Sustainable Development Evaluation of Road Infrastructure Programmes and Projects

Section 1

Assessment of EIA process on roads in Ireland

Integrated Report

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The Foundation for the Economics of Sustainability

Cad a dhéanfaimid feasta gan adhmad? Tá deireadh na gcoillte ar lár
'What will we do in the future without wood? The end of the forests has come'

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SOCIO ECONOMICS

The Socio Economics Section of the Environmental RTDI Programme addresses the need for research in Ireland to inform policymakers and other stakeholders on a range of questions in this area. The reports in this series are intended as contributions to the necessary debate on Socio Economics and the environment.

List of Figures

1 Introduction

1.1 EIA and road construction in Ireland

In writing this report the authors would like to begin by recognising the good work already done, in particular by the EPA and the NRA, but also by the wider EIA community, in developing a methodology that can be applied widely with the aim of protecting the environment, as defined in Directive 85/337/EEC, as amended. In particular the authors would like to underline the positive role played by the Guidelines and Advice Notes produced by the EPA, and the consultation process associated with same.

The purpose of Section 1 of this project is to examine how the fruits of this labour have been translated into action within the context of road infrastructure and programmes and to assist in ensuring that the regulatory framework that governs the assessment process in Ireland is robust enough to provide assessments that perform the two key functions:

- To assess satisfactorily all the effects a proposed road development is likely to have on the environment, before a decision is made whether to grant consent for the proposal

- To ensure that appropriate measures to mitigate the impacts are planned where necessary and are implemented when required.

We begin by taking a brief look at the EIA process as laid down in Directive 85/337/EEC as amended. (For consolidated version of Directive see appendix V).

The Amended Environmental Impact Assessment Process

The EIA process in Ireland is governed by Directive 85/337/EEC as amended. Before looking at the implications of this an understanding of what the EIA process is intended to achieve is essential.

EIA (Environmental Impact Assessment) was defined by Saddler as:

> *the process of identifying, protecting evaluating and mitigating the biophysical, social and other relevant effects of development proposals, prior to major decisions being taken and commitments made*[1]

The World Bank expands this definition and describes EIA as a procedure that;

> *evaluates a projects potential environmental risks and impacts in its area of influence; examines project alternatives; identifies ways of improving project selection, siting, planning, design, and implementation, by preventing,*

1 Saddler, B. et al. (1999) Principles of Environmental Impact Assessment Best Practice. Institute of Environmental Assessment U.K. www.greenchannel.com/iea/

> *minimizing, mitigating or compensating for adverse environmental impacts and enhancing positive impacts*[2]

The main aim of the process is to stimulate thinking, and encourage action, and not just the ticking off of boxes just to get another report.[3]

The Institute of Environmental Assessment[4] identifies two sets of principles, 'basic' and 'operative'. The basic set applies to all stages of project EIA as well as to those of Strategic Environment Assessment (SEA) of policies, plans and programmes. One of these states that the EIA process should be participative;

> *providing appropriate opportunities to inform and involve the interested and affected public, and, that their inputs and concerns should be explicitly addressed in the documentation and decision-making.*

In a review of 25 years of National Environmental Policy Act (NEPA) in the USA, the Council on Environmental Quality (CEQ)[5] stated:

> *the success of a NEPA process heavily depends on whether an agency has systematically reached out to those who will be most affected by a proposal, gathered information and ideas from them, and responded to the input by modifying the proposal or adding alternatives, through the entire course of the planning process.*

The statutory regulatory process required by the Environmental Impact Assessment [EIA] Directive (as amended) is implemented by national legislation, in this instance the Roads Act 1993 (as amended). The Directive has a number of objectives as specified in its preamble. The following are the most relevant of the objectives for the purpose of this study:

> *Whereas the 1973 (4) and 1977 (5) action programmes of the European Communities on the environment, as well as the 1983 (6) action programme, the main outlines of which have been approved by the Council of the European Communities and the representatives of the Governments of the Member States, stress that the best environmental policy consists in preventing the creation of pollution or nuisances at source, rather than subsequently trying to counteract their effects; whereas they affirm the need to take effects on the environment into account at the earliest possible stage in all the technical planning and decision-making processes; whereas to that end, they provide for the implementation of procedures to evaluate such effects;*

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2 Klees, R. (2002) Environmental Impact Assessment Systems in Europe and Central Asia Countries. World Bank. www.worldbank.org/eca/environment

3 Verheem, R. (2002) Recommendations for sustainability assessment in The Netherlands. Netherlands Commission for EIA.

4 Saddler, B. et al. (1999) Principles of Environmental Impact Assessment Best Practice. Institute of Environmental Assessment U.K. www.greenchannel.com/iea/

5 C.E.Q. (1997) The National Environmental Policy Act. – A Study of its Effectiveness After Twenty-Five Years. Council on Environmental Quality, http://ceq.eh.doe.gov.

…

Whereas development consent for public and private projects which are likely to have significant effects on the environment should be granted only after prior assessment of the likely significant environmental effects of these projects has been carried out; whereas this assessment must be conducted on the basis of the appropriate information supplied by the developer, which may be supplemented by the authorities and by the people who may be concerned by the project in question;

…

Whereas the effects of a project on the environment must be assessed in order to take account of concerns to protect human health, to contribute by means of a better environment to the quality of life, to ensure maintenance of the diversity of species and to maintain the reproductive capacity of the ecosystem as a basic resource for life;

An EIA should assess through a transparent, inclusive and evidence-based process all the effects which a proposed development is likely to have on the environment in its widest sense, and include measures to mitigate those effects.

In outline, the EIA process operates as follows.

The project proposers produce an Environmental Impact Statement (EIS) which must contain the information specified in the Directive, including information on the design of the project, the alternatives considered, the existing environment (under various headings), the predicted impacts of the project on the environment, the methodology used for predictions, and the mitigation measures to be incorporated. The Directive specifies that

This description should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the project.

The EIA process should begin as early as possible in decision making for a project, providing for the involvement and input of communities and industries affected, as well as the interested public.[6] This involvement should begin with the screening stage and continue with involvement in: the scoping of the likely impacts and assessment of their significance; the discussion of the alternative approaches to addressing the need that the project is designed to provide for; the baseline study; and the drawing up of measures to avoid, reduce or offset the potential impacts. See Appendix IV for a more detailed description of public involvement in the process.

The completed EIS must then be made available to the public which must be given an opportunity to comment on the proposal and the EIS and supply relevant

6 Saddler, B. et al. (1999) Principles of Environmental Impact Assessment Best Practice. Institute of Environmental Assessment U.K. www.greenchannel.com/iea/

information. In the case of a road scheme this is done both by written submissions and by participation at an oral hearing.

All this information must be assessed by the competent authority before a decision is made in relation to the application for development consent.

Although it is not specified in the Directive, it is implicit in the scheme that conditions associated with the consent must be complied with and we also have tried to consider that aspect in this research.

A particular problem which arises in relation to road scheme EIA as carried out in Ireland is the fragmenting for operational and construction reasons of projects which are, both in conception and effect, unitary projects. Road schemes such as the motorway/dual carriageway between Dublin and Galway are typically divided into a number of sections for design and approval. Unfortunately the gathering of data for the EIS and the carrying out of the EIA are also carried out on these fragmented sections and despite the specifications of the Directive as to the assessment of cumulative impacts, there is no assessment of the cumulative impacts of the project as a whole.

2 Methodology

A multi-disciplinary team of eleven researchers assessed the Environmental Impact Assessment process in their own fields. Each researcher produced an individual report, examining individual EISs and the EIA process for selected road proposals.

The eleven disciplines involved are

- Air pollution and climate
- Built heritage
- Biodiversity and ecosystems
- Economic impacts
- Hydrology
- Noise
- Property impacts
- Social impacts
- Spatial planning
- Traffic modelling
- Transport policy

The researchers retrospectively assessed a number of Environmental Impact Assessments carried out on road schemes in Ireland.

The road schemes considered here were chosen to illustrate the gaps in the EIA process as perceived and experienced by the expert group, rather than to be a statistically representative sample. The intention in the process was to critically analyse the operation of the process with an eye to making effective recommendations for improving it.

The road schemes were selected through an informal process. The reasons for the choices made included prior familiarity of researchers, availability of information, maximising overlap between researchers, varying consideration of road schemes in different locations, relevance of schemes to the discipline in question.

We note that there is better practice in some disciplines than in others and that the quality of information and assessment does vary between schemes. However, one of the aspects of the EIA process is that a failure at any level of the process has significant consequences for the integrity of the entire process. Therefore, both in this integrated report and in general in the individual Section 1 reports we focus on the failings rather than the elements which have been done correctly.

The schemes examined for each discipline are listed in Appendix I.

Each of these assessments included the following steps

1. examination of the Environmental Impact Statement produced
2. examination of any technical reports leading to the statement
3. examination of relevant evidence given to the oral hearing held
4. examination of the report by the Inspector(s) conducting the oral hearing
5. examination of the decision of An Bord Pleanála.

6. examination of consultation with involved parties and the interested public

The above six elements constitute the EIA process and were assessed for internal coherency, compliance with EU and Irish law, and compliance with the EPA Guidelines and Advise Notes on EIA.

7. investigation of compliance with relevant commitments contained in the EIS or given at the oral hearing
8. investigation of compliance with relevant conditions imposed by An Bord Pleanála

These two elements are the enforcement aspects of the road construction process. Unfortunately there is no enforcement authority responsible for overseeing compliance with consents granted under the Roads Act. There is no ongoing process of oversight to ensure compliance and no reporting process to identify non-compliances. We carried out such compliance investigations, using documentation / desk study techniques, site visits and contact with relevant officials where necessary.

9. examination of any studies carried out after scheme implementation to assess the impacts of the scheme

We sought data which was required to have been gathered under monitoring conditions imposed in the consent or which was committed to within the EIS for this examination.

10. investigation of the situation after scheme implementation to determine whether impacts were correctly predicted in the EIA process.

This was to be carried out in relation to road schemes in which monitoring plans were contained in the EIS or imposed as conditions by An Bord Pleanála which would reveal the relevant post-implementation parameters. In some instances such data had been generated; in others it had not.

3 Conclusions

3.1 Quality of Environmental Impact Statements

In general it was found that the Environmental Impact Statements studied failed to meet the requirements of the Directive and to follow the EPA Guidelines and Advice Notes, both in establishing all relevant baseline data and information and in making systematic predictions of likely impacts. This was a recurrent feature across the various disciplines.

Specific systemic problems included the following.

Motivation, impartiality and potential conflicts of interest

The EPA Guidelines note that

> The most common general complaint arises from a fundamental lack of trust in the impartiality of an EIS. The question most frequently asked is: - *Is a developer likely to endure the expense and trouble of an EIS just to provide supporting evidence for an objector?*

This question goes to the core of the EIA process. The inbuilt incentive for the applicant is to minimise the information in an EIS. However, further incentives can also exist for consultants drawing up an EIS.

