Global Transport Issues

Edited by Rodney Tolley and
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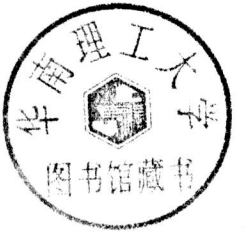

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J. H. Farrington, A. A. Ryder

At a time when government is placing increasing emphasis on infrastructure development as a means of alleviating economic decline, and environmental awareness is increasing, the assessment of environmental implications arising from new transport developments assumes an even higher priority.

In Great Britain the opportunity to assess the impacts of individual transport projects is afforded through environmental assessment (EA), a process which has legislative effect in the European Community (EC) by virtue of EC Directive 85/337 (Council of the European Communities, 1985).

Since its introduction in the USA in 1969, the concepts and philosophy of environmental assessment have matured. The fundamental characteristics of the change are a move towards flexibility, in content, applicability and methods. In its formative years, environmental assessment in the USA was required to be comprehensive and to follow prescribed routes, and it resulted in voluminous documents. Such a rigid framework delayed decision making and hindered the acceptance of environmental assessment as a regulatory requirement in Europe.

It is now recognized that environmental assessment is not only a study or a statement; it is a process which includes the provision of information, consultation with authorities and the public concerned, and the making of a decision. Environmental assessment provides 'an orderly process for gathering and evaluating information and opinions about the likely environmental consequences of proposed projects, to assist in decision-making' (Fairclough 1986 p. 7).

In this article we consider first how environmental assessment has been applied to transport projects in Great Britain since the application of EC Directive 85/337 in July 1988. In the next section the statutory framework is described and in the following section two modes are discussed in more detail to demonstrate the procedures through which environmental assessment is applied to major transport projects. By way of discussion in the final section consideration is given to the effectiveness of environmental assessment at project level, and to the need to apply environmental assessment principles not only to individual projects but also to policy making, in the form of strategic environmental assessment (SEA).

THE STATUTORY FRAMEWORK

Environmental assessment of new transport infrastructure in Great Britain is

carried out under the EC Directive of 1985 (Council of the European Communities, 1985) which came into effect in July 1988 through the Town and Country Planning (Assessment of Environmental Effects) Regulations 1988, and Scottish equivalents (DoE 1991a, p. 1). Department of the Environment (DoE) Circulars and guidelines set out advice for developers and planning authorities on the implementation of the regulations (DoE Circular 15/88; Welsh Office Circular 23/88; SDD Circular 13/88; DoE, 1991a).

The EC Directive identifies two types of projects, distinguishing between those for which EA is required in every case (Annex 1), and those where EA is required only if the project is considered likely to have significant environmental effects (Annex 2). British EA Planning Regulations incorporate this distinction, identifying Schedule 1 and 2 projects (DoE 1991a, App. 1). In relation to new transport infrastructure, Schedule 1 projects (EA required in every case) include the following:

(1) motorways and express roads;
(2) lines for long-distance railway traffic;
(3) airports with runway length of 2100 m or more;
(4) trading ports;
(5) inland waterways, and inland waterway ports handling vessels of over 1350 tonnes.

Schedule 2 projects (EA required if project judged likely to have significant environmental effects) include the following transport infrastructure developments:

(1) construction of roads, harbours and airfields (projects not listed in Annex 1);
(2) tramways, elevated and underground railways, suspended lines or similar lines of a particular type, used exclusively or mainly for passenger transport;
(3) oil and gas pipeline installations.

The implementation of the Directive in Great Britain is complicated by the separation of responsibility for the approval of some types of project; which may be summarized as follows.

Roads

Motorways and other trunk roads are approved by the Secretary of State for Transport, for Scotland or for Wales, in England, Scotland and Wales respectively, rather than through the planning system. The requirements for environmental assessment of such schemes are set out in The Highways (Assessment of Environmental Effects) Regulations (1988). An EA is required for the preferred route when draft orders are published, normally after public consultation. This applies to all new motorways, and to other roads when they are over 10 km long, or, if they are longer than 1 km, where they pass through or within 100 m of a 'sensitive area', defined as: a national park; a site of special scientific interest (SSSI); a conservation area; a national nature reserve; or an urban area (where 1500 or more dwellings lie within 100 m of the centre line of the proposed road) (DoE 1991a, p. 16). EA is also required for other road improvements likely to have a significant effect on the environment. The declared effect of these provisions is

that 'virtually all road schemes have to be assessed in accordance with the Directive' (Department of Transport [DTp], 1992a, p. 42). Roads developed by local authorities and private developers are dealt with through planning procedures.

