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Helen Silver
First Assistant Commissioner
Productivity Commission
LB2 Collins St East
Melbourne Victoria 8003

Dear Ms Silver

RE: PRODUCTIVITY COMMISSION INQUIRY INTO ECOLOGICALLY
SUSTAINABLE DEVELOPMENT (ESD) BY COMMONWEALTH
DEPARTMENTS AND AGENCIES

Pleased find attached a submission from Western Australia's Minister for Transport
Murray Criddle MLC. It arrived too late for input into the State's submission.

Yours sincerely

Patricia Patton
Principal Policy Officer
Federal Affairs
23 November, 1998

ATTACHMENT 1

Productivity Commission Inquiry into Ecological Sustainable Development

Introduction

This paper identifies and argues the need for change for a number of policies and practices of Commonwealth departments and agencies that will lead to more sustainable travel behaviour.

This paper is divided into four sections with each section assessed against the following rationale for change. The sections are:

1. Taxation incentives for vehicle use by employees

2. Incentives to use public transport and cycle and telework.

Recommendations

1. To remove the incentive for long distance discretionary travel it is recommended that the following fringe benefit statutory ranges be abolished:

2. 25,000 to 40,000 km pa 11%
3. Over 40,000 km pa 7%

And replaced by an "Over 15,000 km pa" - 20%.

2. Public transport fares/passes provided by employers be exempt from fringe benefits tax. Possible options for public transport include an annual pass with the employer contributing to all or in part of the cost.

3. Provision of van pools and bicycles for employees to commute in/on be exempt from fringe benefits tax.

4. The cost of provision of showers and bicycle facilities in office blocks be tax deductable.

Rationale for Sustainable Travel Behaviour

The rationale for sustainable travel behaviour is contained in two transport public policy documents released by the Western Australian Government:

· State Transport Policy

· Metropolitan Transport Strategy.

The focus adopted in this paper is on urban passenger travel, which is considered by many as being the most discretionary of all travel. As such, the paper talks about travel rather than transport, as transport results from the need to travel.

State Transport Policy

The State Transport Policy sets the current government's directions for transport in Western Australia, and more specifically the Perth metropolitan region. The central theme is "the need to find a balance between meeting the growing demand for car travel and promoting other more efficient and sustainable transport modes" (page 14). Included in this minimising the need for personal travel through the use of telecommunications.

Metropolitan Transport Strategy.

The Metropolitan Transport Strategy (MTS) is more detailed than the State Transport Policy. The MTS specifically sets a number targets for Perth's in 2029. The relevant targets for this paper are:

1. The car occupancy target is to increase car occupancy from 1.21 in 1991 to 1.25 by the year 2029 (the trend is to an occupancy rate of 1.13 by 2029).

2. The trip length target for personal trips is to reduce the average trip length from 8.4 km in 1991 to 7.2 km in 2029 (the trend is to 10.7 km in 2029).

3. The mode share targets are shown in the following diagram. The diagram clearly illustrates how current trends (demand satisfaction) for the usage of various modes of transport in 2029 differ from the desired MTS mode share targets for the same year, including the redistribution of car driver only trips across the preferred modes.

The rationale for these targets is to achieve economic, social and environmental goals in a more sustainable way than the current trend of rapidly increasing car trips.

Taxation Incentives for Vehicle Use by Employees

State Policy/Metropolitan Transport Strategy

In recent times many employees have be given the opportunity to obtain a novated lease for a motor vehicle as part of their salary packaging. Under such an arrangement, employees are able to have all costs associated with running the vehicle exempt from income tax (eg insurance, registration).

Fringe benefits tax does apply, however it is geared such that the more the vehicle is used, the less tax is paid. For example, a salary packaging information paper provided to Transport staff recently stated in bold type:

"For those employees or their families that travel long distances, the statutory method for calculating FBT is particularly attractive".

The level of attractiveness increases the further the vehicle travels in a year compared to employee ownership of the car and this is outlined by the shaded area in the following graph.

See graph on page 3

A person driving less than 15,000 km per year who includes a car in a salary package pays more than someone who provides the same car them self. Above 15000km the position is reversed and the gap progressively increases. The salary package approach only provides a benefit to someone who drives in excess of 15,000 km per year.

By comparison, the average distance travelled per motor vehicle in 1991 was around 14,000 km. The salary package (or more specifically the fringe benefits tax legislation) only rewards those who drive cars further than average for the community.

Once part of the salary package, a driver is given further incentive to travel further (see shaded area on the graph below) as the incremental cost of additional travel is very low and in particular circumstances can be negative.

See graph on page 4

The benefit provided to employees is contradictory to the trip length targets in the MTS and arguably penalises public transport, van pooling and car pooling for these longer journeys (cycling and walking are more relevant for short journeys).

Benefit to the employer.

The attractiveness of novated leases for employees is based not on their productivity or contribution to their employer but on their individual circumstance.

One benefit would be greater flexibility if staff are asked to work after normal hours, assuming they use public transport. It may be cheaper to provide staff paid taxi fares when this occurs. Evidence from employers who have used Guaranteed Ride Home scheme for car pooling programs shows that this occurs to a minor extent only. It should also be remembered that public transport users may still use a motor vehicle for part of their journey (park' and ride).

[1]RACV in Melbourne, Victoria.

Arguably another benefit for employers is that it allows organisations to provide a financial benefit to employees at no cost to the organisation. This will be attractive to those organisations who have difficulty providing relatively good productivity based salary increases.

Equity

The attractiveness of the novated lease to the employee is based on an individual's choice of where they chose to live. Employees who live close to their employment (ie in an inner suburb) have smaller overall trip distances. The 1986 Perth Travel survey provides for a comparison of car driver trips between inner, middle and outer suburbs[2.]

Trips	Inner suburb		Middle suburb		Outer suburb
Journey to work trip	8.4 km	10.2 km	13.0 km
All trips	6.5 km	7.6 km	8.9 km
Daily weekday distance travelled	23 km	27 km	32 km
Annual journey to work distance	11,600 km	14,000 km	17,900 km

The equity issue is that the benefits of novated lease are worthwhile to a number of employees due to their circumstance. To those employees where there is no benefit, no alternative benefit is provided.

The following is an excerpt from the United Kingdom Government's recent White Paper on Integrated Transport that responds to the company car issue on the context of taxation pricing signals and sustainable transport.

[2] It is likely that the distance travelled has only changed for middle and outer suburbs. A travel survey of South Perth residents in 1996 and compared with the 1986 survey for the same area shows that the overall distance travelled by people on workdays has not changed (ie 26km). There is evidence that walking trips have been replaced by car trips.

Company cars

Company cars account for almost 20% of car mileage and over half of new cars are first registered in a company name. Company policy on the purchase and use of company car fleets is therefore important for the environment. Company cars are generally much newer and better maintained than the average private car and therefore less polluting per unit of fuel consumed. However, they tend to have larger engine sizes than the average private car and as they account for a high proportion of the new vehicle fleet, they contribute to higher overall average fuel consumption both directly and through their influence on the stock of cars in the second

hand market. Around 1.65 million company cars are available for private use. These drivers also tend to drive significantly further to and from work and those who receive free fuel drive further still.

