Dealing With Traffic Issues In Rural Areas

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DEALING WITH TRAFFIC ISSUES IN RURAL AREAS

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1 Introduction

1.1 Need for the Guide

The negative effects of traffic; noise, poor air quality, congestion, severance, unpleasant visual impact and concerns for pedestrian and other road users safety – are frequently associated with urban areas. Increasingly however these issues also occur in rural areas where traffic can cause conflict. Many rural areas are valued for their perceived tranquillity or unspoilt "villagescape".

The existing road hierarchy of Motorway, A, B and Unclassified is now outdated, a situation acknowledged by the Government in the Transport Act 2000. Many rural roads are inadequate for the levels and type of traffic they now carry. Unlike urban roads rural roads are susceptible to change, through accumulated minor engineering works or accidental damage. Local Transport Plans provide the framework to deal with traffic issues in rural areas. The treatment of traffic issues in rural areas requires particular management and specific solutions. This guide provides advice to those responsible for LTPs on how to assess and address the impacts of traffic in rural areas.

1.2 How the Guide can help

This guide is not a definitive method for how to address rural issues, but rather a framework of key principles and ideas. It is not best practice guidance or a methodology that is followed through from A to Z. It is rather a collection of options, examples and tips that can be used at various stages of the process. This guide actively encourages innovation and adaptation of the options proposed to be applicable to the individual situation, problems faced and resources available. It should assist Local Authorities in creating a strategy to deal with rural traffic issues in a robust manner.

Tips and Hints

This document is quite long, and is a distillation of quite detailed research. While it is hoped that readers will have time to read the whole document it is worth referring to bullet point lists in various cases.

The document is a summary and digestion of two pieces of research carried out for the Countryside Agency. TAIMS (Traffic Appraisal and Impact Monitoring System) was a methodology developed by Ecologica and further developed by Babtie which aims to robustly appraise traffic effects in rural areas, while LVIRA (Large Vehicles In Rural Areas) developed by Symonds Group was a process designed to develop strategies to deal with large vehicle issues in rural areas. Both were developed as comprehensive and robust systems. This report attempts to show how these approaches can be adapted to be used more widely when developing LTPs and other similar strategies.

1.3 Who should read the guide?

The guide is aimed at:

- Local authority transport planners, planning officers, traffic engineers, road safety officers and other practitioners who are involved in:
  - the development of planning policy and transport strategy and LTPs and APR's;

  - the development and implementation of traffic solutions for rural areas; and
  - the delivery of rural road safety
- Local authority elected members who wish to gain a greater understanding of traffic issues in rural areas
- Government officers responsible for assessing and rural proofing LTPs
- Rural Transport Partnership officers
- Local communities, business and interest groups.

1.4 Structure of the guide

The guide is structured around 5 main steps;

- **Section 2** highlights issues associated with traffic in rural areas.
- **Section 3** provides information on identifying traffic problems including establishing the baseline and identifying the most important impacts.
- **Section 4** provides details on assessing traffic effects.
- **Section 5** lists a menu of options for dealing with traffic issues in rural areas.
- **Section 6** discusses monitoring the effects of the strategies employed to deal with traffic issues. Monitoring of the strategies helps provide further detail for LTP3 and APR's. It is also a requirement of the Strategic Environmental Assessment Directive (Directive 2001/42/EC).

1.5 Why are rural traffic issues important?

The State of the Countryside Report (Countryside Agency, 2004) states that there are currently 14.1million people living in areas classified as rural. By 2031 a 33-50% rise in rural traffic levels is predicted. In addition rural roads have a higher relative percentage of HGV's. Rural areas are suffering from increased levels of traffic, speed, and trip distances as rural services close. This is in areas that are valued in many cases for their tranquillity, and ultimately their tangible differences from urban areas.

The issue of traffic in rural areas is more complex than in urban areas. There is an interaction between the rural and the urban and therefore rural traffic issues can not be looked at in isolation. Consideration should be given to the following (see Box 1.1);

Box 1.1: Rural traffic issues

- Rural to urban movements – e.g. commuting
- Urban to rural movements – e.g. visitors to the countryside (tourism) but also increasingly reverse commuting
- Urban to urban movements – where traffic uses rural areas and networks to travel between urban areas. This is a particular problem where main transport corridors are congested and "rat runs" occur along sub standard grade roads
- Rural to rural movements – the daily travel between facilities, towns and villages, farms

Source: Local Transport Plans: A better deal for rural areas – good practice guidance Countryside Agency, June 2003

1.6 Links with Local Transport Plans

The second round of LTPs due to be submitted in 2005, provides a 5 year framework for dealing with transport issues in a local authority area. A recent study on the first round of LTPs (Headicar and Jones, 2002) has shown that rural issues were generally not dealt with

very well and in some cases not at all, “Rural issues are one of the very many dimensions of transport planning which LTPs have to consider…The consideration of rural issues and capital spending tends to come towards the back of the queue.” There is an information gap between recognising that traffic in particular rural areas is a problem and understanding the impacts of that traffic in enough detail to provide cost effective solutions.

The consideration of rural issues is important in all aspects of government policy through commitments made in the Rural White Paper (DETR, 2000). To ensure rural issues are reflected in policy the government has made ‘rural proofing’ a mandatory part of the policy making process. This means that, as policies are developed, policy makers should systematically:

- Consider whether their policy is likely to have a different impact in rural areas from elsewhere, because of the particular characteristics of rural areas;
- Make a proper assessment of these impacts if they are likely to be significant; and
- Adjust the policy, where appropriate, with solutions to meet rural needs and circumstances.

Government works with and through other bodies; public, private and voluntary; local, regional and national. So better policy making for rural areas should mean all those involved in the design or delivery of policy adopting rural proofing as good practice.

It is government policy that rural proofing should be applied to all policies and measures, so it is important that rural proofing is carried out by Local Authorities on their LTPs. The Countryside Agency publishes a Rural Proofing Checklist as a document (Countryside Agency 2003) and also has a web version which provides more information at: http://www.countryside.gov.uk/EssentialServices/ruralProofing/automatedchecklist/index.asp.

In terms of transport policies and interventions the Box 1.2 provides an indication of the types of impacts that could be checked for

Box 1.2: Possible rural impacts of transport measures

Transport and the environment

- Local countryside character, taking tranquillity, air quality, noise and light pollution, cultural heritage and biodiversity into account.
- Rural settlement character and local distinctiveness.
- Design details that reflect countryside character.
- Associated effects such as aggregate extraction.

Transport issues relating to safety

- Safety on rural roads in terms of perceptions of safety for all users as well as accident rates.
- Application of appropriate techniques to improve rural traffic management.

Transport issues relating to the economy

- Economic opportunity and enterprise in rural areas.
- Enabling rural residents to access job opportunities.
- Opportunities for local food produce markets.
- Socially and economically active rural communities.
- High-quality public services within market towns.
- Likely effects on journey lengths within rural areas.
- Opportunities for affordable housing.

Transport issues relating to accessibility

- Access for those without cars.
- Car reliance and dependency.
- Access for all by a range of transport alternatives.
- Traffic levels on rural roads.
- Severance for rural communities.

Transport issues relating to integration

- Opportunities for transport interchanges.
- Integration with other rural policies.

Cross-cutting issues

- Effects of proposed scheme when viewed alongside other likely proposals in a corridor/area (cumulative effects of multiple proposals).
- Comparison of effects with other proposals to achieve same goals (opportunity costs).

Source: Transport in Tomorrow's Countryside - Countryside Agency, June 2003

2 Identification of traffic problems in rural areas

This section of the guide provides a background to and understanding of the main issues associated with traffic in rural areas. Before collecting information, assessing the impacts, or developing strategies it is necessary to understand what the problems are and the factors involved.

2.1 What, Where and Why?

The issue of traffic in rural areas can be broken down into three components;

- What are the perceived problems?
- Where are the problems?
- Why is there a problem?

2.1.1 What are the perceived problems of traffic?

There is a range of perceived problems with traffic in rural areas. These include;

- Visual intrusion of traffic/road
- Congestion
- Safety
- Severance (humans and wildlife)
- Dust
- Noise/vibration
- Mortality of wildlife
- Light pollution
- Changes to road side verges

2.1.2 Where is traffic a problem?

Traffic is not a severe problem in all rural areas, however the following areas in particular are likely to suffer from traffic related issues;

- Areas of landscape value (AONB, tranquil areas)
- Sensitive settlements/components (e.g. Conservation Areas, schools, stables)
- Areas of ecological value
- Sites of historic or cultural interest (Country houses, monuments, parks and gardens)
- Visitor attractions
- Areas close to towns affected by congestion in peak periods
- Other, generally local areas suffering problems due to unusually high levels of traffic

2.1.3 Why is there a problem?

The reasons why rural traffic problems exist are as varied as the location and nature of impact. The following are highlighted examples of some of the reasons why traffic is perceived to be a problem;

- Road character (e.g. narrow, winding, vision obscured by vegetation/buildings, lack of pavements, soft verges)
- Mix of users (e.g. cars, lorries, buses, agricultural vehicles, cyclists, horse riders, pedestrians)
- Speeding
- Numbers of vehicles
- Location/needs of rural industries (forestry/quarry/mines/landfill-sites/food production/tourism)

- Lack of effective transport alternatives
- Insensitive minor highway improvements (overhead lighting/hard engineering/signs)

The above list is not intended to be comprehensive, hence gathering the views of rural communities as well as appreciating land use change is an important part of problem definition. It may be that there are additional problems/issues in certain areas, whilst in others many of the above may not apply.

2.2 How Traffic Problems Affect People and Wildlife

One way of understanding how the what, where and why interact is to use a table or matrix (see Table 2.1). This helps identify the important issues for a specific area. Although tables such as this can be a useful tool they should be used with care with consideration given to the complexity of issues that don't fit readily into a matrix. Qualitative judgements should be used to fill in the boxes. It doesn't matter if there are empty boxes, it is simply a tool for highlighting where issues exist. In addition there may be other receptors or impacts that need to be included in the matrix; light pollution, vibration, or water pollution for example.

