Government Statements of specific areas of policy
Delivering a Sustainable Transport System (DaSTS) - DfT	DfT set out five broad transport goals
Planning Circulars & Acts	Guidance on specific issues that relate to planning
Environment Agency plans and strategies	www.environment-agency.gov.uk
Natural England plans and strategies	http://www.naturalengland.org.uk/
English Heritage plans and strategies, for example: Transport and the Historic Environment, and The European Landscape Convention The English Heritage Action Plan for Implementation	http://www.english-heritage.org.uk/ sets out broad principles of English Heritage's vision for long-term national transport policy
UK Biodiversity Action Plan	www.ukbap.org.uk
DEFRA Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007	Sets out the national air quality strategy and the standards and objectives to be achieved.
World Class Places: The Government's Strategy for Improving Quality of Place (2009)	The built quality of the built environment is an important influence on crime, health, community cohesion and prosperity. It has a major impact on wildlife and climate change. This is a government commitment to improving the places in which we live.
Unlocking the Potential and Securing the Future of Inland Waterways (2009) British	Highlights the differences within the inland waterway network and the contributions that

Plan / Programme	Comments
Waterways & the Town and County Planning Association	these can make to social, economic and environmental agendas.
Unlocking the Potential and Securing the Future of Inland Waterways through the Planning System	policy advice note http://www.tcpa.org.uk/data/files/InlandWaterways.pdf
Regional	
West Midlands Regional Spatial Strategy	Key strategic land use planning document for the West Midlands
West Midlands Regional Transport Strategy	Incorporated within the Regional Spatial Strategy
West Midlands Regional Historic Environment Strategy and action plan	Incorporated within the Regional Spatial Strategy
West Midlands to North West Conurbations Multi- Modal Study Final Report	Implications for management of the strategic transport network
Streets for All West Midlands http://www.helm.org.uk/server/show/nav.19643	Guidance on the way in which our streets and public open spaces are managed
Transport Agencies Business Plans, for example British Waterways business plan and major works plan,	The British Waterways plan identifies the expenditure planed for bridges, culverts, towpaths and other assets which may inform the work required for implementation of walking and cycling routes using the waterway infrastructure and Bridge Strategy
River Basin Management Plans (RBMPs) Humber RBMP - http://wfdconsultation.environment-agency.gov.uk/wfdcms/en/humber/Intro.aspx North West RBMP - http://wfdconsultation.environment-agency.gov.uk/wfdcms/en/northwest/Intro.aspx	Sets out the actions required to achieve the Water Framework Directive objectives in a collaborative and joined up way. They are the plans for protecting and improving the water environment and have been developed in consultation with organisations and individuals. They contain the main issues for the water environment and the actions needed to address them
River Trent Catchment Flood Management Plan (CFMP)	The River Trent CFMP will be published in 2010
Sub-Regional	
North Staffordshire Regeneration Partnership (NSRP) Business Plan	Vision and plan for regeneration of North Staffordshire. The NSRP was established in March 2007 as the Regeneration Agency for the North Staffordshire conurbation. It is an unincorporated body which has the City Council as its accountable body and brings together the regeneration functions across North Staffordshire.
Staffordshire Local Transport Plan 3	Many cross boundary transport issues in North Staffordshire. Both authorities have a history of close working. A statement of joint working is to be included in both the Stoke-on-Trent and Staffordshire LTPs
Cheshire East Local Transport Plan	http://www.cheshireeast.gov.uk/transport_and_travel.a

Plan / Programme	Comments
	spx The Cheshire East LTP3 will set out the approach to all aspects of transport in the borough within a framework of the DaSTS transport goals. It will contain a Strategy Document and Implementation Plan.
Newcastle-under-Lyme and Stoke-on-Trent Core Spatial Strategy	Adopted statutory planning basis for the development and support of detailed planning policies, guidance and programmes to secure the long term sustainable regeneration of North Staffordshire
Staffordshire Moorlands Core Strategy	At Draft Submission Document stage, when adopted will be primary planning policy document determining where in the District future development will take place to 2026
The Plan for Stafford Borough (Core Strategy)	The Plan for Stafford Borough currently in the process of being prepared, will form a key part of the LDF for Stafford Borough. It will contain a vision and strategic objectives for the Borough as well as Core Policies that will set the basis for directing change in the Borough for the next 20 years.
Shropshire Core Strategy	The Core Strategy sets out Shropshire Council's vision, strategic objectives and the broad spatial strategy to guide future development and growth in Shropshire during the period to 2026.
Cheshire East Core Strategy	Will set out the vision, objectives and strategy for the spatial development of the Cheshire East area for the next 15 years and may include strategic sites. Timetabled to be adopted in 2012.
Peak District National Park 2006-2011 Management Plan	The document is to be revised at the same time as the LTP3 preparation.
Staffordshire Biodiversity Action Plan	www.sbap.org.uk
Staffordshire Geodiversity Action Plan	Provides a framework within which various targets and actions are outlined to deliver a sustainable and local approach to the conservation and promotion of the geodiversity of the county.
Highways Agency A50/A500 Route Management Strategy	A framework for managing A50 between M1 J24A and the A500, and A500 between J15 and J16 of M6 as part of wider transport networks. Interlocking with local transport strategies and Regional Planning Guidance.
Local	
Stoke-on-Trent Local Development Scheme	www.stoke.gov.uk/ldf LDS sets out programme to produce the Local Development Framework including Inner Urban Core and City Centre & Etruria Road Corridor Area Action Plans,

Plan / Programme	Comments
	Development Portfolio and Supplementary Planning Documents, which are all to be produced in conformity with the adopted CSS.
Corporate Plan	http://www.stoke.gov.uk/ccm/navigation/council-and-democracy/corporate-plan/ Sets out the corporate goals for the Council.
Stoke-on-Trent Community Strategy	http://www.stoke.gov.uk/ccm/navigation/community--people-and-living/community-strategy/ six pillars: • a Healthier City • a Safer City • a Wealthier City • a Greener City • a Learning City • a City with a Strong Sense of Community
Stoke-on-Trent Local Area Agreement (LAA)	LAA concentrates on the following issues: • Children and Young People • Healthier Communities and Older People • Economic Development and Enterprise • Safe and Stronger Communities
Healthy Life, Healthy City: Draft Health Inequalities Strategy for Stoke on Trent	Contains a vision is of a City in which health inequalities are dramatically reduced and all of our population enjoy optimal health and wellbeing regardless of social class, ethnicity, age, gender, disability, sexual orientation or faith. Contains strategic objectives: • To empower individuals and communities to take action to promote their health • To build the capacity of the local partnership to tackle health inequalities • To tackle the wider determinants of health and create a healthy place to live • To ensure health promoting lifestyles • To improve front line services and tackle the causes of ill health and inequalities Highlights links between local transport and health.
Air Quality Management Plans	Air Quality Management Area declared for the whole of Stoke-on-Trent for nitrogen dioxide (NO_2), the Air Quality Management Plan is to be integrated into the LTP3.
Conservation area appraisals and management plans	Led by Urban Design and Conservation team of the City Council
Surface Water Management Plans and Surface Flood Maps	Stoke-on-Trent and neighbouring areas

West Midlands Regional Spatial Strategy (2004, Phase 1 Revision 2008, Phase 2 Revision Submitted 2007)

The Regional Spatial Strategy which incorporates the Regional Transport Strategy is the key strategic land use planning document for the West Midlands. The strategy was formally published in 2004 and has since been the subject of a phased revision, the most significant of which, Phase 2, sought to identify future housing and employment land requirements for the period to 2026. This second phase is well advanced though no formal date has been given for publication. It should be noted that at the time of writing the Regional Spatial Strategies are under review and are expected to be removed from the legislature, until this occurs they will be a material consideration for linked policies.

The main focus of the spatial strategy is on promoting a renaissance of the urban and rural areas within the West Midlands with a particular focus on reversing past migratory trends out of the major conurbations, termed Major Urban Areas (MUAs).

The West Midlands Regional Transport Strategy (2004)

The Regional Transport Strategy (RTS) is incorporated within the Regional Spatial Strategy and provides a significant steer to the formulation of LTPs in the West Midlands region. The strategy identifies the following principal policy objectives:

- improve accessibility and mobility;
- encourage more sustainable forms of travel;
- improve national road and rail networks;
- promote measures to encourage behavioural change; and
- improve safety and security.

The Newcastle-under-Lyme and Stoke-on-Trent Core Spatial Strategy (CSS)

The CSS is the most relevant plan to the Stoke-on-Trent LTP3. The LTP is closely interlinked with the CSS. The CSS provides the statutory planning basis for detailed planning policies, guidance and programmes to secure the long term sustainable regeneration of North Staffordshire for the period to 2026. It provides the springboard for development in accordance with the principles of sustainable development; in broad conformity with national and regional planning policy and to give spatial expression to approved and emerging community strategies.

The CSS provides a spatial portrait of the plan area; a set of strategic visions and aims; a number of bespoke area spatial strategies and a set of complementary core strategic policies. The CSS includes details on implementation and a comprehensive monitoring regime is set in place to measure the impact of the CSS.

At the Revised Preferred Option 'Draft Spatial Options' (March 2007) stage of the CSS three options for growth were presented. These being:

- Rural Dispersal – the progressive urbanisation of the North Staffordshire countryside in the form of expanded villages, new settlements and peripheral expansion of the conurbation into the surrounding Green Belt;
- Uniform Conurbation Development – development spread uniformly across the conurbation in response to expediency; and
- Targeted Regeneration – focussing regeneration within specified areas with investment being directed towards rejuvenation of our centres, priority intervention areas and bringing forward strategic development opportunities.

A sustainability appraisal was conducted as part of the development of the CSS, this included consideration of plans and programmes beyond those relevant to development of a LTP. It was considered that the Rural Dispersal option and the Uniform Conurbation Development option fail the basic tests of sustainability and soundness. They performed poorly in the (SA) of the Revised Preferred Options, raised major and irreconcilable conflicts with national and regional planning policies (such as protecting natural assets) and do not address the real and present regeneration issues and challenges facing North Staffordshire.

It was concluded that the Targeted Regeneration option would be the most sustainable as well as being the most deliverable, flexible and 'least risky' within the overall context of the North Staffordshire emerging regeneration strategy. This option provides the strategic thrust of the CSS.

This Targeted Regeneration option supports and links to the long term strategy of the LTP2 being refreshed for LTP3. The Stoke-on-Trent LTP3 will use the DaSTS North Staffordshire Connectivity Study to describe how the area has significant challenges to face, and that transport has a role to play in the conquering these challenges. As set out above, this analysis has lead to three broad and interlinking goals:

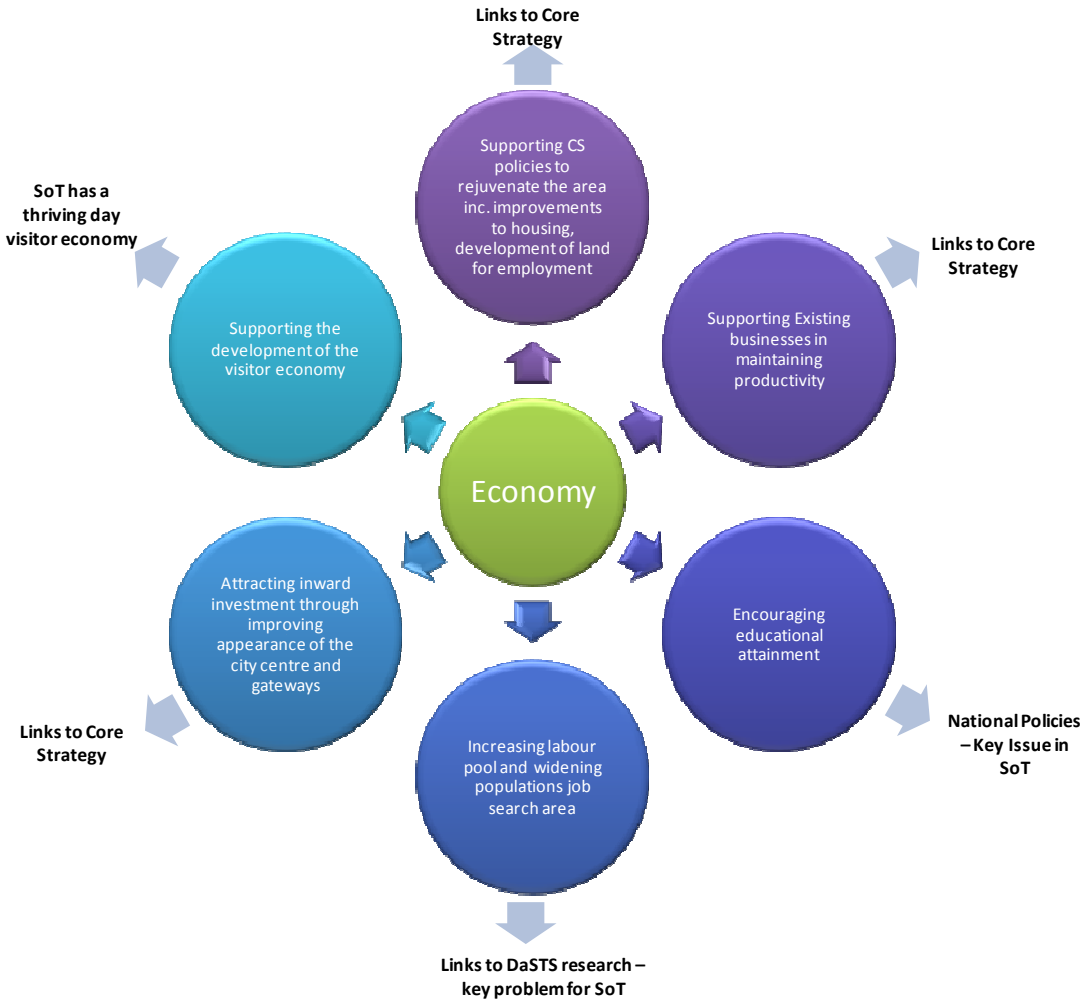
- Economy;
- Environment; and
- Health.

The following sections highlight links from the objectives of these goals to the Core Strategy, and wider policies identified so far:

Economy

The rejuvenation of the local economy through regeneration and structural planning change lies at the heart of the transformation for the area. Transport policy and investment has to support this aim as a priority and therefore, supporting economy is a key goal for this LTP. The spider diagram in Figure 3 below provides details of the core policies which provide the focus for the economy goal and how these are linked to wider policies.

Figure 3 Economy goal links to other policies



Environment

The local environment of Stoke-on-Trent has been named in many studies and reports as a key issue affecting the regeneration potential of the area. Some locations and routes have been considered to be a major issue in the reluctance of potential investors to come to Stoke-on-Trent. The local environment includes natural environment and built environment including cultural heritage. In this goal, transport strategy seeks to improve the appearance and quality of the urban environment through public realm investments which may include greening, de-cluttering and repaving key areas. Good quality urban townscape provides the setting and environment for encouraging sustainable modes. There is also an increasing pressure to alleviate some of the wider environmental problems within the area through reducing dependence on the car, and improving air quality. In expectation of future policies in relation to reducing oil dependency the transport plan needs to move towards sustainable modes and encourage a move towards different power for vehicles, this will have a resultant impact on the environment but is also important to safeguard the economy goal. Figure 4 shows environment goal links to other policies.

Figure 4 Environment goal links to other policies

Health

Measures relating to the health of local people are particularly worrying, this has serious effects on quality of life through reducing choice and ability to play a role in wider society. It also impacts on the economic viability of the area through the level of Government intervention required and high numbers of people who are unable to work.

Transport policies must seek to promote healthier modes of travel and plan for the future through encouraging children and young people to walk and cycle more frequently. Where individuals suffer from illnesses that require treatment by health professionals, access to these services should be affordable and easy. Figure 5 shows the health goal links to other policies.

Figure 5 Health goal links to other policies

Within these goals there are links to wider policy objectives at local, national and international levels. In terms of the relationships between these goals and the national DaSTS policies there is a clear link to each of the five principle goals – for example better safety security and health objectives are incorporated with the overarching health goals in this LTP.

The inclusion of three main goals for the LTP reflects the problems in the area which are mainly driven by a low performing economy which subsequently impacts upon the local environment and most particularly the health and welfare of local people. For example; the City faces serious air quality issues with the whole City area currently subject to an Air Quality Management Area status.

The local planning policies in the Core Spatial Strategy reflect this, emphasising the requirement that planning will play a major part in the regeneration of the area in order to halt out-migration of people and businesses and attract new investment to the area. As shown in Figures 3, 4, and 5 above, the LTP has strong links with the core strategy and will follow the spatial strategy set out in this Local Development Document.

Potential Implications for LTP3

An examination of relevant international, national, regional and local documents was undertaken for each of the SEA topics and those additional issues identified in the NATA process. The following table summarises the results of this process and identifies implications for consideration in LTP3.

Table 4 Summary of Potential Implications for LTP3 by SEA topic

SEA Topic	Summary of Issues Raised by Plans and Programmes	Potential Implications for LTP3
Air	International agreements and national regulations have created a framework of air quality thresholds to be applied to a range of pollutants. Local authorities have a duty to monitor air quality and to declare Air Quality Management Areas in cases of threshold exceedence.	Integrate actions in LTP3 and Air Quality Management Plan to address incidences of transport related poor air quality. Promote sustainable transport solutions which will enable development to be accommodated without increasing the risk of air quality thresholds being breached. Links to Health and Environment Goals.

SEA Topic	Summary of Issues Raised by Plans and Programmes	Potential Implications for LTP3
Biodiversity including Flora and Fauna	A hierarchy of habitat designations has evolved to protect sites of nature conservation significance. International and nationally designated sites are protected by statute. Locally identified designations are given status through the local development framework system and local initiatives. Developing landscape-scale initiatives such as Biodiversity Opportunity Mapping aims to protect and enhance the ecological networks that sustain biodiversity and allow adaptation to climate change. Biodiversity Action Plans are internationally recognised programmes addressing threatened and characteristic species and habitats and are designed to protect and restore biological systems.	Screening required for Appropriate Assessment to assess if there are potential implications on sites designated as internationally significant with consideration of cumulative effects of other plans. The LTP objectives should support the network of habitats, taking measures to minimise adverse impacts such as pollution impacts and severance. Minimise impact on habitat networks and species ability to move through the landscape and to enhance connectivity where possible. Links to Environment Goal.
Climatic Factors	Focus on mitigation and adaptation. Targeted national reductions in CO_2 and other greenhouse gas emissions including a recent carbon reduction plan for the transport sector.	Support the promotion of smart travel choices with less greenhouse gas emissions. Identify and adapt transport network vulnerabilities to the impact of climate change. The LTP should take account of flood risk assessments. Links to Environment Goal.

SEA Topic	Summary of Issues Raised by Plans and Programmes	Potential Implications for LTP3
Cultural Heritage	The common aim is to conserve and enhance all aspects of cultural heritage for the benefit of local communities and for future generations. Common themes include the need for good communication, a robust evidence base, the importance of good design and the contribution which heritage assets can make towards promoting vitality and viability of towns and other centres. Additionally for both designated and non designated heritage assets, setting issues are also of direct relevance (e.g. PPS 5 Policies HE8 and HE10).	Be aware of the potential impacts of the transport network on known and as yet undiscovered heritage assets. Transport schemes have the potential to make positive and negative impacts on landscapes and townscapes. Good design and early consultation with the appropriate heritage bodies are key to minimising negative impacts and promoting positive outcomes. Transport network may contain cultural heritage assets. Heritage assets can also be an asset to sustainable transport, for example our disused railway lines and canal towpaths. The design and maintenance of transport assets can impact on heritage areas and the setting of heritage assets. Links to Environment and Economy Goal.
Human Health – Accidents and Safety	Targeted reductions in the levels of deaths and serious injuries related to transport. Attention is given to improving driver behaviour and the influence of design and layout in improving safety. Good design can impact on levels of acquisitive crime. The fear of crime can be influenced by perceptions of an area including issues such as congestion, litter and poorly maintained public transport services.	Sustain measures to reduce road traffic accidents and contribute to improved security through initiatives such as street lighting improvements. Links to Health and Economy Goal.
Human Health Health and Fitness	Strategies and programmes identify the need to address health inequalities, with an emphasis on ensuring accessibility to services and opportunities to support and promote healthier lifestyle choices. Particular emphasis on addressing the issue of obesity and on promoting healthier lifestyle.	Measures aimed at improving accessibility to health and leisure resources combined with the promotion of active travel choices can play a significant role in supporting better health outcomes. Links to Health Goal.

SEA Topic	Summary of Issues Raised by Plans and Programmes	Potential Implications for LTP3
Human Health Noise	There is an increasing awareness that the impact of noise resulting from transport systems should be the subject of a greater degree of strategic consideration. Measures to ameliorate disturbance should be undertaken where issues arise and attention given to retaining the tranquillity of undisturbed areas. Consideration should be given to the impact of noise on nature conservation and landscape quality.	Support measures aimed at ameliorating existing noise levels where these are considered unacceptable. Take the findings of relevant noise mapping and noise action plans into account. Links to Environment Goal.
Landscape	Emphasis is on protecting and enhancing the landscape in general but with a particular focus on those areas designated as being of particular merit. The impact of transport networks on tranquillity through noise and light pollution impacts are also highlighted.	Take account of potential landscape impacts of the location and design of transport schemes having regard to the character of their surroundings, the noise and light polluting impacts of the transport network. Links to Environment Goal.
Material Assets	Statutory requirement on highways authorities to maintain and secure the expeditious movement of traffic on the road network. Emphasis on optimising the use of existing infrastructure and promoting the use of recycled aggregates in the maintenance and development of the network.	Consistency with the statutory framework relating to highway function and maintenance. Promote the efficient use of the transport network and aim to keep the amount of primary materials used in the maintenance and development of the network to a minimum. Links to Economy and Environment Goals.
Population Economy	Increasing focus on promoting low carbon growth and a decarbonised economy. Improving accessibility and the efficiency of the transport network whilst reducing greenhouse emissions. A key government policy objective is to deliver more sustainable patterns of travel which will help to reduce the reliance on the car for work journeys. A key goal for the transport system is supporting sustainable economic growth, locally this means supporting urban renaissance through Targeted Regeneration option of CSS	Delivering sustainable growth will require a co-ordinated approach including a close alignment between the LTP and other relevant plans and policies. In particular the LTP needs to support the Targeted Regeneration identified in the CSS. Links to Economy Goal.

SEA Topic	Summary of Issues Raised by Plans and Programmes	Potential Implications for LTP3
Population Transport and Accessibility including Community Severance	Improved accessibility to services, facilities and jobs is recognised as being integral in supporting greater social inclusiveness. Promoting the vitality and viability of centres is identified in the CSS as having the potential to improve access to a range of employment and service opportunities whilst contributing to a reduction in travel demands and distances. Within town centres and other mixed use areas priority should be given to people over traffic. Measures should be introduced to support walking and cycling as viable means of transport particularly for local trips.	Many of the measures which will support the progress towards a decarbonised transportation sector will be local and involve a commitment to removing barriers to smarter travel choices and the promotion of changes in travel behaviour. Links to Economy and Environment Goals.
Soil	Increasing recognition of the value and multiple roles of soil as a growing medium, CO_2 sink, pollution filter and attenuator of flood risks. The land use planning system has consistently promoted the protection of the best quality and most productive agricultural land. Targeted Regeneration option of the CSS seeks to reduce development pressure on agricultural land.	Industry and agricultural rather than transportation are most regularly highlighted in terms of soil pollution impacts. However, measures to address transport impacts on air and water could have a positive beneficial impact on the soil resource. A more direct relationship is evident with respect to the loss of soil functions through development. Attention should be focused on minimising this impact and particularly protecting better quality agricultural land. Supporting Targeted Regeneration option of the CSS will reduce development pressure on agricultural land. Links to Economy and Environment Goals.

SEA Topic	Summary of Issues Raised by Plans and Programmes	Potential Implications for LTP3
Water	The Water Framework Directive (WFD) sets objectives for the quality of surface waters and groundwater. Promotes a strategic approach to addressing the issues of water pollution and flood risk. Catchment Strategies promote a whole catchment approach to assessing water issues.	The use of Sustainable Urban Drainage Systems is highlighted as a positive to address flooding risk and to help in reducing the impacts of diffuse pollutants resulting from road run-off. The LTP should take into account the objective established to achieve a 'good' status for groundwater and surface water by 2015 and ensure that the operation of the transport network contributes where appropriate to this objective. Links to Economy, Health and Environment Goals.

A2: Collecting baseline information

Methodology

Baseline information drives the assessment process; it also provides understanding of the current state of the environment and gives a context for the prediction of the expected impacts both with and without the implementation of the LTP carried out in the SEA.

The baseline data for each of the SEA and NATA topics has been compiled using existing information sources from both within the City Council and relevant external organisations. Emphasis has been given to quantifiable information supplemented by qualitative information when necessary. The data will be updated during the course of the preparation of the LTP and SEA process. Any identified data gaps will be addressed when opportunity arises.

Population – Economy, Transport and Accessibility including Community Severance

Stoke-on-Trent's population on 29 April 2001 (Census day) is recorded as 240,636. This was a decline of almost 9,000 people, 3.5%, since 1991.By comparison the population of England and Wales as a whole increased 2.6% over the same period, while the West Midlands experienced a 0.7% increase. Notable growth areas were the South-East, South-West and the East of England with 5% increases over the 1991-2001 period.

Comparison with a range of similar authorities shows the population of Stoke-on-Trent declined less than Kingston Upon Hull (-7.5%), Salford (-6.4%), and Wolverhampton (-4.8%). However, this decline contrasts with relatively stable populations in places such as Derby, Bolton and Blackburn, and differs markedly from growth areas such as Slough (+13.0), Telford and Wrekin (+12.1%) and Southampton (+6.2%). Locally the neighbouring boroughs of Newcastle-under-Lyme (+1.0%) and Staffordshire Moorlands (-1.3%) experienced nominal growth and decline respectively.

Combining the data for Stoke with Newcastle and Moorlands gives a net decrease in population across the North Staffordshire sub-region of 1.9%, to 457,000, from 1991 to 2001.

If Stoke-on-Trent is excluded from the Staffordshire County data, the county population increased by 1.9% between 1991 and 2001, whilst the neighbouring counties of Cheshire and Derbyshire (excluding the city of Derby) increased by 3%.

A full list of local authorities' population changes between 1991 and 2001 is available at http://www.statistics.gov.uk/census2001/profiles/rank/ewchange1991.asp.

Economy

The information below has been taken from the City of Stoke-on-Trent Economic Profile 2010 which is available at: http://www.stoke.gov.uk/ccm/content/rc/information-services/Information_Statistics/economic-profile/the-citys-economy.en.

- Business

  The level of VAT business stock per head of population is only two-thirds the national rate (page 6). The value of the City economy (Gross Value Added) increased by one-third between 1995 and 2007 compared with a 90% increase in the UK economy as a whole (page 14).

- Employment

  As late as 2004 almost one-in-four people employed in the city were engaged in manufacturing compared with less than one-in-seven employees nationally – By 2009 rapid contraction in this sector reduced this figure to less than one-in-nine (page 17).

  Levels of employment in managerial and professional occupations in the city are only slightly more than half the national average (page 21).

- Income & Earnings

  Average personal incomes are some 30% below the national average (page 27).

  Average full-time gross weekly earnings of people living in the city are more than £80 per week below the national average (page 31).

- Benefits

  While some 8,500 persons in the city are currently in receipt of Jobseekers Allowance, more than 16,460 are in receipt of Incapacity Benefit (page 36).

  Almost one-in-four adults of working age are in receipt of benefits compared with one-in seven across England and Wales (page 44).

The rate of Council Tax Benefit is almost one-and-a-half times the national rate (page 55).

- Housing Market
  Both average and middle house prices (mean and median) are consistently the lowest in the West Midlands region (page 57).
  One quarter of all house sales in the city in 2009 were below £65,000 compared with £125,000 across England and Wales (page 55).
  One-in-twenty properties remain unoccupied – one of only 25 districts in England with a void rate above 5% (page 66).

- Deprivation
  http://www.stoke.gov.uk/ccm/navigation/council-and-democracy/statistics/indices-of-deprivation/
  The Indices of Deprivation 2007 (ID2007) are measures of deprivation for every Super Output Area[6] and local authority area in England. The indices combine a total of 38 indicators across seven domains (Income, Employment, Health and Disability, Education, Skills and Training, Barriers to Housing and Services, Living Environment, and Crime) into a single deprivation score and rank for each area.

- Health and Physical Fitness
  http://www.apho.org.uk/resource/item.aspx?RID=92066
  The health of the people of Stoke-on-Trent is generally worse than the England average. This reflects the level of deprivation in Stoke-on-Trent; with over half of the population living in the most deprived areas of England. There are inequalities within Stoke-on-Trent; for example, life expectancy for men living in the least deprived areas is over 7

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[6] Super Output Areas are an aggregation of Census Output Areas, which are modelled upon postcodes. Whilst Census Output Areas equated to approximately 125 households, or 275 persons, SOAs contain on average 1,500 persons. There are 825 Census Output Areas for Stoke-on-Trent from the 2001 Census, these have subsequently been aggregated into 160 level 1 SOAs.

The Office for National Statistics (ONS) developed SOAs following consultation with local authorities. Since SOAs are modelled on postcodes they extend beyond residential areas. Whilst measures of deprivation relate only to the residential component of an SOA – SOAs encompass open space, industrial, retail and leisure areas – this can be misleading.

years longer than for those living in the most deprived areas, for women it is over 4 years.

Overall the life expectancy for men and women in Stoke-on-Trent is worse than the England The rate of early death from heart disease and stroke has fallen but, while the gap has narrowed over time, it remains worse than the England average. The rates of death from all causes and early deaths from cancer are worst than for England.

Levels of smoking during pregnancy, breast feeding initiation, tooth decay in children aged 5, teenage pregnancy, Reception year children classified as obese and physical activity in schools are all worse than the England average.

Levels of road injuries and deaths and of malignant melanoma, a type of skin cancer, are better than the England average.

The priorities for healthcare for Stoke-on-Trent are:

- stopping smoking;
- obesity in children;
- teenage pregnancy; and
- reducing death rates from cancer.

For a full list of health indicators please use the above link. Further analysis of the socio-economic baseline is contained within 'Chapter 4 – Current Challenges' of the LTP and under Health and Physical Fitness below.

Transport

Transport is also a major issue for people living in Stoke on Trent with congestion, access and poor public transport accessibility cited as key factors. Car ownership is low (34% of households without a car compared to 26% across the West Midlands and England) and consequently public transport usage is higher than the national average. The geography of the City means that journeys by public transport can be circuitous and time consuming. Access to services by public transport is the single most commonly raised issue at any public or patient meeting which the PCT holds and is a topic of frequent scrutiny by the Stoke on Trent Overview and Scrutiny Committee.

Transport policy has the potential to create safe conditions for physical activity such as walking and cycling and to reduce social isolation of vulnerable people. Once people are give the possibility of accessing services, jobs and open spaces, their physical/mental health and general well-being can improve considerably. Improved accessibility both in urban and rural areas also helps to improve people‘s general physical health.

Active travel, like walking and cycling, can contribute to a healthy lifestyle, tackle obesity and improve mental well-being for all ages. Furthermore, the use of public transport, including park and ride schemes can encourage social interaction and a healthier approach to travel whilst improving air quality.

Groups most affected by accessibility problems include those with mental health problems or mobility problems, older people and people without English as their first language. For many, physical access is not the main barrier, travel information may be difficult to understand and people have concerns about personal safety.

Local Planning and Transport Authorities have a major role in improving accessibility through their transport strategies, schemes to improve accessibility, influencing the location of new facilities, and encouraging workplaces to have active travel plans.