We recognise that some drivers have to use a car because of the nature of their work. However, the existing system for taxing company cars has been criticised as providing a perverse incentive to drive further in order to reach the business mileage thresholds which attract significant reductions in the tax liability. In the March 1998 Budget, the **Chancellor announced that he would be considering the case for replacing the existing business mileage discounts with discounts for driving fewer private miles in company cars,** *and invited people to send comments to the Inland Revenue. So far, a wide range of organisations and individuals have responded.*

The current tax system for employees who receive free fuel from their employers for private use (about half of all company car drivers) has given them little incentive to reduce their private mileage, as the employee pays the same amount of tax whatever the amount of private mileage driven. It is important to send consistent messages about the need to reduce unnecessary journeys and improve fuel efficiency. **We therefore announced in the March 1998 Budget that we will increase the scale charges for employees provided with free fuel for private use by 20% each year over and above normal increases up to** *2002/3* **to discourage employers from providing free fuel.**

Reference: "A New Deal for Transport - Better for Everyone", The Government's White Paper on the Future of Transport

Transport will undertake an assessment of company car use relative to private car use when travel survey information is available in 1999. The extent of difference in car use for private use will be identified for an Australian city.

To remove the incentive for long distance discretionary travel it is recommended that the following fringe benefit statutory ranges be abolished:

1. 25,O00 to 40,000 km pa 11%

2. Over 40,000 km pa 7%

And replaced by an "Over 15,000 km pa" - 20%.

Taxation Disincentives to use Public Transport, Cycle and Telecommute

State Transport Policy, Metropolitan Transport Strategy

The Metropolitan Transport Strategy targets clearly outlines the need to increase the use of public transport, cycling and teleaccess, of which telecommuting is a part. There are no tax incentives to encourage these modes when compared to car use.

To redress this balance, the following measures are advocated:

1. Public transport fares/passes provided by employers be exempt from fringe benefits tax. . Possible options for public transport include an annual pass with the employer contributing to all or in part of the cost.

2. Provision of van pools and bicycles for employees to commute in/on be exempt from fringe benefits tax.

3. Provision of showers and bicycle facilities in office blocks be tax deductable.

These measures are currently not provided by employers (except shower facilities in some instances) and as such there is no foregone tax, other than fuel excise if cars are used less.

Provision of taxation incentives for telecommuting is not clear at this stage. Purchase of computers, modems, etc for business purposes is a business expense. Barriers to increased telecommuting are likely to be more management attitudes, the nature of the work and the attitudes and situation of employees.

Benefit to Employer

Public transport and cycling provide less tangible benefits to the employer in the form of lower stressed and healthier workers, which in turn leads to higher productivity and less absenteeism. Studies have shown that telecommuting also provides higher productivity benefits to employers.

ATTACHMENT 2

Productivity Commission Inquiry into Ecologically Sustainable Development by Commonwealth Departments and Agencies

The following information relates to the implementation of ecologically sustainable development (ESD) principles by the Motor Vehicle Environment Committee (MVEC). I have responded to the majority of the questions in the Issues Paper under their respective headings.

Recommendations

Transport WA supports the development of a joint work program for the National Environment Protection Council Committee and the National Road Transport Commission under the governance of MVEC, as it is recognises the need for a reduction of impacts from motor vehicles on the environment.

The MVEC Strategic Plan will provide a framework to achieve the objective of increasing the development of more ecologically sustainable transportation systems through improved technology and behaviour. The current focus of MVEC favours technical solutions and it is recommended that further input be made to develop non-technical or behavioural processes to reduce the environmental impact of Australia's motor vehicle fleet. It is recommended, however, that the implementation of such strategies should be at the discretion of State Government agencies

Background information

The National Road Transport Commission (NRTC) and the National Environment Protection Council (NEPC) are the key bodies for the recommendation of environmental standards for motor vehicles. MVEC was established, under a Memorandum of Understanding between the NRTC and the NEPC, to coordinate the joint NRTC and NEPC work program.

The MVEC Strategic Plan is currently being developed to guide the strategic direction of both the NEPC and NRTC's future efforts to manage impacts on the environment from motor vehicles. The Strategy will outline the direction and priorities for MVEC for the next three years, based on community expectations regarding management of impacts and the cost effective evaluation of projects.

The key objective of MVEC, as stated in the draft Strategic Plan, is to minimise the impact of motor vehicles on the environment by ensuring continual improvement in vehicle technologies, and by promoting appropriate measures to reduce transport demand and traffic congestion.

Projects currently being undertaken by MVEC include a review of exhaust and evaporative emissions standards (ADRs 36/00, 37/01, 30/00 and 70/00); the

development of a diesel emissions National Environment Protection Measure; the assessment of fuel characteristics; the evaluation and research of emissions inspection programs; review of noise standards (ADRs 28/01, 39/00 and 56/00); the introduction of fuel consumption labelling; and the

improvement of general fuel consumption. MVEC involvement in these projects ranges from direct management and responsibility by members of MVEC, to providing input as a body representing key stakeholders.

MVEC has also proposed further investigation in the areas of traffic management; ozone and particulate forecast measures; the identification of methods to reduce greenhouse gas emissions from vehicles; and the investigation of options for the management of waste stream effects.

Intergovernmental Coordination on the environment MVEC consists of members from Federal and State Government, including NRTC, NEPSC, Commonwealth Department of Environment, SA and Victorian EPA, FORS, Transport WA, and NSW RTA. The structure of the committee and the diverse representation provides an effective chain of communication that allows coordination of tasks between Commonwealth and State Governments.

The MVEC Strategic Plan, when finalised, will provide a framework to develop joint work program proposals for consideration by the NEPC Committee and the NRTC. The projects outlined above are consistent with MVEC's objective and comply with MVEC's obligation to develop proposals for the management of environmental impacts resulting from motor vehicles.

It is considered that MVEC is an appropriate forum for the development of improvements in vehicle design standards and modification to the Australian Design Rules, as these issues should be considered in a national context. These and other technical solutions will benefit the environment in terms of both local air quality and global air quality or the enhanced greenhouse effect.

MVEC also aims to develop non-technical approaches to reduce the environmental impact of Australia's motor vehicle fleet, however, it is recommended that the implementation of such strategies should be at the discretion of State Government agencies. Non-technical solutions will aid in the improvement of local air quality and reduce greenhouse gas emissions, largely through changes in behaviour within the community.

In summation, technical solutions are best developed and coordinated at the federal level, whereas the development and implementation of non-technical solutions may be more effective at the state level.

Commonwealth environment administration

The majority of projects currently undertaken by MVEC propose technical solutions to manage the environmental impacts of motor vehicles. In order to increase the commitment to ecologically sustainable development, MVEC should aim to investigate more non-technical solutions. Non-technical solutions are the only solutions that will modify community behaviour towards more ecologically sustainable development, as

technical solutions do not raise the awareness of the ecological consequences of motor vehicle use.

Mechanisms for incorporating ESD principles into government decision making

The key objective of MVEC is to minimise the impact of motor vehicles on the environment by ensuring continual improvement in vehicle technologies, and by promoting appropriate measures to reduce transport demand and traffic congestion. This objective aims to increase the development of more ecologically sustainable transportation systems through improved technology and behaviour. Consequently, the principles of ESD are entrenched in the actions and projects undertaken by MVEC and will remain the focus of the development of future actions and projects.

Mechanisms for monitoring, evaluating and reporting ESD outcomes

MVEC is committed to monitor and evaluate the implementation of each action undertaken, however, there is no mechanism currently in place for the reporting of specific ESD outcomes. If the NSESD has specific criteria for the assessment of ESD outcomes, it is recommended that these be submitted to MVEC for consideration when designing evaluation and reporting methodology.

