4

Issues and Opportunities for ITS in Australia

4.1 In the course of this inquiry, the committee noted that a narrowly focused examination of the application of ITS technologies to specified stretches of highway, while important as case studies, would not address the broader issue of ITS in Australia. It also became apparent that the potential of specific ITS technologies to be applied to specific stretches of highway infrastructure depended upon broader policy considerations and the potential case studies needed to be seen in the context of an overall ITS policy setting. In this chapter the broader policy context of ITS in Australia is examined.

ITS policy in Australia

4.2 A national strategy, *e-transport: A national strategy for intelligent transport systems,* was adopted by the Australian Transport Council of Ministers (ATC) on 12 November 1999. *E-transport* was launched by the Hon John Anderson MP, Deputy Prime Minister and Minister for Transport and Regional Services, on 16 December 1999. The strategy was commissioned by Austroads and developed by ITS-Australia. Implementation of the plan falls to different stakeholders depending on the specific action required. The key responsibilities for implementing *e-transport* fall to ITS-Australia, Austroads, and the transport ministers in each Australian jurisdiction.

4.3 *E-transport* outlines the future of ITS in Australia. It includes the

- development of a national systems architecture (the blueprint for developing the ITS), that includes consistent national technological standards;

- development of a national institutional framework, including government endorsed institutions, to facilitate the implementation of a nationally consistent policy approach to ITS;
- R&D, leading to an internationally competitive ITS industry; and,
- development of export markets.

4.4 Of particular importance is the role of government. The national strategy recognised that 'governments are responsible for developing the policy framework' and also that:

> … numerous organisations, public and private, need to work together if a multi-modal National Strategy is to deliver its objectives - a national institutional framework will facilitate cooperation.[1]

4.5 For this reason, *e-transport* specifically targeted action by ministers for transport in all Australian jurisdictions to lead the process by implementing the national strategy:

> Transport Ministers at Commonwealth, State and Territory levels inform other Ministers (including communications, planning, industry, science, environment and trade) and enlist their support in implementing the Strategy, including consideration of appropriate institutional mechanisms.
>
> Ministers, through direct contact, and all ATC modal groups, encourage the participation of relevant transport industry, user and other appropriate organisations, private and public, in implementing the Strategy, including through ITS Australia.[2]

4.6 The committee was advised that the progress of *e-transport* will be reviewed at the end of 2002.[3] ITS-Australia advised the committee that the actions identified in *e-transport* have been grouped into 24 projects.[4] ITS-Australia told the committee that:

> At this point [in] time, two years into the three-year program, the progress with these actions is:
>
> - 10 projects have been completed;
> - 5 projects have been completed and require ongoing activity; and,

1 *E-transport*, p. 5.

2 *E-transport*, Paras 4.2.2 and 4.2.3.

3 Mr Colin Jensen, Briefing, Brisbane, 13 September, 2002.

4 These projects are listed in Appendix B.

- all remaining projects are forecast to be completed within the three-year program to budget.[5]

Auslink and ITS

4.7 The Government has recently announced AusLink, a rolling 5-10 year transport infrastructure development plan. Auslink aims to deliver more strategic spending of Commonwealth transport funding, and greater opportunities for private sector involvement. The plan will be developed on a national participatory basis.

4.8 On the basis of the national plan, the Government will seek project bids that advance the plan's strategic priorities. The Government will issue invitations to the states and territories, local government, regional development bodies and the private sector to put forward their most attractive bids. Private sector proposals will be given equal treatment with all other bids.

4.9 Importantly, for ITS, non-engineering transport solutions, such as new technology and traffic management, will be eligible for funding. This will ensure that such solutions are implemented in a nationally consistent and strategic manner.

4.10 The government has stated that AusLink will not involve a reduction in the Commonwealth's transport expenditure. It will not affect any of the current projects funded by the Federal Government, or any projects the Government had previously made a firm undertaking to fund, and it will not affect the existing Black Spot Program and the Roads to Recovery Program. Funding in regional Australia will be quarantined.[6]

4.11 Transport industry organisations, such as the National Roads and Motorists Association, the Australian Logistics Council, and the National Farmers Federation, as well as Mr Martin Svikis of Specialised Container Transport, and Mr Chris Corrigan of the Patrick Corporation, expressed support for Auslink following the release of the Green Paper on 7 November, 2002, which detailed the government's proposal and sought public comment.[7]

5 E-mail communication with secretariat, 1 October, 2002.

6 http://www.dotars.gov.au/transinfra/auslink.htm; accessed 1 October, 2002.

7 NRMA Member Services, *Media Release*, 7 November, 2002; Philip Hopkins, 'Auslink to revamp freight transport', *The Age*, 8 November, 2002; Jason Koutsoukis, 'Nod for Transport overhaul', *The Financial Review*, 8 November, 2002.

4.12 The Warren Centre advised the committee that while the recognition of ITS in Auslink was an important step forward, the plan may not suit state transport plans.[8]

Recent developments

4.13 On 8 August the Australian Transport Council (ATC) approved the National Transport Secretariat project, *National Strategic Planning for Transport*. This project will lead to a green paper, *National Transport Futures*, to be published in 2003 by the ATC. The aim of *National Transport Futures* will be to describe national strategic directions and objectives, as well as the strategies and policy frameworks required to deliver the national transport outcomes identified by the ATC. In particular, the focus will be on aspects of transport where there is a need for coordination between the Commonwealth and the states and territories and / or local government.[9]

4.14 The Deputy Prime Minister and Minister for Transport and Regional Services, the Hon John Anderson MP has already signalled that the existing ITS policy framework is not adequate, especially in the light of the Auslink proposal, and that a new framework must be developed. Minister Anderson said that:

> [a] component of our land transport reform task is to establish a policy framework to underpin the growth of intelligent transport systems and new transport technologies, including the use of satellite positioning systems. [The government's] AusLink plan envisages that we'll provide Government funding for the use of these technologies.[10]

4.15 The committee agrees with the Minister's proposal for a new policy framework and does see merit in the fact that ITS is now squarely part of Commonwealth funding considerations, through Auslink. In the absence of detail concerning the revised policy framework, the committee suggests that it is not enough to merely develop a new ITS policy framework.

4.16 As well, the committee notes that Auslink is a *strategic infrastructure* plan and there is insufficient detail available about the *National Transport Futures* strategic plan to determine the extent to which it will integrate ITS. The information available to the committee, by way of a short briefing

8 Briefings, Sydney, 15 August, 2002.

9 National Transport Secretariat, *National Strategic Planning for Transport: Report on Workshops in Melbourne and Sydney*, August / September, 2002.

10 Keynote address to the Tourism and Transport Industry Leaders' Summit, 26 September, 2002.

provided in Brisbane, would indicate that while ITS will be part of the plan, the significance of ITS may not be properly understood.[11]

4.17 Stakeholders who briefed the committee about the strategies required to implement ITS in Australia indicated that, apart from new policies and approaches, the Commonwealth needed to take the lead. The task of the Commonwealth would be to lead the reorganisation of the arrangements that underpin the development, deployment and commercialisation of ITS and act as the catalyst for change. This would involve the Commonwealth assuming a similar role to the role assumed by the US federal administration, the Japanese government and the European Union.

