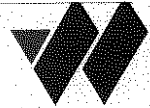


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18 JUL 2002

HOUSE OF REPRESENTATIVES  
STANDING COMMITTEE ON  
TRANSPORT AND  
REGIONAL SERVICES

16 July 2002

Mr Ian Dundas  
Committee Secretary

House of Representatives Standing Committee on Transport and Regional  
Services

Parliament House  
Canberra ACT 2600

Dear Mr Dundas,

**Re: Variable Speed Limits - A Case Study of Intelligent Transport Systems**

I write in response to your letter of 12 July 2002 to Mr Peter North.

The Warren Centre for advanced engineering has recently completed a project entitled *Sustainable Transport In Sustainable Cities*. This three-year \$4 million study examined all aspects of accessibility in cities using Sydney as the example. It involved all levels of government, academia, business and the community: over 200 professionals contributed to the study and almost 2000 people were involved.

One hundred papers are contained in the 13 reports from the project which examined, inter alia, the contribution that Intelligent Transport Systems (ITS) could play in enhancing the effectiveness and sustainability of transport. Two of these reports "*Why Travel*" and "*Moving People*" specifically address aspects of ITS. Copies of the executive summary for each of these reports are enclosed.

Please find attached comments both general and specific on the Inquiry into ITS and variable speed limits in particular from Ken Dobinson, the project director of the *Sustainable Transport in Sustainable Cities* project. If needed The Warren Centre could assist you further by nominating specific persons from the project who could assist with your inquiry.

Yours sincerely

Robert A H Mitchell  
General Manager

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16<sup>th</sup> July 2002

Mr Peter North  
Chairman, Board of Directors  
The Warren Centre, Sydney University  
SYDNEY UNIVERSITY NSW 2006

Dear Mr North

**Re: House of Representatives Standing Committee on Transport and Regional Services  
Inquiry: Variable Speed Limits – A Case Study of Intelligent Transport Systems**

I provide comments below on the subject Inquiry referred to in the letter to you of 12 July 2002 from the Committee Secretary to the House of Representatives Standing Committee on Transport and Regional Services.

The work undertaken in the "*Sustainable Transport in Sustainable Cities*" project would seem pertinent to that Inquiry especially the two reports "*Why Travel*" and "*Moving People*" which address aspects of Intelligent Transport systems (ITS).

Comments are both general and specific on the Inquiry into ITS and variable speed limits. Persons involved with The Warren Centre project could no doubt assist in the Inquiry.

## COMMENTS ON INQUIRY MATTERS

### General

The *Sustainable Transport in Sustainable Cities* project highlighted the need for the Commonwealth Government to take leadership in numerous aspects of transport, not the least of which in Intelligent Transport Systems (ITS), to give a National economic and consistency perspective in the transport area.

For example in ITS the Commonwealth government should ensure that Australia adopts the most cost effective and appropriate National standards for e-commerce systems, for electronic tolling systems, for transport smart cards, for road management systems and the like. We already have the makings of a 21<sup>st</sup> century interstate rail gauge problem in different tolling systems used in Sydney, Melbourne and Brisbane.

ITS covers a broad range of measures which are reported and discussed in The Warren Centre reports "*Why Travel*" and "*Moving People*". ITS offers substantial economic benefits to road operation and safety.

The Commonwealth Government must take the lead in identifying with the States the relative contribution that each ITS measure can make to transport in Australia and thereby establish a priority list for attention to each. This is occurring in other countries.

The Commonwealth must arrange examination of ITS measures in priority order and ensure there is no overlap by the States in these investigations and misuse of scarce resources. In this respect it is noted that the Directors-General of Queensland Transport and Main Roads opened a regional workshop on 20 May 2002 to develop a multi-modal ITS strategy for Queensland (contact John Oppes Ph: 07 3834 9461). Does this overlap with similar activities in other States or the Commonwealth ?

### **Specific Inquiry Matters**

ITS can no doubt contribute to the more effective management of the F3 Freeway and the Hume Highway between Sydney and Canberra. Equally a case study application of ITS on these routes could no doubt provide experience for application to other routes.