The development of the Strategic Plan allowed the identification of environmental issues related to motor vehicles. As previously stated, the principles of ESD are intrinsic to the aim of MVEC and consequently favourable ESD outcomes will be achieved through implementation of MVEC's projects.

Increasing the focus on outcomes and outputs

As MVEC is a relatively new committee, very few of their actions have been implemented to a great extent. It is noted, however, that MVEC should maintain a focus on the outcomes of each action, ensuring modification to programs where necessary.

I am unaware of the funding arrangements for MVEC and am therefore not qualified to comment on their budget process.

ATTACHMENT 3

Mr P D'Costa
Transport Policy Coordination
Department of Transport
PO Box 7272
Cloisters Square
PERTH WA 6850

Dear Mr D'Costa

ATTACHMENT 3

MAIN ROADS
Western Australia

Don Aitken Centre
Waterloo Crescent
PO Box 6202
EAST PERTH WA 6892

Telephone: (08) 9323 4111 Facsimile: (08) 9323 4430 m (08)93118430

I refer to your memo of September 30 1998 requesting comment for inclusion in the Minister for Transport's submission to the Productivity Commission Inquiry into Ecologically Sustainable Development by Commonwealth Departments and Agencies.

At a State level, Main Roads has been involved in various discussions on the subject of ecologically sustainable development (ESD), with organisations such as ARRB Transport Research and Austroads. In 1994 Main Roads implemented an ESD awareness training program for day labour staff, but this was not continued due to changes in Main Roads' role and the move **towards works being contracted out and managed** rather than being undertaken directly.

In May 1997 the Austroads ESD Management Group issued a plain English paper on ESD titled 'Where To Now", a copy of which is attached for your information.

Main Roads has undertaken a survey of personnel on environmental attitudes and knowledge. This work was done early in 1998 and the survey instrument was based on a Department of Environmental Protection model. A summary of the survey results is also attached. It was planned to follow up this survey with ESD awareness education for Main Roads' personnel.

Implementation of ESD in all of Government decision making will require legislative backing and needs to first come from the Commonwealth so that it can then be effectively embraced by State Government agencies. At the project level, Main Roads

aims to mitigate environmental impacts where possible and uses ESD principles to achieve this. However, for broader planning decisions, ESD is only one of a number of factors considered in the overall decision making process.

I trust that this information will be of assistance in preparation of the Minister's submission on this matter. I you have any further queries, you would be welcome to contact the Acting project Officer, Mr Ed Nieman, on telephone 9323 4184.

Yours sincerely

Ross Drabble
COMMISSIONER OF MAIN ROADS

AWARENESS of THE NATURAL ENVIRONMENT SURVEY RESULTS

An Environmental Awareness survey was e-mailed to 200 Main Roads employees at the end of February 1998. The 200 employees had been selected at random and the return of the surveys was done in an anonymous manner. After a period of two weeks and two reminder messages, a total of 107 (54%) completed surveys had been received.

The survey questions could be broken into the following sections:
- 30 knowledge questions 1 to 30
- 12 attitude questions 31 to 42
- 5 verbal commitment 43 to 47
- 4 actual commitments 48 to 51
- 2 motivation questions 51 & 52

The survey questions were basically those used in a survey by the Department of Environmental Protection and kindly supplied to Main Roads by Jennifer Anderton.

KNOWLEDGE RESULTS (questions 1 to 30)

The mean of 21.6 indicates that on average 72% of the answers were correct.

Environmental Awareness Survey Results (knowledge questions)

See diagram on 2nd page of Attachment 3

The five questions receiving the least number of correct answers were:

3. In which season is Photochemical smog most likely to occur in Perth? a) spring b) summer

(only 31% respondents selected "summer") c) autumn d) winter e) unsure

16. **What is the main type of** pollution in Western Australian oceans? a) heavy metals b) pesticides c) petroleum products d) excessive nutrients

(only 34% respondents selected "excessive nutrients") e) unsure

15. Rubbish such as plastic bottles, paper and plastic bags is found in the Swan

River. What is the main source of this rubbish? a) **boats that use the** river b) rubbish dropped in streets which washes into drains

(only 35% respondents selected "rubbish dropped in streets ...")** c) people throwing rubbish into the river d) rubbish carried by the wind e) unsure

5. The brown mist which can sometimes be seen covering the Perth skyline in winter is caused by lots of fine particles suspended in the air. What is this called? a) smog b) fog c) acid rain d) haze

(only 37% respondents selected "haze") e) unsure

4. Nitrogen oxides (NOx) are the main gases that from photochemical smog. What is the main source of NOx in Perth? a) wood heaters b) motor vehicles

(only 47% respondents selected "motor vehicles") c) industrial sources d) electrical power plants e) unsure

Questions which were answered <u>well</u> (85% or more answered correctly) were:

85% for: 19. Wheatbelt has a salinity problem

86% for: 27. Pollutants poured down sink can effect water supplies
87% for: 30. Public transport supports Ecologically Sustainable Development (ESD)
88% for: 28. The meaning of "biodiversity"
90% for: 8. The best ways to save water in the garden
91% for: 10. In agricultural areas rising wafer tables cause salinity
93% for: 17. Decrease in sea grass causes decrease in animals that feed on it
95% for: 24. Preserve natural environment to protect natural flora and fauna
97% for: 21. Small WA native animals have decreased due to feral animals
98% for: 7. Restrictions reduce water consumption

98% for: 23. Set aside and protect natural ecosystems to conserve the natural environment

ATTITUDE RESULTS (questions 31 to 42)

The attitude results were summarised into the categories of "sympathetic to nature" "unsure" and "unsympathetic to nature". The overall averages were:

Sympathetic to Nature Unsure Unsympathetic to Nature

77%   7%   16%

The attitudes as reflected in each of the statements and arranged from <u>least</u> sympathetic to the <u>most</u> sympathetic statements are as follows:

38. Industrial growth is necessary to maintain our economy.

Sympathetic to Nature Unsure

30%   21 %

Unsympathetic to Nature
49%

40. Humans have the right to modify the natural environment to suit their needs.
Sympathetic to Nature Unsure Unsympathetic to Nature

49% 15%   36%

41. Plants and animals exist to be used by humans.

Sympathetic to Nature Unsure Unsympathetic to Nature

72% 6%   22%

35. We are approaching the limit of the number of people the earth can support.
Sympathetic to Nature Unsure Unsympathetic to Nature
61% 21% 18%

42. Humans don't need to adapt to the natural environment because they can shape it to **suit their needs.**

Sympathetic to Nature Unsure Unsympathetic to Nature

80%   5% 15%

37. There are limits to how much our industrialised society can expand.

Sympathetic to Nature Unsure Unsympathetic to Nature

79% 8% 13%

32. When humans interfere with nature it often produces disastrous consequences.

Sympathetic to Nature Unsure Unsympathetic to Nature

87%   1%   12%

36. The earth has limited room and resources.

Sympathetic to Nature Unsure   Unsympathetic to Nature
86% 4%   10%

31. The balance of nature is very delicate and easily upset.

Sympathetic to Nature Unsure Unsympathetic to Nature

93% 1% 6%

39. People must learn to respect nature as nature has the right to exist in its own right.

Sympathetic to Nature Unsure

    93%   3%

34. Humans are abusing the environment.

Sympathetic to Nature Unsure

    94%   2%

Unsympathetic to Nature
4%

Unsympathetic to Nature
4%

33. Humans must live in harmony with nature in order to survive.

Sympathetic to Nature Unsure

    94%   4%

Unsympathetic to Nature
2%

SUMMARY: The attitudes of the respondents show that economic considerations weigh heavily on their judgements and there is difficulty in reconciling the economic growth paradigm with the preservation of the natural environment.