Most of the work for the EIS is done by contractors who tender for the work, proposing a study and a cost. Informal discussions with some specialists suggests that the undercutting of competing tenders by specifying less work in the proposal is a significant factor in the low quality of much of the study work done.

In some disciplines further conflicts exist. For example, the absence of a system of assessment for EISs leaves archaeological consultants with a potential conflict of interest.[7] Since the contracts for the resulting excavations are likely to fall to the same companies, they are potentially major beneficiaries of any failure on their own part to detect previously unknown sites in time for them to be avoided.

As discussed below, inadequacy in an EIS appears to have no consequence for the applicant.

In the current situation it appears that both inherent interest and market forces operate to reduce the quality of EISs. There is no effective quality control by the assessing body ABP. This situation is one of the reasons for our recommendation below in relation to the establishment of an independent Agency dealing with quality

7 Gibbons, M. 2006. Environmental Impact Assessment Sustainability and Archaeology. p18.

control of EISs as well as exercising other functions in relation to sustainability assessment and information management.

Omission of or misrepresentation of core information/recommendations from the Non-technical Summary

In a number of instances, the information in the Non-Technical Summary misrepresented the information in the full EIS[8,9]. This is significant as the Non-technical summary is intended to be the document most widely relied on by the public. It is normally distributed without charge unlike the EIS. Further there was no evidence that An Bord Pleanála inspectors assessed the adequacy of non-technical summaries in the projects studied by Lumley[10]

Lack of interaction between researchers

It would appear from examination of both the EISs themselves and from the transcripts of the oral hearings, that the various researchers in different disciplines working on an EIS do not have team meetings to discuss their findings with each other. This inevitably leads to a failure to consider adequately the interactions between effects specified in Article 3 of the Directive[11,12].

Failure to follow established methodologies

Well-established methodologies which exist in a discipline are not followed. In some instances these methodologies are prescribed in official guidance in other jurisdictions such as UK DMRB[13]. In other cases they would simply constitute best practice in a field or an approach which would be recognised as valid by academics. This failure has a number of consequences such as: the unreliability of the material gained thereby for the purpose of the EIA; the fact that this information cannot be usefully added to the general store of knowledge consisting of data collected at other places and times by recognised methods; and the veracity of the conclusions are harder to verify.

Failure to present the data used in the analysis

8 Gibbons, M. 2006. Environmental Impact Assessment Sustainability and Archaeology. p18

9 Murray, A. 2006. The Context and Criteria for Assessment of Impacts of Road Projects on Biodiversity. p4.

10 Lumley, I. 2006. SUBMISSION ON EIA DIRECTIVE COMPLIANCE AND NATIONAL ROAD PLANS IN IRELAND, p9.

11 Lumley, I. 2006. Submission on EIA Directive Compliance and National Road Plans in Ireland.

12 Gibbons, M. 2006. Environmental Impact Assessment Sustainability and Archaeology. p8

13 Farrell, K. 2006. Feasta Transport Project Section 1 Report: Handling of Traffic Modelling Issues in Road Infrastructure EIA in Ireland. p44.

Frequently the data collected in the preparation of the EIS are not made available[14],[15]. This frustrates members of the public seeking to test the methods and analysis used in the EIS. It also has the consequence mentioned above of reducing the store of knowledge gained through the process.

Unsubstantiated or unreferenced assertions

On occasion, the authors of an EIS will rely on an assertion based on 'experience elsewhere', without referring to the location where this experience was gained or referring to any relevant study[16],[17].

Judgements "on balance"

On occasion, an EIS will analyse various aspects of an issue and then reach a conclusion 'on balance'. Such a conclusion needs to be supported by consideration of the various facts. Often it is not, and is merely an assertion.

Tick the boxes

A recurrent feature was the presence of a "tick the boxes" approach to EIS rather than scientific information-gathering approach.

EIS as verification of legal compliance

Another occasional feature was approaching the writing of an EIS as a method for verifying compliance with environmental legal obligations rather than a scientific process of gathering information to be used in EIA. This is seen in areas where legal requirements are set such as biodiversity and air pollution. The EIS then tends to be treated as an exercise in verifying compliance with the minimum legal standards.

Use of information – a missed opportunity

In addition, the very considerable work carried out in compiling EISs represents involves data-gathering and analysis which could potentially be of value in a number of respects[18]. These include:

14 Farrell, K. 2006. Feasta Transport Project Section 1 Report: Handling of Traffic Modelling Issues in Road Infrastructure EIA in Ireland. p44.

15 Sirr, l. 2006. The Treatment of Material Assets [Property] in Environmental Impact Statements in Ireland. Recommendation 8, p15

16 Leyden,K. 2006. Evaluating the Social and Community Impacts of the Outer Ring Road: An Examination of the EIS Report and additional documents. p3.

17 Sweeney, O and Johnston, P. 2005. A Study of the Hydrological Sustainability of the Roads Programme in Ireland. p11.

18 Gibbons, M. 2006. Environmental Impact Assessment Sustainability and Archaeology. p18

- Building consistent databases on various environmental parameters
- Improving future EIA processes
- Feeding back information into policymaking and project selection processes

This includes the significant potential for geographical expression and analysis of data through Geographical Information Systems which is not being availed of.

Unfortunately the failure of current EIS studies to use consistent methodologies or even to return to the same sampling points reduces the value of the information gathered. Addressing this opportunity is the second main reason for our recommendation of an independent Agency.

Particular problems in the various disciplines

These are identified in detail in the individual reports. In summary, and excluding those already mentioned above, they were:

Air[19]

The worst-case was a text in one EIS in relation to air quality was less than 2 pages long. The flaws in it included the following:

- Whereas the specialist report which was not in the EIS showed breaches of EU limits, the EIS stated all limits were complied with.
- Lack of information in EIS as to specific location of measurements
- No results of measurements presented
- No results of modelling presented
- No information as to location of modelling presented
- Inappropriate use of EU limits and margins of tolerance as significance criteria
- Failure to present spatial information on maps
- Failure to measure and model at the same locations, thus frustrating verification of modelled results.

Analysis of the other EISs showed a lack of consistency between monitoring and modelling locations, which meant that validation of modelling was not possible and additionally that meaningful comparison could not be made between different EISs covering the same or overlapping areas.

Built heritage[20]

The following problems have been identified in the Archaeological section of EISs.

19 Healy, D. 2006.

20 Gibbons, M. 2006. Environmental Impact Assessment Sustainability and Archaeology.

Non-technical summaries have been written without a direct input by the original consultants.

There was no final, "signing off" process on the part of the archaeological consultants or agreement as to how their information is to be used.

Desktop studies create a fundamental difficulty in that the number of archaeological sites which have been identified and mapped can be vastly outnumbered by those that remain undetected.

The division between archaeology and architecture is seriously hindering the full understanding of the impacts involved and preventing coordination between the disciplines.

There is an omission of historical sections of Irish archaeology, e.g. the Mesolithic (c.7,000 –4,000 BC), the single longest period in Irish prehistory.

Elements of the archaeological heritage fall between conventional archaeology and the post-medieval remains

Vernacular architecture is only brought into the discussion when there is a perceived lack of "real archaeology" to consider.

The EISs reveal no serious attempt to analyse in any coherent way the date and cultural context of the linear boundaries of both earth and stone.

There has been a lack of transparency about the process of delisting monuments and about the process of re-assessment that follows the detection of errors. As a result, in the absence of a full scale review of these decisions, it is recommended below that previously de-listed sites should be considered as potential sites during the creation of Planning Constraint Maps.

Indirect effects are not considered fully in the EISs. Changes in the water regime of an area, for example, have physical, chemical and biological effects on the buried archaeology and have recently been highlighted as one of the most significant impacts on "the character of the burial environment" – even where there has been no immediate impact as a result of construction work.

Biodiversity[21]

There were inaccuracies and omissions from the non-technical summaries.

There were delays by NPWS in responding to statutory consultations.

Failure of the Board to require information deemed lacking by NPWS. This can undermine the integrity of the decision to grant consent for the construction of the proposed road development as it is based on the premise that "the proposed road development would not adversely affect the integrity of any European site".

21 Murray, A. 2006. The Context and Criteria for Assessment of Impacts of Road Projects on Biodiversity.

The impact of proposals on designated areas was not fully considered at the stage of alternative route consideration.

There has been a failure to assess the impact on Annex I species and priority habitats listed in the Habitats Directive.

Deficiencies in assessment have lead to an absence of appropriate mitigation measures, particularly for wild birds.

The use of conditions to be stipulated later in the contract documents, e.g. requiring the contractor to develop a 'Water Quality Management Plan' leads to a complete lack of public access and consultation for the mitigation proposals.

Economic impacts[22]

It appears that the introduction of the EPA's guidelines permitted a significant reduction in the depth of discussion and the range of economic and socio-economic topics that are now included in EIAs in comparison with those prepared over a decade ago.

While cost benefit analyses are being done, these are not generally being included or even mentioned in most recent EIAs.

The effect of both these changes is to prevent the public knowing about and debating the economic effects of the new roads being built. While this may indeed be outside the scope of the EIA Directive it is relevant to the consent application being made and therefore we make a recommendation in this regard.

Hydrology[23]

Increased flooding risks due to road runoff and sub-surface drainage have not been given sufficient consideration in EISs in the past but the plans for flood attenuation at the N3 Butler's Bridge to Belturbet Road Scheme are a significant improvement. Increased flooding risks, especially in relation to roads with sub-surface drainage, must be given adequate consideration, as outlined in Section 2.

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1 22 Douthwaite, R. 2006.The Economic Content of Environmental Impact Assessments.

23 Sweeney, O and Johnston, P. 2005. A Study of the Hydrological Sustainability of the Roads Programme in Ireland.

Pollution of the aquatic environment due to road runoff pollutants can be somewhat reduced by BMPs but these measures cannot fully protect the environment (soluble pollutants are practically unaffected) and the problem of disposal of sediment that has been removed from runoff, remains unsolved. In the case of persistent, bio-accumulative pollutants especially, measures are needed to eliminate their release into the environment. This would involve finding less harmful, biodegradable alternatives to heavy metals in tyres, brake-linings etc, to herbicides and ultimately to fuel (e.g. electrically-powered vehicles).

Groundwater disturbance due to roads can have far-reaching effects and interference with natural groundwater flow patterns needs to be more strictly controlled, and should be completely avoided in areas of ecological importance. Where interference does occur it must be ensured that any mitigation measures used have a proven track record for effectiveness and sustainability in similar situations.