However it seems that the narrow focus on variable speed limits could be a misplaced initial initiative into ITS on these routes which are essentially rural freeways. It would seem that variable speed limits on rural freeways would have little, if any, benefit and would be most unlikely to be a cost effective measure compared to alternatives. Speed could be varied on rural freeways for weather conditions and traffic congestion and little else. Weather is generally too readily apparent with consequent speed reduction while traffic congestion is a speed reducer in itself.

It has been shown that motorists react best to change when advised of the reason for the change and then what to do about it. That is why the NSW Roads & Traffic Authority has used electronic variable message signs on rural freeways and some other roads with what appears to be a high degree of success. These signs relate to incident detection and measures by which the motorist can react. For example they are used to alert motorists to accidents and breakdowns or to adverse weather conditions such as fog whereby speed change is depicted to the motorist. They have also been used to alert a speeding motorist that he or she is exceeding the speed limit. This ITS measure appears appropriate for rural freeways.

Variable speed limits would seem to have greater application to urban freeways, such as the eastern end of the M5 Freeway leading to the Hume Highway. Such a system is to be trailed on the M25 Ring Road around London which becomes severely congested. In these situations variable speed signs can optimise traffic flow and achieve increased throughput. They can reduce stop-start driving reducing fuel consumption and air pollution. This results in more reliable journey times, better lane use, less aggressive driving and reduced accidents.

### **Recommendation**

The case study of ITS application on the F3 Freeway and Hume Highway between Sydney and Canberra is strongly supported. However it is recommended that the House of Representatives Standing Committee on Transport and Regional Services broaden the case study to embrace all appropriate ITS measures for these routes.

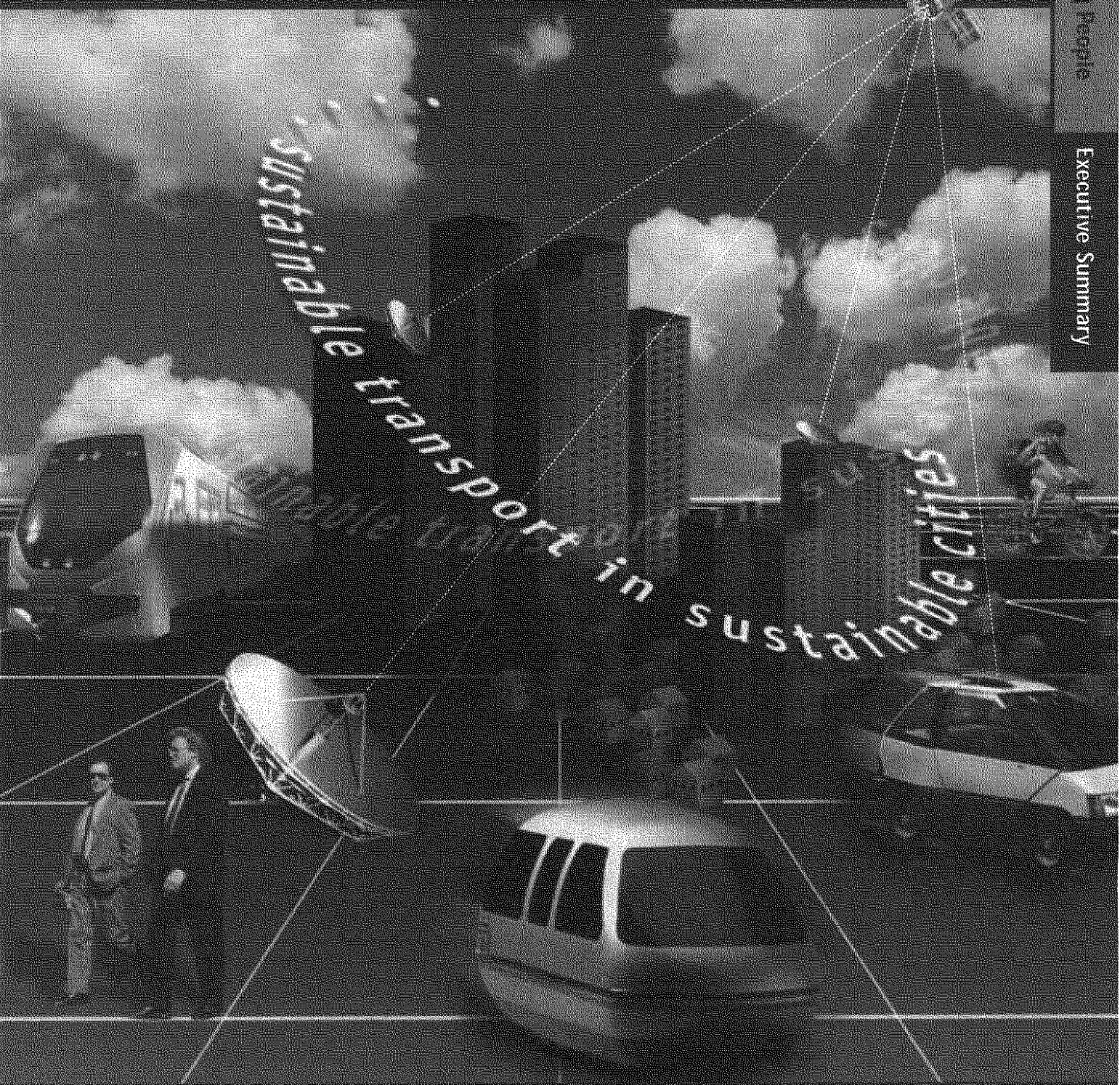
It is also recommended that the House of Representatives Standing Committee on Transport and Regional Services move the Commonwealth to provide leadership in ITS in Australia and co-ordinate the activities and priorities of the States in this area through the Australian Transport Council.

