

ANGUS COUNCIL**ROADS COMMITTEE****15 OCTOBER 1998****STRATEGIC REVIEW OF THE TRUNK ROAD PROGRAMME
IN SCOTLAND - SCOTTISH OFFICE CONSULTATION DOCUMENT****REPORT BY THE DIRECTOR OF ROADS****ABSTRACT**

This Report summarises the main points of the recently issued Scottish Office Consultation Paper - "Strategic Review of the Trunk Road Programme in Scotland - The Appraisal of Trunk Road Investment" and recommends a suitable response from Angus Council.

1 RECOMMENDATIONS

It is recommended that the Committee agree:-

- (i) to note the contents of the Scottish Office Consultation Paper - "Strategic Review of the Trunk Road Programme in Scotland - The Appraisal of Trunk Road Investment";
- (ii) to note that the Scottish Office have invited comments on the proposals set out in the Paper and have requested that these should be submitted on or before 16 October 1998;
- (iii) that the draft response shown in Appendix 4 be approved and forwarded to the Scottish Office on behalf of Angus Council.

2 INTRODUCTION

With the publication of the UK and Scottish White Papers "A New Deal for Transport : Better for Everyone" and "Travel Choices for Scotland - The Scottish Integrated Transport White Paper" which put forward a framework for a new national integrated transport policy and strategy (Report No 878/98 - Roads Committee 27 August 1998) the Scottish Office intimated their intention to consult on the framework which would be used in prioritising and selecting trunk road schemes. This commitment has now been fulfilled with the distribution of a Consultation Paper on the Appraisal of Trunk Road Investment issued under cover of a letter dated 20 August 1998 (See Appendix 1).

A copy of the Consultation Paper is available for reference in the Members' Lounge, The Cross, Forfar.

The Consultation Paper has been distributed to a wide range of organisations and individuals with an interest in transport issues in Scotland and as part of this process the Scottish Office have invited comments from Angus Council and requested that these be returned on or before 16 October 1998.

3 DETAILS

The purpose of the Consultation Paper is to set out proposals for the development of an appraisal system for future investment in Scotland's trunk road network. An Executive Summary of the Paper is attached to this report (Appendix 2).

Views have been invited on all of the proposals set out in the Paper. These are:-

- the proposed use of **Route Profiles** in the identification of transport problems and the development of solutions
- the **sub criteria and indicators** proposed for each of the Government's 5 criteria:
 - **economy**
 - **integration**
 - **safety**
 - **environmental impact**
 - **accessibility**
- the proposals for incorporating into the approach **summary assessments** of interactions and impacts, at sub-criterion level and using a scaling approach, where the assessment of a sub-criterion relies wholly or partially on qualitative, rather than quantitative, assessment, and
- the development of the approach required to allow it to be applied in a **cross modal** fashion

Until now the Scottish Office procedures for appraising and prioritising trunk road improvement schemes have been based on three separate assessments: operational, economic and environmental.

The operational assessment aims to ensure that the scheme will meet appropriate design criteria in future years, for example to ensure that junction capacities and road link capacities are designed to cope with the predicted traffic flows.

The economic assessment uses cost-benefit techniques to assess the economic case for proposed trunk road schemes. Cost-benefit analysis is an economic appraisal method which assesses projects from society's point of view. This means that it needs to take account of all the main costs and benefits of a scheme. The Scottish Office generally uses a computerised cost-benefit model known as NESAs (Network Evaluation from Surveys and Assignments) for this purpose.

Environmental assessments are not based on monetary values but are quantified through environmental impact studies.

The proposed new method of scheme appraisal put forward in the consultation paper extends the factors on which appraisals will be based to take account of five criteria:

- economy
- integration
- safety
- environmental impacts
- accessibility

These five main criteria are further sub-divided into sub-criteria, some of which can be assessed in monetary terms and some of which cannot (eg the impact of a road scheme on a sensitive landscape). For those sub-criteria which cannot be assessed in monetary terms it is proposed where possible to use a *quantitative* assessment based on indicators which can be physically measured (eg the number of properties which will experience increased noise levels). For other sub-criteria which cannot be physically quantified, a *qualitative* and necessarily subjective assessment is proposed based on a seven point scale with the following points on it:

- large negative
- moderate negative
- slight negative
- neutral
- slight positive
- moderate positive
- large positive

It is emphasised that this process is not intended to yield “scores” which might then be added together to determine an overall ranking. The intention is simply to assist the decision maker by providing a rough scaling of potentially complex qualitative material.

