

Sustainable Development Evaluation of Road Infrastructure Programmes and Projects

Section 1

The Economic Content of Environmental Impact Assessments for Irish Road Projects

Richard Douthwaite

February 2007



The Foundation for the Economics of Sustainability

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

We would like to gratefully acknowledge the assistance of the following: Tadhg O'Mahony, Kevin Woods and Brian Donlon (EPA), John O'Neill, DoEHLG, Hugh Creegan, Michael Egan, Vincent O'Malley and Christian Nea (NRA), Rob Verheem, (Commissie voor de milieueffectrapportage), Mary Twomey, (Forfás), Emer Ó Siocrú, Enid O'Dowd and Clare Taylor (FEASTA)

ACKNOWLEDGEMENTS

This report has been prepared as part of the Environmental Research Technological Development and Innovation Programme under the Productive Sector Operational Programme 2000-2006. The programme is financed by the Irish Government under the National Development Plan 2000-2006. It is administered on behalf of the Department of the Environment and Local Government by the Environmental Protection Agency which has the statutory function of co-ordinating and promoting environmental research.

DISCLAIMER

Although every effort has been made to ensure the accuracy of the material contained in this publication, complete accuracy cannot be guaranteed. Neither the Environmental Protection Agency nor the author(s) accept any responsibility whatsoever for loss or damage occasioned or claimed to have been occasioned, in part or in full, as a consequence of any person acting, or refraining from acting, as a result of a matter contained in this publication. All or part of this publication may be reproduced without further permission, provided the source is acknowledged.

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.

The economic content of environmental impact statements prepared for Irish road projects is extremely limited. This is because a very narrow definition of the word “environmental” has been adopted, so narrow that it largely excludes the economic environment. The current guide¹ and advice notes² to the information which an EIA should contain essentially define “environmental” as meaning – in my words - “to do with the area in the environs of the project”. The guide stresses that an EIA should be concise and maintain a sharp environmental focus and says that the issues and topics it covers should be limited to those “explicitly described in the current legislation” In other words, issues should not be considered if they are not to do with the local area or not covered by existing legislation, however important they might be.

The two economic areas that the guide says an EIA can explore are the “significant and adverse” effects that the project is “likely” to have on “Human Beings” and on “Material Assets” Under the “Human Beings” category, it is permissible to consider

- Economic Activity
- Social Patterns
- Land-use
- Employment
- Health & Safety
- Settlement Patterns

while under “Material Assets”

- Archaeological Heritage
- Folklore/Tradition/History
- Architecture/Settlements
- Monuments/Features
- Designed landscape
- Buildings and structures
- Infrastructures
- Natural Resources of Economic Value

may be covered. The natural resources of economic value are “the assimilative capacity of air and water, non-renewable resources (e.g. minerals, soils, quarries and mines), renewable resources (hydraulic head, wind exposure).”

The phrase “significant and adverse” makes it unclear whether significant beneficial effects on these economic factors should be included in an EIA. What is certain, however, is that the effects on the factors can only be considered to the extent to which the project causes them within its immediate area (p.7):

Matters such as land-use planning, employment, economic, financial or health considerations *are* (italics in the original) of relevance but only insofar as they are physically manifested at, or directly adjacent to, the development site. Evaluation and analysis is generally limited to areas where the indirect, secondary or cumulative impacts are either wholly or dominantly due to the project or development under consideration.

This means that many of the economic effects that a road might have cannot be taken into account in an EIA because they occur at a distance from it. Thus, while an EIA will, quite properly, concern itself with the changes that a new road will make to, say, the movement of badgers from where they sleep to where they find their food, the same analysis cannot be carried out for humans within that EIA if the place where they decide to shop or work changes as a result of the new road's construction. It is true that a traffic assessment will be carried out as part of the EIA and that this involves building a model of the road network in the area to explore how traffic flows are likely to change once the road is completed. However, the model simply provides a way of estimating how the traffic which would have arisen anyway whether the road got built or not, will be divided between the old roads and the new. It does not allow for people switching, say, from shopping in one town to shopping in another because the new road made it quicker and more convenient to change.