VERBAL COMMITMENT RESULTS (questions 43 to 47)

A similar averaging process was used for the verbal commitment questions as that which was used for the attitude questions on the previous section. The results were:

Sympathetic to Nature Unsure

    59%   1 9%

Unsympathetic to Nature
22%

SUMMARY: As was observed in the Department of Environmental Protection study, attitudes tend to be more positive towards the environment in a general situation than in a situation where the person imagines their own life is directly affected.

ACTUAL COMMITMENT (questions 48 to 51)

A summary of how often the respondents said they actually did the four positive environmental behaviours is given below:

Regular Sometimes Never

      51%   40%   9%

SUMMARY: Positive actual environmental behaviour can sometimes be difficult because good or even any alternatives simply may not exist. This is best illustrated in the case of purchasing products in recycled containers. Having made this point, it

just adds to the difficulty of translating correct environmental sentiments into positive environmental actions.

MOTIVATION RESULTS (QUESTIONS 51 TO 52)

The following percentages were obtained for questions 52 and 53. The results are ranked from high to low:

52. If you ever do these things (48-51), is it because: (you may mark more

       than one answer)
       b) you want to   87%
       d) you think you should   68%
       c) it saves money   52%
       a) you are told to   11%
       e) don's know   1%

53. Who initiates environmental action in your family? (you may mark more

       than one answer)
       d) you 76%
       a) mum   36%
       e) children   27%
       b) dad 26%
       f) no one   8%
       c) siblings (brothers/sisters)   7%

SUMMARY: The highest percentages of respondents participate in environmental activities, it seems, because of emotional needs such as feeling good about what they are doing. Closely associated with "wanting to" is "thinking they should" which indicates they are doing the activity because it is also socially acceptable. It was a good indication that 52% of the respondents are motivated by the connection between saving money and being friendly to the environment.

Because the return of the surveys was voluntary, it is not surprising that in the respondents' families it is they who initiate a lot of the environmental activities. As with the Department of Environmental Protection study, the mother is more often the initiator of environmental activities than the father. One could speculate this might be due to the fact that the mother is "expected u to handle the particular home activity.

ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD)

'WHERE TO NOW'

FOR ROAD AND TRANSPORT AGENCIES

A Plain English paper
prepared by
Austroads' ESD Management Group
for consideration by
road and transport agency
Chief Executives

EXECUTIVE SUMMARY

Aim

This Discussion Paper for the Chief Executives of Austroads' Council aims to clarify the issues involved in ESD, and explains why and how ESD directly impacts on their decisions and actions, and how agencies can operate within the ESD framework.

Background

Austroads' Council established the ESD Management Group (the Group) to provide road and transport agencies with advice on 'managing' ESD issues and to recommend a broad policy framework for fostering a consistent approach. The Group's inaugural meeting was in October 1996.

At Austroads Council's request, the Group has prepared this Plain English Paper on ESD—to foster discussion and feedback, and as an input into Austroads' 1997 strategic planning round.

Comment

Road and transport agency Chief Executives:

1. Are major players in influencing intregrated transport planning and transport management and in moving the community towards an important ESD sub-set— i.e. Environmentally Sustainable Transport (EST).

2. Have a significant if indirect role in influencing the community in the broader ESD objectives, in developing the overall planning including land use agenda, and in influencing the broad debate on the form, pattern and pace of development.

3. Need a clear understanding of ESD & EST to meet government objectives and agency accountabilities.

4. Have a key leadership role within their agency to cultivate amongst staff a genuine culture progression so that ESD principles guide their thinking and actions.

THIS PAPER:

A. Defines ESD and associated concepts, and indicates how it should operate as the framework of principles for decisions & actions.

B. **Suggests how** road and transport agencies may work within the ESD framework and foster the necessary culture change amongst staff.

C. Suggests areas for further research (please contact any ESD Group representative[2] re feedback on these areas, or the Paper generally).

Austroads ESD Management Group May 1997

[1]Council has, in general terms, discussed how to ensure that agencies' decision-making and actions accord with ESD principles.
[2] Tab A shows Group membership.

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ECOLOGICALLY SUSTAINABLE
DEVELOPMENT (ESD)

'WHERE TO NOW'

FOR ROAD AND TRANSPORT
AGENCIES

1.0 Background

Austroads' Strategic Plan (1994) recognises ESD as a critical strategic issue, and

Austroads ' ESD Strategy (1995) requires Austroads to ensure that programs and

projects are focussed on outcomes which will progress ESD objectives.

Austroads' ESD Management Group (Tab A details membership) was established

in **late 1996 by Austroads'** Council to:

1. Ensure that *Austroads ' ESD Strategy is* well-integrated into Austroads' strategic planning.

2. Provide road agencies with advice on 'managing' ESD issues.

3. Recommend a broad policy framework for fostering a consistent approach by road agencies.

4. Progress ESD principles in road agency work.

5. Foster a culture change amongst staff—to help them understand ESD and their role in progressing its principles.

6. Develop a decision-making mechanism to balance competing economic, social and environmental claims.

7. Help develop performance indicators of road agency/road system progress towards ESD outcomes, and evaluate results.

8. Influence the wider debate about 'sustainable development'.

1.1 What ESD means

Commonwealth Government definition	**" development that improves the quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends"**
Australian National ESD Strategy (1992)	**"..using, conserving and enhancing the community's resources so that the ecological processes on which life depends are maintained, and the total quality of life now and in the future, can be increased."**
Brundtland (Dutch) definition[3]	**"meeting the needs of the present without compromising the ability of future generations to meet their own needs"**

Note: 'Sustainable development' is the original term used for ESD, and is still widely used overseas, but was considered in Australia to place too much emphasis on economic and social factors—so the *ecological* aspect was added to bring balance and indicate the environment's right to exist **regardless of its use to mankind.**

Ecologically Sustainable Development (ESD)
· involves more than:
   · a conservation ethic
   · satisfying market demand for transport at the lowest possible environmental, social and economic cost
- is about integrating environmental, social (including safety, equity, lifestyle and accessibility) and economic factors into decision-making and taking a holistic and long-term approach, with an eye to future generations' needs and to the planet's ultimate viability
- should involve objective and subjective analysis and consideration of how we do what we do, and whether we can do things differently and better
- involves opportunities to change the pattern of human development
- requires community and across government commitment, understanding and co-operation
- affects us all (individuals, communities, businesses) not just road and transport agencies—although obviously these are this Paper's focus.

Whilst road and transport agencies may have to strive towards ESD in a context of financial stringency, as noted in *Austroads ESD Strategy* **ESD imposes no new overall costs for the community**—it is just that we presently bear the environmental and social costs of our actions without them always being formally acknowledged and fully costed.