2.2.1 Large vehicles in rural areas

It is increasingly being recognised that large vehicles in particular have a negative impact on the local level rural environment. Rural roads were not designed to accommodate the levels of Heavy Goods Vehicles (HGV's) or articulated lorries found today. As such they can damage road surfaces, disturb the tranquillity and rural nature of areas, and intimidate vulnerable road users including pedestrians, horse riders and cyclists. Particular problems associated with large vehicles include vibration nuisance and damage to roads and village properties, damage to verges and hedges, and congestion when large vehicles meet oncoming vehicles in confined space. An unpublished report entitled Large Vehicles in Rural Areas (Symonds Group, 2003) provides information on how to assess and deal with the issue. Further details are provided in Sections 4 and 5 of this guide.

Table 2.1: Matrix of Traffic Impacts (Source: Adapted from Countryside Agency TAIMS by Eco-Logica, 2000)

Effects	Dust	Noise	Visual Intrusion of Traffic / Road Congestion /	Safety	Severance / Nuisance
Receptors					
Landscape • **Character** • **Quality** • **Tranquillity** • **Features**	Adverse effect local features	Noise of traffic can affect tranquillity value of landscapes	Cumulative minor highway improvements have visual impact and alter landscape character e.g. lighting, speed signs, direction signs, hard kerb stones, tarmac.		
Ecology • **Areas of Ecological Value** • **Sites of importance** • **Features**	Dust from traffic can affect roadside verges and damage flora and fauna	Traffic noise can cause stress to some animal species e.g. songbirds			Habitats of value have been severed by a new road development. Increased fatalities of protected species (migrating newts etc)
Community Elements • **Settlement patterns** • **Dwellings** • **Community facilities** • **Community character**	During dry periods dust from vehicles passing through village creates health/nuisance issue		Amount /type of traffic creating congestion in small villages. Affects rural feel of village	Facilities such as a school and playing field separated by a road used by large numbers of vehicles driving at speed	Facilities such as a school and playing field separated by a road used by large numbers of vehicles driving at speed
Cultural Assets • **Historic Landscapes** • **Cultural Sites**			Large amounts of traffic can detract from the setting of historic features		
Local Economy • **Agriculture** • **Forestry** • **Other Industry** • **Recreation** • **Tourism**		Tourism affected by intrusion of traffic in tranquil / valued landscape area	Tourism affected by intrusion of traffic in tranquil area / valued landscape area		
Other Road Users • **User Groups** • **User Facilities**				Danger of accidents with mix of fast and slow moving vehicles, equestrians, cyclists and pedestrian users on roads	Cyclists, horseriders and pedestrians feel intimidated/unsafe on roads used by lorries or large numbers of vehicles
Highway characteristics • **Highway character**				Narrow, winding roads, with reduced visibility used by unsuitable vehicles (HGV's/coaches) or excessive numbers of cars	

3 Collecting Information on Traffic Effects and Receptors

This section of the guide suggests how information needs and sources can be identified and collection of information undertaken. Once an appreciation has been gained of the general problems of traffic in rural areas it is necessary to collect information to provide sufficient understanding of what can be done about them.

It is important to understand that traffic counts, models or extensive surveys are not necessarily required to provide a framework for appreciating rural traffic issues. Site visits and discussions with rural communities and users of the rural network can also provide vital information.

3.1 Starting to think about information needs

Before attempting to identify any sources of information it is recommended that the following questions are considered;

- What information is needed and why?
- How will that information be used?

This will help ensure that the information collected is going to be of use in dealing with the traffic issues, rather than simply collecting information that exists in a format that can't be used to answer questions. Ways of identifying what information is needed and how to use that information are outlined below.

Tips and Hints

Make sure that information is not being collected simply because it exists, or is readily available. Information is only of use if it is helping to answer a specific question. For example there is no point collecting accident data for a route if there is no prior indication that there is a problem with safety.

3.1.1 What information is needed and why?

As identified in Section 2 there are a number of problems associated with traffic issues in rural areas. Information may be needed as to what these problems or impacts are, where they occur, and why they are occurring. At first glance this may seem to involve a large amount of data collection; however approaches to understanding what information is required are outlined below.

The following problems should be considered and will help to highlight the type of information that may be required to examine traffic issues:

- The effects of traffic on the human and natural environment;
- The different types of road user;
- The characteristic of the road;
- The landscape character of the area;
- The character of the settlement;
- The ecological resource of the area and constraints; and
- The volume of traffic.

Another way of identifying the information needed could be to divide the factors involved into manageable components and collect information that enables broad characterisations of the components e.g. similar areas are likely to experience similar problems. For example it is possible to group villages into different types such as:

- Those situated on the trunk road network;
- Those suffering from severance by a road; and
- Those affected by HGV's.

Hints and Tips

Characterisation of areas, problems, and traffic do not necessarily need to be quantitative or require collection of lots of numeric data. Professional judgements and stakeholder groups are a valid way of identifying broad characterisations.

Table 3.1 illustrates some components that can be considered when attempting to characterise traffic issues. This can be done to gain a clearer understanding of where traffic effects are likely to be a problem, for example in tranquil areas.

Table 3.1: Elements to consider in helping characterise rural traffic issues

Characterisation of Rural Areas	Characterisation of Traffic Movements	Characterisation of Problems
• tranquillity, • scenic value, • degree of agricultural intensification, • settlement types (i.e nuclear/linear) • proximity to urban centres • naturalness	• rural to urban movements • urban to rural movements • urban to urban movements • rural to rural movements	• congestion • speed • safety

In addition to any information needed to understand the traffic impacts there are additional regulatory requirements to consider particular topics that will require some information gathering. The New Approach to Appraisal (NATA) places several requirements on the LTP preparation process. In addition the SEA Directive requires other topics to be considered. As such information will need to be collected on these topics where relevant. These can be combined and used as a basis for identifying information needs. Table 3.2 (DfT, 2004) shows the NATA sub-objectives and other topics to be considered by a SEA.

Table 3.2: NATA sub-objectives and other topics to be addressed within a SEA

NATA Objective	NATA sub-objective	SEA topic (SEA Directive, Annex If)
Environment	Noise	Human health, population[1], inter-relationships
	Local air quality[2]	Air, human health, population
	Greenhouse gases	Climatic factors
	Landscape	Landscape
	Townscape	
	Heritage	Cultural heritage including architectural and archaeological heritage
	Biodiversity[3]	Biodiversity, fauna, flora, soil[4]
	Water environment	Water
	Physical fitness	Human health, population

NATA Objective	NATA sub-objective	SEA topic (SEA Directive, Annex If)
Safety	Accidents	Human health, population
	Security	
Accessibility	Community severance	Population
	Access to the transport system	
Economy	Wider economic impacts	Material assets[5]

Notes:
[1] Population is interpreted broadly, referring to effects on people and quality of life. Many NATA indicators incorporate population.
[2] The NATA local air quality indicator does not cover regional air quality, though guidance is given on its assessment. Where regional air quality is likely to be an issue, a local objective may be formulated.
[3] Biodiversity also covers geological interests.
[4] Soil is not explicitly covered by NATA sub-objectives, but is an underlying factor affecting landscape, heritage, biodiversity and the water environment. Where effects on soil are likely to be important, a local objective should be formulated.
[5] Material assets are not explicitly covered by NATA sub-objectives, but are reflected in the money costs incurred when they are consumed. Where effects on material assets such as infrastructure and property are expected to be of particular importance, a local objective should be formulated.

3.2 Sources of Information

Once information needs have been identified it is then necessary to consider whether new information should be collected or whether existing information sources can be used. At the strategic level it should be recognised that there is no need to collect extensive data on the entire area covered by the LTP.

There are a number of sources of information that LA's can access to help them understand traffic issues in rural areas. General sources include;

- Stakeholder meetings;
- Public Consultation / Focus groups;
- Other plans / programmes;
- Statutory Bodies; and
- Regional Observatories.

Table 3.3 presents a list of sources for particular information that may be of use in attempting to understand traffic issues in rural areas. Many of these sources and types of information should be readily accessible to local authorities.

Table 3.3: Sources of specific information

Information	Source
Accident data on specific roads	Highway authority / Police
Settlement pattern/number	GIS / OS Maps / Observations
Landscape designations	Structure and Local Plans / RSS and UDP's
Ecological designations	Structure and Local Plans / Wildlife Trust
Cultural Heritage	English Heritage, Structure and Local Plans
Water Environment	Environment Agency
Speed limits	Highway Authority
Traffic Counts	Highway Authority
Population trends	Census data
Public perceptions of problems and issues	Public consultations, community strategy information
Key receptors (Schools)	Local Plans
Protected/vulnerable species	Biodiversity Action Plans

Tips and Hints

The Statutory Consultees; English Nature, Countryside Agency, Environment Agency, may hold useful information. Any requests for information should be as specific as possible to assist the Statutory Bodies as they will be facing large demands for information.

3.3 Using the Information

It is unlikely that there will be sufficient resources to tackle every rural traffic issue identified. The point of identifying and collecting information is so that it can be used to help make decisions on what the LTP is going to do and where it is going to allocate resources. The first step in this process is to find a way of working out what is important so that detailed assessment can be made of the problem and solutions applied to it.

The TAIMS report (Eco-Logica, 2000) proposes one method for identifying the most important rural traffic issues. It recommends looking at the **sensitivity** of the receptor (the receiving environment or particular group of people) and setting a **threshold** for that receptor (a point or limit above which the receptor can no longer absorb the impact). There are various ways of applying sensitivity levels and thresholds to impacts.

3.3.1 Sensitivity

Sensitivity can be expressed in two forms; sensitivity of a broad area or sensitivity of a particular point or site. Assigning sensitivity values to sites or areas is quite a difficult task but it can help target efforts. Sensitivity is itself a function of **importance** of an attribute and its **susceptibility.** It is possible to use a matrix to assign sensitivity values based on the information collected in Section 3.2 (see Table 3.4.). Box 3.1 provides suggestions as to ways of assigning an indicator of sensitivity to a receptor

Table 3.4: Sensitivity Matrix

Importance **Susceptibility**	**High**	**Medium**	**Low**
High	1	2	3
Medium	2	2	3
Low	3	3	4

(**Source:** adapted from TAIMS Eco-Logica 2000)

Box 3.1: Ways of Assigning Sensitivity Values to a Receptor

Key Information: Ways of Assigning Sensitivity Values to a Receptor

Working out what value to assign to a receptor is quite complex. The TAIMS report suggests a number of tools for helping with this including;

- Quality of Life Capital Approach http://www.countryside.gov.uk/LivingLandscapes/qualityoflife/index.asp
- Standards (e.g. noise standards for schools)
- Designations (Designations infer sensitivity and the level assists in identifying importance e.g. SSSI's, AONB, Listed Buildings etc)
- Existing research (some work may have been done on sensitivity classifications)

The Countryside Agency TAIMS report (Eco-Logica, 2000) in examining sensitivity of receptors to traffic impacts highlighted the use of existing designations to identify areas of sensitivity. If traffic affects the reason for the designation, then such areas can be defined as being sensitive to traffic. Table 3.5 includes some of the main designations.

