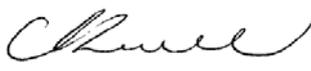
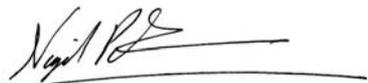


Northumberland's Third Local Transport Plan: Strategic Environmental Assessment

Volume 1: Non Technical Summary

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List of Acronyms

The following provided a list of acronyms used in this Non Technical Summary (Volume 1) of the Environmental Report:

AONB	Area of Outstanding Natural Beauty
BAP	Biodiversity Action Plan
CEMP	Construction Environmental Management Plan
CO ₂	Carbon Dioxide
CTR _N	Calculation of Road Traffic Noise
DaSTS	Delivering a Sustainable Transport Strategy
DCLG	Department of Communities and Local Government
DfT	Department for Transport
EIA	Environmental Impact Assessment
ER	Environmental Report
EU	European Union
HIA	Health Impact Assessment
HRA	Habitats regulations Assessment
IMD	Index of Multiple Deprivation
LDF	Local Development Framework
LTP	Local Transport Plan
NCC	Northumberland County Council
NMU	Non Motorised Users
NNR	National Nature Reserve
ODPM	Office of the Deputy Prime Minister
PM ₁₀	Standard for particulates
PPC	Pollution Prevention Control
ROWIP	Right of Way Improvement Plan
SAC	Special Area of Conservation
SCNI	Site of Nature Conservation Importance
SEA	Strategic Environmental Assessment
SSSI	Site of Special Scientific Interest
SUDS	Sustainable Urban Drainage Systems
UK	United Kingdom
UNCED	United Nations Conference on Environment and Development

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1 Introduction

1.1 Introduction

This report represents the Non Technical Summary (NTS) of the Strategic Environmental Assessment of Northumberland's Third Local Transport Plan (LTP3) prepared by Northumberland Country Council (NCC).

1.2 Strategic Environmental Assessment

In accordance with the SEA Directive (2001/42/EC) and Environmental Assessment of Plans and Programmes Regulations 2004, there is a requirement for the LTP3 to be the subject of a formal SEA. In addition to the SEA, a Habitats Regulations Assessment (HRA) and a Health Impact Assessment (HIA) have been undertaken alongside the preparation of the LTP3 and have informed the development of the LTP3 preferred policies.

1.2.1 Objectives of the SEA Directive

The objectives of the SEA Directive, as set out in Article 1 (2001/42/EC), are, "*to provide a high level of protection to the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development*". These objectives have been integrated into the relevant UK SEA Regulations.

1.2.2 Requirements of the SEA Directive

The five main requirements of the SEA Directive and the relevant UK SEA Regulations include:

- Preparation of an Environmental Report;
- Consultation;
- Taking the results of the Environmental Report and consultations into account in decision making;
- Providing information on the decision making; and
- Setting out a monitoring framework.

This SEA has been carried out in accordance with the information provided in the following guidance documents:

- A Practical Guide to the Strategic Environmental Assessment Directive (ODPM 2005);
- Guidance on Full Local Transport Plans (Dft 2004);
- Strategic Environmental Assessment Directive: Guidance for Local Planning Authorities (DCLG 2003);
- Strategic Environmental Assessment for Transport Plans and Programmes 'TAG Unit 2.11 (Dft 2004); and
- Towards a more efficient and effective use of Strategic Environmental Assessment and Sustainability Appraisal in spatial planning (DCLG 2010).

Additional guidance documents considered in the development of this SEA included:

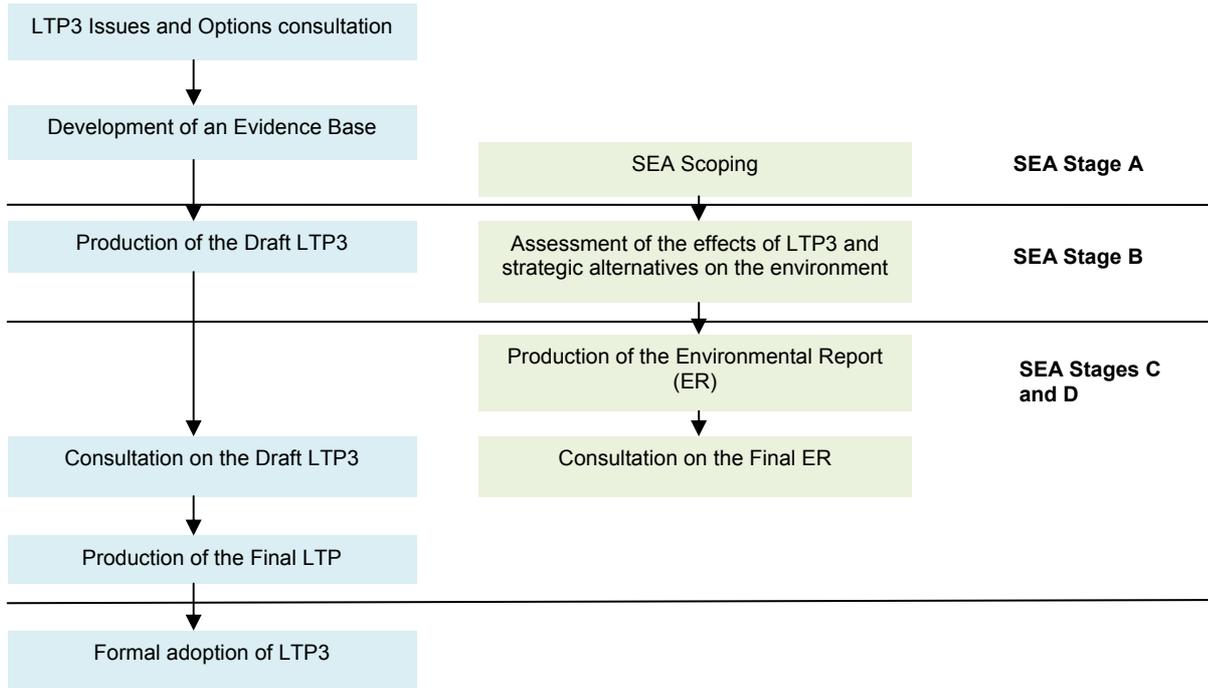
- Natural England Guidance note on Local Transport Plans and the Natural Environment (Natural England, no date);
- Natural England LTP and ROWIP Integration: good practice note (Natural England, no date);
- Strategic Environmental Assessment, Sustainability Appraisal and The Historic Environment (English Heritage, no date); and
- Natural England's Position on Transport and the Natural Environment (Natural England, no date).