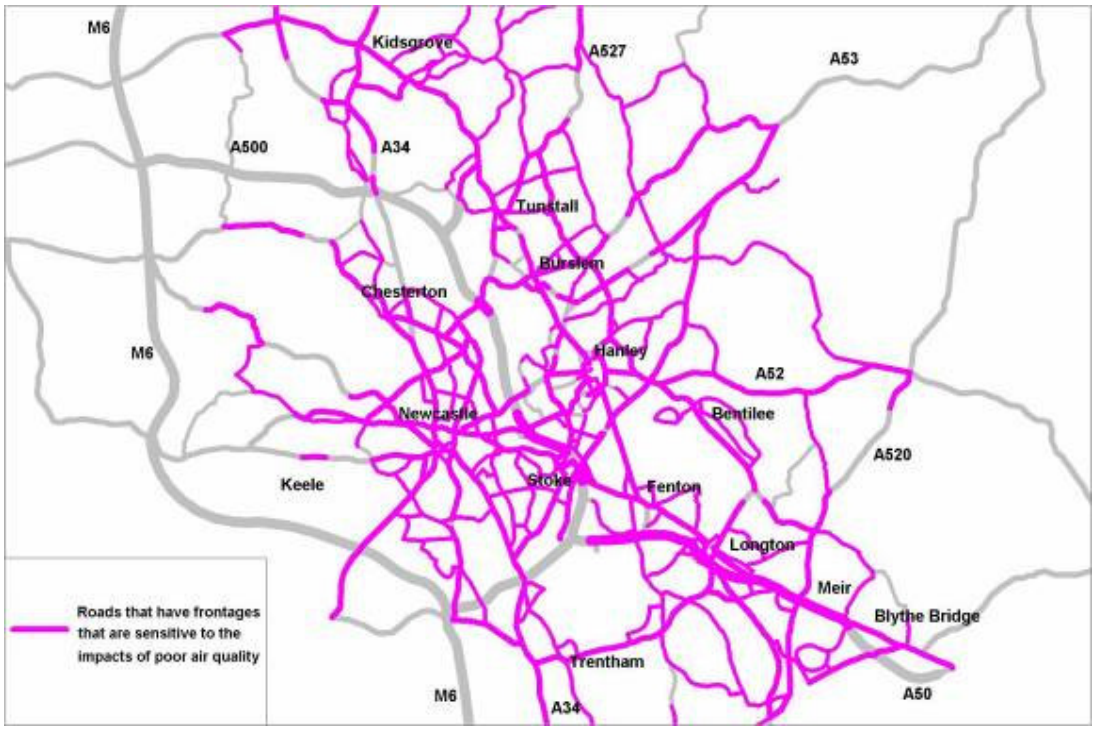
Air

Traffic emissions pose a significant threat to air quality. A report on air pollution by the European Environment Agency noted that the transport sector has grown to become the largest energy consuming sector, accounting for approximately 31% of final European energy consumption in 2004. In comparison, the industrial sector used 28% and households 27%. The potential for transport-related air pollution caused by road vehicles is therefore increasing.

Petrol and diesel-engine motor vehicles emit a wide variety of pollutants, principally carbon monoxide (CO), nitrogen dioxide (NO_2), and particulates (PM^{10}), which have an increasing impact on urban air quality. In addition, photochemical reactions resulting from the action of sunlight on nitrogen dioxide leads to the formation of ozone, a secondary long-range pollutant, which impacts in rural areas often far from the original emission source.

Poor air quality was identified as one of several key issues which require attention as part of the North Staffordshire Integrated Transport Study (NSITS). High traffic levels in many parts of the conurbation have given rise to localised air quality problems with Nitrogen Dioxide (NO_2) and particulates (PM10) being of concern. Figure 6 shows roads in North Staffordshire identified by NSITS where the frontages are sensitive receptors to air quality.

Figure 6 Roads with frontages sensitive to Air Quality in North Staffordshire



By 2021 NSITS forecast that there will be little or no NO_2 air quality problems due to improvements in vehicle manufacture and tighter government legislation, but with some PM10 issues with 17% of the network expected to experience a slight problem in excess of the Government's provisional targets for particulates.

In accordance with the Environment Act 1995, the City Council has a responsibility to undertake annual reviews and assessments of air quality across the City. Monitoring is undertaken using a mixture of passive diffusion tubes and a limited number of automatic monitors. Nitrogen dioxide is monitored at sites throughout the City, with additional monitoring of sulphur dioxide, carbon monoxide, fine particulates and radiation where considered necessary.

The original intention of the legislation was that monitoring would reveal issues at a discrete number of locations which could then be closely managed, however since monitoring commenced 58% of all authorities have declared AQMAs, many of which cover the whole area of the authority, revealing that air quality issues are far more wide-spread than predicted. Stoke-on-Trent is one example, with the whole of the City being designated as and AQMA because of breaches of Nitrogen dioxide (NO_2) levels (see Figure 7 below).

Figure 7 Air Quality Management Area – Stoke-on-Trent

North Staffordshire LTP Target M18, nitrogen dioxide levels (μgm^3) at seven locations where the current maximum standard is exceeded, has been monitored throughout the LTP2 period, results are shown in Table 5. A further two sites have been identified as exceeding the current maximum standard of nitrogen dioxide levels. These are shown in Table 6.

Table 5 Nitrogen dioxide levels (µgm^3) LTP Target M18

		2005/06	2006/07	2007/08	2008/09	2009/10
Nitrogen dioxide levels (µgm^3) at seven locations where the current maximum standard is exceeded **LTP Target M18**	Meir	39.5	39.3	40.0	38.7	44
	Joiner's Square	46.6	47.6	45.0	39.5	48
	Victoria Place	44.2	44.9	40.7	45.6	44
	Burslem	42.8	45.7	48.0	47.4	42
	Cobridge	48.8	46.8	46.3	53.7	48
	Hanley	46.6	46.5	47.0	45.2	44
	Bucknall	52.0	51.0	52.0	51.8	49

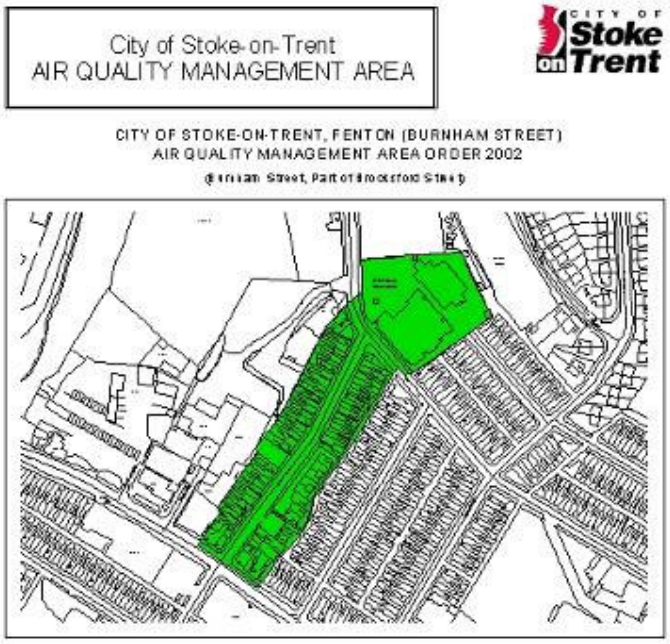
Table 6 Nitrogen dioxide levels (µgm^3) at Basford and Middleport

		2007/08	2008/09	2009/10
Nitrogen dioxide levels (µgm^3) at additional locations where the current maximum standard is exceeded	Basford	72	85	71
	Middleport	49	56	43

At the sites in the tables above, a total of 608 residential properties are thought to have frontages with nitrogen dioxide levels over the EU limit (40µgm^3). There is always year to year variation, due, amongst other things, to meteorological conditions. Predicted reductions in nitrogen dioxide levels due to improvements in vehicle manufacture and tighter government legislation have not yet resulted at these sites. It is possible that the vehicle fleets operating on the transport network in Stoke-on-Trent are older due to economic conditions resulting in a lag before these reductions are seen.

A specific Air Quality Management Area in Fenton which was triggered by high levels of particulates (PM^{10}) largely due to an industrial use. Figure 8 below shows a plan of the AQMA. The AQMA was made on 15 August 2002.

Figure 8 Air Quality Management Area – Fenton



For the foreseeable future air quality is still an important issue which needs to be addressed as part of the Stoke-on-Trent LTP3. Table 7 below from the Department for the Environment, Food and Rural Affairs (DEFRA)7 sets out the Health and Environment impacts of typical transport related pollutants.

Table 7 Transport related Pollutants and Health/Environment Impacts

Pollutant	Description and Main UK Source	Potential Effects on Health/Environment
Particulate Matter (PM-PM10 and PM2.5)	Particulate Matter is generally categorised on the basis of the size of the particles (for example PM2.5 is particles with a diameter of less than 2.5µm). PM is made up of a wide range of materials and arises from a variety of sources.	Concentrations of PM comprise primary particles emitted directly into the atmosphere from combustion sources and secondary particles formed by chemical reactions in the air. In the UK the biggest human-made sources are stationary fuel combustion and transport. Road transport gives rise to primary particles from engine emissions, tyre and brake wear and other non-exhaust emissions. Both short-term and long-term exposure to ambient levels of PM are consistently associated with

[7] DEFRA, The Air Quality Strategy for England, Scotland, Wales and Northern Ireland

		respiratory and cardiovascular illness and mortality as well as other ill-health effects. The associations are believed to be causal. It is not currently possible to discern a threshold concentration below which there are no effects on the whole population's health. PM10 roughly equates to the mass of particles less than 10 micrometres in diameter that are likely to be inhaled into the thoracic region of the respiratory tract. Recent reviews by WHO and Committee on the Medical Effects of Air Pollutants (COMEAP) have suggested exposure to a finer fraction of particles (PM2.5, which typically make up around two thirds of PM10 emissions and concentrations) give a stronger association with the observed ill-health effects, but also warn that there is evidence that the coarse fraction between (PM10 – PM2.5) also has some effects on health.
Oxides of nitrogen (NOX)	All combustion processes in air produce oxides of nitrogen (NOX). Nitrogen dioxide (NO2) and nitric oxide (NO) are both oxides of nitrogen and together are referred to as NOX. Road transport is the main source, followed by the electricity supply industry and other industrial and commercial sectors.	NO2 is associated with adverse effects on human health. At high levels NO2 causes inflammation of the airways. Long term exposure may affect lung function and respiratory symptoms. NO2 also enhances the response to allergens in sensitive individuals. High levels of NOX can have an adverse effect on vegetation, including leaf or needle damage and reduced growth. Deposition of pollutants derived from NOX emissions contribute to acidification and/or eutrophication of sensitive habitats leading to loss of biodiversity, often at locations far removed from the original emissions. NOX also contributes to the formation of secondary particles and ground level ozone, both of which are associated with ill-health effects. Ozone also damages vegetation.
Benzene	Has a variety of sources, but primarily arises from domestic and industrial combustion and road transport.	Benzene is a recognised human carcinogen which attacks the genetic material and, as such, no absolutely safe level can be specified in ambient air. Studies in workers exposed to high levels have shown an excessive risk of leukaemia.

1,3-butadiene	Mainly from combustion of petrol. Motor vehicles and other machinery are the dominant sources, but it is also emitted from some processes, such as production of synthetic rubber for tyres.	1,3-butadiene is also a recognised genotoxic human carcinogen, as such, no absolutely safe level can be specified in ambient air. The health effect of most concern is the induction of cancer of the lymphoid system and blood–forming tissues, lymphoma and leukaemia.
Carbon monoxide (CO)	Formed from incomplete combustion of carbon containing fuels. The largest source is road transport, with residential and industrial combustion making significant contributions.	Substantially reduces capacity of the blood to carry oxygen to the body's tissues and blocks important biochemical reactions in cells. People with existing diseases which affect delivery of oxygen to the heart or brain, such as angina, are at particular risk.

Biodiversity including Flora and Fauna

Land associated with the transport network can support a wide range of important habitats and species – road verges and adjoining hedges are frequently home to uncommon plants and animals.

28 species are identified in the Staffordshire BAP. A number are important at the international level under the EU Habitats Directive, the Bonn Convention and/or the Berne Convention, as follows:

- The Noctule Bat;
- The Pipistrelle Bat;
- The Great Crested Newt;
- The Natterjack Toad; and
- Floating Water Plantain.

The Staffordshire Biodiversity Action Plan (BAP) individually lists 15 BAP priority habitats. BAP habitats in North Staffordshire are shown in Figure 9 below. This wider geographical scope of North Staffordshire allows cross boundary effects beyond the Stoke-on-Trent boundary to be considered. Although North Staffordshire is predominantly urban there is a rich biodiversity.

The most valuable wildlife and earth science sites in North Staffordshire are protected through a series of statutory and non-statutory designations. Sites of Special Scientific Interest (SSSI's) are designated by English Nature and are the best examples of British habitats and geological features, which may contain rare species or important populations of species. In addition sites of local importance have been designated as "Local Wildlife Sites/Local Geological Sites" to reflect their local wildlife or earth science interest. These non-statutory sites which are the equivalent to the SBI (Site of Biological Interest) designation in place across the rest of Staffordshire form a substantial part of the natural heritage resource in Stoke-on-Trent.

Information on the various species and habitats is held by the Staffordshire Ecological Record and monitoring of Local Wildlife Sites is carried out by the City Council on a 5-10 year programme.

There are 2 SSSI within Stoke-on-Trent, Ford Green Reedbed and Hulme Quarry (in Park Hall Country Park).

Stoke-on-Trent has 12 Local Nature Reserves (LNRs): Hartshill Park, Berryhill Fields, Whitfield Valley, Bagnall Road Woods, Holden Lane Pools, Westport Lake, Bridgetts Pool, Smiths Pool, Coyney Woods, Bradwell Woods, Pool Dam Marshes, and Marshes Hill Common. Park Hall Country Park was declared as a National Nature Reserve in 2002.

English Nature aims to provide one hectare, roughly the size of two football pitches, of Local Nature Reserve per 1000 of the population. In their latest report we have reached our target and are recognised as improving. We are very keen to involve the community in looking after our Local Nature Reserves and open spaces. Many sites have 'Friends of ' groups, who work with us to maintain their site, influence its development and assist with finding funding.

Sites of Biological Importance (SBIs) and Local Wildlife Sites (LWS) contain most of the best remaining areas of semi-natural habitat. There are 40 LWS wholly within the area covering a total of 560 hectares (6% of Stoke on Trent).There are 48 Grade 1 SBIs either wholly or partially within the area, covering a total of 909 hectares (4% of the total area).

The BAP habitats and biological sensitivity of North Staffordshire has been surveyed and mapped, as shown in Figure 9 and Figure 10 below.

Figure 9 BAP habitats in North Staffordshire

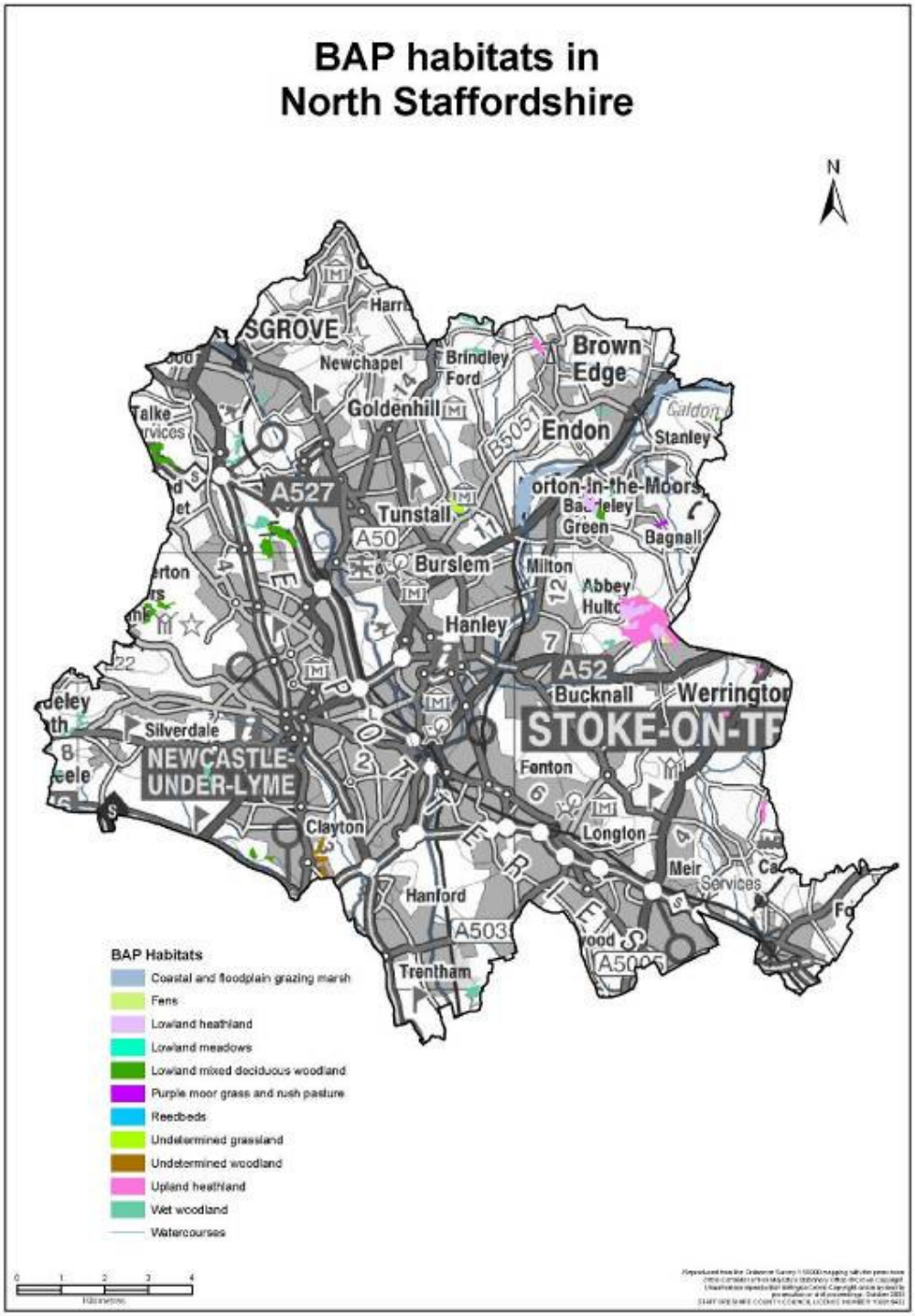
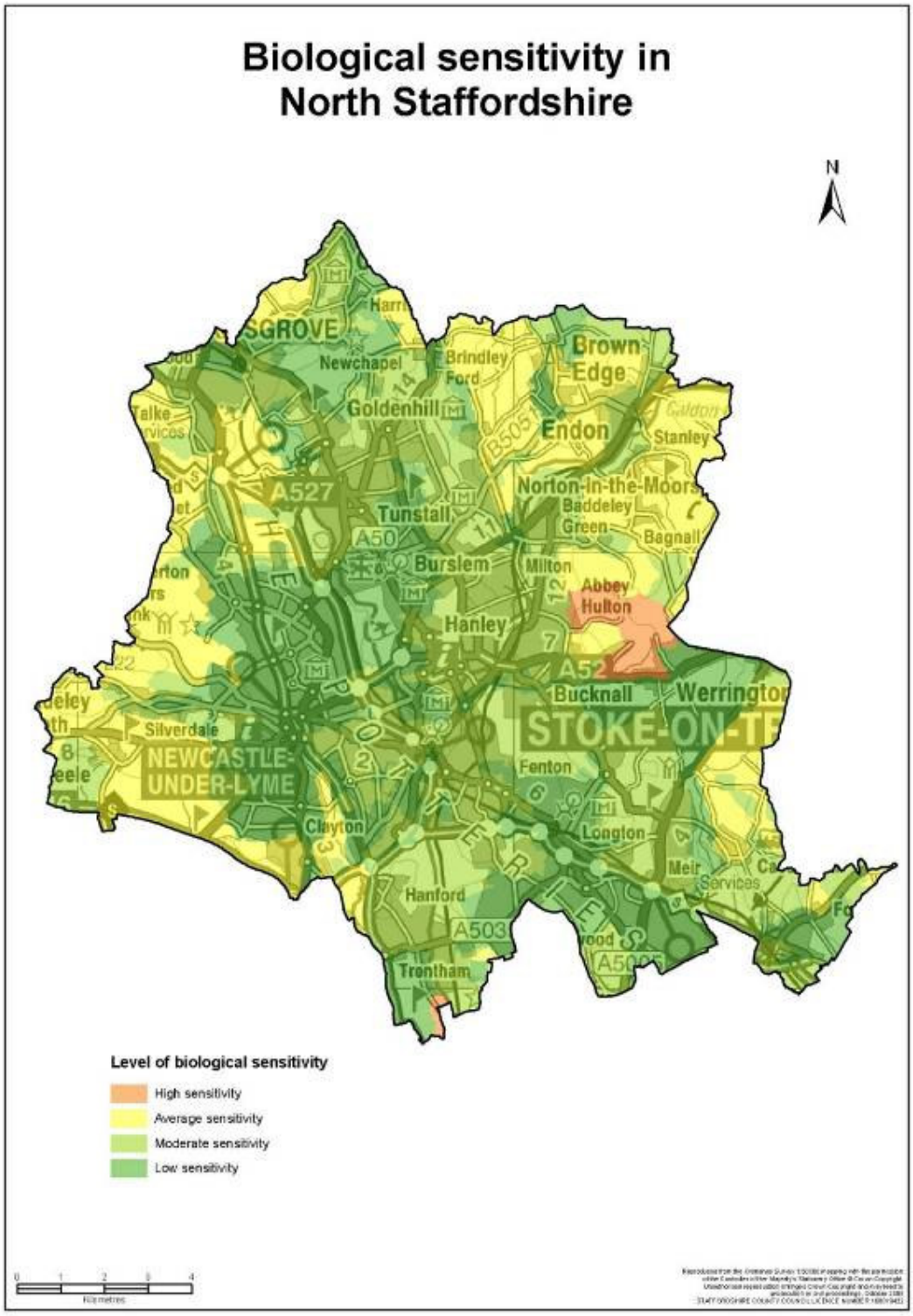


Figure 10 Biological Sensitivity in North Staffordshire



Climatic Factors

The Intergovernmental Panel on Climate Change (IPCC) was established in 1988 by the World Meteorological Organisation (WMO) and the United Nations Environment Programme (UNEP). Their role is to assess the scientific basis of risk of human-induced climate change, its potential impacts and options for adaptation and mitigation. Their IPCC fourth assessment report issued in November 2007 summarised the physical science behind climate change. It states that climate change is “very likely due to the observed increase in anthropogenic greenhouse gas concentrations”. IPCC define 'very likely' as a greater than 90% probability.

The Stern Review on the Economics of Climate Change was the most comprehensive review ever carried out on the economics of climate change. The key message of the review was that climate change is a result of the externality associated with greenhouse-gas emissions – it entails costs that are not paid for by those who create the emissions.
The Stern Review makes it clear that the option of being ‘rich and dirty’ does not exist, because catastrophic climate change would have a huge economic cost, as well as damaging people’s lives and the planet. But nor do we have to be ‘poor’ to be ‘green’. Stern says developed countries must cut CO_2 emissions by at least 60 per cent by 2050, but that this can be achieved at a material, but manageable, global cost of 1 per cent of GDP, provided the right policies are put in place, (although for developed countries like the UK this cost could be higher). This cost is significant, but is far lower than the costs of inaction. Similarly, the costs of failing to adapt to a changing climate would exceed those of taking early action.

The transport sector is a significant contributor to the total amount of annual greenhouse gas emissions, and was the fastest growing sector in developed countries between 1990 and 2002. Other consequences of the transport sector may also exacerbate the impacts associated with the forecast change in climate conditions. The transport network adds significantly to the amount of impervious surfaces contributing to run-off concentrations and heightened flood risks.

DfT published a ‘Carbon Pathway’ report in 2008 which attempted to relate transport sector carbon emissions to the patterns of network use. That report highlighted a number of patterns and trends which are useful in establishing a context for the debate on what

measures should be considered to deliver a reduction in the amount of carbon emissions emanating from the transport sector. The report noted that:

- the transport sector accounts for 24% of the UK's domestic CO2 emissions;
- emissions from road traffic account for 92% of emissions from the domestic transport sector, the remaining emissions arise from local air transport (5%) and train (2%);
- long distance commuting trips account for a disproportionate amount of carbon emissions;
- most car journeys are under 5 miles, amounting to 57% of trips, contributing 20% of CO2 emissions; and
- growth in emissions from Light Goods Vehicles is forecast to grow by around 35% up to 2025.

It is worth noting in this context that forecasts produced by the DfT (2008) predict a growth in vehicle km nationally of 32%, with a marginally lower figure of 29% being projected for the West Midlands during the period 2003-25.

The Local Area Agreement for Stoke-on-Trent has identified the per capita reduction in CO_2 emissions as a priority indicator (NI 186). This measure includes estimates from all sources. Table 8 below sets out the 13% reduction target and Figure 11 displays a graph that demonstrates the scale of the challenge to meet that 13% reduction and potential future targets.

Table 8 NI 186 Reduction in CO_2 Emissions

Indicator	Quantified Information	Comparators and Targets	Comment – Issues and Constraints
NI 186: Per capita reduction in CO_2 emissions in the LA area.	Baseline 2005 – 6.9 t CO_2 per annum	Aim 13% reduction by 2010/11	Target comprises 7.3% from national measures, 4.5% from local measures. Limited trend data available – mixed outcomes at present.

Figure 11 NI 186 per capita CO_2 emissions targets and potential future targets

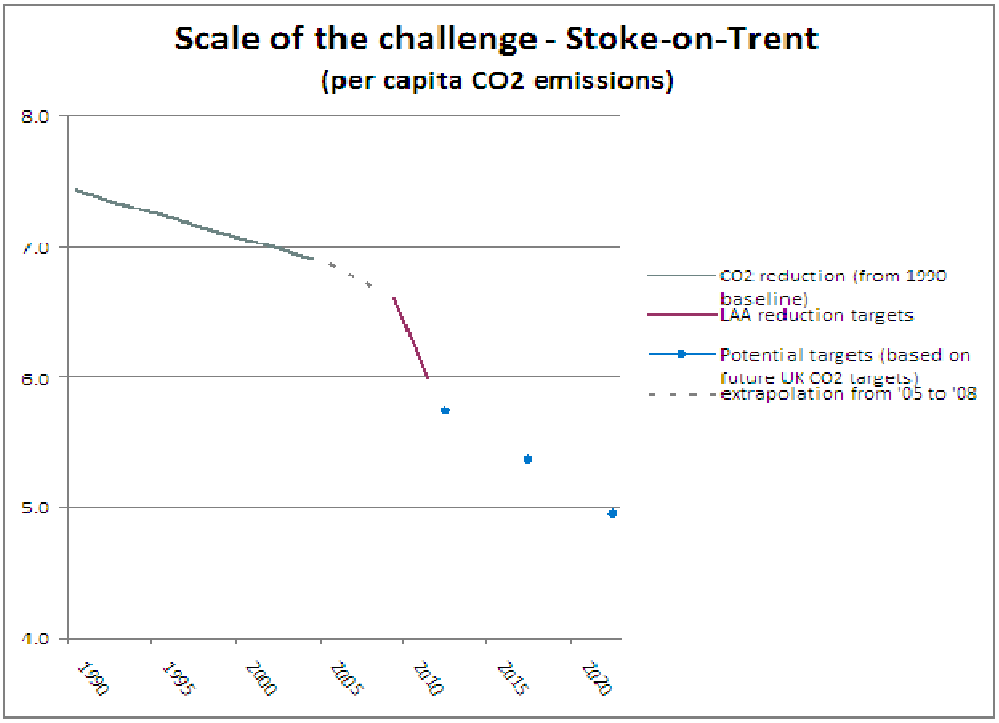


Table 9 and Table 10 below show that in recent years the percentage of Stoke-on-Trent's CO_2 Emissions from road transport have increased, although are still below the UK average of 24%, as the industry and commercial and domestic emissions have achieved larger reductions.

Table 9 Stoke-on-Trent CO_2 Emissions by Sector

Year	Industry and Commercial	Domestic	Road Transport
2005	45.5%	33.7%	20.8%
2006	43.9%	35.4%	20.7%
2007	42.3%	36.0%	21.7%

(Source: AEA Technology)

Table 10 Stoke-on-Trent – Change in Transport CO_2 Emissions 2005-07

Year	Transport Emission / $ktCO_2$	Percentage Change
2005	342	
2006	334	-2.3%
2007	332	-0.6%

(Source: AEA Technology)

The most recent West Midlands climate change projections called UKCP09 for the West Midlands are included in the following tables:

Table 11 West Midlands Low Emissions Projection

Climate Variable / Trend	Year		
	2020	2050	2080
Annual Mean Temp/ ℃	**+1.4** +0.8 to +2.1	**+2.1** +1.2 to +3.1	**+2.7** +1.6 to +4.0
Winter Mean Temp/ ℃	**+1.2** +0.5 to +2.0	**+1.8** +0.9 to +2.9	**+2.5** +1.4 to +3.7
Summer Mean Maximum Temp/ ℃	**+2.1** +0.6 to +3.8	**+3.3** +1.1 to +5.9	**+3.9** +1.2 to +7.2
Annual Mean Precipitation/ %	**+1.0** -3.0 to +6.0	**0.0** -4.0 to +5.0	**+2.0** -2.0 to +7.0
Winter Mean Precipitation/ %	**+5.0** -1.0 to +15.0	**+10.0** +1.0 to +23.0	**+14.0** +3.0 to +31.0
Summer Mean Precipitation/ %	**-5.0** -20.0 to +11.0	**-11.0** -33.0 to +13.0	**-13.0** -34.0 to +11.0

Table 12 West Midlands Medium Emissions Projection

Climate Variable / Trend	Year		
	2020	2050	2080
Annual Mean Temp/ ℃	**+1.4** +0.7 to +2.1	**+2.4** +1.5 to +3.5	**+3.4** +2.1 to +5.0
Winter Mean Temp/ ℃	**+1.3** +0.6 to +2.1	**+2.1** +1.2 to +3.2	**+2.9** +1.6 to +4.4
Summer Mean Maximum Temp/ ℃	**+2.0** +0.5 to +3.8	**+3.6** +1.3 to +6.5	**+5.2** +2.1 to +9.1
Annual Mean Precipitation/ %	**0.0** -4.0 to +6.0	**0.0** -4.0 to +6.0	**0.0** -4.0 to +7.0
Winter Mean Precipitation/ %	**+5.0** -2.0 to +15.0	**+13.0** +2.0 to +28.0	**+18.0** +3.0 to +39.0
Summer Mean Precipitation/ %	**-6.0** -22.0 to +12.0	**-16.0** -36.0 to +6.0	**-20.0** -43.0 to +6.0

Table 13 West Midlands High Emissions Projection

Climate Variable / Trend	Year		
	2020	2050	2080
Annual Mean Temp/ ℃	**+1.3** +0.7 to +2.0	**+2.7** +1.7 to +3.9	**+4.2** +2.7 to +6.1
Winter Mean Temp/ ℃	**+1.2** +0.5 to +2.1	**+2.3** +1.3 to +3.5	**+3.4** +2.1 to +5.2
Summer Mean Maximum Temp/ ℃	**+2.0** +0.5 to +3.6	**+4.1** +1.6 to +7.2	**+6.6** +2.9 to +11.3
Annual Mean Precipitation/ %	**0.0** -4.0 to +6.0	**0.0** -5.0 to +6.0	**+1.0** -6.0 to +9.0
Winter Mean Precipitation/ %	**+6.0** -1.0 to +15.0	**+15.0** +3.0 to +31.0	**+24.0** +6.0 to +51.0
Summer Mean Precipitation/ %	**-3.0** -20.0 to +15.0	**-16.0** -38.0 to +7.0	**-25.0** -51.0 to +4.0

The common themes which emerge from the forecast regional climate change projections are:

- higher overall temperatures with more noticeable peaks in summer temperatures;
- annual mean precipitation will be marginally greater than present; and
- greater seasonal variation in precipitation, wetter winters, drier summers.

A number of potential impacts are associated with forecast climate change events. Of most obvious concern for the LTP is the impact of such events on the transport sector, most particularly from increased incidences of flooding arising from higher levels of precipitation on the operation and security of the network.

A flood risk assessment undertaken as part of the phased review of the West Midlands Regional Strategy identified those areas lacking flood defences and also sought to identify any areas where development is likely to occur on land at high risk of experiencing flooding. Furthermore a Strategic Flood Risk Assessment (SFRA) was conducted to inform the Core Spatial Strategy, this found that the risk of flooding within the CSS area arises from rivers, sewers, surface water, groundwater (in Newcastle-under-Lyme only) and impounded water bodies. The SFRA flood maps show that there are both rural urban communities which are at risk of flooding from a 1 in 100 year annual probability flood extent (Flood Zone 3a) and in some cases, culverts and defences exist to offer protection.

For Stoke-on-Trent the following is a summary of Fluvial Flood Risk from the SFRA:

- Stoke-on-Trent has largely escaped any significant flooding due, in large part, to its high altitude and its vicinity to the head of the River Trent.
- The area has numerous deep culverts which can convey large flows, and offer a means of flood risk management in the area
- The major risk of flooding is from intense localised storms which produce rapid urban run-off into the local watercourses and culvert restrictions (blockage, collapse) which, historically, has been the main cause of flooding in the area, outlining the areas susceptibility to residual flood risk
- Historical records indicate that flooding has occurred along the Fowlea Brook through the City Centre on a number of occasions including 1947, 1996 and 1997 (near Liverpool Road Culvert) and 1998
- The most significant recent flood event in Stoke-on-Trent occurred in August 1987 causing localised flooding. The major cause was an intense localised thunderstorm over the city and rapid urban run-off into the River Trent
- Flood Zone maps indicate that large areas of floodplain adjacent to the River Trent and its tributaries lie within Flood Zone 3a, including significant numbers of properties where the Flood Zone diverts from the watercourses, including in and around Hem Heath, Blurton, Stoke town centre, Bentilee, Tunstall, Middleport and Norton Green. Locations shown to lie within Flood Zone 2 include Boothen and Stoke town centre, Burslem and Milton

The following is a summary of Stoke-on-Trent surface water flood risk from the SFRA:

- Surface water drainage is an issue in some parts of the study area, and back-up of water during heavy rainfall events can cause roads to become flooded. In particular there are a number of properties at risk around Bentilee, Milton, Meir Hay, Meir and Weston Coyney and Trent Vale and Hartshill. Minor flooding has also been reported at Norton Green although it is currently unclear whether the major cause is surface water drainage from recent development in the Brown Edge area (in Staffordshire Moorlands) or from releases from the Knypersley reservoir

Stoke-on-Trent City Council is in the process of developing a Surface Water Management Plan. At present data is being collected to help identify flooding risk within the City which will enable an action plan to be developed. The plan will be published by 31 March 2011.