Yours sincerely

Ken Dobinson  
Project Director  
Sustainable Transport in Sustainable Cities

# "Moving People"

Moving People  
Executive Summary

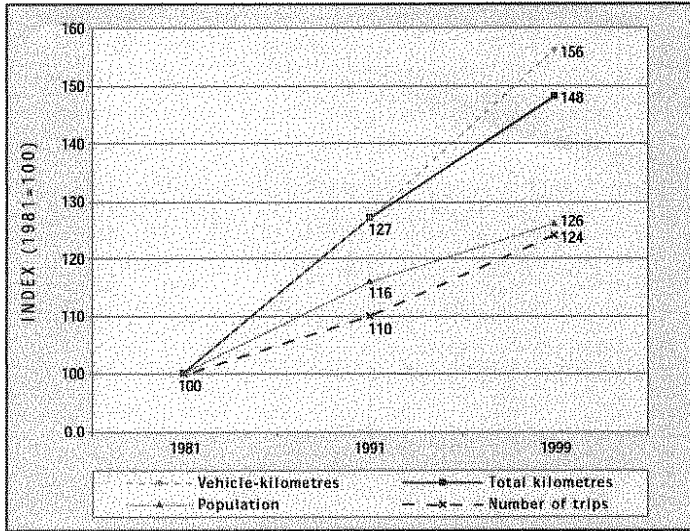


## Executive Summary



# THE SUSTAINABLE TRANSPORT IN SUSTAINABLE CITIES PROJECT

## Moving People



Population and travel trends in Sydney 1981-1999

## MEET AND MANAGE SYDNEY'S TRAVEL NEEDS

*Moving People* presents a new agenda for transporting people in Sydney in the 21<sup>st</sup> century.

Viable alternatives to the use of the private car need to be developed, otherwise traffic congestion will compromise the quality of life in Sydney. To do this we need alternative modes of moving people that share the same attributes of flexibility and convenience that make the car attractive.

The *Moving People* report investigates how to manage and meet the diverse travel needs of Sydney. It places on the agenda innovative new strategies for achieving major growth in mass transport.

It addresses the need to develop a comprehensive integrated multi-modal mass transport network. It discusses ways to manage travel demand, highlights emerging technology and discusses the future of the motorcar.

### **Where will we put the additional traffic?**

Unless current travel trends are reversed traffic will increase by 50 per cent over the next two decades. This growth in vehicle kilometres travelled has negative impacts, such as increased congestion, air pollution and energy waste. To meet the travel needs of Sydney in a sustainable way, it is vital to:

1. Develop a comprehensive, easily understood, integrated, multi-modal mass transport network that caters for the dispersed travel needs of Sydney.
2. Meet and manage the travel needs of commuters.
3. Invest to support a long-term vision of Sydney.