1.3 SEA and the LTP3

SEA is an iterative process and this SEA has been carried out in conjunction with the preparation of the LTP3 to ensure any adverse effects of the plan on the environment have been identified, avoided and mitigated at the earliest opportunity. Figure 1 illustrates how the SEA has been undertaken alongside the LTP3.

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Figure 1: Development of the SEA alongside LTP3



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2 Overview of the LTP3

2.1 Background to LTP3

The LTP3 is intended to cover transport activities in Northumberland between 2011 and 2026.

The previous LTPs (LTP1 and LTP2) covered five year periods. The LTP3 will cover a longer period in order to bring the LTP3 into alignment with the emerging Local Development Framework (LDF) for the area. The process commenced with the preparation on the LTP3 Issues Paper which was issued for consultation in February 2010. The comments received on the Issues Paper helped identify the main priorities for transport within Northumberland.

The LTP3 is a strategy document and, as such, it does not contain comprehensive details of individual schemes but rather sets out overarching programmes for action, with examples of the types of measures that could be implemented. LTP3 will set out the main objectives for highways and transport for the 15-year period 2011 to 2026 together with the strategies and policies necessary to achieve them.

The Transport Act 2000 made it a statutory requirement for local highway authorities to produce LTPs. LTPs must be consistent with national and local objectives for highways and transport and in particular the policies contained within the national planning guidance, and the emerging LDF.

2.2 LTP3 Study Area

Northumberland is the northernmost county in England and acts as a gateway between England and Scotland. It borders Scotland to the north, Cumbria to the west and Durham and Tyne and Wear to the south. Geographically, Northumberland is one of the largest counties nationally, with a surface area of approximately 500,000 ha. Demographically however, it is one of the smallest counties in England, with a population in 2008 of only 311,000. There is an uneven population distribution with over half of the population living in the urbanised south east, which covers only 5% of the County's surface area. There is a very low population density in the rural north and west which creates particular challenges for the delivery of services.

The LTP3 for Northumberland will cover the new unitary council area of Northumberland Country Council. Following the unitary reform in 2009, the former districts of Northumberland were combined to form three service areas; North Northumberland, South East Northumberland and West Northumberland.

This SEA covers the environmental, social and economic considerations within Northumberland¹ and the potential for trans-boundary effects.

2.3 LTP3 Goals and Objectives

The LTP3 for Northumberland sets out the long term plans of the local authority for maintaining and improving transport provision in the area between 2011 and 2026. The plan seeks to address the five national Department for Transport (DfT) goals outlined below:

- Support Northumberland's economic competitiveness and growth by delivering reliable and efficient transport networks (**Support Economic Growth**)
- Minimise the environmental impact of transport by reducing carbon emissions and addressing the challenge of climate change (**Reducing Carbon Emissions**)
- Promote greater equality of opportunity by improving peoples' access to services (**Improving Access to Services**)
- Improve transport safety and security and promote healthier travel (**Safer and Healthier Travel**)
- Ensure that transport helps to improve quality of life for residents, employers and visitors (**Quality of Life**)

The Council proposes to adopt the following draft Objectives for the third LTP which explain how these goals will be achieved.

Table 2.1: LTP Goals and Objectives

Transport Goals	Objectives
Supporting Economic Growth Support Northumberland's economic competitiveness and growth by delivering	Existing Networks Improve the performance of existing transport networks in those places that show signs of increasing congestion and unreliability

¹ The Northumberland Country Council area.

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Transport Goals	Objectives
reliable and efficient transport networks	Additional Capacity Extend the reach of existing networks where it is needed to meet growing demand
Reducing Carbon Emissions Minimise the environmental impact of transport by reducing carbon emissions and addressing the challenge of climate change	Sustainable Travel Choices Deliver sustainable low carbon travel choices
	Network Resilience Strengthen our networks against the effects of climate change and extreme weather events
Safer and Healthier Travel Improve transport safety and security and promote healthier travel	Vulnerable Road Users Improve safety of the transport network, particularly for vulnerable road users
	Active Travel Enable and encourage more physically active and healthy travel
Improving Access to Services Promote greater equality of opportunity by improving peoples' access to services	Barriers to Travel Reduce the barriers preventing people travelling to services and facilities
	Need to Travel Reduce the need and distance for people to travel to access services
Quality of Life Ensure that transport helps to improve quality of life for residents, employers and visitors	Public Realm Improving streetscapes and the urban environment

2.4 LTP3 Interventions

Interventions have been developed to address the Key Challenges identified in the evidence base. Annex E of the DfT Guidance Document for LTPs sets out a series of possible measures and this was used as a starting point. Further interventions were taken from the DaSTS work (Delivering a Sustainable Transport Strategy) for Access to Tyne and Wear which AECOM has recently completed. A full set of interventions were developed following consultations with Northumberland County Council (NCC) and stakeholders whilst taking into account the thoughts and opinions of residents which were identified in the initial consultation exercises.

An overview of the intervention groups proposed in the LTP3 is given in Table 2.2.