[3] Originally from the Brundtland Report *Our Common Future* (commissioned by the UN World Commission on Environment & Development. Repeated in Dutch (NVWB) Paper, *Further Development of Economic Evaluation Methods & Models, p. 1.*

ESD is not a complex concept, but its practical application and implications are complex and challenging.

1.2 What Environmentally Sustainable Transport (EST) means

Environmentally Sustainable Transport (EST) is a sub-set of ESD, focussing on the transport-related aspects of the broader ESD picture. It means that transport infrastructure and related services and systems are provided and managed in a way that accords with the principles of ecologically sustainable development.

The EST emphasis is on planning for accessibility to goods and services rather than around the movement of vehicles, and on decision-making which then minimises negative environmental and social consequences.

However, 'EST' is less likely to reflect the other types of planning which can contribute to ESD (e.g. sustainable land use planning, pricing policy as a tool to reduce environmental damage), and this is why, in broader contexts, it is preferable to use the term 'ESD'.

ESD is the goal, and Austroads' members can and will take actions within their area of control to progress toward that overall goal; but, by limiting the scope of issues which road and transport agencies directly affect and are held accountable for, they are able to concentrate, within the 'bigger picture' context, on what is achievable.[4] They can **keep their eye on the mountain** (ESD), **while taking the first achievable steps towards it** (EST).

[4] As outlined below (1.9—Coordinated Planning and Integrated Transport), however, agencies must actively consult, cooperate and coordinate with other planning and policy agencies to achieve EST in the broader sustainable development context.

1.3 Taking the Broader View

It is in the interests of road and transport agencies to develop and foster decision making that facilitates this broader ESD view, so that:

- consideration is given to the consequences of an agency's every action
- decision making processes effectively integrate long, medium and short-term environmental, social and economic considerations—so that ESD is integrated into an agency's decision-making
- decisions at all stages in the transport management process are taken with the broadest picture in mind, rather than projects, considerations and issues being locked exclusively into 'social', 'environmental', 'road safety' or 'economic' pigeon holes—Tab C categorises current Austroads' projects under these headings within the broader ESD framework[5]
- strategic environmental assessment is a fundamental process in the initial stages of decision-making, and the Environmental Impact Assessment process never becomes a substitute for agency or across-government strategic planning
- attention and resources are given to facilitating across-government cooperation in decision-making and translating policy into action.

As underlined in this Paper:
1. In the ESD context, all generations are key stakeholders.
2. ESD is broader-based decision-making about environmental assets—using full life cycle costing, i.e. adding up the entire cost of a proposal (including maintenance costs and longer-term environmental and social 'costs') over its lifetime.

It will be a priority of road and transport agencies to ensure that their decision-making reflects these crucial points, and to finesse life cycle costing as a key tool.

Also, their decision-making should take place within the broader framework offered by key national policy settings such as the National ESD Strategy (NSESD), the Intergovernmental Agreement on the Environment (IGAE) and the National Greenhouse Response.

1.4 Taking the Longer View

For Government including road and transport agencies to constantly evaluate the pros and cons of proposed actions, full life-cycle costing needs to be developed and applied. This includes evaluating which transport type or relevant material uses the least resources including energy, and involves the least environmental, social and economic impact over time.

It is acknowledged that this is no easy task, and will sometimes involve educated guesswork. There is clearly room for improvement, however.

[5] It is important to note, as indicated at Tab C, that the current Austroads' project mix includes the full gamut of program types, with a notable concentration on 'economic'-related ones.

Ideally, we should approach life cycle costing not merely from the narrower perspective of road and transport agencies, but from the perspective of total costs to the community and the environment. As suggested below (1.12—*Research),* tools to help us achieve this should be a research priority.

Resource case analysis involves techniques for life cycle analysis and for materials flow analysis[6] which will help us assess the true costs over time, and make decisions based on a more realistic assessment of the proposed action's pros and cons.

Our financial reporting and across government decision-making also need to be sophisticated enough to be able to accommodate the longer-term view and broader 'community good' perspective.

Finally, because we cannot accurately predict future environmental change, and the capacity of our planet and ourselves as humans to cope with it[7]:
1. Any ESD Strategy, including Austroads', should be constantly reviewed to keep it up-to-date, relevant and able to meet future needs.
2. We should be mindful of the 'precautionary principle' described below.

1.5 The Precautionary Principle

The Precautionary Principle is about taking precautionary steps to anticipate, prevent or minimise the causes of environmental damage and mitigate their effects.

We cannot decide whether a risk can be afforded unless we have a good idea what it is. Also, with every situation, there will be competing risks that need to be balanced.[8] If one risk isn't taken, another possibly greater environmental risk might arise.[9] This is why:
1. It helps to have as much information as possible about potential outcomes.
2. The Precautionary Principle is a guiding principle rather than a set-in-concrete rule.

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[6] Materials flow analysis looks at the natural and man-made inputs, how they impact on each other, the natural environment and environmental amenity—an example would be comparative analysis of the life-cycle energy impact of different road making materials.

[7] 'Wild cards' include:
the rate of environmental deterioration
the rate of growth in our knowledge of various types
the impact of technological developments
the impact of new environmental protection or management techniques
what environmental damage may become 'reversible' in the future the preferences of future generations (e.g. whether they will value relatively 'fresh air' above their mobility).

[8] For example, the use of diesel engines reduces Greenhouse emissions, but increases emissions of fine particles.

[9] For example, not introducing biological or other control of a pest species (e.g. feral rabbits) might unduly contribute to Land Degradation and the ultimate loss of native species. Alternatively, introducing a biological control agent into the field could risk a plague which itself contributes to environmental degradation, e.g. the loss of native species and habitat due to the cane toad plague.

The Precautionary Principle then has two sides.

1. **'Don't do it!'**—if we do not know the environmental risks of a policy or project, and therefore cannot properly evaluate whether to proceed with it. [10]

2. Not knowing everything about the potential environmental impacts of a recommended remedial treatment, however, should not be used as an excuse to indefinitely postpone such treatment. " So, even if the hard research information isn't available to prove a causal effect, it shouldn't stop agencies from taking actions to avoid/minimise environmental damage, e.g. to reduce pollution impacts or to avert Land Degradation or species' extinction.

In some cases, a **'No Regrets' Option** may be available—i.e. it may be possible to resolve an environmental problem and obtain a net benefit for society as well. [12]

As outlined in this Paper, it is in the interest of Austroads' member agencies to:
1.Cultivate an environmental culture in which staff and contractors are encouraged to assess the environmental impacts of their activities and identify the most environmentally appropriate solutions.

2 Help develop means to balance competing **environmental** claims, as well as competing environmental, social and economic claims.

[10]An example of road agencies practising the Precautionary Principle would be researching the leaching potential of lead compounds in bitumen and road-marking paint before deciding whether to allow such compounds in these products.

[11]A good example concerns the Greenhouse Effect and stratospheric ozone depletion. There appeared to be a link, and there were ideas about what it was and how it worked, but research was unable to prove a causal effect—because the systems are too complex to establish a simple cause and effect relationship. Some national governments exploited this lack of certainty to delay action, but, as environmentalists emphasised, by the time definitive proof was available, it could be too late.

[12] An example is that action to fight the Greenhouse Effect by developing more fuel efficient cars also offers both social and economic benefits. The availability of such a tidy solution is not, however, a pre-requisite for applying the precautionary principle.