Monitoring and Conditions are vital elements of the EIA/EIS process in ensuring effective environmental protection. However, these important elements were not fully considered in any of the three EISs studied. Monitoring must focus on the runoff entering receiving waters and the overall quality in the receiving waters themselves. These include rivers, lakes and groundwater. Changes in groundwater levels and groundwater divide locations must also be monitored. All this information must feed back into an analysis of the accuracy of impact predictions and the effectiveness of mitigation measures, if it is to be of use. Clear, documented standards and conditions must be met and defined actions taken if breaches occur.
I would further recommend that these conditions, standards and remedial action plans are published, together with the monitoring results. This is needed to ensure the continued openness and transparency of the environmental protection process. There is a significant emphasis on stakeholder participation and consultation during the EIA process but there is none at the post-development stage. Independent interested parties and NGOs should be kept informed of the effectiveness of environmental protection measures.

Road development in Ireland needs considerable further study if it is to be sustainable in hydrological terms. Efforts are being made to minimise the hydrological impact of roads but far less is being done to reduce factors causing significant environmental impact such as traffic growth and the demand for road space. It appears that economic considerations continue to over-ride environmental ones when it comes to transport programmes and policies.

Noise[24]

As matters currently stand there is no embedded protocol or target level for construction or residual noise in respect of land which contains no dwellings. The most adversely affected properties will be those closest to the roadway which hitherto enjoyed a low noise-scape.
While there are guidelines from the NRA the current guidelines take no account of night-time noise arising from residual noise (i.e. traffic noise when the project is

24 Searson, K. 2006.

finished). Within recent times there have been several significant modifications to the NRA Noise Guidelines; it is the latest issue which is silent on night-time residual noise. It is apparent that the Guidelines do not have the standing of a national standard. Only the NSAI may issue such a standard. The current EU Directive requires Member States who do not have their own national standard to use the default standard (the French standard).This anomaly has been put in cross-examination to several of the noise experts giving submissions at Oral hearings. These experts were unable to refute this interpretation. The presiding inspectors are usually former local authority engineers or persons of technical standing. Thus they could bring with them many years skill and technical knowledge. Professional engineers in particular are required to keep up-to-date and abreast of changing techniques and engineering matters under the concept and practice of CDP. Many of the oral hearings involve eminent senior counsels on behalf of the applicant local authority; such senior lawyers have superb advocacy skills against which ordinary householders/landowners, who possess neither technical expertise nor cross-examination rebuttal expertise, are poorly prepared. It is unusual for a landowner/householder to have the resources to fund their own team of senior counsel or indeed independent experts.

Property[25]

There is variability in the issue of quantum being attached to potential impacts [positive or negative] in EISs. Some EISs will attach a figure to the level of impact and others will not.

Where figures are given on the likely impacts on property values of proposals, no evidence is given as to where these figures came from, or how they were arrived at. Other indicators and elements within the EIS frequently provide evidence as to how and why they came to a judgement on impact levels. This is not the case with property,

The impact of infrastructural proposals on property stretches in many directions. They are short- and long-term; direct and indirect; certain and uncertain; and noticeable and unnoticeable. Some of these parameters are covered by the EIS in its current format. There is, however, a lack of considered analysis of the *indirect* transfer of wealth or financial benefits from the direct to the indirect, and also of the relationship between compensation paid for disturbance and severance, and potential increases in property values for the same owner, thus allowing a double benefit.

Despite a statutory requirement to provide '*a description of the likely significant effects, direct and indirect, on the environment of the proposed road development*', consultants only addressed the direct impacts, and thus omitted fully one half of the requirement.

The inadequacy of assessment of property in EISs reflects limited guidance in the Guidelines.

25 Sirr, l. 2006. The Treatment of Material Assets [Property] in Environmental Impact Statements in Ireland. Recommendation

Although arguably a significantly indirect impact, the issue of rating was not addressed in the EISs, and the need for a material change in the premises [extension, change of use, etc] being a statutory requirement for having a revaluation for ratings purposes of a premises. The introduction of a bypass, for example, can have both positive and negative impacts of rateable businesses [licensed houses, for example], and some comment should have been made upon this issue. The opening of a new bypass can significantly decrease the turnover of local public houses who must continue to pay rates at the level set when their turnover was considerably higher, and who cannot apply for a revaluation of their business unless they have a material change in the premises.

There are two related consequences of the failure of the EIA process to fully evaluate the impacts of developments on the value of property:

- Business owners who experience a decrease in their turnover must continue to pay rates at the level set when their turnover was considerably higher because they cannot apply for a revaluation of their business unless they have a material change [extension, change of use, etc] in the premises.

- Compensation is paid for disturbance and severance but potential increases in property values for the same owner are not factored in because of EIA failures, thus allowing a double benefit.

Social and community impacts[26]

The main problem with the EIS assessment of community effects is that its conclusions are – on the whole -- subjective and speculative. The consequence is that other researchers can not replicate the work on which claims and policy are based. Much of the research presented on community effects appears to be based upon opinion and not science. Even the methodology outlined by the “Environmental Assessment Advice Note from the UK Department of Transport Publication Design Manual for Roads and Bridges Volume 11” is inadequately followed.

The methodology is not clearly explained and overly speculative and subjective.

There is a lack of empirical data and numerical precision, a lack of scientific rigor precision of estimates, a failure to provide ranges of error. There is a lack of surveys using scientific sampling which have been collected or analyzed. Decisions are made “on balance” when the data is not specified.

In general the criteria used in the EIS to assess community effects are too narrowly focused. Issues such as how the road scheme will affect health, social capital, and many other factors important to communities are not considered. More community effects should be included in future EIS reports.

26 Leyden,K. 2006. Evaluating the Social and Community Impacts of the Outer Ring Road: An Examination of the EIS Report and additional documents.

The assessment of community effects lacks good social science and a fundamental understanding of how car-dependency affects the health of communities and the people that live in them.

There are many more community effects (or socio-economic effects) than those examined, including

- Obesity
- Social Capital, Community, and Health
- Depression, Social Isolation, and the Elderly
- Car-Crashes
- How commuting affects communities and families
- Culture and Civic Society
- Sense of Place and Pride in Community.
- Economics, the dearth of small shops, and the cost of motor vehicles

Spatial planning[27]

The definition in the Directive of a ”project” to include ‘Other interventions in the natural surroundings and landscape, including those involved in the extraction of mineral resources,’ is either ignored or inadequately addressed in Environmental Impact Statements, and Assessments by An Bord Pleanála on road projects.

Project splitting and poor quality screening of sub-threshold projects.

Detailed design work being left until after permission is given.

Scoping advice given to a project proposer not being publicly available.

Wider impacts caused through the supply of materials used (quarries) are not assessed.

Environmental NGOs are restricted in their access to make presentations/ask questions at oral hearings.

Many An Bord Pleanala inspectors do not have a wide enough expertise to enable them to make decisions about specific aspects of individual EIAs.

Inspectors are often over restrictive with regard to the scope of the examination of possible environmental impacts.

Non-statutory policies are used to over-rule the statutory requirement for the review of alternatives.

The Planning Appeals Board, has refused to attach land use and transportation conditions to road schemes including conditions to link approved road schemes to traffic management measures in bypassed cities and towns which relevant road schemes were stated to benefit.

Development plans are amended or ignored to facilitate road projects.

27 Lumley, I. 2006. Submission on EIA Directive Compliance and National Road Plans in Ireland.

With regard to road plans, no legal or administrative requirement under any Irish Act of the Oireachtas (Parliament) or Regulations to require that compliance information be made available at a particular location during office hours.

There is no evidence from public files of any independent evaluation by any professional staff or board members of the adequacy of EISs, conduct of Oral Hearings or competence of Inspectors Reports.

In the case of road schemes the enforcement function or mitigation measures attached to the EIS is left with the developer carrying out the project.

There is a systemic failure to address the legal situation whereby a significant number of quarry sites are unauthorised by reason of non-compliant post-1964 development status or extension of pre-'64 sites beyond their original operating size.

In the case of schemes constructed or under construction, inadequate vetting procedures have been put in place to ensure that waste deposition locations are authorised sites.

Traffic modelling[28]

EISs do not contain the basic format of the traffic modelling – network and zonal maps.

Important links have been omitted from models.

In some instances, there is no traffic flow data for relevant sections of the surrounding road network.

New data presented at an oral hearing was different to that in a published EIS.

Induced traffic is ignored in congested urban situations where it should be expected.

Transport Policy[29]

1) The current use of EIA in Ireland does not conform to the EU EIA Guidelines in the area of transport policy;

2) In turn, there is considerable divergence in the EPA Guidelines on EIA compared to their EU counterpart;

3) The EISs studied failed in the areas of

28. Farrell, K. 2006. Feasta Transport Project Section 1 Report: Handling of Traffic Modelling Issues in Road Infrastructure EIA in Ireland

29 Guckian, B. 2005. Environmental Impact Assessment and Transport Policy

- consideration of alternatives,
- public consultation,
- information provision and
- the reports of the planning Inspectors;

4) The outcome of the process, which has been shown to be prescribed - closing off other possible outcomes – reflects an unsustainable policy and planning environment which overwhelmingly favours the road mode over other transportation options, with no solid policy foundation;

5) The phenomenon of prescribed outcome is strongly supported from top to bottom via a deterministic mono-modal transport planning structure, which reinforces the dominance of road transport over other modes, and which resists actual and meaningful public participation.

3.2 Consequences of inadequacies in EIS

There appear to be no consequences to an applicant where there are inadequacies in an EIS. None of our researchers came across a road scheme where inadequacies in an EIS led to a requirement that a new EIS be produced or a refusal of permission or any other decision which would have remedied the deficiency. Indeed, in one instance, inadequate consideration of alternative routes was a reason given by the Inspector for refusal of the scheme but the scheme was granted nonetheless by ABP.

On at least one occasion, a formal recommendation by the National Parks and Wildlife Service that consideration of an impact in the EIS was inadequate and further consideration was required did not lead to any request by An Bord Pleanála for further information and a decision was made in the absence of the recommended extra information.

3.3 Handling of public consultation and participation

Availability of information

ABP does not consistently require that the correct information be made available in the EIS to the public, nor does it insist that the public consultation recommendations in the EPA guidelines are implemented.

Inspectors conducting oral hearings have failed to ensure that new information being supplied by the applicant is made available to other participants with reasonable opportunity to examine it[30].

30 Lumley, I. 2006. Submission on EIA Directive Compliance and National Road Plans in Ireland. p10.

The process of public involvement is not effective at bringing about real participation in decision-making, as the system being used is an adversarial system in which the applicant is put in a role of opposing the public participating in the process.

A clear model of public participation in the EIA process is given in Appendix IV.

3.4 The Assessment carried out by An Bord Pleanála

A number of problems with the manner in which An Bord Pleanála (ABP) carries out its assessment role recur in the reports of individual researchers.

Unsubstantiated conclusions

ABP Inspectors' reports often fail to give reasons and reasoning for the conclusions they reach. The reports sometimes rehearse the information received including contradictory information presented by the public at length and then declare conclusions with no discussion of how the conclusions were drawn from the evidence. In other instances the entirety of the reasoning is a declaration that something was "not rebutted" or similar, for discussion of which see below.

The Inspector's report does not accurately reflect evidence given at the hearing in that it frequently ignores aspects which weaken the argument in favour of the road.