Railways

Construction of new railways is authorized by private Act of Parliament, with procedures requiring promoters to consult affected local communities, and objections to schemes being considered by Select Committees. In 1990 the Government proposed new arrangements which would make railway construction subject to Ministerial rather than Parliamentary approval, with promoters required to consult interested parties before applying for an order, and provision for public inquiries into objections. The EC Directive would apply to projects dealt with in this way. In the meantime, EA is required 'in appropriate cases' where the private Bill procedure is used (Secretary of State for the Environment *et al*, 1990, p. 90). This is the situation applying to the High Speed Rail Link to the Channel Tunnel, which is being subjected to comprehensive assessment of environmental impact (see, for example, British Railways Board, 1991, Ch. 10).

Oil and gas pipelines

These are approved by the Secretary of State for Trade and Industry, and EA is required for the construction or diversion of a pipeline 10 miles or more in length, where the Secretary of State takes the view that the project would be likely to have significant environmental effects. The environmental assessment requirements for pipelines are contained in the Electricity and Pipeline Works (Assessment of Environmental Effects) Regulations (1990).

Harbours

Decisions on whether EA is needed for harbour developments are made by the relevant Minister, who may be the Secretary of State for Transport, the Minister of Agriculture, Fisheries and Food, or The Secretary of State for Scotland or Wales. The environmental assessment requirements are contained in the Harbour Works (Assessment of Environmental Effects) Regulations (1988).

General

Projects approved by a Private or Hybrid Act of Parliament do not, in the terms of the EC Directive, require EA, but the Government view is that EA should be required for such projects where they would otherwise have been in that category.

In addition to the EA requirements for transport projects specifically, many other projects defined by the regulations as requiring EA, such as oil refineries, power stations and steel works, may well involve the construction of temporary or permanent transport infrastructure. Assessment of their impacts should be included in the EA of the overall project.

Clearly the determination of the significance of the environmental effects of a project is a key stage in the process for Schedule 2 projects, as well as being a fundamental function of the EA itself. Because 'circumstances are bound to vary greatly from case to case', the DoE guidelines do not put forward either precise or general definitions of 'significance', but suggest three main criteria, depending on whether the project is:

(i) of more than local importance, mainly in terms of physical scale;
(ii) located in a particularly sensitive area such as an SSSI or national park;
(iii) likely to give rise to particularly complex or adverse effects. (DoE, 1991a, p. 5).

An additional difficulty arises where the application of EA to a project is discretionary, as with the Schedule 2 list. The determination of the necessity for EA is a judgement, made before a full EA is carried out, of the likely impacts of a project. The accuracy of this judgement is therefore a potentially challengeable part of the process, though this may be apparent only after the project has been completed.

The Directive (Article 5, 2) requires that a developer provides the following information:

(1) a description of the project comprising information on the site, design and size of the project;
(2) a description of the measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects;
(3) the data required to identify and assess the main effects which the project is likely to have on the environment;
(4) a non-technical summary of the information mentioned in indents 1 to 3.

A full list of possible information requirements is set out in Annex III of the Directive (Council of the European Communities, 1985).

Under the system applied in Britain to meet the requirements of the EC Directive, the Environmental Statements resulting from the carrying out of environmental assessment on projects are available, once submitted, for public consultation, and are also sent to statutory consultees (in many cases similar procedures were already followed, formally or informally, as part of the process of major project planning). In order to disseminate information on cases where EA is involved, the DoE monitors EA cases, and sends information to the *Journal of Planning and Environment Law* for regular publication (Wood and Jones, 1991, p. 2).

MODE EXAMPLES: ROADS AND PIPELINES

To illustrate the procedures followed in applying environmental assessment to major transport infrastructure projects in the UK, the examples of roads and pipelines will be considered.

Roads

The planning and construction of a road scheme in Britain follows a lengthy

series of stages as illustrated in Figure 1. On average it takes 13 years for a scheme to progress through these stages. Environmental assessment at various levels of depth and scope enters into the procedures at a number of points (see Figure 1). Initial Route and Scheme Identification Studies (Stage 2) will usually include broad consideration of environmental issues identifying potential environmental problems rather than making a detailed appraisal. The Technical Appraisal Report (Stage 8) will present together and the effects of the scheme, including the predicted environmental impacts identified earlier. Options are then presented for public consultation (Stage 9). A criticism of this process is that, where a series of individual schemes has been generated by the earlier stages, EAs are not made at the aggregate levels even though the schemes together may amount to a major route improvement (DTp, 1992a, p. 20). The overall environmental implications at a route levels will not, therefore, be assessed.