International developments

4.18 Most industrial economies are developing comprehensive national ITS strategies to accelerate the development of ITS and its integration into their respective transport systems. ITS-Australia advised the committee that, unlike Australia, 'Both the EU and USA have specific "nationally" funded ITS strategies aimed at encouraging active implementation of ITS.'[12]

4.19 Mr Andrew Garrett reported in 1998 that the European Road Transport Telematics Implementation Co-ordination Organisation (ERTICO), the body then coordinating ITS activities throughout Europe, predicted and was working toward, the following benefits from ITS applications by the year 2017:

- 15% increase in survival rates from crashes, due to in-vehicle emergency call systems;
- 50% reduction in road fatalities;
- 25% reduction in travel times;
- 40 hours per traveller saved each year by the use of automatic tolling systems;
- 50% reduction in delays by improvements in public transport priority;
- 25% reduction in freight costs by improved efficiency of freight movement and fleet operations; and,

11 Printout of a 'Powerpoint' presentation by National Transport Secretariat, Briefing, Brisbane, 12 September, 2002.

12 E-mail communication with secretariat, 1 October, 2002.

- 50% less pollution in city centres by using advanced traffic management systems.

4.20 These estimates, although prepared by ITS proponents, were claimed to be conservative. [13]

4.21 In 2001, the European Union released a white paper, *European Transport Policy for 2010: time to decide*. The 119-page white paper identifies the reduction of fatalities, the alleviation of congestion and of transport bottlenecks as top priorities for the 10 years to come and promotes the use of ITS to solve these critical issues.[14] The white paper also sets out plans for inter-modal linkages, including inter-modal, integrated ticketing and baggage handling. In addition, the EU white paper also states that the EU 'must be more assertive on the world stage'.[15]

4.22 As part of the white paper's plan to reduce fatalities, the European Commission issued a call for a program for standardisation in ITS. It is part of a comprehensive 'eSafety Action Plan' developed and currently being implemented by the EU.[16] This initiative focused on such ITS issues as the standardisation of vehicle control and telematics technologies.

4.23 Mr Colin Jensen advised the committee that overall the EU is actively setting an ITS agenda for the EU and setting minimum deployment targets for ITS, including specifying targets for the installation of ITS applications in motor vehicles.[17]

4.24 More recently, ITS-Australia, advised the committee that the EU is considering mandating the inclusion of ITS technology in vehicles to achieve safety, security and emission reduction targets.[18] The targets set are ambitious, given the geography and many diverse jurisdictions involved. However, an immediate EU target is a single EU-wide telephone number that will provide all people on the move throughout Europe with full access everywhere to multi-lingual support, call localisation and fully organised provision of emergency services.

4.25 Initiatives to be introduced by the end of 2002 include:

---

13 'Intelligent Transport Systems: Potential benefits and immediate issues', Facing the Main Roads Lecture Series, Main Roads Western Australia, www.mrwa.wa.gov.au/projects/strategies/future/its_paper04.pdf; accessed: 26 September, 2002.

14 http://europa.eu.int/comm/transport/themes/network/english/its/html/vision_policy.html; accessed 28 September, 2002.

15 *European Transport Policy for 2010: time to decide*, p. 92.

16 European Commission, *Research on integrated safety systems for improving road safety in Europe*, September, 2002.

17 Briefing, Brisbane 13 September, 2002.

18 ITS-Australia, submission no. 3.

- All new cars sold in Europe will be equipped with more efficient active safety-enhancing and driver assistance systems;
- Value-added personalised traffic and travel planning information services so as to cover 50% of medium and large European cities;
- All main trans-European networks will be covered by systems offering traffic incident / congestion information and management;[19] and,
- 50% of major European motorways to be equipped with congestion and incident management systems.[20]

4.26 The 2017 ERTICO goals have been brought forward so that by the end of 2010, the EU aims to have:

- Reduced road accidents by 50%;
- Reduced travel time by 20%;
- Used ITS to increase effective road capacity by 50%;
- Achieved a significant reduction in CO^2 emissions; and,
- Increased in-vehicle ITS use by 20%.[21]

4.27 To implement ITS in a national and orderly fashion, Japan has established the Advanced Information and Telecommunications Society Headquarters under the Prime Minister to coordinate ITS at a national level. Thirty year goals for ITS in Japan include:

- halving the number of fatal traffic accidents;
- eliminating traffic congestion; and,
- reducing vehicle fuel consumption and carbon dioxide emissions by 15% and nitrous oxide by 30%.[22]

4.28 There are a number of ITS initiatives in Japan. These include:

- The Vehicle Information and Communication System (VICS), which was introduced in April 1996, is rapidly coming into widespread use. The number of vehicles equipped with a VICS-compatible car navigation equipment reached 3.17 million in June 2001.

---

19 *e-Europe: An Information Society For All*, Communication on a Commission Initiative for the Special European Council of Lisbon, 23 and 24 March 2000.

20 http: / / www.netpark.or.jp / ahs / demo2000 / eng / demo_e / ahs_e7 / aki / aki.html; assessed 1 October, 2002.

21 Submission no. 3. Mr Colin Jensen also made the same points; Briefing, Brisbane, 13 September, 2002.

22 'Intelligent Transport Systems: Potential benefits and immediate issues', Facing the Main Roads Lecture Series, Main Roads Western Australia, www.mrwa.wa.gov.au / projects / strategies / future / its_paper04.pdf; accessed: 26 September, 2002.

- As of the end of September 2001, the VICS service was available in Tokyo, Hokkaido, and 30 prefectures. At present, about 84% of retained motor vehicles and about 86% of driver's license holders in Japan receive services from VICS.
- Environmental road pricing is a differential tolling method. It aims to encourage the use of roads which avoid residential areas and thereby improve the environment of residential areas. In this scheme, the tolls for roads located in areas such as coasts are set lower than those for roads running through residential areas. Environmental road pricing will be tested between 2001 and 2002 on several expressways.
- In November 1999, the five governmental bodies concerned with ITS released 'System Architecture for ITS in Japan'.[23]

4.29 The United States Department of Transport established the Intelligent Transportation Systems Joint Program Office (ITS JPO) in May 1994. The role of the ITS JPO is to serve as the 'principal architect and executor of ITS leadership'. The objectives of the ITS JPO are to:

- provide strategic leadership for ITS research, development, testing, and deployment;
- guide policy coordination; and,
- ensure resource accountability.[24]

4.30 The United States administration also sets standards and national architecture requirements and allocates funds to programs that comply.[25] This approach of setting national standards and a national architecture is designed to accelerate the deployment of ITS technology.

4.31 The Federal ITS program in the United States, is funded under the Transportation Equity Act for the 21st Century (TEA-21). This Act provides $USD 1.3 billion over six years, 1998 – 2004. TEA-21 provides a comprehensive framework for deploying ITS in the US in that period. ITS is referred to throughout TEA-21.

4.32 Clear policy intent of TEA-21 is to make ITS a part of the US primary surface transportation mission, rather than a special program, and to provide a legislative basis for setting standards and attaining architecture and standards consistency.[26]

---

23 http://www.its.go.jp/ITS/2001HBook/topics/index.html; accessed 1 October, 2002.

24 http://www.its.dot.gov/jpostaff/backgrd.htm; accessed 1 October, 2002.

25 http://www.its.dot.gov/aconform/Policy.htm

26 http://www.its.dot.gov/tea21/japana/index.htm; accessed: 1 October, 2002.