Table 3.5: Potential Indicators

Rural Component	Indicators
Landscape character	• National Parks • AONB • Special Landscape Area • Green Belt • Local Landscape Areas • Tranquil Areas
Ecological Value	• Special Area of Conservation (SAC) • Special Protection Area (SPA) • RAMSAR • SSSI • National Nature Reserve • Local Nature Reserve • Environmentally Sensitive Area • Site of Nature Conservation Interest
Cultural Heritage	• World Heritage Site • Scheduled Ancient Monument • Area of Archaeological Importance • Listed Buildings • Conservation Areas

(Source: adapted from TAIMS, Eco-Logica 2000)

3.3.2 Thresholds

Thresholds define the level at which the capacity of the environmental attributes to absorb or sustain traffic impacts is exceeded (volume/speed/mix or a combination of these) on a given stretch or road in a given area. In practice these tend to be ranges rather than absolute figures (Eco-Logica, 2000). The process of defining and applying thresholds for traffic impacts is a difficult task, but it enables a clearer understanding of the problems and more focused allocation of resources. There are a large number of uncertainties and variables associated with threshold definition. Box 3.2 presents three general approaches to determining traffic thresholds.

Box 3.2: TAIMS methods for determining traffic thresholds

Key Information: TAIMS methods for determining traffic thresholds

- Attribute-led, such as traffic levels derived from noise standards, or severance levels established by research;
- Hierarchy-led, in which general thresholds are set for different classes of road in an area or region, and adjusted to local circumstance according to other threshold definitions
- Community-led, in which local people are asked where there are perceived to be unacceptable environmental impacts from traffic on the road network and these problem sections are related to traffic levels.

As discussed the practice of setting thresholds can be quite complex, however there may be some instances where values already exist. For example TAIMS (Eco-Logica, 2000) includes a section on sources of threshold values for;

- Air pollution;
- Noise pollution;
- Vibration;
- Water pollution;
- Light pollution;
- Visual intrusion of traffic and highways;
- Severance/nuisance impacts on communities;
- Other road users; and
- Minor highway works.

3.3.3 Other approaches to identifying the most important traffic impacts

Although thresholds and sensitivity criteria provide tangible figures for the process of identifying which impacts are most important/significant a qualitative approach may be useful in situations where thresholds can't be applied. For example the process of identifying which locations need strategies/resources to deal with traffic issues could simply involve answering a range of questions. Where uncertainties exist this should be stated and further information collected. Examples are given in Table 3.6.

Table 3.6: Questions to help identify roads most in need of traffic solution resources

Road X	**Yes**	**No**	**Unsure**
Is there evidence that traffic levels are growing faster than average traffic levels?			
Is there evidence that traffic levels are causing problems to the environment/local community?			
Are numbers of accidents higher than would normally be expected for this type of road?			
Is there evidence that local communities are experiencing problems accessing essential services because of traffic levels?			
Are there problems with Air Quality objectives on the road?			

4 Assessing the Effects of a Transport Strategy

4.1 The purpose of assessment

This section of the guidance provides details on how to assess the effects that transport measures or strategies are likely to have on rural areas. The purpose of assessment is two fold:

- To assess whether the proposals within an LTP will help to;
  - Meet the rural objectives of the plan;
  - Solve the problems experienced in rural areas;
  - Ensure that there are no unacceptable impacts on rural areas of the strategy selected.
- To fulfil Government requirements (see Box 4.1).

Box 4.1: Assessment regimes for LTPs

Key Information: Assessment regimes for LTPs

- For major schemes (capital schemes costing over £5 million), it is possible an EIA will be required (if the scheme is deemed to have significant environmental effects) or an Appropriate Assessment under the Habitats Directive if the scheme will affect a Natura 2000 site. In addition to this, a NATA appraisal of the scheme should be submitted with the Local Transport Plan; and
- The Local Transport Plan overall will require the submission of an Environmental Report that outlines the significant effects of the plan and confirms to the requirements of the SEA Directive. Appendix A is adapted from government guidance on SEA for transport plans and programmes (DfT, 2004) and shows the different stages of an SEA for a Local Transport Plan.

4.2 Level of detail needed for an assessment

Most of the measures proposed in an LTP will not fall into the category of major schemes. Therefore, the regime that most local authorities will use to judge the effectiveness and impacts of their strategies on rural areas is SEA. The Department for Transport's web based Transport Analysis Guidance (www.webtag.org.uk) Unit 2.11 provides guidance on how to carry out an SEA for a transport plan or programme. This should be consulted by authorities when carrying out assessments.

SEA is not project Environmental Impact Assessment (EIA) at a larger scale. Although the general process of SEA and EIA are similar, SEA will always be fundamentally different as it is subject to higher levels of uncertainty. The main types of uncertainty within an LTP are:

- Uncertainty of what measures will be used to implement the alternative strategies;
- Uncertainty of the location of measures;
- Uncertainty about the magnitude of the measures – for example, how restrained will a strategy of traffic restraint be?
- Uncertainty as to the cumulative effects
- Uncertainty related to how affective these measures will be in terms of reducing traffic; and
- In the absence of data on the effectiveness of those measures, there will be considerable uncertainty of what the environmental, social and economic impacts are likely to be.

The main differences between SEA and EIA are shown in Box 4.2.

Box 4.2: The differences between SEA and EIA

Key Information: The differences between SEA and EIA

SEA has a greater scope than EIA:

- The geographical scale of a SEA tends to be greater than an EIA. Also a plan generally contains a number of different elements rather than a single project;
- A larger range of alternatives is considered; and
- A different range of environmental effects is addressed.

SEA is an objective-led process: Environmental objectives provide the framework for testing the performance of the action against environmental and sustainable development policies.

Greater timescales to implementation: As the time interval between planning, approving and implementation of an action is much longer so the assessment process is subject to greater uncertainty.

Reduced level of detail: The level of detail and accuracy of information needed is generally less than is needed for project assessment.

Because of the increased uncertainty inherent in assessment, assessments should be made as transparent as they can be by:

- Using and referring to baseline data;
- Ensuring that the views of relevant experts are taken on board in the assessment process; and
- Documenting all discussions will provide an audit trail of why decisions were made.

4.3 The range of effects to consider

The main purpose of SEA is to analyse the significant environmental effects of a plan or strategy. However, transport has wider effects than those on the environment. The purpose of assessment is to assess whether the proposals within an LTP will help to;

- Meet the rural objectives of the plan;
- Solve the problems experienced in rural areas; and
- Ensure that there are no unacceptable impacts on rural areas of the strategy selected.

Therefore, the list of impacts must cover those reflected in the objectives and also the identified problems, whether they are environmental, social or economic. NATA appraisal has included a wider range of issues than just environmental. Table 3.2 in section 3 shows the links between NATA's national objectives and the SEA topics.

4.4 Adapting environmental assessment to rural areas

Rural issues should be made explicit in the environmental report and LTP. In a rural county an authority may decide to include a separate chapter in the Environmental Report dedicated to rural issues. Table 4.1 shows how this can be done at different stages of the SEA. A good source of advice on developing and assessing rural transport strategies is the Countryside Agency document "Local Transport Plans: A better deal for rural areas – good practice guidance".

Table 4.1: Integrating rural issues into the SEA process

SEA Stage	Integration of rural issues
A. Context, objectives, problems and baseline	Choosing objectives that reflect the issues faced by rural areas. Outlining environmental and transport problems that are faced by rural areas.
B. Scope and alternatives	Selection of alternatives that particularly address problems faced in rural areas.
C. Assessing the effects	Use of Countryside Agency rural proofing methodology. Acknowledgement of rural issues in the assessment (see box below). Consideration of the effects of rural areas in the equity and distribution assessment carried out as part of GOMMMS.
D. Consultation	Involving rural stakeholders in the assessment.
E. Monitoring	Referring to the indicators used by the Countryside Agency to monitor the state of the countryside.

Tips and Hints: Considering rural issues in the assessment

A Local Transport Plan operates within a framework of other plans, programmes and general trends that are occurring in the UK as a whole and in rural areas in particular. This background will influence how effective a rural transport strategy will be. The following are ***some of*** the issues that transport planners should bear in mind when assessing their strategies.

- Rural services have seen a decline in recent years. If this trend continues, demand for transport will continue to grow and trip distances will increase;
- It has been estimated that there will be a 33 – 50% rise in rural traffic levels by 2031;
- Rural areas have a higher % of HGV traffic (and are also more sensitive to the effects of rural traffic) and this trend in most areas is likely to continue;
- There is likely to be an increase in vulnerable members of the population in the UK. Over the next 20 years the percentage of the population aged 65 years and over is predicted to increase from 15.8% in 1998 to 19.2% in 2021 DfT (2001). This will mean that the severance effect of new and existing infrastructure is likely to be more significant as people find accessing services more difficult.

Transport planners may want to devise a list that also includes local pressures and trends (such as major development which may affect transport in rural areas). This list can be used as a prompt in order to guide assessment.

Further guidance on how to carry out stages A to E of an SEA is available in Guidance for SEA of Local Transport Plans and Programmes (DfT, 2004).

4.5 Assessing the rural effects of a transport strategy

4.5.1 Deciding what to assess

Before the assessment can take place, it is necessary to decide what to assess. The purpose of SEA is to assess the significant impacts of a plan. SEA does not involve assessing each measure individually. However, a single assessment of the plan as a whole is unlikely to be

useful to the decision making process because of the generalisations made within it. Therefore, it is suggested that measures and strategies are grouped so they can be assessed in an effective manner. There are several ways to group measures together and a sensible way will usually present itself as the planning process is progressed. However, there are three different types of strategy grouping that local authorities could consider:

- By strategy type. For example, assessing the effects of parking strategies on rural areas throughout the plan area;
- By area. For example, assessing the effects of the plan as a whole on one market town; and
- By problem. For example, assessing the effects of all the measures designed to reduce traffic speeds on a certain route.

