

# Landscape Indicators for Strategic Environmental Assessment of LTPs – issues to consider

A discussion paper prepared for: Countryside Agency (LAR Division)



Prepared by: Peter Nelson and Maritta Boden

(Land Use Consultants)



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## LANDSCAPE INDICATORS FOR SEAs OF LOCAL TRANSPORT PLANS

### PURPOSE

1. This note discusses the development and application of landscape indicators in SEAs of Local Transport Plans (LTPs). It begins by summarising the underlying requirements and then considers baseline information that is likely to be available to most local authorities. The practical difficulties of quantifying the nature and magnitude of landscape changes are acknowledged and the most promising areas of investigation are highlighted. The note stresses that for most authorities it will be necessary to develop individual and locally relevant indicators in the absence of national standards which are under development.

### LANDSCAPE OBJECTIVES, TARGETS AND INDICATORS

2. Landscape is one of the environmental characteristics that is specifically identified in the 'SEA' Directive and in the UK Regulations (Environmental Assessment of Plan and Programmes Regulations S1 2004 No 1633). It is essential that every SEA of an LTP should give due weight to landscape issues.
3. The SEA Directive and UK Regulations do not specifically require the use of objectives, targets or indicators, but they are a beneficial mechanism to describe, analyse and compare environmental effects. An **objective** is a statement of what is intended, specifying a desired direction of change. **Targets** should be set to describe what results are required within a specific timescale and **indicators** provide the tool for determining whether or not targets are met.
4. The basic requirements for all forms of transport indicators are set out in the *Full Guidance on Local Transport Plans, Second Edition, DfT (2005)*. This states that indicators should be based on the hierarchy of targets defined within LTPs. In addition, the plan should include Local Transport Targets for outcome indicators that are visible and clearly linked to the plan authorities' wider vision and objectives.

#### Scope

5. To be effective, indicators need to be targeted on measurable attributes. This is less easy to achieve for landscape than for other environmental characteristics like noise or air and water quality. Nevertheless it is possible to define landscape characteristics that are measurable in a qualitative if not quantitative way. Landscape in this context is taken to include both countryside and townscape.
6. Policies and proposals in local transport plans can affect landscape and townscape in two basic ways. Firstly they can impact on 'quality' leading either to the enhancement or deterioration in features that are valued by society. Examples would include unsympathetic road widening in a designated landscape, or construction of a fly-over adjacent to a major

public building. Secondly, LTP policies and proposals can affect the 'character' of the landscape or townscape. Effects of development or changes in transport patterns on character are likely to be more subtle and take place over longer time spans than those affecting 'quality'. A third consideration relates to the fact that LTP policies and programmes can affect not only the physical form and perceptions of landscape and townscape, but also people's enjoyment of these assets.

## PROVIDING BASELINE INFORMATION

7. It is common experience that it is easier to create indicators than to find the evidence that will ensure the indicator is effective. With both landscape and townscape there is really no substitute for properly researched assessments of existing quality and character as a basis for developing indicators.
8. **Landscape Quality:** In its 2002 Rural White Paper, the Government called for a new indicator of change in countryside quality in order to ensure that policies are developed on sound evidence. The Countryside Agency (CA) has commissioned research which is leading towards an indicator for change in countryside quality based on an analysis of:
  - The transformation in woodland boundary features,
  - Agriculture,
  - Settlement and development,
  - Semi natural habitats,
  - Historic features,
  - Rivers and coastal elements within the Joint Character Areas of England.
9. Potential indicators cover:
  - The **extent or stock of characteristic landscape element** (semi natural vegetation, types of woodland, build and settlement, hedgerows and trees),
  - Whether these characteristic elements are in good **condition and** subject to appropriate **management** (roadside verges, conditions of streams and rivers, uptake of woodland grants and countryside stewardship schemes, SSSI condition and ancient monuments at risk,
  - The extent and form of **new elements in the countryside** (roads, communication infrastructure, Greenfield development),
  - A measure of key factors affecting the "**countryside experience**" - (tranquillity/disturbance) and benefits it has to offer (e.g. access, experience of wildlife).