There appears to be a lack of critique by An Bord of Dublin Transportation Office (DTO) evidence; in fact, unquestioning acceptance of DTO even though they are / may be protagonists in the case for the proposed scheme in the EISs.

An Bord Pleanála's investigative Role

Oral hearings and investigations by Inspectors on behalf of the Board are typically conducted as if they were an impartial arbiter in a legal process in which the burden of gathering and presenting evidence rests on the parties in accordance with rules of evidence similar to those operated in courts. Often the Inspector's reports contain quasi-legal conclusions in relation to important aspects of environmental impact such as

> "This evidence was not rebutted."
> "No challenge was made to the evidence."
> "The evidence was not disproved."

This reveals a fundamental misunderstanding of the Board's role. The Board is required to carry out the assessment. This investigation must be carried out whether there is any public participation or not.

If the information in the EIS is inadequate to enable it to carry out the assessment, the Board must ensure that adequate information is supplied. There is no "burden of

proof" on the public in this process. If a *prima facie* reasonable challenge or query to information supplied is made, ABP must investigate and assess that challenge. (A sort of burden of proof can be considered to exist in relation to the applicant, who is required to supply sufficient evidence to enable the assessment to be carried out.)

Expertise of An Bord Pleanála

Arising from the consideration of the EIA and consent processes in the individual studies, a number of issues were identified by the researchers as being potential reasons for problems which had been identified. The following questions were formulated in relation to the operation of An Bord Pleanála.

1. Is there any initial or interim assessment of an EIS received by ABP in respect of its adequacy before the assessment contained in the Inspector's report? How does ABP handle this issue?
2. How are Inspectors for road schemes selected?
3. Is there any training in EIA for these Inspectors?
4. Is there any training in holding oral hearings for these Inspectors?
5. What legal guidance is given to the Inspectors as to their role and duties and the way the oral hearing should be conducted?
6. Does the Board consider that the Inspector's role is to evaluate only on the basis of the information supplied by the parties to the hearing, or to carry out his/her own investigations?
7. Normally there is only one inspector; on occasion there are additional technical inspectors. How is the decision made as to what technical inspectors are needed?
8. Does ABP seek any expert advice other than by means of formal technical inspectors?
9. Does ABP consider that it is practical for one inspector to assess so many different aspects of a proposal?
10. When ABP decides to overturn an Inspector's recommendation, does it carry out a second assessment of the environmental impact?
11. What level of design is required in an EIS/ application subject to EIA? Often relevant elements such as construction compounds are not identified in the application. Is this really not required for the assessment to be made?

A meeting was sought with An Bord Pleanála to informally discuss the above issues and the reports which had led to them being formulated. ABP was not willing to meet with the researchers.

The Board's general practice is to appoint a single inspector, generally a civil engineer with a background in road-building, to read and hear all evidence in relation to a road scheme, ranging from archaeology, to freshwater ecology to air pollution. It would be surprising if one person had all the relevant expertise to deal with all aspects of assessment of a major road scheme. The result is that assessments for EIA are being carried out by individuals who do not have the relevant expertise to carry out the assessment.

The unsubstantiated conclusions and reliance on "burden of proof" approaches seen above are logical consequences of this lack of expertise.

Lack of assessment where the ABP overturns its Inspector

In cases where the Inspector makes a recommendation but that recommendation is overturned, the necessary assessment is often not carried out. In some instances, this is because the Inspector didn't consider it necessary to carry out an assessment on something which wasn't expected to happen because of the recommendation which was being made.

Reliance on "national policy"

In important instances, the reasoning given for a decision is "national policy". However, at national level, the decision is stated to be subject to EIA and ABP approval. The role of "national policy" in this process needs to be clarified.

If ABP is the decision-making body with a power to disregard "national policy" then "national policy" is a factor but not the trump card it appears to be. If on the other hand, "national policy" does override ABP's judgement, then the EIA process does not work as intended and the EIA should be being carried out before effective consent is being granted by the decision as to the project being "national policy".

Failure to ensure that conditions attached to the decision are specific and enforceable

ABP needs to ensure that its conditions are specific and enforceable. This is an issue which occurs with the planning systems ABP operates as well. However, in that instance, the enforcement of the conditions lies with a planning authority and interpretation of conditions can be effectively obtained through the mechanism set out in section 5 of the Planning and Development Act 2000. In the absence of these safeguards, ABP needs to take particular care to ensure its conditions are effective.

3.5 Compliance with the consent and the conditions attached

A critical gap in the process is the absence of an enforcement authority responsible for overseeing compliance with consents granted under the Roads Act. The Local Authority, which normally acts of the enforcer of decisions by An Bord Pleanála, is, in the case of roads, the developer. The Environmental Protection Agency's has no role in relation to these consents, and An Bord Pleanála, which is normally an appellate body, does not carry out enforcement in relation to any of its functions.

Key elements of the enforcement aspects of the road construction process including the planning of and deployment of mitigation measures are not subject to any process of oversight to ensure compliance with undertakings given or conditions imposed. There is no reporting process to identify non-compliances and indeed no body which would act on such a report to ensure compliance.

As discussed above, s.5 of the Planning Act also provides for a system which can be used to determine compliance and to interpret conditions. This is similarly lacking in the case of consent for road schemes.

4 Recommendations

In making these recommendations, the authors see themselves as contributing to the continuum of improvements that have taken place in the 21 years since the Directive was first enacted. We recognise the efforts of the many before us, particularly within the EPA and the NRA, and the many that will follow, refining and improving this process that is so vital to proper sustainable development.

There are overlaps and common threads in the recommendations from each discipline. Therefore following the production of the individual reports, the research team has put together this integrated report to bring together the recommendations made by the researchers in a structured fashion. The recommendations have been adjusted and added to by the multi-disciplinary team to form a coherent whole and represent a product of the collective process.

We have inserted footnotes in this document to relate it back to the individual reports where the background information on each recommendation is available.

Our recommendations fall within a number of headings:

- **Recommendations (*for inclusion in the guidelines)* on the preparation of Environmental Impact Statements**

The first are recommendations as to the content of EISs. We have drafted recommendations on the preparation of Environmental Impact Statements for road schemes. *(As these are not intended as a substitute for existing guidelines but as additions or alterations to them, we present them as "Recommendations for inclusion in the guidelines on the preparation of Environmental Impact Statements.")*

- **Recommendations for changes in An Bord Pleanála's practice in carrying out Environmental Impact Assessment**

Our second set of recommendations is directed at how An Bord Pleanála carries out the process of public consultation, information gathering and environmental impact assessment which it is responsible for.

- **Recommendations in relation to an independent agency responsible for Environmental Assessment**

In a number of different areas of research, the value of an independent body with responsibilities for the quality of EIA and an overview of the collection of data became apparent. We expand on this below and include recommendations.

- **Recommendations in relation to compliance with conditions and monitoring after consent**

Unlike other consent processes such as planning permissions or EPA licences, there is no body with a statutory role of monitoring compliance with a consent granted under the Roads Act. We make recommendations as to how this gap could be filled.

- **Recommendations for Further Research**

We make some recommendations in relation to further research on issues arising in different disciplines.

- **Other recommendations**

Some recommendations do not fall under the above headings and relation to policy-making and assessment outside the EPA framework. We include them here for completeness and return to them in Sections 2 and 3 of the research.

4.1 Recommendations in relation to the preparation of Environmental Impact Statements

In some instances the EIAs were in breach of the EPA Guidelines; in others, the Guidelines should be amended in scope and detail to address issues raised in our study. Some of the recommendations are of relevance to more than one discipline and are referred to in those locations.

Air and climate

There is a need for specific guidelines in relation to how air and climate issues are handled in the preparation of EISs. All of the following recommendations focus the content of these guidelines. They are not exhaustive but are intended as a basis for the preparation of draft guidelines for this area of EIS. We also recommend later that the independent body for EIA be involved in specifying the monitoring and modelling to be done for each EIS.

1. Set guidelines for determination of existing air quality, such as the advice in the UK Local Air Quality Management Technical Guidance

2. Clarify confusion between the process of assessing environmental impact and the process of determining compliance with other standards/legislation.

3. Specify “significance criteria” for air pollutant concentrations
   - use impact thresholds where identified
   - make estimates of health impact where no impact threshold is identified

4. Require that all locations for air pollution monitoring are marked in specific detail on a map and supplied as grid references so that the exact site for monitoring can be identified.

5. Require that all modelling carried out of air pollution should include the monitoring sites used to establish baseline levels, as well as all other relevant receptor sites.

6. Modelling should be carried out for the baseline monitoring period and locations to enable an assessment to be made of the accuracy of the modelling by comparison with baseline data. (Described in the UK as “verification” of the model.)

7. Monitoring datasets and input/output files of modelling data should be made available to the public in digital form when the EIS is published and any supplementary data should also made available to the public as soon as they are produced.

Biodiversity and Ecosystems

8. Proper transposition of all information to the non technical summary.

9. Timely responses to statutory consultations by the NPWS.

10. No permission to be given by the Board without first assembling all the information deemed lacking by the NPWS.

11. Full consideration, at the stage of alternative route consideration, of the impact of proposals on designated areas was.

12. Full assessment of the impact on Annex I species and priority habitats listed in the Habitats Directive.

Built Heritage

13. Limitations and deficiencies in both the data and sources used in the desktop study phase and in the fieldwork along the route itself should be explicitly stated and explained, not only in the body of the report but also in the non-technical summary.

14. The NRA Draft Guidelines as they stand are inadequate in several areas. Their revision should involve a far wider consultancy process than appears to have been the case with the initial set which seems to have merely codified existing practice. The following points should be included in that revision:

15. Large self-contained archaeological landscapes do not lend themselves well to the recommended mitigation measures in the Draft Guidelines.

16. If it proves possible to route the road around many of the sensitive areas within a corridor then a route corridor with an apparently greater number of monuments and areas of archaeological potential can potentially have a lower archaeological impact than what appears at first to be the best option.

17. Given the fact that changes to the road network are not once off developments but bring a series of other developments in their train this issue should be addressed in the EIA process.

18. Ensure that the division between archaeology and architecture is bridged and that the entire archaeological record is taken into account in all studies. *(Develop this more)*

19. The large scale destruction of field boundaries is one of the largest single impacts that road projects have on the archaeological landscape and should be consistently addressed.

20. Previously delisted sites should be considered as potential sites during the creation of Planning Constraint Maps.

21. Ensure indirect effects on buried archaeology including physical, chemical and biological effects are included in the analysis.

22. Consult a wider range of individuals and groups with knowledge of archaeology, including The National Museum of Ireland, An Taisce, The Department of the Environment, The Heritage Council, The Discovery Programme, Local Heritage Officers, County Archaeologists, Local Museum Staff, Local Field Clubs and Archaeological/Historical Societies, Archaeology Departments of the National Universities, Landowners across whose land the proposed routes (during route selection) will pass.