4.33 TEA-21 also required the development of a 10-year national ITS program plan. This 146-page plan, developed in collaboration with the Intelligent Transportation Society of America sets out specific goals, which include:

- Reducing fatalities by between 5,000 –7,000 per annum by 2011;
- Reducing congestion to save one billion gallons of petrol per annum and associated emissions;
- 13% reduction in travel time through better road conditions and 8% - 10% reduction in transit travel time and a 13% reduction in fuel consumption through better signal coordination;
- 20% – 40% reduction in accident response time;
- 10% – 15% reduction in truck operating costs;
- 85% reduction in delays at toll booths, through the use of e-tags; and
- 15% – 40% reduction in accidents in motorway ramps due to ramp metering.[27]

4.34 The plan also provides for cross-modal integration, collection of data for planning purposes, financing options, and adoption of ITS technologies by the public sector in order to hasten the adoption of ITS in other sectors of the community.

Issues, opportunities and remedies

4.35 In this section the major issues facing the further development of ITS in Australia are examined.

A national ITS policy framework

4.36 The adoption of ITS in Australia has followed a cooperative, non-legislative approach. The Commonwealth has provided funding for the development of policy blueprints, and some funding for R&D, scoping studies, and deployment of ITS. However, most ITS development and deployment has been driven by the state and territory governments because it is these governments who have been the major source of funds. This has led a number of the states to develop their own ITS strategies.[28] The national policy approach to ITS appears to be fragmented and the strategy embodied in *e-transport* only partly implemented.

27 Intelligent Transportation Society of America, *Delivering the future of transportation: the national intelligent transport systems program plan: A ten-year vision*, January, 2002.

28 *E-transport*, p. 2.

4.37 According to stakeholders providing briefings to the committee, this has had a number of counter-productive consequences, most particularly, the failure to develop targeted policies. For example, ITS-Australia claimed that ITS had not been widely integrated into policies to save lives. ITS-Australia said that:

> So far there has been no push by Government to direct policy toward saving lives, instead State Governments have adopted an approach which some argue is a 'bandaid' approach of using speed enforcement policies instead of looking at more active safety systems such as speed limiting devices, adaptive cruise control and lane keeping guidance systems. ITSA believes that we are significantly behind the policy developments and policy statements of many countries in this area where targets are being set and plans developed to achieve these targets. The EU e-safety and ITS America 10 year plan [are] two such examples.[29]

4.38 ITS-Australia advised the committee that there 'urgently needs to be a funded National Transport Strategy Plan' of which ITS would be an integral element.[30]

4.39 Mr Colin Jensen, advised the committee that a revised strategy for ITS was required[31] while the Warren Centre stated in its submission that:

> … in ITS the Commonwealth government should ensure that Australia adopts the most cost effective and appropriate national standards for e-commerce, for electronic tolling systems, for transport smart cards, for road management systems and the like. We already have the makings of a 21st century interstate rail gauge problem in different tolling systems use in Sydney, Melbourne and Brisbane.[32]

4.40 The dangers of failing to develop and implement a national policy framework were put to the committee repeatedly. ITS-Australia summed up the issue this way:

> Australia's transport history of different rail gauges and road regulations demonstrate the costs of fragmented standards and regulatory frameworks.[33]

4.41 Submissions and stakeholders providing briefings to the committee made it clear that in their view, it was the responsibility of the Commonwealth

29 ITS-Australia, submission no. 3.

30 Submission no. 3.

31 Briefing, Brisbane, 13 September, 2002.

32 The Warren Centre, submission no. 1.

33 ITS-Australia, Submission no. 7.

to develop a national framework – and see to its implementation. The Warren Centre advised the committee:

> 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.[34]

4.42 The Commonwealth's role was more than merely identifying priorities, in the view of the Warren Centre; the Commonwealth's role was one of national leadership:

> 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.[35]

4.43 The role of the Commonwealth is recognised in the national strategy:

> The Commonwealth also has a sizeable ITS role, notably through road funding, mainstream industry development schemes, and responsibility for communications, which is an important ITS-enabling technology.[36]

4.44 The committee notes that a national strategy was considered essential to attaining the benefit of ITS, and the need for one was indicated prior to the release of *e-transport* in 1999:

> A national strategy which accelerates the deployment and integration of ITS is expected to generate additional community and economic benefits of at least $3.8 billion per annum by 2012, excluding export income.[37]

4.45 *E-transport* was intended to provide a national strategy. It was implemented through agreement, negotiations and consensus by a non-government organisation, ITS-Australia. *E-transport* lacks legislative muscle and a central agency to ensure co-ordination and compliance. Now, three years after *e-transport*, 'rail gauge' problems still persist. National institutions have not been established, and we do not have a clear, national framework that can guide the implementation of ITS.

---

34 The Warren Centre, submission no. 1.

35 The Warren Centre, submission no. 1.

36 *E-transport*, p. 2.

37 Booz Allen & Hamilton, *Intelligent Transport Solutions for Australia*, summary report, Sydney: 1998, p. 13.

4.46 The current situation in Australia is unlike that in the EU and the United States. In those jurisdictions, a national or trans-national framework, embedded in law and administered by public institutions, drives the development and deployment of ITS.

4.47 The committee concludes that Australia needs to develop a national framework. The committee supports the announcement by the Deputy Prime Minister, the Hon John Anderson MP, providing for better recognition for ITS in Australia's transport policy.[38] However, it is the committee's opinion that ITS policy must go a stage further. Based on the actions of governments in developed economies, national security issues and ITS in Australia's future economic prosperity, it is the committee's conclusion that ITS must not merely be on an equal footing with other transport programs, but be brought into prominence in transport policy and planning.

Recommendation 4

4.48 **The Committee recommends that the current policy framework for ITS be reviewed and that a new, comprehensive policy framework be developed that:**

- **identifies strategic directions and national priorities;**
- **identifies funding options; and,**
- **recommends appropriate institutional and legal arrangements to give effect to national ITS policy and programs.**

A national ITS coordination administration

4.49 ITS policy development and implementation involves drawing together different parts of the Commonwealth administration, working with state administrations, non-government organisations and stakeholder groups, to produce a nationally, consistent approach for ITS.

4.50 Within the Commonwealth administration alone, close cooperation will be required between many different, and sometimes competing, agencies. For example, there will need to be cooperation between agencies that regulate the radio spectrum and agencies that develop policy for and which regulate road, rail and other transport modes. As well, agencies involved in tourism and trade, along with other agencies, such as the National

38 See para. 4.14 above.

Office of the Information Economy, that are concerned with utilising developments in information and computing technologies, will need to participate closely in the development of ITS.

4.51 The necessity for a national, strategy for intelligent transport, was noted in *e-transport*, released in 1999:

> Numerous organisations, public and private, need to work together if a multimodal National Strategy is to deliver its objectives - a national institutional framework will facilitate cooperation.[39]

4.52 However, according to the CSIRO the national ITS effort is fragmented:

> Despite the abundance of creative ITS developments in Australia, there is a distinct lack of coordinated effort, interoperability between systems, and standardisation of products and services.[40]

4.53 The committee saw at first hand the good work in ITS occurring in Queensland and New South Wales. The committee received a submission from VicRoads highlighting the innovative work being done in Melbourne. The committee also had briefings from stakeholders who complained of incompatible e-tag standards, which made it impossible to use e-tags from Melbourne in Sydney and that this had been a problem for some time.