A summary of the proposed interactions, criteria and sub-criteria is shown in Appendix 3. The factors for which a qualitative assessment based on the seven point scale will be applied are marked with an asterisk.

In order to comply with the requirement to return comments on the Consultation Paper by 16 October 1998 the Director of Roads has prepared a draft response on behalf of Angus Council (Appendix 4) and it is proposed that this response be sent to the Scottish Office with the Committee’s approval.

4 FINANCIAL IMPLICATIONS

There are no financial implications for Angus Council given the separate funding arrangements for trunk road improvements via the Scottish Office, the Secretary of State for Scotland being the Roads Authority for Trunk Roads and Motorways in Scotland.



198 105 24 -8 147

Alexander Watson Esq
Chief Executive
Angus Council

20 August 1998

Dear Sir

**STRATEGIC REVIEW OF THE TRUNK ROAD PROGRAMME IN SCOTLAND:
CONSULTATION PAPER ON THE APPRAISAL OF TRUNK ROAD
INVESTMENT**

Last month the Government published UK and Scottish White Papers setting out plans for a future transport strategy. These papers are built upon the principles of sustainability and integration. The aim is that transport policies will work together, and with other policies, in pursuit of a higher quality of life through the objectives of achieving a strong economy, a clean environment and an inclusive society.

The strategic review of the Scottish trunk road programme forms an important part of the work involved in implementing the new transport strategy. Its aim is to consider the role of the trunk road network within an integrated transport strategy. Key to this are the factors which the Government should take into account in deciding upon its priorities for trunk road investment. The Government proposes to use 5 criteria in the appraisal of transport schemes. These are:

- economy;
- integration;
- safety;
- environmental impact; and
- accessibility.

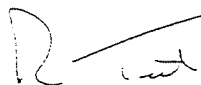
The Government wishes to see greater openness and transparency in the process of prioritising transport initiatives, in general, and trunk road schemes in particular. That is why it announced in the Scottish Integrated Transport White Paper *Travel Choices for Scotland* that it proposed to consult on the framework which would be used to apply these 5 criteria in the selection of trunk road schemes. I attach 3 copies of the consultation paper which has been prepared to fulfil that commitment. I would be grateful if you would pass one copy each to your chief transportation and chief land use planning officials, as they are likely to have a particular interest in this issue. In the case of the planning interest, we are aware that some authorities are involved with other councils in joint structure planning arrangements. We have not sent copies of the consultation paper to joint structure planning committees/teams etc but, if your Council participates in such joint arrangements, you may wish to discuss your response with the other council(s) involved.

The consultation paper is being distributed to a wide range of organisations and individuals with an interest in transport issues in Scotland. The paper is, inevitably, fairly technical in nature but a non-technical executive summary has been provided at the front of the document. Chapter 2 summarises the issues on which views are being sought and I very much hope that you will contribute your thoughts on this important subject. As noted in the paper, responses should be sent to:

Mr Stuart Johnston
The Scottish Office Development Department
Transport Division 1
Area 2-D
Victoria Quay
EDINBURGH
EH6 6QQ
(e-mail: stuart.johnston@so005.scotoff.gov.uk)

and should arrive on or before **Friday 16 October 1998**.

Yours faithfully



R TAIT
Transport Division 1

EXECUTIVE SUMMARY

The purpose of this consultation document is to set out proposals on the development of an appraisal system for future investment in Scotland's trunk road network. Against a background of increasing traffic volumes and the Government's commitment to sustainable development, it is important that money spent on Scotland's roads provides best value and reflects the Government's commitment to an integrated transport strategy. The appraisal system should therefore be transparent and objective, allowing the merits of investment proposals on the trunk road network to be assessed against the criteria of safety, economy, environmental impact, accessibility and integration.

Much of this document deals with the technical details of putting such a system together and is therefore primarily aimed at those with some familiarity with infrastructure assessment and appraisal techniques. However we also welcome views from members of the public and some background on general appraisal techniques is provided within this document.