Source: *Tracking Changes in Countryside Quality – Constructing an Indicator of Change in Countryside Quality, June 2004, Nottingham University Consultants Ltd and CRN 85 Countryside Quality Counts, CA, 2004.*

10. These indicators on change in countryside quality are held in map form and include an attribute database which can be disaggregated to a regional and character area level through the Countryside Quality Counts (CQC) website. Further work will be undertaken by CA and its successor, Natural England, including the updating and revision of new landscape typologies, integration of CA descriptions with information from historic landscape characterisation and refinement of methods used to create the CA profiles for the next assessment, so that they can be more spatially explicit and consistently described.
11. Outputs from the research programme may not be readily available to local authorities in the short term, but all authorities have maps showing the extent of areas with statutory designations including National Parks, AONBs and Conservation Areas. Other designations may also apply including Heritage Coasts, World Heritage Sites, and locally defined historic or scenic areas. All such areas should be identified on maps as a basis for assessing effects on quality.
12. **Landscape (and townscape) character** is equally important when assessing the potential and actual effects of LTPs because it relates to the environment that affects everyone's daily lives; changes to it are no less important than those affecting areas of highest quality. Landscape character assessment (LCA) is widely accepted as an effective tool for describing landscape types and similar methods exist for characterising townscapes. Every local authority should develop landscape and townscape character appraisals for their areas as a basis for evaluating and influencing landscape change.
13. **Tranquillity:** is another potentially valuable indicator for landscape and environmental effects of transport schemes and there is continuing research into ways of recording tranquillity. A participatory appraisal consultation has been undertaken in Northumberland National Park and the West Durham Coalfield to understand what tranquillity is, is not and why it is important. The study was subsequently extended to cover the Chilterns AONB. Consultations were held with key local stakeholders and countryside users (Understanding Tranquillity, CRN 95).

#### UNDERSTANDING LIKELY EFFECTS OF LTPS ON LANDSCAPE

14. In order to develop landscape indicators it is important to understand the nature of the effects that LTPs may have since these can be both direct and indirect. Large scale development projects are likely to have readily discernable impacts on landscape and townscape that can be measured using the techniques specified in the Design Manual for Roads and Bridges (DMRB) and the New Approach to Transport Assessment (NATA) and related professional guidance. However, many policies and plans are likely to have subtler effects; for example, encouraging modal shifts from private cars to public transport, or introducing schemes like car sharing. These initiatives may reduce levels of congestion and improve people's overall perceptions of the environment of either highways or public open spaces without being readily discernable as a change in landscape quality, character or tranquillity. The cumulative benefits may, in any event, be masked by the fact that there is no

appreciable change in traffic density – since the measure may only discourage growth in traffic rather than reduce the existing flow levels.

15. Given the practical constraints that have been outlined above it is clear that the process of developing landscape and townscape indicators must be pragmatic and take into consideration how monitoring will actually be carried out.

## DEVELOPING LANDSCAPE INDICATORS

16. Local authorities who are wrestling with the problem of creating effective indicators should consider setting up a small group of professional and informed individuals (representing professional staff in transport and landscape, landscape conservation bodies and civic and amenity societies) to brainstorm an approach for their area. The aim should be to agree on the classifications to be employed and the process for evaluating chosen indicators. Ideally, the group should be constituted as a 'panel' to oversee future monitoring work. The group should aim to cover landscape quality, character and public enjoyment.
17. Ideally the setting of objectives, targets and indicators should take place as part of the scoping stage of the SEA and before baseline surveys are completed. For example a key issue for many protected landscapes and sensitive character areas is the degree of light pollution to which they are exposed. Transport corridors can have a major adverse influence if unsympathetic lighting solutions are adopted and it is therefore desirable to record those stretches of road which are lit and the type of overhead lighting employed. It is much easier to arrange for this information to be collected and presented in map form when the requirement is identified at the outset of the SEA, rather than as a 'bolt-on' extra in the final stages when time and resources are often not available.

### Preparing Baseline Information

18. Baseline characteristics that can be readily described and mapped from published sources include:
  - Historic settlements,
  - Historic Parkland and Gardens,
  - Urban parks and open space,
  - Archaeological sites and battlefields,
  - Monuments, follies, and other landmarks,
  - Environmentally Sensitive Areas, where landscape quality has played an important part in designation,
  - Important woodlands, open grasslands or features of geological importance given SSSI status (eg. Limestone pavements covered by Limestone Protection Orders).
19. Baseline characteristics that may need to be obtained by survey, if the relevant studies have not been undertaken include:
  - Important streetscapes (due to architectural style, landscape character etc.)

- Prominent buildings of historical and/or archaeological interest
20. Where a Landscape Character Assessment exists this should make reference to a number of landscape criteria that may be relevant when setting targets and indicators for LTPs. These criteria include:
- landscape quality (intactness of the landscape and the condition of features,
  - scenic quality,
  - rarity,
  - representativeness,
  - conservation interests,
  - wilderness,
  - historical and cultural associations, and,
  - tranquillity which is a "composite feature related to low levels of built development, traffic, noise and artificial lighting."