Cultural Heritage

The pottery industry and the mineral extraction that supported it have given the Potteries an interesting historic landscape and townscape which includes bottle kilns and many industrial buildings. Regeneration and development as part of the NSRP Business Plan in Stoke-on-Trent continues to enhance the landscape integrating new and historic buildings. For example Renew have commissioned Heritage Characterisation Studies to inform the development of their Area of Major Intervention Plans in the Urban Core. See www.renewnorthstaffs.gov.uk.

The North Staffordshire Conurbation's cultural heritage resource includes 425 listed buildings; 17 Scheduled Ancient Monuments (SAMs); 5 registered Historic Parks and Gardens. In Stoke-on-Trent there are 23 Conservation Areas, 16 of which have up to date appraisals (69.57%). In 2005/06 there were 23 conservation areas, however this static total number hides additional coverage of the conservation areas, as the new total includes Penkhull Garden, a new designation, and Longton, which is an amalgamation of two existing conservation areas.

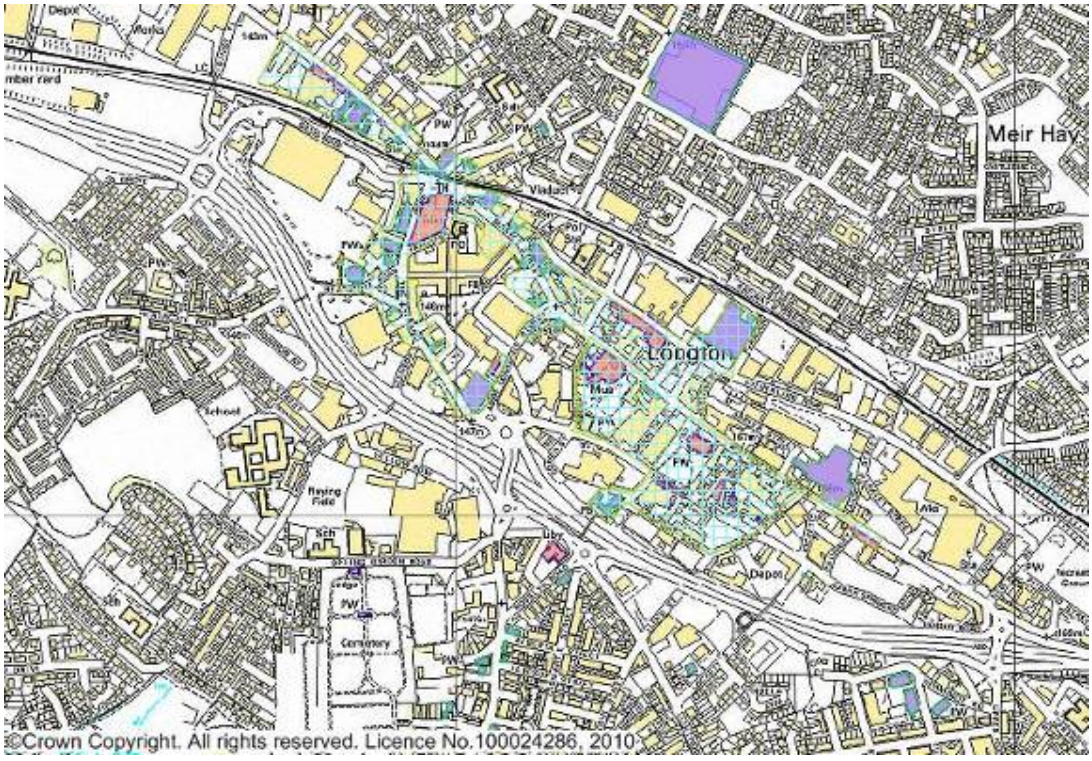
These conservation areas also include the Trent and Mersey Canal and Caldon Canal conservation areas. These canal conservation areas are planned to go through a conservation area appraisal this year to look at the historic and present character of the built form and landscape surrounding the canal, in addition to the canal structure itself, and identify how the use of the canal has changed by analysing historic and present land uses. Detractor sites and opportunities for development will also be identified. The Trent and Mersey Canal Conservation Area is on the English Heritage, Heritage at Risk Register due to condition being classed as 'Very bad' and vulnerability classed as 'High'. The trend is listed as 'Expected to show some improvement'.

The Canals of Stoke-on-Trent offer a sustainable transport asset, more than 14 km of towpath along the Trent and Mersey Canal and nearly 9 km along the Caldon Canal have been improved through Stoke-on-Trent for walking and cycling. However they are only part of a network in Stoke-on-Trent and North Staffordshire. Through Integrated Transport Block, Greening for Growth, Developer Contributions and Cycling England funding the network of off highway Greenways also along former railway lines, River Paths and through parks, have been installed and improved to create an

extensive network of over 86 kilometres. We rate this off-road network as one of the best in the country. This includes the two National Cycle Network (NCN) routes that come together in the core of Stoke-on-Trent, NCN 5 and 55, which also utilise on highway facilities and signed routes. A network of local on road and signed routes for cyclists is also being joined up providing links to the NCN routes and between homes, employment and our town centres. Together with bus lanes useful to cyclists this network stands at over 160km of cycle routes in Stoke-on-Trent. As shown on the Stoke-on-Trent and Newcastle-under-Lyme Cycle Map and guide, these are further complemented by many advisory routes along roads that are quiet, have been traffic calmed, are 20 mph zones and allow pedestrian and cycle permeability, and wider routes into Staffordshire and beyond are also available. A recent Cycling England Cycling Towns Cluster meeting held in the city identified this network as a 'Hidden Gem' ripe for promoting to the travelling public.

In addition to designated heritage assets the City Council maintains a record of Buildings of Special Local Interest, as with Listed Buildings these are located within and outside of conservation areas. This data is maintained on the City Council's GIS (Geographical Information System), the GIS example below shows Listed Buildings (pink), Buildings of Special Local Interest (purple), and Conservation Areas (Blue Shading) around Longton Town Centre.

Figure 12 Example of Heritage Assets GIS Data



An additional consideration under the theme of transport assets are heritage assets directly linked to road infrastructure such as historic bridges, milestones, traditional signage. A key issue here is the condition of these assets (whether designated or not). These assets are to be specifically addressed as part of the LTP Bridge Strategy and transport asset management plan. The bridge stock carrying public roads comprises some 115 bridges and culverts owned and managed by the City Council, together with some 20 privately owned bridges. There are 20 PROW (Public Right Of Way) footbridges owned and managed by the City Council and around 20 more privately owned PROW footbridges. The majority of private bridges subject to assessment of condition are over railways and canals. Responsibility for these bridges generally falls to Network Rail and British Waterways. As part of its overall strategy and in accordance with Government advice, the City Council has actively liaised with these private bridge owners and with bridge owners in adjoining areas, to facilitate a coherent and co-ordinated approach to maintenance and strengthening. Transport Assets have an extensive and immediate impact on street scene, and a major consideration in their design and maintenance should be the character and appearance of historic areas.

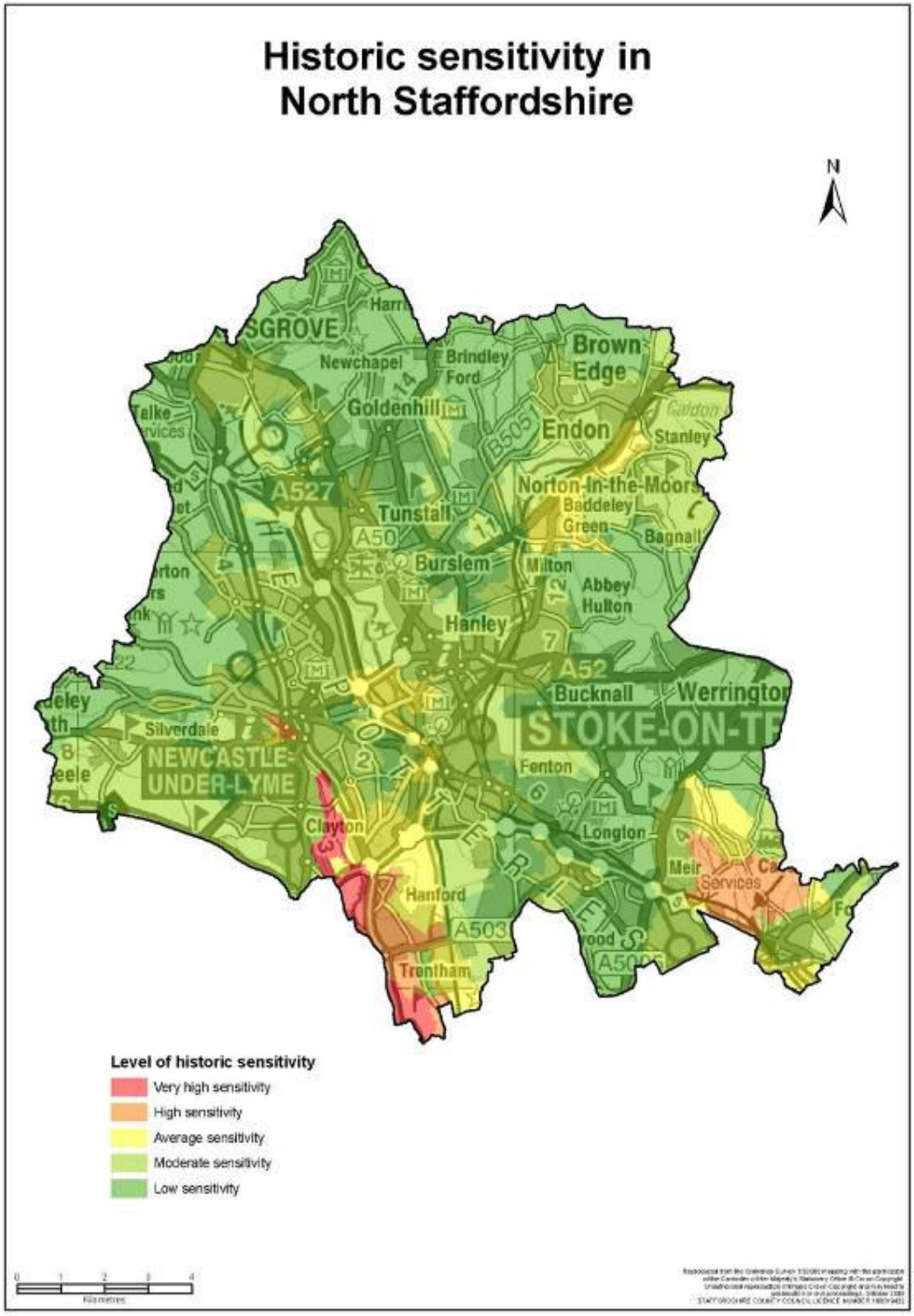
The SAMs include Chatterley Whitfield colliery which is also on the Heritage at Risk Register. Its condition is recorded as ‘Generally satisfactory but with significant localised problems’, the Principal Vulnerability ‘Deterioration - in need of management’ and with a ‘Declining’ Trend.

In 2005/06 there were 192 listed buildings in Stoke-on-Trent, 34 classified as ‘at risk’ (17.7%). In 2008/09 there were 194 listed buildings in Stoke-on-Trent. The 2009 Heritage at Risk Register contains 9 buildings ‘at risk’.

In the West Midlands in 2009, listed buildings are faring better than scheduled monuments: while 4.5% of Grade I and II* buildings are at risk (dropping from 5.8% in 1999), 20.1% of scheduled monuments are classified in this category. Elsewhere, 7.3% of registered parks and gardens and 8.3% of conservation areas, giving cause for concern (Heritage Counts West Midlands 2009).

The historical sensitivity of Staffordshire has been mapped using point data, the North Staffordshire area of this mapping is shown as Figure 13 below, this wider geographical scope allows effects beyond the City Boundary to be considered. The highest area of historic sensitivity is to the South East boundary of the City alongside the A34 corridor.

Figure 13 Historic Sensitivity in North Staffordshire



Human Health – Accidents and Safety, Noise, Health and Physical Fitness

Accidents and Safety

Tables 14 and 15 below show the numbers of road traffic accidents recorded by the police in North Staffordshire and Stoke-on-Trent in recent years. They show a trend of improvement.

Table 14 North Staffordshire LTP Road Safety Indicator Results

No. killed and seriously injured in road traffic accidents - 3yr. rolling av. **NSLTP Target M4**	1994-98 Average: 174	2004-06	2005-07	2006-08
		116	113	94
No. child killed and seriously injured in road traffic accidents - 3yr. rolling av. **NSLTP Target M5**	1994-98 Average: 35	2004-06	2005-07	2006-08
		18	21	14
No. of people slightly injured in road traffic collisions **NSLTP Target M6**	1994-98 Average: 1,901	2006	2007	2008
		1,658	1,544	1,289

Table 15 Stoke-on-Trent Road Safety Indicator Results

	2003	**2004/**	**2005**	**2006**	**2007/**	**2008**	**2009**
No. of killed and seriously injured in road traffic accidents	92	91	77	80	82	35	53
3 year rolling average			**86.7**	**82.7**	**79.7**	**65.7**	**56.7**
No. child killed and seriously injured in road traffic accidents	26	13	18	7	21	4	4
3 year rolling average			**19.0**	**12.7**	**15.3**	**10.7**	**9.7**

Noise

In 2000 the World Health Organisation guidelines report on Community Noise highlighted a range of health effects related to noise pollution including:

- noise induced hearing impairment;
- interference with speech communication;
- disturbance of rest and sleep;
- psycho-physiological; and
- mental health and performance effects.

The report suggests a target range of limits for continuous noise, the most relevant regarding impacts on dwellings are:

- Outdoor daytime levels to avoid disturbance of 50-55db LAeq; and
- Indoor nightime levels to avoid sleep disturbance of 30 db LAeq.

There is a lack of detailed local knowledge on which to derive a clear baseline on the impacts of noise on human health. Reports to the highways authority tend to occur during the initial operational period of new schemes with few direct complaints arising as a result of the operation of the existing network. This is not however to underestimate the significance of this issue but does highlight the need for additional detailed analysis to be undertaken to gain a greater understanding of this issue.

At a national level the Department for the Environment, Food and Rural Affairs (DEFRA) are responsible for implementing EU and UK noise regulations. DEFRA has modelled and mapped noise levels for the Potteries. As expected the DEFRA maps show higher noise levels around the busier highways within Stoke-on-Trent such as the A53 and A500 trunk roads as can be seen on the example in Figure 14 below. Figure 15 below shows population exposure from road noise for the Potteries. Population exposure has been calculated by DEFRA by statistically assigning census output area data to buildings in a mapped area (i.e. not precisely determining the number of people living in each building). A count is then made of number of people in each noise band calculated (rounded to the nearest 100).

Figure 14 Example of DEFRA Road Noise mapping for the Potteries

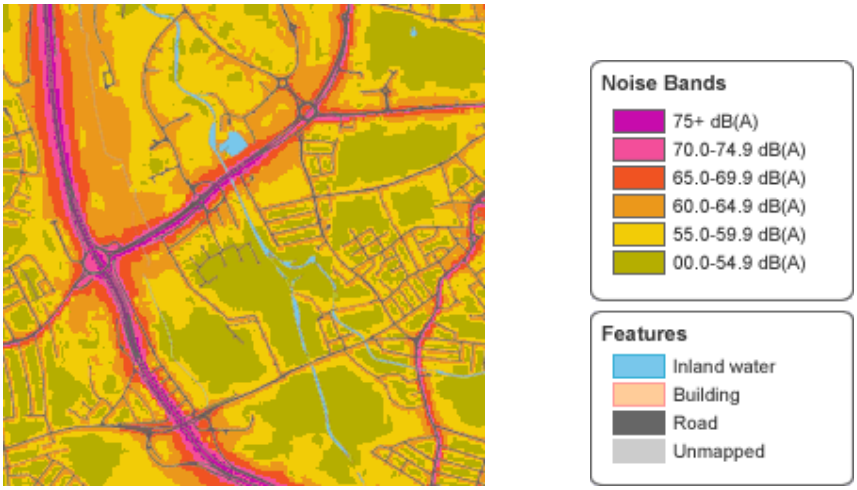
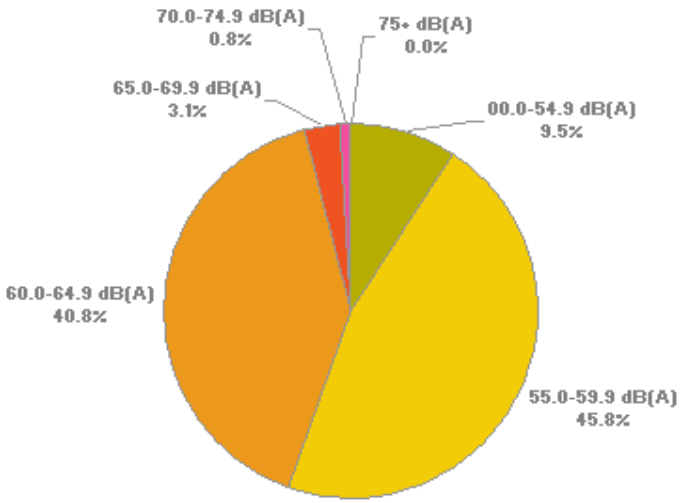


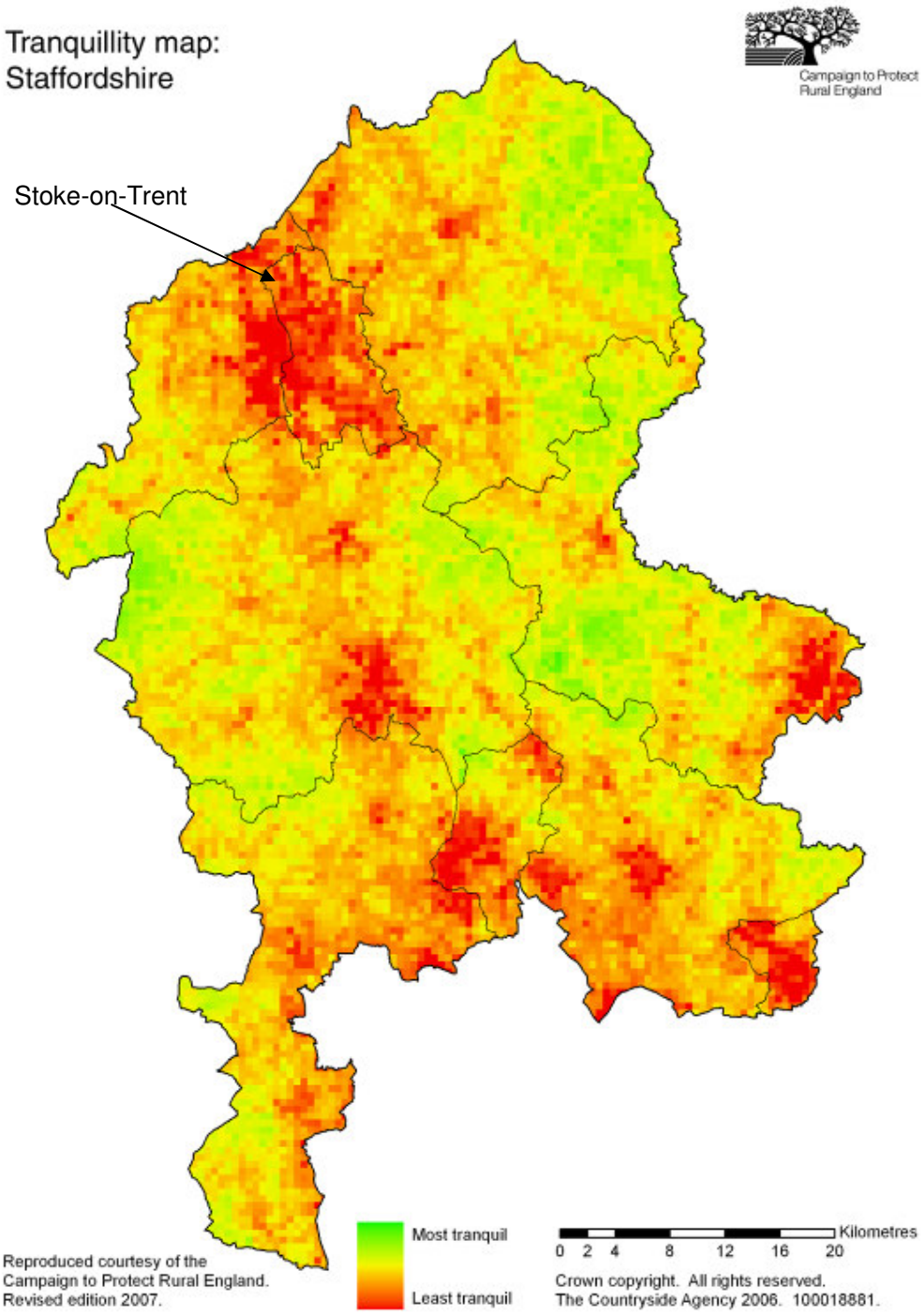
Figure 15 Total Noise Population Exposure from Road for The Potteries



(source DEFRA)

The Campaign for Rural England has produced maps of tranquil areas for the counties of England. The Staffordshire map including Stoke-on-Trent (Figure 16) suggests there are very few truly tranquil areas within Staffordshire, none of the most tranquil areas are within the Urban Area of Stoke-on-Trent. Some areas of Stoke-on-Trent, mainly greenspace away from the Town and City Centres are slightly more tranquil.

Figure 16 CPRE Tranquillity Map



Health and Physical Fitness

Much of the City suffers from many of the social issues frequently associated with areas of economic deprivation. Table 16, whilst only showing data at local authority level, and therefore concealing many of the more extreme conditions within some areas of the conurbation, clearly shows that the area suffers from issues such as poor health, poor educational achievements, high levels of worklessness, low wages, etc, in comparison to regional and national levels.

Table 16 Comparative Social Statistics for Stoke-on-Trent

	Base	Stoke	Newcastle	West Midlands	England*	Data Source
People not in good health	Resident population	12.8%	10.6%	9.7%	9.0%	2001 Census
People with limiting long term illness	Resident population	23.9%	20.8%	18.9%	17.9%	2001 Census
Standardised mortality ratios	Resident population	122	102	103	100	2008 Clinical Health Indicators
Population living in the 20% most deprived Super Output Areas	Resident population	50.4%	14.5%	26.3%	20.0%	2007 indices of deprivation
Average weekly wage by residence (full time employees)	Economically active residents	£442.30	£447.40	£456.40	£490.20	2009 Workplace Survey
Residents claiming Job Seekers Allowance	Working Population	5.9%	3.8%	5.5%	4.1%	2009 Claimant Count
Residents claiming Incapacity Benefit	Resident population	12.2%	7.9%	7.3%	7.1%	2010 Claimant Count
Residents claiming Disability Living Allowance	Resident population	8.0%	5.7%	5.5%	5.0%	2008 Claimant Count

Residents who are economically inactive	Working Population	24.2%	20.3%	22.7%	21.1%	2008 annual population survey
Residents with no qualifications	Resident population	23.3%	11.1%	16.0%	12.4%	2008 annual population survey
Residents with qualifications at degree level or above	Resident population	14.4%	22.0%	24.5%	29.0%	2008 annual population survey
Households living in Local Authority rented properties	Resident households	19.5%	10.3%	14.3%	13.2%	2001 Census

* Great Britain for Census derived data

In terms of the general health of the population the city, its difficulties are acknowledged at an international level through its designation as a 'Healthy City' under the World Health Organisation. The city has specific issues in relation to teenage pregnancy, low levels of breastfeeding, high incidents of strokes and other heart conditions, child obesity and higher levels of smoking. These are areas that are priorities for action for the local health authorities. These are likely to be a result of complex interactions related to the declining economy, previous occupations in mining and steel, low aspirations, poverty leading to poor nutrition and low educational attainment. The outcomes from these are the domain of health professionals but these causes are more likely to involve other partners such as planners, transport practitioners and educators. Increasing prosperity is likely to have a much greater impact on these issues than the resources of the National Health Service.

The age profile of Stoke-on-Trent indicate that the higher levels of incapacity benefit claimants and health issues cannot be explained by an ageing population. In fact, Stoke-on-Trent has the lowest median age of its neighbours and compares favourably with regional and national figures. Further analysis of the socio-economic baseline is contained within 'Chapter 4 – Current Challenges' of the LTP.

Landscape

The Stoke-on-Trent LTP falls within the Potteries and Churnet Valley Character Area [CA64] which is characterised by the following features and elements:

- Underlying features: Strongly dissected hills and small plateaux, rising up to the Pennines and cut by major river valleys. Strong contrast between remote uplands, urban areas, sheltered wooded valleys and hillside pastures. Prominent Millstone Grit and Coal Measures ridges.
- Cultural elements: Sprawling industrial towns of the Potteries forming a major conurbation. Rural settlement pattern of sheltered villages on low ground with hamlets, scattered farmsteads and cottages elsewhere. Brick and sandstone older buildings with tile and slate roofs.
- Changing elements: Extensive former industrial and extractive sites, many now reclaimed, intermixed with settlements and open land. Open moorland and rough grazing on higher ground

The overall assessment of the Countryside Quality Counts Indicator Profile for the period 1990 to 1998 is limited or small changes consistent with character. Changes are mostly small and consistent with character, although development may offset this to some extent. A 1999-2003 Joint Character Area (JCAs) Assessment was carried out by Countryside Quality Counts (CQC) project. The following themes were judged by the CQC team to be key to the character of this JCA:

- Trees & woodland;
- Agriculture; and
- Settlement & development.

The assessment found that:

“Although development appears to be transforming the character of the area, the important features of the farmed landscape and associated woodlands appears to have been maintained, or at least are weakening only slowly.

Evidence of expansion of fringe into peri-urban between Stoke on Trent and Kidsgrove, along the southern fringe of Stoke, and around Biddulph. Also scattered development and redevelopment at the eastern end of the JCA. Development continues to transform the character of the area.

There is little decline apparent overall in this JCA, except localised urbanisation and general decline in hedgerow maintenance which could lead to rapid erosion of landscape character in the future if those hedgerows disappear.”

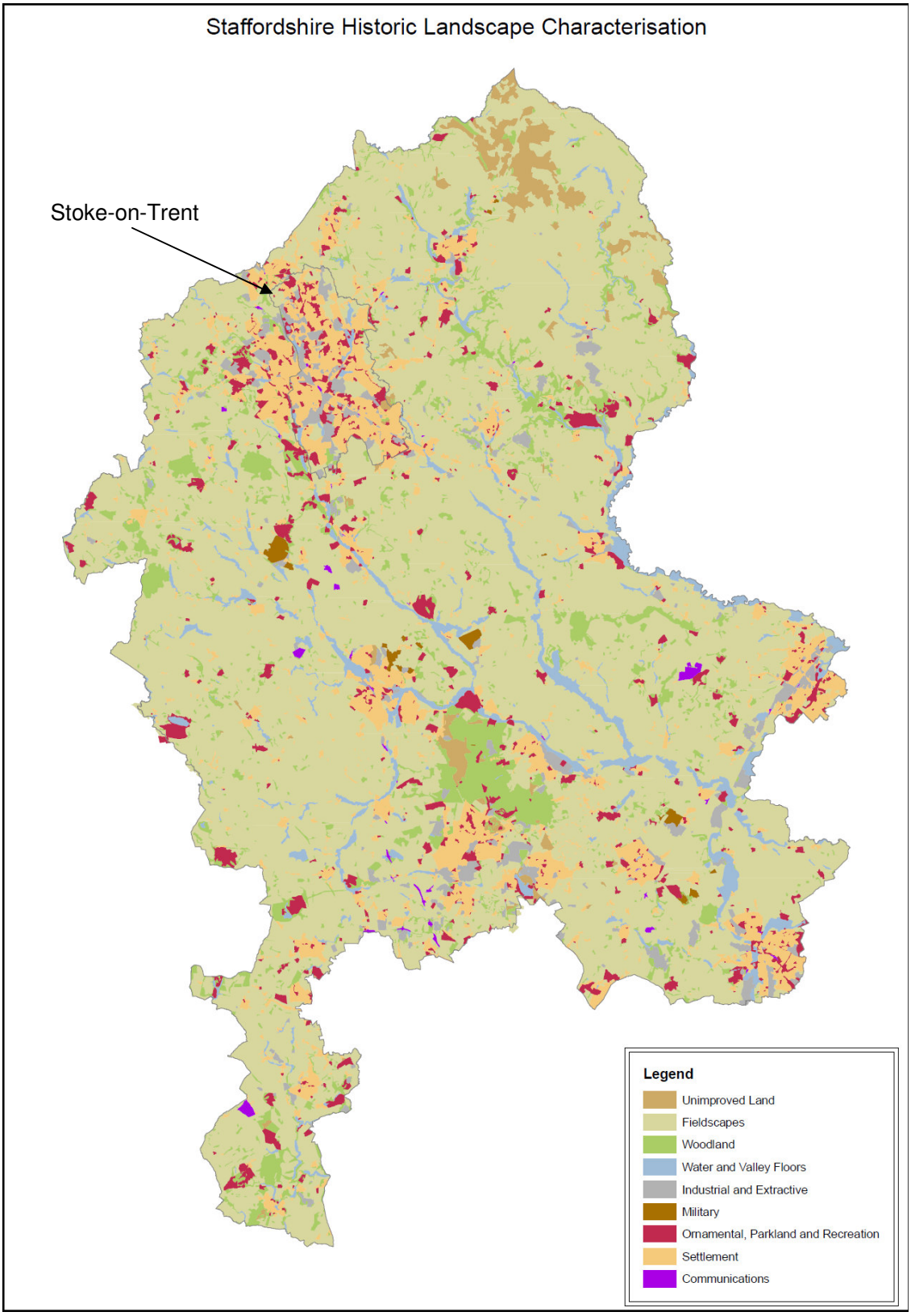
Stoke-on-Trent sits within the wider landscape of Staffordshire. Staffordshire can be described in terms of three well-delineated physical regions. These are the northern hills, the central plain and the southern plateau. Stoke-on-Trent sits within the northern hills area. To the east of Stoke-on-Trent, the land rises up to the extensive Palaeozoic sandstone and limestone uplands of the Peak District. Much of this upland edge to Staffordshire is between the 120 and 250m contours, dissected by a series of parallel rivers which flow from north-west to south-east into the River Trent. Stoke-on-Trent and sits to the western side of these high hills in the North Staffordshire coalfields, beyond which, on the western and southern edges of the coalfields, there is a border of sandstones forming a more elevated landscape.

The central plain is a low-lying tract of gently undulating landform, underlain predominantly by Triassic mudstones, formerly known as the Keuper Marls. A series of small rivers feeds the River Trent, which rises north-east of Stoke-on-Trent and sweeps south-eastwards in a great curve.

As part of a national programme supported by English Heritage, Staffordshire County Council has undertaken a countywide Historic Landscape Characterisation (HLC) project including Stoke-on-Trent. HLC is a desk-based project which analyses historic maps, aerial photographs and a range of other data sets including the Historic Environment Record. Through the use of a computerised Geographic Information System (GIS) a map of the county has been produced which describes the historic components of the landscape and enables us to understand the processes that affect the way in which the landscape looks today. HLC is an important tool for managing change in the landscape.

Figure 17 below shows the broad landscape characterisation of Stoke-on-Trent in Staffordshire. Stoke-on-Trent is primarily characterised as settlement, with many areas of Ornamental, Parkland and Recreation, and Industrial and Extractive. To a lesser extent there are areas characterised as Fieldscapes, and Woodland. Some areas are characterised as Water and Valley Floors mainly along the Trent Valley and Westport Lake. Some small areas are characterised as Communications, mainly associated with railway areas, plus there is Unimproved Land characterised at Park Hall Country Park. These landscpapes form the setting and link strongly to Cultural Heritage as many are man-made and the result of the built environment. Heritage Characterisation Studies completed for Renew areas of major intervention give more detailed baseline data for transport schemes in these regeneration areas.

Figure 17 Staffordshire Historical Landscape Characterisation



Material Assets

The EU directive does not explicitly define the term 'material assets', though the following matters have commonly been included: infrastructure, natural resources, housing, economy, built heritage, minerals and waste. There is clearly considerable overlap between these issues and other SEA and NATA themes. Therefore the theme of material assets has focused on the efficient use and maintenance of the transport network with the other matters covered under more relevant themes.