The Secretary of State then announces the Preferred Route (Stage 11) and proceeds to the issues of Draft Statutory Orders setting out the line of the proposed road, changes in access to or across the road, and compulsory purchase orders for the land required (Stages 17 and 21). A formal Environmental Statement will normally be published with the Orders and considered at a Public Inquiry (Stages 19 and 22). Subject to final decision on the Inquiry's findings, construction work will then begin, with monitoring of any environmental protection measures required. The EA incorporated in the procedures outlined above should be carried out in accordance with the advice in the DTp's *Manual of environmental appraisal (MEA)* (1983), issued as a 'handbook of information'. This includes the use of 'The Framework', which presents in tabular form the environmental and economic effects of a scheme, intended to facilitate the appraisal of a combination of quantified and unquantified effects produced by alternative methods. Issues arising from the procedures outlined above are taken up in the final section, but brief consideration of an example here will illustrate how difficulties may arise.

Planning permission for the M3 extension project in Hampshire was sought before the EC Directive came into force (July 1988), but was granted afterwards. At Twyford Down (Plates 1–3) the route crossed two sites of special scientific interest (SSSI) – the chalk downland itself, and water meadows at the foot of the hill. The area is designated as one of outstanding natural beauty. The impact of the project on these features could have been reduced by tunnelling, but at greater cost. The project attracted considerable protest and controversy, together with others current at the time, and in September 1991 the Council for the Protection of Rural England (CPRE) registered a complaint to the then European Environment Commissioner, Carlo Rip de Meana, against the then UK Transport Secretary Malcolm Rifkind, concerning the implementation of the EC Directive with respect to road proposals. In October 1991 the European Environment Commissioner demanded that work on this scheme (and several other projects including the East London River Crossing and the M11 link at Leytonstone, east London) be stopped pending the result of legal action by the Commission against the Government over the alleged failure to carry out EAs as required by the Directive. The CPRE complaint concerned:

PLATE 1 The Twyford Down site in Hampshire, England, in 1988, showing the approximate line of the cutting (right of trees on skyline) to be made through St Catherine's Hill in order to extend the M3 south of Winchester; the congested A33 is visible at bottom left
Source: Southern Newspaper PLC

(1) 'The inadequacy and limitations of the "Framework" approach . . .'.
(2) 'The inadequate definition of "project" . . .'.
(3) 'Failure to require information on forecasting methods . . . to enable the approach to assessing magnitude and significance of potential environmental effects to be transparent'. (CPRE, 1991).

Discussion returns to the CPRE points of complaint in the concluding section. However, in July 1992 the new European Environment Commissioner, Karel van Miert, dropped the cases against the UK on most of the projects, including Twyford Down. It was suggested that the decision was primarily political, linked to the post-Maastricht policy of reduced EC interference in the affairs of member states, and to the UK's period of European Presidency (*Guardian* and *Financial Times*, 1/2 August 1992).

Pipelines

The requirements of Directive 85/337/EEC, as they apply to oil and gas pipelines, were first set out in Statutory Instrument 1989 No 167, entitled 'The Elec-