EIAs consequently ignore the very significant effects that new roads have on where people choose to live, work and shop, and thus on the economic welfare of other people and of particular places. A village some distance from the road itself could expand or decline as a result of the road's construction, but this, strictly, is beyond the scope of an EIA. Roads also have a major impact on property values, raising some and depressing others. This, potentially, shifts the pattern of wealth distribution in the affected areas, and wealth changes are likely to damage the health of those who do worst out of them.

Easier movement also affects the size of companies, since it allows firms to trade over a wider area. This is bound to damage many smaller, local firms and concentrate business activity in fewer hands but an EIA is not required to assess the likely extent of this damage. This is perhaps because of the widespread assumption that better roads lead to more competition and thus benefit the consumer but there are no studies to bear this out. In many cases, the enhanced level of competition lasts for only a little while. After that, a few firms become dominant as others are driven out. The level of competition might even fall as a result of amalgamations or higher entry costs to the activity. The real price to the consumer could well rise because the need to cover a wide area increases the firms' advertising, travel and transport costs.

Instead, those preparing an EIA simply assume that road projects improve access times and benefit the economy by improving the reliability of freight movement and linking major centres of distribution

The topics that an EIA can cover is further restricted by the statement (p.8) that

Some project types (e.g. processing of minerals) are part of a larger chain of activities that may commence with resource extraction and end with disposal of the product following purchase and use. While it may be desirable to consider the integrated and holistic effects of such activities it may not be practical to evaluate the full chain of effects by EIA alone. The EIA is limited to the effects of the development project that is the subject of the relevant application for

consent. Other effects (direct and indirect) that may be reasonably and specifically anticipated may be described for completeness.

A road is certainly a part of a larger chain of activities – the national road network, the ways it is used and all that flows from that – but this passage discourages consideration of the consequences of that chain. The focus, it is saying, should stay on the link. An EIA cannot therefore consider whether the resources earmarked for road building might not be better used in meeting some other national or local need and not used for roads at all.

This is reasonable up to a point. Every EIA cannot undertake a complete re-assessment of national economic and transport policies. It is therefore right that the key decisions about the level of priority to be given to the movement of goods and people around the country, and the transport modes which are to be used, are taken at a higher level than that of the EIA and are thus not part of its scope. Accordingly, most EIAs completed in the past five years appeal to the National Development Plan 2000-2006 and/or the National Road Needs Study³ (1998) for their economic and policy justification. However, as we discuss in Part 2 of this report, there is scant evidence that a real review of the full range of alternatives to the increased use of road transport was ever carried out as part of the national planning process.

Equally worrying is the possibility that this reliance on high-level government decisions could be carried too far with the result that possible local-level choices are ignored. So, even though the guidelines state (p12) that it is important to look for alternatives, they limit the search to alternative routes for roads rather than suggesting that alternative ways of meeting the same needs, such as public transport, should be explored.

The consideration of alternative routes, sites, alignments, layouts, processes, designs or strategies, is the single most effective means of avoiding environmental impacts. The acceptability and credibility of EIA findings can be significantly affected by the extent to which this issue is addressed. For linear projects, such as roads and power lines, alternative routes may be the most important and effective mitigation strategy while for major infrastructure projects the intrinsic suitability of the site is the principal amelioration strategy.

Although they do not say so explicitly, the guidelines suggest that the place to examine a wider range of alternatives might be at the “plans, strategies and policies” level by carrying out a Strategic Environmental Assessment. It says (p12)

EIA is only concerned with projects. Many projects, especially in the area of public infrastructure, arise on account of plans, strategies and policies which have previously been decided upon. It is important to acknowledge that in some instances neither the applicant nor the competent authority can be realistically expected to examine options which have already been previously determined by a higher authority (such as a national plan or regional programme for infrastructure or a spatial plan).