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Table 2.2: LTP3 Intervention Groups

Transport Goals and Overview of Interventions			
Supporting Economic Growth	<ul style="list-style-type: none"> - Managing and Maintaining the Network <ul style="list-style-type: none"> - <i>Network Management</i> - <i>Transport Asset Management</i> - Increasing Network Capacity <ul style="list-style-type: none"> - <i>A19(T) Junction Improvements</i> - <i>A193 Cowpen Road Corridor, Blyth</i> - <i>A189 to Battleship Wharf</i> - <i>Telford Bridge, Morpeth</i> - Improving Local Bus Travel - Improving Rail Travel - Improving Facilities for Coach Travel - Improving Walking and Cycling for Tourists - Freight - South East Northumberland Public Transport Corridor - Morpeth Northern Bypass - Blyth Central Link Road - A1 Improvements - Inter-modal Freight Transport 	Safer and Healthier Travel	<ul style="list-style-type: none"> - <i>Safer for Children</i> - <i>Safer Drivers</i> - <i>Safer Infrastructure</i> - <i>Safer Speeds</i> - <i>Safer Vehicles</i> - <i>Safer Motorcycling</i> - <i>Safer Pedestrians, Cyclists and Horse Riders</i> - <i>Better Enforcement</i> - <i>Promoting Safer Road Use</i> - Deliver the Sustrans' Connect2 Project - Deliver the Links to School Project - Deliver the Blyth Active Travel Scheme - Promote Walking - Promote Cycling
Reducing Carbon Emissions	<ul style="list-style-type: none"> - Travel Planning <ul style="list-style-type: none"> - <i>Workplace Travel Plans</i> - <i>School Travel Plans</i> - <i>Residential Travel Plans</i> - Active Travel Choices - Influencing Demand - Marketing and Branding <ul style="list-style-type: none"> - <i>Travel Awareness Campaigns</i> - Sustainable Car Use <ul style="list-style-type: none"> - <i>Car Sharing Schemes</i> - <i>Car Club Schemes</i> - Low Carbon Vehicles - Highway Infrastructure <ul style="list-style-type: none"> - <i>Capital Programme to Strengthen Infrastructure</i> - <i>Maintenance and Resurfacing of Roads</i> - <i>Hard Surfacing and Improved Drainage on Footpaths and Cycleways</i> 	Improving Access to Services	<ul style="list-style-type: none"> - Widening Travel Choice - Reducing the Cost of Travel - Improving Travel Information - Increasing Accessibility for the Mobility Impaired - Increasing Personal Safety and Security
		Quality of Life	<ul style="list-style-type: none"> - No specific interventions identified* <p><i>*No specific interventions have been identified for the Quality Of Life Transport Goal, as this goal relates to those issues already identified for the other Transport Goals; many of the interventions for the other Transport Goal will have a positive impact on Quality Of Life.</i></p>

2.5 Development of the LTP3

This SEA was undertaken in conjunction with the development of the LTP3. Initially a set of eight intervention groups were developed for the LTP3: Highway Capacity Interventions, Public Transport Interventions, Smarter Choice Interventions, Freight Interventions, Non Motorised Users Interventions, Road Safety Interventions, Climate Change Interventions and Miscellaneous Interventions. These were then condensed into the five groups in Table 2.2 above.

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3 Existing Environment

3.1 Introduction

From a detailed review of baseline information the following key issues have been identified within Northumberland.

3.1.1 Environmental Considerations:

- Mainly rural County with some densely populated and urban areas.
- High quality environment of international importance in landscape, heritage and biodiversity e.g. Northumberland National Park.
- Large proportions of Northumberland are designated areas of nature conservation importance (International to Local level designations).
- Diverse landscape large proportions of which are of very high quality (AONB).
- Rich and diverse cultural heritage.
- Total CO₂ emissions in Northumberland have increased between 2005 and 2007.
- CO₂ emissions from road transport in the North East are set to increase.
- Designated Air Quality Management Area (AQMA) in Blyth Town centre.

3.1.2 Social Considerations

- There are areas of high deprivation and high wealth in Northumberland.
- Population growth is expected to be concentrated in rural areas, putting increased pressure on transport networks between rural areas and urban centres.
- Increasing proportion of elderly residents resulting in a requirement for increased transport to health facilities.
- Growth in number of households predicted – their location could put pressure on the existing transport network.
- Employment growth in the North East is centred in Tyne and Wear despite housing growth points being established in neighbouring authorities, resulting in a need to commute.
- Private car use is higher than the national average and car ownership in Northumberland is forecast to increase.
- Public transport usage in Northumberland is lower than national average.

3.1.3 Economic Considerations

- Population density is highest in South East of the County on the periphery of Tyne and Wear, where employment opportunities are located.
- There are insufficient jobs within many areas of Northumberland to support the population. People are required to commute to neighbouring areas, such as Tyne and Wear.
- Areas of low population density means that essential services and facilities are not commercially viable – leads to an increased need to travel.
- Tourism makes a significant contribution to the economy of the area, but the majority of tourist use private car to access the region which is affecting a number of tourist destinations including Northumberland National Park.

These issues have been taken into account within the assessment to ensure that the interventions set out within the LTP3 do not worsen and where possible seek to mitigate some of the issues.

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4 Approach and Method

4.1 Assessment Methodology

The assessment process comprises a series of four stages, the output from each informing the following stage as set out below. These stages include:

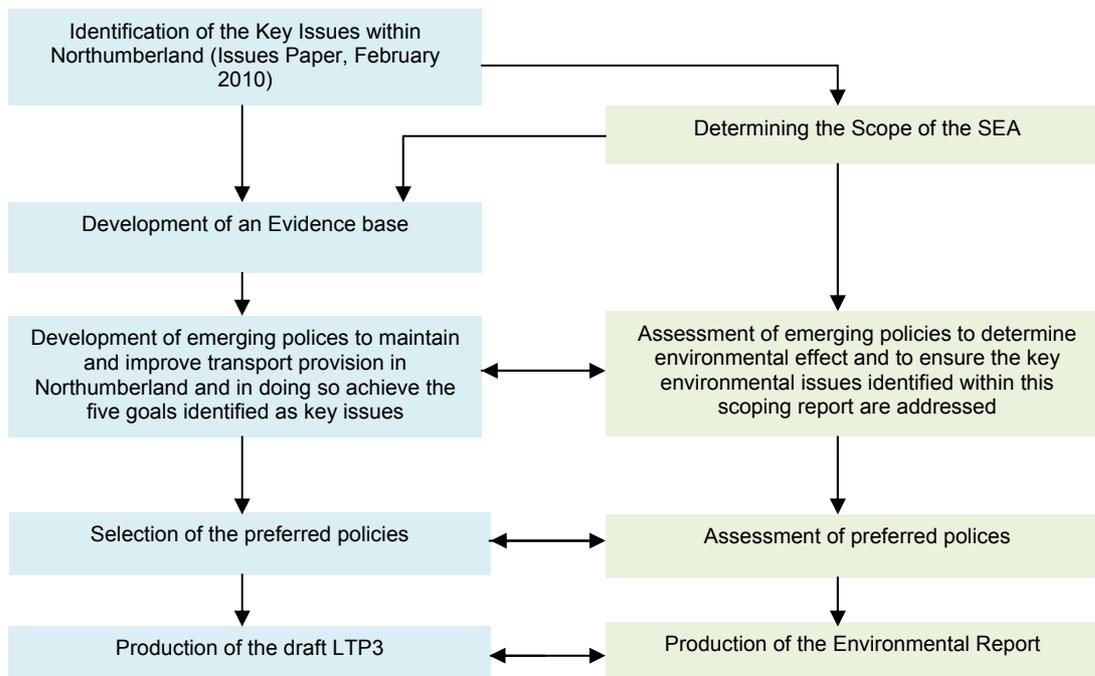
1. Establishing the baseline and subsequently highlighting any key issues (informed from the scope).
2. Assessing the effects of the proposed policies on the environment.
3. Assessing the cumulative and in-combination effects of the LTP3.
4. Identification of appropriate mitigation measures to avoid, reduce or offset any adverse effects that are identified and opportunities for improving the effectiveness of the LTP3.
5. Setting out any monitoring requirements as a consequence of this assessment.

4.1.1 Assessing the Effects of the LTP3

SEA is an iterative process which can be used to inform selection of the preferred policies. Figure 2 below illustrates how the SEA process has informed the development of the LTP3 policies and the selection of the preferred policies to ensure they are environmentally sustainable.

The assessment did not involve any weighting of the SEA topics and each topic has been considered in terms of its own value. The main purpose of the SEA is to provide guidance and advice on where potentially significant adverse effects could occur and how these can be avoided or reduced. It is not the role of the SEA to determine which of the topics assessed are of greater or lesser value than others.

Figure 2: The SEA process in the development of the LTP3



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4.1.2 Evaluation Criteria

The evaluation criteria that have been used in the assessment of the LTP3 reflect the strategic high level nature of this SEA. Table 3.2 sets out the evaluation criteria that have been used to assess the effects of the LTP3 interventions.

Table 3.2: Evaluation Criteria

Potential Effect		Evaluation Criteria
Significant Adverse	**	The precise measure for significant adverse effect will vary across the different SEA topics. However, in general, the key factors influencing the potential for a significant adverse effect to occur are likely to include: <ul style="list-style-type: none"> - Permanent, long term or irreversible change in baseline conditions e.g. reduction in quality of baseline environment or effect on baseline features (receptors) - Direct and indirect effect on baseline features of international or European importance e.g. habitats, species and sites designated under the EU Habitats or Birds Directives. - Direct effect on baseline features of national importance (e.g. habitats or species of national value/importance)
Negative	*	As above, the measure of negative effect will vary across the different SEA topics. However, in general, the key factors influencing the potential for a negative effect to occur are likely to include: <ul style="list-style-type: none"> - Temporary, short term or reversible change in baseline conditions e.g. reduction in quality of baseline environment or effect on baseline features (receptors) - Indirect effect on baseline features of national importance (e.g. habitats or species of national value/importance) - Direct effect on baseline features that are not designated under international, European or national legislation
No Impact	=	The will be no interaction between the LTP3 policies and the baseline environment / feature.
No Change From Baseline	~	There will be no change in baseline environment/features resulting from the implementation of the LTP3 policies.
Slight Beneficial	✓	The implementation of the LTP3 policies will have a slight positive effect on the baseline environment/features.
Beneficial	✓✓	The implementation of the LTP3 policies will have a positive effect on the baseline environment/features.

4.2 Consultation Workshop

An SEA workshop was held on 16 September 2010. A number of delegates were invited from Northumberland County Council, the Environment Agency, Natural England, English Heritage, National Parks, Institute of Occupational Medicine, Strategic Health Authority and the Care Trust.

The aim of the workshop was to discuss the initial assessment of the Northumberland LTP3 and was used to collate the delegate's views and comments based on their local knowledge and expertise to ensure the assessment was appropriate to both the plan and had considered the local environment.

The discussions held at the workshop were use to steer the SEA and recommendations made were taken into account in the preparation of the Environmental Report.

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5 Assessment Results

5.1 Introduction

The assessment was carried out in two stages. The first stage identified potential short term environmental effects that the interventions could have on the environment as a result of construction practices and the second stage assessed potential permanent effects which could result as consequence of implementing the plan.

5.2 Construction Impacts and Mitigation

Some interventions are predicted to have potential temporary negative effects on the environment as a result of construction activities. However, the majority of these effects are temporary in nature and the potential impact can be avoided or reduced through mitigation. There are 13 interventions that have been identified as having the potential for temporary negative environmental effects as a result of construction activity; these mainly relate to the interventions which set out highway improvements.

Table 4. details the potential negative effects on each of the SEA topics that may arise from construction activities associated with the interventions above. For each of these negative effects, recommended mitigation measures are shown. These mitigation measures given in Table 4.1 have been taken into account in the assessment of construction effects. Provided that further environmental assessment is undertaken (whether this be a full Environmental Impact Assessment (EIA) or specific air quality, noise and protected species surveys) for those interventions that are likely to have potential adverse effects during construction, no adverse effects are predicted.

For the larger schemes a Construction Environmental Management Plan (CEMP) will be developed and fully implemented prior to construction. This will ensure that proposed mitigation measures and good practice measures are adhered to.