1.6 Transport's environmental impacts

Transport and the infrastructure provided to support it has ongoing consequential environmental and social impacts on:

Land use   Emissions[13]

Disruptions[14]   Health, Ecosystems and Life cycles[15]

We need to acknowledge all such impacts, and make them explicit—so that we can weigh up the environmental, social and economic pros and cons of proposed actions long before we take them.

When we start looking at life cycle impacts, we are starting to develop tools to address intergenerational equity—which means taking into account the needs of future generations. For this, we need tools for:

- life cycle costing
- whole of proposal costing[16]
- materials flow analysis.

It is a simplistic and head in the sand approach to argue, as some do, that because transport infrastructure can, at least in theory, be removed, it has limited impact on sustainability.

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[13] Emissions are strongly related to energy consumption, and, as outlined in Tab B *(Research Topics)* we need more research about reducing energy use, whilst minimising 'economic' impacts. Road and transport agencies have an important role to play in cultivating a shift towards more 'environmentally friendly' fuels; and special attention should be given to urban areas including air pollution 'sinks'. With respect to emissions, Austroads needs to maintain a watching brief on the National Greenhouse Response Strategy to positively influence the debate and ensure consistency of approach.

[14] Disruptions include:
- infrastructure impacts on habitat and, potentially, on biodiversity
- physical hindrance (e.g. blocking passage, obscuring views)
- the impact of traffic noise, vibration and odours.

[15] This involves the impacts of disruptions, air pollution, noise etc on human, faunal, floral and ecosystem health and on life cycles.

[16] This means all the costs associated with the proposal, including environmental and social costs which might normally be overlooked.

1.7 'Valuing' the Environment

A key aspect of ESD is acknowledging that the environment is neither infinite nor free, and that environmental services and impacts should be included in the economic decision-making process.

It is necessary to understand the environmental costs, but in some cases their environmental value may not be able to be quantified. Applying a pseudo valuation in such cases is not realistic. In such cases, it may only be possible to take the environmental value to a sensible limit and then calculate a monetary value, but this may reduce the validity and acceptability of the economic assessment by applying a monetary value that is not widely accepted as a genuine value.

Whilst it may be simplistic, difficult or even impossible to calculate an environmental value (for example, to put a price on the survival/loss of a rare eagle or its habitat), it is in the interests of road and transport agencies to: acknowledge that the environment (including fuel) is a finite resource at least try to put a 'value' on the environmental 'assets' we use and the environmental impact we cause—until we develop more sophisticated tools, this will sometimes be expressed as a monetary value acknowledge that our unrestrained use of environmental resources robs future generations of environmental assets—and that we should try to minimise such negative impacts, and 'compensate' for those that cannot be avoided.[17]

Although it will never be easy to compare environmental and social values with economic values, relevant tools are being developed here and overseas, and Austroads would welcome input and feedback on relevant best practice.

1.8 Economic Evaluation

As suggested above, placing a value on environmental assets and on accessibility will never be easy or value free, and the dollar value may not necessarily be the true value.

Individual States/Territories are making progress, however, towards economic evaluation of environmental impacts, and these evaluation tools should be universally adaptable.

Part of the ESD Management Group's brief is to develop decision-making mechanisms to balance competing economic, social and environmental claims. As a first step, we should research best practice in developing a set of consistent criteria by which to 'value' environmental assets and accessibility.

As outlined below (2.0—*Conclusion),* we need information and comment about relevant best practice in developing such criteria and economic evaluation tools.

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[17] This does not necessarily mean financial compensation to future generations—such a focus would deny the environment's right to exist regardless of its use to mankind. The 'compensation' might involve, for example, establishing a new fauna and flora reserve to offset land take for the road reserve.

For example, this will help ensure that the potential full cost of pollution is fully **reflected at the project** planning stage where alternative solutions are considered.

In the absence of consistent and universally recognised/accepted means of 'valuing' environmental assets and impacts and of apportioning environmental costs, however, we will 'struggle on' with limited and often outdated tools, including the **polluter pays principle**—which involves taxing or fining polluters for the 'hidden' costs (or 'externalities') of their polluting the environment.[18]

It is in the interests of road and transport agencies to ensure that all costs, in economic terms, are fully reflected in project proposals so the projects have a greater likelihood of being accepted by the community.

While we continue to use a form of polluter pays tax, we should ensure that it involves an adequate penalty to discourage poor behaviour and to encourage a more 'sustainable' approach. **Ideally, Government should develop means of avoiding pollution at source, rather than taxing it afterwards.**

1.9 Coordinated Planning and Integrated Transport

Transport Planning should not be separated from other forward planning, particularly from Environmental Planning, Land-use Planning, and Urban and Regional Planning.

Also, sustainable road transport cannot be seen separately from other transport modes.

We need greater effort and coordination to:
1. Integrate Urban and Regional and Transport Planning.
2. Identify and compare the true costs of different transport types.
3. Better locate/design all transport infrastructure.
4. Reduce energy consumption, and increase the proportion of 'environmentally friendly' fuels used.
5. Develop and maintain appropriate transport corridors as habitat for flora and fauna, and, where possible, link road and rail reserves as 'extended' habitat.

To achieve this, we must foster better communication and joint action between policy, planning and service delivery agencies (including local councils) with environmental responsibilities, and between these and various Transport bodies (including road agencies, Public Transport providers, transport coordinating authorities and, where appropriate, peak industry groups).

We also need to foster partnerships with other sectors.

[18] A more refined scheme for 'internalising' pollution 'externalities' is the pollution credits methods widely used in the U.S, where 'credits' ('licences to pollute') are traded on the open market, but less are available each year.

Each Austroads' member agency should consider how it can foster such links in an effort to progress coordinated planning and integrated transport.

1.10 Being a Good Corporate Citizen

Road agencies aren't the primary polluters. They manage the road system, and respond to transport demand.

However, they have certain responsibilities for some of the road system/s'negative environmental and social consequences, including types of pollution, resource consumption, amenity, and habitat loss.

To demonstrate that they are good corporate citizens in the environmental and social senses, road and transport agencies must move away from the traditional role as 'passive' managers of the environmental impacts of the roads & traffic system. They must be more actively involved in planning for both accessibility (with its social and economic value) and for integrated transport (with its reduced and/or minimised environmental impacts).

To demonstrate their environmental credentials, road and transport agencies need to develop and implement the following types of environmental initiatives:
1. The strategic and 'bigger picture' type.
2. The 'housekeeping' or 'in-house' management type[19].

An agency's Environmental Management System (EMS) and training of staff in ESD principles and EMS tools/techniques are invaluable and involve both strategic and housekeeping elements.

[19] Examples of good environmental 'housekeeping' include:
- an in-house 'Green **Office' strategy**
- teleworking and carpooling initiatives
- staff mobility which minimises corporate car use
- contract reform requiring our contractors to provide sound environmental management of projects
- greenhouse inventories of our own and contractors' activities.

1.11 Integrating ESD into Management Processes

To be a practical concept, ESD must become an ethic in the cultural change process, and to do this agencies should initially concentrate on 'climate setting' (i.e. getting the organisation's cultural climate right) and ensuring that our staff have the necessary skills.[20]

Fostering this culture change means more than providing environmental awareness 'training'—because that term implies that environmental awareness is a mere add-on. The ESD culture change must be led from the top, but the commitment to change must come from all staff.

What is needed is an appreciation and acceptance that ESD requires us to change our outlook and how we do things, combined with an understanding that this change will not necessarily always involve major and difficult steps.