4.54 To meet the challenges of increased traffic flow, increase economic activity and meet the need for greater efficiencies in production we must implement a state of the art ITS. The committee noted, however, that there was not the level of coordination between jurisdictions that is required in order to develop the multi-modal, seamless ITS that should be developed.

4.55 The solution to this problem, according to submissions and stakeholders providing briefings, was for the Commonwealth to take a leadership role. In this vein, the Warren Centre advised the committee that government should provide leadership in resolving inter-state differences and move towards the adoption of a national standard.[41] ITS-Australia offered a similar sentiment to the committee:

> It is the Federal Government that must take the lead in a firm but consultative approach with the industry and the community to provide a plan to the future that will take into account the national interests of Australia.[42]

---

39 *E-transport: The national strategy for intelligent transport systems*, p. 5.

40 http://www.dbce.csiro.au/innovation/2000-10/its_connect.htm; accessed 26 September, 2002.

41 The Warren Centre, Briefing the Warren Centre provided, Sydney, 15 August, 2002.

42 ITS-Australia, submission no. 3.

4.56 It is not sufficient that the Commonwealth merely establish an administrative unit to develop policy and administer policy. In this area, community engagement is crucial. ITS-Australia indicted that a forum to facilitate the engagement of stakeholders was necessary. ITS-Australia advised the committee that:

> To better understand and commercialise services which support these information needs in delivering the mobility and integrated freight transport, ITSA proposes to develop the Australian Centre for ITS Competency and Commercialisation. This innovation centre would draw together freight operators, car manufacturers, public transport systems developers, toll and tag manufacturers, government, road agencies and ITS specialists in a cooperative environment to develop solutions that are not only transportable across modes, but also across jurisdictions that are national. All of these sector participants operate nationally as opposed to jurisdictions which operate on a state or portfolio basis.[43]

4.57 Although the committee encourages such initiatives, at the end of the day, the effectiveness of any decision must rely upon the authority of government. This is why the EU and the United States, while maintaining and fostering close links with stakeholder organisations, also provide a national institution (or more) as a legislated backstop, to ensure that consistent national standards and a national architecture are implemented.

4.58 The first step in developing a coordinated system is cooperation and coordination between agencies of the Commonwealth administration.

4.59 At the public hearing on 25 September, 2002, the committee asked the Department of Transport and Regional Services (DoTaRS) about inter-agency co-operation. DoTaRS testified that at a Commonwealth level:

> [DoTaRS] relationship with agencies in the Commonwealth, such as Invest Australia, is pretty good. We recently met with them to talk about Australian participation in the Chicago ITS congress. Another agency that has some involvement is NOIE… We do not work very closely with that agency, but we do work cooperatively as necessary.[44]

4.60 The committee is aware that NOIE has embarked on work in the transport sector to investigate the use of electronic commerce and to try to remove some of the potential barriers to the further use of e-commerce in the

43 E-mail communication with secretariat, 1 October, 2002.

44 *Transcript of Evidence*, p. 12.

sector.[45] It would be reasonable to expect that there should be close cooperation between DoTaRS and NOIE.

4.61 DoTaRS did indicate that there is a vehicle ticketing and tolling committee that operates under the Australian Transport Council's Standing Committee on Transport. DoTaRS suggested that this tolling committee was one forum that the Commonwealth could use to participate with the states in the development of ITS.[46] DoTaRS also indicated that it is trying to be more active in the tolling group in order to exert greater influence on the compatibility between the tolling systems of the states.

4.62 However, ITS-Australia advised the committee that there is a National Tolling and Ticketing Working Group (NTTWG) operating under the aegis of ITS-Australia. The committee was advised by ITS-Australia that there are no Commonwealth representatives on that committee.[47] An examination of the membership list, published on the ITS-Australia internet site, indicated that not one of the members had a Commonwealth government e-mail address, although other members had e-mail addresses from the major ITS states in Australia, industry stakeholders and research centres. This was also the case with the National Reference Architecture Working Group (NRAWG), another committee operating under the aegis of ITS-Australia. The NTTWG and NRAWG bring together government, industry, and researchers. These working groups would appear to provide substantial opportunities for the Commonwealth to influence the development of ITS in Australia. The committee considers that DoTaRS' apparent lack of engagement with two of the more significant national ITS fora very puzzling.

4.63 DoTaRS was asked about its commitment to ITS. DoTaRS assured the committee that the 'The Department of Transport and Regional Services has as its main objective trying to achieve a better transport system for Australia' and that DoTaRS regards 'as an important part of achieving that objective the fostering and support of intelligent transport systems'. DoTaRS also testified that it 'does take ITS very seriously'.[48] Nevertheless DoTaRS also testified that:

- there is no national forum in which to discuss ITS issues;
- DoTaRS had no over-arching powers to ensure that ITS are implemented in road upgrades;

45 http://www.noie.gov.au/projects/ecommerce/Sector/Transport/; accessed 26 September, 2002.

46 *Transcript of Evidence*, pp. 3, 12.

47 ITS-Australia, submission no. 7.

48 *Transcript of Evidence*, pp. 1 and 7.

- there was not, to DoTaRS knowledge, any mechanism for insisting on specific infrastructure requirements and DoTaRS had to rely upon negotiation;
- DoTaRS has a 'technology team' of seven people of which one person is devoted full-time to ITS; and,
- DoTaRS had no regular meetings with the states or territories in which DoTaRS could try to exert influence or represent the national interest.[49]

4.64 It would appear that involvement of officers from the Commonwealth administration in the implementation of e-transport, via one of the lead agencies (ITS-Australia) is minimal and the capacity of the Commonwealth to influence matters is limited. Moreover, one officer, working full time would indicate that DoTaRS considered the Commonwealth interest in ITS as relatively unimportant. As noted earlier in this report, the national significance of ITS would suggest that a more intense interest on the part of DoTaRS is indicated. There appears to be a case for the government examining the performance of stakeholder departments in the Commonwealth administration as to their engagement with state governments and private sector organisations, in respect of ITS.

4.65 Moreover, it would appear that there is a plethora of organisations, committees, associations, and working groups, producing a seemingly endless round of reports. However, in all this activity an over-arching and coordinating structure that meets regularly to attain outcomes, has not been developed. At best, it would appear that there is patchy inter-agency and inter-jurisdictional cooperation and coordination.

4.66 This is in contrast to the European Union, the United States and Japan, where the central governments provide leadership, set priorities, agendas architectures and standards.

4.67 Given the importance of implementing ITS to the Australian community and the prosperity of the nation, the committee believes that a more pro-active and comprehensive approach be adopted, and in particular, that the Commonwealth take the lead role. The committee also notes the enthusiasm and support for ITS, its further development and deployment by Minister Anderson. The committee believes that the current situation is unacceptable and that a nationally coordinated approach must be developed.

49 *Transcript of Evidence*, pp. 3, 4, 9.