Table 4.1: Typical Construction Impacts and Mitigation

SEA Topic	Potential Impacts	Mitigation
Biodiversity	- Vegetation removal - Loss of habitat	- Minimise tree/vegetation/topsoil removal - Habitat restoration
	- Loss of protected species	- Protected species surveys - Timing of construction - Footbridges and underpasses
	- Hedgerow removal	- Avoid/ minimise removal - Replanting of hedgerows
	- Impacts on breeding / wintering birds	- Site clearance outside the bird breeding season - Breeding bird surveys
Landscape	- Visual impacts of construction activities	- Techniques to integrate the scheme into the surroundings - Visual barriers (fencing /hedge planting) - Retain and manage existing vegetation
Archaeology and Heritage	- Impacts on Scheduled Monuments, listed buildings or structures	- Consult with Country Archaeologist prior to construction - Minimise and monitor ground disturbance
	- Impacts on unknown archaeology due to excavation work	- Geophysical surveys - Archaeology watching brief
Water	- Temporary discharges/ risk of pollution	- Use of construction SUDS and adoption of best practices to avoid pollution of watercourses
	- Pollution incidents and run off	- Consultation with the Environment Agency and obtaining the necessary temporary discharge consents - Adoption of best practices to avoid pollution of watercourses e.g. Construction Pollution Prevention Guidelines - Monitoring of Private Water Supplies

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SEA Topic	Potential Impacts	Mitigation
		- Appropriate storage of fuels and solvents.
Noise	- Noise and vibration resulting from construction activity (machinery, construction traffic)	- Restrict hours of operation - Use of Best Practicable Means, such as low noise emission machinery - Erection of temporary noise screens where required
Air	- Dust and particulates	- Follow appropriate guidelines for construction dust management - Implementation of construction traffic management plans
Climatic Factors	- Emissions from construction vehicles	- Types of vehicles used - Implementation of construction traffic management plans which should also include guidelines for good practice such as ensuring the ignition is turned off when not in use
Soil	- Erosion or damage to soil	- Implement soil erosion prevention measures outlined in Best Practice Guidance
	- Land contamination	- Pre-construction surveys and application of Good Practice Guidelines
Population	- Nuisance (noise odour, dust)	- Good Practice Guidelines - Consultation with the Environmental Health Officer (EHO)
	- Changes to public transport timetables	- Liaise with residents
	- Construction traffic	- Traffic management and calming - Limit construction working hours
Material Assets	- Damage to existing infrastructure	- Regular inspections
	- Demand for construction materials	- Reuse of materials where appropriate
Human Health	- Accidents from construction traffic - Poor air quality due to construction dust - Noise from construction traffic and machinery	- Noise insulation - Appropriate construction methods - Speed regulations - Consultation with the EHO - Follow appropriate guidelines for construction dust management
All Topics	- Various	- Development of a CEMP

5.3 Operational Impacts

Generally the interventions seek to encourage a modal shift from reliance on the private car to more sustainable forms of transport. In particular the plan aims to identify measures to increase the amount of sustainable transport to dispersed rural communities.

The interventions which require the construction of new infrastructure such as new roads and cycle and footpaths have the potential to have adverse effects on landscape and on biodiversity associated with habitat loss and the addition of lighting into previously unlit areas. Where interventions seek to increase the frequency of train services and introduce increased traffic flows from diversions away from currently congested routes these have the potential to have negative effects from increased noise on nearby receptors.

Overall the plan is aimed at improving public transport services and reducing congestion especially in the south east of the County having positive effects on population and human health. This will also result in positive effects on biodiversity, air quality, water quality, noise and will contribute to a reduction in carbon emissions.

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5.4 Existing Schemes

It is recognised that the Morpeth Northern Bypass scheme is already underway. An Environmental Impact Assessment (EIA) for the Morpeth Northern Bypass scheme has been undertaken which will be submitted with the planning application. The planning application for the scheme was due for submission in late spring/summer 2010, but has not been submitted to date.

As part of the EIA process, a number of mitigation measures have been proposed to ensure adverse environmental impacts are limited. For example, the design of the bypass has been sensitive to the relationship between the proposed road and the existing landscape. Additional mitigation measures include measures to protect biodiversity.

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6 Cumulative Effects

6.1 Introduction

Chapter 12 of the Environmental Report (Volume 2) sets out any cumulative effects of implementing the interventions identified within the LTP3. The cumulative effect of multiple interventions on a SEA topic as well as the cumulative effect between SEA topics has been considered.

6.2 Cumulative Effects

6.2.1 Construction Effects

Negative cumulative effects are possible on a number of SEA topics if two major schemes (such as the Highway Capacity interventions) were to be constructed at the same time and in the same general area. This could result in disturbance to the local population in terms of noise and traffic. Cumulative effects on the natural environment are also possible, particularly for water and biodiversity. However, provided that the mitigation measures are implemented and consideration is given to appropriate timing of works, there are unlikely to be any negative cumulative effects.

6.2.2 Operational Effects

Although the majority of interventions presented within the LTP3 (and therefore the LTP3 as a whole) are likely to have predominantly positive effects, there are requirements for infrastructure improvements to support greater use of public transport (e.g. rail and road) and to support more sustainable freight transport (e.g. port infrastructure and rail/road/sea interchanges). The placement of significant infrastructure is likely to give rise to significant adverse effects on landscape and negative effects on most SEA topics if not designed appropriately and if mitigation measures are not put in place.

Through appropriate mitigation measures, compliance with legislative requirements and application of best practice these effects can be reduced, although there are likely to be some residual negative effects on climate and landscape.

Overall, with the exception of some residual negative effects, it is expected that the cumulative effect of the implementation of all groups will have a positive effect on environmental, social and economic outcomes.

Both beneficial and negative cumulative effects have been considered. Beneficial cumulative effects have been identified for the following SEA topics: Biodiversity, Water, Noise, Air, Climatic Factors, Population, Material Assets and Human Health.

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7 Mitigation

7.1 Introduction

Mitigation measures are required where effect cannot be avoided and opportunities for enhancement that have been suggested to increase the overall 'sustainability' of the LTP3.

7.2 Mitigation Measures

Part of the SEA assessment process requires the identification of measures to prevent, reduce or offset any significant adverse effects likely to occur as a result of implementing the LTP3 and to maximise the plans performance in terms of sustainability. These are commonly referred to as mitigation measures, and include both the proactive avoidance of adverse effects as well as the identification of actions to be taken once effects are identified. Measures also often include recommendations for improving beneficial effects.