An important starting point for any appraisal process is an understanding of the problems which investment in infrastructure might address. A key information source in this regard is provided by the "route profiles" which The Scottish Office has commissioned as part of the strategic review. As explained in Chapter 4 of the paper, these cover the entire trunk road network and bring together a wide range of information which allows an assessment of travel conditions along the route and identification of problems

The appraisal system proposed in this document combines elements of conventional cost-benefit analysis and a matrix or impact statement approach. A key challenge of the appraisal approach is that it should provide an objective means by which all factors can be duly taken into account in reaching investment decisions. This process is hindered by a lack of a common unit of measurement which can be used to compare all effects of any road scheme. Furthermore, certain impacts of road schemes may not be quantifiable, for example the impact of a new road on the landscape. The document explores how best such non-quantifiable/non monetary effects can feed into the decision making process and proposes a model which disaggregates the criteria into a number of specific impacts or sub-criteria. The sub-criteria provide indicators against which the effect of any road scheme can be gauged in either monetised, quantified or qualitative terms.

The model also recognises that a truly integrated approach should take account of the interactions between transport and other policy areas, including land use planning, local economic development and social inclusion. The paper suggests ways in which these interactions might be taken into account in the appraisal process. The paper shows how all of this information on effects and interactions might be tabulated to provide the decision maker with all relevant information in a summarised, accessible and transparent form. The proposed approach, incorporating appraisal criteria and sub-criteria and policy interactions, is summarised, in tabular form, on pages 27 and 28 of the paper.

The approach set out in this paper has been designed primarily for the purpose of appraising trunk road investment. In the longer term the intention is that the appraisal system should be developed so that it can be applied in a cross modal fashion consistent with an integrated

transport strategy. This is an ambitious proposition which will require further development of the appraisal approach and this document seeks views on this issue.

Given the competing interests surrounding the issue of road building, it is unlikely that the finalised system will meet with universal approval. We are committed, however, to developing an appraisal system which is sustainable, integrated and transparent and your comments will be welcomed in this context.

To facilitate the consultation process, the specific issues this document invites comments on are listed in Chapter 2 and shown in bold type throughout the text.

TABLE 5.4 APPRAISAL SUMMARY TABLE

Scheme Name	Option (where more than one has been developed)	Capital Cost £m
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Problem	Description of the problem which the scheme aims to address, drawing on route profile information.
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INTEGRATION - POLICY INTERACTIONS

POLICY AREA	INDICATOR	MEASURE
Integrated transport*	Promotion of an integrated approach to transport	Qualitative - assessment of the extent to which the option would promote an integrated approach to transport.
Land use planning*	Consistency with local and structure plans and national planning policy	Qualitative - assessment of the extent to which the option is consistent with relevant local and structure plan and national planning policy.
Social inclusion*	Impact on social inclusion	Qualitative - assessment of the extent to which the option supports efforts to promote social inclusion.
Local economic development*	Impact on local economic development	Qualitative - assessment of whether option has potential benefits or disbenefits in efforts to promote local economic development.

APPRAISAL CRITERIA

CRITERIA	SUB-CRITERIA	INDICATOR	MEASURE
ECONOMIC IMPACTS	Journey time	time savings	Quantitative - discounted value of time saved over 30 years (£)
	Reliability*	level of service - peak	Qualitative - whether option would change level of service from categories D - F to categories A-C.
	Vehicle operating costs	level of service - between peak savings	Qualitative - whether option would change level of service from categories D - F to categories A-C.
SAFETY		accident reduction: benefits	Quantitative - discounted value of savings over 30 years (£)
			Quantitative - discounted value of accident reduction benefits over 30 years (£)

SUMMARY OF MONETISED MEASURES (ie journey time, vehicle operating costs and safety)	Present value of costs (£) Present value of benefits (£) Net Present Value (£) Benefit:cost ratio
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TABLE 5.4 APPRAISAL SUMMARY TABLE