Each will be useful in different ways and all three may be used within the same Environmental Report.

4.5.2 Rural traffic impacts

Transport measures will have impacts on rural areas through the following mechanisms:

- Changes in traffic volume;
- Changes in traffic composition;
- Changes in vehicle speed;
- Changes in journey times / journey distances;
- Changes to the road character; and
- Improvements to transport alternatives.

(Source: adapted from Babtie and Diacono Associates, 2004)

Table 4.2 gives some guidance on how these different effects will impact upon environmental resources. A tick denotes that the change could have an effect on the environmental resource (this could be positive or negative) and a cross denotes that the change is unlikely to have an effect on the resource.

Table 4.2: The effects of transport on the rural environment

Resource	Traffic volume	Traffic Comp-osition	Traffic Speed	Journey times / distances	Countryside Character	Alter-natives	Issues
Noise	✓	✓	✓	×	✓	✓	Noise has effects on people through changes to traffic volume, speed and composition but the ecological effects of noise pollution should not be overlooked. Road surfacing can also have an effect on noise. Even if there are few people present to be affected by noise, in rural areas noise can have detrimental effects on rural tranquillity
Local air quality	✓	✓	✓	✓	×	✓	There is a direct correlation between increasing traffic volume / volume of HGVs and air pollution. As well as effects on certain routes the overall network effect is also important. Policies that improve the efficiency of goods vehicles, for example, can result in less fuel used therefore less emissions. However, it is always necessary to ensure that this network reduction in emissions does not occur to the detriment of rural areas.
Greenhouse gases	✓	✓	✓	✓	×	✓	There is a direct correlation between increasing traffic volume / volume of HGVs and greenhouse gases. The most significant cause of greenhouse gases is traffic. Effects should be examined network wide.
Landscape	✓	✓	✓	×	✓	×	Changes mostly occur through changes to the road character. However, changes in traffic speed and composition will have impacts on tranquillity.
Townscape	✓	✓	✓	×	✓	✓	Changes occur in market towns due to strategies that induce changes in traffic volume, speed and composition. Changes to the character of the road network through bypasses for example can be positive if traffic if traffic is taken out of towns. However, there are likely to be negative impacts of such a strategy on a rural area.
Heritage of historic resources	×	×	×	×	✓	×	The main impact on heritage is likely to be the provision of new road infrastructure.
Biodiversity	✓	✓	✓	×	✓	×	The main impact on biodiversity is likely to be the provision of new road infrastructure. However, changes in traffic volume, speed and composition can have detrimental effects on species and habitats.
Water environment	✓	✓	✓	×	✓	×	The main impact on the water environment is likely to be the provision of new road infrastructure. However, changes in traffic volume, speed and composition can have detrimental effects on the water environment if sufficient mitigation has not been provided.
Journey ambience	✓	✓	✓	✓	✓	×	The character of the road layout and the traffic upon it will all have effects on journey ambience.

Resource	Traffic volume	Traffic Comp-osition	Traffic Speed	Journey times / distances	Countryside Character	Alter-natives	Issues
Accidents	✓	✓	✓	×	✓	×	The main impact on accidents is likely to come from changes to the speed of traffic and changes to the road network such as the provision of speed limits or physical changes to the road.
Severance	✓	✓	✓	×	✓	✓	Severance can be particularly acute in rural areas as services are more difficult to reach than in urban areas. Provision of infrastructure such as footways and pedestrian crossings are also less than in urban areas, exacerbating the severance effect.

The impact of HGV's is likely to particularly severe in rural areas and the magnitude of most of the effects will be more acute if a large percentage of the traffic on a particular route are HGV's. Transport planners should ensure that the impacts of the strategy on freight movements are understood as fully as possible.

4.5.3 Impact assessment methods

Impact assessment involves the following steps (DfT, 2004):

- Identifying the effects which are predicted to arise from the strategy/measure; and
- Describing these changes in terms of their magnitude, the time period over which they will occur, whether they are permanent or temporary, positive or negative, probable or improbable, frequent or rare, and whether there are cumulative and/or synergistic effects.

There are many ways to assess the impacts of transport strategies. However EIA assessment methods are often complex and require significant amounts of data, measurement, interpretation, and compilation to provide a sufficiently robust method to identify the differences between strategies (Symonds, 2003). Development of frameworks prevents widespread application of assessment methods. Therefore, this section has drawn upon the most useful examples from several guidance documents including work carried out for the Countryside Agency and DfT.

A large proportion of the assessment will rely on expert judgement of the LTP team coupled with environmental advisers and other stakeholders. Transport planners have the knowledge to judge what does and doesn't work in different areas. Environment assessment at the strategic level is about making sensible judgements backed up with evidence where it is available. Where information is available, such as data from a strategic transport model, it should be used to try and reduce the uncertainties within the assessment regarding the effectiveness of different strategies. However, there is not necessarily a need to invest in a lot of detailed traffic data or GIS in order to address the issues. In many cases, data will not be available or will be too expensive to collect. The following assessment methods have been reviewed as part of this report:

- Consultation based methods;
- The use of matrices;
- The use of checklists; and
- The use of significance criteria and thresholds.

Consultation based methods

Consultation is a statutory part of carrying out a SEA at two points:

- Authorities with environmental responsibilities should be consulted on the scope and level of detail to be included within the Environmental Report; and
- Authorities with environmental responsibilities and the public should be given an early and effective opportunity to express their opinion on the draft plan and the accompanying Environmental Report.

Consultation is useful when identifying problems in rural areas. However, it is also useful in identifying:

- Whether the measure proposed will help to meet the objective and solve the problem; and
- Whether the measure will have any unforeseen impacts.

As already noted, assessment of LTPs has to deal with several levels of uncertainty. Consultation can help to reduce this uncertainty by gathering the views of experts in different fields and also the views of the public. The Countryside Agency has undertaken research on community consultation methods and has identified several that can be used to develop and assess rural transport strategies. This

guidance can be found at:
www.countryside.gov.uk/EssentialServices/Transport/localTransportPlans/ltpguidance_intro/index.asp

Most of these methods are particularly useful when identifying transport problems, however some of them can also be used effectively as part of assessment. These include:

Personal interviews, self completion questionnaires and panel surveys: These can be useful if the success of rural transport measures is dependent upon people's attitude to them. Methods such as a simplified stated preference survey (see Box 4.3) can help authorities judge the success of new measures. For example, people could be asked how likely they would be to switch modes if a new bus service was introduced. This can help to judge the likely effectiveness of that service in reducing traffic. Further guidance on stated preference surveys can be found at:
http://www.dft.gov.uk/stellent/groups/dft_localtrans/documents/page/dft_localtrans_504021-12.hcsp

Box 4.3: Stated preference surveys

Key Information: What are stated preference surveys?

Stated preference surveys are market research methods that ask members of the public to choose between a series of alternative measures or strategies. The use of stated preference surveys can be used to the public's likely reaction to different transport strategies and measures. They also enable judgement between different strategy alternatives in order to judge which may be more effective. However, stated preference surveys can be expensive and if they are used they should be targeted towards those strategies that are likely to have the most significant effect.

Focus groups and workshops: Ideally an assessment should be carried out through participative workshops and the team should be composed of a number of experts in different subjects rather than one or two people. The skills needed in an assessment team can be viewed in two ways – the generic skills needed and the subject specific skills needed (Centre for Sustainability, 2004). There are many generic skills that a team should possess. For example, the ODPM guidance on SEA for Planning Authorities (ODPM, 2003) states that an SEA is likely to be most effective if undertaken by people who together can:

- Consider and respond to local circumstances – this should involve people who can represent rural interests;
- Take a balanced and objective view;
- Understand the issues;
- Draw on good practice elsewhere; and
- Evaluate the full range of environmental issues.

It is also vital to involve people in the assessment process that have the knowledge that relates to what are likely to be the most significant environmental effects of the plan. For example, if landscape character is likely to be a significant issue for the SEA it will be important to involve someone in the assessment process who has an understanding of landscape character assessment to assess when an impact will be significant. Involvement of the statutory bodies in the assessment process should ensure that most significant issues are considered (Centre for Sustainability, 2004).

The use of matrices

Matrices have been used as part of impact assessment for many years. They can be particularly useful in scoping to identify which impacts are likely to be significant and require further analysis.

The Countryside Agency approach, TAIMS (Eco Logica, 2000) uses a matrix based method in order to identify which impacts are likely to be significant for the particular strategy under scrutiny. The matrix separates out the two aspects into impacts and receptors. Impacts are defined as the attributes of traffic - air pollution, noise, severance, nuisance, safety etc, whereas receptors are defined as the attributes of the area of study on which impacts are experienced - landscape, ecology, community, agriculture etc.

The matrix offers a description of the range of potential impacts, for example:

- The effects of noise on settlements;
- The impact of air pollution on ecology; and
- The consequences of safety issues for other road users.

The TAIMS checklist can be found in Section 2 (Table 2.1).

Tips and Hints: TAIMS checklist

The TAIMS checklist covers a wide range of transport impacts, many of which are unlikely to be significant within many types of strategy. For example, the impact of water pollution will only be significant if a strategy is likely to cause a significant increase in traffic along a certain route. Authorities should be realistic and use the process to focus on the most significant impacts.

Authorities could "localise" the checklist by integrating it with the rural objectives and problems identified as part of the plan. For example, the impact of severance on communities could become the impact of severance on Road A or Settlement A. The more specific the matrix is to local circumstances, the better.

The Use of Checklists

The DfT guidance on LTPs states that the following checklist of questions should be asked throughout an assessment:

- Is it clear exactly what is proposed?
- Is the strategy likely to have a significant adverse effect in relation to each objective?
- If so, can the effect be avoided or its severity reduced?[1]
- If the effect cannot be avoided, e.g. by conditions or changes to the way it is implemented, can the alternative be changed or eliminated?
- If its effect is uncertain, or depends on how the plan is implemented, how can this uncertainty be reduced?[2]

These can be helpful questions but do not help to focus the assessment on rural issues. The Countryside Agency has designed a process called rural proofing (Countryside Agency, 2002). A checklist of questions from this rural proofing process has been included as Appendix B. Authorities could incorporate some of these questions into their assessment process. Key information on Rural Proofing can be found in Box 4.4.