Recommendation 5

4.68 **The committee recommends that the government establish an ITS implementation bureau as an executive agency directly responsible and accountable to the Minister for Transport and Regional Services.**

Recommendation 6

4.69 **The committee recommends that the specific responsibilities of this bureau must be to:**

- **act as a national forum for resolving differences in standards, and approaches;**
- **coordinate Commonwealth government activity in the area of ITS;**
- **develop and implement national ITS policy, including identifying national goals;**
- **set standards for inter-operability and national architecture;**
- **coordinate R&D; and,**
- **provide assistance to other Commonwealth agencies to facilitate the export of ITS technology.**

Technical standards, national reference architecture and inter-operability

4.70 Intelligent transport systems are national and, ultimately, global systems. In order for the elements of the system to work seamlessly, compatible standards for data collection, storage and transmission must be developed. This is usually referred to as 'inter-operability', which means the ability of ITS applications to work together, facilitate an inter-modal transport system, and build on each other.[50]

4.71 Inter-operability is one element of a larger planning activity: a national systems architecture. *E-transport* defines a national systems architecture as:

> A national systems architecture for ITS is the blueprint for development of the array of systems which need to relate to each other in order to maximise the benefits of ITS.

50 *E-transport: The national strategy for intelligent transport systems*, p. 4.

4.72 A national systems architecture aims amongst other things to:

- promote national and international compatibility of systems;
- promote inter-operability between system components; and,
- identify where standards are needed and what items those standards need to specify[51]

4.73 Inter-operability and a national systems architecture each depend on national standards. However, standards development, and the consequent implementation of a national systems architecture in Australia has not been as effective as it could be. The Australian Transport Council (ATC) would appear to be aware of this. The communique issued by the ATC after its 3 August 2002 meeting in Auckland, announced that transport ministers had made the commitment to giving priority to developing national standards:

> Ministers renewed their commitment to national inter-operable standards for ticketing and electronic tolling, and pledged to give priority to current work directed towards this public transport objective.
>
> The Council acknowledged the broader significance of smartcard technology, and noted the need to ensure its use in the transport sector is compatible with use in other sectors, such as tourism and local government.[52]

4.74 These are long-standing issues. Writing in 1998, Mr Andrew Garrett said:

> The development of standards is a complex and time-consuming process. In the ITS area it is even more difficult because of the global competition and the probability that Australia will be a follower rather than a leader. For ITS to be deployed effectively it is critical that Australia adopt national standards to protect the community and that it influences international standards to suit Australia's needs. Standards should also seek to ensure the compatibility, interoperability and ease of upgrade of systems, avoid conflicting communication protocols / transmission media and, above all, ensure safe usage.[53]

4.75 ITS-Australia, in its submission, stated that the lack of standards and spectrum allocation for wireless technologies was limiting the implementation of theft reduction and safety technologies. ITS-Australia said:

---

51 *E-transport*, p. 4.

52 http: / / www.dotars.gov.au / atc / atc13.htm; accessed 3 October, 2002.

53 'Intelligent Transport Systems: Potential benefits and immediate issues', Facing the Main Roads Lecture Series, Main Roads Western Australia, www.mrwa.wa.gov.au / projects / strategies / future / its_paper04.pdf; accessed: 26 September, 2002.

> …that it is virtually impossible for designers to know what spectrum and bandwidth will be available three years from now and if existing services are used, [whether] these will be available for the warranty (3 years) and maintenance and parts availability obligation period (7 years).[54]

4.76 In a supplementary submission, ITS-Australia indicated to the committee the problems around failing to agree on standards for smartcards:

> Due to our small population size, unlike the many other smartcard operations being deployed globally, local applications (if not interoperable or integrated) will be unable to enjoy economies of scale sufficient to ensure viable large scale smart card infrastructure deployment.[55]

4.77 ITS-Australia set out the disincentives different standards have for vehicle builders:

> … a car company will not develop an emergency system for each state, nor would they embed tolling tags in vehicles if there [were] no common standard. Whilst this is being resolved with policy specifying interoperability, we are trying to catch up with a sector that is still accelerating away from us.[56]

4.78 The committee was advised that ITS standards are set, via negotiation between interested players.[57] One example of this process is the National Ticketing and Tolling Working Group that is developing an Australian Transport Information Protocol. As noted already, industry players advised the committee that the Commonwealth in not closely involved in this process and that the Commonwealth (through DoTaRS or Commonwealth tourism or communication related agencies) is not represented on the working group.[58] Yet, NOIE, in a scoping study on the road transport industry, in 1999 recommended that:

> The Commonwealth Government needs to continue its work in developing electronic commerce enabling infrastructure and assisting the development of standards.[59]

---

54 ITS-Australia, submission no. 3; ITS-Australia, reiterated this view its submission to the Standing Committee on Communications, Information Technology and the Arts, Wireless Broadband Technologies Inquiry, submission no. 24.

55 ITS-Australia, submission no. 7.

56 E-mail communication with secretariat, 1 October, 2002.

57 *Transcript of Evidence*, p. 4.

58 ITS-Australia, submission no. 7.

59 NOIE, *Trucks Online: National Road Transport Scoping Study*, 1999, Commonwealth of Australia, 1999.

4.79 Submissions complained of a 21st century version of the rail gauge problem, and this point was put repeatedly to the committee in briefings and submissions:

> … 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 21st century interstate rail gauge problem in different tolling systems used in Sydney, Melbourne and Brisbane.[60]

4.80 ITS-Australia advised the committee that inter-operability in respect of electronic tolling was anticipated to occur by June 2003.

4.81 This is a long-standing problem. The potential for rail gauge-type incompatibility was known to be a problem in 1996.[61] It was noted in 1998, as was the need for a number of standards. As well, the incompatibility between e-tag standards was then – four years ago – just about to be solved:

> A current example is electronic toll collection systems. In Sydney alone there are now three incompatible electronic toll systems in use. There are different systems in use in Brisbane and proposed in Melbourne - the prospect of a 'rail gauge' fiasco was very real. Fortunately standards are now being developed and industry is in the process of agreeing to migrate to these over time to minimise disruption and costs. There are many more standards required.[62]

4.82 That a rail gauge problem was emerging in 1999 was alluded to in the national strategy:

> States and Territories' extensive policy and regulatory responsibilities for land transport have also led a number to develop their own ITS strategies.[63]

4.83 The committee was treated to different explanations concerning the impasse concerning the incompatibility between different e-tag systems. Some stakeholders suggested that differing technical standards were the cause of the incompatibility. Other stakeholders suggested that the operators of a tolling system in one state were holding out on agreeing to shared standards until agreement had been reached as to the fees that

60 The Warren Centre, submission no. 1.

61 ITS-Australia, submission no. 7.

62 Andrew Garrett, 'Intelligent Transport Systems: Potential benefits and immediate issues'.

63 *E-transport*, p. 2.

would be charged for the collection of tolls on behalf of interstate operators. In effect, an ITS version of bank interchange fees.[64]

4.84 The Commonwealth does not appear to have been closely involved in resolving this impasse. The committee is concerned that something as crucial to the success and adoption of ITS – setting an electronic standard for the inter-operability of tolling systems – should take seven years without agreement.

4.85 Differing technical standards are not only impeding the development of nationally compatible tolling systems. DoTaRS reports that most current freight transport and logistics (FTL) systems are proprietary. As a result, DoTaRS reports,

> E-commerce developments have not been as effective in promoting a seamless flow of freight as they might have been if they were developed as open / adaptable systems. The development of Internet based E-commerce in the FTL industry is beginning to address this problem by being more accessible to new entrants.