Economic Impacts

23. If any economic analysis or statements are to be included in an EIS they should be based on analysis substantiated by data/methodology like any other information in an EIS.

Material Assets [Property]

24. The Guidelines on the content of EISs are updated to provide guidance on the appropriate treatment of property in an EIS.

25. The notion of property in an EIS in treated in more depth than is currently the case.

26. The Guidelines should require a quantum indication of financial impacts on property in EISs, and that the inclusion of monetary values for financial impacts be included.

27. A Chartered Surveyor [General Practice or Planning and Development Divisions] is employed to arrive at that quantum.

28. The evidence to reinforce these figures is presented within the EIS.

29. Analysis must be undertaken in EISs of the broader and more indirect property value impacts of the proposals.

30. Considerable attention should be paid to situations in which compensation is payable to property owners, who will in addition benefit from the construction of the proposal, through, for example, their lands on another boundary increasing significantly in value upon completion of the project, and who in effect are left in a situation of significant financial gain through an increase in the overall value of their property, despite having received compensation.

31. Consultants should be required to fulfil the requirements of assessment to the full, and that adequate estimation of the direct *and* indirect impacts of the proposal be carried out.

Noise

32. The establishment of an embedded protocol or target level for construction or residual noise in respect of land which contains no dwellings.

33. The establishment of guidelines that take account of night-time residual noise.

Public Participation

34. The EPA guidelines should be revised to include the provisions outlined in Appendix IV

Social and Community Impacts

35. Research into social and community impacts should use a transparent and scientifically based objective methodology. Scientific and numerical precision must be required to substantiate decisions.

36. The criteria used to assess the likely effects of a road scheme on a local community should be wider than those apparently used at the moment and should be clearly specified.

37. A wider range of impacts including health and social capital should be included in the assessment of social and community impacts.

38. Serious, innovative, inclusionary efforts designed to involve local residents in decisions that affect their communities should be undertaken. Innovative use of

planning charrettes and other community-based planning efforts should be utilized.

39. There should also be an effort to use scientifically attained public opinion information to assess how the residents of affected communities perceive issues of severance, connectivity, pedestrian and cycling issues, the use of public transit, and the value of a road or road widening project through their community. Serious efforts to assess how a community feels about proposed changes should be undertaken.

Spatial planning

40. The definition in the Directive of a "project" should be followed and the impacts of the wider project be included in the EIA process. Wider impacts caused through the supply of materials used (quarries) should be assessed.
41. Road projects should be considered in their entirety, not piecemeal.
42. Public screening of sub-threshold projects should be mandatory.
43. Detailed design work should be completed prior to permission being given.
44. Scoping advice given to a project proposer must be made publicly available at the time when it is given (see also appendix IV).
45. Environmental NGOs should be given the standing proscribed in the amended Directive at oral hearings.
46. An Bord Pleanála inspectors should have available to them a wide enough expertise to enable them to make decisions about specific aspects of individual EIAs.
47. The scope of the examination of possible environmental impacts should be as wide, within the definition of the Directive, as any person wishes it to be.
48. Non-statutory policies should not be used to over-rule the statutory requirement for the review of alternatives.
49. Land use and transportation conditions should be applied to road schemes including conditions to link approved road schemes to traffic management measures in bypassed cities and towns which relevant road schemes were stated to benefit.
50. Development plans should not be amended or ignored to facilitate road projects.
51. Compliance information regarding road projects should be made available at particular locations during office hours, and this should be widely advertised.
52. There should be regular and independent evaluation by professional staff or Board members of the adequacy of EISs, conduct of Oral Hearings and competence of Inspectors Reports.
53. The enforcement function of mitigation measures attached to the EIS in the case of roads should be given to the Board.

54. Adequate vetting procedures should be put in place to ensure that, in the case of schemes constructed or under construction, waste deposition locations are authorised sites.

Traffic modelling

55. Employ microsimulation traffic models.

56. Incorporate induced traffic into model in accordance with International best practice.

57. Include traffic model validation results in EIS along with all necessary tables of data for independent analyses.

58. Include network and zonal maps in EIS.

57. Provide baseline data-sets to allow independent modelling.

59. Provide all validation data, baseline and forecast data-sets, network and zonal maps on CDROM accompanying EIS.

60. Perform PM peak model predictions. This can be achieved with microsimulation models.

61. Perform a proper empirical analysis of policy implementation to determine a “rate of advancement of policy initiatives” in an Irish context. Use this to derive a likely-case scenario for public transport and other infrastructural initiatives, instead of using the aspirational best-case scenario.

62. Calculate likely opening year of scheme, and perform and present model predictions for that year. Proposed opening year of scheme should not be year of the oral hearing!

63. Provide free EIS documents to the public. The number obtained by the public is usually relatively low, so the costs are not prohibitive; particularly in comparison with the costs of the schemes.

64. Soft-copy documents should allow: “Content Copying or Extraction” and in particular “Content Extraction for Accessibility”. The latter is required for accessibility for readers with special needs. This accessibility grant may mean that the content of the file can be read out loud by text to speech programs, or can be captured and rendered by programs that increase the size of the fonts.

Transport policy

63. The EPA Guidelines on EIA should be revised to follow the EU Directive so that the consideration of alternatives is not limited to alternative routes but also encompasses alternative means of achieving the goals of the project

64. The EPA Guidelines section on Public Participation should be revised to incorporate the relevant section of the EU Guidelines

4.2 Recommendations for changes in An Bord Pleanála's practice in carrying out Environmental Impact Assessment

While some of the following recommendations are specific to some disciplines the majority are general across all subjects or across a number of subjects.

1. (In the absence of the independent Office of Sustainability Assessment referred to below,) An Bord Pleanála (ABP) should ensure that the EIS contains the required information.
   - Where an initial reading of the EIS reveals that a particular section is clearly deficient in that it contains no information, the applicant should be required to amend and re-advertise the EIS.
   - Where deficiencies in the EIS become apparent during the assessment process, the applicant should be required to produce a supplement to the EIS and re-advertise it.
2. ABP should ensure that the Inspector / Board has or has access to the necessary technical expertise to address issues raised at the hearing. Every EIS and relevant submissions should be reviewed by qualified experts in each relevant field and where these issues are being raised at oral hearings that expert should attend to gather evidence and ask questions.
3. ABP should ensure that the Inspector's report makes conclusions in relation to issues raised in the consultation process and gives reasons for these conclusions.
4. ABP should acknowledge that the role of the Inspector/Board is to make the assessment and to ensure that all necessary information is available to them to do so and that it is not the responsibility of local residents or objectors to ensure that ABP has the information.
5. ABP should ensure that its conditions are highly specific and enforceable. E.g. conditions in relation to monitoring must specify precisely where monitoring is to be carried out and precisely when it must start (and can end, if relevant.)
6. Inspectors' Reports should contain evidence of assessment of the detail or adequacy of the ecological information provided and of sufficient assessment of the effectiveness of mitigation measures is provided.
7. An Bord Pleanála Inspectors' Reports must be harmonised in format, made transparent in all respects, and be explicitly referenced to the EU/EPA Guidelines
8. Inspectors should be required to assess a broader range of community effects than those outlined in existing documents.
9. An Bord should employ its own traffic modelling experts, independent of DTO, and make them available to Inspectors. The confrontational, unfair and out-moded Oral Hearing process should be replaced by, for example, a modern workshop-based approach at both the scoping and final consent stages. This would ensure the genuine public participation and involvement envisaged in the EU EIA Guidelines. This should be organised to take account of public participants' needs, such as normal working and living patterns, and be adequately resourced to cover participants' expenses

4.3 Recommendations in relation to an independent Office of Sustainability Assessment.

The proposal for establishing an Office of Sustainability Assessment is discussed in greater detail in the Section 3 Integrated Report entitled *A Sustainability Assessment Process for Road-building and other Development in Ireland*. The Office would respond to a number of gaps we have identified. It would ensure that the large volumes of data and information generated in the EIA process would be fed back to and made use of in policy-making and analysis. Additionally, it would act as a quality control on the EIS information supplied to the EIA process. Our recommendations below address this second goal.

1. An independent Office of Sustainability Assessment should be established. This would logically fit in with the existing environmental monitoring and assessment role of the EPA and therefore should probably be part of the EPA.
2. This Office should advise and give directions on all stages of the EIA process. This should include guidance on the general process, and also on the specifics of individual schemes including detailed guidance on environmental monitoring and modelling.
3. The Office should receive the EIS when it is prepared and ensure that EIS contains the required information. Where the Office's initial reading of the EIS reveals that a particular section is clearly deficient in that it contains no information, the applicant should be required to amend the EIS
4. This Office should hold a database of all documentation generated in the process of producing EISs (When the N4 road was being widened for the second time, the local authority was unable to find much of the documentation relating to the previous EIS.)
5. This Office should require that data collected in EISs adopt standardised collection formats etc. so that data and predictions from one EIS can be compared to another and can be stored in national databases.
6. This Office would develop and implement quality standards for consultants working on EISes and would provide mechanisms for holding consultants accountable. In addtion, however, we think it is important that the Office would also publicly acknowledge good work being done by consultants in what can be a difficult area.
7. It should remain clear that the responsibility for the production of a good EIS would still lie with the applicant.

For further details on this proposed Office, please see the report *A Sustainability Assessment Process for Road-building and other Development in Ireland* and associated flowcharts.

4.4 Recommendations in relation to compliance with conditions and monitoring after consent

1. Interpretation
There is no body other than the High Court competent to determine the meaning of conditions attached to road schemes, which as discussed above are often quite vague. Unlike planning permissions, none of these conditions require agreement with ABP or any other consent authority. We recommend that Section 5 of Planning and Development Act be extended to cover conditions attached to consents under the Road Act.

2. Compliance and Enforcement
Unlike planning permissions, where local authorities act as the enforcement bodies under the Planning and Development Act, there are no enforcement provisions for consents under the Roads Act. As ABP holds the files and has or should have access to the relevant technical expertise to carry out compliance inspections and enforcement actions, we recommend that compliance and enforcement powers and duties in relation to consents which ABP has granted under the Roads Act be allocated to ABP.

Additionally, the Planning and Development Act provides for access to the courts by third parties in relation to enforcement. This right should also logically be extended to road schemes which have been given permission by An Bord Pleanála.

This could be done by extending the scope of sections 150 to 160 of Planning Act.

4.5 Recommendations for Further Research

Property

Research should be conducted into the specific issue of the impact of road proposals on rating revaluations for commercial premises, given the restricted nature of grounds for applying for a revaluation under the Valuation Act 2001 [‘material change of circumstances’, Part 1, S.3 – see Appendix 1, *subsequens*].

Social and Community Impacts

More scientifically-based research on likely “community effects” should be conducted. Data and conclusions on the community effects experienced by similar road schemes in other communities (in and outside Ireland) should be collected, analyzed, and consulted. There is plenty of research on the proper ways to build roads; we also ought to be conducting and consulting research on the effects that such roads have on people and their communities.