There are also likely to be longer term (operational) effects associated with the use of any new infrastructure, in particular on landscape, biodiversity, noise and water quality/flood risk. It is expected that the majority of the potential environmental effects can be avoided or minimised through the implementation of appropriate mitigations measures. Proposed mitigation measures for operational effects are listed in Table 6.1.

Table 6.1: Proposed Mitigation Measures

SEA Topic	Mitigation Measures and Enhancement
Biodiversity	<ul style="list-style-type: none"> - All schemes with the potential to affect sites of international nature conservation importance (SPAs, SACs and Ramsar Sites) will be subject to an Environmental Impact Assessment (EIA) and an Appropriate Assessment, as required under the Habitats Directive. - Scheme or initiatives that are likely to affect one or more of the Northumberland SSSIs will be subject to a formal screening exercise prior to development to determine the need for an EIA. - Appropriate surveys will be carried out where there is potential for a programme of action or major scheme to have an adverse effect on Protected Species (under the Habitats Directive), European Species (under the Wildlife and Countryside Act 1981) or Priority BAP species. - Appropriate surveys will be carried out where there is potential for a programme of action or major scheme to have an adverse effect on priority BAP habitats or sites of local wildlife importance. - Appropriate surveys will be carried out where there is potential for schemes or initiative to have an adverse effect on badgers as required under the Badger Act 1992. - Appropriate surveys will be carried out where there is potential for schemes or initiative to have an adverse effect on bats as required under the Conservation (Natural Habitats &c) Regulations 1994. - Biodiversity and geodiversity enhancements will be implemented where appropriate e.g. use of wildflower mixes on grass verges and in other landscape schemes, use of native tree species in landscape schemes, creation of new habitats for protected species e.g. ponds (great crested newts), and the creation of 'green ways' and wildlife corridors along footpaths and cycleways, to encourage the movements of species.
Landscape	<ul style="list-style-type: none"> - Carry out an EIA for any scheme that will potentially have an effect on Areas of Outstanding Natural Beauty (AONBs), National Park or Heritage Coasts. - Landscape assessment will be carried out for large schemes (as part of the EIA) to determine the exact effect of the scheme on landscape character, quality and key landscape features. - High quality design and construction principles will be applied to all new developments and scheme involving modifications and improvements. - Refer to the Countryside Agency Design Guide for Roads in Rural Areas. - All schemes will be appropriately designed for the location. - All schemes will be maintained to ensure that they remain in good condition.

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SEA Topic	Mitigation Measures and Enhancement
	<ul style="list-style-type: none"> - Landscaping schemes will be implemented in sensitive landscape areas. - All schemes will retain key landscape features (e.g. footpaths, hedgerows, trees) where possible. - Where key landscape features have to be removed/modified or landscape character will be temporarily altered Landscape Management Plans will be produced highlighting how the affected areas will be restored, replaced and enhanced. - All landscape schemes will incorporate biodiversity enhancements where appropriate e.g. use of native species, creation of greenways and green networks. - The LTP3 will improve the quality and appropriateness of street furniture (e.g. bins), lighting, public transport facilities and signage to ensure that they are appropriate to the location and do not have a negative effect on streetscape. - Improve and maintain the quality of existing roads, footpaths and cycleway. - Ensure that all new transport schemes in conservation areas of a high quality and are appropriate to the character of the conservation area and its setting. - Ensure that pedestrianised areas are of a high quality design that enhances the appearance of the location. - Ensure streetscape improvements, where possible incorporate measures to protect and enhance biodiversity e.g. ensure that street lighting schemes do not have adverse effects on bats; identify opportunities for the creation of habitats in pedestrianisation schemes; or create greenways along new and existing public rights of way.
Archaeology and Heritage	<ul style="list-style-type: none"> - Surveys will be undertaken prior to the implementation of a scheme to determine the whether it will effect sites or areas of archaeological importance. - New transport schemes that are likely to generate an increase in traffic (road or rail) will be assessed prior to installation to determine whether the vibrations that would be generated from the traffic would cause damage to listed buildings. Where the levels of vibration would have adverse effects on a listed building the scheme may require modification or removal. - Adverse effects on the character and quality of conservation areas will be avoided or reduced by improving the quality, design and appropriateness of street furniture, lighting, road signs, safety features, public transport facilities (bus stops) and by reducing street clutter. Improvements to the quality and design of new and existing highways, footpaths and cycleways will also have positive effects on the character and quality of conservation areas. - By reducing congestion the LTP3 will also have a positive effect on the character and quality of conservation areas by reducing or removing the intrusion of road traffic.
Water	<ul style="list-style-type: none"> - Ensure that all new transport schemes and transport improvement works involving construction activities adhere to appropriate environmental protection standards, good codes of practice, construction principles and design guides to ensure that the correct measures are implemented to prevent the pollution of surface water and groundwater. - Ensure all new transport schemes and transport improvement works will implement appropriate measures to minimise pollution from surface water runoff e.g. oil separators and silt traps. - Where new transport schemes and transport improvement works are likely to cause disturbance to contaminated land, advice will be sought from the Environmental Health Departments of the relevant Local Planning Authority. Where necessary PPC (Pollution Prevention Control) Permits will be obtained from the Environment Agency. - In areas where there are high water tables surveys will be required prior to the implementation of schemes involving construction activities to ensure that the there are no breaches of the groundwater and there are not future risks of groundwater pollution from road drainage schemes. - Where a scheme may effects sensitive wetlands (SPAs, Ramsar Sites, SSSIs) an EIA and Appropriate Assessment will be required to ensure that any changes to water quality or drainage patterns do not have