[1] Strategies should be developed so as to avoid the need for mitigation and provide environmental enhancement. The appraisal and SEA should also consider such opportunities. Where effects can easily, cheaply and certainly be mitigated, then those mitigation measures should be included in the strategy and assessed at this stage. The costs of such measures should also be included in the plan budgets.

[2] The relative lack of detail associated with strategic-level planning will generate uncertainties as to the magnitude of the environmental impact, mitigation required, and ability to deliver the mitigation/ enhancement measure. Where this affects the selection of the preferred alternative, additional studies may be needed.

Box 4.4: Key requirements for Rural Proofing

Key Information: Rural Proofing

The Countryside Agency's rural proofing initiative states that as policies are developed, policy makers should systematically:

- Consider whether their policy is likely to have a different impact in rural areas from elsewhere, because of the particular characteristics of rural areas;
- Make a proper assessment of these impacts if they are likely to be significant; and
- Adjust the policy, where appropriate, with solutions to meet rural needs and circumstances.

Another checklist that can be used to guide an assessment is one included in the report Large Vehicles In Rural Areas (Symonds, 2003). Checklists such as this (see Table 4.3) can assist transport planners with identifying the potential impacts of different strategies. This table should be viewed with some caution, however, and transport planners should ensure that they have thought carefully about the impact of a strategy as the effects of strategies can vary from place to place.

Table 4.3: Effects of different freight strategies

Option	Impact				
	Environment	**Society**	**Safety**	**Economy**	**Integration**
Land use planning	+	0	0	0	0
Economic strategy	+++	+	0	+	+
Purchasing practices	+	0	0	+	+
Alternate mode	+	+	0	-	+
Vehicle load efficiency	+	+	0	+	0
Supply chain management	+	0	0	-	0
Routing strategy	++	++	+	-	+
Speed control	0	++	++	-	0
Physical control	+	+	+	0	0
Transhipment	-	0	0	--	0

Checklists can also be used to judge the significance of the criteria. A checklist could include the following questions:

- Would the impact be controversial?
- Would the impact establish a precedent?
- Are environmental and health standards and objectives being threatened?
- Are mitigating measures available and how costly are they?
- Can the impact be better assessed at a more local plan or in a project?
- Which community groups would be affected and in what way?
- Is the impact reversible or irreversible?
- Does the impact occur over the long or short term, is it continuous or temporary and increase or decrease with time?
- Is the impact at a local, regional, national or global scale?

The use of significance criteria

The significance of effects can be judged through expert judgement using the methods identified above. However, there are some additional methods that can be used to help to judge the significance of impacts.

The first method that can be used is significance criteria. Decisions on significance are best undertaken in a consistent and systematic manner. The use of significance criteria that are defined in advance of the impacts being assessed can help undertake assessment in a consistent manner. The SEA Directive includes examples of significance criteria and these are included in 4.5.

Box 4.5: SEA Directive Significance Criteria

Key Information: Judging Significance –SEA Significance Criteria

Criteria for determining the likely significance of effects referred to in Article 3(5)

Characteristics of the effects and of the area likely to be affected, having regard, in particular, to:

- the probability, duration, frequency and reversibility of the effects;
- the cumulative nature of the effects;
- the transboundary nature of the effects;
- the risks to human health or the environment (e.g. due to accidents); and
- the magnitude and spatial extent of the effects (geographical area and size of the population likely to be affected);

The value and vulnerability of the area likely to be affected due to:

- special natural characteristics or cultural heritage;
- exceeded environmental quality standards or limit values;
- intensive land-use; and
- the effects on areas or landscapes which have a recognised national, Community or international protection status.

Transport planners can also define their own significance criteria at the outset of the assessment and then gain consensus among stakeholders on their composition. Appendix C provides an example of significance criteria for cultural heritage issues.

The use of significance thresholds

Thresholds can also be useful in attempting to define when an impact is significant. The use of thresholds is a major focus of the TAIMS methodology (Eco-Logica, 2000) which attempts to devise thresholds linked to traffic data for different rural routes. It does this by establishing the sensitivity of environmental attributes to the traffic impacts and then determines a threshold value at which the characteristics of traffic (volume, speed, and mix in any combination) exceed the capacity of environmental receptors to sustain the impact. TAIMS does this on a route by route basis. If applied in the way envisaged by the TAIMS documentation, it would be very difficult to use for the assessment of the effects of a rural transport strategy. However the methodology can be applied at the transport strategy level. Once other methods have been used to identify particular settlements where significant impacts will occur, TAIMS can be used to further determine the traffic thresholds related to those significant impacts (see Box 4.6). This reflects the statement in TAIMS that the method becomes progressively more useful as the scale becomes more local (Eco-Logica, 2000).

Box 4.6: Determining traffic thresholds using TAIMS

Key Information: TAIMS methods for determining traffic thresholds

- Attribute-led, such as traffic levels derived from noise standards, or severance levels established by research;
- Hierarchy-led, in which general thresholds are set for different classes of road in an area or region, and adjusted to local circumstance according to other threshold definitions
- Community-led, in which local people are asked where there are perceived to be unacceptable environmental impacts from traffic on the road network and these problem sections are related to traffic levels.

Tips and Hints: Significance

Only significant effects need to be documented within the Environmental Report. However, significance can only be assigned after effects have been identified. Therefore, the application of significance criteria will help to reduce the initial list of effects down to the significant ones if used at the scoping stage.
The effects not described within the Environmental Report need to have been tested for significance and this process documented. The Environmental Report will be open to legal challenge and it must be clear why certain effects are considered significant or otherwise.
Scottish Executive guidance (Scottish Executive, 2003) states that where a judgement about significance is marginal or uncertain, the precautionary principle should be applied. This is a good principle to adopt for SEA where there is uncertainty over whether an effect is significant.

(adapted from Centre for Sustainability, 2004)

5 Solutions to Traffic Problems in Rural Areas

The previous chapters have shown approaches to identifying and assessing traffic issues in rural areas. This section will present a framework and range of solutions or approaches that can be used to tackle these issues. Case studies and examples are used to illustrate how local authorities have attempted to tackle traffic and freight issues in rural areas. It should be remembered that solutions are dependent on the scale of the problem and the resources available to deal with the problem. It is important to highlight however that some solutions cannot be dealt with by the LTP. In such instances the issues should be highlighted for consideration by authorities that *can* implement solutions.

5.1 Understanding the link between objectives and solutions

There are a number of solutions to rural traffic issues. However it is important to apply these within a framework to achieve the overarching rural transport objectives of the LTP. Table 5.1 (taken from Countryside Agency 2003) is a matrix of the rural transport objectives against types of intervention.

The rural transport objectives as identified in Table 5.1 are:

- Enhancing accessibility and managing the need to travel;
- **Reducing the impacts of traffic and transport on the countryside**; and
- Improving transport choice.

This section of the guide will focus on solutions that contribute to the rural transport objective of reducing the impact of traffic and transport on the countryside.

5.2 Approaches for reducing impacts of traffic in rural areas

Table 5.1 deals with solutions for rural transport problems in general. As such the matrix is used here as a basis for demonstrating solutions to traffic and freight issues in rural areas and not transport issues overall, therefore the examples used are likely to reflect mainly those factors outlined under the objective of 'reducing the impacts of traffic and transport infrastructure on the countryside'. It is intended that a set of interventions developed as part of a transport strategy would consist of as many of the types of actions highlighted as possible.

The following approaches could be used specifically to reduce impacts of traffic in rural areas;

- Policy interventions;
  - Develop rural road hierarchy
  - Develop a speed management strategy
  - Concentration of development within settlement boundaries
  - Specific local guidance
- Infrastructure provision and enhancement;
  - Development of rural networks including 'quiet lanes'
  - Traffic calming through villages
  - Sympathetic design
  - Access routeing for freight
- Service improvements
  - Encourage modal shift through improved bus service
- Integration and Interchange
  - Implement rural transport strategy that enables interchange at key rural transport nodes
  - Improvements to transport choice could also have beneficial effects
- Information and awareness
  - Anti speeding campaigns in rural areas

Table 5.1: Matrix of solution types against rural transport objectives

Rural transport objective	Policy interventions	Infrastructure provision and enhancement	Service improvement	Integration and interchange	Information and awareness
Enhance accessibility and manage the need to travel	• Safeguarding and promotion of local services (health, education), land use planning policy to prevent significant traffic/travel generation. • Parking control in market and historic towns (requires regional co-operation).	• Improving quality of public transport to promote usage e.g. quality of waiting areas.	• Bringing services to people e.g. mobile library, shops, health unit.	• Provide interchange facilities to prevent need to make whole journey by car e.g. into a service centre. • Integrated packages of measures.	• Supply public transport information to encourage public transport use e.g. via internet, telephone line, mobile phone. • Require production of effective travel plans for key developments.
Reduce impacts of traffic and transport infrastructure on the countryside	• Developing a rural road hierarchy. • Lower speed limit strategy. • Concentration of development within settlement boundaries, protecting rural areas from significant traffic-generating development. • Specific local guidance e.g. on design, parking standards etc.	• Development of rural routes and networks including "Quiet Lanes". • Traffic calming through villages. • Sympathetic design, possibly from local design guidance. • Access routeing for freight.	• More and better buses, and other communal transport solutions to encourage modal shift.	• Interchange at key public transport nodes, to enable travel there by public transport and onward travel by public transport to service centre destination.	• Anti-speeding campaigns through rural settlements.
Improve transport choice	• Develop rural transport strategy. • Improve policies on vulnerable modes, where feasible e.g. walking, cycling, equestrians.	• Cycling lanes and cycle routes. • Footpaths and walking routes, Rights of Way networks. • Safer routes to schools. • Greenways. • Rural Home Zones.	• Demand responsive, accessible and affordable community transport options (minibuses, car schemes). • Taxi card/vouchers. • Local bus services, feeders into mainline services. • Hail & Ride services. • Rural rail. • Wheels to work schemes.	• Park and Ride at rural train stations, and to provide links with main bus services into key centres. • Demand responsive transport - feeder links into mainline rail or main bus routes.	• Public transport information - "Traveline". • Marketing and promotion of alternatives to the car when travelling into main service centres.

(Source: Countryside Agency, 2003)

5.2.1 Dealing with Freight/HGV Issues

As discussed freight vehicles can pose particular problems in rural areas. The LVIRA report (Symonds, 2003) provided a set of intervention options for managing the impacts of HGVs in rural areas. The South Hams area of Devon was used as a pilot area. The impacts of current goods vehicle movements on all road classes were assessed and problems defined. The report included practical measures that could be taken in the context of the Devon Local Transport Plan to resolve the problems associated with road freight in the study area.