Stoke-on-Trent City Council is the transport authority for the City of Stoke-on-Trent, with responsibility for the transport assets in its ownership which includes:

Structures - road bridges, retaining walls and road gullies, footbridges and bridleway bridges

- local roads
- cycle lane/track
- road light units and illuminated signs
- bus shelters and bus stops
- Hanley and Longton bus stations

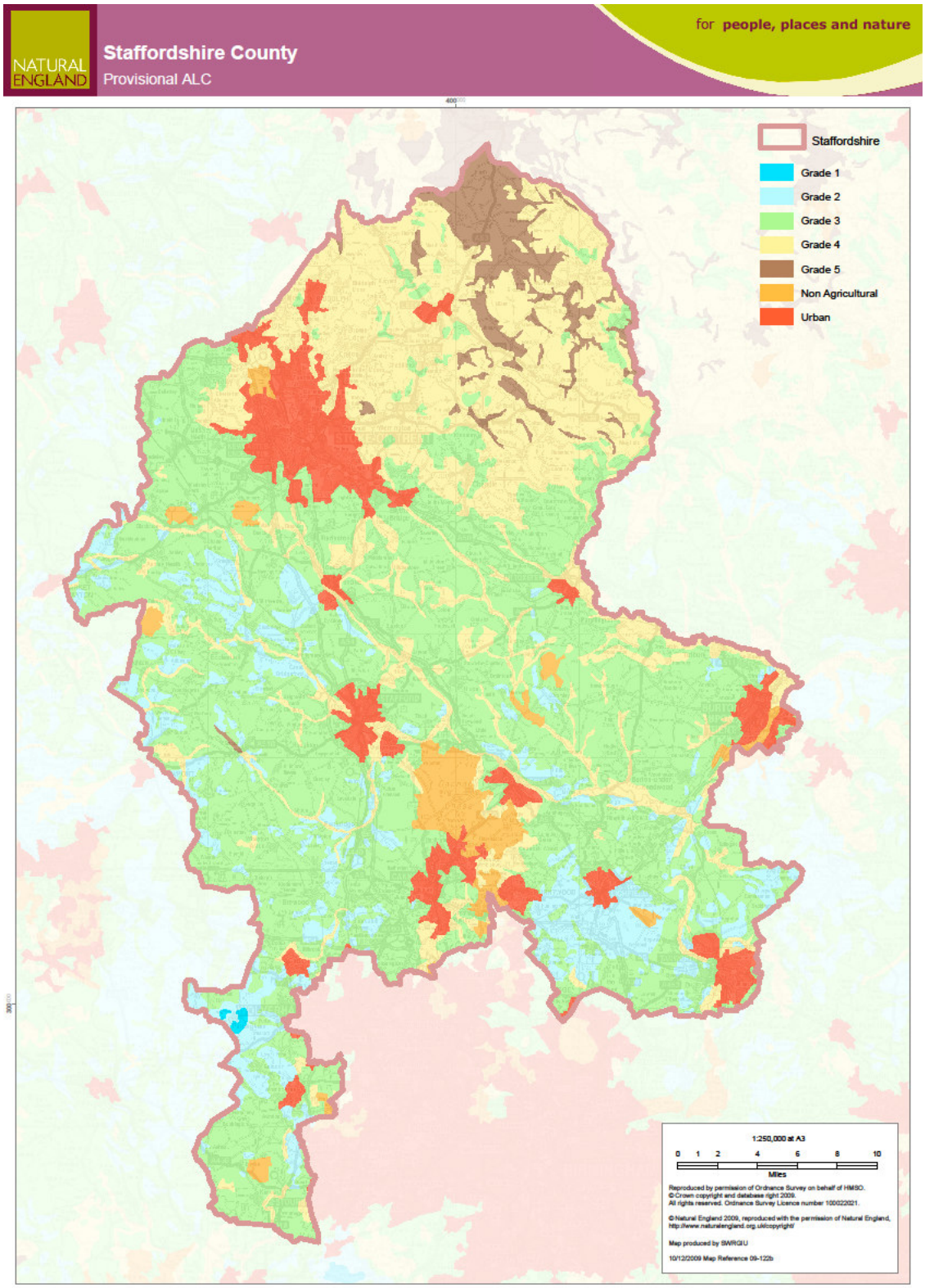
The City Council is gathering an inventory of all highway assets to assist with valuing the total cost of the asset. The valuation will be complete by 31 March 2011.
As set out in the Cultural Heritage baseline data above these Highway and Transport Assets include cultural heritage assets, and have an impact on the setting of heritage assets and historical areas.

Soil

Soil is a vital multi-functional resource which enables food, timber and fibre production; supports a diverse range of habitats; acts as a platform for development and provides invaluable environmental buffering and pollution management services. Transport and the transport network can impact on soils through ‘soil sealing’, i.e. physically building over soils, through compaction associated with maintenance and by pollution impacts associated with run-off and nitrate depositions from emissions.

The agricultural land classification system identifies five grades of land, with Grade 3 being subdivided into Subgrades 3a and 3b. The best and most versatile land is defined as Grades 1, 2 and 3a and is the land which is considered the most flexible, productive and efficient in response to inputs. One of the main factors in assessing this grade relates to soil characteristics. Figure 18 shows Agricultural Land Classification for the whole of Staffordshire including Stoke-on-Trent. This shows that most of Stoke-on-Trent is classified as Urban but with some Grade 3 land to the South West.

Figure 18 Staffordshire Agricultural Land Classification



Water

This section of the SEA Scoping Report is focused on the water pollution impacts arising from the transport network. The issue of flooding is addressed within the climatic factors topic.

Transport networks contribute to water pollution primarily through contaminants washed from road surfaces and parking areas. This can occur by diffuse pollution discharge from hard surfaces into the surrounding environment or through storm drainage systems and discharged through pipes. The main pollutants include fuel leakages, motor oil, suspended soils, heavy metals, road salting run-off and herbicide used to control grass verges. The cumulative impact of such pollutants can have a significant detrimental impact on water habitats and dependent species.

The Environment Agency's data (see Table 17 below) shows that the overall chemical and biological quality of rivers and canals in the Midlands has improved since 1990 although this rate of improvement has slowed in recent years with a marginal decline in chemical water quality since 2000.

Biological water quality in Stoke-on-Trent's rivers and canals is below average –3.2% of Stoke on Trent's waterways were classed as good or fair quality in 2000, compared 84% of Staffordshire County Council's and 94% nationally in the same year. 24.5% of waterways in Stoke on Trent were classed as good or fair for chemical water quality, compared to 95% for Staffordshire County Council which was in line with the national average. 2006/07 results for Stoke-on-Trent show much improvement, but indicates that biological quality is still below average.

It is not possible to obtain water quality data that would be able to highlight if transport was the cause of any water pollution but these indicators do show the overall quality of water. A reduced monitoring network for this indicator in 2007 means that the figures are not statistically robust for local authority level. This indicator has been replaced by the Water Framework Directive.

Table 17 Water Biological and Chemical Quality Indicators

Indicator				2006/07	2007/08
Percentage of water courses classified as fair or better biological quality (Source: Environment Agency)	Stoke-on-Trent	2000: 3.2		67.6	
	Staffordshire	2000: 84		88.3	
	Midlands	1990 86.9 1993 90.9 1994 94.2 1995 95.6 1996 93.7 1997 93.2 1998 94.3	1999 95.0 2000 96.5 2001 95.8 2002 96.0 2003 94.8 2004 93.0 2005 92.2	93.5	95.0
	England	1999 94.2 2000 96.1 2001 96.5 2002 96.1	2003 95.1 2004 94.7 2005 94.6	95.0	95.7
Percentage of water courses classified as fair or better chemical quality (Source: Environment Agency)	Stoke-on-Trent	2000: 24.5		98.1	
	Staffordshire	2000: 95		94.9	
	England	1990 86.4 1995 91.7 2000 94.5 2002 94.2	2003 93.9 2004 94.0 2005 94.2	94.5	94.6

Requirements of the Water Framework Directive has altered the manner in which water quality (chemical and ecological) is now recorded. The River Basin Management Plan for the Humber River Basin District contains water body status objectives. Below the status objectives for each of the water bodies of the Staffordshire Trent Valley river catchment in Stoke-on-Trent are set out.

Waterbody Category and Map Code.:	River - R6	**Surveillance site:**	No
Waterbody ID and Name:	GB104028053300	River Trent from Causeley Brook to Fowlea Brook	
National Grid Reference:	SJ 88771 45944		
Current Overall Potential	Moderate		
Status Objective (Overall):	Good by 2027	(For Protected Area Objectives see Annex D)	
Status Objective(s):	Good Ecological Potential by 2027		
Justification if overall objective is not good status by 2015:	Technically infeasible		
Protected Area Designation:	Freshwater Fish Directive, Nitrates Directive		
SSSI (Non-N2K) related:	No		
Hydromorphological Designation:	Heavily Modified		
Reason for Designation:	Urbanisation		
Downstream Waterbody ID:	GB104028053271		

Ecological Potential

Current Status (and certainty that status is less than good)	Moderate

Biological elements

Element	Current status (and certainty of less than good)	Predicted Status by 2015	Justification for not achieving good status by 2015
Fish	Poor (Very Certain)	Poor	Technically infeasible (B2a)
Invertebrates	Moderate (Very Certain)	Moderate	Not Required (MS)

Supporting elements

Element	Current status (and certainty of less than good)	Predicted Status by 2015	Justification for not achieving good status by 2015
Ammonia (Phys-Chem)	High	High	
Dissolved Oxygen	High	High	
pH	High	High	
Phosphate	Good	Good	
Temperature	High	High	
Copper	High	High	
Zinc	High	High	
Ammonia (Annex 8)	High	High	

Supporting conditions

Element	Current status (and certainty of less than good)	Predicted Status by 2015	Justification for not achieving good status by 2015
Quantity and Dynamics of Flow	Supports Good	Supports Good	

Ecological Potential Assessment

Element	Current status	Predicted Status by 2015	Justification for not achieving good status by 2015
Mitigation Measures Assessment	Moderate	Moderate	Technically infeasible (M3b)

Mitigation Measures that have defined Ecological Potential

Mitigation Measure	Status
Educate landowners on sensitive management practices (urbanisation)	Not In Place
Operational and structural changes to locks, sluices, weirs, beach control, etc	Not In Place
Preserve and where possible enhance ecological value of marginal aquatic habitat, banks and riparian zone	Not In Place
Structures or other mechanisms in place and managed to enable fish to access waters upstream and downstream of the impounding works.	Not In Place
Increase in-channel morphological diversity	Not In Place
Removal of hard bank reinforcement / revetment, or replacement with soft engineering solution	Not In Place

Chemical Status

Current Status (and certainty that status is less than good)	Does not require assessment

Waterbody Category and Map Code.:	River - R7	**Surveillance site:** No
Waterbody ID and Name:	GB104028053310	Causeley Brook from Source to River Trent
National Grid Reference:	SJ 91067 47066	
Current Overall Potential	Moderate	
Status Objective (Overall):	Good by 2027	(For Protected Area Objectives see Annex D)
Status Objective(s):	Good Ecological Potential by 2027, Good Chemical Status by 2027	
Justification if overall objective is not good status by 2015:	Technically infeasible	
Protected Area Designation:	Nitrates Directive	
SSSI (Non-N2K) related:	No	
Hydromorphological Designation:	Heavily Modified	
Reason for Designation:	Urbanisation	
Downstream Waterbody ID:	GB104028053300	

Ecological Potential

Current Status (and certainty that status is less than good)	Moderate (Very Certain)

Biological elements

Element	Current status (and certainty of less than good)	Predicted Status by 2015	Justification for not achieving good status by 2015
Fish	Good	Good	

Supporting elements

Element	Current status (and certainty of less than good)	Predicted Status by 2015	Justification for not achieving good status by 2015
Iron	Moderate (Very Certain)	Moderate	Technically infeasible (C2a)
Zinc	Moderate (Very Certain)	Moderate	Technically infeasible (C2a)

Supporting conditions

Element	Current status (and certainty of less than good)	Predicted Status by 2015	Justification for not achieving good status by 2015
Quantity and Dynamics of Flow	Supports Good	Supports Good	

Ecological Potential Assessment

Element	Current status	Predicted Status by 2015	Justification for not achieving good status by 2015
Mitigation Measures Assessment	Moderate	Moderate	Technically infeasible (M3b)

Mitigation Measures that have defined Ecological Potential

Mitigation Measure	Status
Operational and structural changes to locks, sluices, weirs, beach control, etc	**Not In Place**
Removal of hard bank reinforcement / revetment, or replacement with soft engineering solution	**Not In Place**
Preserve and, where possible, restore historic aquatic habitats	**Not In Place**
Increase in-channel morphological diversity	**Not In Place**
Re-opening existing culverts	**Not In Place**
Alteration of channel bed (within culvert)	**Not In Place**
Flood bunds (earth banks, in place of floodwalls)	**Not In Place**
Set-back embankments	**Not In Place**
Improve floodplain connectivity	**Not In Place**
Structures or other mechanisms in place and managed to enable fish to access waters upstream and downstream of the impounding works.	**Not In Place**
Remove obsolete structure	**Not In Place**
Preserve and where possible enhance ecological value of marginal aquatic habitat, banks and riparian zone	**Not In Place**
Educate landowners on sensitive management practices (urbanisation)	**Not In Place**
Selective vegetation control regime	**Not In Place**
Appropriate vegetation control technique	**Not In Place**
Appropriate timing (vegetation control)	**Not In Place**
Appropriate techniques (invasive species)	**Not In Place**
Retain marginal aquatic and riparian habitats (channel alteration)	**Not In Place**
Sediment management strategies (develop and revise)	**Not In Place**
Appropriate channel maintenance strategies and techniques - minimise disturbance to channel bed and margins	**Not In Place**
Appropriate channel maintenance strategies and techniques - woody debris	**Not In Place**
Appropriate water level management strategies, including timing and volume of water moved	**Not In Place**
Management of the risk of fish entrainment in intakes for hydropower turbines or water resource purposes (or pumping stations) where there is downstream fish migration.	**Not In Place**

Chemical Status

Current Status (and certainty that status is less than good)	Fail (Very Certain)

Chemical elements

Element	Current status (and certainty of less than good)	Predicted Status by 2015	Justification for not achieving good status by 2015
Cadmium And Its Compounds	Moderate (Quite Certain)	Moderate	Technically infeasible (C2a)
Nickel And Its Compounds	Moderate (Very Certain)	Moderate	Technically infeasible (C2a)

Waterbody Category and Map Code.:	River - R8	**Surveillance site:** No
Waterbody ID and Name:	GB104028053320	River Trent from Ford Green Bk to Causeley Brook
National Grid Reference:	SJ 89946 48189	
Current Overall Potential	Moderate	
Status Objective (Overall):	Good by 2027	(For Protected Area Objectives see Annex D)
Status Objective(s):	Good Ecological Potential by 2027	
Justification if overall objective is not good status by 2015:	Disproportionately expensive, Technically infeasible	
Protected Area Designation:	Freshwater Fish Directive, Nitrates Directive	
SSSI (Non-N2K) related:	No	
Hydromorphological Designation:	Heavily Modified	
Reason for Designation:	Urbanisation	
Downstream Waterbody ID:	GB104028053300	

Ecological Potential

Current Status (and certainty that status is less than good)	Moderate (Very Certain)

Biological elements

Element	Current status (and certainty of less than good)	Predicted Status by 2015	Justification for not achieving good status by 2015
Fish	Good	Good	
Invertebrates	Moderate (Quite Certain)	Good	

Supporting elements

Element	Current status (and certainty of less than good)	Predicted Status by 2015	Justification for not achieving good status by 2015
Ammonia (Phys-Chem)	Moderate (Quite Certain)	Good	
Dissolved Oxygen	High	High	
pH	High	High	
Phosphate	Poor (Very Certain)	Poor	Disproportionately expensive (P1a)
Temperature	High	High	
Copper	High	High	
Zinc	High	High	
Ammonia (Annex 8)	Moderate (Quite Certain)	Good	

Supporting conditions

Element	Current status (and certainty of less than good)	Predicted Status by 2015	Justification for not achieving good status by 2015
Quantity and Dynamics of Flow	Supports Good	Supports Good	

Ecological Potential Assessment

Element	Current status	Predicted Status by 2015	Justification for not achieving good status by 2015
Mitigation Measures Assessment	Moderate	Moderate	Technically infeasible (M3b)

Mitigation Measures that have defined Ecological Potential

Mitigation Measure	Status
Educate landowners on sensitive management practices (urbanisation)	Not In Place
Retain marginal aquatic and riparian habitats (channel alteration)	Not In Place
Operational and structural changes to locks, sluices, weirs, beach control, etc	Not In Place
Increase in-channel morphological diversity	Not In Place

Chemical Status

Current Status (and certainty that status is less than good)	Does not require assessment

Waterbody Category and Map Code.:	River - R10	**Surveillance site:**	No
Waterbody ID and Name:	GB104028053380	Ford Green Brook from Source to R Trent	
National Grid Reference:	SJ 87978 53173		
Current Overall Potential	Moderate		
Status Objective (Overall):	Good by 2027	(For Protected Area Objectives see Annex D)	
Status Objective(s):	Good Ecological Potential by 2027		
Justification if overall objective is not good status by 2015:	Disproportionately expensive, Technically infeasible		
Protected Area Designation:	Freshwater Fish Directive, Nitrates Directive		
SSSI (Non-N2K) related:	No		
Hydromorphological Designation:	Heavily Modified		
Reason for Designation:	Flood Protection, Urbanisation		
Downstream Waterbody ID:	GB104028053320		

Ecological Potential

Current Status (and certainty that status is less than good)	Moderate (Very Certain)

Biological elements

Element	Current status (and certainty of less than good)	Predicted Status by 2015	Justification for not achieving good status by 2015
Invertebrates	Moderate (Quite Certain)	Moderate	Not Required (MS)

Supporting elements

Element	Current status (and certainty of less than good)	Predicted Status by 2015	Justification for not achieving good status by 2015
Ammonia (Phys-Chem)	Moderate (Quite Certain)	Good	
Dissolved Oxygen	Moderate (Very Certain)	Good	
pH	High	High	
Phosphate	Moderate (Uncertain)	Moderate	Disproportionately expensive (P1a)
Temperature	High	High	
Copper	High	High	
Zinc	High	High	
Ammonia (Annex 8)	Moderate (Quite Certain)	Good	

Supporting conditions

Element	Current status (and certainty of less than good)	Predicted Status by 2015	Justification for not achieving good status by 2015
Quantity and Dynamics of Flow	Supports Good	Supports Good	

Ecological Potential Assessment

Element	Current status	Predicted Status by 2015	Justification for not achieving good status by 2015
Mitigation Measures Assessment	Moderate	Moderate	Technically infeasible (M3a, M3b)

Mitigation Measures that have defined Ecological Potential

Mitigation Measure	Status
Educate landowners on sensitive management practices (urbanisation)	**In Place**
Retain marginal aquatic and riparian habitats (channel alteration)	**In Place**
Preserve and where possible enhance ecological value of marginal aquatic habitat, banks and riparian zone	**In Place**
Removal of hard bank reinforcement / revetment, or replacement with soft engineering solution	**In Place**
Alteration of channel bed (within culvert)	**Not In Place**
Re-opening existing culverts	**Not In Place**

Chemical Status

Current Status (and certainty that status is less than good)	Does not require assessment

Waterbody Category and Map Code.:	River - R11	**Surveillance site:** No
Waterbody ID and Name:	GB104028053400	River Trent from Source to Ford Green Brook
National Grid Reference:	SJ 89792 52500	
Current Overall Status	Moderate	
Status Objective (Overall):	Good by 2015	(For Protected Area Objectives see Annex D)
Status Objective(s):	Good Ecological Status by 2015	
Justification if overall objective is not good status by 2015:		
Protected Area Designation:	Freshwater Fish Directive, Nitrates Directive	
SSSI (Non-N2K) related:	No	
Hydromorphological Designation:	Not Designated A/HMWB	
Reason for Designation:		
Downstream Waterbody ID:	GB104028053320	

Ecological Status

Current Status (and certainty that status is less than good)	Moderate (Uncertain)

Biological elements

Element	Current status (and certainty of less than good)	Predicted Status by 2015	Justification for not achieving good status by 2015
Fish	Moderate (Uncertain)	Good	
Invertebrates	Good	Good	

Supporting elements

Element	Current status (and certainty of less than good)	Predicted Status by 2015	Justification for not achieving good status by 2015
Ammonia (Phys-Chem)	High	High	
Dissolved Oxygen	High	High	
pH	High	High	
Phosphate	High	High	
Temperature	High	High	
Copper	High	High	
Iron	High	High	
Zinc	High	High	
Ammonia (Annex 8)	High	High	

Supporting conditions

Element	Current status (and certainty of less than good)	Predicted Status by 2015	Justification for not achieving good status by 2015
Quantity and Dynamics of Flow	Supports Good	Supports Good	
Morphology	Supports Good	Supports Good	

Chemical Status

Current Status (and certainty that status is less than good)	Does not require assessment

Waterbody Category and Map Code.:	River - R38	**Surveillance site:** No
Waterbody ID and Name:	GB104028053360	Fowlea Brook from Source to River Trent
National Grid Reference:	SJ 86590 47059	
Current Overall Potential	Moderate	
Status Objective (Overall):	Good by 2027	(For Protected Area Objectives see Annex D)
Status Objective(s):	Good Ecological Potential by 2027	
Justification if overall objective is not good status by 2015:	Technically infeasible	
Protected Area Designation:	Freshwater Fish Directive, Nitrates Directive	
SSSI (Non-N2K) related:	No	
Hydromorphological Designation:	Heavily Modified	
Reason for Designation:	Flood Protection, Urbanisation	
Downstream Waterbody ID:	GB104028053271	

Ecological Potential

Current Status (and certainty that status is less than good)	Moderate (Very Certain)

Biological elements

Element	Current status (and certainty of less than good)	Predicted Status by 2015	Justification for not achieving good status by 2015
Invertebrates	Poor (Very Certain)	Moderate	Not Required (MS)

Supporting elements

Element	Current status (and certainty of less than good)	Predicted Status by 2015	Justification for not achieving good status by 2015
Ammonia (Phys-Chem)	Moderate (Very Certain)	Good	
Dissolved Oxygen	Moderate (Very Certain)	Moderate	Technically infeasible (DO2a)
pH	High	High	
Phosphate	Good	Good	
Temperature	High	High	
Copper	High	High	
Iron	Moderate (Very Certain)	Moderate	Technically infeasible (C2a)
Zinc	High	High	
Ammonia (Annex 8)	Moderate (Very Certain)	Good	

Supporting conditions

Element	Current status (and certainty of less than good)	Predicted Status by 2015	Justification for not achieving good status by 2015
Quantity and Dynamics of Flow	Supports Good	Supports Good	

Ecological Potential Assessment

Element	Current status	Predicted Status by 2015	Justification for not achieving good status by 2015
Mitigation Measures Assessment	Moderate	Moderate	Technically infeasible (M3a, M3b)

Mitigation Measures that have defined Ecological Potential

Mitigation Measure	Status
Alteration of channel bed (within culvert)	In Place
Re-opening existing culverts	In Place
Preserve and where possible enhance ecological value of marginal aquatic habitat, banks and riparian zone	Not In Place
Increase in-channel morphological diversity	Not In Place

Chemical Status

Current Status (and certainty that status is less than good)	Does not require assessment

Baseline Data – Limitations and Gaps

Table 18 provides a summary of identified gaps and limitations within the existing baseline data and potential future information for each SEA and NATA topic.

Table 18 Baseline Data Limitation and Gaps

SEA & NATA Topic	Data Limitation and Gaps	Potential Future Information
Air	Information on small particulates $PM^{2.5}$.	Finalised management plan for Air Quality Management Area.
Biodiversity		Review of Staffs BAP Habitat targets. Result from the Regional Biodiversity Opportunity Mapping Exercise.
Climatic Factors	Future flooding risk to road network arising from forecast climate change conditions.	Surface Water Management Plan (SWaMP). Ongoing data collection to provide a clearer picture of transport emissions data.
Cultural Heritage	Number and Condition of Highway Heritage Assets	Conservation Area Appraisals Transport Asset Management Plan
Human Health: Accidents and Safety, Physical Fitness and Noise	Levels of noise pollution	Data collection on-going. DEFRA second round of modelling and mapping for a series of smaller urban areas and other busy transportation routes Health Impact Assessment (HIA)
Landscape		Impacts assessed as they arise compared to current situation.
Material Assets		Valuation of the highway asset as part of the HAMP / TAMP
Population: Crime, Economy, Transport and Accessibility	Freight movements	Census 2011 will provide up to date information on travel to work journeys.
Soil	Soil vulnerability areas. Impact of nitrate deposition on soil quality.	
Water	Proportion of pollutants from transport and highways	

A3: Identifying environmental problems

The directive refers to identifying environmental problems. This has been broadened to include social and economic matters identified within the New Approach to Transport Assessment as identified in the DfT guidance (WEBTAG Unit 2.11).

Identifying key issues can assist in clarifying the goals and highlighting the challenges which need to be addressed by the LTP.

The starting point for exploring these issues is provided by an analysis of the baseline data supplemented by expert judgements provided during the scoping exercise. Issues also arise from examining conflicts between the current or projected future baseline conditions and existing objectives and targets.

Table 19 Task A3 - The Key Issues and Implications for the Stoke-on-Trent LTP3

Key Issue	Implication/Opportunities for the LTP	SEA Topic
Poor air quality identified in a number of locations associated with pollution arising from the local road network.	Support measures detailed within Air Quality Management Plan to address the existing situation.	Air
Forecast increase in development and travel requirements may increase the potential for additional incidents of poor air quality.	Support sustainable patterns of growth as set out in the CSS and encourage increased use of sustainable transport options.	Air
Nitrate Deposition can have detrimental impacts on habitats.	Promote measures can reduce the impact of pollution from the transport network on habitats.	Biodiversity
Fragmentation of habitats and the introduction of lighting can create severance impacts isolating species and hindering foraging and commuting routes.	Minimise the detrimental impacts of the transport network on habitats and species.	Biodiversity

Key Issue	Implication/Opportunities for the LTP	SEA Topic
Highway infrastructure brings opportunities to create or enhance habitats that can contribute to local ecological networks. These areas require suitable management regimes which will need to be considered at the design stage.	Promote habitat creation and improvements.	Biodiversity
Reducing the level of greenhouse gas emissions within the context of a forecast increase in demand for travel.	Support Targeted Regeneration option of CSS which in turn will help to reduce need to travel. Promote smarter travel choices and to support measures aimed at reducing the need for travel arising from new development.	Climatic Factors
Impact of climate change on the transport network including increase flooding risk, increased subsidence risk and higher temperatures necessitating additional maintenance, and increased risk of extreme events such as flash flooding.	Promote measures aimed at adapting the transport network to better accommodate climate change impacts.	Climatic Factors
Cultural heritage resources are vulnerable to inappropriate traffic management, poor public realm schemes and inadequate maintenance. Included in these resources is a network of off highway Greenways also along former railway lines, through parks, and along canal towpaths.	Promote schemes which address the negative impacts of the transport network on the cultural heritage, support positive design initiatives and protect valued transport related heritage assets. The network of greenways is an asset for promoting walking and cycling.	Cultural Heritage
Transport network enhancements have the potential to impact on valuable archaeological resources.	Early and appropriate consultation with the proper authorities and promote the preservation of remains ‘in-situ’ wherever feasible.	Cultural Heritage

Key Issue	Implication/Opportunities for the LTP	SEA Topic
Targeted accident reductions are being achieved, the emphasis will need to focus on maintaining improvements within the context of forecast increased travel demands.	Focus on maintaining the safety of the local transport network.	Human Health – Accidents and Safety
Crime and fear of crime.	Support initiatives such as design against crime which can contribute towards sustaining recent trends. Smarter choices travel can be deterred by fear of crime, but also has the potential to increase natural surveillance reducing opportunities for crime and fear of crime.	Human Health – Accidents and Safety
High percentage of population of the Potteries exposed to noise from transport. Tranquillity mapping suggest no truly tranquil areas in Stoke-on-Trent and that only limited tranquil areas remain within the wider areas of Staffordshire.	Support measures to tackle noise within Stoke-on-Trent and also measures to retain the areas of tranquillity within the County, for example supporting the targeted regeneration option of the CSS to reduce development pressure in rural parts of Staffordshire.	Human Health - Noise

Key Issue	Implication/Opportunities for the LTP	SEA Topic
Poor Health levels in Stoke-on-Trent	Access to health care important. Also transport policy has the potential to create safe conditions for physical activity such as walking and cycling and to reduce social isolation of vulnerable people. Once people are give the possibility of accessing services, jobs and open spaces, their physical/mental health and general well-being can improve considerably. Improved accessibility both in urban and rural areas also helps to improve people‘s general physical health. Active travel, like walking and cycling, can contribute to a healthy lifestyle, tackle obesity and improve mental well-being for all ages. Furthermore, the use of public transport, including park and ride schemes can encourage social interaction and a healthier approach to travel whilst improving air quality.	Human Health and Fitness
Concerns regarding safety and the quality of accessibility can hinder the uptake of more sustainable modes of travel such as cycling and walking.	Support sustainable travel and should identify those measures which will prove most effective in promoting an increase in the levels of cycling and walking.	Human Health and Fitness

Key Issue	Implication/Opportunities for the LTP	SEA Topic
Enhancements to the transport network can have potentially negative impacts on the character of the landscape and historic road character. Signage, light and noise pollution can all have a detrimental impact on landscape character particularly in areas of high sensitivity.	Take landscape policy objectives into account during plan preparation and scheme promotion.	Landscape
Increased pressures for development and associated increase in travel requirements in rural areas arising from future development requirements could impact on character and tranquillity.	Co-ordinate closely with other plans and strategies such as CSS to help to deliver more sustainable development patterns which reduce travel demands and offer opportunities for a range of travel modes.	Landscape
Increased demands for travel and development will continue to put pressure on the highway network. This is likely to require increasing network efficiency and maintenance within the context of limited resources.	Promote the use of recycled materials in the maintenance and construction of the road network. Increased efficiency of asset management required. Promote measures to improve the efficient operation of the network and enable smarter travel choices.	Material Assets
Evidence suggests that the levels of work commuting by car are high and that road traffic mileage levels are forecast to continue to grow, increasing potential incidents of congestion.	Co-ordinate closely with other plans and strategies to support the delivery of improved network efficiency and to support smarter travel choices. Support targeted regeneration through the CSS.	Population - Economy

Key Issue	Implication/Opportunities for the LTP	SEA Topic
Economic and residential growth within Stoke-on-Trent needs to take account of infrastructure constraints with sustainable solutions being integrated early into the development process.	Co-ordinate closely with other plans and strategies to ensure that the necessary future development is delivered in a manner which supports sustainable travel objectives and does not harm the City's regeneration.	Population - Economy
Improving accessibility to education and training opportunities particularly for residents without access to a car and to improve opportunities for communities experiencing high levels of multiple deprivation.	Promote initiatives which will improve accessibility to education and training opportunities.	Population - Economy
Tourism and leisure offer potential to support economic regeneration	Co-ordinate closely with Visitor Economy Strategy, Heritage Assets such as canal network offer transport related tourism.	Economy
Improving accessibility for all members of the community to a range of services and facilities.	Co-ordinate closely with other plans and strategies to help to deliver more sustainable development patterns which reduce travel demands and enable smarter travel choices.	Population - Transport and Access
Low levels of greenfield sites and high levels of soil sealing and compaction.	Co-ordinate with other relevant plans to minimise the loss of greenfield land to new development, support targeted regeneration identified in CSS to reduce development pressure on the best and most versatile agricultural land.	Soil
Diffuse pollution from urban areas can have a negative impact on river systems.	Co-ordinate with other agencies to promote measures such as Sustainable Urban Drainage Systems which will help to reduce impacts of transport network on water bodies.	Water

A4: Developing SEA objectives

Methodology

The SEA Directive does not specifically require the use of objectives, indicators or targets in the SEA process, but they are a recognised way in which environmental / sustainability effects can be described, analysed and compared and their use is advocated in SEA guidance. Defining SEA objectives before the plan is written can help to provide an early indication of the key issues that are likely to require particular attention in the plan making process.

A framework of SEA objectives supported by appropriate indicators comprises the key component in completing the next stages of the SEA, providing a systematic and easily understood tool around which to structure both supporting information and the prediction and assessment of environmental effects arising from the implementation of the Stoke-on-Trent LTP.

In developing the proposed environmental objectives for the LTP SEA (Table 20), the various plans, policies and programmes that were reviewed as part of Task A1, the baseline data collected for Task A2 and the key sustainability issues identified in Task A3 have been examined. Account has also been taken of the objectives identified within the DfT guidance with particular regard to the New Approach to Appraisal. The objectives have been enhanced in response to the Scoping Report consultation.