4.86 ITS-Australia highlighted the problem that proprietary systems may produce:

> The alternative to cooperation to achieve interoperability is a proprietary approach to architecture and standards, where competition and differentiation of basic standards and protocols prevails. This approach carries enormous risks of fragmentation and long-term discontinuity, that will be costly to remedy. Australia's transport history of different rail gauges and road regulations demonstrates the costs of fragmented standards and regulatory frameworks.[65]

4.87 This is in contrast to the United States where there is close involvement of the Federal Department of Transport in the creation and adoption of standards. For example, the US DOT ITS Standards Program is working toward the widespread use of standards to encourage the inter-operability of ITS systems.

- the Federal Highway Administration (FHWA), has an ITS Standards Program. The manager of this program has primary responsibility for standards development, testing, outreach and education, technical assistance, and policy support activities within the program.

---

64 Automobile Association of Australia, the Warren Centre, ITS-Australia, Briefings, Sydney, 14-15 August, 2002; Professor Phil Charles, Mr Colin Jensen, Briefings, Brisbane, 13 September, 2002.

65 Submission no. 7.

- the Technical Director of the US DOT Joint Program Office (JPO) is involved in ITS technical programs, including architecture, standards, telecommunications, and research and development efforts.
- the Federal Transit Administration (FTA), coordinates ITS standards activities relating to transit.
- the Federal Railroad Administration (FRA), coordinates ITS standards activities relating to the highway-rail intersection.[66]

4.88 TEA-21 provides the legislative basis by which metropolitan areas and the states of the United States will confirm with the national systems architecture. The rule was announced in January, 2001 and compliance is expected to occur within four years. Funding is made dependent upon compliance. This approach was taken because it was recognised that is was 'highly unlikely that the entire National ITS Architecture would be fully implemented by any single metropolitan area or state'. The rule issued under the TEA-21 requires that the National ITS Architecture be used to develop a local implementation of the National ITS Architecture.[67] In addition, TEA-21 requires the Secretary of Transportation to identify ITS standards considered critical to achieving national inter-operability and to require those standards be complied with in ITS projects.[68]

4.89 Another issue that the committee had brought to its attention in briefings and inspections is the ability of people and freight to move across modes of transport. So called cross-modal efficiency is central to achievement of more seamless logistics practices in the FTL industry. However, inter-modal linkages have tended to be developed in a piecemeal fashion.[69]

4.90 Commonsense, borne of the experience of Federation, would suggest that the Commonwealth should have a central facilitating role in the development and deployment of ITS. This does not appear to be the case.

4.91 The committee does not consider that a failure to agree on technical standards or pure self-interested business concern should undermine national development and the broader public interest.

66 See http://www.its-standards.net/; accessed 25 September, 2002.

67 *Federal Register*, 8 January, 2001 (Volume 66, Number 5).

68 *Federal Register*, 23 April, 2001 (Volume 66, Number 78).

69 *Transport Infrastructure Policy*, http://www.dotrs.gov.au/transinfra/aftliaa/linking_ahead.htm' accessed: 25 September, 2002.

Recommendation 7

4.92 **The Committee recommends that the government:**

- **resolve, if need by legislation, the current disputes and inconsistencies between technical and other ITS inter-operability standards; and**
- **establish as soon as possible, but no later than 31 December, 2003, a system, administered by the Commonwealth ITS bureau, to develop national standards for ITS, inter-operability, systems architecture, and, if necessary, establish such standards by legislation and or regulation.**

Transport information and tourism

4.93 Tourism contributes significantly to the Australian economy. In 2000-01, the tourism industry employed 551,000 people. Tourism accounted for $26.3 billion (4.3 per cent) of total industry gross value added in 2000-01. Tourism gross value added exceeded that of Government administration and defence, agriculture, and forestry and fishing.

4.94 In 2000-01 international visitors consumed $17.1 billion worth of goods and services produced by the Australian economy and overall consumption associated with the tourism sector increased from $58.2 billion to $71.2 billion between 1997-98 and 2000-01. The $17.1 billion worth of goods and services consumed by international visitors represented 11.2 per cent of total exports of goods and services. The export of tourism products is higher than coal, iron, steel and non-ferrous metals, but lower than food and live animals.

4.95 Tourism accounted for $31.8 billion of total GDP in 2000-01, up from $25.2 billion in 1997-98. International visitors contributed $7.6 billion or 1.1 per cent of GDP in 2000-01, while domestic tourists generated $24.2 billion or 3.6 per cent of GDP in 2000-01.[70] The Australian Bureau of Statistics reported that for 1997 -1998 if direct tourism demand and indirect tourism

70 The share of GDP contributed by tourism is the total market value of Australian produced goods and services consumed by tourists, after deducting the cost of goods and services used up in the process of production. See Australian Bureau of Statistics, Tourism Satellite Account, Australian National Accounts 2000-01 (Cat no. 5249.0), released on 9 April 2002, cited: http://atc.australia.com/research.asp?art=2221; accessed 27 September, 2002.

demand are aggregated, tourism accounted for 8.5 per cent of national GDP.[71] The tourism industry share of GDP was 4.7 per cent in 2000-01.

4.96 Long distance passenger transportation represented the largest proportion of tourism consumption by international visitors at 29 per cent, followed by shopping, including gifts and souvenirs (14 per cent) and accommodation services (13 per cent).[72]

4.97 ITS-Australia reports that there are over 36 different phone numbers across Australia that the travelling public, tourists and commercial vehicle operators use to obtain public transport, traffic and incident information or to report accidents.[73] One of the major impediments in Australia is incompatible data sources, and sometimes, unco-operative data managers.

4.98 In contrast, in the EU and the US, each has an easy to remember number that can be used to obtain traffic information.

4.99 ITS-Australia also raised the issue of allocating specific radio frequencies to transport information, as occurs in the US and EU, in much the same way that radio stations aimed at tourists have been established in some parts of Australia. ITS-Australia suggested that specific incident, travel time, and traveller specific weather alerts could be delivered to vehicle operators.[74]

4.100 The committee was also told that Australia did not have a single, national rail ticketing system, unlike Europe.[75] The result is that tourists, whether international or domestic, have to purchase rail tickets in each jurisdiction and that this could be a complex task to people unfamiliar with the specific requirements of a particular system. Given the trend to using multi-modal transport, the committee was told, there was a need for a national transport ticketing system that covered all modes of transport and which was available throughout Australia and at Australian presences abroad.[76]

4.101 ITS-Australia advised the committee that:

> The National Ticketing and Tolling Working Group seeks to develop a nationally consistent standard for public transport ticketing smart cards in Australia. These cards could be issued by public transport operators, banks, Telstra, [or] any one with an e-

71 See Australian Bureau of Statistics, Tourism Indicators – March Quarter 2002 (Cat no. 8634.0), released on 9 August 2002, p. 25.

72 http://atc.australia.com/research.asp?art=2221; accessed 27 September, 2002.

73 ITS-Australia, submission no. 3.

74 ITS-Australia, submission no. 3.

75 Briefings, ITS-Australia, AAA, Warren Centre, Sydney, 14 - 15 August, 2002; submission no. 7.

76 Briefings, ITS-Australia, AAA, Warren Centre, Sydney, 14 - 15 August, 2002.

> purse function on a smart card. They would be interoperable with all transport in Australia and would greatly enhance … tourism.[77]

4.102 The committee considers that these issues could be dealt with easily and quickly and is puzzled that the Commonwealth does not appear to have addressed them. For example, as noted already, the Commonwealth does not appear to have a close involvement with the National Ticketing and Tolling Working Group. This is surprising given that the Commonwealth allocates radio spectrum, has constitutional powers to make laws in respect of trade and commerce between the states, and corporations, amongst others.