The assessment of the data available within the framework outlined in Table 5.1 was used to underpin a hierarchy of intervention techniques, in this instance three types of invention and supporting tools:

- Minimising the need for movement
  - Land use planning
  - Economic planning
  - Purchasing practices
- Maximising the efficiency of movement
  - Alternate modes
  - Vehicle loading
  - Supply chain management
- Minimising the impacts (of residual movements)
  - Routing strategies
  - Speed controls
  - Physical controls
  - Transhipment

The three packages were developed in reflection of the speed of deliverability of individual measures; short, medium and long term, as shown in Table 5.2.

Table 5.2: Timeframes

Time Frame	Measures / Effects
Short Term Interventions (< 5 Years)	• Simple vehicle loading improvements • Supply chain management practices • Routing strategies • Speed controls • Physical measures to control access
Medium Term Interventions (> 5 < 10 Years)	• Some economic restructuring impacts • Revised purchasing practices • Development control policy impacts • Technological advances to improve vehicle loading and utilisation • Road user charging • Other fiscal measures
Long Term Interventions (> 10 Years)	• Land use planning policy impacts starting to show • Development of alternative modes coming on stream • Introduction of transhipment facilities more feasible as trunk haul journey time reliability becomes very poor

Box 5.1 outlines the measures proposed in the LVIRA report for the **South Hams** area. It was anticipated that the programme of interventions would realise the following benefits:

- Reduction in HGV flows;
- Reduction in speeds;

- Reduction in accidents;
- Reduction in severance; and
- Highway maintenance requirements (linkage of wear to the network and large vehicles).

Box 5.1: Programme of schemes (LVIRA) for the South Hams area

Case Study: Programme of schemes (LVIRA) for the South Hams area

Short term interventions (< 5 years)

- Develop consensus on way forward;
- Implement a marketing and information strategy to develop and maintain support for the above;
- Define and develop 'Key Routes' for HGVs;
- Introduce 20mph speed limits in communities on the new HGV Key Routes;
- Introduce speed enforcement measures to manage vehicles on the Key Routes;
- Develop a Freight Quality Partnership for the area to help manage the implementation of schemes

Longer term interventions (> 5 years)

- Encourage transfer to alternative modes, including a review of the market for short sea shipping to the area;
- Support implementation of road user charging and other GPS based controls on routing and speed;
- Seek to influence spatial and economic strategy to encourage growth of businesses that area either not freight dependent or which have a low sensitivity to freight transport costs;
- Development of a tool-kit game for use in 'Planning for Real' type exercises and within schools.

Source: Symonds Group, 2003.

5.2.2 Rural Road Hierarchies

An example of a policy intervention to reduce the impacts of traffic on the countryside is the development of a hierarchy of routes whereby public roads and routes are ranked in terms of their appropriateness for different traffic uses with respect to environmental, economic and social needs. Road hierarchies are used by Highway Authorities as a tool to ensure that HGVs and other large vehicles use routes that are most appropriate for their size and weight.

The Countryside Agency's Quiet Lanes Interim Guidance (Countryside Agency, 2003a) suggests the following as reasons for considering a route hierarchy:

- To obtain the best use of the existing network;
- To ensure each type of traffic is using the most appropriate route;
- To minimise risk to users and to the natural and built environment;
- To ensure better management, maintenance regimes and design policies;
- To ensure funding for routes is targeted appropriately; and
- To offer network users a choice for how they travel.

The guidance moves on to highlight that hierarchy is established by:

- Developing different categories of route - these categories will be determined by the primary journey purposes untaken, the standard of the route surface, the potential destinations on the route and the size of the route;
- Developing detailed criteria in order to assign routes to the hierarchy - as well as determining the types of traffic to use the route this should also include details about management and maintenance of the routes;

- Assigning routes to the hierarchy; and
- Assessing "problem" areas - it must be recognised that not all routes will fit exactly into each category and in some cases you may have to consider adding physical measures to a route in order to address user safety.

Box 5.2 provides a case study on how route hierarchies have been applied in Norfolk.

Box 5.2: Norfolk County Council Route Hierarchy

Case Study: Norfolk County Council Route Hierarchy

Norfolk County Councils' route hierarchy has been developing since 1980. It identifies different types of routes throughout the county according to their function and level of use. The county has divided into areas, or cells, which are funded by the Trunk, Principal and Main Distributor Routes. Each cell has been reviewed to identify the most appropriate routes for traffic from outside the cell to access each significant HGV operating centre, local community and tourist attraction. These are designated as HGV Access Routes Local Access Routes and Tourist Access Routes.....the route hierarchy is implemented primarily through changes to the signing, but also includes localised network improvements and the introduction of specific speed restrictions if necessary.

Source: Norfolk Quiet Lanes Pilot Project. Technical Report 1 Public Engagement and Scheme Implementation. Norfolk County Council. August 2000
(Available from: http://www.quiet-roads.gov.uk/site/pace/activate/hierachies.htm)

5.2.3 Lower Speed Limits

The consideration of rural road hierarchies can also be adapted to facilitate a strategy of speed management. This has been outlined in the document 'Development of a rural road hierarchy for speed management purposes' (DfT, 2002)*:*

- Local traffic authorities categorise rural roads according to the ways in which they used. This is then used to subject different categories of roads to different speed limits;
- The national limit of 60mph for single carriageway rural roads covers a range of road types – there is no guidance to distinguish between roads. There are instances where the national speed limit is not appropriate for the conditions;
- The existing road categorisation (A, B, Unclassified) is not currently used for defining rural roads for speed management purposes;
- A nationally adopted new hierarchy for rural speed management could aid drivers through consistent application of speed limits – could also reduce road casualties and fear felt by vulnerable road users; and
- In the Netherlands, rural roads are defined by their function as part of the Sustainable Safety Approach (based on a three-tier system).

The Department for Transport suggest a variety of mechanisms that can be used to allocate roads within the hierarchy:

- A flow chart approach, as used in the IHT's Urban Safety Management Guidelines;
- A points scoring system, or
- A 'look-up' table, based on a priority order of criteria.

The Department for Transport have provided a possible template for a speed management hierarchy (Box 5.3).

Box 5.3: Department for Transport template for a speed management hierarchy

Key Information: Possible template for speed management hierarchy

Speed limit	Tier 1 Through traffic and distribution	Tier 2 Mixed use	Tier 3 Local Use
Road class	A	B	other
70 mph	Dual carriageways only		
60 mph	High quality single carriageways [1]		
50 mph	Poor quality single carriageways [2]	Roads with open aspect and limited presence of vulnerable users	
40 mph	Exceptional town or village with wide roads and good provision for vulnerable users	Poor quality roads with frequent access points and junctions	Between villages and open aspect roads
30 mph	Towns and villages	Towns and villages	Villages with adequate footways. Poor quality roads with vulnerable users
20 mph		Exceptional use in villages with restricted layouts and many vulnerable users	Quiet Lanes Villages without footways and narrow roads

Source: Department for Transport 2002

[1] Quality refers to geometric and topographic characteristics, not the quality of the environment
[2] This category of Tier 1 road should be looked as a temporary measure. It is the intention that such roads be upgraded if they are to remain in this tier, or that they be made Tier 2 roads.

The following case studies (Box 5.4, 5.5) show examples of particular speed limit initiatives that have been applied to rural areas:

Box 5.4: Suffolk County Council Village Speed Initiative

Case Study: Suffolk County Council Village Speed Initiative

Suffolk County Council rejected the advice of the Department of Transport's Circular 1/93 on existing driver speed and set out with the presumption that each village or location where groups of people live should have a 30mph speed limit. The policy was to introduce a consistent speed limit for all residential areas, even tiny hamlets.
By 1996, c.700km of 30mph limit had been introduced by Suffolk.

Box 5.5: Shropshire Rural Speed Limited Initiative

Case Study: Shropshire Rural Speed Limited Initiative

The rural speed limit initiative in Shropshire developed the following methodology in order to assess the extent to which a rural area required intervention with respect to traffic speed:

- Consultation
- Seminar for elected members with representatives from Suffolk's transportation department, West Mercia Police, DETR as was.
- Assessment of priority (arbitrary criterion of 100 head of population) = 190 settlements

1. What is the existing speed limit?
2. Is there a fatal accident history?
3. Is there a serious accident history?
4. Is there a slight accident history?
5. Is it on a classified road?
6. Is there a school?
7. Is there a special care facility?
8. Is there a hospital?
9. Is the lighting provision substandard?

- If the answer to the first question was 30mph the settlement was excluded from further assessment.
- A map based assessment of the village rankings (based on question scores) was used to determine 10 zones.
- Assessment of average costs for improvement
- Monitoring

5.2.4 Rural Networks and Quiet Lanes

A potential solution to traffic issues with regard to infrastructure provision is the development of rural networks and quiet lanes. Further information on Quiet Lanes can be found in the Countryside Agency's Quiet Lanes Interim Guidance (Countryside Agency, 2003a). In addition Box 5.6 provides information on the Norfolk Quiet Lanes project.

Box 5.6: Norfolk Quiet Lanes Project Objectives

Case Study: Norfolk Quiet Lanes Project Objectives

The objectives for the Quiet Lanes pilot have been developed through consultation and can be summarised as follows:

- to provide an attractive alternative network of routes that link communities
- the environmental protection/enhancement of minor country lanes
- to use partnership working to deliver the pilot with community support
- to develop all user awareness of the scheme
- to use low cost/low visual impact traffic engineering measures
- to create village core treatments to complement the Quiet Lanes

Source: Norfolk Quiet Lanes Technical Report 1, August 2000
(Available from: http://www.quiet-roads.gov.uk/site/pace/activate/hierachies.htm)

5.2.5 Traffic calming and sympathetic design

Other solutions to speeding can involve traffic calming measures in villages and sympathetic design strategies. The publication 'Killing Speed: A Good Practice Guide to Speed Management' (The Slower Speeds Initiative, 2001) provides examples. The following cases studies show how some different local authorities have used signing and design for lower speeds to tackle traffic issues in specific rural areas. The examples shown (Box 5.7, 5.8) are interesting because they emphasise the contextual nature of applying measures to rural areas and the need to respond to particular village environments and characteristics.