Table 20 SEA Objectives

No.	SEA Objective	Potential Indicators	SEA Topic
1.	maintain and improve local air quality	Levels of air quality	Air
2.	protect and enhance biodiversity and geo-diversity	Levels of air quality	Biodiversity, Flora and Fauna
3.	mitigate the causes and adapt to the effects of climate change	Level of transport related CO_2 emissions. Flooding incidents impacting on the local road network.	Climatic Factors

No.	SEA Objective	Potential Indicators	SEA Topic
4.	Cultural Heritage: Conserve and enhance the historic environment and heritage assets of historic, archaeological, architectural or artistic interest and their settings.	Impact of proposals on known and as yet undiscovered heritage assets. Condition of transport and highway heritage assets. Number and extent of street audits Amount of loss and enhancement of heritage assets through transport schemes Number and extent of public realm improvement schemes delivering conservation area management plans	Cultural Heritage, Landscape
5.	maintain safety levels and improve security	Transport related killed and serious injury casualties, and slight injuries Accident & incident data along towpaths (British Waterways)	Human Health
6.	reduce the impact of the transport system on noise pollution.	Change in Tranquillity DEFRA noise mapping	Human Health, Landscape
7.	promote healthier and smarter travel choices and reduce health inequalities	Cycling trips Mode share of journeys to school Ease of use of footpath network Disabled facilities at pedestrian crossings Bus patronage and satisfaction Population health indicators Health inequality indicators	Population, Human Health, Climatic Factors, Air
8.	promote equality of access and opportunity, including to health, employment and leisure opportunities.	Access to hospital, employment and main centres Access to bus services –percentage of population within 400m of a bus stop with a minimum service provision of 30 minutes Bus Punctuality Cycling Trips	Human Health, Population
9.	support the regeneration of deprived areas and inclusive sustainable economic growth.	Congestion on the local road network. Index of Multiple Deprivation	Population, Material Assets
10.	promote the efficient and sustainable use of resources in the operation, development and maintenance of the transport network.	Condition of the local road network Condition of surface footway HAMP / TAMP	Material Assets
11.	Landscape: safeguard and strengthen landscape character and quality and deliver well designed development which respects local character and distinctiveness.	Impact of proposals on landscape quality Number and extent of street audits Amount of loss and enhancement of heritage assets through transport schemes Number and extent of public realm improvement schemes delivering conservation area management plans	Landscape, Cultural Heritage
12.	reduce contamination and safeguard soil quality and quantity.	Impact of transport schemes on best and most versatile agricultural land	Soil, Landscape, Material Assets.

No.	SEA Objective	Potential Indicators	SEA Topic
13.	ensure no reduction in the quality and supply of ground and surface water resources.	Water quality - River Basin Management Plan –water bodies of the Staffordshire Trent Valley river catchment in Stoke-on-Trent	Water, Biodiversity

A compatibility test of each of the SEA objectives against each other was undertaken to ensure that no conflicts will arise during the assessment. As can be seen from Table 21 the majority of the objectives are compatible. Potential conflicts identified were those that support regeneration as well equality of access and opportunity adversely impacting upon each other as well as upon noise pollution. Supporting regeneration also could potentially adversely impact upon soil quality and quantity as well as the quality and supply of ground and surface water resources. It is important to be aware of these potential conflicts in conducting the assessment.

Table 21 SEA Objectives – compatibility matrix

	Objective 1	Objective 2	Objective 3	Objective 4	Objective 5	Objective 6	Objective 7	Objective 8	Objective 9	Objective 10	Objective 11	Objective 12
Objective 2	✓											
Objective 3	✓	✓										
Objective 4		✓										
Objective 5				✓								
Objective 6	✓	✓	✓	✓	✓							
Objective 7	✓	✓	✓	✓	✓	✓						
Objective 8	x	✓	?	?	✓	x	✓					
Objective 9	✓	?	?	?	✓	x	✓	✓				
Objective 10		✓	✓	✓	✓	✓	✓		✓			
Objective 11	✓	✓	✓	✓		✓	✓		✓	✓		
Objective 12		✓	✓	✓					x	✓	✓	
Objective 13		✓	✓	✓					x	✓	✓	✓

✓	Compatible
?	Link uncertain
	No link
x	Potentially incompatible

1. maintain and improve local air quality
2. protect and enhance biodiversity and geo-diversity
3. mitigate the causes and adapt to the effects of climate change
4. Cultural Heritage: Conserve and enhance the historic environment and heritage assets of historic, archaeological, architectural or artistic interest and their settings
5. maintain safety levels and improve security
6. reduce the impact of the transport system on noise pollution.
7. promote healthier and smarter travel choices and reduce health inequalities
8. promote equality of access and opportunity, including to health, employment and leisure opportunities.
9. support the regeneration of deprived areas and inclusive sustainable economic growth.
10. promote the efficient and sustainable use of resources in the operation, development and maintenance of the transport network.
11. Landscape: safeguard and strengthen landscape character and quality and deliver well designed development which respects local character and distinctiveness
12. reduce contamination and safeguard soil quality and quantity.
13. ensure no reduction in the quality and supply of ground and surface water resources.

SEA Baseline Data and Future Trends Summary

The baseline condition and prediction of effects, in terms of their magnitude, frequency, duration, and spatial extent, is conducted via analysis of the existing environmental, economic and social baseline and associated current trends within Stoke-on-Trent and the wider scope of North Staffordshire as presented in Task A2. Table 22 below provides a summary against each draft SEA Objective. Whilst the future trends projection considers the situation without LTP3, account has been taken of the implementation of other relevant plans and strategies.

Table 22 Predicted Future Trends without LTP3

Key: Current Conditions

Good
Mixed/ Moderate
Poor

Future Trends

Improving
Stable
Declining

SEA Objective		Baseline Condition	Future Trends Without LTP3	Commentary
1	maintain and improve local air quality			Without the LTP, identified transport related air pollution remedial measures will not proceed.
2	protect and enhance biodiversity and geo-diversity			Other plans and strategies including the Core Spatial Strategy, the Local Biodiversity Action Plan and the Community Strategy are promoting the protection and enhancement of the counties habitats and species. The lack of an LTP will reduce the opportunity to influence the level of emissions arising from the transport sector.
3	mitigate the causes and adapt to the effects of climate change			Mitigation - International agreements and national, regional and local strategies are focused on reducing the levels of greenhouse gas emissions. The transport sector has experienced the most significant increase in emissions since 1990, and forecasts predict a continued growth in car ownership and usage. The lack of an LTP will reduce the opportunity to influence the level of emissions arising from the transport sector locally.

SEA Objective		Baseline Condition	Future Trends Without LTP3	Commentary
				Adaptation - Local Development Framework is focused on ensuring that development is located so as to minimise future flooding risks. These strategies are not directly concerned with the maintenance and adaptation of the transport network.
4	Cultural Heritage: Conserve and enhance the historic environment and heritage assets of historic, archaeological, architectural or artistic interest and their settings.			National statutes and local planning policies promote the conservation and enhancement of heritage assets. The lack of LTP3 may reduce the opportunity to introduce transport measures which can support conservation objectives.
5	maintain safety levels and improve security			National transport strategies promote network safety as a key objective. The City Council monitors accidents and takes measures as appropriate to address network problems and at risk user groups where they arise. The lack of LTP3 would reduce the scope to introduce strategies aimed at targeted groups to introduce preventative rather than purely responsive measures. There is a high level of commitment within national policies and local community strategies to reduce the levels and perception of crime.
6	reduce the impact of the transport system on noise pollution.			Tranquillity mapping suggests that there is very limited tranquillity in Stoke-on-Trent. Forecast trends predict a continued increase in the levels of car ownership and usage with potentially continuing detrimental impacts on noise levels.
7	promote healthier and smarter travel choices and reduce health inequalities			Evidence suggests that whilst there has been a degree of success in promoting measures to improve accessibility and the use of alternative modes of transport, the levels of car ownership and usage are forecast to increase. Failure to maintain momentum in providing safe and meaningful alternatives is likely to reinforce rather than address current travel trends.

SEA Objective		Baseline Condition	Future Trends Without LTP3	Commentary
8	promote equality of access and opportunity, including to health, employment and leisure opportunities.			Post-war planning regime focused on satisfying increasing demand for travel and trend for population dispersal out of major towns and cities. National, regional and local policy shift to promote the growth of sustainable settlements with a focus on locating development where it can be readily accessed to both reduce the need to travel and promote sustainable travel modes. The lack of LTP3 will reduce the opportunity to promote smarter travel choices to support the Core Spatial Strategy.
9	support the regeneration of deprived areas and inclusive sustainable economic growth.			Local development and regeneration strategies are focused on promoting economic diversification and growth. Existing strategies, e.g. community strategy have targeted the need to improve access to higher education. Improved accessibility to markets and resources is frequently cited by the business community as an essential element in promoting economic growth. The absence of LTP3 will reduce the opportunity to address the transport requirements of the local economy.
10	promote the efficient and sustainable use of resources in the operation, development and maintenance of the transport network.			Lack of LTP3 will reduce the opportunity to introduce measures aimed at making the most effective use of the existing network.
11	Landscape: safeguard and strengthen landscape character and quality and deliver well designed development which respects local character and distinctiveness.			Lack of LTP3 would undermine targeted regeneration of Core Spatial Strategy that seeks to improve townscape and reduce pressure of growth of peri-urban landscape.

SEA Objective		Baseline Condition	Future Trends Without LTP3	Commentary
12.	reduce contamination and safeguard soil quality and quantity.			Protection of high quality agricultural land resources has been and continues to be a long standing concern of the planning system. National and regional planning policy has focused on the re-use of brownfield land reducing the requirement for greenfield site releases. Lack of LTP3 would undermine the targeted regeneration of the CSS which reduces the pressure on these locations.
13	ensure no reduction in the quality and supply of ground and surface water resources.			Evidence suggests that diffuse pollution from urban areas can have a negative impact on the aquatic environment. Environment Agency has overall responsibility for addressing many of the issues associated with water pollution impacts through Water Catchment Area Management Plans.

A5: Consulting on the scope of the SEA

The European Directive prescribes consultation with:
'authorities...which, by reason of their specific environmental responsibilities, are likely to be concerned by the environmental effects of implementation plans and programmes' (Article 6.3)

The opinion of these authorities was sought on the scope and level of detail to be included within the Environmental Report. Within England the SEA Regulations (2004) have interpreted this requirement to mean Natural England, the Environment Agency and English Heritage.

The Directive also requires a process of public consultation to include:
'the public affected or likely to be affected by, or having an interest in, the decision-making subject to this Directive, including relevant non-governmental organisations such as those promoting environmental protection and other organisations concerned' (Article 6.4)

As set out in Table 1 the consultation period on the Scoping Report was for five weeks from the end of July to 3 September 2010. The draft scoping report was published at the end of July 2010 to seek comments on the overall scope and approach of the SEA for the emerging LTP. Responses were welcomed to the specific questions posed below as well as any general comments. Improvements to the SEA as a result of the consultation are set out in Appendix 4: Schedule of Responses to Scoping Report Consultation Comments.

Consultation Questions

Q1 Are there any other plans, policies and programmes that should be considered?

Q2 Are there any other sources of information that should be considered?

Q3 Do you agree with the key environmental issues identified?

Q4 Are there any other key issues that should be considered?

Q5 Do you agree with the SEA objectives identified?

Q6 Are there any other SEA objectives that should be considered?

Q7 Do you agree with the indicators we are proposing to use?

Q8 Are there any other indicators that should be considered?

4. Stage B Developing and Refining Alternatives and Assessing Effects

Introduction

What the SEA Directive says:
"…*an environmental report shall be prepared in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme, are identified, described and evaluated*" (Article 5(1)).
One of the issues that must be covered in the Environmental Report is "*an outline of the reasons for selecting the alternatives dealt with*" (Annex I (h)).

The next stage, stage B, comprised an assessment of the Local Transport Plan objectives for each goal against the SEA objectives that were identified in task A4; developing and testing strategic alternatives, or options, against the SEA objectives and the prediction and evaluation of the effects of the preferred LTP strategy and options. Recommendations for mitigation and enhancement were proposed for elements where appropriate, and measures proposed to monitor the environmental effects of LTP3 delivery.

B1: Testing the Plan Objectives against the SEA Objectives

The first stage is an assessment of the compatibility of the Stoke-on-Trent LTP3 objectives with the SEA objectives identified in Task A4. This assessment enables the identification of synergies and inconsistencies and can help in the process of further refining plan objectives. Dft Guidance on SEA for Transport Plans and Programmes[8] also states that the plan objectives should be tested against each other, as inconsistencies can create environmental effects. These compatibility assessments are set out in Table 23 and **Error! Reference source not found.**Table 24 below.

[8] – Strategic Environmental Assessment for Transport Plans and Programmes, DfT April 2009 http://www.dft.gov.uk/webtag/documents/project-manager/unit2.11d.php

The SEA objectives identified in Task A4 are:

1. maintain and improve local air quality
2. protect and enhance biodiversity and geo-diversity
3. mitigate the causes and adapt to the effects of climate change
4. Cultural Heritage: Conserve and enhance the historic environment and heritage assets of historic, archaeological, architectural or artistic interest and their settings
5. maintain safety levels and improve security
6. reduce the impact of the transport system on noise pollution.
7. promote healthier and smarter travel choices and reduce health inequalities
8. promote equality of access and opportunity, including to health, employment and leisure opportunities.
9. support the regeneration of deprived areas and inclusive sustainable economic growth.
10. promote the efficient and sustainable use of resources in the operation, development and maintenance of the transport network.
11. Landscape: safeguard and strengthen landscape character and quality and deliver well designed development which respects local character and distinctiveness
12. reduce contamination and safeguard soil quality and quantity.
13. ensure no reduction in the quality and supply of ground and surface water resources.

The LTP Objectives identified in the draft LTP3 are set out below under each goal they aim to contribute to.

Economy Goal

1. Supporting Core Strategy policies to rejuvenate the area including improvements to housing and development of land for employment
2. Supporting existing businesses in maintaining and improving productivity
3. Encouraging Educational Attainment
4. Increasing the labour pool and widening the job search area
5. Attracting Inward Investment through improving the appearance of the City Centre and gateways.
6. Supporting the development of the visitor economy

Environment Goal

7. Reduce Air Pollution
8. Reduce carbon emissions
9. Reduce reliance on oil based transport; increase transport efficiency
10. Reduce noise impacts of transport
11. Improve internal environment through 'place' schemes which manage traffic and enhance pedestrian environments

Health Goal

12. Continue to reduce the risk of death or serious injuries associated with transport
13. Tackle high numbers of people in ill health/incapacity claimants (now known as Employment and Support Allowance(ESA))
14. Encourage use of sustainable modes
15. Reducing obesity in the local population
16. Promote development of community facilities
17. Improve access to healthcare facilities

Table 23 Compatibility of the LTP objectives with the SEA objectives

LTP Objectives	1	2	3	4	5	6	7	8	9	10	11	12	13
1	?	✓	✓	✓	-	-	✓	✓	✓	-	✓	✓	✓
2	-	-	-	✓	-	-	-	✓	✓	✓	-	-	-
3	-	-	-	-	-	-	✓	✓	✓	-	-	-	-
4	-	-	X	-	-	X	?	✓	✓	-	-	-	-
5	?	?	-	✓	✓	-	✓	✓	✓	X	✓	?	-
6	X	?	?	✓	✓	?	✓	✓	✓	?	✓	-	-
7	✓	✓	✓	✓	-	✓	✓	✓	?	-	?	✓	✓
8	✓	✓	✓	-	-	✓	✓	-	?	✓	-	-	-
9	✓	✓	✓	✓	-	✓	✓	✓	-	✓	-	✓	✓
10	✓	?	-	✓	-	✓	✓	-	✓	-	✓	-	-
11	✓	✓	✓	✓	✓	✓	✓	✓	✓	?	?	-	?
12	-	?	-	?	✓	-	✓	✓	✓	-	?	-	-
13	✓	?	-	-	✓	✓	✓	✓	✓	-	-	-	-
14	✓	?	✓	-	✓	✓	✓	✓	✓	✓	?	✓	✓
15	-	-	-	-	-	-	✓	✓	-	-	-	-	-
16	-	?	-	?	✓	-	-	✓	✓	-	?	?	?
17	-	-	-	-	-	-	✓	✓	✓	-	-	-	-

SEA Objectives

✓	Compatible
?	Link uncertain
-	No link
x	Potentially incompatible

The results of the assessment in Table 23 show compatibility or no link between the majority of the LTP objectives with the SEA objectives. For some the link is uncertain, depending on how the objective is to be achieved, the more detailed assessment of strategic alternatives removes this uncertainty. Potential incompatibility is identified between LTP Objective 4. Increasing the labour pool and widening the job search area and SEA Objective 3. mitigate the causes and adapt to the effects of climate change and SEA Objective 6. reduce the impact of the transport system on noise pollution, as the increase in travel distance could increase noise and emissions of greenhouse gases if not done by efficient and sustainable modes. The assessment also reveals potential incompatibility between LTP Objective 5. Attracting Inward Investment through improving the appearance of the City Centre and gateways, with SEA 10 promote the efficient and sustainable use of resources in the operation, development and maintenance of the transport network as expensive or

unsustainably sourced resources could potentially be used to achieve this LTP objective. Potential conflict between LTP Objective 6. Supporting the development of the visitor economy and SEA Objective 1. maintain and improve local air quality, is also identified as increased traffic from increased numbers of visitors could worsen air quality problems, this highlights the need for the LTP to achieve this objective by sustainable travel modes.

Table 24 Compatibility of the LTP objectives with each other

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	✓															
3	✓	✓														
4	✓	✓	✓													
5	✓	✓	-	✓												
6	✓	✓	-	✓	✓											
7	✓	?	-	-	-	?										
8	✓	?	-	x	-	?	✓									
9	✓	?	-	?	-	?	✓	✓								
10	-	?	-	?	-	?	✓	-	✓							
11	✓	✓	-	-	✓	✓	✓	-	✓	✓						
12	-	-	-	-	-	-	-	-	-	-	✓					
13	✓	✓	-	✓	-	-	✓	-	✓	✓	✓	✓				
14	✓	?	-	?	✓	✓	✓	✓	✓	✓	✓	✓	✓			
15	-	-	-	-	-	-	-	-	?	-	✓	-	✓	✓		
16	✓	-	✓	-	-	-	-	-	✓	-	✓	-	-	-	-	
17	✓	-	-	✓	-	-	-	-	?	-	✓	-	✓	✓	✓	✓

LTP Objectives

✓	Compatible
?	Link uncertain
-	No link
x	Potentially incompatible

The results of the assessment in Table 24 show compatibility or no link between the majority of the LTP objectives with each other. For some the link is uncertain, depending on how the objective is to be achieved, the more detailed assessment of strategic alternatives removes this uncertainty. LTP Objective 4. Increasing the labour pool and widening the job search area was found to be potentially incompatible with LTP Objective 8. Reduce carbon emissions as the increase in travel distance could increase emissions of greenhouse gases if not done by efficient and sustainable modes.

B2: Developing Strategic Alternatives

This task was completed during the generating options stage of the LTP process. Discussions with the City Council teams responsible for delivery of the LTP have resulted in the generation of options to contribute to the LTP3 objectives. These fit within seven broad strategic alternatives to meet the LTP3 objectives:

- Public Transport
- Highways/Streets
- Influencing Travel Behaviour
- Management and Maintenance
- Walking and cycling
- Safety
- Planning Integration

The assessment of the effects of the “without the plan” scenario on each SEA objective was completed and consulted on during the scoping report; the results are shown in Table 22 Predicted Future Trends without LTP3.

Table 25 below gives examples of actions of these strategic alternatives against the proposed LTP3 objectives for each goal.

Table 25 LTP3 strategic alternatives and examples of how they deliver against the proposed LTP3 objectives for each goal

Goal/Objectives	Public Transport	Highways/Streets	Influencing Travel Behaviour	Management/Maintenance	Walking/cycling	Safety	Planning Integration
Economy Goal							
Supporting Core Strategy policies to rejuvenate the area including improvements to housing and development of land for employment	Newer buses, improved legible bus services, greater presence of pt on network. Network Reviews to reduce numbers of similar services. Concentration of buses close to major employment and housing Work with planning to ensure concentration of development along bus routes.	Ensure that developments are provided with adequate access - develop forward strategy for site access Produce analysis of trigger points using new NSTMIV model assess pain/gain ratios Consider incorporation of charging points in central car parks and in new housing developments	Travel planning initiatives worked into early planning discussions - consider setting up travel plan delivery organisation using dev cont.	Improve the appearance of the area through maintenance of streets and highways both on and off the main highway. Focus improvements on inner urban core.	Accessibility analysis to be incorporated into development requirements during planning stage - ensure proposed routes are maintained to a good standard.	Ensure access arrangements are safe and that adequate provision is made for integration of new accesses into main streets and highway network.	Consider future eclectic vehicle charging points in developer applications. Consider using canals for waterborne freight – for example for building materials and waste.
Supporting existing businesses in maintaining and improving productivity	Improve bus speeds through the conurbation by selected bus priority Smarter routes - combinations of improved parking facilities off main highways greater enforcement (particularly in peak hours)	Consider drainage etc in the development of schemes to reduce impacts of poor weather Reduce congestion at air quality hotspots through better parking enforcement arrangements	Continue to work with businesses, schools, hospitals, universities to encourage mode shift for peak hour journeys	Continuous feedback on appropriate enforcement conditions, maintenance of signs and lines and checking. Many enforcement locations not viable due to poor installation, inappropriate restrictions, degradation of lines signs Consider drainage in the development of schemes to reduce impacts of extreme weather events	Continue to work with businesses, schools, hospitals, universities to encourage mode shift for peak hour journeys Improve pedestrian and cycle accesses to main sites of employment.	Education, Training, Promotion of safety, including eco-driving, child pedestrian, cyclist, motorcycle training. Publicity schemes education in schools Enforcement measures, local safety schemes, safer routes to schools Reduce incidence of vehicle accident disruption to the highway network community bus approach - businesses and employment sites to adopt stops	
Supporting the development of the visitor economy	Develop Park & Ride, cater for rail trips (see gateways) Legible bus network, airport-rail link development, improve information for Passenger Transport at these locations Develop simple guide to bus services which consider local attractions place these in printable format on tourist info sites and Stoke website and rail station	Work with partners to improve signing at canal and railway stations		Improving appearance of the city and surrounding streets through maintenance of streets particularly footways.	Cycling Promotion: leisurely cycles, tourist focus cycle maps, cycle signing, use of heritage assets – for example heritage museums /factory shops and bottle kiln bike rides. Promote visitor use of canals and greenways for walking and cycling. Improving appearance of the city and surrounding streets through maintenance of streets particularly footways/cycleway. Cycling hub at Stoke station	CCTV at stops/interchanges to improve visitor safety CCTV at key tourist points - ensure adequate routes and lighting in tourist locations. Maintain car parking facilities that are most likely to be used by visitors to a high standard.	Ensure visitor related developments connect with national transport networks.
Attracting Inward Investment through improving the appearance of the City Centre and gateways.	Improve main gateways: rail station and bus and coach station. Improve City Centre public realm, bus routes and hubs, bus friendly City Centre,	Consider improvements within the inner urban area that can be delivered as part of a rolling programme		Increase maintenance regime in inner urban core	maintenance and improvement of walking and cycling routes cycling hub at Stoke station	CCTV at stops/interchanges CCTV at key City Centre points - ensure adequate routes and lighting in City Centre locations.	

Goal/Objectives	Public Transport	Highways/Streets	Influencing Travel Behaviour	Management/Maintenance	Walking/cycling	Safety	Planning Integration
	University Boulevard Raise Passenger Transport profile at Station and entrance points - development of park and ride facilities on improved bus routes					Maintain car parking facilities that are most likely to be used by visitors to a high standard.	
Increasing the labour pool and widening the job search area (improving accessibility of employment)	Faster public transport, consider introduction of semi-fast routes and develop local and regional rail. Improve local stations, plus bus and other partnership initiatives with Train Operating Companies, improve bus/rail interchange, BRT	Introduction of bus priority measures where affordable and deliverable - locations to be agreed with operators and passenger transport team	Work with job centres to improve awareness of potential bus routes and journey times to access locations provide timetable and bus maps in job centres, offer wheels to work/bike recycling	Consider improved maintenance regime/community partnerships to look after bus stops and cycle parking in employment/housing locations.	Bike recycling, Bike ability training	Identify most popular stops and encourage greater community participation in stop design/maintenance follow similar approaches as the Community Rail Partnership	
Encouraging Educational Attainment	University Boulevard, school bus provision, student smart offer, diploma smart initiative Ensure close working with BSF programme to renew appropriate bus locations and divert services Maintain school bus provision	Ensure that designs are put forward with an emphasis on safety for pedestrians and cyclists, car drivers should be accommodated away from main entrances Ensure that parking lines and signs around schools are enforceable particularly for mobile camera technology, check renewal works carried out by contractors	Ensure travel plans produced for schools are of a high standard working with planning partners. Monitor schools and provide additional support to new schools and academies	Work with BSF programme to ensure street environment around schools is maintained to a good standard	Bike recycling schemes, bike ability training cycling hub at Stoke station serving the University Quarter	Ensure that locations of bus stops and pick up points are in positions with good sight lines. Consider speed reduction and Speed Indicator Devices (SIDs) in locations around colleges schools and universities. Consider CCTV monitoring and community safety schemes in some locations	
Environment Goal							
Improve internal environment through 'place' schemes which manage traffic and enhance pedestrian environments	Work with operators to invest in cleaner vehicles	Consider public realm in all schemes paying particular attention to footways consider improvements such as tree planting, street de-cluttering, repaving		Increase maintenance regime in inner urban core and liaise with highways improvement to ensure the use of sustainable/hardwearing materials		Speed reduction e.g. 20mph zones, community speed watch, traffic calming, local safety schemes, speed indicator signs.	
Reduce air pollution	Work with operators to invest in cleaner vehicles. Affordable public transport; ticketing initiatives, access to public transport info Quality Bus Partnership agreement for bus operators to renew fleets/limit age of buses.	Parking strategies and pricing Reduce congestion and/or generate greater distance between highways source and sensitive receptors i.e. houses or streets with high pedestrian flows.	Safe roads to schools, travel planning for businesses to encourage commuter mode shift Eco-driving training and promotion. Consider more efficient/hybrid vehicles when purchasing new fleets (potential for partnership approach to hybrid vehicles working with universities etc	Maintenance of signs and lines to ensure use of bus lanes and poor parking can be enforced - consider alterations to ensure mobile units can be used.	Safe routes to schools, travel planning Increase walking and cycling through ensuring better environment for these modes and intensive walking and cycling promotion activities, learning from cycle stoke successes	Encourage use of sustainable modes (cycling/waling/public transport). Share a lift schemes.	Consider using canals for waterborne freight – for example for building materials and waste to reduce HGV usage.
Reduce carbon emissions	Work with operators to invest in cleaner vehicles. Affordable public transport; ticketing initiatives, access to public transport info	Parking strategies and pricing Electric charging points at edge of city locations	Safe roads to schools, travel planning for businesses Promotion of ticketing initiatives		Safe routes to schools, travel planning	Encourage use of sustainable modes (cycling/waling/public transport). Share a lift schemes.	Ensure new developments incorporate robust travel plans Charging points need to be considered in new housing

Goal/Objectives	Public Transport	Highways/Streets	Influencing Travel Behaviour	Management/Maintenance	Walking/cycling	Safety	Planning Integration
		Parking enforcement to reduce congestion caused by inappropriate parking	Eco-driving training and promotion. Consider more efficient/hybrid vehicles when purchasing new fleets (potential for partnership approach to hybrid vehicles working with universities etc)				developments - ideally charging to happen overnight. Consider using canals for waterborne freight – for example for building materials and waste to reduce HGV usage.
Reduce reliance on oil based transport; increase transport efficiency	Work with operators to invest in cleaner vehicles. Affordable public transport; ticketing initiatives, access to public transport info Smarter routes - combinations of improved parking facilities off main highways greater enforcement (particularly in peak hours)	Parking strategies and pricing Enforcement of banned parking/use of bus lanes by private vehicles	Safe roads to schools, travel planning for businesses Eco-driving training and promotion. Consider more efficient/hybrid vehicles when purchasing new fleets (potential for partnership approach to hybrid vehicles working with universities etc	Maintenance of signs lines and pedestrian and bus lanes cyclist and pedestrian environment	Safe routes to schools, travel planning Extensive promotion of walking and cycling. Bicycle recycling.	Encourage use of sustainable modes (cycling/waling/public transport). Share a lift schemes. Reduce incidence of vehicle accident disruption to the highway network	Consider using canals for waterborne freight – for example for building materials and waste to reduce HGV usage.
Reduce noise impacts of transport	Encourage fleet replacement to quieter buses, encourage operators to switch off engines when waiting near houses or in high streets	Parking strategies and pricing Consider replacing surface treatments on carriageways with quieter materials		Consider replacing surface treatments on carriageways with quieter materials	Extensive promotion of walking and cycling		Consider using canals for waterborne freight – for example for building materials and waste to reduce HGV usage.
Health Goal							
Continue to reduce the risk of death or serious injuries associated with transport	Work with designers of new bus station and public transport operators to ensure pedestrian safety at bus interchanges	Partnership working with Staffs Police/Fire service and Safer Roads Partnership	Driver/cyclist training incorporated into travel planning initiatives	Ensure highways and footways are in good condition.	Ensure highways and footways are in good condition.	Education, Training, Promotion of safety (could be linked with eco-driving), child pedestrian, cyclist, motorcycle training. Publicity schemes education in schools Enforcement measures, local safety schemes, 20mph zones, safer routes to schools	Consider using canals for waterborne freight – for example for building materials and waste to reduce HGV usage.
Tackle high numbers of people in ill health/incapacity claimants (now known as Employment and Support Allowance(ESA))	Walking and cycling promotion, family rides, walking promoted via FSC, car free days cycle training, travel planning bike recycling	Dropped kerbs and consideration of rest locations in public realm schemes	Work with NHS to generate health benefits evidence for use in promoting walking as beneficial exercise even fort those in poor health Walking and cycling for health initiatives, GP referrals to walking and cycling.	Encourage people outside through improved maintenance of local streets	Work with NHS to generate health benefits evidence for use in promoting walking as beneficial exercise even fort those in poor health. Walking and cycling for health initiatives, GP referrals to walking and cycling.		
Encourage use of sustainable modes	Safe roads to schools, travel planning for businesses, improve public transport info, develop branded network	See other improvements - emphasis on pedestrian access to bus stops/interchanges, walling routes and cycling lanes	Safe roads to schools, travel planning for businesses	Emphasis on improving maintenance of streets and walk/cycle routes in inner urban core	Intensive walking and cycling promotion activities, learning from cycle stoke successes.	CCTV at stops/interchanges	
Reducing obesity in the local population	Increase bus mode share - consider a promotion of 'get off a stop early' to promote benefits of incorporating additional	Create better walking and cycling environment - incorporate greening and pedestrian desire lines into schemes	Intensive walking and cycling promotion activities, learning from cycle stoke successes. School and business travel	Improve maintenance regime for streets in the inner urban core	Intensive walking and cycling promotion activities, learning from cycle stoke successes. Schemes to improve walking and cycling	Safe routes to schools expand to safe routes to workplaces	Ensure development delivers high quality pedestrian environment

Goal/Objectives	Public Transport	Highways/Streets	Influencing Travel Behaviour	Management/Maintenance	Walking/cycling	Safety	Planning Integration
	exercise.		planning - identify those undertaking short distance trips and encourage switch to walk. Loan bikes scheme and cycle recycling facility to increase availability of bikes. Work with NHS to promote walking/cycling health benefits to general population and for business travel planning		environment. GP referrals to walking and cycling.		
Promote development of community facilities	Accessibility mapping part of development analysis - particular emphasis on the development of coherent links between new facilities and existing streets and public transport	Accessibility mapping part of development analysis - particular emphasis on the development of coherent links between new facilities and existing streets	Consider setting up Travel Planning centres on large employment sites		provide community facilities with attractive pedestrian and cycle routes cycling hub at Stoke station serving the University Quarter. Cycling recycling.	Ensure that community facilities are provided with safe walking routes - good sight lines.	Ensure that adequate funding is allocated to travel planning initiatives - consider proposals to offer travel planning via the City Council
Improve access to healthcare facilities	Partnership working with PCT/LA/NHS to promote improvements to public transport	Ensure that parking restrictions are enforced - monitor impacts of new hospital on surrounding streets Consider renewal of surrounding streets and main pedestrian routes	Concentrated work with the hospital sites to encourage use of PT and walking cycling from day one. Consider setting up trails with members of staff who agree to switch modes - health check ups at regular intervals and some case studies	Increase maintenance regime on surrounding streets - check any improvement works implemented	Concentrated work with the hospital sites to encourage use of PT and walking cycling from day one. Consider setting up trails with members of staff who agree to switch modes - health check ups at regular intervals and some case studies		Rigorously observe planning conditions - with particular regard to links to healthcare

B3, B4 and B5: Predicting and Evaluating the Effects of the Draft Plan, including Alternatives, and Considering Ways of Mitigating Effects

Task B3, B4 and B5 look to refine the potential alternatives by subjected them to detailed analysis aimed at predicting and assessing the significance of the strategic alternatives and associated measures. The task comprises a systematic prediction of the effects of changes to conditions for each strategic alternative included in the draft LTP3 (identified in Task B2) against the SEA objectives (identified in Task A4). The Public Transport strategic alternative has been assessed in two parts, those actions that require physical works such as bus priority schemes, and actions that are the result of partnership working with operators.