*Source: Landscape Character Assessment – Guidance for England and Scotland, Carys Swanick and LUC, 2002*

### **Developing Objectives and Indicators**

21. Experience shows that most landscape objectives are set too broadly to be of practical relevance to transport issues. This is illustrated by the objective of "Protecting and enhancing landscape and townscape" which is used in a number of published SEAs of LTPs. It is very difficult to develop practical indicators unless specific features of landscape or townscape are described that are subjected to potential change through the activities or development proposed in LTPs.

*"Indicators need to provide a good indicator of change in character, have resonance (capture public attention), be capable of measure and use meaningful data that is either easily available or capable of being easily collected."*

Source: Landscape Character Assessment; Topic Paper 2: Links to other Sustainability Tools.

22. Specific guidance on landscape indicators is provided in **Guidelines for landscape and visual assessment, second edition** which suggests that indicators of significance and sensitivity *"can include protective designations, areas of nature or heritage conservation interest, scenic quality or the presence of detracting features."* Impacts that LTPs should try to monitor include:
- *"Landscape degraded by traffic, congestion, air quality, visual intrusion, landscape erosion or areas where on current transport trends there is likely to be significant loss of landscape character and/or quality,*
  - *Areas where transport has had or is likely to have a significant impact on landscape,*

- *Landscape designations where character/quality has been eroded.*"
23. Two New Approach to Transport Assessment objectives that are relevant to landscape are:
- Environmental impact (protection of the built and natural environment),
  - Accessibility – to improve access to facilities for those without a car and to reduce severance (see TAG Unit 2.11).
24. Local Authorities who are preparing SEAs for LTPs should also consider what information may be available on landscape indicators from higher tier SEAs or SAs, including work on regional spatial strategies. The South West Regional Spatial Strategy, for example, quotes two indicators under the objective of "Maintain and improve environmental quality and assets" which are:
- Countryside Quality Counts National Indicator of Change, and,
  - CPRE Tranquil Areas.
25. These broad indicators may help to provide a context for work at local authority level but they are unlikely to be sufficiently detailed for use at local level unless specific surveys have already been carried out. As a starting point, landscape indicators should be based on work already undertaken at local authority level, such as landscape character area assessments, or supplementary planning guidance on design standards. Having defined areas of importance, targets or objectives should be set, for example:
- Target:**  
*Transport schemes within the LTP should have no net adverse effect on the character or quality of protected landscape, historic settlements etc..*
- Indicator:**  
*The LPA will undertake a review (annually, 5 yearly) of the effects of new transport schemes on protected landscapes, historic settlements etc..*
26. In considering the potential impact of transport schemes, the indicators should be designed to measure not only physical change brought about by construction work, but also the direct and indirect effects on landscape quality brought about by changes in traffic volume, density, vehicle type and vehicle speed, as in the case of the Plymouth LTP which calls for measurement of 'traffic levels on sensitive routes passing areas designated for their landscape quality or tranquility'. Where tranquility mapping has taken place it should be possible to provide a quantitative basis for the assessment, but in other cases a qualitative judgement will be called for.
27. Consideration should also be given to the use of indicators to record **positive** change in landscape character or quality arising from sustainable transport initiatives – for example improvement of the public enjoyment of sensitive

landscapes or tranquil areas through substitution of bus services for private car access, or the introduction of car-sharing schemes.

## EXAMPLES OF LANDSCAPE AND TOWNSCAPE INDICATORS

28. In this concluding section examples are given of relevant baseline information and the types of indicators that may be used. The lists are not exhaustive. Local authorities should seek to identify those indicators that are relevant to the specific landscape issues in their area and can be effectively monitored over time.

### Subject Area: Landscape

**Objective 1:** To protect landscape features and assets from inappropriate transport-related development.

Examples of Baseline Information	Potential SEA Indicators	Target	Sources of data
Designated landscape protection areas Landscape character areas Important woodlands Open grasslands Features of geological importance (eg scarp slopes, limestone pavements, drumlins) Historic Parkland and Gardens Archaeological sites and battlefields Prominent buildings of historical and/or archaeological interest Monuments, follies, and other landmarks	Assessment of the landscape or other environmental effects of LTP policies or proposals resulting in major construction within identified areas such as: <ul style="list-style-type: none"> <li>• Airport extensions</li> <li>• New flight paths</li> <li>• New road/rail routes</li> <li>• Road widening</li> <li>• Transport interchanges,</li> <li>• Car parks</li> <li>• Park and ride sites</li> </ul>	No significant adverse landscape effects from transport-related development in sensitive landscape areas	EIAs of major projects  Monitoring of development control planning decisions

**Objective 2:** To avoid growth in road traffic and consequent deterioration in the character, quality and enjoyment of sensitive landscapes through traffic movement, congestion, adverse air quality, and visual intrusion or landscape erosion.