As a result, recent EIAs do not consider whether, for example, the provision of another form of transport such as a railway would, in fact meet the transport

needs of the potential road users better than the proposed road. Studies prepared before the guidelines came out, such as that for the Kildare bypass which was published in 1993, did at least feel that they had to comment on the possibility of using other transport modes.

The two projects we consider in this report were, of course, part of the improvements to the same road. Several other EISs have been prepared for other sections of the road. The full range of alternatives should be considered in the context of the whole development, rather than the individual pieces, perhaps being constructed a decade or more apart.

Impact on communities

The introduction of the guidelines has reduced the scope of EIAs in other ways. An EIA from the same period as Kildare was to have included a "Community Impact" report by a senior planner in Dublin County Council. This was the EIA for the Northern Cross Route, a programme which consisted largely of improvements to the national primary roads radiating from Dublin, particularly the N1 and the N7, plus a partial ring motorway, the N52, around the north, west and south of Dublin. The planner's report⁴ was, however, dismissed as "rambling rubbish" and dropped from the published findings. He had pointed out (p1) that the roads proposed would increase the dominance of Dublin in the provision of central services and as a distribution centre for goods. The roads would also "facilitate the import and export of goods and make the country more dependent on both."

Outside Dublin, the planner wrote, the main beneficiaries of the roads would be long distance car users and the "more mobile and affluent groups" wanting to use Dublin's facilities rather than those in the regions. In other words, the road would change the economic environment and lead to the concentration of economic activity in the Dublin area. The losers from the project would be the providers of local and regional services and the less mobile and affluent. Small manufacturers and independent retailers would lose too while importers and chain stores would benefit. "The motorway will mean increased competition for customers between existing large centres and a reduced level of service for immobile groups." (p6)

The new roads could be expected to affect employment, too. There would be an increase in travelling to work by car and the residents of Tallaght, Clondalkin and Ballyfermot would experience more competition for jobs in their areas from people living in south Dublin and Blanchardstown. The improved ability to drive to work would also facilitate greater social polarisation as the better off moved to "exclusive", greener and more affluent areas.

Since the guideline appeared, this type of analysis has disappeared from EIAs and although cost-benefit analyses are carried out, these only look at a very restricted range of costs and benefits as is explained in Section 2 of this report. Moreover, CBAs are not readily available for public scrutiny.

Case History 1.

M7 Portlaoise – Castletown / M8 Portlaoise – Cullahill Road Scheme, the development of approximately 40km of new motorway and ancillary link roads.

A good example of an EIA carried out as specified by the current guidelines is that for the M7 Portlaoise – Castletown / M8 Portlaoise – Cullahill Road Scheme by Arup Consulting Engineers in 2002⁵. This has a “Community Impacts” section but the tone is very different to that prepared for the Northern Cross Route. In comparison with the Northern Cross study, it is relentlessly upbeat:

At a regional level, the completion of the proposed scheme will benefit communities along the existing N7 from Dublin to Limerick and along the existing N8 from Dublin to Cork. It will provide a more reliable and safer road network with increased traffic capacity. It will facilitate the more efficient movement of people and goods between Dublin/Kildare and the province of Munster. The accessibility of Dublin Airport and Dublin Port will be increased for the communities of Counties Tipperary, Limerick, Clare, Kerry and Cork. The proposed scheme will aid the expansion of the markets available for industries and services, will improve competitiveness, and will encourage economic and development opportunities. The improved road network will lead to a significant reduction in transport costs for businesses and the general public. (Vol. 3 p.7)

There is no recognition that a road runs both ways and that local businesses might suffer as a result of increased competition from elsewhere. The only adverse effects conceded in the report are that B&Bs on the existing roads might no longer enjoy the same level of business:

In the case of the towns of Mountrath, Abbeyleix and Durrow, the enhanced environment ensuing from the reduced traffic flows should make the towns more attractive places to shop and do business. For businesses in Borris in Ossory, their proximity to a proposed motorway junction places them in a favourable position to maximise the economic benefits of the motorway.