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SEA Topic	Mitigation Measures and Enhancement
	<p>adverse effects on the integrity of the wetland.</p> <ul style="list-style-type: none"> - In accordance with Planning Policy Statement 25: Development and Flood Risk, and on advice of the Environment Agency, Flood Risk Assessments will be carried out for all new schemes and transport infrastructure improvements that are to be located in 'flood risk zones 2 or 3' or by their nature have to the potential to cause flooding. - All new transport schemes and transport infrastructure schemes that are located in coastal areas will be assessed prior to implementation to ensure that they do not compromise existing coastal flood defences and do not prevent the installation of future coastal flood defences. - All new transport schemes and transport infrastructure schemes that are located in coastal areas will be assess prior to installation to ensure that they will not increase risk, or current rates of coastal erosion. - Promote the implementation of Sustainable Urban Drainage Schemes (SUDS) in all new transport developments.
Noise	<ul style="list-style-type: none"> - Carry out noise impact assessments involving: <ul style="list-style-type: none"> - Ambient noise survey at identified noise sensitive locations - BS 5228 assessment and mitigation - Development of noise mitigation based on BS 4142 - Traffic assessment in accordance with CTRN - Implement appropriate noise attenuation measures where there is potential for schemes or initiatives to have an adverse effect on noise levels.
Air	<ul style="list-style-type: none"> - Carry out air quality assessment where new developments, infrastructure schemes are likely to lead to a localised increase of traffic e.g. park and ride schemes. - Carry out air quality assessments to determine need for dust abatement measures to be implemented during construction of new infrastructure. - Work in partnership with Local Planning Authorities to ensure public transport improvements and infrastructure improvements target areas of highest demand/need.
Climatic Factors	<ul style="list-style-type: none"> - Ensure that annual traffic monitoring is carried out to identify areas of traffic increase and congestion as they develop so that measures can be taken to reduce congestion and manage traffic growth as it occurs. - Ensure that the interventions to improve the sustainable road freight network, sustainable freight management and rail freight schemes are implemented effectively to promote rail/sea as an attractive and viable alternative mode of transport for moving freight and to improve the efficiency of road freight to minimise adverse effects on the environment.
Soil	<ul style="list-style-type: none"> - Develop partnership working to ensure that the all new developments located on areas of previously developed land are accessible by public transport. - Investigate the implementation of schemes that will encourage and support future economic growth and the reuse of previously developed land. - Where new transport schemes and transport improvement works are likely to cause disturbance to contaminated land, advice will be sought from the Environmental Health Departments of the Local Planning Authorities. Where necessary PPC (Pollution Prevention Control) Permits must be obtained from the Environment Agency. - Develop partnership working to ensure that new transport schemes minimise the use of greenfield land and the severance of agricultural land holdings.
Population	<ul style="list-style-type: none"> - Ensure adequate consultation is carried out with rail passengers and other stakeholders with regards to any disruption of rail timetables due to implementation of any intervention.
Material Assets	<ul style="list-style-type: none"> - Ensure appropriate measures are put in place to mitigate any impact associated with the increased maintenance that may result from an increased frequency of train services.
Human Health	<ul style="list-style-type: none"> - No specific mitigation measures identified.

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7.3 Enhancement Opportunities

One of the outcomes of the consultation workshop was that there is a need to combine certain interventions with others in order to encourage a modal shift to public transport. Beneficial effects are possible for a number of SEA topics (biodiversity, water, noise, air and climate) if certain interventions are combined with others to result in a modal shift. This applies particularly to the Public Transport interventions group and Some Smarter Choice interventions.

7.4 Summary of Residual Effects

After these mitigation measures are accounted for, the potential effect that remains is the residual effects. Some Highway Capacity interventions have the potential for negative residual effects; however, these interventions will need to be subject to further environmental assessment (EIA or equivalent) at which stage a residual effect can be appropriately determined. Generally the interventions set out within the plan are aimed at a modal shift from reliance on the private car to more sustainable forms of transport and improved services to dispersed rural communities. Providing appropriate design where new infrastructure is required and where the addition of signage is required this is used appropriately there are unlikely to be any residual effects. The SEA has however, identified a potential for a residual negative effect associated with increased home working and increased energy consumption.

7.5 Mitigation of the LTP3 as a Whole

The SEA has concluded that the LTP3 and the interventions included in the plan are unlikely to have any significant adverse effects on the environment. Consequently there have been no suggested changes or amendments to the plan or the individual interventions. However, the assessment has identified that there is potential for some of the interventions to have negative effects on the environment during construction. There may also be some residual negative operational effects. In order to minimise these negative effects, and avoid the potential for the occurrence of significant adverse effects, all infrastructure schemes taken forward/implemented under the LTP3 will be required to be subject to appropriate environmental assessments/appraisals and would be required to take into account the scheme and SEA subject specific mitigation measures outlined in the ER.

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8 Monitoring

8.1 The Monitoring Framework

The monitoring framework present in Table 7.1 includes a number of possible indicators that could be used to monitor the implementation of the LTP3. However, taking into account the limitations associated with this approach it is suggested that monitoring is tied into the future reviews of the LTP3 and is related to monitoring the number and type of schemes that have been implemented during the year. This would include a review of the environmental works / studies and assessments undertaken to support these schemes as suggested as part of the mitigation.

The monitoring framework set out in Table 7.1 below is preliminary and will be confirmed at the time of the adoption of LTP3. During public consultation additional data sources may be identified which should be incorporated into the monitoring framework.

Table 7.1: Suggested Monitoring Framework

SEA Topics	SEA Objectives	Indicators
Biodiversity	1. To protect and enhance Northumberland's biodiversity and geodiversity and to safeguard protected species.	- % of SSSIs in 'favourable' or 'unfavourable recovering condition
		- Change in area (ha) of designated biodiversity sites
		- Change in area (ha) of BAP Habitat.
		- Proportion of local sites where active management is being achieved
Landscape	2. To maintain and enhance the local distinctiveness, character and appearance of Northumberland's rural and urban land and landscapes, including the public realm.	- Area of ancient woodland removed due to transport schemes
		- Change in area (ha) of designated landscapes e.g. AONB
		- Number of new/ proposed transport schemes in areas of land designated for its landscape quality or amenity value (AONB), national parks etc.
Archaeology and Heritage	3. To protect and enhance Northumberland's buildings, sites, areas and features of historic, archaeological and architectural interest and diversity.	- Number of schemes promoting landscape enhancement in urban fringe landscapes
		- Number of applications for listed building consent (including demolitions) and scheduled monument consent associated with transport projects
		- Number of transport schemes affecting historic parks and gardens
Water	4. To reduce the risk of flooding. 5. To protect and enhance the quality of Northumberland's ground, river and sea waters.	- Number of transport schemes located within or affecting conservation areas
		- Number of new transport infrastructure developments located in Flood Zones 2 & 3
		- % of new transport infrastructure developments incorporating SUDS features
Noise	6. To reduce transport related noise.	- % river length within Northumbria River Basin District achieving Good Ecological Potential
		- Levels of noise pollution
Air	7. To ensure good local air quality.	- Number of complaints received/resolved with regard to noise
		- Number of Air Quality Management Areas