Box 5.7: Traffic Calming in Shropshire

Case Study: Dorrington and Craven Arms, Shropshire

In the village of Dorrington and town of Craven Arms in Shropshire, traditional traffic calming measures have been adapted by using visually striking signs and road markings in the form of 'countdowns' and cushions on the A49 trunk road.

Dorrington and Craven Arms both straddle the A49 in Shropshire. 'Countdown' signs have been specially authorised by DETR and installed in advance on 30mph speed limits at both ends of the settlements.

There are also 'dragon's teeth' markings on the approaches to the 30mph limit signs plus red patches with 30mph repeater roundels or signs at intervals though the settlements.

Norfolk County Council has developed speed reduction through design in Starston and Poundbury (See Box 5.8) where landscape values are high and the aim is to minimise intrusion and clutter. It was felt that visual design criteria are fundamental to the basic nature of speed management schemes and should be considered.

Box 5.8: Norfolk Speed Reduction through Design Strategy

Case Study: Starston, Norfolk – Speed Reduction through Design

Residents were campaigning for a 30mph speed limit through the village. However, the Council considered that the village was too short in geographical length to get the desired response from vehicles and the number of signs needed would clutter the environment. As a result, a scheme was devised to achieve speed reduction without a new speed limit - natural traffic calming features were augmented through the removal of signing and markings:

- 11 warning signs were removed
- The centre white line was removed, except at the bend
- A new road surface provided

The measures received the desired results, as speeds through the village were reduced to around 30mph.

5.3 Additional considerations in the formulation of solutions

This section of the guide has looked at interventions with regard to the impacts of traffic and transport infrastructure, including the impact of freight. It should be remembered however that such interventions should not be considered in isolation and where possible a package of measures should aim to resolve other rural transport issues such as accessibility, the need to travel and transport choice. The considerations have been broadly summarised below with Box 5.10 and 5.11 providing case studies on elements of rural transport strategies.

5.3.1 Enhance accessibility and manage the need to travel

Measures include:

- Policy interventions
  - Safeguarding and promotion of location services, land use planning
  - Parking control in market / historic towns
- Infrastructure provision and enhancement;
  - Improve quality of public transport
- Service improvements;
  - Bringing services to people e.g. mobile library
- Integration and interchange;
  - Provide interchange facilities
  - Package of measures
- Information and awareness.
  - Supply public transport information to encourage public transport use
  - Production of effective travel plan

5.3.2 Improve transport choice

- Policy interventions
  - Develop rural transport strategy
  - Improve policies on vulnerable modes where feasible
- Infrastructure provision and enhancement;
  - Cycling lanes and cycle routes
  - Footpaths and walking routes, Rights of Way networks
  - Safer routes to schools
  - Greenways
  - Rural home zones
- Service improvements;
  - Demand responsive, accessible and community transport options (mini bus / car schemes)
  - Taxi card / vouchers
  - Local bus services, feeders into mainline services
  - Hail and Ride services
  - Rural rail
  - Wheels to work schemes
- Integration and interchange;
  - Park and Ride at rural train stations, and to provide links with main bus services into key centres
  - Demand responsive transport – feeder links into mainline rail or main bus routes
- Information and awareness
  - Public transport information - ‘Traveline’
  - Marketing and promotion of alternatives to the car when travelling into main
  - service centres

Box 5.10: West Sussex Rural Transport Strategy

Case Study: West Sussex Rural Transport Strategy

Specific performance indicators to help to measure and focus progress towards objectives of Rural Transport Strategy:

- Number of new speed limits
- Number of people promoting 'Making the Commitment'
- Length of quiet road / greenway network
- Public transport user satisfaction with services and information
- Number of people accessing Centuri21 points
- Number of community bus services
- Number of schools developing travel plans
- Mode of travel to school
- Number of casualties saved
- Number of sustainable travel initiatives

Box 5.11: Tyne and Wear Rural Transport Strategy

Case Study: Tyne and Wear Rural Transport Strategy

Schemes as part of rural transport strategy:

- Rural Transport Corridors – enhance public transport on strategic rural corridors. These will link rural communities with important trip attractions.
- Introduce other bus priority measures at specific problem locations
- Traffic management, speed management and safety schemes
- Enhance interchange facilities, especially in relation to accessibility
- Safer routes to schools initiatives
- Cycle network development
- Pedestrian route development
- Parking provision

Key monitoring indicators:

- Level and severity of injury accidents
- Modal share of travel
- Traffic levels at key sites

6 Monitoring the effects of a transport strategy

This section of the guidance provides details on how to monitor the effects that transport measures or strategies are likely to have on rural areas.

6.1 Purpose of Monitoring

The purpose of monitoring is two fold:

- To assess whether the proposals within an LTP are helping to;
  - Meet the rural objectives of the plan;
  - Solve the problems experienced in rural areas; and
- To ensure that there are no significant environmental impacts of the strategy selected.

Box 4.1 shows the monitoring requirements for LTPs.

Box 6.1: Monitoring Requirements for LTPs

Key Information: Monitoring Requirements for LTPs

- All Highway Authorities must produce an *Annual Progress Report* (APR) which provides a mechanism for authorities to report on how their LTPs are being implemented, and the progress in working towards the local objectives, national and local targets, and outputs. APRs are important documents because in the future, securing additional funding will be dependent on the successful delivery and good management of LTP programmes.
- The SEA Directive explicitly requires monitoring of the *significant environmental effects* of the plan.

6.2 Annual Progress Reports (APR) Monitoring

The Countryside Agency has reviewed APRs every year for their coverage of the following rural monitoring issues:

- Authorities' performance in supplying an estimate of the proportion of their overall LTP allocation on measures in rural areas and in identifying the outputs and outcomes in rural areas; and
- Authorities progress in the development and use of targets, indicators and monitoring procedures in their LTP, insofar as these are relevant to rural areas.

Work for the Countryside Agency (TRL, 2004) has shown that the third round of LTP Annual Progress Reports showed inconsistent coverage of issues related to rural targets and monitoring. However, there are some examples where rural monitoring is carried out well and these are shown in Box 6.2.

Box 6.2: LTP Good Practice Case Studies

LTP Good Practice Case Studies

Rural Expenditure

- Gloucestershire clearly breaks down the amount of capital rural expenditure under different headings such as speed limits, traffic management, accident reduction and pedestrian schemes; and
- Durham clearly breaks down revenue expenditure for rural schemes.

Rural Outputs and Outcomes

- Cambridgeshire lists a number of rural outputs and outcomes including rural 20mph zones, quiet lanes, rural bypass and rural traffic calming schemes.
- Gloucestershire's use of the MAIDEN database for accessibility audit (no further details are given in the APR commentary);
- Cambridgeshire has published a new LTP which includes accessibility audits for 12 main public transport corridors;
- Lincolnshire is a national accessibility audit pilot scheme focusing on access to healthcare; and
- Nottinghamshire has volunteered to pilot accessibility planning initially in Bassetlaw. Experience gained in this mixed area of market towns, former coalfields and rural parts will provide useful feedback.

There are several ways that local authorities can integrate rural issues into APR monitoring:

- Local authorities may find it useful to package rural improvements into a single component or a number of components, especially when promoting many small-scale infrastructure measures. This will make monitoring of those components more meaningful in a rural context;
- Presentation of data on targets in the LTP and progress reports in APRs relating specifically to rural areas is an important area to ensure the public is well informed as to the progress of the plan set against the indicators of performance. In doing so, local authorities may want to make reference to the indicators used by the Countryside Agency to monitor the state of the countryside regularly. These include:
    - The geographical availability of local services – such as post offices, local shops, schools and pubs;
    - Rural mobility – tracking car ownership in rural areas; and,
    - Rural traffic effects – an indicator is currently under development.
- Local authorities may especially want to monitor the effects of freight on rural areas including (Babtie and Diacono Associates, 2004):
    - Positive actions implemented to improve the efficiency of freight such as access to priority lanes;
    - Positive actions implemented to mitigate the environmental impact of the movement of goods;
    - The amount of freight handled at key facilities (such as ports and rail terminals), where actions of the freight strategy were intended to promote increased volumes;
    - Positive outcomes arising from Freight Quality Partnerships following the bringing together of key players and agreeing actions; and
    - Other monitoring of statistical data relevant to freight.

6.3 SEA Monitoring

DfT guidance on Strategic Environmental Assessment of Transport Plans and Programmes (DfT, 2004) includes detailed information on how to monitor the significant effects of LTPs. Box 6.3 shows a step by step guide to developing a monitoring system for SEA.

Box 6.3: Stages in SEA monitoring

Key Information: Stages in SEA monitoring

1. Determine what needs to be monitored;
2. Identify what sort of information needs to be required;
3. Identify existing sources of monitoring information;
4. Identify and fill any gaps in existing information;
5. Determine what remedial action would be required and which actions could be taken;
6. Develop a management plan outlining responsibilities, timeframes and presentation.

Environmental effects of transport in rural areas have been monitored poorly in the past as much environmental monitoring has focused on urban areas

Local authorities can integrate rural issues into APR monitoring by ensuring that SEA monitoring covers such issues as:

- Whether the plan is contributing to environmental objectives and targets set for rural areas;
- Whether the mitigation measures adopted to reduce the environmental effects of the plan in rural areas are being effective;
- Whether undesirable effects of the plan are unfairly distributed in rural areas;
- Whether the benefits of the plan are unfairly distributed in urban areas;
- Cumulative effects may be particularly significant in rural areas. Monitoring should seek to assess whether the plan (in combination with other plans) is causing an irreversible decline in the environment of rural areas especially issues related to landscape value, biodiversity, rural tranquillity and rural accessibility; and
- What the thresholds for remedial action are in different areas of the plan (conditions regarded as environmentally unacceptable are likely to be different in rural areas than in urban areas).

References

Babtie and Diacono Associates (2004): *The Countryside Agency TAIMS West Midlands Regional Study*. Babtie Group, Coventry.

Centre for Sustainability (2004): *Techniques for Effective Strategic Environmental Assessment (SEA) for Local Aggregates Planning.* TRL Report Number PR SE/922/04. TRL, Berkshire. See www.sea-info.net for more details.