We should aim to cultivate in our staff, including senior management:
1. An understanding that:
- ESD is a guiding principle and an encompassing change process
- ESD principles must be integrated into our work and all our work practices.
2. An ability to think laterally and use initiative in ensuring that development is 'sustainable', rather than merely complying with minimum criteria.
3. Accountability for their relevant decision-making and actions

Austroads ESD Strategy (1998-2000) will need to emphasise how to 'upskill' our own people about ESD and what part they will play in implementing their agency's Environmental Management System/s and in progressing ESD/EST. **Getting the message to contractors is important too.**[21]

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[20] The Austroads' ESD Group has discussed the benefits of member agencies cultivating such an internal culture shift. Efforts to ensure that staff have the necessary skills should:
- not overlook those:
  - most likely to have existing knowledge of ESD—these are the staff most likely to develop strategies, policies and projects integrating the ESD concept, and it is particularly important that they understand the broader concept of which EST is a sub-set
  - who work in the field, and will ultimately apply the strategies and policies incorporating ESD objectives—it is crucial that these staff and contractors understand the concept and their 'duty of care'
- be packaged/delivered in an innovative, relevant, interactive and Plain English way—so that staff are never left wondering about the relevance of all this to them.

[21] We should ensure that contractors used by our agencies adequately upskill their own people with respect to the ESD and due diligence concepts and to the contractor's and road agency's environmental responsibilities. We cannot rely on our setting an example for this to happen. It could be a contract requirement that the contractor provide some environmental training, although preferably more sophisticated than 'school-room' type training. **Contract reform** is, therefore, important to achieving our environmental aims.

Also, Local Government has an important roads-related role and is a key player in determining land use. In developing material to upskill their own staff end contractors, road and transport agencies should co-operate closely with Local Government, and ensure that relevant Local Government staff understand the meaning and importance of ESD, and how to co-operatively progress ESD objectives relating to transport.

We should also examine how to foster culture change by identifying and publicising relevant 'good practice' and 'best practice' by road and other agencies, by Local Government, and by private sector corporations.

Changing the values and practices of managers and staff is never easy, but Chief Executives have a key leadership role to play in this climate setting. This will include helping staff to understand that their evaluation of issues and projects must go beyond technical assessment—that their judgements should take in the broader picture (crossing portfolios and communities) and the longer term (crossing generations).

Demonstrating commitment and cultivating the necessary culture shift is also critical for each agency's senior management team.

1.12 Research

Austroads ESD Strategy requires Austroads to orient Research & Development (R&D) along ESD lines.

Austroads' members can benefit from a cooperative approach in determining research priorities, conducting/evaluating relevant research, and 'sharing the results'.

There are two research groups relevant to ESD and requiring particular attention:
1. Assessment of impact—for which better tools are needed.
2. Evaluation of beliefs and values.

As well as technical-type research (e.g. into checking vehicle emissions or reducing them 'at source'), therefore, research is also needed into:
- incorporating ESD/EST into road agencies' planning/work
- best practice Environmental Management Systems, and tailoring them to meet an agency's needs developing prioritised actions towards ESD/EST
- developing/applying environmental performance indicators and Sustainability Evaluation Criteria
- understanding community beliefs values and reasonable concerns
- how to change community attitudes to help progress ESD objectives.

Tab B lists a broad range of areas: relevant to progressing ESD objectives; in which agency performance could be improved; and which have the potential for further research or implementation of research.

2.0 Conclusion what road and transport agencies should be working towards and what is needed

ESD might sometimes seem an unachievable goal, but, until we know *exactly* where we should be going, road agencies can work to the more definable strategic objective of **No Net Loss** of environmental amenity.

This means acting in a way that does not worsen existing problems. If, after weighing up the environmental, social and economic pros and cons of an option, the decision is taken to proceed, despite environmental consequences, then some compensating action should be taken—so that the overall impact does not lead to a worsening of the environmental situation.[22]

Obviously, road and transport agencies do not fully control developments concerning land use and roads. Given Local Government's roads-related role, and its influence on land use policy and environmental amenity, road and transport agencies should co-operate closely with Local Government and with State-level planning agencies, to cultivate an across-government approach to **the No Net Loss** objective, and to ensure co-operative action.

Towards this end, road and transport agencies need to know what environmental resources exist **in the system,** including alongside roads managed by Local Government. Road and transport agencies need to develop inventories of environmental assets—which, whilst they may not, for example, involve counting **every tree,** provide some broad and educated estimates. These estimates would offer a starting point for tracking change and for measuring environmental performance, e.g. in the provision of 'quality' green space in the roadside corridor—whether this be landscaped rest stops, or quality habitat for fauna.

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[22] Examples would include:
- if an overall increase in the road reserve's land take-up cannot be avoided, compensatory improvements be provided, e.g. wildlife refuge areas, or better interconnections between environmentally significant and habitat rich areas—to extend the habitat, or improvements to roadside quality (in Biodiversity terms) elsewhere;
- if there is an increase in the proportion of new (non-recycled) materials used in one aspect of road building/maintenance, a compensatory increase in the use of recycled materials in another aspect be ensured, so that, for road building/maintenance, the overall use of non-renewable resources stays stable if not improves.

Each member agency can also develop their own Environmental Vision, Strategy and EMS, and to contribute towards any Intregrated Transport Strategy for their State/Territory. They might also opt for an ESD Action Plan, and for various environmental strategies, policies, plans and procedures.[23]

At the cultural change level, a three stage process is involved:
1. Acceptance that change is necessary.
2. The necessary change in beliefs, values and how we work (as outlined in 1.11).
3. A broader and more sophisticated evaluation of issues, crossing portfolios and communities and, ~n ~e longer-term, generations.

It is important that Chief Executives signal their personal commitment to and support for the change process as well as the ESD principles and objectives which this process will progress.

Austroads can advise member agencies of relevant overseas practice, developments and experience in moving towards ESD and EST, in justifying projects and expenditure against specific ESD objectives, and about relevant 'best practice', including in areas listed in Tab B.

For Austroads' ESD Management Group to be able to deliver on its brief, the Group welcomes:

- **your or your agency's comment about 'how we get there'**
- **your sharing with us and our other members any non-commercial technological advances with potential to produce significant environmentally positive results (e.g. advances in using recycled materials in road base), as well as 'best practice' strategic thinking to progress ESD objectives, and examples of best practice environmental 'housekeeping'.**

[23] Concerning for example: Community Consultation re Environmental and Social Impacts Roadside Quality Maintenance Vehicle Emissions Traffic Noise Use of Recycled Materials Water Quality Guidelines Greenhouse inventories.

MEMBERSHIP OF AUSTROADS'

ESD MANAGEMENT GROUP

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[24] Peter Taylor represents the Australian Local Government Association which is a full member of Austroads.