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SEA Topics	SEA Objectives	Indicators
		<ul style="list-style-type: none"> - European Sites Affected by Air Pollutants (Critical load exceeded) - Annual average concentration of NO₂ (Local Air Quality Management Progress Report) - Annual average concentration of PM₁₀ (Local Air Quality Management Progress Report) - Volume of traffic in billion vehicle kilometres (bvk)
Climatic Factors	<p>8. To reduce the causes of climate change.</p> <p>9. To adapt to and mitigate for the effects of climate change.</p>	<ul style="list-style-type: none"> - Transport related CO₂ emissions - Number of buses and Local Authority vehicles with Euro 3 or above - Proportion of people travelling to work by car - Proportion of people walking/cycling to work - Proportion of children travelling to school by car - Distances travelled to work - Amount of freight using rail - Amount of freight using water
Soil	10. To reduce the amount of waste produced and increase the amount recycled and composted.	<ul style="list-style-type: none"> - Proportion of materials used in transport developments that are from secondary and recycled sources - Proportion of construction and demolition waste that is reused and recycled
Population	<p>11. To ensure good accessibility for all to jobs, facilities, goods and services in Northumberland.</p> <p>12. Conserve and enhance opportunities for sustainable public access to the natural environment.</p> <p>13. To reduce road traffic and congestion through reducing the need to travel by car and improving travel choice.</p> <p>14. To increase public involvement in decision-making and civic activity.</p>	<ul style="list-style-type: none"> - The percentage of persons overall economically active - The percentage of f working population age seeking Job Seekers Allowance - Bus patronage levels - Rail patronage - Ward unemployment levels - % of schools with Travel Plans. - No. of employees working for businesses with Travel Plans. - % of people travelling to work in private car involved in carshare schemes.
Material Assets	<p>15. To increase the vitality of town centres.</p> <p>16. To make better use of our resources.</p> <p>17. To improve efficiency in land use through the re-use of previously developed land and existing buildings, and encourage urban renaissance.</p> <p>18. Adopt a strategic approach to planning and provision of multi functional green infrastructure</p>	<ul style="list-style-type: none"> - Amount (ha) of best and most versatile land lost to development - Number of new developments completed on previously developed land.
Human Health	19. To reduce crime and the fear of crime.	<ul style="list-style-type: none"> - % of SOAs in lowest 20% IMD Health Domain.

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SEA Topics	SEA Objectives	Indicators
	20. To improve health and reduce inequalities in health. 21. To reduce poverty and social exclusion and close the gap between the most disadvantaged communities and the rest.	- % of residents feeling 'safe' or 'fairly safe' outside in the local authority area after dark.

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9 Conclusions

9.1 SEA Conclusions

The Environmental Report was prepared as part of the SEA of Northumberland Country Council's (NCC) 3rd Local Transport Plan (LTP3). The LTP3 for Northumberland sets out the long term plans of the local authority for maintaining and improving transport provision in the area between 2011 and 2026.

The LTP3 seeks to address the five national DfT goals: Support Economic Growth; Reducing Carbon Emissions; Improving Access to Services; Safer and Healthier Travel; and Quality of Life. Based on these goals, NCC developed a set of objectives for the LTP3 and identified a range of interventions to address the key challenges identified from the LTP3 evidence base.

An SEA of these interventions has been undertaken in order to identify likely significant construction, operation and cumulative effects on the environment. An assessment of the alternatives (Do Nothing and Continuation of the LTP2) was also undertaken.

A number of the LTP3 interventions were predicted to have potential temporary negative effects on the environment as a result of construction activities; however, the majority of these effects are temporary in nature and can be avoided or reduced through mitigation.

A number of operational negative effects (landscape, biodiversity, noise and water quality/flood risk) have been identified as a result of the assessment of the LTP3. The majority of these relate to proposed large scale infrastructure developments.

As the interventions provided within the LTP3 are generally very high level policies or schemes and without site specific proposals it is not practical to identify specific mitigation measures. However, these interventions will be subject to further environmental assessment (EIA or equivalent) at which stage a residual effect can be appropriately determined

The assessment concluded that provided that the recommended mitigation measures are implemented, there should be no significant adverse residual effects on the environment, with only one intervention assessed as having a residual negative effect.

The assessment identified a number of beneficial effects for biodiversity, water, noise, air, climate, population, material assets and human health. The majority of beneficial effects are associated with a modal shift to public and sustainable forms of transport and highway capacity improvements. Further beneficial effects are possible if some interventions are combined with other measures to help achieve a modal shift.

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10 Next Steps and Consultation

This Non-Technical Summary of the Environmental Report (Volume 1), the Environmental Report (Volume 2), the Environmental Report Appendices (Volume 3) and the draft LTP3 will be available for consultation from **18 November 2010 until 21 January 2011**.

All comments received on the Draft LTP3 and the Environmental Report will then be reviewed and addressed where appropriate prior to adoption of the LTP3 in **spring 2011**.

An SEA Post Adoption Statement will be published once the LTP3 is adopted. This will set out how the findings from the SEA and comments from public consultation have been integrated into the final LTP3.

The Environmental Report is available to download from the NCC website:
http://northumberland.limehouse.co.uk/portal/transport/local_transport_plan/

All comments received from consultation on the Environmental Report will also be available to view on the website. Comments on the Environmental Report and LTP3 should be submitted by:

Email to: Ian.Jopling@northumberland.gov.uk

Post to: Ian Jopling
Northumberland County Council
County Hall
Morpeth
Northumberland
NE61 2EF

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