4.103 Australia is considered as a high quality, friendly and safe tourist destination. However, we must develop and maintain a tourist-friendly infrastructure that facilitates not only domestic but international tourism.

Recommendation 8

4.104 **The Committee recommends that the Commonwealth enter into negotiations with the states and stakeholders, and establish, no later than 31 December 2004:**

- **a single national traveller information number;**
- **a national tourist and transport information radio network along major tourist routes; and**
- **a system of national ticketing to enable tourists to purchase a single, electronic rail, road, toll and public transport ticket.**

ITS Market and export potential

4.105 The market for ITS technology is already large and it is expected to grow significantly, in line with the introduction of ITS technology in Europe and the US and the development of transport infrastructure in Asia.

4.106 In 2000, the annual market for transport technologies was estimated at A$800 million for Europe and A$2 billion in the US. The US market for ITS alone, is estimated to grow from about $5 billion to $35 billion by 2010. Moreover, it is expected that over $700 billion will be spent on transport infrastructure in the Asia-Pacific region, leading to an increasing demand

77 ITS-Australia, submission no. 7.

for ITS technology.[78] In Japan alone, the annual market size has been estimated at A$7 billion by the year 2010. The cumulative ITS market potential to 2010 for five ASEAN countries (Singapore, Malaysia, Thailand, Indonesia and Philippines) and China including Hong Kong has been estimated at over A$6.5 billion.[79]

4.107 The Australian ITS industry has demonstrated its potential for developing cutting edge technology and is recognised as a pioneer in developing advanced transport technologies such as the Sydney Coordinated Adaptive Traffic Control System (SCATS) which is now operating in over 80 cities worldwide. In addition, Australia is already part of the global ITS market, with 270 companies involved in ITS technology and exports.[80]

4.108 The global market opportunities facing Australia are well understood by key industry players. For example, Raytheon advised the committee that:

> An advanced highway traffic management system that is developed in Australia will have huge export potential as most regions and countries currently suffer from serious traffic congestion. Worldwide traffic numbers will, as predicted for Australia, continue to increase and this, in turn, will require advanced management of all road systems to reduce congestion and improve safety. Australia has the opportunity to become a world market leader for advanced traffic management systems and [so] will benefit from the export potential.[81]

4.109 ITS-Australia also highlighted the export potential of ITS:

> There is an enormous potential for export of ITS technologies. This was clearly demonstrated when ITS Australia hosted the 8th World Congress on ITS in Sydney in 2001. Over 2800 delegates from 55 countries attended the congress and significant business conducted by Australian companies including SMEs [small-medium enterprises] following the congress as a direct result of participation.[82]

78 Booz Allen & Hamilton, *Intelligent Transport Solutions for Australia*, summary report, Sydney: 1998.

79 Dr Hussein Dia, *Proposal to establish the Intelligent Transportation and Vehicle Systems Research Laboratory*, The University of Queensland, 2000; http://www.uq.edu.au/dia/its-lab.pdf

80 Booz Allen & Hamilton, *Intelligent Transport Solutions for Australia*, summary report, Sydney: 1998.

81 Raytheon, submission no. 4.

82 E—mail communication with secretariat, 1 October, 2002.

4.110 It has been recognised for some time, and reaffirmed in this inquiry[83], that 'Australia's opportunities for ITS will increase rapidly, but … capturing a share of this opportunity will require coordinated government efforts'.[84] This is reflected in the national strategy, *e-transport*:

> Commonwealth Government advice be sought, by June 2000, on the inventory of development assistance programs available to the ITS industry from all levels of government, recognising the development and export potential of the industry.[85]

4.111 Yet, there appears to be considerable reluctance on the part of policy makers to actively pursue the market possibilities for ITS. In 2001 Australia hosted the 8th World Congress of Intelligent Transport Systems. The committee was advised in August and September that the 9th ITS World Congress is going to be held in Chicago, 14th – 17th October, 2002. However, the committee was also advised at its Sydney and Brisbane briefings that apart from a display coordinated by ITS-Australia and paid for by the industry itself, there was no concerted sales effort by agencies of the Commonwealth government. Moreover, at the time of the Sydney and Brisbane briefings, the committee was advised by those providing the briefings that there was no indication of the Commonwealth's involvement despite repeated attempts from ITS - Australia to seek involvement from the Commonwealth administration.

4.112 This matter was raised with DoTaRS at a public hearing on 25 September, 2002. DoTaRS testified that the department was going to be represented in Chicago World Congress by one officer, the head of the transport programs division, and DoTaRS also understood that the Australian consul would be in attendance along with two officers from Invest Australia.[86]

4.113 It is a matter of concern to the committee that DoTaRS and other elements in the Commonwealth administration did not take a more enthusiastic and pro-active approach. The committee considers that the Commonwealth involvement in the Chicago Congress is unacceptably timid. This concern is heightened when the potential export market and actual markets so far developed, are considered.

---

83 ITS-Australia, submission no. 3; the Warren Centre, Briefing, Sydney, 15 August, 2002 and submission no. 1.

84 Booz, Allen & Hamilton, *Intelligent Transport Systems for Australia, Technical Report*, p. 59; cited by Stuart Hicks, Chairman, NRTC, 'An Intelligent Transport System for Australia', 4th International Conference, Adelaide, 1999. Mr Hicks said in his speech (in 1999) that he was not sure he had yet seen a definitive argument made for government support.

85 *E-transport*, para. 4.43.

86 *Transcript of Evidence*, pp. 10 & 12.

4.114 The relaxed approach apparently taken by DoTaRS is in contrast to that taken by other nations. For example, the transport administrations of other ITS-exporting nations have ITS dedicated internet sites containing a wealth of information.[87] DoTaRS has a link to ITS-Australia, with the result that the ITS activities of government and business are difficult to find and evaluate as elements of a developing national system.

4.115 The uncoordinated way in which Australia's ITS industry is taken to world markets is in contrast to the approach adopted by other countries. For example, participation by French ITS stakeholders at the Chicago Congress took the form of a French pavilion housing thirteen separate companies or organisations. It included included companies developing video detection equipment for highways, software engineering for navigation and mobility applications, multiplexing equipment, text to speech technologies, video tele-surveillance firms, and engineering consultants specialising in ITS applications. Business development agencies, representatives of ITS France, a professional organisation which is a contact point for coordinating ITS strategies in France and in French speaking countries, the RATP, the Paris Transit Authority, and representatives of the French Ministry of Transit Equipment were on hand at the French pavilion. The French Ministere De L'Equipement Des Transport et du Lodgement had its own exhibition within the French pavillion.[88]

4.116 Some countries do not wait for international congresses. Canada continues to search for export opportunities in growing international markets. In 2000, Transport Canada's *Annual Report* stated:

> Canadian missions went to Japan, Germany, China, Brazil and Italy, among other countries, to position Canada's ITS industry and develop export opportunities for Canadian ITS firms. Canada continues to work on the international front through participation in the ITS World Congress, and attended the most recent congress held in Torino, Italy, in November 2000.[89]

4.117 The committee is concerned that the cutting-edge ITS technology that we are developing in this country will either be commercialised by others (who will accrue the benefits) or will not be developed at all. The main reason for this is likely to be that we do not have a coordinated and

87 For example see www.its.dot.gov.– the US Department of Transport Intelligent Transport Systems site or http://www.its.go.jp/ITS/index/indexHBook.html - Road Bureau, the Ministry of Land, Infrastructure and Transport, Japan.