This is the total extent of the assessment the road will have on the economic environment. Under the “Material Assets” heading, the EIS devotes a lot of space to the road’s effects on the farms which will lose land or be cut in two. It takes into consideration:

- The area of land taken.
- The extent to which land is severed.
- Loss of shelter.
- Reduction in usefulness.
- Removal of farm buildings.
- Loss of animal handling facilities etc.
- The importance of the land holding or land holdings impacted to the overall farm enterprise.

Unlike the Kildare report (see below), there is no comment on the impact that the loss of the 433 hectares involved might have on the local economies, or whether particularly valuable land is being lost. “Residual impacts can only

identified once mitigation measures relating to drainage, land acquisition and loss of farming facilities have been finalised. This will be finalised by the valuer at a later stage,” the report says. (p181). This means that sustainability issues have been ignored on the basis that money transfers can make everything all right. The physical loss of the land itself does not matter provided that it is paid for. A similar approach is taken on the non-agricultural properties such as private houses affected by the project. The EIS notes that its treatment of these "does not assess the impact of the scheme on future development that may occur, unless planning permission has been granted. The study is limited to the assessment of direct impacts (i.e. where there is land-take from a property) on non-agricultural material assets.”

Although the route selection involved looking at five possible “corridors” and, when one of those had been chosen, several different paths within that corridor for the actual route, there is no mention that cost benefit analysis was used to help make the choices. At the Bord Pleanála enquiry into the road, it was stated (Inspector's Report p.169) that the decision to proceed with the road as a whole had been made by government before any cost benefit analysis had been carried out.

Overall, then, there is no worthwhile analysis of the effects that the project will have on the economic environment close to the road, as permissible in an EIA according to the guidelines, or in any other economic respect. As far as the socio-economic effects of the road are concerned, the answers to the standard questions we are using for this report are therefore:

Does the EIS cover the appropriate geographical scope (i.e. all areas affected)? The answer is clearly ‘No’ whether one is considering the immediate area around the road preferred by the guidelines or a wider area. Apart from a paragraph or two of puffery entirely devoid of any statistical underpinning, there is no discussion at all of the effects the road might have on those living close to it. Nor is there any discussion of the economic effects that the road might have on a wider area. Yet a regional road, such as this, will have regional economic effects. It is arguable that the guidelines discourage those drawing up an EIS from looking at these on the basis that these effects should be considered when developing national policy. However, the freedom to examine these effects, and to have them taken into consideration when the decision on whether or not to go ahead with the road, is important because there may well be options which were not considered during the national planning exercise, perhaps because of regional differences or because circumstances have changed since the national plan was prepared. An EIS, or a statutory Economic Impact Assessment, should therefore be required to show that all economic alternatives have been explored afresh and that the project is still the best way of achieving the overall objective the government had in mind.

Are all important issues identified in the EIS? No economic issues are identified beyond a possible loss of trade to businesses along existing roads.

Does the EIS include sufficient baseline data? Are all important baseline data quantified? Are interpretations of data correct? No. There are no baseline economic data beyond the results of a “windscreen survey” of roadside businesses.

Does the EIS predict all relevant likely impacts? No. Apart from the unsupported assertion that the road will improve safety, reduce costs, make ports and airports more accessible and encourage economic development, no impacts are predicted.

Are important impacts properly quantified? No. The few impacts mentioned are not quantified at all.

Consideration of alternative solutions. No consideration is given to the possible use of other transport modes or ways in which the need for transport could be reduced so that the road is not required. Alternative routes for the road were, apparently, considered but the pros and cons of these are not part of the EIS. In view of the stress the guidelines place on the need to present alternatives, this is a serious omission.

Case History 2

The Kildare Town Bypass, a 9.6 km motorway to take traffic on the N7 out of Kildare Town.