4.6 Other recommendations

Economic Impact Assessment

An Economic Impact Assessment should be prepared for every major public project, and for every major private project requiring planning approval. Econo IAs would not be confined to construction projects but required whenever it was proposed to spend more than a certain sum. It would not be possible to avoid commissioning an Econo IS by breaking a project, such as the re- construction of a major road, into smaller parts. The factors to be assessed in an Econo IA are discussed in Section 3.

Social and Community Impacts

Proper transportation planning cannot be divorced from land-use planning. The two go together like hand in glove. Future land-use planning and transportation efforts should require joint consultation. American-style Euclidean zoning is unsustainable and should be avoided. The planning of mixed-use pedestrian-oriented communities should be encouraged if not required. Dependence on the automobile for transit should be avoided.

Appendix 1 Public Participation in EIA during the Transport Planning Process

The development of national policies is the point at which the environmental decision-making processes begin in matters of transport, as in all other areas. This is also the point at which public involvement in these processes must begin, if Ireland is to ratify and be compliant with the Aarhus Convention. The hierarchy of environmental decision-making to which, under European and Irish law, environmental assessment is required to be applied is shown diagrammatically on the next page.

In Article 7 of the Convention, on *Public Participation Concerning Plans, Programmes and Policies Relating to the Environment* (The Aarhus Convention), it is stated very clearly that:

Each Party shall make appropriate practical and/or other provisions for the public to participate during the preparation of plans and programmes relating to the environment, within a transparent and fair framework, having provided the necessary information to the public. Within this framework, article 6, paragraphs 3, 4 and 8, shall be applied. The public which may participate shall be identified by the relevant public authority, taking into account the objectives of this Convention. To the extent appropriate, each Party shall endeavour to provide opportunities for public participation in the preparation of policies relating to the environment.

The relevant paragraphs of Article 6 which apply to plans and programmes, but not policies, read:

3. The public participation procedures shall include reasonable time-frames for the different phases, allowing sufficient time for informing the public in accordance with paragraph 2 above and for the public to prepare and participate effectively during the environmental decision-making.
4. Each Party shall provide for early public participation, when all options are open and effective public participation can take place.
8. Each Party shall ensure that in the decision due account is taken of the outcome of the public participation.

The SEA (Strategic Environmental Assessment) Directive 2001/42/EC is a part of the EU response to Article 7. However, as a result of political lobbying within the EU, it does not refer to policies only plans and programmes. The SEA Directive was transposed into Irish Law by S.I. No. 435 of 2004 and S.I. No. 436 of 2004.
The fact that the EU couldn't get agreement on including policies in the Directive does not however lessen the obligation on Parties to the Convention to implement these Articles, including the involvement of the public in policy making processes that effect the environment.

The Aarhus Convention in its preamble recognizes '*that every person has the right to live in an environment adequate to his or her health and well-being, and the duty, both individually and in association with others, to protect and improve the environment for the benefit of present and future generations'.*

This is further underlined in the Convention's objective which states that: '*In order to contribute to the protection of the right of every person of present and future generations to live in an environment adequate to his or her health and well-being, each Party shall guarantee the rights of access to information, public participation in decision-making, and access to justice…'*

This is implies the widening of the definition of the environment to include the issue of environmental sustainability of policies, plans and programmes. The widening of the scope of these environmental and strategic impact assessments to include the assessment of a range of sustainability factors, through Sustainability Impact Assessment (SIA), is the logical extension of the access principles ensconced in Principle 10 of the Rio Declaration, viz.

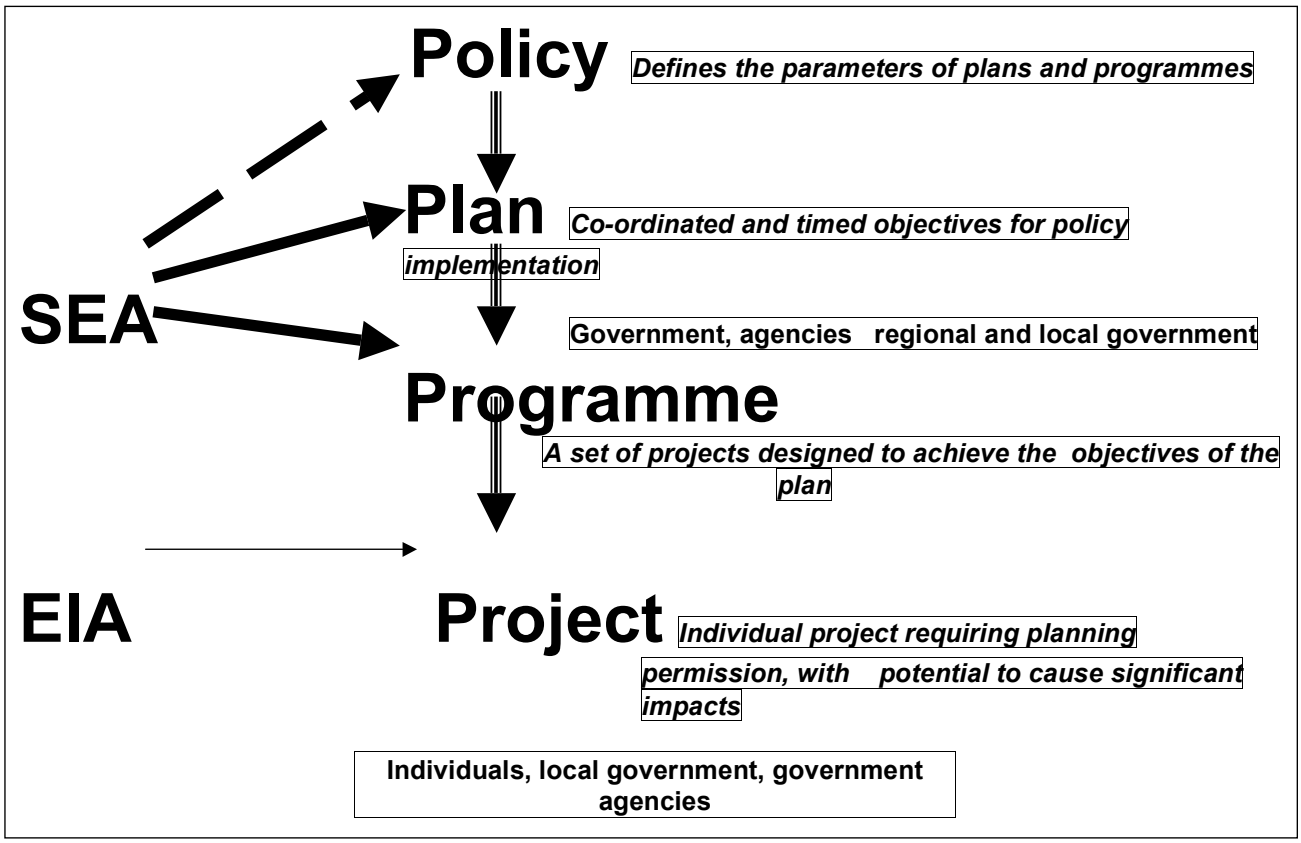
> *"Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided".*

The methodology for SIA is discussed elsewhere in this document, but the underlying principles that govern public involvement in SIA and the decision-making stages are the same as those described below, and they apply at all levels of environmental decision-making.
In the context of transport planning then, Article 7 of the Convention applies to the policy decisions made based on the assessment of potential future transport needs, the plans developed to answer those needs and the programmes designed to fulfil those plans. As already stated, SEA should be applied to all these stages i.e. from the national Development Plan onwards.

The main characteristics of SEA are as follows:

An SEA

- Is proactive and ultimately informs development proposals. EIA by contrast is reactive to a proposal.
- Assesses the effect of a policy, plan or programme on the environment.
- Addresses areas, regions or sectors of development.
- Is a continuing process.
- Assesses cumulative impacts.
- Identifies issues and implications for sustainable development.
- Focuses on maintaining a given level of environmental quality.
- Has a wide perspective which is not too detailed.
- Provides a vision and overall framework against which impacts and benefits can be measured.


Policy
Defines the parameters of plans and programmes
Plan
Co-ordinated and timed objectives for policy implementation
SEA
Government, agencies regional and local government
Programme
A set of projects designed to achieve the objectives of the plan
EIA
Project
Individual project requiring planning permission, with potential to cause significant impacts
Individuals, local government, government agencies

The Amended EIA Process

The EIA process in Ireland is now governed by Directive 85/337/EEC as amended by Directives 97/11/EC and 2003/35/EC. Before looking at the implications of this an understanding of what the EIA process is intended to achieve is essential.

EIA (Environmental Impact Assessment) was defined by Saddler as: "the process of identifying, protecting evaluating and mitigating the biophysical, social and other relevant effects of development proposals, prior to major decisions being taken and commitments made"[31]
The World Bank expands this definition and describes EIA as a procedure that; "evaluates a projects potential environmental risks and impacts in its area of influence; examines project alternatives; identifies ways of improving project selection, siting, planning, design, and implementation, by preventing, minimizing, mitigating or compensating for adverse environmental impacts and enhancing positive impacts"[32] The main aim of the process is to stimulate thinking, and encourage action, and not just the ticking off of boxes just to get another report[33]
The Institute of Environmental Assessment[34] identifies two sets of principles, 'basic' and 'operative'. The basic set applies to all stages of project EIA as well as to those of Strategic Environment Assessment (SEA) of policies, plans and programmes. One of these states that the EIA process should be participative; providing appropriate opportunities to inform and involve the interested and affected public, and, that their inputs and concerns should be explicitly addressed in the documentation and decision-making"
In a review of 25 years of National Environmental Policy Act (NEPA) the Council on Environmental Quality (CEQ)[35] stated "the success of a NEPA process heavily depends on whether an agency has systematically reached out to those who will be most affected by a proposal, gathered information and ideas from them, and responded to the input by modifying the proposal or adding alternatives, through the entire course of the planning process".

EIA and Road Infrastructure

The current procedures leading to the building of a road involve a number of stages.

31 Saddler, B. et al. (1999) Principles of Environmental Impact Assessment Best Practice. Institute of Environmental Assessment U.K. www.greenchannel.com/iea/

32 Klees, R. (2002) Environmental Impact Assessment Systems in Europe and Central Asia Countries. World Bank. www.worldbank.org/eca/environment

33 Verheem, R. (2002) Recommendations for sustainability assessment in The Netherlands. Netherlands Commission for EIA.

34 Saddler, B. et al. (1999) Principles of Environmental Impact Assessment Best Practice. Institute of Environmental Assessment U.K. www.greenchannel.com/iea/

35 C.E.Q. (1997) The National Environmental Policy Act. – A Study of its Effectiveness After Twenty-Five Years. Council on Environmental Quality, http://ceq.eh.doe.gov.

In the National Roads Project Management Guidelines (NRPMG), planning for road schemes is divided into four phases culminating in the statutory procedures.