As required by the Directive, predicted effects are fully characterised in terms of their magnitude, the time period over which they occur, whether they are permanent or temporary, positive or negative, and whether there are secondary, cumulative or synergistic effects. Assessing the significance of predicted environmental/sustainability effects are essentially a matter of judgement. A multidisciplinary team of Officers with experience of sustainability appraisal from both the Transport Policy Team and the Planning Policy Team of the City Council conducted this exercise. Judgements of significance have been systematically documented, in terms of the particular characteristics of the effect that are deemed to make it significant and whether and what uncertainty and assumptions are associated with the judgement. This judgment relies on certain assumptions about critical cause-effect relationships, changes to people's behaviour as a result of the components being assessed, the way development will be implemented and the way it will be influenced by other plans and programmes. References have been added that provide evidence for these assumptions where appropriate. General assumptions that were made during the assessment are:

- reductions in volume of motorised transport will have beneficial sustainability impacts in terms of reduced GHG emissions; improved road safety; improved local air quality; reduced water pollutants arising from run-off; benefits for flora and fauna arising from reduced pollutants, road kill and habitat severance; enhanced landscape quality; reduction in adverse impacts on historically sensitive environments; and indirect health benefits;
- construction works associated with major schemes and/or general infrastructure development will have some temporary localised disbenefits in terms of air quality (through pollution from particulates and works traffic), noise and vibration; increased localised congestion associated with construction traffic and temporary

roadworks/diversions; detrimental impact on environment and landscape quality; and potential disruption to established habitats, flora and fauna;

- enhanced walking and cycling access is linked to a slowing of traffic growth rates, primarily restricted to modal shift for short journeys; health benefits in terms of healthier lifestyle choices and improved access to health services; reduced parking pressures in town and district centres, with potential economic benefits in terms of competitiveness; reduced GHG emissions through reductions in vehicle volumes; enhanced perceptions of safety as streets/routes become busier/more trafficked; and general benefits to environmental quality, flora and fauna;
- increased public transport patronage is associated with the following: limited improvements to local air quality with associated health benefits in terms of respiratory illnesses; limited improvements to water quality arising from reduction in vehicle volumes; reductions in overall GHG emissions; slowed growth rate of private transport usage; improved road safety resulting from a reduction in vehicles and use of the network by professionally trained drivers; general benefits for flora and fauna arising from reduced emissions and more energy efficient use of existing transport network; and environment/landscape impacts based on a balance of reduced vehicles against requirement for public transport infrastructure (signage, road lining, bus stops/shelter, lighting and information provision);
- increased road network capacity is assumed to attract additional road traffic movements both in terms of private transport and freight movements and, as such, is associated with the following: short term reductions in congestion and improvements to air quality, offset in the long term by increased traffic volumes, increased GHG emissions, more acute congestion problems, health disbenefits and reductions in local air quality. General increases in traffic flow are also linked to detrimental impacts on road safety (through increased volume of traffic movements) and flora and fauna (primarily through increased pollutants, road kill and habitat severance);
- the development of new transport infrastructure is linked to the following: in the case of greenfield – detrimental impact on countryside and landscape through permanent loss; in the case of brownfield redevelopment – the more efficient use of land and soil resources; in all cases, potential worsening of water quality through increased hard surfacing, which increases run-off and therefore flood risk. In the longer term, it is assumed that (irrespective of potential mitigation) requirements to adhere to planning policy will result in high quality design and landscaping, with environmental benefits;

- development in the vicinity of watercourses is assumed to give rise to increased flood risk; increased potential for pollution of ground and surface waters; habitat disturbance during and temporarily following construction; and in many cases, detrimental impact upon sensitive/historic environments.

The assessment of significance also includes recommendations on how negative effects may be avoided and/or its severity reduced, together with ways in which effects that are uncertain/unknown can be ensured to be positive, and ways of enhancing positive effects.

The result of the detailed assessment of effects for each strategic alternative are contained in the assessment table below (Table 26).

A Health Impact Assessment (HIA) will be conducted on the draft LTP to identify and inform health impact in further detail. Also an Equality Impact Assessment (EqIA) will further analyse the effects on SEA objective 8. promotion of access and opportunity, including to health, employment and leisure opportunities in further detail.

Table 26 Predicting and Evaluating the Effects of Strategic Alternatives

Key

Effect	
✓✓	Major positive effect
✓	Positive effect
-	No effect
x	Negative effect
xx	Major negative effect
?	Effect unknown/uncertain

Duration
Short-Term (temporary) - **ST**
Medium Term - **MT**
Long Term (permanent) - **LT**
Effect will continue as long as action continues - **LT***

Geographical Scale
Local - **L**
City (authority wide) - **C**
Sub-Regional (North Staffordshire) - **SR**
Regional - **R**

SEA Objectives	Strategic Alternative: Public Transport - Physical					
	Effect	Duration	Geographical Scale	Likelihood	Description	Recommendations
1. maintain and improve local air quality	✓✓	LT	L	M/H	Reducing stop/start of buses in traffic, more efficient operation of buses leading to fewer emissions.	-
2. protect and enhance biodiversity and geo-diversity	?	?	?	?	-	Avoid sensitive areas. Consult widely on design of schemes/features/planting.
3. mitigate the causes and adapt to the effects of climate change	✓	LT	L	M	Slight local reduction in emissions.	In schemes consider planting, carbon capture, SUDS, sustainable materials. Ensure construction techniques & features can adapt to extremes of weather etc. Micro-generation of power if needed (for example solar panels on top of shelters)
4. conserve and enhance the historic environment and heritage assets of historic, archaeological, architectural or artistic interest and their settings.	?	?	?	?	Schemes have potential to harm or enhance, dependent on location and design.	Consult with urban design & conservation group in design of schemes to ensure objective is met.
5. maintain safety levels and improve security	✓	LT	L	H	Improved waiting environment	Work with CCTV team on design. Consult with Police architectural liaison officer and urban design.
6. reduce the impact of the transport system on noise pollution.	✓	LT	L	H	-	Consider surfaces/design.
7. promote healthier and smarter travel choices and reduce health inequalities	✓✓	LT	SR	H	-	Awareness & connectivity of routes.
8. promote equality of access and opportunity, including to health, employment and leisure opportunities.	✓	LT	SR	M	-	-
9. support the regeneration of deprived areas and inclusive sustainable economic growth.	✓	LT	SR	M	-	Consult necessary organisations for HMR areas and areas of economic importance.
10. promote the efficient and sustainable use of resources in the operation, development and maintenance of the transport network.	?	?	?	?	Depends on delivery	Costing of lifetime of scheme - Durability.
11. safeguard and strengthen landscape character and quality and deliver well designed development which respects local character and distinctiveness.	?	?	?	?	Depends on design	-
12. reduce contamination and safeguard soil quality and quantity.	?	?	?	?	-	Address guidance/policies on contamination, eg. PPS 23
13. ensure no reduction in the quality and supply of ground and surface water resources.	?	?	?	?	-	SUDS

NOTE: Physical improvements have short term negative effects such as noise pollution, CO_2 emissions, air pollution and safety. Considerate construction techniques will help to mitigate these impacts.

SA Objectives	Strategic Alternative: Public Transport - Partnership					
	Effect	Duration	Geographical Scale	Likelihood	Description	Recommendations
maintain and improve local air quality	✓	LT	SR	M	Improve bus fleet.	-
protect and enhance biodiversity and geo-diversity	✓	LT	R	M	Fewer emissions from vehicles affecting important sites.	-
mitigate the causes and adapt to the effects of climate change	✓	LT*	SR	M	Improved bus fleet more adapted to change & decreased carbon emissions.	-
conserve and enhance the historic environment and heritage assets of historic, archaeological, architectural or artistic interest and their settings.	✓	LT	L	Likelihood	Limiting pollution from vehicles which could effect buildings.	-
maintain safety levels and improve security	✓✓	MT	SR	M	CCTV, safer buses. People feel safer in a well maintained bus. Driver training.	Enhance the effects by combining with physical measures. Encourage operators to use CCTV.
reduce the impact of the transport system on noise pollution.	✓	MT	SR	M	Quieter buses.	-
promote healthier and smarter travel choices and reduce health inequalities	✓	LT*	SR	M	People are more likely to use more attractive buses/services.	Enhance the attractiveness of all aspects of bus use including the walk to bus stops.
promote equality of access and opportunity, including to health, employment and leisure opportunities.	✓	MT	SR	M	Accessible vehicles. Removal of barriers encourages vehicles and services to be better. Improved and/or flexible bus services improve accessibility and social inclusion.	-
support the regeneration of deprived areas and inclusive sustainable economic growth.	✓	LT*	SR	M	Operating in areas currently without a service. Improved access from deprived areas to opportunities.	-
promote the efficient and sustainable use of resources in the operation, development and maintenance of the transport network.	✓	MT	SR	L/M	-	Include eco-driving. Bring in efficient use of resources.
safeguard and strengthen landscape character and quality and deliver well designed development which respects local character and distinctiveness.	-	-	-	-	-	-
reduce contamination and safeguard soil quality and quantity.	-	-	-	-	-	-
ensure no reduction in the quality and supply of ground and surface water resources.	-	-	-	-	-	-

NOTE: Research on quality bus partnerships shows that patronage increases of between 5 and 50% can be expected with route upgrades.
Cairns S, Sloman L, Newson C, Anable J, Kirkbride A & Goodwin P (2004) Smarter Choices - Changing the Way we Travel

SA Objectives	Strategic Alternative: Highways & Streets					
	Effect	Duration	Geographical Scale	Likelihood	Description	Recommendations
maintain and improve local air quality	✓	LT*	C	M	Removing congestion increases efficiency.	Air quality monitoring in scheme designs.
protect and enhance biodiversity and geo-diversity	?	?	?	?	Dependent on location.	Incorporate features to increase biodiversity in scheme designs.
mitigate the causes and adapt to the effects of climate change	?	?	?	?	Including SUDS - adapts. Landscape - adapts/mitigates. Encouraging travel can outweigh the positives.	-
conserve and enhance the historic environment and heritage assets of historic, archaeological, architectural or artistic interest and their settings.	?	?	?	?	Clutter detracts from the environment. Sensitive design enhances the environment.	Consider heritage assets. Comply with national guidance. PPS5
maintain safety levels and improve security	✓	LT	C	M	Increased efficiency increases safety. Increased appearance makes people feel safer.	Safety audits. Secure by design. CCTV
reduce the impact of the transport system on noise pollution.	✓	LT	L	L/M	More efficient transport system reduces stop/start nature of traffic - reduces noise pollution.	Consider noise reducing materials in the design/maintenance processes.
promote healthier and smarter travel choices and reduce health inequalities	-	-	-	-	-	-
promote equality of access and opportunity, including to health, employment and leisure opportunities.	?	?	?	?	-	-
support the regeneration of deprived areas and inclusive sustainable economic growth.	✓	LT	C	M	Increased efficiency increases productivity.	-
promote the efficient and sustainable use of resources in the operation, development and maintenance of the transport network.	✓✓	LT	C	H	-	Consider recycling materials on site. FSC accredited low impact materials.
safeguard and strengthen landscape character and quality and deliver well designed development which respects local character and distinctiveness.	?	?	?	?	Junctions can have negative impacts on landscape whilst improved furniture and decluttering will have a positive impact.	-
reduce contamination and safeguard soil quality and quantity.	?	?	?	?	Dependent on location.	-
ensure no reduction in the quality and supply of ground and surface water resources.	?	?	?	?	Dependent on location and proposal.	Include SUDS & oil capture. Less reliance on water for maintenance.

NOTE: Physical improvements have short term negative effects such as noise pollution, CO_2 emissions, air pollution and safety. Considerate construction techniques will help to mitigate these impacts.

SA Objectives	Strategic Alternative: Influencing Travel Behaviour					
	Effect	Duration	Geographical Scale	Likelihood	Description	Recommendations
maintain and improve local air quality	✓✓	LT*	R	H	Modal shift, better planned trips and improved driving efficiency resulting from this strategic alternative would lead to less emissions from traffic	-
protect and enhance biodiversity and geo-diversity	✓	LT*	R	M	Less pollution from motorised traffic would help to protect biodiversity sensitive to pollution. If people are encouraged to walk and cycle through sensitive areas vegetation could be trampled, habitats could be damaged.	
mitigate the causes and adapt to the effects of climate change	✓✓	LT*	C	H	Reduced carbon emissions from modal shift, better planned trips, and improved driving efficiency.	
conserve and enhance the historic environment and heritage assets of historic, archaeological, architectural or artistic interest and their settings.	-	-	-	-	-	Use these assets to help promote sustainable travel and aid way finding - many of these assets are significant landmarks, and in the case of canal towpaths and former railway lines - transport assets.
maintain safety levels and improve security	✓	LT*	SR	H	Pedestrian/cyclist skills improved, footfall increases in certain areas. Safety in numbers. Natural surveillance increases. Eco driving results in improved safety.	Work with police, especially on travel plans and improved driving techniques.
reduce the impact of the transport system on noise pollution.	✓✓	LT*	R	H	Traffic decreases, therefore so does noise. Eco driving techniques result in less noise.	-
promote healthier and smarter travel choices and reduce health inequalities	✓✓	LT*	SR	H	Education and tailored travel information are effective in causing modal shifts to healthier and smarter travel choices.	-
promote equality of access and opportunity, including to health, employment and leisure opportunities.	✓✓	LT*	C	H	Providing information and travel planning, together with training increases access for all.	-
support the regeneration of deprived areas and inclusive sustainable economic growth.	✓	LT*	C	H	Providing information and travel planning, together with training increases access for all to employment, education and economic opportunity. Improved travel plans and modal shift improves internal connectivity.	-
promote the efficient and sustainable use of resources in the operation, development and maintenance of the transport network.	✓✓	LT*	C	H	Efficient driving/less motorised traffic reduces wear and damage to transport network and enables more efficient operation.	-
safeguard and strengthen landscape character and quality and deliver well designed development which respects local character and distinctiveness.	-	-	-	-	-	-
reduce contamination and safeguard soil quality and quantity.	-	-	-	-	-	-
ensure no reduction in the quality and supply of ground and surface water resources.	✓	LT*	R	L	Efficient driving/less traffic creates fewer pollutants to go into water.	-

NOTE: The sustainable travel demonstration towns experienced different levels of increase in cycling from 0% (against a background of decline) to 100% increase. Not all towns sustained their increase. This highlighted the importance of ongoing initiatives and/or locking in with new infrastructure, in order to generate a new trajectory of cycle use.
DfT (2010): The Effects of Smarter Choice Programmes in the Sustainable Travel Towns: Full Report

SA Objectives	Strategic Alternative: Management & Maintenance					
	Effect	Duration	Geographical Scale	Likelihood	Description	Recommendations
maintain and improve local air quality	?	?	?	?	Maintenance technique dependent - Depends on problem. Road sweeping can reduce particulates.	Management and maintenance activities should aim to incorporate measures that improve air quality
protect and enhance biodiversity and geo-diversity	?	?	?	?	Weed killer could damage biodiversity.	Maintenance regimes can enhance biodiversity - e.g. longer grass on verges
mitigate the causes and adapt to the effects of climate change	✓	LT	C	H	Good drainage, clean roads.	Further incorporate adaptation, drainage capacity, SUDS, Permeable surfaces.
conserve and enhance the historic environment and heritage assets of historic, archaeological, architectural or artistic interest and their settings.	?	?	?	?	Some highway assets are heritage assets - Bridges, mileposts, lighting columns etc.	Maintain transport heritage assets following best practice. Maintenance could be insensitive to the setting heritage assets.
maintain safety levels and improve security	✓✓	LT	C	H	Maintained highways are safer. Improved appearance - people feel safer.	Consult with CCTV and parking enforcement in activities improving the management of highways
reduce the impact of the transport system on noise pollution.	✓	MT	C	H	Better surfacing - decreased noise.	Consider noise reducing materials and design in maintenance in sensitive areas.
promote healthier and smarter travel choices and reduce health inequalities	✓✓	MT	C	H	Need well maintained highway to promote choices - Increased safety and attractiveness encourages people to make healthier and smarter travel choices.	-
promote equality of access and opportunity, including to health, employment and leisure opportunities.	✓	LT	SR	H	Maintaining bridges maintains access. People with disabilities can be more vulnerable to highway and footway surface defects.	Consider enhancing features to assist mobility and visually impaired in management and maintenance activities
support the regeneration of deprived areas and inclusive sustainable economic growth.	✓	LT*	C	H	Traffic disruption and delay are minimised if works and incident response is well managed - this improved reliability has positive economic effects.	-
promote the efficient and sustainable use of resources in the operation, development and maintenance of the transport network.	✓✓	LT	C	M	Regular maintenance is the most efficient way to maintain the transport network.	Recycling of materials where appropriate
safeguard and strengthen landscape character and quality and deliver well designed development which respects local character and distinctiveness.	?	?	?	?	-	Ensure maintenance is sensitive to landscape character.
reduce contamination and safeguard soil quality and quantity.	?	?	?	?	-	Incorporate features to enhance soil quality where appropriate.
ensure no reduction in the quality and supply of ground and surface water resources.	?	?	?	?	-	Incorporate Sustainable Urban Drainage Systems (SUDS). Consider the use of permeable surfaces.

NOTE: Physical improvements have short term negative effects such as noise pollution, CO_2 emissions, air pollution and safety. Considerate construction techniques will help to mitigate these impacts.

SA Objectives	Strategic Alternative: Walking & Cycling					
	Effect	Duration	Geographical Scale	Likelihood	Description	Recommendations
maintain and improve local air quality	✓✓	LT*	R	H	Reduced emissions is a secondary effect from improving walking/cycling provisions as less cars use the roads.	-
protect and enhance biodiversity and geo-diversity	?	?	?	?	Dependent on routes. Construction of routes has potential to incorporate landscaping.	Work with landscape and conservation teams.
mitigate the causes and adapt to the effects of climate change	✓✓	L*	C	H	-	Look at drainage on physical works. Use materials which are resilient to extreme weather conditions.
conserve and enhance the historic environment and heritage assets of historic, archaeological, architectural or artistic interest and their settings.	?	?	?	?	-	Ensure sensitive design of pedestrian schemes. Follow national guidance so works are sensitive to the historic environment - PPS5.
maintain safety levels and improve security	?	?	?	?	Huge potential for positive impacts.	Secure by design principals Consult with CCTV team and police where appropriate
reduce the impact of the transport system on noise pollution.	✓✓	LT*	R	H	Modal shift to walking and cycling results in less noise than motorised modes	-
promote healthier and smarter travel choices and reduce health inequalities	✓✓	LT	SR	H	Improving walking/cycling provisions can improve health through increased active travel.	-
promote equality of access and opportunity, including to health, employment and leisure opportunities.	✓✓	LT	C	H	Improving walking/cycling provisions can directly improve accessibility. Pool bikes & loan bike schemes can allow better access to health, employment, and leisure opportunities.	-
support the regeneration of deprived areas and inclusive sustainable economic growth.	✓	LT*	C	H	-	-
promote the efficient and sustainable use of resources in the operation, development and maintenance of the transport network.	✓✓	LT*	C	H	-	Ensure use of sustainable materials.
safeguard and strengthen landscape character and quality and deliver well designed development which respects local character and distinctiveness.	?	?	?	?	-	Consider streetscape in design.
reduce contamination and safeguard soil quality and quantity.	?	?	?	?	Dependent on location - soil/land quality.	-
ensure no reduction in the quality and supply of ground and surface water resources.	✓	LT*	R	M	-	SUDS. Surface water management. Ensure landscaping is not water intensive.

NOTE: Studies have shown that the main barrier to cycling is fear of traffic
TRL Report 481. A quantitative study of the attitudes of individuals to cycling, 2001

NOTE: Physical improvements have short term negative effects such as noise pollution, CO_2 emissions, air pollution and safety. Considerate construction techniques will help to mitigate these impacts.

SA Objectives	Strategic Alternative: Safety					
	Effect	Duration	Geographical Scale	Likelihood	Description	Recommendations
maintain and improve local air quality	✓	LT*	C	L	Lower speeds - fewer emissions. Reduced incidents causing less congestion. Better signage can reroute traffic around towns reducing congestion.	-
protect and enhance biodiversity and geo-diversity	-	-	-	-	-	-
mitigate the causes and adapt to the effects of climate change	✓	LT*	C	L	Improving safety encourages more people to walk/cycle which creates fewer emissions.	Engineering must adapt to climate change. Onsite micro generation of power for signs/cameras etc.
conserve and enhance the historic environment and heritage assets of historic, archaeological, architectural or artistic interest and their settings.	?	?	?	?	Too much infrastructure can damage the local character. A Safe/secure environment encourages more footfall which minimises vandalism.	-
maintain safety levels and improve security	✓✓	LT*	C	H	Lower speeds - safer streets[1].	-
reduce the impact of the transport system on noise pollution.	✓	LT	C	H	Lower speeds - less noise.	-
promote healthier and smarter travel choices and reduce health inequalities	✓✓	LT*	SR	H	Safe environments help to encourage healthier and smarter travel choices.	-
promote equality of access and opportunity, including to health, employment and leisure opportunities.	✓✓	LT*	SR	H	Those who can't cross roads quickly need to be safer. Some are much more vulnerable than others.	-
support the regeneration of deprived areas and inclusive sustainable economic growth.	✓	LT*	C	L	Safe & secure environments assist regeneration. Safer routes to schools can help cut congestion in the morning peak therefore reducing the money wasted by businesses in congestion.[2]	-
promote the efficient and sustainable use of resources in the operation, development and maintenance of the transport network.	✓✓	LT*	C	M	Reduced incidents. More efficient operation of highway.	-
safeguard and strengthen landscape character and quality and deliver well designed development which respects local character and distinctiveness.	?	?	?	?	Too much infrastructure can damage the local character. A Safe/secure environment encourages more footfall which minimises vandalism.	-
reduce contamination and safeguard soil quality and quantity.	-	-	-	-	-	-
ensure no reduction in the quality and supply of ground and surface water resources.	-	-	-	-	-	-

[1] Studies have shown that higher speeds increase both the likelihood of injuries and their severity
TRL (2007): The manual for streets – evidence and research.

[2] The DfT sustainable travel demonstration towns showed that interventions targeted at school and workplace travel are likely to have been particularly important in the towns, because of their effect on peak hour trips. Car use for the journey to school fell by between 9% and 17% in the three towns (as measured by school travel surveys).
DfT (2010): The Effects of Smarter Choice Programmes in the Sustainable Travel Towns: Full Report.
NOTE: Although the risk of an accident per kilometre walked/cycled in sustainable travel demonstration towns did not necessarily increase, two of the towns saw increases in absolute numbers for some types of casualty. Authorities encouraging walking and cycling should support their promotional efforts with a strong programme of measures to improve the safety of active travel, such as 20mph zones, safe cycling infrastructure and other highways safety measures.
DfT (2010): The Effects of Smarter Choice Programmes in the Sustainable Travel Towns: Full Report.

NOTE: Physical improvements have short term negative effects such as noise pollution, CO_2 emissions, air pollution and safety. Considerate construction techniques will help to mitigate these impacts.

SA Objectives	Strategic Alternative: Planning Integration					
	Effect	Duration	Geographical Scale	Likelihood	Description	Recommendations
maintain and improve local air quality	✓	LT	C	M	Integration of transport and land use planning helps to reduce the additional congestion, traffic in inappropriate areas, and total vehicle miles from new developments, all of which have an impact on emissions.	-
protect and enhance biodiversity and geo-diversity	✓	LT	R	L	-	-
mitigate the causes and adapt to the effects of climate change	✓	LT	C	M	Building sustainable travel into new developments	-
conserve and enhance the historic environment and heritage assets of historic, archaeological, architectural or artistic interest and their settings.	-	-	-	-	-	-
maintain safety levels and improve security	✓	LT	C	H	Ensuring a quality environment which is safe and secure to use.	-
reduce the impact of the transport system on noise pollution.	✓	LT	C	M	Planning developments further from noise source. Encouraging sustainable travel reduces noise.	-
promote healthier and smarter travel choices and reduce health inequalities	✓✓	LT	C	H	Quality environment in new developments in accessible locations.	-
promote equality of access and opportunity, including to health, employment and leisure opportunities.	✓✓	LT	C	H	-	Accessibility planning to improve equality.
support the regeneration of deprived areas and inclusive sustainable economic growth.	?	?	?	?	Relies on asking developers to provide things. If they don't provide them the developments will not be inclusive or sustainable. Integration of transport and land use planning supports development in a sustainable way by mitigating extra pressures on the transport network.	-
promote the efficient and sustainable use of resources in the operation, development and maintenance of the transport network.	✓✓	LT	C	H	Good operation in new developments	-
safeguard and strengthen landscape character and quality and deliver well designed development which respects local character and distinctiveness.	?	?	?	?	Good pedestrian environment. Setting things back could upset the streetscape.	-
reduce contamination and safeguard soil quality and quantity.	-	-	-	-	-	-
ensure no reduction in the quality and supply of ground and surface water resources.	-	-	-	-	-	-

NOTE: Research on business attitudes to transport has shown that take up of travel plans is low (other than in large organisations) and businesses see transport as a low priority. As businesses are unlikely to voluntarily undertake travel plans, it is important that incentives or planning requirements are implemented.

DfT (2009): Business attitudes to transport: knowledge review of the existing evidence

Secondary, cumulative and synergistic effects

The detailed appraisal presented above focuses primarily on effects directly related to the strategic alternatives for the Stoke-on-Trent LTP3. As required by the SEA Regulations, cumulative, synergistic and indirect effects have also been recorded and analysed during the appraisal. These refer to the fact that important environmental effects often result from the accumulation (either in space or over time) of a number of smaller effects; are the indirect result of a chain of cause-effect relationships; or may result from the interaction of several different effects.

Consideration of such effects is particularly important in assessing transport proposals, where there are a number of well-known examples (e.g. the cumulative effect of greenhouse gas emissions).

Table 27 below presents a summary of the cumulative, synergistic and indirect effects of the broad strategic alternatives proposed in the draft LTP3 when packaged together. The packages identified in the draft LTP are under three main categories:

- Making best use – using the existing transport assets within the city to their fullest potential Package of Highways/Streets and Management and Maintenance;
- Providing choices – making the adoption of more sustainable travel behaviours easier for people by improving the viability of other modes particularly public transport; Package of Walking and Cycling, Safety, Public Transport and Planning Integration; and
- Providing information – getting information to the public about travel choices, transport services and the benefits of making the right travel choice. Package of Influencing Travel Behaviour, Walking and Cycling, Safety, Public Transport and Planning Integration

Professional judgement has been used to determine the likely cumulative, synergistic and indirect effects of these packages against the SEA objectives identified in Task A4:

1. maintain and improve local air quality
2. protect and enhance biodiversity and geo-diversity
3. mitigate the causes and adapt to the effects of climate change
4. Cultural Heritage: Conserve and enhance the historic environment and heritage assets of historic, archaeological, architectural or artistic interest and their settings
5. maintain safety levels and improve security
6. reduce the impact of the transport system on noise pollution.

7. promote healthier and smarter travel choices and reduce health inequalities
8. promote equality of access and opportunity, including to health, employment and leisure opportunities.
9. support the regeneration of deprived areas and inclusive sustainable economic growth.
10. promote the efficient and sustainable use of resources in the operation, development and maintenance of the transport network.
11. Landscape: safeguard and strengthen landscape character and quality and deliver well designed development which respects local character and distinctiveness
12. reduce contamination and safeguard soil quality and quantity.
13. ensure no reduction in the quality and supply of ground and surface water resources.

Table 27 Cumulative, Synergistic and Indirect Effects of the Stoke-on-Trent LTP3

Packages of Strategic Alternatives	Effect	SEA Objectives	Causes	Significance
Making best use: Highways/Streets Management and Maintenance	Cumulative and synergistic effect on safety and security, efficient use of resources, cultural heritage and landscape character. Indirect effects on regeneration.	**3, 4, 5, 10, 11**	Cumulative and synergistic effect of improvements to the management of the highway network and enhanced maintenance of highway and transport assets. Cumulative effect of de-cluttering exercise on landscape quality and setting of cultural heritage assets. Indirect/synergistic effect of improved maintenance and management of highway and transport assets assisting and enabling the development prospects across North Staffordshire as identified in Core Spatial Strategy in terms of supporting and attracting more intensive development of existing centres.	Significant beneficial in the longer term for Stoke-on-Trent.
Providing choices: Walking and Cycling Safety Public Transport Planning Integration	Cumulative effect on economic prosperity, sustainable economic growth, air quality, and health. Indirect effect of improved access to and the provision of essential facilities.	**1, 7, 8, 9, 12, 13.**	Cumulative effect of overall improvements to access by all modes across Stoke-on-Trent, supporting the integration of new development into the existing transport network to secure good connectivity between businesses their workforce and customers and population to education and healthcare services. Improved air quality from modal shift leading to less run off pollution to soil and water. Likely increased levels of physical activity also have health benefits. Cumulative effect of proposals to improve accessibility for all across North Staffordshire likely to have a synergistic effect in terms of enhancing and enabling the targeted regeneration of North Staffordshire as identified in Core Spatial Strategy in terms of accessing new sites and supporting more intensive development of existing centres. Investment in the area also likely to catalyse population growth, with indirect effects on the demand and ability of the area to support increased essential facilities.	Significant beneficial in the longer term. Effects likely to be long lasting and extending beyond Stoke-on-Trent. Potential for shorter term effects also, but likely to be minor.

Packages of Strategic Alternatives	Effect	SEA Objectives	Causes	Significance
Providing information: Influencing Travel Behaviour Walking and Cycling Safety Public Transport Planning Integration	Cumulative effect	**1, 2, 3,**	Mutually reinforcing interaction between the actions aimed at effecting behavioural change of a modal shift towards more sustainable modes likely to produce cumulative and synergistic effects in terms of community safety, health, environmental and landscape quality, air quality and carbon emissions leading to indirect effect of less run off pollution to soil and water. Synergistic effect with culture heritage and biodiversity protection and enhancement policies with these reductions in pollution.	Beneficial effect likely to be long lasting dependent on maintaining the provision of information and travel planning activities.
All Public Transport Highways/Streets Influencing Travel Behaviour Management and Maintenance Walking and cycling Safety Planning Integration	Positive interaction between outcomes likely to generate positive cumulative and synergistic effects.	**1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13**	The implementation of a rounded LTP policy will help to raise the status of sustainable transport and promote real alternatives to the car. The policies combined help to improve the operation of the road network and therefore bus movements, helping to increase public transport choice. Integration with spatial planning will ensure that new trips will be of a distance to enable the use of sustainable transport and all of these measures will be promoted through travel planning initiatives. Mutually reinforcing interaction between the actions aimed at effecting behavioural change and the creation of the necessary conditions to support modal shift towards more sustainable modes likely to produce cumulative and synergistic effects in terms of community safety, health, environmental and landscape quality, air quality and carbon emissions leading to less run off pollution to soil and water. Cumulative effect of proposals to improve accessibility for all across Stoke-on-Trent and North Staffordshire likely to have an indirect effect in terms of enhancing and enabling the development prospects across North Staffordshire as identified in Core Spatial Strategy in terms of accessing new sites and supporting more intensive development of existing centres. Investment in the area also likely to catalyse population growth, with indirect effects on the demand and ability of the area to support increased essential facilities.	Significant beneficial in the longer term, both environmentally and socially. Effects likely to be long lasting and extending beyond Stoke-on-Trent. In the short term, effects likely to be limited pending delivery of schemes and other aspects of the components.

Table 27 shows the Draft Stoke-on-Trent LTP3 performs well in terms of the cumulative, synergistic and indirect effects when the actions are combined. Benefits are also seen in the majority of the SEA objectives, with secondary effects arising from improving air quality and reducing carbon emissions, leading to benefits for health, biodiversity and the environmental quality of Stoke-on-Trent and wider areas. This positive interrelationship is very much in line with the objectives and approach of the Draft Stoke LTP3 and the spatial planning context of

the LTP. There are potential adverse implications of construction in the redevelopment and targeted regeneration works set out in the Core Spatial Strategy that the Draft LTP aims to support. However the synergistic effect of enabling and enhancing the targeted regeneration works are likely to have largely positive effects on the SEA objectives. The Environmental effects of the development of Stoke-on-Trent and North Staffordshire will be assessed and monitored through the combined Sustainability Appraisal and SEA of the City Council and surrounding District Councils' Local Development Documents of their Local Development Frameworks.