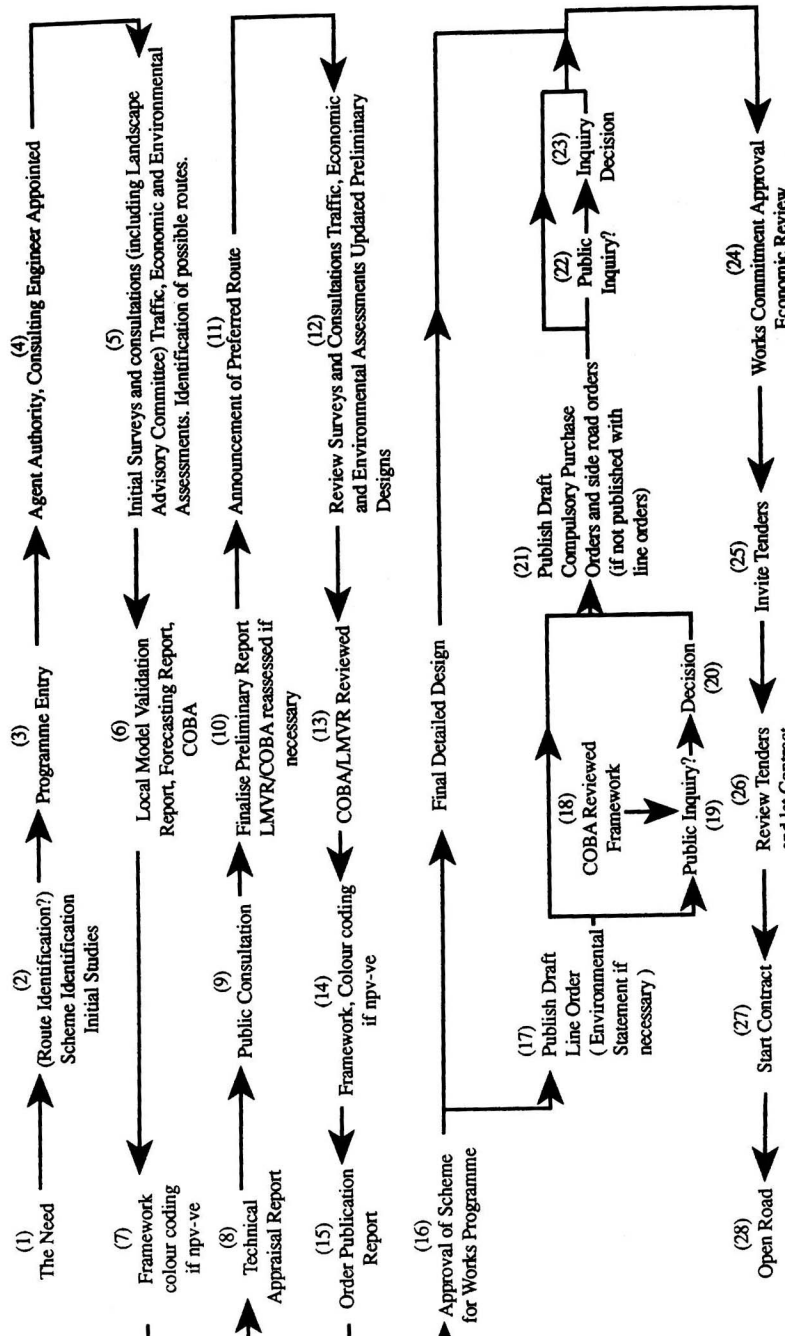

FIGURE 1 Stages in the evolution of trunk road schemes
Source: Department of Transport (1992a, p. 115)

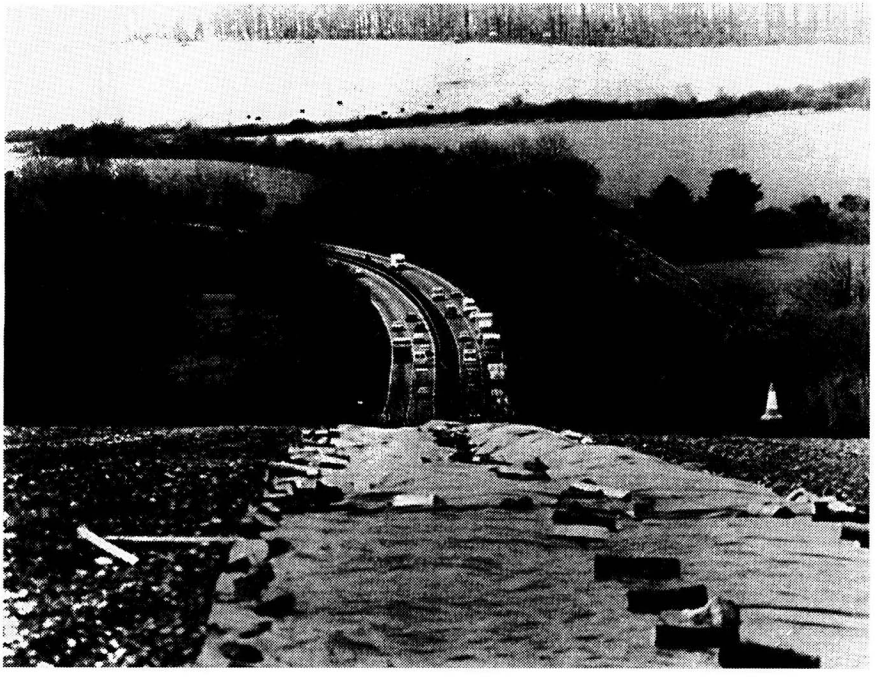

PLATE 2 View in the opposite direction (to SW) from Plate 1, showing A33 and disused railway bridge across the River Itchen
Source: Southern Newspapers PLC

tricity and Pipeline Works (Assessment of Environmental Effects) Regulations 1989', which took effect on 9 February 1989. The subsequent Electricity Act 1989 led to the replacement of SI 1989 No 167 by 'The Electricity and Pipeline Works (Assessment of Environmental Effect) Regulation 1990; SI 1990 No 442'. These new regulations came into force on 31 March 1990 and made drafting amendments, by adding detail on matters pertaining to consultation and provision of information and service of notices.