Countryside Agency (2002) *Rural proofing – policy makers' checklist.* Countryside Agency CA 35, Cheltenham. (also available as a web based version at http://www.countryside.gov.uk/EssentialServices/ruralProofing/automatedchecklist/index.asp

Countryside Agency (2003) *Local Transport Plans: A better deal for rural areas – good practice guide.* Countryside Agency, Cheltenham.

Countryside Agency (2003a) *Quiet Lanes Interim Guidance.* Countryside Agency, Cheltenham.

Countryside Agency (2004) *State of the Countryside Report 2004* Countryside Agency, Cheltenham

Department for Environment, Transport and the Regions (2000) *Rural White Paper 'Our countryside: The future. A fair deal for rural England.'*

Department for Transport (2001): *Older People, Their Transport Needs and Requirements.* The Stationary Office, London.

Department for Transport (2002) *Development of a rural road hierarchy for speed management purposes*

Department for Transport (2004): Strategic Environmental Assessment Guidance for Transport Plans and Programmes. WebTag Tag Unit 2.11. See www.webtag.org.uk.

Eco-Logica (2000): *Traffic Appraisal and Impact Monitoring System: A Methodology supporting Countryside Transport Planning (Final Report).* Countryside Agency, Cheltenham.

European Commission (2001) *Directive 2001/42/EC 'on the assessment of the effects of certain plans and programmes on the environment'*

Headicar P & Jones T (2002) *The Treatment of Rural Issues in Local Transport Plans* Countryside Agency, Cheltenham

Office of the Deputy Prime Minister (2003): *The Strategic Environmental Assessment Directive: Guidance for Planning Authorities, Practical guidance on applying European Directive 2001/42/EC 'on the assessment of the effects of certain plans and programmes on the environment' to land use and spatial plans in England*. The Stationary Office, London.

Symonds (2003) *Large Vehicles in Rural Areas.* Symonds, London.

The Slower Speeds Initiative (2001) *Killing Speed: A Good Practice Guide to Speed Management.* Hereford: Slower Speed Initiative

TRL (2004): *Review of Countryside Agency Comments on APRs and Advice for Future Work. Unpublished Project Report PR SE/891/04.* TRL, Berkshire.

Appendix 1: Stages of the SEA process

SEA stage	Purpose of this stage
A: Setting the context, identifying objectives and problems and establishing the baseline • Analyse the environmental protection objectives, established at international, Community or national level, which are relevant to the plan. • Establish SEA objectives, indicators and targets. • Collect relevant information on the environmental context as relevant to the plan / programme, and its evolution without the plan / programme. • Outline the environmental characteristics of areas likely to be significantly affected. • Outline any existing environmental problems which are relevant to the plan including, those relating to any areas of a particular environmental importance, such as areas designated pursuant to the Birds and Habitats Directives (79/409/EEC & 92/43/EEC). • Outline the relationship with other relevant plans and programmes.	Document how the plan is affected by outside factors; suggest ideas for how any inappropriate constraints can be addressed. Streamline the subsequent baseline description, prediction and monitoring stages. Provide a base for effects prediction and monitoring. Focus on key environmental issues and opportunities; help to identify environmental problems, objectives and alternatives.
B: Deciding the scope of SEA and developing alternatives • Identify relevant alternatives at the strategic level. • Scope the likely significant effects of the plan and alternatives. • Consult with environmental authorities when deciding on the scope and level of detail of the information which must be included in the Environmental Report (Art. 5.4).	Help ensure that: • the SEA covers key issues. • the plan better meets the Government's aims for more sustainable development. • the best plan alternative(s) is/are considered.
C. Assessing the effects of the plan • Forecast the significant effects on the environment of the chosen strategy taking into account the objectives and geographical scope of the plan. • Outline the reasons for selecting the alternatives dealt with. • Propose measures to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme. Such measures should be costed and deliverable. • Describe the measures envisaged concerning monitoring in accordance with Article 10.	Defensible consideration of all likely significant environmental effects. Propose mitigation measures where appropriate. Propose a monitoring programme.

SEA stage	Purpose of this stage
D. Consultation on the draft plan and the Environmental Report. • Prepare 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. The information to be given is (Article 5 and Annex 1). • Give environmental authorities and the public an early and effective opportunity within appropriate time frames to express their opinion on the draft plan and accompanying Environmental Report before the adoption of the plan (Art. 6.1, 6.2). • Take consultation results into account • Make available: o the plan as adopted. o a statement summarising how environmental considerations have been integrated into the plan and how the Environmental Report of Article 5, the opinions expressed pursuant to Article 6 and the results of consultations entered into pursuant to Article 7 have been taken into account in accordance with Article 8, and the reasons for choosing the plan as adopted, in the light of the other reasonable alternatives dealt with. o proposals for monitoring.	Identify the opinions and concerns of the public and environmental authorities on environmental issues. Show how information and opinions on environmental issues have been considered.
E. Monitor the significant effects of implementing the plan on the environment. • Decide what needs to be monitored. • Identify the information required, including existing sources and the gaps. • Confirm when the remedial action would be required and identify what remedial actions might be needed. • Consider who is responsible for the monitoring activities, when it should be carried out and propose what the appropriate format for presenting the monitoring results.	Achieve implementation of the plan in accordance with the outcomes of the SEA. Ensure that adverse effects of implementing the plan can be identified and corrective action taken. Provide information for future SEAs.

Appendix 2: Rural Proofing Checklist

Before using the checklist, it will be helpful to consider some general questions about the proposal:

- What are the objectives and what social groups, institutions, geographical areas and economic sectors is it intended to affect?
- What is the proposed means of delivery?
- Is it meant to apply equally to urban and rural areas?

Then, consider each of the following questions to see whether the policy is likely to be affected by the challenges that rural areas frequently present:

Targeting: Is the initiative targeted on particular areas or groups? Is there sufficient flexibility within the policy to ensure it meets needs in rural areas where disadvantage tends to be scattered, rather than concentrated in neighbourhoods?

Bidding rounds: Will the initiative involve a bidding round? Will small rural communities and institutions (including district councils) need longer timescales or extra support to form partnerships and put together successful bids?

Partnerships: Does the initiative require local partnerships? Will these include people or bodies from the rural part of the area to be affected? Is there scope to include representatives from parish councils? Do rural institutions, especially from the voluntary sector, have the capacity to function as full partners?

Consultation: Will there be consultation on the initiative with local people or groups? Is the method used capable of reaching those with poorer access to information points such as libraries or post offices. Is there scope for specifically targeting rural groups and identifying their views?

Pilots/pathfinders: Will the initiative be tested through pilots? Will there be some rural pilots to see if there are different issues or success factors in rural areas? Are the rural pilots designed to test particular rural issues or solutions?

Monitoring: If the results of the initiative are to be monitored, can this be done in such a way that the results in rural areas can be separately identified?

Sparsity costs: Will the initiative cost more to deliver in rural areas, where travel times to clients are likely to be longer and outlets may be smaller and lacking economies of scale? Is there scope to introduce a sparsity factor within funding allocations to take account of any higher (unit) delivery costs? Is there scope to overcome extra costs through other means, such as sharing premises with other service providers?

Development opportunities: Will the policy, plan or programme result in a physical development and, if so, does this help deliver development plan policies which seek to improve the quality of life in the area? Will the differences between planning regulations in rural and urban areas affect location and the distribution of benefits and costs? Is the policy sufficiently flexible to allow developments tailored to the particular character of rural areas and, if there are few suitable sites for development in rural areas, are there alternative ways of delivering the policy?

Market driven: Does the initiative rely on private sector supply or demand? What can be done to ensure services are still delivered in rural areas where costs may be higher, the market smaller because of the scattered

and small population, and the potential for profit lower? Is it possible to stimulate demand for a service, perhaps by aggregating demand? Could the private sector be encouraged to take on less profitable markets - perhaps by arranging for less profitable areas to be "bundled" with those that are more profitable (as in Quality Contracts for bus services)?

Accessibility: Will the initiative depend upon local service outlets or a good transport network for clients and do these exist in rural areas? Could joint provision, telephone or IT-based delivery, mobile or outreach delivery or flexible transport options be used to ensure services reach populations where transport links are poor and service outlets few?

Will clients e.g. for business advice or training, have the time or spare capacity to access them and, if not, is it possible to provide a temporary 'relief service'.

Joined up working: Is it possible to link up the initiative with others in the area? What opportunities are there for joint working with those developing other strategies and initiatives?

Rural variations: Will the initiative be applied in different types of area (e.g. market towns and remote rural areas) and, if so, does it need to be tailored to the different circumstances and needs? Is there sufficient flexibility to allow this?

Appendix 3: Significance Criteria – Cultural Heritage

Cultural Heritage	
Significance	Effects
Severe adverse	• **The plan would risk compromising the integrity of a world heritage site** • **The loss of the integrity of a nationally important heritage asset**
Major adverse	• **The potential to adversely affect the setting or character of a nationally important heritage asset such that its integrity is compromised** • **The loss or fundamental impairment of the integrity of a regionally important heritage asset and no adequate mitigation can be specified** • **Compromise the wider setting of multiple nationally or regionally significant heritage assets** • **Cause cumulative effects that would seriously compromise the integrity of a related group of heritage assets or historic landscape or townscapes** • **Be highly intrusive and seriously damage the setting of the heritage resource such that its context is seriously compromised and can no longer be appreciated or understood in context**
Moderate adverse	• **Be damaging to nationally important heritage assets but does not affect the overall integrity of the asset** • **The potential to adversely affect the setting or character of a regional heritage asset such that its integrity is compromised** • **Cause cumulative effects that would impinge on the integrity of a related group of regional or local heritage assets or historic landscapes** • **Be intrusive and damage the setting of a local heritage resource such that its context is compromised**
Minor adverse	• **Damage to locally important heritage assets** • **The potential to adversely affect the setting or character of a local heritage asset**
Neutral	• **A change that is unlikely to affect the integrity of a heritage asset**
Minor beneficial	• **Facilitate the restoration or the enhancement of the form, scale, pattern or sense of place of a heritage resource of local or regional value** • **Improve the setting of locally or regionally valued heritage assets such that appreciation and understanding of them could be improved**
Moderate beneficial	• **Facilitate the restoration or the enhancement of the form, scale, pattern or sense of place of a heritage resource of local or national value (this is very unlikely for minerals projects)** • **Improve the setting of nationally valued heritage assets such that appreciation and understanding of them could be improved (this is very unlikely for minerals projects)**