CRITERIA	SUB-CRITERIA	INDICATOR	MEASURE	
ENVIRONMENT	Noise & vibration	noise levels in decibels	Quantitative - number of properties experiencing increased noise Quantitative - number of properties experiencing decreased noise	
	Air Quality	carbon dioxide	Quantitative - increase or decrease in mass per km	
		PM10	Quantitative - increase or decrease in concentration (micrograms per cubic metre)	
		/Nitrogen dioxide	Quantitative - increase or decrease in concentration (parts per billion)	
	Water Quality & Drainage*	Hydrological designations	Quantitative and qualitative - number/value of watercourses and overall impact on the water environment (+ve or -ve)	
	Landscape	Geology*	Quantitative and qualitative - number/value of sites experiencing impacts (+ve or -ve)	
		Ecology*	Quantitative and qualitative - number/value of sites experiencing impacts (+ve or -ve)	
		Visual Intrusion*	Quantitative and qualitative - number/value of properties and significant viewpoints experiencing visual impact (+ve or -ve)	
	ACCESSIBILITY		Agricultural Land Classification*	Quantitative and qualitative - number/value of sites experiencing impacts (+ve or -ve)
			Heritage and landscape*	Quantitative and qualitative - number/value of sites experiencing impacts (+ve or -ve)
		Pedestrians and cyclists*	Landscape Impacts Summary*	Assessment of appropriateness of options by assessment of their impacts on landscape character (all physical, cultural and aesthetic factors)
			Community severance effects of option	Qualitative - assessment of the extent to which option benefits or disadvantages pedestrians and cyclists
Public transport*	Community severance*	Qualitative - assessment of the extent to which option increases or reduces community severance		
	Public transport*	Impact on public transport	Qualitative - assessment of the extent to which option will lead to an improvement or deterioration in access to public transport	

* - interactions, sub-criteria and indicators for which a summary assessment might be appropriate (see paragraphs 5.69 - 5.72)

Draft Response to the Scottish Office

RWM/DT1.1

Mr Stuart Johnston
The Scottish Office Development Department
Transport Division 1
Area 2-D
Victoria Quay
Edinburgh EH6 6QQ

Dear Sir

**Strategic Review of the Trunk Road Programme in Scotland:
Consultation Paper on the Appraisal of Trunk Road Investment**

Thank you for the opportunity to comment on the Consultation Paper "Strategic Review of the Trunk Road Programme in Scotland" (R Tait's letter of 20 August 1998 refers).

As you are aware the only part of the trunk road network lying within Angus is the section of the A90 between Powrie Brae and North Water Bridge which is now improved to dual carriageway standard over its whole length including by-passes of Forfar and Brechin. However, you will also be aware of the ongoing deliberations between the Council and the Scottish Office for the urgent need for grade-separated junctions at the A90/A94 (Glamis) junction and the A90/A926 (Kirriemuir) junction. I would offer the following comments on what I feel are fundamental issues which I hope will be taken into account.

Before considering the detail of the consultation paper I must question the need for such a comprehensive and resource intensive appraisal methodology for the assessment of improvements to the trunk road network in Scotland. With the virtual completion of the road building programme which has shaped the trunk road and motorway network over the last 30 to 40 years and in the light of the White Paper - Travel Choices for Scotland, the need for further major trunk road improvements must be limited. The emphasis must now be on road safety, the promotion of public transport, the more efficient movement of freight, the reduction in car use and the maintenance of the existing network. The proposed appraisal system still seems to be strongly geared towards the provision of new network elements rather than on the effectiveness and maintenance and possible improvements of the existing network.

Nor does it address the increasing imbalance in investment and preservation of asset value between trunk roads and local authority maintained public roads. Ideally there should be a

common appraisal system which would allow direct comparison of investment options between trunk and local authority road schemes. Obviously such a system would have to take into account the strategic importance of trunk roads but this is only one factor among many. Unfortunately the appraisal system proposed depends heavily on background data which has been amassed for the trunk road network but which in most instances due to significant costs involved has not been gathered for local authority roads to the same extent due to the more limited resources available to local councils for road maintenance and management. It should however be possible to devise a simplified appraisal system which could be applied to both trunk road and local road schemes. This of course raises wider issues regarding (a) the separate funding arrangements for trunk roads and local roads and the increasing imbalance in the level of investment between the two, and (b) the division of responsibility for roads management in Scotland and whether the present “two-tier” arrangements can be sustained in the pursuance of Best Value. If it is still deemed necessary to retain a separate roads authority for the Core Network or the Premium Units, then consideration should be given to the transfer of “non-core” trunk roads or the all-purpose units to local authority control. This would reflect the recent changes south of the border where non-strategic trunk roads have been handed back to local roads authorities.