88 http://www.itsa.org/ITSNEWS.NSF/4e0650bef6193b3e852562350056a3a7/6a6e3837b56a4f3485256c33003fd002?OpenDocument; accessed: 25 September, 2002.

89 Transportation Canada, *2000 Annual Report*; http://www.tc.gc.ca/pol/en/anre2000/tc0010ce.htm; accessed 28 September, 2002.

enthusiastic exporting policy, and more fundamentally, we do not possess the institutional infrastructure and linkages necessary to develop and implement such policies.

4.118 The committee was advised that ITS-Australia through Austroads has requested the assistance of the Commonwealth to engage the Bureau of Transport and Resource Economics to conduct analysis of the size and scope of the industry.[90] The committee believes that such a study is an important element in developing a national export oriented industry.

Recommendation 9

4.119 **The Committee recommends that the government commission the Bureau of Transport and Regional Economics to:**

- **survey the export potential of ITS;**
- **review Australian ITS industry and export policy;**
- **develop an Australian ITS industry marketing plan; and,**
- **make other such recommendations as may be appropriate.**

Recommendation 10

4.120 **The Committee recommends that the Minister for Transport and Regional Services, the Minister for Communications and Information Technology, jointly develop in co-operation with other associated agencies and related agencies a plan for the representation of Australian ITS companies at appropriate future ITS forums.**

ITS research and development

4.121 There are R&D programs operated by the CSIRO, and a number of Australian Universities, private companies and government departments are undertaking research not only into the more theoretical aspects of ITS but also the practical, hardware-oriented aspects. However, funding levels are not known but it would appear that we do not spend a great deal on ITS R&D, compared to other nations.

90 E-mail communication with secretariat, 1 October, 2002.

4.122 For example, between 1996-1998 Japan budgeted some $AUD270 million for R & D in ITS out of a total ITS budget of $AUD2.1 billion.[91] In the United States in FY 2000 over US217 million was allocated for ITS research and development by the Federal Administration.[92] This does not include the R&D contributions made by state administrations. Overall, the United States government has allocated over $AUD2 billion for ITS over six years, 1998 – 2003. This is in addition to considerable state funding.

4.123 Each year in the European Union, research programs contribute approximately €100 million to fund projects to develop and demonstrate information and communication technologies across all modes of transport.[93] This does not include the R&D contributions made by member-state administrations.

4.124 *E-transport* reported that in 1998 –1999 over $80 million was spent by all levels of government on ITS-related projects. The States and Territories were the main source of this expenditure largely because they have the major role in provision of roads infrastructure, public transport and traffic management. This $80 million also included R&D. *E-transport* reports that per capita the R&D budget of Japan in respect of ITS is about 30% higher than the R&D budget available in Australia.

4.125 If the Commonwealth Parliament were to appropriate proportionally similar ITS targeted funds, the sum in the order of $AUD30 – 50 million would be required. This would be part of a total national expenditure of $110 – $130 million.

4.126 The committee is aware of the fiscal pressures under which the Commonwealth operates. However, a proportion of the ITS R&D expenditure could be for projects that might have a safety focus. In particular, certain road 'black spots' may be addressed by ITS applications, rather than engineering or passive signs.

4.127 The committee notes that the Commonwealth allocated $48.85 million to black spot funding in 2001-2002.[94] The committee believes that there is a strong case to create a fifth, ITS specific, category of road fundings, as recommended already in paragraph 3.41 and reallocate a portion of Commonwealth road funding to ITS applications to this category.

---

91 *E-transport: The national strategy for intelligent transport systems*, p. 3.

92 http://www.iot.gov.tw/apec_tptwg/TPT/tpt-main/Steering-Committees/Safe/Intelligent-Transport/tpt-wg-17-final-papers/its-funding.htm; accessed 28 September, 2002.

93 http://europa.eu.int/comm/transport/themes/network/english/its/html/vision_policy.html; accessed 28 September, 2002.

94 Department of the Parliamentary Library, *Research Note No. 2*, 2001-2002, p. 2.

4.128 It is not merely a matter of money. It is, importantly, a matter of administrative acumen on the part of policy advisers. They should be alert to the deficiencies in the current R&D arrangements and propose appropriate policies.

4.129 In this respect, Australia has not acted strongly at a national, institutional level for fundamental decisions and clear goals to be identified and pursued. Large nations, such as the United States, have seized the opportunity and devised targeted programs that will reap great rewards. Smaller nations, comparable to Australia, adopt energetic policies. For example, in partnership with the private and public sectors, and academia, Transport Canada is preparing a five-year R&D Plan to support private sector innovation and technology development and to ensure that ITS technologies lead to safer and more efficient, accessible, and sustainable transportation systems. The draft plan will be released in 2002.[95]

4.130 The CSIRO advised the committee that there appeared to be some duplication of research effort and that better co-ordination and targeting of research was needed.[96] When briefing the committee, ITS-Australia also called for better targeted and more research funds, a sentiment that was also reflected in the briefings provided by other industry stakeholders. It would appear that Australia does not possess even basic coordination at a national level for R&D.

4.131 The committee notes that R&D, including the creation of the ITS Cooperative Research Centre and the establishment of demonstration projects, are central proposals of *e-transport: The national strategy for intelligent transport systems.* However, the committee also notes that apart from the ARC funded ITS laboratory at the University of Queensland, a CRC has not been established and there does not appear to be a national ITS R&D committee reporting to the Australian Transport Council.

4.132 The estimates of the global market potential noted already indicate that the ITS industry is rapidly growing as a major sector of the global economy. However, the opportunities presented to Australia will be enjoyed only if ITS research and development is increased by coordinating access to relevant national resources, R&D programs and by developing an Australian ITS industry. Therefore, an active research and development program is necessary if Australians are to meet our own ITS needs and, importantly, develop appropriate products for a large and expanding export market. This was recognised in *e-transport: The national strategy for intelligent transport systems,* released in 1999. However, unlike other

95 http://www.its-sti.gc.ca/en/research_and_development.htm; accessed 28 September, 2002.

96 Briefing, Sydney 15 August, 2002.

countries, we do not appear to have developed a national research agenda that is capable.

4.133 This committee is acutely aware that research funds are scarce and need to be precisely targeted. The committee was unable to determine the extent to which the *e-transport* R&D strategy has been introduced. It would appear from the comments made by stakeholders providing briefings that the strategy has only partially been implemented.

Recommendation 11

4.134 **The Committee recommends that the government review the national ITS R&D strategy as soon as possible and that the government:**

- **establish an ITS R&D forum that brings together industry, academia and government, the task of which is to facilitate the exchange of information and identify national R&D priorities;**
- **establish a targeted ITS R&D fund to be administered by the previously recommended Commonwealth ITS Bureau;**
- **allocate a portion of the Commonwealth road allocations as seed funding for an ITS R&D fund; and**
- **establish a cooperative research centre for ITS.**

Paul Neville MP

Committee Chair

2 December 2002