Baseline Information Required	Potential SEA Indicator	Target	Sources of data
Environmentally Sensitive Areas, where landscape quality has played an important part in designation	Daily flow of vehicles on key sections of road passing through sensitive areas	Set specific targets in terms of %age decline (or restricted growth) in traffic flows	Routine highway monitoring programmes



**Objective 3:** To minimise the impact of transport proposals on sensitive landscape areas caused by light pollution.

Baseline Information Required	Potential SEA Indicator	Target	Sources of data
Current distribution of road lighting schemes within and adjacent to (within 1 mile) of protected landscape (National Park / AONB/ Heritage Coast  Tranquil Area Maps	Lengths of road with overhead lighting columns	No additional lighting to be introduced (or) All new lighting schemes to be designed to reduce glare and lateral light displacement	Highways Authority

**Objective 4:** To promote enjoyment of areas of high landscape quality and special character.

Examples of Baseline Information	Potential SEA Indicator	Target	Sources of data
Protected landscape areas  Landscape character areas  Local authority records of innovative transport scheme	No. of new public transport, shared transport or other innovative access schemes  Lengths of Rights of Way, trails, access tracks, Quiet Lanes and Greenways within notified areas	A measure of use i.e. no. of passengers transported annually  Length of network	Local authority records  Commissioned surveys

### Townscape

**Objective 1:** To avoid damage to and, where possible, enhance the visual appearance and aesthetic qualities of settlements through transport-related development with particular emphasis on designated heritage and conservation areas.

Examples of Baseline Information	Potential SEA Indicators	Target	Sources of data
Significant urban vistas, and important views for local residents Tree lined avenues and streets Squares, roundabouts and other traffic intersections with extensive landscaping Urban parks and open space, Important building facades in terms of architectural quality or historical interest Important Streetscape with prominent buildings, monuments or street furniture of historical and/or archaeological interest	No. and type of LTP policies and proposals that have the potential to alter the appearance and qualities of important townscapes  No. and size (area covered) of pedestrianisation schemes, traffic calming measures, etc.  No. of development schemes accompanied by detailed landscape and townscape design	Achievement of goals set out in relevant Local Development Framework Documents	SEA of the LTP  Routine monitoring by Planning Department

### Sources of Information

Guidance is available through the Department of Transport's Transport Analysis Guidance website [www.webTAG.org.uk](http://www.webTAG.org.uk) and for landscape in particular under the Landscape Sub Objective TAG Unit 3.3.7, December 2004

### References

1. 'SEA' Directive 2001/42/EC on the Assessment of the Effects of Certain Plans and Programmes on the Environment.
2. UK Regulations (Environmental Assessment of Plan and Programmes Regulations S1 2004 No 1633).
3. Full Guidance on Local Transport Plans, Second Edition, DFT (2005).
4. Rural White Paper, Our Countryside: the future, a fair deal for rural England 2000, Defra.
5. Tracking Changes in Countryside Quality – Constructing an Indicator of Change in Countryside Quality, June 2004, Nottingham University Consultants Ltd.
6. CRN 85, Countryside Quality Counts, CA, 2004.
7. CRN 92, Understanding Tranquillity, CA 2005.

8. Environmental Assessment, Vol 11, Design Manual for Roads and Bridges, Highways Agency (as amended, 2005).
9. Transport Analysis Guidance, TAG, Unit 1.1 New Approach to Transport Assessment. 2005.
10. Landscape Character Assessment – Guidance for England and Scotland, Carys Swanwick and LUC, 2002.
11. Guidelines for Landscape and Visual Assessment, Second Edition Landscape Institute and Institute of environmental Management and Assessment, Spons 2002.
12. Mapping tranquility – defining and assessing a valuable resource, CPRE 2005.

**Case Studies reviewed as a basis for this guidance note**

Scoping reports for LTPs of Derby City Council, North East Lincolnshire, West Sussex, and Plymouth.