Turning to the details of the Consultation Paper, I welcome the move away from a basic cost-benefit approach towards allowing other factors to be taken into account. However I am concerned that it has not been considered possible to equate quantitative / qualitative criteria and monetary based criteria. This could be achieved by a weighted scoring system similar to the cost/quality models which have been developed for the evaluation of competitive tenders. While the assessment of qualitative criteria will inevitably be subjective to a certain extent, the proposed seven point scale should assist in obtaining a consistency of approach.

The indicators used to assess “ integration” appear to be a crude afterthought to test the compliance of a proposed improvement scheme with the new integrated transport philosophy. An assessment of the extent to which an option is consistent with relevant local and structure plans and national planning policy at the scheme appraisal stage, while desirable as an explicit test, should be unnecessary if an integrated approach towards land use planning and transport planning has been adopted throughout the development stages of the project. Consistency with the Structure Plan should not be a “last minute” check but should have been an integral part of the process throughout the development of the scheme. Again I would suggest that this commonality of purpose would be facilitated by transferring control of trunk roads to the local councils who are both planning and roads authorities.

The proposed appraisal criteria for Economic Impacts and Safety are now well established. There is some concern however that the outputs from NESA are sensitive to the range of input values and other parameters(e.g traffic growth factors) which can be used to generate cost-benefit information. This can lead to large variances in best / worst case scenarios and a tendency to adopt parameters which give results which reinforce the preferred option. There is also a danger that additional weight is given to the sub-criteria which can be quantified in monetary terms simply because these outputs appear to be more objective and “scientific” and also because the decisions regarding investment in roads infrastructure are often ultimately constrained by cost factors.

The proposed sub-criteria and indicators for Environmental factors appear somewhat random particularly in relation to the “landscape” sub-criteria. For example the heritage indicator (as further developed in paragraph 5.57) appears to omit archaeological sites including scheduled

ancient monuments. I also note that the only impact measured on land use (positive or negative) rather than “landscape” appears to be confined to agricultural land classification.

The sub-criteria for Accessibility should perhaps be further sub-divided to show a specific sub-criterion to assess the impact on vulnerable road users. These issues are covered in paras. 5.63 and 5.66 of the Consultation Paper but a separate sub-criterion for vulnerable road users would allow additional weight to be given to schemes which, for example, benefited people with a mobility disadvantage or promoted the Safer Routes to School policy.

The indicator and measures proposed for the sub-criterion on public transport address only access to existing public transport facilities. There is no mechanism to allow comparison of a proposed road improvement with alternative road-based public transport solutions which might offer better cost-benefits for problems relating to for example congestion, road capacity etc. Again it would appear that the Consultation Paper does not go far enough towards delivering the objectives of the White Paper.

The proposed use of Route Profiles would appear to offer a useful tool to aid strategic decision making for new trunk road improvements. I would suggest that route profiles might also be developed and adapted to assist in prioritising maintenance programmes and that more information on the maintenance history of a route might be useful and relevant to the scheme appraisal process. The Route Profile is based on the background data available to the Scottish Office for the trunk road network. The application of this technique would therefore not be possible to the same extent on local authority roads (for the reasons discussed above) and would therefore not allow direct comparisons between local roads and trunk roads in needs assessment.

With regard to the intention to develop the proposed appraisal system so that it can be applied in a cross-modal fashion, I have highlighted above the difficulties I foresee in applying the system even to local authority roads to allow direct comparisons of investment options. While certain elements of the system are generic and could be usefully applied to any appraisal system, so much of it is roads specific (and even trunk road specific) that I suspect there would be considerable difficulty in applying it to other modes (e.g. rail investment) without a great deal of further work.

I hope you will find these comments to be constructive and helpful. In summary I would wish to emphasise again:

- the need for the investment in trunk road improvements to tie in more closely with land use planning
- the desirability of using a system which could also be applied universally to all roads/transport possibilities including local authority roads
- the suggestion that a weighted scoring system should be considered to allow a combined monetary/qualitative/quantitative criteria/ indicator model to be developed.
- the need for a more radical approach to allow the assessment of alternative public transport solutions where appropriate.

If you have any queries regarding this response please contact me on 01307 473276.

Yours sincerely

Dr Bob McLellan
Director of Roads

RMcN/EDJ
30 September 1998
REPORTS/review.trunk.app4