Phase 1 involves the overall planning of the scheme, including:

- defining the road need,
- obtaining NRA formal approval to undertake the further phases,
- setting out to incorporate the objective of providing the road scheme in the local authority development plan.

Phase 1 should be subject to the provisions of the SEA Directive as outlined above, and should therefore incorporate a public participation process.

Phases 2 and 3, the Constraints and Route Corridor Selection studies, are according to the NRA,[36] two fundamental components of the EIA process primarily concerned with the early identification and avoidance of significant adverse environmental impacts and the consideration of alternative route options. Whilst there is already some public consultation in these phases, it is mostly of the 'report and comment' type, and is not participatory. The NRA in Appendix I of its own guide describes the interactions with the public as follows: 'The public consultation is intended to ***inform*** the public'. As already noted, public participation should be at the earliest possible stage in the process and so would include public participation during the research part of each of these phases

Phase 2 of the process is begun with a public information session where the public are presented with a large scale map of the geographical study area without any defined route options. This is essentially an information giving exercise, with limited feedback opportunities, and with no requirement on the relevant authority to account for what they have done with the feedback they receive.

This is followed by a Constraints Study, the outcome from which, the possible route corridor options chosen by the 'expert team', are presented for public comment. There is no opportunity for the public to become involved in the defining and refining of these choices.

Phase 3, the Route Corridor Selection, then may or may not be based in part on the public feedback. The Final Route Selection Corridor Report is then presented to the Public

Phase 4 includes the preparation of the Environmental Impact Statement (EIS) for the preferred route, where required. As the scheme progresses through the stages (from 2-4), the area of study generally decreases and becomes more focused, while the level of detail in the study increases.

According to the NRA guidelines public consultation has been catered for during the early planning stages (2-3), and it points out that public involvement at these stages takes place much earlier than was required by the statutory EIA framework set out in the Roads Act, which stipulates that public consultation begins only when the Compulsory Purchase Order/Motorway Scheme has been made and the EIS is published.

36 NRA. Environmental Impact Assessment of National Road Schemes – A Practical Guide.

This however shows a lack of understanding of the purpose and value of true public involvement, and will not fulfil the legal obligations that come with both the Aarhus Convention, which Ireland is about to ratify and Directive 2003/35/EC, which, although not as yet transposed, is already applicable in Ireland.
In the interests of both better and more efficient decision-making and of being legally compliant, the NRA and other bodies dealing with transport infrastructure need to put in place plans for effective, well organised and purposeful public participation at all four phases of infrastructural planning. It should also be noted that incorporating impact assessment and its participation elements into the project decision-making processes from the beginning means that the public input is incorporated from the outset, thus improving design, reducing impacts and decreasing the likelihood of problems later in the process[37]. What follows now is a brief guideline as to the stages in the EIA process and public participation.

The EIA Cycle and Public Involvement

The EIA process should begin as early as possible in decision making for a project, providing for the involvement and input of communities and industries affected, as well as the interested public.[38]

The diagrams on the next two pages illustrate the amendments to Directive 85/337/EEC and indicate where public participation should take place. These amendments were introduced by two Directives 97/11/EC and 2003/35/EC. This latter Directive was designed to implement Article 6 of the Aarhus Convention which deals with “Public Participation in Decisions on Specified Activities”.

One of the specified sets of activities as listed under Article 6, 1 (a) in Annex I, (8) of the Convention, and repeated under article 4(1) in Annex I, (7) of Directive 85/313/EEC as amended, is:

(a) Construction of lines for long-distance railway traffic and of airports with a basic runway length of 2 100 m or more;
(b) Construction of motorways and express roads;
(c) Construction of a new road of four or more lanes, or realignment and/or widening of an existing road of two lanes or less so as to provide four or more lanes, where such new road, or realigned and/or widened section of road, would be 10 km or more in a continuous length.
This threshold is reduced to eight kilometres or more in length in a rural area, or 500 metres or more in length in an urban area under Article 8 (a) of the Road Regulations, 1994 (S.I. No. 119 of 1994).

37 Ewing, M.K. (2003). Public Participation In Environmental Decision- Making. www.gdrc.org/decision/participation-edm.html

38 Saddler, B. et al. (1999) Principles of Environmental Impact Assessment Best Practice. Institute of Environmental Assessment U.K. www.greenchannel.com/iea/

The EIA cycle, shown above, as part of the planning system should provide for the following stages[39]. These same stages also apply to the SEA process.

Screening

Screening determines whether or not a proposal should be subject to EIA (or SEA), and if so, at what level of detail. Consultation with potentially effected parties here will improve understanding of the nature and significance of potential impacts using 'local' knowledge, together with that of 'experts'.
The objectives here should be: to obtain a complete understanding of how the issue is viewed by all the relevant stakeholders; and to identify the future levels of interest in public participation activities on this issue. Techniques that could be used here are available in a participation tools list[40]. Eccleston, C.H. [41]has a checklist of tasks to consider as part of the pre-scoping phase. Added to this should be the preparation of a public participation plan, which includes a publicly available record of the process. The use of exploratory thinking techniques such as brainstorming and snow-storming at this phase helps stimulate the creativity need to seek alternatives. The European Commission has produced a useful guide to screening, scoping and review of EIA, but these have not yet been updated to include the public participation provisions of the Convention.[42]

Screening of road projects for the necessity to conduct an EIA is done under Section 50, Sub-sections 1(a) - 1(e) of the Roads Act, 1993, as amended. There is no mention of public participation in this legislation, nor in the NRA's publication 'Environmental Impact Assessment of National Road Schemes' – A Practical Guide. However, the Aarhus Convention states in Article 6 (4) that: *Each Party shall provide for early public participation, when all options are open and effective public participation can take place.* In Article 6(3) it further specifies that: *The public participation procedures shall include reasonable time-frames for the different phases, allowing sufficient time for informing the public in accordance with paragraph 2 above and for the public to prepare and participate effectively during the environmental decision-making.*

39 European Commission (2000). Public Participation and Consultation. Environmental Integration Manual: Good Practice in EIA/SEA. Gibb Ltd., p.239 (www.gibbltd.com)

40 Ewing, M.K. (2003). Public Participation In Environmental Decision- Making. www.gdrc.org/decision/participation-edm.html pp.34-60

41 Eccleston, C.H. (2000) Environmental Impact Statements. John Wiley and Sons. p.65

42 European Commission, 1995-2001, Guide on EIA. http://europa.eu.int/comm/environment/eia/eia-guidelines/g-screening-full-text.pdf

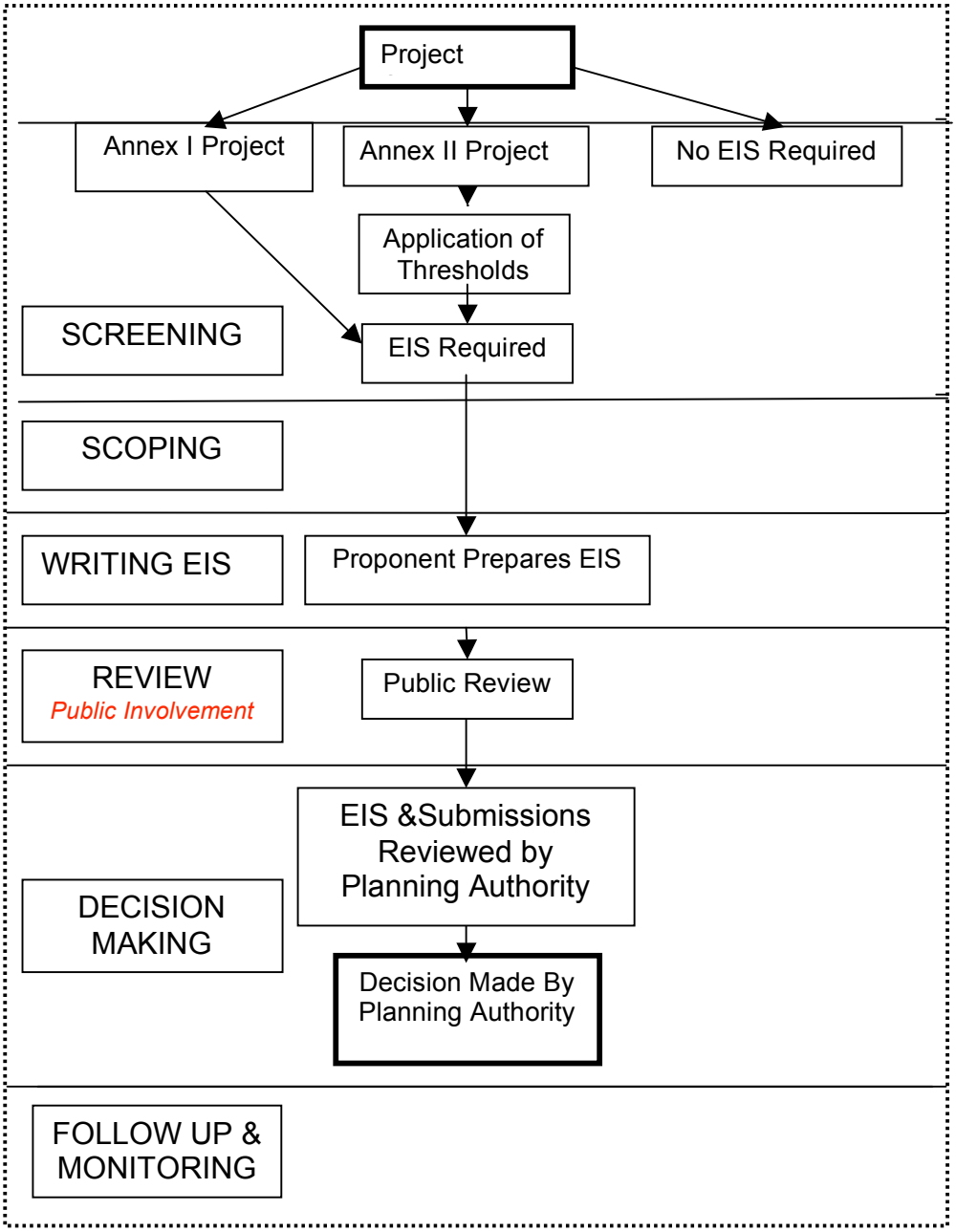


Figure 1. Diagram showing the EIA process, following Directive 85/337/EEC.