The proposed indicators for monitoring these effects during the implementation of the Stoke-on-Trent LTP3 (Stage E of the SEA) are set out in Chapter 6.

5. Stages C & D: Preparing the Environmental Report and Consultation on the draft plan and Environmental Report

What the SEA Directive says:

In the Environmental Report, 'the likely significant effects on the environment of implementing the plan … and reasonable alternatives … are [to be] identified, described and evaluated' (Article 5(1)). The Environmental Report should include information that may 'reasonably be required taking into account current knowledge and methods of assessment, the contents and level of detail in the plan [and] its stage in the decision making process' (Article 5(2)).

Information to be provided in the Environmental Report includes: • 'the likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors. These effects should include secondary, cumulative, synergistic, short, medium and long-term, permanent and temporary, positive and negative effects' (Annex I (f) and footnote);

• 'an outline of the reasons for selecting the alternatives dealt with' (Annex I (h));

• 'the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan…' (Annex I (g))

'The authorities [with relevant environmental responsibilities] and the public…shall be given an early and effective opportunity within appropriate time frames to express their opinion on the draft plan… and the accompanying Environmental Report before the adoption of the plan' (Article 6(2)).

'The Environmental Report, … the opinions expressed [by consultees] and the results of any transboundary consultations … shall be taken into account during the preparation of the plan… and before its adoption…' (Article 8).

'When a plan … is adopted, the [environmental] authorities [and] the public …are informed and the following items [shall be] made available to those so informed: (a) the plan … as adopted, (b) a statement summarising how environmental considerations have been integrated into the plan … and (c) the measures decided concerning monitoring' (Article 9(1)).

Stage C involved preparing this Draft Environmental Report for the Strategic Environmental Assessment of the Local Transport Plan for Stoke-on-Trent 2011/12 to 20125/26 (LTP3). This document should be read in conjunction with the Draft Stoke-on-Trent LTP3 Strategy Document. The information from Stages A-B has been collated into a formal Environmental Report available for consultation (Stage D).

As set out in Table 1 consultation on the Draft LTP3 and this Environmental Report commenced on September 24th 2010 for more than a twelve-week period, closing on **23rd December 2010**. Final publication of LTP3, associated Environmental Report and provision of information on the SEA is timetabled for April 2011.

The Environmental Report is published alongside the Draft LTP3 with the aim of providing stakeholders with sufficient information on the likely significant environmental effects of the plan. This is done at the Draft LTP3 stage to allow time to influence the development of the LTP3 prior to its completion. Following this Stage E will commence, as outlined in the next chapter.

Hard copies or alternative formats of this report can be obtained by request.
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Information provided in response to this consultation may be subject to publication or disclosure in accordance with access to information regimes, such as the Freedom of Information Act 2000 and the Data Protection Act 1998. Stoke-on-Trent City Council's policy on these two regimes can be downloaded from:
http://www.stoke.gov.uk/ccm/navigation/council-and-democracy/information/

6. Stage E: Implementation and Monitoring

What the SEA Directive says:
'*Member States shall monitor the significant environmental effects of the implementation of plans… 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)).
The Environmental Report should provide information on '*a description of the measures envisaged concerning monitoring*' (Annex I (i)).

Monitoring will be undertaken on a regular basis to ensure that the mitigation measures are having the desired effect and to monitor the implementation of the plan to check for any unforeseen adverse impacts. Table 28 sets out the proposed Indicators for monitoring environmental effects.

These indicators used in the monitoring regime should enable the establishment of a causal link between the implementation of the plan and the likely significant effect (beneficial or adverse) being monitored. This helps to ensure that any adverse impacts that occur during implementation can be identified and that appropriate action can be taken. The Stoke-on-Trent LTP3 will provide strategy and direction to 2026 and also contain an investment plan for the period 2011/12 to 2013/14 which will be reviewed and rolled forward on an annual basis. The detail of the implementation plan is dependent on the level of resources available which is currently uncertain, and dependent on the outcome of the Central Government Comprehensive Spending Review. Monitoring of the indicators for monitoring the environmental effects of implementing the LTP will feed into this annual review. The indicators will also be used in the more frequent performance management processes of the LTP. Appendix 2 sets out the results of monitoring the environmental effects of implementing the North Staffordshire LTP.

Table 28 Proposed Indicators for monitoring environmental effects

SEA Objective	Proposed Indicators	SEA Topic
1. maintain and improve local air quality	Levels of air quality	Air
2. protect and enhance biodiversity and geo-diversity	Levels of air quality	Biodiversity, Flora and Fauna

SEA Objective	Proposed Indicators	SEA Topic
3. mitigate the causes and adapt to the effects of climate change	Level of transport related CO_2 emissions. Flooding incidents impacting on the local road network.	Climatic Factors
4. Cultural Heritage: Conserve and enhance the historic environment and heritage assets of historic, archaeological, architectural or artistic interest and their settings.	Impact of proposals on known and as yet undiscovered heritage assets. Condition of transport and highway heritage assets. Number and extent of street audits Amount of loss and enhancement of heritage assets through transport schemes Number and extent of public realm improvement schemes delivering conservation area management plans	Cultural Heritage, Landscape
5. maintain safety levels and improve security	Transport related killed and serious injury casualties, and slight injuries Accident & incident data along towpaths (British Waterways)	Human Health
6. reduce the impact of the transport system on noise pollution.	Change in Tranquillity DEFRA noise mapping	Human Health, Landscape
7. promote healthier and smarter travel choices and reduce health inequalities	Cycling trips Mode share of journeys to school Ease of use of footpath network Disabled facilities at pedestrian crossings Bus patronage and satisfaction Population health indicators Health inequality indicators	Population, Human Health, Climatic Factors, Air
8. promote equality of access and opportunity, including to health, employment and leisure opportunities.	Access to hospital, employment and main centres Access to bus services –percentage of population within 400m of a bus stop with a minimum service provision of 30 minutes Bus Punctuality Cycling Trips	Human Health, Population
9. support the regeneration of deprived areas and inclusive sustainable economic growth.	Congestion on the local road network. Index of Multiple Deprivation	Population, Material Assets
10. promote the efficient and sustainable use of resources in the operation, development and maintenance of the transport network.	Condition of the local road network Condition of surface footway HAMP / TAMP	Material Assets
11. Landscape: safeguard and strengthen landscape character and quality and deliver well designed development which respects local character and distinctiveness.	Impact of proposals on landscape quality Number and extent of street audits Amount of loss and enhancement of heritage assets through transport schemes Number and extent of public realm improvement schemes delivering conservation area management plans	Landscape, Cultural Heritage

SEA Objective	Proposed Indicators	SEA Topic
12. reduce contamination and safeguard soil quality and quantity.	Impact of transport schemes on best and most versatile agricultural land	Soil, Landscape, Material Assets.
13. ensure no reduction in the quality and supply of ground and surface water resources.	Water quality - River Basin Management Plan – water bodies of the Staffordshire Trent Valley river catchment in Stoke-on-Trent	Water, Biodiversity

Appendix 1: Glossary

Alternatives: These are different ways of achieving the objectives. Alternatives are also referred to as options in the Department for Transport's Guidance on Local Transport Plans.

Area Action Plans: A development plan document of the LDF containing more detailed proposals for relatively small areas of the City.

CCTV: Closed Circuit Television

Core Spatial Strategy (CSS): In this document the CSS refers to The Newcastle-under-Lyme and Stoke-on-Trent CSS that was adopted in October 2009. The CSS provides the statutory planning bedrock to develop and support detailed planning policies, guidance and programmes to secure the long term sustainable regeneration of North Staffordshire for the period to 2026

Consultation Bodies: Authorities which because of their environmental responsibilities are likely to be concerned by the effects of implementing plans and programmes must be consulted at specific stages of the SEA. In England these are Natural England[9], English Heritage, and the Environment Agency.

Cumulative effects: The effects that result from changes caused by a project, plan, programme or policy in association with other past, present or reasonably foreseeable future and actions. They also include where several individual effects of the plan have a combined effect.

DEFRA: Department for the Environment, Food and Rural Affairs

DfT: Department for Transport

Environmental appraisal: A form of environmental analysis used in the UK (primarily for development plans but also some Local Transport Plans) since the early 1990s; more recently superseded by sustainability appraisal. Some aspects of environmental appraisal foreshadow the requirements of the SEA Directive.

Environmental assessment: A tool for integrating environmental considerations into decision making by assessing the significant environmental effects. 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 evaluates the likely significant effects on the environment of implementing a plan or programme.

[9] Natural England supersedes English Nature and the Countryside Agency as referred to in the SEA Regulations.

Indicator: A means by which change in a system or to an objective can be measured.

Local Development Framework (LDF): The Planning and Compulsory Purchase Act 2004 (and subsequent amendments) changed the way we plan for the future of Stoke-on-Trent. It replaced the old system, which included the Structure Plan and City Local Plan, with a new system made up of the LDF (including the remaining saved policies) and national planning guidance where relevant. These together deliver the spatial planning strategy for the City. The LDF is made up of Local Development Documents including the **Core Spatial Strategy** and **Area Action Plans**. Full details are available from www.stoke.gov.uk/ldf.

Local Transport Plan (LTP): Local Transport Plans (LTPs) provide integrated transport strategies and implementation proposals, devised at local level in partnership with the community.

Measure: An individual action to deliver the objectives of the plan. The term measure is used to encompass a wide range of actions including projects, schemes, demand management, traffic management and policy proposals.

Mitigation: Measures to avoid, reduce or offset significant adverse effects on the environment.

Monitoring: Activities undertaken after the decision is made to adopt the plan or programme to ascertain the effects arising from implementation of the plan, for example, monitoring to examine whether the significant environmental effects occur as predicted, or whether unforeseen effects arise.

New Approach to Appraisal (NATA): see 2.3

Objective: A statement of what is intended, specifying the desired direction of change.

Options: See **alternatives.**

Project: A measure involving development such as new infrastructure. Some transport projects require an Environmental Impact Assessment in accordance with Directive 85/337/EC (as amended), also known as a **scheme.**

Responsible Authority: The organisation which prepares and/or adopts a plan or programme subject to the Directive and is responsible for the SEA.

Scheme: See **project.**

Scoping: The process of deciding the scope and level of detail of the SEA. This also includes defining the environmental effects and alternatives that need to be considered, the assessment methods to be used, the structure and contents of the Environmental Report.

Screening: The process of deciding whether a plan or programme requires SEA:

Secondary effects: Effects which are not a direct result of the plan, but occur as a result of a pathway of effects, for example, development that causes a change in groundwater which then affects a wetland of ecological value.

Synergistic effects: An effect where two or more impacts combine to produce an effect that is greater that the sum of the individual effects. These often occur when habitats, resources or human communities get close to a threshold or capacity limit.

SEA Directive: Directive 2001/42/EC "on the assessment of the effects of certain plans and programmes on the environment".

Strategic environmental assessment (SEA): A term used internationally to describe environmental assessment as applied to policies, plans and programmes. In this guidance, "SEA" is used to refer to the type of environmental assessment required under the **SEA Directive**.

SEA Regulations: The Environmental Assessment of Plans and Programmes Regulations 2004 (Statutory Instrument 2004 no.1633).

Sustainability appraisal: A form of assessment used in the UK (primarily for development plan documents) since the late 1990s. Sustainability appraisal considers social and economic effects as well as environmental effects. Sustainability appraisal has tended to be less detailed and more qualitative than many forms of environmental assessment.

Target: A specified desired end, stated usually within a specified time-scale.

Tiering: The linking of assessments for policies, plans, programmes and projects to achieve a logical hierarchy and avoid unnecessary duplication of assessment work.

Appendix 2: North Staffordshire LTP SEA Monitoring

Strategic Environmental Assessment Monitoring

LTP Environmental Monitoring

The North Staffordshire LTP was the subject of a Strategic Environmental Assessment (SEA) and significant environmental effects were identified. Overall, the assessment indicated that the approach of the North Staffordshire LTP is likely to have large beneficial effects for the environmental objectives of promoting more sustainable modes of transport; improving access to jobs and services; reducing road traffic and congestion; improving health and reducing health inequalities; supporting the regeneration of deprived areas; and supporting sustainable economic growth. Furthermore the cumulative, synergistic and indirect effects of implementation of the LTP are likely to augment the impact of the proposals in terms of improving local air quality; reducing greenhouse gas emissions; supporting economic prosperity; improving access to essential facilities; promoting sustainable modes of transport; enhancing community safety; and encouraging development and regeneration. No significant negative environmental effects were highlighted by the assessment. However, the indirect effect of the North Staffordshire LTP proposals in facilitating development was assessed as possibly giving rise to short term environmental disbenefits associated with ongoing large-scale construction projects as part of the regeneration of North Staffordshire.

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 be able to undertake appropriate remedial action*' (Article 10.1). SEA monitoring therefore involves measuring indicators that will enable the establishment of a causal link between the implementation of the plan and the likely significant effect (positive or negative) being monitored. Identifying and responding to adverse effects and developing appropriate responses then can follow.

The comments on the Environmental Report for consultation were supportive of the monitoring approach being put forward. The Environmental Report identified that the monitoring programme will evolve over the plan period based on the identification of additional data sources, as in many cases information is provided by outside bodies. Some indicators have evolved from those proposed in the SEA Environmental Report, and in some cases new indicators have been included to relate specifically to the environmental objectives as data has become available. The data available for each indicator is set out by SEA objective below in Table E.1. The geographical area of the North Staffordshire Joint LTP is shown on map below, the data refers to this geography unless stated otherwise, for example some are for the City of Stoke-on-Trent area only.

The data for the objective to maintain and improve local air quality shows some adverse effects at some locations.

The information for the Potteries and Churnet Valley Character Area Overall Assessment, relating to the objective to conserve and enhance the natural historic environment and landscape quality, suggests that there is little decline apparent overall in the Character Area, except localised urbanisation. This highlights the importance of supporting regeneration of the urban core of North Staffordshire, the Supporting Regeneration priority, to reduce development pressure in peri-urban areas. Information for the objectives to support regeneration of deprived areas and to support sustainable economic growth from the Index of Multiple Deprivation also emphasises the need to support regeneration of the urban core of North Staffordshire.

Figure A2.1 North Staffordshire Local Transport Plan Area

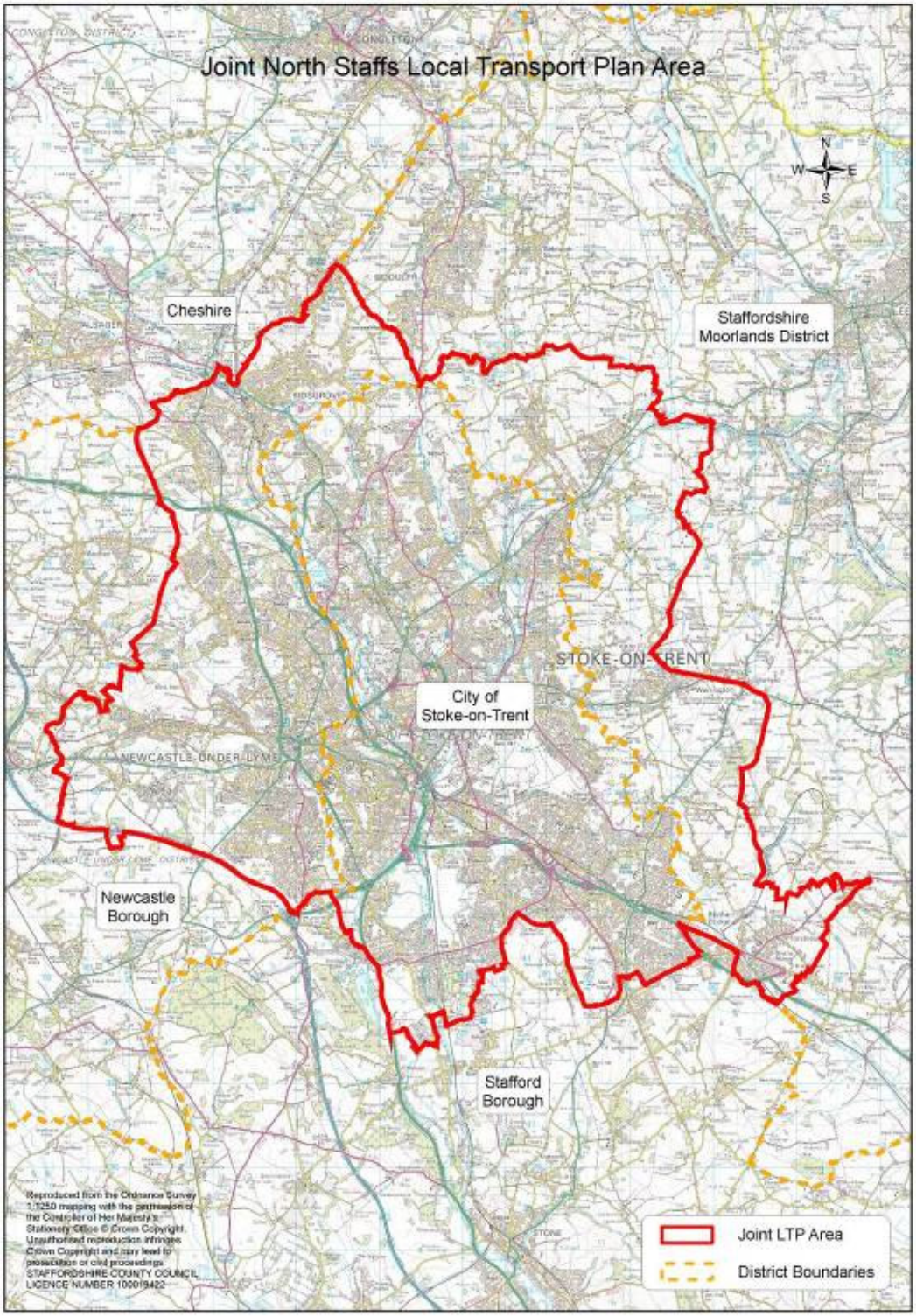

Table A2.1: Monitoring of Indicators for each North Staffordshire LTP SEA Objective

SEA Objective	Indicator(s)		Baseline	2006/07	2007/08	2008/09	2009/10	2010/11
1. To maintain and improve local air quality	Nitrogen dioxide levels (µgm^3) at seven locations where the current maximum standard is exceeded **LTP Target M18**	Meir	2005/06: 39.5	39.3	40.0	38.7	44	
		Joiner's Square	2005/06: 46.6	47.6	45.0	39.5	48	
		Victoria Place	2005/06: 44.2	44.9	40.7	45.6	44	
		Burslem	2005/06: 42.8	45.7	48.0	47.4	42	
		Cobridge	2005/06: 48.8	46.8	46.3	53.7	48	
		Hanley	2005/06: 46.6	46.5	47.0	45.2	44	
		Bucknall	2005/06: 52.0	51.0	52.0	51.8	49	
2. To improve the quality of ground and surface waters	Percentage of water courses classified as fair or better <u>biological</u> quality (Source: Environment Agency)		Stoke-on-Trent: 2000: 3.2 England: 1999 94.2 2000 96.1 2001 96.5 2002 96.1 2003 95.1 2004 94.7 2005 94.6	S-o-T: 67.6 Staffs: 88.3 England: 95.0 Midlands: 93.5	England: 95.7 Midlands: 95.0	It is not possible to obtain water quality data that would be able to highlight if transport was the cause of any water pollution but these indicators do show the overall quality of water. A reduced monitoring network for this indicator in 2007 means that there are not statistically robust figures for local authority level. This indicator will be replaced by the Water Framework.		

Staffordshire County: 2000: 84

Midlands:
1990 86.9
1993 90.9
1994 94.2
1995 95.6
1996 93.7
1997 93.2
1998 94.3
1999 95.0
2000 96.5
2001 95.8
2002 96.0
2003 94.8
2004 93.0
2005 92.2

SEA Objective	Indicator(s)	Baseline	2006/07	2007/08	2008/09	2009/10	2010/11
	Percentage of water courses classified as fair or better chemical quality (Source: Environment Agency)	Stoke-on-Trent: 2000: 24.5 Staffordshire County: 2000: 95 England: 1990 86.4, 1995 91.7, 2000 94.5, 2002 94.2, 2003 93.9, 2004 94.0, 2005 94.2	S-o-T: 98.1 Staffs: 94.9 England: 94.5	England: 94.6	It is not possible to obtain water quality data that would be able to highlight if transport was the cause of any water pollution but these indicators do show the overall quality of water. A reduced monitoring network for this indicator in 2007 means that there are not statistically robust figures for local authority level. This indicator will be replaced by the Water Framework.		
3. To respond to climate change through reduced greenhouse gas emissions	Percentage growth in traffic levels across North Staffordshire from 1999 **LTP Target L6**	1999/00: 0.0, 2000/01: 0.1, 2001/02: 1.1, 2002/03: 0.1, 2003/04: 0.3, 2004/05: 2.6, 2005/06: 3.2	3.6	1.2			
	DEFRA *carbon dioxide emissions for Local Authorities* (kt). *Estimates for 2003 & 2004 are not comparable because of improvements in the source data and in the estimation methods now used. Carbon Dioxide (CO2) emissions for 2007, and revised estimates for 2005 and 2006, for all UK Local Authorities are from the transport emissions used for the Department of Energy and Climate Change (DECC) National Statistics:* http://www.decc.gov.uk/en/content/cms/statistics/climate_change/climate_change.aspx	2003 S-o-T: 380 N-u-L: 383 2004 S-o-T :436 N-u-L: 435 2005 S-o-T: 345 N-u-L: 425	2006 DECC estimate: S-o-T: 337 N-u-L: 412	2007 DECC estimate: S-o-T: 335 N-u-L: 420			
4. To conserve and enhance wildlife habitats and species	Impact of transport schemes on population of protected species and BAP priority species	Further development needed regarding the data collection methodology	The LTP seeks to develop a sustainable transport network which will lessen congestion, improve access and promote sustainable forms of transport thus improving air quality and reducing diffuse air pollution. The plan does not seek to allocate land for new transport nodes, such as roads, that will affect any of the sites by direct land take. Recreational pressure and disturbance and invasive &/or non-native species are not likely to affect the sites as no new transports nodes will be introduced near to the sites. Water quality, as a result of the Plan, will not be affected. As stated above, no new transport nodes are planned that will affect the water quantity of the protected sites (e.g. run-off, drainage).				
	Impact of transport schemes on designated wildlife sites (SACs, SSSIs, RIGGS, LNRs, SBIs etc.) and BAP priority habitats	Further development needed regarding the data collection methodology					

SEA Objective	Indicator(s)	Baseline	2006/07	2007/08	2008/09	2009/10	2010/11
	Change in areas and populations of biodiversity importance *The most valuable wildlife and earth science sites in North Staffordshire are protected through a series of statutory and non-statutory designations. Sites of Special Scientific Interest (SSSI's) are designated by English Nature and are the best examples of British habitats and geological features, which may contain rare species or important populations of species. In addition sites of local importance have been designated as "Local Wildlife Sites/Local Geological Sites" to reflect their local wildlife or earth science interest. These non-statutory sites which are the equivalent to the SBI (Site of Biological Interest) designation in place across the rest of Staffordshire form a substantial part of the natural heritage resource in Stoke-on-Trent.* *Information on the various species and habitats is held by the Staffordshire Ecological Record and monitoring of Local Wildlife Sites is carried out by the City Council on a 5-10 year programme.*	4 SSSIs: Ford Green Reedbed, Hulme Quarry (in Park Hall Country Park) Wetley Moor, Metallic Tileries- Park House 0 SAC sites or Ramsar sites 1 NNR exists in North Staffordshire at Hulme Quarry 12 LNRs: Hartshill Park, Berryhill Fields, Whitfield Valley, Bagnall Road Woods, Holden Lane Pools, Westport Lake, Bridgetts Pool, Smiths Pool, Coyney Woods, Bradwell Woods, Pool Dam Marshes and Marshes Hill Common, Sites of Biological Importance (SBIs) and Local Wildlife Sites (LWS)contain most of the best remaining areas of semi-natural habitat. There are 40 LWS wholly within the area covering a total of 560 hectares (6% of Stoke on Trent).There are 48 Grade 1 SBIs either wholly or partially within the area, covering a total of 909 hectares (4% of the total area).	0 Transport Schemes have impacted on these sites. Access by sustainable travel is promoted to these sites – for example see: Use the greenways to visit parks! http://www.stoke.gov.uk/ccm/content/et/environment-team/greening-for-growth-folder/use-the-greenways-to-visit-parks.en . Walks by Bus is a partnership project between local bus operator First and Staffordshire Wildlife Trust to promote walks around North Staffordshire countryside with start and finish accessible by bus, with nature notes for each walk. For full details see: http://www.staffs-wildlife.org.uk/page/walks-by-bus				
5. To encourage better use of land and conserve soil resources and quality	Area of Grade 1, 2 and 3 (best and most versatile) agricultural land permanently lost as a result of transport schemes	Further development needed regarding the data collection methodology					

SEA Objective	Indicator(s)	Baseline	2006/07	2007/08	2008/09	2009/10	2010/11
	Area of vacant and derelict land		Staffs: 0.21%	Staffs: 0.18%			
			Stoke-on-Trent: The baseline data for this indicator is being compiled by Government using National Land Use Database information provided by the City Council. The degree of detailed analysis provided by Government remains to be seen. It is proposed to compare 2003 land availability data with 2008 land availability data to determine which previously developed land is common to both datasets. This will then be compared with aerial photography to determine site condition. The residual evidence will then be compared with planning permission records to determine those sites where action is anticipated. Available sites will then be considered in relation to the LDF site development portfolio and attempts made to establish land ownership. Note development is not always the solution. For example, derelict land at Redhills Road has been refused planning permission for development because of adverse impacts upon the Housing Market Renewal programme. Dialogue will be required with site owners to determine the most appropriate treatment.				
6. To conserve and enhance the natural historic environment and landscape quality	Number of schemes that include green linkages	Further development needed regarding the data collection methodology					
	Potteries and Churnet Valley Character Area [CA64] Overall Assessment	Transport schemes should be sensitive to the landscape profile: **Underlying features** Strongly dissected hills and small plateaux, rising up to the Pennines and cut by major river valleys. Strong contrast between remote uplands, urban areas, sheltered wooded valleys and hillside pastures. Prominent Millstone Grit and Coal	1999-2003 Joint Character Area (JCAs) Assessment now complete by Countryside Quality Counts (CQC) project: The following themes are judged by the CQC team to be key to the character of this JCA: • Trees & woodland • Agriculture • Settlement & development Although development appears to be transforming the character of				

SEA Objective	Indicator(s)	Baseline	2006/07	2007/08	2008/09	2009/10	2010/11
		Measures ridges. **Cultural elements** Sprawling industrial towns of the Potteries forming a major conurbation. Rural settlement pattern of sheltered villages on low ground with hamlets, scattered farmsteads and cottages elsewhere. Brick and sandstone older buildings with tile and slate roofs. **Changing elements** Extensive former industrial and extractive sites, many now reclaimed, intermixed with settlements and open land. Open moorland and rough grazing on higher ground.	the area, the important features of the farmed landscape and associated woodlands appears to have been maintained, or at least are weakening only slowly. Evidence of expansion of fringe into peri-urban between Stoke on Trent and Kidsgrove, along the southern fringe of Stoke, and around Biddulph. Also scattered development and redevelopment at the eastern end of the JCA. Development continues to transform the character of the area. There is little decline apparent overall in this JCA, except localised urbanisation and general decline in hedgerow maintenance which could lead to rapid erosion of landscape character in the future if those hedgerows disappear. Mitigation example: The Newcastle Lane embankment erosion prevention measures scheme incorporated innovative techniques with matting to maintain a vegetated embankment rather than the alternatives of hard engineering such as concrete retaining walls.				
6. To conserve and enhance the natural historic environment and landscape quality AND 7. To protect buildings and sites of archaeological, cultural and historic value and their settings	Former BVPI 219a: Total number of conservation areas	Stoke-on-Trent 2005/06: 23 2005/06: Newcastle-under-Lyme: 18 Staffordshire Moorlands: 14	23 N-u-L: 20 Staffs Moorlands: 14	23	23	23	
	Former BVPI 219b: Percentage of conservation areas with an upto date character appraisal.	Stoke-on-Trent : 2004/05: 9.00 2005/06: 17.39 2005/06: Newcastle-under-Lyme: 0 Staffordshire Moorlands: 64	30.43 N-u-L: 85 Staffs Moorlands: 0	52.17 N-u-L: 100 Staffs Moorlands: 10	56.52	69.57 (16 appraisals)	

SEA Objective	Indicator(s)	Baseline	2006/07	2007/08	2008/09	2009/10	2010/11
	Landscape and Townscape Character	Further development needed regarding the data collection methodology Burslem Townscape Heritage Initiative underway: highway and public realm improvements as part of wider Burslem masterplan complement these works					
7. To protect buildings and sites of archaeological, cultural and historic value and their settings	Number of listed buildings and proportion classified as 'at risk'	2005/06: 425 listed buildings 192 listed buildings in S-o-T, 34 surveyed at risk (17.7%)	192 listed buildings in S-o-T	192 listed buildings in S-o-T	194 listed buildings in S-o-T		
	Number of scheduled and non-scheduled sites of historically interest affected by transport schemes	17 Scheduled Ancient Monuments (SAM) in LTP area. 443 properties of special local interest recorded in S-o-T.	New NCN 55 bridge improved sustainable access to Chatterley Whitfield SAM				
8. To reduce road traffic and congestion	Change in area wide road traffic mileage **LTP Target M12**	1993/94: 859 1994/95: 867 1995/96: 880 1996/97: 892 1997/98: 896 1998/99: 910 1999/00: 915 2000/01: 920 2001/02: 1005 2002/03: 1035 2003/04: 1071 2004/05: 1083 2005/06: 1077	1082	1088	1,080		
	Changes in peak period traffic flows to urban centres (vehicle numbers) **LTP Target M16**	2003/04: 5,426 2004/05: 5,126 2005/06: 5,249	5,113	5,304	4,966	4,846	
	Peak hour congestion (Average journey time per mile during the morning peak) **LTP Target M17**		03:08	03:06	03:07		
9. To promote more sustainable modes of transport	BVPI 102: thousands of bus passenger journeys per annum in North Staffordshire **LTP Target M7**	2004/05: 16,623 2005/06: 18,965	20,555	21,733	21,063		
	BVPI 104: Percentage of bus users satisfied with local bus services in Stoke-on-Trent **LTP Target M8**	2003/04: 48.0	54.0	55.3	67.7	74.7	
	Bus punctuality **LTP Target M15** *(Improved monitoring* % of buses starting route on time	2005/06: 79	84	84.2	83.0	81.7	

SEA Objective	Indicator(s)		Baseline	2006/07	2007/08	2008/09	2009/10	2010/11
	methodology meeting the guidance for LTP5 / NI178 has been implemented from 2007/08)	% of buses on time at intermediate timing points	2005/06: 72	77	73.8	75.9	73.1	
		% of buses on time at non-timing points	n/a	43	67.1	68.4	68.8	
	Peak period bus modal share to City Centre (%) **LTP Target L2**		1998/99: 32.6 2002/03: 33.8 1999/00: 33.3 2003/04: 36.3 2000/01: 33.2 2004/05: 35.9 2001/02: 32.2 2005/06: 31.9	31.0	35.6	38.2	42.2	
	Mode share of journeys to school (%) **LTP Target M14** *New methodology from 2006/07, previous surveys show gradual increase in travel by car and decrease by sustainable modes*		Car	33.0	33.18	31.94		
			Car Share	3.8	3.80	4.58		
			Public Transport	7.4	7.06	7.38		
			Walking	54.7	55.09	55.39		
			Cycling	0.8	0.61	0.62		
			Other	0.3	0.26	0.09		
9. To promote more sustainable modes of transport AND 10. To promote health and reduce health inequalities	Annualised index of cycle trips **LTP Target M13** *(As part of Stoke-on-Trent's Cycle Stoke Programme further monitoring and analysis is taking place to make this indicator much more robust and comprehensive.)*		1997/98: 164.4 2002/03: 111.3 1998/99: 110.0 2003/04: 100.0 1999/00: 113.8 2004/05: 94.6 2000/01: 90.0 2005/06: 153.6 2001/02: 102.1	187.4	150.2	218.4	215.5	
	Access by public transport to hospital (weekdays 0700-1000) **LTP Target M11**	Households within 30 min	2005/06: 57.4	50.9	45.1	42.6	47.4	
		Households within 60 min	2005/06: 94.1	94.0	93.7	93.9	94.1	
11. To promote safe	Former BV165 Percentage of pedestrian crossings with facilities for the disabled **LTP Target L5**		Stoke-on-Trent 2003/04: 18.5 Staffordshire 2003/04: 98.3	S-o-T: 97.7	S-o-T: 98.0	S-o-T: 98.0		