Low-floor articulated buses and light rail share the infrastructure of the Oberhausen transitway in Germany.

### **Mass transport must meet the dominant market demand**

Mass transport must provide an attractive alternative service to the car for the 80 per cent of Sydney trips that are non-work. Public transport presently only attracts a 6 per cent market share of those trips. Present public transport services are failing to meet the needs of the dominant urban travel market.

*Moving People* presents concepts to meet this target market. The Sydney Overground is one such concept: it is an accessible, metro wide 'London Underground' style network of high frequency reliable bus services. Light rail, guided buses, Austrans ultra light rail, taxis and car sharing are others.



To compete with personal transport, mass transport must be frequent, reliable, clean and safe.

### ***Introduce measures to reduce and manage travel demand***

A *City of Cities* report presents a strategy that will have a significant effect on the demand for travel. *Moving People* discusses the need to influence travel demand through systems management, parking strategies and new approaches to transport pricing and funding (see also *Transport Pricing: more than just a tax*).

Recommendations include:

- developing new approaches to road and mass transport pricing to influence long-term demand patterns, eg. phase in road pricing and congestion charges, with revenue derived used to support development of mass transport systems;
- increasing transport funding by around \$500 million per annum to promote and implement more sustainable mass transport solutions, to be sourced from hypothecated road and mass transport user charges, land rates, congestion charges, etc;
- as the more sustainable solutions are implemented, enforce parking controls that complement the sustainability objectives.

### ***Intelligent transport technology can have a significant impact***

The *Moving People* report shows that a comprehensive review of Intelligent Transport Systems (ITS) technology will identify the means to extract greater efficiency from our current road and mass transport networks, and hence to enhance transport sustainability.

As much new technology has no natural home in the bureaucracy, the report recommends establishing a new unit to coordinate planning and promote innovation.

#### ***Chapter Titles in Moving People***

A Public Transport Strategy for Sydney

Growth Strategies for Integrated Public Transport Networks

The Future of the Car in Australia

Car Sharing

Intelligent Transport Systems

Planning and Building a Local Bikeway Network

The Role of Motorcycles

Transport, Traffic and Access: Parking Management

Austrans: the Future of Public Transport

#### ***Want to know more?***

The complete *Moving People* report, addressing all these issues and more, is available from The Warren Centre for \$99, GST included. Please complete the form on the back of this document and fax it to +61 2 9351 2012 or visit [www.warren.usyd.edu.au/transport](http://www.warren.usyd.edu.au/transport)

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The Sustainable Transport in Sustainable Cities Project team thanks the following:

## Special thanks to:

We would like to acknowledge the assistance of The Warren Centre module teams and in particular the Technology Module team and the authors of the papers in the *Moving People* report:  
 Kristian Aquilina,  
 Laurie Bishop,  
 Glen D'Este,  
 Jorde Frangopoles,  
 Garry Glazebrook,  
 James M Lawson,  
 Tom Pinzone,  
 Nadia Savage,  
 Sebastian Smyth,  
 Dr Laurie Sparke,  
 Dr David Thorp,  
 Mario Vargas,  
 Nicole Vukic,  
 and Brian Wood.  
 John McKerral, Editor-in-Chief  
 Ken Dobinson, Project Director

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# "Why Travel?"

Why Travel?

Executive Summary

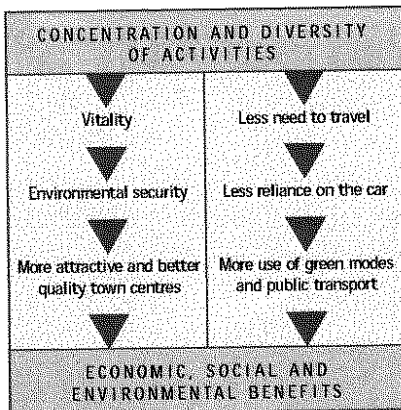
sustainable transport in sustainable cities

## Executive Summary



# THE SUSTAINABLE TRANSPORT IN SUSTAINABLE CITIES PROJECT

## Why Travel?



Beyond economic measures: the social and environmental advantages of a sustainable city

### **Improve access, avoid the need to travel**

The *Why Travel?* report from the *Sustainable Transport in Sustainable Cities* project presents economic, technological and planning strategies to reduce the need to travel, as well as recommendations on how to better manage travel demand.