The Regulations specify the procedure that will be adopted when considering the need for an environmental assessment to accompany an application for Pipeline Construction Authorisation (PCA). The Secretary of State for Trade and Industry will decide whether a particular project is likely to have a significant effect on the environment. If (s)he decides this is so he/she will then require that an environmental assessment should be carried out and an Environmental Statement produced.

The Regulations contain details of the procedure to be followed by an applicant making a written request to the Secretary of State for an opinion as to the necessity for an Environmental Statement. In making that request the following information is required:

PLATE 3 Protesters at the Twyford Down Site in 1992: could revised EA procedures ease their concern?
Source: Southern Newspapers PLC

(1) a plan sufficient to identify the land which is the subject of the proposed application; and
(2) a brief description of the nature and purpose of the proposed development and of its potential effects on the environment.

The Secretary of State may request further information from the applicant. When sufficient information has been provided, the Secretary of State consults with the relevant local planning authority. This consultation would, however, not be carried out if the views of those authorities had already been conveyed to the Secretary of State by the applicant. If the views of the local planning authority are required by the Secretary of State, then they must be submitted within three weeks of the date of consultation. The Secretary of State will then express an opinion as to the need for an Environmental Statement.

Where an application is made for Pipeline Construction Authorisation which is *not* accompanied by an Environmental Statement, the Secretary of State will determine whether or not one is required. Normally it is required, and the Secretary of State will notify the applicant of this. In addition, (s)he will give notice to the applicant that the applicant is allowed to proceed. The applicant is required

to inform the Secretary of State within three weeks if he/she proposes to provide an Environmental Statement. If this is not done, the authorization shall be deemed to be refused at the end of the three-week period.

A prospective applicant may give notice in writing to the Secretary of State that he/she intends to submit an Environmental Statement with the applicant for Pipeline Construction Authorisation. The notice must include information on the location of the proposed pipeline, its nature and purpose and the main environmental consequences which will be addressed in the Environmental Statement. A pipeline promoter will need to consult with the planning authority and other councils and statutory bodies in order to be able to prepare an Environmental Statement. Where such a notice is received, the Secretary of State will write to the organizations concerned informing them that they have an obligation to supply any information which either they or the pipeline promoter consider to be relevant.

When an application is made which *is* accompanied by an Environmental Statement, and the application is allowed to proceed, the applicant is required to include in public advertisement notices served under paragraph 3 of schedule 1 to the Act:

(1) a description of the application and a statement that it is accompanied by an Environmental Statement; and
(2) details of where copies of the Environmental Statement can be obtained in the locality and, where a charge is made, what the charge will be.

In considering the Environmental Statement, the Secretary of State may require the applicant to provide further information.

The procedure for obtaining Pipeline Construction Authorisation (PCA) is summarized in Figure 2.

The regulations require that, when an Environmental Statement is submitted to the Secretary of State, copies should also be sent to the bodies with whom the applicant has consulted. The applicant should also provide these bodies with a copy of the application for Pipeline Construction Authorisation and maps showing the route, and should inform them that they may make representation to the Secretary of State for Trade and Industry.

The applicant must provide the Secretary of State with the names of the bodies served with an Environmental Statement and the date on which it was served. The Secretary of State shall not make a decision on the application before the expiry of 14 days from the last date on which a copy of the Environmental Statement was served.

In contrast to the Departments of Environment and Transport the Department for Trade and Industry (DTI) have adopted a very proactive role in Environmental Assessment. They have recently issued guidelines for 'The Environmental Assessment of Cross Country Pipelines'. These guidelines not only interpret the regulations but go further, advising on the content of the Environmental Statement and good practice in environmental assessment. On the issue of need for an Environmental Statement the DTI make their position clear: 'It must be emphasised that, in all but the most exceptional of circumstances, an Environmental Assessment will be required . . .' (DTI, 1992, p. 7).