Areas with Potential for Improvement in Agency Performance
Potential Research Areas

1. **Community Beliefs and Behaviour and Public Education**—researching perceptions of environmental issues and risks, how best and most cost effectively to educate the public about the environmental and social costs of road use, and how to change behaviour to promote or produce more sustainable outcomes, particularly re travel patterns, transport choice and driver behaviour

2.**Community Involvement**—ensuring that the community is fully and properly involved in relevant planning and decision-making

3. **Environmental & ESD Awareness Programs**—ensuring that staff & contractors understand the ESD concept and their role in sound environmental management

4. **Urban & Regional Planning—establishing Strategic** Transport studies, and ensuring that road agencies or their transport coordination representatives are adequately involved in urban and regional planning forums

5. **Environmental Impact Assessment** (EIA)—improving the EIA process, and standardising EIA as an ESD tool

6. **Strategic Environmental Assessment**—developing tools to assess how Policies, Plans & Programs impact upon different sectors (e.g. transport, waste disposal, energy), regional & local environmental plans, and, indirectly, on other fields (e.g. science/technology, fiscal, justice)

7.**Life Cycle and Whole of Proposal Costing**—developing tools for life cycle costing and whole of proposal costing

8. **Resource Case Analysis**—developing techniques for life cycle and materials flow analysis

9. **Cumulative Impact Assessment**—developing tools to assess the 'carrying capacity' and 'limits of acceptable change' of ecosystems, catchments etc (using databases and predictive tools including models)

10. **Travel Demand Management**—reducing barriers to investment in R & D of alternative transport types, reducing car travel demand and promoting more environmentally friendly options including walking, cycling, teleworking, Public Transport use, carpooling and higher vehicle occupancy rates, favouring 'high value' trips (e.g. commuter mini-buses) and discouraging disincentives for 'low value' trips (e.g. single occupancy commuting by car), encouraging Public

Transport use by making it more user-friendly (e.g. roads with bus priority lanes/signals, Integrated Transport ticketing and convenient/safe Public Transport terminals), and testing demand management measures

11. Road Design—designing roads to reduce 'land take up', noise impacts and wash-offof lead, asbestos, oil and grease etc, and to minimise risk to wildlife and damage to or restriction of habitat

12. **Vehicle Design**—encouraging the development and use of less polluting (including noisy) vehicles, and of recyclable vehicle components

13. **Transport Modelling**—developing techniques to help predict future trends and the impacts of transport options

14. **Energy Efficiency in Road Construction & Maintenance ('Green Highways')**—developing ways of recording energy use, minimising use of non-renewable energy sources during construction & maintenance, identifying the relative value of actions to improve energy efficiency of own/contracted fleet/plant; ensuring that plant equipment is well maintained, keeping **inventories of material** use by which to evaluate performance on reducing non-renewable resource use

15. **Reduced Construction Impacts**—reducing environmental impacts during construction (including soil erosion, particle pollution from construction sites, disturbance to fauna & habitat, energy use), protecting as much pre-existing native vegetation as possible during construction, and ensuring optimum siting and post-use restoration of gravel pits, works depots etc

16. **More Environmentally Friendly Fuels and Reduced Emissions**— developing more energy efficient and less polluting fuels, vehicle treatments to reduce emissions, and traffic treatments (including Coordinated Traffic Signalling and 'Hot Spot' Treatments) to reduce urban congestion and emissions

17. **Fuel Use Reduction**—fostering improved vehicle design to reduce fuel use, identifying the relative value of actions to improve vehicle energy efficiency, developing and conducting community education about reducing fuel consumption (including by Alternative Transport Use, better vehicle maintenance, driving technique, and labelling of new cars to show their fuel consumption rates)

18. **Air Quality Strategy**—researching vehicle design issues, developing procedures for reporting/testing polluting vehicles and for random inspection of vehicles for pollution control equipment, developing **Emission Control strategies** (including Motor Vehicle Maintenance Programs) and procedures for assessments, identifying areas that exceed public health guidelines, developing procedures & strategies for addressing such hot spots, and encouraging adoption of vehicle/traffic treatments to reduce emissions

19. **Traffic Noise Mitigation**—developing/applying noise mitigation treatments (housing treatments, noise barriers, innovative traffic calming measures, etc), and reducing construction noise impacts

20. **Biological Diversity, including Roadside Quality Maintenance**—developing guidelines to define ecological quality and to recognise ecologically significant roadside reserves, developing a Pesticide Policy to reduce pesticide use/impacts, maintaining **Biological Diversity,** including by improved planning of roads and road construction to avoid/minimise risks to environmentally sensitive areas, and by maintaining or restoring the habitat qualities of roadside reserves (including research into optimum Wildlife Underpasses to reduce 'road kill' and minimise habitat fragmentation)

21. **Use of Recycled Materials—developing** & encouraging the use of recycled materials in road construction and maintenance, including in-situ recycling

22. **Freight Transport**—evaluating which freight transport modes have least environmental and social impact, and planning for optimum siting of freight terminals

23. **Pricing Policy**—developing & applying Road & Parking Pricing mechanisms to progress more sustainable transport

24. **Water Quality**—developing & implementing policy to minimise modification of water systems by road building, to encourage use of recycled water in road construction & maintenance (including roadside reserve watering), to reduce water run-off from roads and to better manage the impact/s of such run-off and of vehicle-related pollution on aquatic environments

25. **Soil Erosion and Landscaping Treatments**—developing & implementing treatments to reduce the risk of soil degradation and erosion and, where possible, simultaneously foster biodiversity (e.g. by appropriate plantings)

26. **Roadside Litter Control**—providing public education and litter bins to minimise roadside littering and its environmental impacts

27. **Water Based Paints**—increasing the use of water-based paints for road line marking

28. **Road Spills**—designing vehicles, roads and roadside reserves to reduce the risk of accidents and accidental spills of fuel, freight and vehicle parts etc that could harm the environment

29. **Reporting of 'Environmental' Incidents/Risks**—designing reporting mechanisms so that the community and road agency staff can report potential environmental incidents/risks, and developing processes by which road agencies respond to such reports (e.g. an environmental 'first aider' scheme involving staff appropriately upskilled to assess environmental complaints/reports, assess and report on the risk/damage, and recommend relevant response/s)

30. **Green Office Strategy**—developing 'housekeeping' initiatives by which agencies can reduce negative environmental impacts (e.g. energy efficient building design, recycling office paper, preference to low energy office equipment, an in-house water use strategy).

Productivity Commission into Ecologically Sustainable Development by Commonwealth Departments and Agencies.

The Port of Albany is situated in a highly environmental sensitive waterway and has therefore had to develop a number of activities to safeguard it .

1.   Ballast water.
It has a small port been able to control the discharge of ballast water from vessels by vetting all vessels **and ascertaining that the ballast has** been exchanged mid ocean and if not persuading the master to proceed to sea and carry out this exercise. The result is that the port has a relatively clean Bill of Health from the CSIRO after **their base study carried** out in 1996.

2.   Environmental Assessment of the Port covering .Noise, Dust and Odour.

A study has been completed by the Port in collaboration with the EPA, the City of Albany and State Planning to assess current levels of these three factors and to recommend set parameters within which new Industry can develop projects on Port Land. This ,when finally agreed. will save considerable time and effort and frustration on the part of the proponents in Port developments.

3.   Port activities Planning

The increasing size of the population of Albany is putting increased pressure on the Harbours and making the job of licensing the various activities on the water very difficult. In order to address this problem and keep control of the environmental aspects of the Harbours a zoning plan was created with two years of various public consultation which included about thirty five clubs and groups that all wished to have some activity on the water
The result is a Harbours Plan that successfully takes into account the various Authorities and Departments that have some jurisdiction over the water and the current users of the Harbours but also sets out the procedures for new activities to be adequately provided for,

Phil, I hope that this gives you something to get your teeth into.

Regards

Bob Emery. General Manager