Reducing the need to travel, and providing acceptable alternatives to the private motor vehicle will reduce traffic congestion and contribute to a sustainable transport system. Focusing on the 'means' (mobility) rather than the 'end' (access) has led to sub-optimal outcomes for Sydney's citizens for decades.

### **Parking control is a most effective demand tool**

*Why Travel?* critiques transportation demand management strategies in California, USA. It concludes:

- removing or reducing parking 'subsidies' is the most effective measure to increase average vehicle occupancy and reduce the use of private cars;
- overcoming the lack of community and corporate support is the major obstacle to implementing parking management schemes.

### **Explore e-substitutes for travel**

*Why Travel?* examines the potential of internet, e-commerce practices, e-commuting and mobile communications technology to create new work and lifestyle choices that simultaneously enhance accessibility and reduce the need to travel.

### **Ensure equitable access**

Improved accessibility must be delivered equitably. *Why Travel?* discusses the issues of gender and parenting as differentiating factors in urban travel behaviour and investigates facilities to improve accessibility for our ageing population and for people with disabilities.

### **Olympic experience offers everyday lessons**

Sydney showcased an efficient, effective transport system during the Olympics with reduced traffic congestion. The success of the Olympic travel experience signposts new directions to build upon for effective travel each and every day as well as for major events. The Olympic transport strategy succeeded because:

- most people were travelling to a limited number of sites;
- a high frequency, well publicised and easily understood public transport system offered a better experience than the private car;
- a new government structure, the Olympic Roads and Transport Authority, was established to coordinate planning of **all** transport and to integrate the operation of all transport modes.

The Olympic Games were a unique experience providing everyday lessons from their extraordinary success.



Light rail has strong potential appeal to car users



A guided bus network can provide an innovative transport system

### **Buses, light-rail and Smart Cards**

*Why Travel?* examines the success of international light rail, guided bus, bus-way and bus-lane systems in attracting patrons from private vehicles and explains why light rail is so successful in this context.

*Why Travel?* presents the arguments for implementing Smart Cards in transport to simplify, from a user perspective, ticketing, interchanges and concessions; and among other things, to improve useful, anonymous, data-capture.

### **Increase accessibility, not mobility**

*Why Travel?* advocates development focused on ready accessibility that reduces the need to travel, for which travel demand can be managed. Key recommendations that will reduce the need to travel and encourage a shift to more sustainable modes link with those from the *City of Cities* report and the *Pricing: More Than Just a Tax* report include:

- developing regional centres with enhanced access to a range of services, facilities and employment opportunities to reduce the number of trips needed to fulfil our daily needs;
- developing 'quality neighbourhoods'—locations where public transport and local amenity take precedence over the car—within the urban regions and regional centres;
- establishing transport pricing which reflects the relative external costs.

### **Want to know more?**

The complete *Why Travel?* report, addressing all these issues and more, is available from The Warren Centre for \$82.50, GST included. Please complete the form on the back of this document and fax it to +61 2 9351 2012 or visit [www.warren.usyd.edu.au/transport](http://www.warren.usyd.edu.au/transport)

#### **Chapter titles in *Why Travel?***

Avoiding the Need to Travel  
Transportation Demand Management: the American Experience  
Sustainability and the City Economy  
Olympic Transport: Lessons and Opportunities  
Light Rail and Bus: Making the Right Choice  
Changing the Way We Live and Work: E-substitutes for Travelling  
Gender, Parenting and Car Use  
Access to Transport for People with Disabilities  
The Role of Smart Card Technology in Transport

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The Sustainable Transport in Sustainable Cities project team thanks the following:

## Special thanks to:

We would like to acknowledge the assistance of the Warren Centre module teams and in particular the authors of the papers in the *Why Travel?* report:

Professor David Banister, Lachlan Benson, Kerry Frost, Professor Carmen Hass-Klau, Ian McDonald, Steve McIntyre, Hugh Ralston, Phil Raskall, Lori St John and Professor Martin Wachs must all be commended for their outstanding contributions.

John McKerral Editor-in-Chief

Ken Dobinson Project Director

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