In 1993, Kildare County Council explored⁶ three possible routes for this road and compared the by-pass solution with two other options - “Do Nothing” and “Do the Minimum”. Considerable space is given over in the EIS to a discussion of the alternatives and to the results of a cost benefit analysis which was used as a tool to help to choose between them.

As for considering alternative transport modes, the report notes that “Government policy is geared towards investment in road transport” and points out that 96% of passenger journeys are made by road and that 90% of freight uses it. The report nevertheless mentions the fact that a commuter service was due to start on the rail link between Kildare and Dublin but states that the service “is not expected to impact significantly on the modal split between road and rail transport and accordingly will not alter the need for construction of Kildare Town By-Pass.” Air and water transport are mentioned too but were “not considered appropriate because no corresponding public policy has been enunciated for these options.”

The EIA discusses the effects the by-pass is likely to have on the types of industry and commerce in the town and the need to restrict planning consent for some of them. It also discusses effects on property values and the

demand for housing. There is a three-page section by Teagasc on the effects that the road might have on farming in the area, giving details of the 169 acres of land being lost. It points out that this was only a small fraction of the national grazing area, or 600-700 animals from the national herd and its loss did not consequently matter. This was a mistake from both an economic and a sustainability point of view. When land or any other resource such as aggregate is taken for a road or other project, it is lost to other uses forever. If an area really does have large amounts of the resource, this might not matter, but it should be borne in mind that future generations have a claim on these resources too when assessing whether it matters or not. So the EIS should have looked instead at the proportion of similar land in the Kildare area was being lost and discussed what effect this would have on the local economy. Moreover, the approach that “there’s plenty of similar land elsewhere” is also an insufficient analysis because the land lost to a particular road is only part of the losses occurring all the time as a result of other road projects and other types of development.

Six pages in the EIS are given over to consideration of the effects of the road on the Irish National Stud, as the road passes close to it and would take some of its land. Overall, the EIS takes a reasonably thorough look at the effects that the road might have on Kildare Town and, by carefully choosing its route, how its construction can become an asset (by providing a natural limit to the southward spread of the town and in other ways) to the community.

Are all important issues identified in the EIS? Apart from sustainability issues, which were much less pressing in 1993 than they are today, most of the key issues were discussed.

Does the EIS include sufficient baseline data? Are all important baseline data quantified? Are interpretations of data correct? No. Very little economic baseline data are given.

Does the EIS predict all relevant likely impacts? It does not predict but discusses most impacts

Are important impacts properly quantified? No. The impacts mentioned are not quantified at all.

Consideration of alternative solutions. Within the limited framework of the construction of a single by-pass on a single trunk road, the options were thoroughly explored.

Conclusions and Recommendations

Although only two road project EIAs have been discussed here, several more were reviewed during the research for this paper. As a result, it seems safe to say 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. Moreover, the cost-benefit analyses are very limited in scope, as will be discussed in Part 2.

In order to reverse this trend, it is recommended that:

1. An Economic Impact Assessment should be prepared for every major public project, and for every major private project requiring planning approval. Economic 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 Economic IS by breaking a project, such as the re- construction of a major road, into smaller parts. The factors to be assessed in an Economic IA are discussed in Section 3.
2. 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.

¹ *Guidelines on the information to be contained in Environmental Impact Statements*, EPA, March 2002, <http://www.epa.ie/NewsCentre/ReportsPublications/Guidance/FileUpload,124,en.pdf>

² *Advice Notes on Current Practice (in the preparation of Environmental Impact Statements)*, EPA, September, 2003, <http://www.epa.ie/NewsCentre/ReportsPublications/Guidance/FileUpload,125,en.pdf>

³ NRA. July, 1998

⁴ Unpublished mimeo.

⁵ Laois County Council, 2003. Downloadable from <http://www.m7m8scheme.ie/eis/contents-volume1.asp>

⁶ Kildare Town Bypass, Environmental Impact Study, Kildare County Council, 1993.