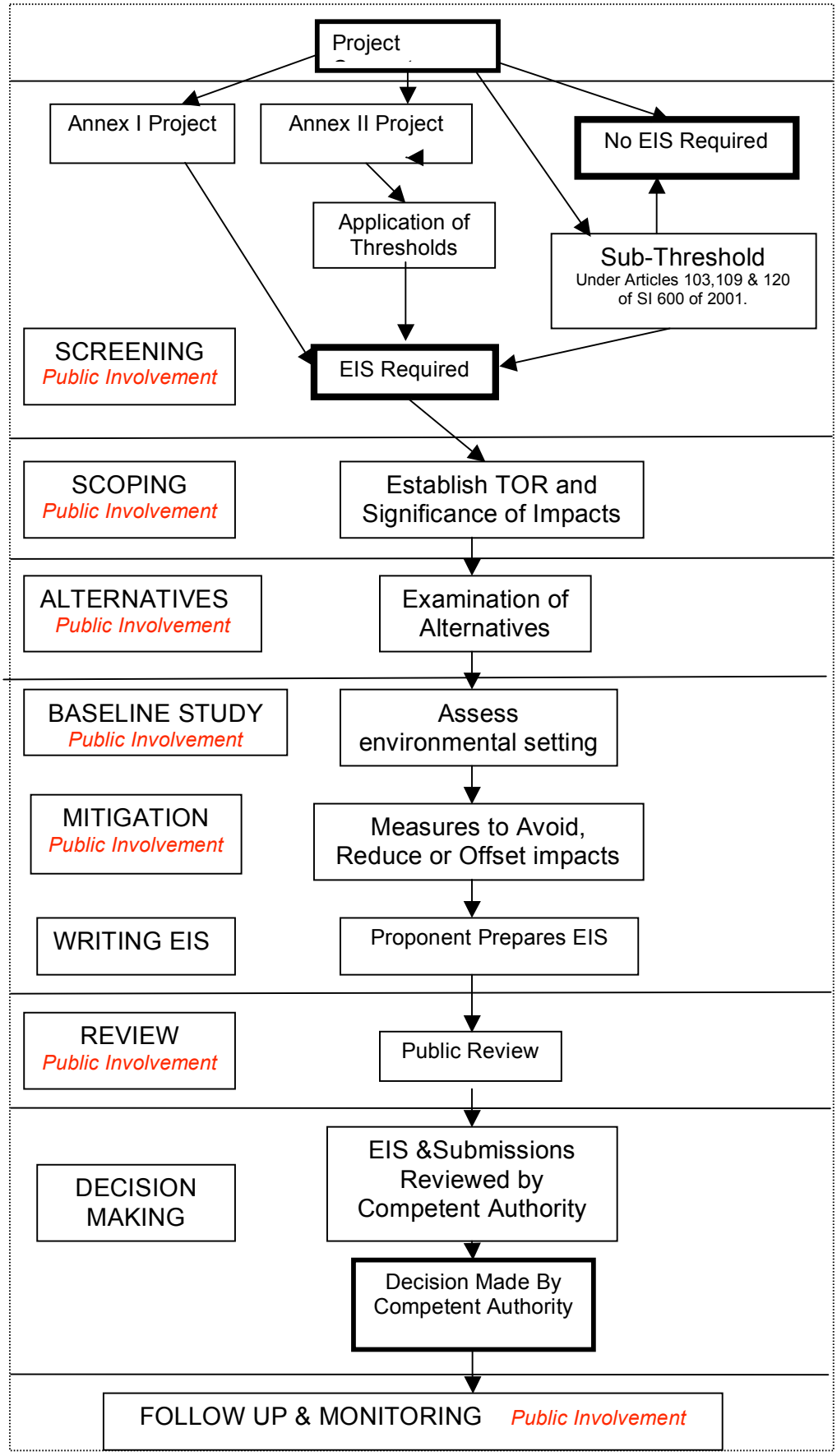


Figure 2. EIA Process, Incorporating Directives 97/11/EC and 2003/35/EC.

Scoping

This is a very early exercise in an EIA in which an attempt is made to identify the attributes of the components of the environment for which there is likely to be significant impacts based on public (and professional) concerns and upon which the EIA should be focused[43] Good scoping is the key to a successful EIA process. Public involvement here ensures that all the significant issues are identified, local knowledge about the area is incorporated, and alternatives are identified and considered.

The principal objectives of public scoping are[44]:

- Identify public concerns and the expertise needed to investigate same.
- Identify alternatives to be examined
- Identify significant issues that need to be analysed, eliminating the unimportant.
- Identify problems and potential solutions early in the process.
- Identify problems with the participation process and address same.
- Ensure that both the positive and negative aspects of the proposal are identified and studied.
- Identify potential mitigation measures.

A scoping information package should be put together to promote public involvement and to inform the other parties involved in the scoping exercise. It should include:

- An invitation to participate showing how, when and where.
- A brief description of the working of the EIS process and the opportunities for participation.
- A description of the proposal, such that the objectives of the proponent are clearly laid out with maps, diagrams, figures etc.
- A description of the known potential impacts. A public notice should then be issued using any of the methods deemed necessary from Level 1.[45]

Public meetings, whilst commonly used are not the best method, unless they are based on small group sessions and workshops. Public opinion surveys, citizen advisory committees or any other methods listed in Level 2. Simple methods may suffice for describing, synthesizing and communicating information on the pre-project environment and the potential impacts e.g. using checklists, matrices and networks. Eccleston, C.H. (2000. p.75) and the Australian EIA Network, (1996)[46] both give a check lists for planning a public scoping meeting, and warn that "outside entities that participate in scoping generally do so because they are opposed to the proposal; the remaining participants who support the proposal often do so because they stand to gain from it. Not surprisingly numerous public scoping efforts have dissolved into sessions of frustration, dissension or outright confrontation. So it is essential to plan

43 Singleton, R., Castle, P. and Short, D. (1999) Environmental Assessment. Thomas Telford.p.103

44 Eccleston, C.H. (2000) Environmental Impact Statements. John Wiley and Sons.p.72.

45 Ewing, M.K. (2003). Public Participation In Environmental Decision- Making. www.gdrc.org/decision/participation-edm.html pp41-52

46 Australian EIA Network. (1996) International Study of the Effectiveness of Environmental Assessment. EPA, Canberra, Australia www.ea.gov.au/assessments/eianet

well and use professional facilitators or neutral moderators where debates are likely to be heated.

Alongside the general public scoping, it can be of value to conduct focus group/workshop meetings with stakeholders having special interests or expertise, in order to examine more detailed or complex issues. The results of these meetings should be made public, and so become part of the general 'responsible authority' scoping session. Eccleston, C.H.[47] gives a methodology for handling the potentially voluminous, or complex scoping input, followed by an internal 'responsible authority' scoping session. This can consider issues including technical ones, using in-house expertise, and in greater depth than might otherwise be possible in a public setting.

The body conducting the EIA process, together with stakeholder representatives should then produce a post scoping document, summarising the scoping process, its findings and the reasons for decisions taken in reaching the scope for the resultant EIS Implementation Plans.

As it is presently organised the EIA process operated by the NRA doesn't include the public in its scoping process as described in its publication 'Environmental Impact Assessment of National Road Schemes – A Practical Guide'.

Impact Assessment/Mitigation

"Public involvement here can serve to ensure that the analysis and mitigation, necessary to avoid, minimize or offset predicted adverse impacts is relevant to local concerns, and accurately reflects local values and preferences".[48]

Both impact mitigation and the evaluation of significance are complex and time consuming processes, which cannot be dealt with by large groups. It is necessary, therefore, to use stakeholder representatives to work with the experts, reviewing the finding of the experts in workshop sessions or other facilitated small groups.

Regular reporting of progress in the process, to the wider publics will maintain their 'ownership' and sense of involvement.
Once again the NRA at present exclude the public from this phase of the process.

The Evaluation of Significance

This is a difficult issue to resolve even between specialists. It is, however, essential that the public be involved and their perspective included, as the interpretation of significance occupies a fluid boundary between science and politics[49]

47 Eccleston, C.H. (2000) Environmental Impact Statements. John Wiley and Sons.

48 European Commission (2000). Public Participation and Consultation. Environmental Integration Manual: Good Practice in EIA/SEA. Gibb Ltd., 239 (www.gibbltd.com)

49 Australian EIA Network. (1996) International Study of the Effectiveness of Environmental Assessment. EPA, Canberra, Australia www.ea.gov.au/assessments/eianet

The Canadian EA system of impact assessment is based solely on scientific, credible technical and other relevant information[50]. The resulting determination of significance must be 'objective' and reasonable so as to withstand court challenge. By comparison in the US system, under NEPA, public opinion and the "controversiality" of the proposal help to identify and determine significance. Ultimately, however, the relevant authority will decide, taking all inputs on board.

Evaluation of significance is subjective, contingent on values and dependent on the environmental and community context. The intrusion of wider public concerns and social values, into the significances evaluated by scientists is inevitable, as discussed elsewhere. The challenging nature of this part of the process is, therefore, one in which the use of facilitated small groups would be essential for the more contentious issues. More information on the technical aspects of the evaluation of impacts is given by Lein, K.L. (2003)[51].

Preparation of EIS

It is essential to document clearly and impartially the impacts of the proposal, as well as those of the identified alternatives, the proposed mitigation methods, the significant effects and the concerns expressed by the public and communities affected by the proposal, as well as how those concerns were addressed.

The draft EIS, following internal review by the relevant body (NRA or the Consultant), should be made available for public review, and should include a non-technical summary which includes all the main findings and conclusions reached in the main body of the report.

Review of the EIS

The review of the EIS should determine whether the report; meets its terms of reference, provides a satisfactory assessment of the proposal(s); and contains the information required for decision making. Involvement of the public can ensure the quality and comprehensiveness of the assessment and help to reduce any bias in the analysis.
Before the public review, the EIS should be complete in every aspect, except this final opportunity for public feedback. Any major changes resulting from this public review would probably trigger a second public review, though good public participation early on should make this unlikely.
Proposals for electronic transmission of the document along with public access through libraries, site offices, public displays, information repositories, and presentations, should give wide availability. Methods of feedback should be widely publicised. One method could be an interactive web-site page for this purpose.

50 C.E.A.A. (2001) Environmental Assessments. www.ceaa.acee.ga.ca

51 Lein, K.L. (2003) Integrated Environmental Planning. Blackwell.

All those who made major contributions to the process should receive a copy (finance permitting) or have access to a copy, possibly on CD, along with the statutory bodies and the proponent.
The draft should be available and publicised at least 15 days before any stakeholder meetings to discuss it.

The final EIS should then include the changes based on the relevant feedback in the draft, together with the responsible body's reasons for not including any other issues raised.
Eccleston, C.H. (2000) gives useful guidelines on dealing with this stage of the process.

Decision Making

It is generally the role of the regulatory authority to approve or reject the proposal and, if it is approved, to establish the terms and conditions of its implementation, taking into account the EIS, and its public input, and explaining its reasons for the conclusion(s) it reaches.

Follow-up, Implementation and Monitoring

The participation of local representatives and NGO's in monitoring the operational impacts of a project can lead to the early identification of problems, and can foster a sense of public partnership. The setting up of a community/stakeholder panel to review the operation of the project, in the light of the EIS and the planning permission as well as any IPPC licence, is one way of doing this.

Continual assessment of the EIA process

Continuous ongoing assessment of the process itself can ensure the implementation of the public participation plan, provide public transparency and strengthen the effectiveness of future EIAs.