SEA Objective	Indicator(s)		Baseline	2006/07	2007/08	2008/09	2009/10	2010/11
communities, reduce crime and the fear of crime			2004/05: 28.0 2004/05: 98.2 2005/06: 50.0 2005/06: 97.2	Staffs: 98.7	Staffs: 99.3	Staffs: 99.8		
	Overall crime per 1,000 population		Stoke-on-Trent: England: 2003/04: 99.4 2003/04: 69.3 2004/05: 91.6 2004/05: 64.0 2005/06: 88.9 2005/06: 62.7	S-o-T: 93.8 England: 61.1		S-o-T: 49.9 England: 29.8		
	Recorded vehicle crime per 1000 population		Stoke-on-Trent: England: 1999/00: 25.5 1999/00: 20.0 2000/01: 20.8 2000/01: 18.6 2001/02: 24.1 2001/02: 18.8 2002/03: 20.1 2002/03: 18.8 2003/04: 19.2 2003/04: 17.0 2004/05: 15.9 2004/05: 14.0 2005/06: 15.1 2005/06: 13.5	S-o-T: 16.6 England: 13.0	S-o-T: England:	S-o-T: 12.1 England: 8.6		
	BVPI 99a(i): No. of killed and seriously injured in road traffic accidents - 3yr. rolling av. **LTP Target M4**		1994-98 Average: 174	2004-06 116	2005-07 113	2006-08 94	2007-09	2008-10
	BVPI 99b(i): No. of children killed and seriously injured in road traffic accidents - 3yr. rolling av. **LTP Target M5**		1994-98 Average: 35	2004-06 18	2005-07 21	2006-08 14	2007-09	2008-10
	BVPI 99c(i): No. of people slightly injured in road traffic collisions **LTP Target M6**		1994-98 Average: 1,901	1,658	1,544	1,289		
12. To improve access to jobs and services	Access by public transport to a major shopping centre (weekdays 0700-1000) **LTP Target M10**	Households within 15 min	2005/06: 28.9	27.9	28.3	31.1	31.3	
		Households within 30 min	2005/06: 80.0	80.1	80.6	81.4	80.2	
	Access by public transport to hospital (weekdays 0700-1000) **LTP Target M11**	Households within 30 min	2005/06: 57.4	50.9	45.1	42.6	47.4	
		Households within 60 min	2005/06: 94.1	94.0	93.7	93.9	94.1	

SEA Objective	Indicator(s)	Baseline	2006/07	2007/08	2008/09	2009/10	2010/11
	Access to bus stops –percentage of population within 400m of a bus stop with a minimum service provision of 30 minutes **LTP Target L1**	2005/06: 89.9	89.8	89.7	89.5	90.6	
	Proportion of Stoke-on-Trent workforce covered by workplace travel plans **LTP Target L3**	2005/06: 15.5	17.0	21.9	22.1	25.3	
	Former BV165 Percentage of pedestrian crossings with facilities for the disabled **LTP Target L5**	Stoke-on-Trent / Staffordshire 2003/04: 18.5 / 2003/04: 98.3 2004/05: 28.0 / 2004/05: 98.2 2005/06: 50.0 / 2005/06: 97.2	S-o-T: 97.7 Staffs: 98.7	S-o-T: 98.0 Staffs: 99.3	S-o-T: 98.0 Staffs: 99.8		
	Former BVPI 178: Percentage of footpaths and rights of way that are easy to use by the public **LTP Target L4**	Stoke-on-Trent / Staffordshire 2004/05: 14.8 / 2004/05: 67.8 2005/06: 37.5 / 2005/06: 72.0	S-o-T: 60.8 Staffs: 75.0	S-o-T: 100.0 Staffs: 78.0	S-o-T: 90.6 Staffs: 80.0		
13. To support regeneration of deprived areas	Index of Multiple Deprivation (IMD) overall rank	2004 IMD: Stoke-on-Trent: 18th Newcastle-under-Lyme: 138th Staffordshire Moorlands: 182nd	2007 IMD: S-o-T: 16th N-u-L: 151st Staffs Moorlands: 190th		Stoke-on-Trent is now ranked as the 16th most deprived area out of 354 English districts; falling 2 places from the last index in 2004, while both Newcastle-under-Lyme and Staffordshire Moorlands improved their overall rankings.		
	Total amount of additional employment floorspace Source: LDF AMR www.stoke.gov.uk/ldf		S-o-T: 32,872 m^2 floorspace on 11.08 ha of land, 100% on previously developed land	S-o-T: 23,576 m^2 floorspace on 5.42 ha of land, 100% on previously developed land	S-o-T: 69,798 m^2 floorspace on 17.59 ha of land, 100% on previously developed land		
	Net additional dwellings Source: LDF AMR www.stoke.gov.uk/ldf	Stoke-on-Trent 2002/03: 395 / 2004/05: 759 2003/04: 505 / 2005/06: 704	S-o-T: 616	S-o-T: 644	S-o-T: 234		

SEA Objective	Indicator(s)	Baseline	2006/07	2007/08	2008/09	2009/10	2010/11
14. To support sustainable economic growth	New business registration rate	Although data is readily available from NOMIS on an annual basis, currently there is no consistent measurement of VAT registrations due to annual changes in threshold levels and business behaviour surrounding those threshold levels, and also levels of VAT fraud. Currently there is no agreement as to how this should be measured and what indicators attached. The North Staffordshire Regeneration Partnership is working towards increased levels of business (particularly higher value) through actions of creating an environment conducive to business.					
	Index of Multiple Deprivation (IMD) Employment rank	2004 IMD: Stoke-on-Trent: 21st Newcastle-under-Lyme: 115th Staffordshire Moorlands: 168th	2007 IMD: S-o-T: 12th N-u-L: 118th Staffs Moorlands: 180th		Whilst both Newcastle and Staffordshire Moorlands have become less employment deprived, Stoke-on-Trent fell from 21st most deprived to the 10th out of 354 English districts.		

Appendix 3: Quality Assurance Checklist

This Appendix provides a quality assurance checklist. The checklist is sourced from Table A7.1 of the DfT Web TAG guidance on Strategic Environmental Assessment for Transport Plans and Programmes[10] The checklist is intended to help test whether the requirements of the SEA Directive are met, identify any problems in the Environmental Report, and show how effectively the SEA has integrated environmental considerations into the plan-making process.

SEA Quality Assurance Checklist	Notes
Objectives and context	
The plan's purpose and objectives are made clear.	See Chapter 3
Environmental issues and constraints, including international and EC environmental protection objectives, are considered in developing objectives and targets.	See Chapter 3 – Task A4,
SEA objectives, where used, are clearly set out and linked to NATA national objectives/ sub-objectives and local objectives.	See Chapter 2 Table 2.
Indicators and targets are defined where appropriate.	See Table 20, (there is potential for further indicators to be identified based on local indicators collated by individual teams)
Links with other related plans, programmes and policies are identified and explained.	See Table 4
Conflicts that exist between SEA objectives, between SEA and plan objectives and between SEA objectives and other plan objectives are identified and described.	See Table 21
Scoping	
Consultation Bodies are consulted in appropriate ways and at appropriate times on the content and scope of the Environmental Report	Yes, see Table 1, and Appendix 4

[10] Strategic Environmental Assessment for Transport Plans and Programmes, DfT April 2009 http://www.dft.gov.uk/webtag/documents/project-manager/unit2.11d.php

SEA Quality Assurance Checklist	Notes
The assessment focuses on the important significant issues.	Yes, see Goals and Task A.
Technical, procedural and other difficulties encountered (such as technical deficiencies or lack of know-how) are discussed; assumptions and uncertainties are made explicit.	Yes
Reasons are given for eliminating issues from further consideration.	
Alternatives	
Realistic alternatives are considered for key issues, and the reasons for choosing them are documented.	Yes
Alternatives include 'do minimum' and/or 'business as usual' scenarios wherever relevant.	Predicted evolution of the baseline without the LTP3 is set out and explained.
The environmental effects (both adverse and beneficial) of each alternative are identified and compared.	Yes, see Table 26
Inconsistencies between the alternatives and other relevant plans, programmes or policies are identified and explained.	Potential incompatibility between SEA objectives (formulated from relevant plan programmes and policies) and LTP objectives highlighted, see Table 23
Reasons are given for selection or elimination of alternatives.	
Baseline information	
Relevant aspects of the current state of the environment and their likely evolution without the plan are described – i.e. the “without the plan” scenario.	See Table 22
Environmental characteristics of areas likely to be significantly affected are described, including wider areas than the physical boundary of the plan where it is likely to be affected by the plan.	See Geographical and Temporal Scope
Difficulties such as deficiencies in data or methods are explained.	See Table 18
Identification and evaluation of likely significant effects	
Effects identified include the types listed in the Directive (biodiversity, population, human health,	Yes, see Table 26

SEA Quality Assurance Checklist	Notes
fauna, flora, soil, water, air, climate factors, material assets, cultural heritage and landscape), as relevant; other likely effects are also covered drawing on appropriate NATA assessment methods.	
Both positive and negative effects are considered, and the duration of effects (short, medium or long-term) is addressed.	Yes, see Table 26
Likely secondary, cumulative and synergistic effects are identified where practicable.	Yes, see Task B3 & B4
Inter-relationships between effects are considered where practicable.	Yes, see Task B3 & B4
Where relevant, the prediction and evaluation of effects makes use of accepted standards, regulations, and thresholds.	Yes, see Task B3 & B4
Methods used to evaluate the effects are described.	Yes, see Task B3 & B4
Sources and levels of uncertainty in the assessment are identified and reported.	Yes, see Task B3 & B4
Wider sustainability issues are considered.	Yes, see Task B3 & B4
Mitigation measures	
Measures envisaged to prevent, reduce and offset any significant adverse effects of implementing the plan are indicated alongside consideration of their costs and feasibility.	Yes, see Task B5
Issues to be taken into account in project consents and EIAs are identified.	N/A
The Environmental Report	
Is clear and concise in its layout and presentation.	Yes, where possible, a non technical summary is also produced.
Uses simple, clear language and avoids or explains technical terms.	Yes, where possible, a non technical summary is also produced.
Uses maps and other illustrations where appropriate.	Yes
Explains the methodology used.	Yes see Table 1
Explains who was consulted and what methods of consultation were used.	Yes, see section 2.4 and Task A5

SEA Quality Assurance Checklist	Notes
Identifies sources of information, including expert judgement and matters of opinion.	Yes
Contains a non-technical summary covering the overall approach to the SEA, the objectives of the plan, the main alternatives considered, and any changes to the plan resulting from the SEA.	Yes, a non-technical summary of the Environmental Report has been produced.
Integrates the SEA with the wider NATA appraisal and plan making process.	Yes, see Table 2.
Consultation	
The SEA consultations are conducted as an integral part of the plan-making process.	Yes, see Table 1
Consultation Bodies and the public likely to be affected by, or having an interest in, the plan are consulted in ways and at times which give them an early and effective opportunity within appropriate time frames to express their opinions on the draft plan and Environmental Report.	Yes, see Table 1.
Decision-making and information on the decision	
The Environmental Report and the opinions of those consulted are taken into account in finalising and adopting the plan.	Future stages of SEA
An explanation is given of how they have been taken into account.	Future stages of SEA
Reasons are given for choosing the plan as adopted, in the light of other reasonable alternatives considered.	Future stages of SEA
Monitoring measures	
Measures proposed for monitoring are clear, practicable and linked to the indicators and objectives used in the SEA.	Yes see Table 28
During implementation of the plan, monitoring is used where appropriate to make good deficiencies in baseline information in the SEA.	Future stages of SEA
Monitoring enables unforeseen adverse effects to be identified at an early stage. (These effects should include predictions which prove to be incorrect.)	Future stages of SEA
Proposals are made for action in response to significant adverse effects.	Future stages of SEA

Appendix 4: Schedule of Responses to Scoping Report Consultation Comments

This Appendix details the response to comments received on the SEA Scoping Report.

Scoping Report Consultation Comment	Response
Highways Agency	
Thank you for the opportunity to comment on the SEA Scoping Report. We look forward to engaging with you fully in the prepration of LTP3 but insofar as this consultation is concerned, we have no comments to make on this specific document.	Noted
English Heritage	
Overall, we welcome the consultation document which is clear and succinct in its content and presentation.	Noted
Overall Goals of the LTP3 In discussions between English Heritage and the Department for Transport at a national level, the DfT have confirmed that the reference to the 'natural environment' in the DaSTS goal also encompasses the man-made and built environment and cultural heritage. Hence in its more detailed, local interpretation and implementation through the LTP and assessment process this broad interpretation encompassing both the natural environment and cultural heritage should be positively applied and made more specific. We hence recommend that the DaSTS goal incorporates a clear recognition of cultural heritage as it is developed through the LTP3 process. With regard to the LTP3 goals as set out at page 15, and in the light of our comment above, we recommend that second goal adopts a broad definition of the 'environment' this including the historic environment. We welcome the emphasis of the goal to improving the appearance of the area since this can be associated with improved public realm strategies which can benefit the character and appearance of historic areas. This can also support the first goal on the economy and creating attractive places for encouraging and retaining investment. Under the objective dealing with quality of life, we would also re-emphasise that an important component of providing people with a viable, attractive and effective alternative to the car is through investment in the quality of the urban townscape – this providing the setting and environment for encouraging sustainable modes of travel such as walking and cycling. We strongly believe that this should be integrated with the provision of any specific infrastructure/facilities.	Agreed – we will positively apply and make more specific this broad interpretation of environment.

Scoping Report Consultation Comment	Response
Q1. Relevant Plans, Policies and Programmes Under the European section the European Landscape Convention should be added. As part of the reference to the European Landscape Convention, it should be clearly recognised that the Convention applies to all landscapes, rural or urban, and hence the planning, protection and management of both rural landscapes and urban townscapes are relevant considerations as part of the LTP and SEA. It should also be clearly recognised that the Convention recognises that the landscape is a product of both natural and cultural influences (and hence the historic environment). The Government's Statement on the Historic Environment (2010) should also be referred to, and also World Class Places: The Government's Strategy for Improving Quality of Place (2009). Under the regional section, we recommend that the Regional Historic Environment Strategy and action plan should be included. An additional relevant reference is the West Midlands edition of the Streets for All Manual (A guide to the management of streets and open spaces): http://www.helm.org.uk/server/show/nav.19643 We appreciate the spatial scale the LTP3 is working at but at the local level, particularly at with regard to the implementation plans, conservation area appraisals and management plans may be of relevance in informing locally specific issues and opportunities.	These have been added to Table 3 and will be treated as relevant plans and programmes to the LTP.
The summary in Table 5 for cultural heritage is generally supported, although a clear link should also be made to potential impacts (positive and negative) on the character of historic landscapes and townscapes. There is also the importance of utilising heritage assets to help sustainable modes of transport, as for example the canal network and disused railway lines.	These links have been added to Table 4.
Q2. Sources of Information • Cultural Heritage In view of the scale of the LTP3 area, we acknowledge that the baseline needs to be appropriate and manageable in the context of the plan and its assessment. Overall the document provides a useful and locally specific summary of relevant issues and opportunities relating to the historic environment and heritage assets for the area. We have a number of additional suggestions to help further strengthen the baseline.	Noted, each suggestion is set out and responded to individually below.
The baseline largely focuses on designated heritage assets and should be expanded on in the context of the broad definition of the historic environment and heritage assets established by PPS5. For example, it should be clearly recognised that the historic environment and heritage assets extend beyond designated assets. Relevant sources of information on non designated heritage assets would include local lists, and records held in the Council's Historic Environment Records. The Heritage Characterisation Studies as mentioned in the text would also be of use in forming this as well as	Reference to lists kept by the City Council Design and Conservation Team has been added to the baseline data.

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an important source of information on the historic character of the wider townscape.	
For the wider landscape, the County Council's Historic Landscape Characterisation complements the landscape character assessment in providing more detailed understanding of the surviving historic character of the present day landscape. These information sources are also relevant to the topic area of landscape character and townscape, which extends to the character of the urban and rural landscape. Similarly, conservation area appraisals provide more detailed localised understanding of the character and appearance of valued townscape areas. Relevant links between the two sections should hence be made.	The Historic Landscape Characterisation has been added to the Landscape baseline data and links made to the Cultural Heritage baseline data.
Additionally for both designated and non designated heritage assets, setting issues are also of direct relevance (e.g. PPS 5 Policies HE8 and HE10) and should be specifically highlighted.	Added to Table 4 Summary of Potential Implications for LTP3 by SEA topic
Specific consideration should also be given to those historic structures which are directly associated with the highway (e.g. bridges, milestones, signage) and or offer a transport asset in their own right e.g. canals, disused railway lines. The planning press in recent months has highlighted the benefits and opportunities of the existing canal network for freight movement, as well as the role of disused railway lines and the historic canal network in widening public access and contact with the environment in urban and rural areas. The canal network as part of the 'heritage infrastructure' of Stoke-on-Trent should be given greater prominence in the consideration of existing transport assets and indeed capacity. An additional consideration under the theme of transport assets are heritage assets directly linked to road infrastructure such as historic bridges, milestones, traditional signage. A key issue here is the condition of these assets (whether designated or note) and we strongly recommend that these assets are specifically addressed as part of the LTP and its consideration of transport assets (asset management). An example of good practice on this topic is Staffordshire County Council and its guidance on the conservation of historic structures within the highway: http://www.staffordshire.gov.uk/NR/rdonlyres/A57AB8FD-D2F6-4A35-BEB3-4B56008F04B5/21959/ConservationwithintheHighwayGuidanceNotes.PDF	Heritage infrastructure of Stoke-on-Trent has been given greater prominence as a transport asset in Cultural Heritage baseline section.
We welcome the referenced to the Heritage at Risk Register – this has recently been updated for 2010. English Heritage also encourages local authorities to produced local at risk registers covering grade II listed buildings and other heritage assets.	Reference to lists kept by the City Council Design and Conservation Team has been added to the baseline data.

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There are a range of issues and indeed opportunities the LTP should address with respect to the historic environment and we suggest these are given full consideration as the LTP process continues, for example: • direct and indirect impacts on heritage assets; implications for the setting of heritage assets; • visual intrusion and street clutter and the damaging impact on townscape and landscape character and opportunities for improved streetscape management; • opportunities to improve the overall quality of experience of historic places through public realm enhancements, reduced noise pollution and ease of access; • opportunities for tackling heritage assets at risk; • supporting heritage-led regeneration opportunities where transport access is an influencing factor; • the positive management of historic structures associated with the highway network; promoting and increasing access to and enjoyment of heritage assets; and • the use of historic structures as part of green infrastructure networks and to help promote sustainable transport modes such as walking and cycling.	These will be incorporated into the strategic alternatives for the LTP.
• Landscape In the context of our comment above regarding the European Landscape Convention, our main concern is that the scope of this theme is appropriate in addressing all landscapes (rural and urban) and that relevant links are made to the historic environment (see comments above). In our comments on the cultural heritage section we highlight relevant links and evidence base covering both rural and urban landscapes.	The Historic Landscape Characterisation has been added to the Landscape baseline data and links made to the Cultural Heritage baseline data.
• Material Assets With regard to the maintenance and condition of transport infrastructure, we recommend that this should incorporate historic structures associated with the highway network (see comments under the cultural heritage section.	Links to the Cultural Heritage baseline data has been made.
Q3 and Q4 Key Environmental Issues The identified environmental issues for cultural heritage and landscape are generally supported in that they address both direct and indirect impacts on the historic environment heritage assets. A positive aspect could also be highlighted in that some heritage assets e.g. canals, disused railway lines, can offer opportunities for encouraging walking and cycling.	Noted This positive aspect has been added to Table 19.

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Q5 and Q6 SEA Objectives The general thrust of objective 4 is supported. To reflect the latest PPS5 we suggest some slight rewording as follows: 'Cultural Heritage: Conserve and enhance the historic environment and heritage assets of historic, archaeological, architectural or artistic interest and their settings' We suggest that Objective 11could be usefully linked to local character and distinctiveness, this also serving to underline the link between this topic and that on the historic environment. Hence an amended objective is suggested as follows: 'Landscape: safeguard and strengthen landscape character and quality and deliver well designed development which respects local character and distinctiveness' Our detailed guidance on SEA SA outlines a series of more detailed decision-making criteria which can be tailored to the appraisal framework.	Objectives 4 and 11 have been enhanced as suggested.
Q7 and Q8 Indictors With respect to supporting indicators our guidance on SEA/SA sets out a range of examples which should be tailored to the relevant plan and locality. Possible indicators relevant to the LTP process could include indicators on the number and extent of street audits and number of road sign clutter audits. Additional indicators should also address the heritage resource, for example the loss of heritage assets through transport schemes. Additional indicators could also be included which relate to enhancement opportunities for both the cultural heritage and landscape themes. A possible example could be along the lines of: 'Number and extent of public realm improvement schemes delivering conservation area management plans' One of the proposed indicators relates to number of assets on the heritage at risk register. This may not be directly relevant to the LTP and suggest it should be focused more directly on the condition of heritage assets associated with the road network. We suggest that you discuss possible indicators with the Council's historic environment team.	These changes to the indicators have been made.
British Waterways	
In June 2009, British Waterways and the Town and Country Planning Association launched a Policy Advice Note (PAN) "Unlocking the Potential and Securing the Future of Inland Waterways. **Q1 Are there any other plans, policies and programmes that should be considered?** The above PAN should be considered. This sets out the use of the	The PAN has been added to Table 3 and will be treated as relevant plans and programmes to the LTP.

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waterways for sustainable transport such as:	
Form of Strategic and Local Infrastructure Inland Waterways as a Form of Sustainable Transport Waterways and towing paths play an important role in widening travel choices for cycling, walking, freight and public transport. The towing path network provides a motor-vehicle-free environment in which to travel to work, school or home, and 100 tonnes of carbon dioxide (CO2) are saved per 1 kilometre of towing path upgraded. Tidal rivers or commercial waterways are particularly suitable for short-hauls, for the movement of high-volume, low-value products which are not unduly time-sensitive, and for addressing niche market goods where water carriage can provide a cost-effective alternative to the local road network, as outlined in PPG13: *Transport*. There are also opportunities for waterside developments to use waterborne freight in the construction cycle, in the delivery of supplies and the removal of waste wherever practical, economic and environmentally desirable. Only 0.04% of UK freight is transported on waterways owned or managed by British Waterways. However, for every 22 kilometres of upgraded towing path, increased use by pedestrians and cyclists for local journeys equates to same level of CO2 savings generated by all waterborne freight traffic on the network. Examples of waterway freight transport include: 1. Construction material delivered by water for developments such as the Olympic Park in East London and the new Guardian Media Group HQ at King's Cross; and l the 'Waste by Water' waste transfer scheme for Edmonton on the Lee Navigation in East London, which will remove 45,000 lorry movements per year.	The important role in widening travel choices for cycling, walking has been enhanced in the baseline data. Using canals for waterborne freight will be incorporated into the strategic alternatives for the LTP
Q2 Are there any other sources of information that should be considered? British Waterways produces a yearly business plan and major works plan which identified the expenditure planed for bridges, culverts, towpaths and other assets which may inform the work required for implementation of walking and cycling routes using the waterway infrastructure.	The British Waterways business plan has been added to Table 3 and will be treated as a relevant plan and programme to the LTP.
Q3 Do you agree with the key environmental issues identified? British waterways would like to add to the key environmental issues identified in the report, highlighting tourism and leisure as supporting economic regeneration.	This has been added to Table 19: Task A3 - The Key Issues and Implications for the Stoke-on-Trent LTP3
British Waterways would also like to highlight flooding and water management. These are particularly relevant in their relationship to sustainable transportation routes in times of flood. Culverts serving the canals are often located adjacent to roads and railways and	This is included in the Impact of climate change Key Issue

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changes to their capacity and or the amount of surface water run off can block, or flood culverts. It is important to assess, construct and maintain water structures to support drainage in a way which recognises and mitigates any transportation affect on the navigation, bridges and use of the towpath and any environmental impact from flooding on the habitats and economic activities adjacent or on the water.	
Q4 Are there any other key issues that should be considered? British Waterways considers that the use of water for transportation purposes should be considered and evaluated for lock free stretches of the waterway. Particularly where the area links to the Trent and Mersey navigation. The modal uses could include the transportation of heavy low value goods e.g. waste and building materials. In some areas the use of trip boats could contribute to local interest and vitality for in the main leisure and tourism purposes but also on occasion to the use for local commuting. The use of the towpath for walking, cycling should be linked into other transportation methods -modal interchanges for example cycles on buses and trains, sign posting from district centres along walking routes using the canal towpath, safe cycle routes to school linked to national cycle routes, supervised crossings and supervised routes etc. Accident and incident data along the towpaths should also be taken into account as this accident data may not be recorded by the police. Use of sustainable energy sources and material for transport methods and infrastructure e.g. solar power for lighting, wind power and micro hydro electricity generation as well as alternative fuels to support the transport infrastructure.	These suggestions will be incorporated into the strategic alternatives for the LTP Accident and incident data along the towpaths will be added as a potential indicator for SEA objective 5.maintain safety levels and improve security
Q8 Are there any other indicators that should be considered? British Waterways may have water flow indicator data for the canals in the area and details of pedestrian and cycle movements. There are pedestrian counters on some of our towpaths and the organisation carries out surveys of use of waterways by boaters and cyclists when funding is available.	Cycle monitoring on canal towpaths is included in the cycling trips indicator. Pedestrian and boaters data could help to monitor LTP schemes in detail, but maybe not at a strategic level.
Environment Agency	
Firstly, we support the inclusion of Objectives which are based around reducing CO2 emissions and adapt to the predicted consequences of climate change which includes reducing the risk of flooding and protection of water quality and resources. By following the 'New Approach to Appraisal' in the approach to the Scoping report we feel that the main environmental topics have been at	Noted

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identified. We recognise that the impacts and causes of climate change appear to be a key driver in the SEA and are encouraged that these will be carried into the emerging Local Transport Plan. **Climate Change** Climate Change Mitigation We support the aim of the Transport Plan to look to reduce CO2 emissions from transport by promoting alternative travel choices. We also support the aim of the LTP in that it will investigate ways to promote walking and cycling and other low carbon modes of transport. Climate Change Adaptation The Scoping Report is also clear in that it recognises the increasing importance of climate factors such as extreme weather events on the transport network and the wider environment. The recognition that LTP must identify and adapt transport networks vulnerabilities to the impact of climate change is again supported along with the appreciation of flood risk, surface water flooding and the promotion of SuDs systems to address these issues is also welcome.	
Flood Risk We support the overall content of the Scoping Report with where it references Flood Risk. Overall the information on Flood Risk Management contained in the Scoping report has been informed by the Strategic Flood Risk Appraisal undertaken by the council and informed by the West Midlands Regional Flood Risk Appraisal 2007) which was prepared to support the West Midlands Regional Spatial Strategy. Although the RSS itself may be revoked the evidence base which supported it is still valid and should be considered in this SA work.	Noted
Catchment Flood Management Plans (CFMPs) These Environment Agency Documents give an overview of the flood risk across each river catchment. They recommend ways of managing those risks now and over the next 50-100 years. CFMPs consider all types of inland flooding, from rivers, ground water, surface water and tidal flooding, but not flooding directly from the sea, (coastal flooding), which is covered in Shoreline Management Plans. They also take into account the likely impacts of climate change, the effect of how we use and manage the land, and how areas could be developed to meet our present day needs without compromising the ability of future generations to meet their own needs. Information of the relevant CFMPs for the Stoke area can be found at the following – http://www.environment-agency.gov.uk/research/planning/114350.aspx	The River Trent Catchment Flood Management Plan has been added to Table 3 and will be treated as relevant plan and programme to the LTP.

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We would advise that the SA Scoping should take account of any Surface Water Management Plans and Surface Flood Maps which are being conducted by the council or undertaken by neighbouring authorities.	Surface Water Management Plans and Surface Flood Maps have been added to Table 3 and will be treated as relevant plans and programmes to the LTP.
We consider Sustainable Drainage Systems (SuDs) techniques such as Swales etc should be used wherever possible along the transport network in its supporting infrastructure in order to protect against flooding and prevent water entering the existing sewerage network. SuDs will also help in protecting the quality of surface and groundwater's from pollutants and offer also offer habitat creation and biodiversity enhancement opportunities.	Sustainable Drainage Systems (SuDs) will be included as a mitigation and enhancement measure to LTP schemes.
Water Resources and Quality We support the recognition of the importance of the water environment in the document and its prominence in the NATA process. The section containing water data is a sound basis for the report although we recommend that requirements of the Water Framework Directive has altered the manner in which water quality (chemical and ecological) is now recorded. We would also recommend the SA fully consider the potential impacts on Groundwater Protection Zones, Source Protection Zones and the role of the River Basin Management Plans (RBMP) for the Humber (Trent). River Basin Management Plans (RBMPs) are the central tool for setting out the actions required to achieve the Water Framework Directive objectives in a collaborative and joined up way. They are the plans for protecting and improving the water environment and have been developed in consultation with organisations and individuals. They contain the main issues for the water environment and the actions we all need to take in order to make real progress in addressing them. Therefore we suggest the document should reference the new WFD classifications and the scoping report should refer to the Humber and the objectives contained within them. Humber RBMP - http://wfdconsultation.environment-agency.gov.uk/wfdcms/en/humber/Intro.aspx North West RBMP - http://wfdconsultation.environment-agency.gov.uk/wfdcms/en/northwest/Intro.aspx (parts of the extreme north of the Stoke area may drain to the Gowy/Weaver Catchment and the relevant RBMP information is contained in the North West document)	The Water Framework Directive (WFD) and the Humber RBMP and North West RBMP have been added to Table 3 and will be treated as relevant plans and programmes to the LTP. The WFD objectives have been referred to in Table 5 under Issues Raised by Plans and Programmes. Data from the Humber RBMP for Waterbodies in Stoke-on-Trent have been added to the baseline data section for the Water theme.

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Air Quality With regards to Air Quality issues relating directly to transport we would recommend the DEFRA publication "Low Emissions Strategies" document which provides advice on low emission transport projects and plans. This may be relevant to your scoping report and forth coming Sustainability Appraisal. This Good Practice Guidance is available at: http://www.defra.gov.uk/environment/quality/air/airquality/local/guidance/documents/low-emissions-strategies-2010.pdf In addition to this please find enclosed a copy of our position statement on reducing the environmental impacts of road and air transport, a copy of which is available on our website at: http://www.environment-agency.gov.uk/research/library/position/41181.aspx	Good Practice Guidance and Position Statement noted.
Biodiversity As previously stated the role of SuDs and Swales in providing multifunctional for Green Infrastructure and Greenways should be examined with the SA itself as they could play a potentially significant role in providing habitats, amenity spaces and biodiversity benefits.	These suggestions will be incorporated into the strategic alternatives for the LTP and will be included as a mitigation and enhancement measure to LTP schemes.
Contaminated Land Any new road building, widening and improvements schemes may impact on contaminated land which will require remediation. Stoke-on-Trent and the wider West Midlands Area has a long industrial history so dealing with contaminated land issues in a sustainable and environmental acceptable manner may be a key issue. It is also worth noting that some existing railway verges and track beds may contain polluted soils and materials which would again have to be considered in the event of maintenance and improvements.	Noted. This will be factored into the assessment of strategic alternatives.
Material Re-use We Support the aim of promoting the use of Construction and Demolition Waste and other recycled aggregates where appropriate and by using these materials there may need for the appropriate assessment, treatment and waste licensing as they may contain polluting materials. We also support the aim to reduce the amount of primary materials used in the maintenance and development of the network and this is in accordance with Mineral Planning Statement 1 – Planning and Minerals.	Noted. This will be incorporated into the strategic alternatives for the LTP and will be included as a mitigation and enhancement measure to LTP schemes.

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Joan Walley, MP Stoke-on-Trent North	
In principle I support the environmental objectives developed in your assessment but I believe my comments must be taken into full account if the plan is to deliver the environmental objectives that the report identifies.	Noted
Central to the transport plan must be measures to integrate transport services in a co-ordinated way. For example, the new bus station must have adequate cycle facilities, bus services to train stations must be timetabled to fit in with train services and there must be facilities so that passengers can cycle to stations easily and safely. There must also be consideration given to links to international, high speed rail links to Birmingham, Manchester and beyond. Only by making local transport as integrated and as easy to use as possible will people be encouraged to use it- and the more people use public transport the bigger the environmental gains will be. Furthermore, local services must be designed so that they connect the people of the Potteries to the jobs in the area, thus helping to achieve SEA Objective 9. Similarly, buses need to connect people to popular destinations such as shopping centres, leisure facilities and football clubs. Port Vale FC is currently excluded from the bus route planner and this must be addressed. Such an approach would contribute towards SEA Objective 8. It is also crucial to promote cycling and walking, given the environmental objectives of the LTP. Thus safe routes to school must be developed and improved, there must be a cycling hub at Stoke station as well as at Kidsgrove, Longport et al with cycle routes linking these sites up. The current cycling city plans must be integrated into the LTP so that they complement and improve on each other. Likewise, safe, well lit walkways must be considered so that people are able to walk rather than use cars. Promoting cycling and walking will be key to achieving many of the Plan's environmental objectives.	Noted. These will be incorporated into the strategic alternatives being assessed for the LTP.