

**INTELLIGENT ACCESS PROGRAM
(IAP) STAGE 1 IMPLEMENTATION
REGULATORY IMPACT
STATEMENT**

2005



**Prepared by
Austroads for the National Transport Commission**

National Transport Commission

Intelligent Access Program (IAP) Stage 1 Implementation – Regulatory Impact Statement

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ISBN: 1 877093 95 5

REPORT OUTLINE

- Date:** September 2005
- ISBN:** 1 877093 95 5
- Title:** Intelligent Access Program (IAP) Stage 1 Implementation – Regulatory Impact Statement
- Address:** National Transport Commission
Level 15/628 Bourke Street
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- E-mail: ntc@ntc.gov.au
Website: www.ntc.gov.au
- Type of report:** Regulatory Impact Statement
- Objectives:** To Assess The Regulatory Proposal For Stage 1 Of The Intelligent Access Program (IAP)
- NTC Programs:** Efficiency and Compliance
- Abstract:** The Regulatory Impact Statement (RIS) assesses the regulatory proposal for Stage 1 of the Intelligent Access Program (IAP), a voluntary program in which remote monitoring of heavy vehicles using vehicle telematics technology will support regulatory concessions schemes. This initial stage of IAP will effectively establish a framework to govern the certification and auditing of IAP Service Providers. Also included in the proposal are a set of Stage 1 applications and a model set of legislative provisions. The model legislative provisions are intended to be implemented in the road transport legislation of each Australian jurisdiction, to build on the nationally agreed provisions in the model Road Transport Reform (Compliance and Enforcement) Bill that are being introduced in all jurisdictions from late 2005.
- Purpose:** For voting by members of the Australian Transport Council to approve the IAP Model Legislation - the *National Transport Commission (Model Legislation – Intelligent Access Program) Regulations 2005*.
- Key words:** Intelligent Access Program, IAP

FOREWORD

The National Transport Commission (NTC) is an independent body established under an Inter-Governmental Agreement. It has an on-going responsibility to develop, monitor and maintain uniform or nationally consistent regulatory and operational reforms relating to road transport, rail transport and intermodal transport.

This Regulatory Impact Statement has been prepared to support a vote by members of the Australian Transport Council on the Model Legislation - *National Transport Commission (Model Legislation — Intelligent Access Program) Regulations 2005* - which has been developed to support the implementation of the Intelligent Access Program (IAP) policy framework in a nationally consistent manner. This Regulatory Impact Statement was initially prepared for Austroads to support a vote by members of the Austroads Council on the IAP policy framework and related technical documents that are essential to the operation of the Model Legislation. Austroads Council gave this endorsement in October 2004.

The IAP is a voluntary program that jurisdictions will be able to utilise as an operating condition to schemes, permits or applications that provide improved heavy vehicle utilisation. It is intended to guarantee levels of compliance that will afford jurisdictions the confidence to offer specific regulatory concessions.

The IAP is built around vehicle telematics technology that can remotely monitor heavy vehicle use. In broad terms, vehicle telematics comprises a combination of global positioning systems (GPS), invehicle sensors and transmitters, and communications technology for transmitting vehicle performance data to a base station for downloading and analysis. The IAP will use this technology, through certified service providers, to remotely monitor heavy vehicles to ensure they are complying with their agreed operating conditions and report the information to relevant road authorities to an evidentiary standard. The Model Legislation also establishes offences which will ensure that any attempt to tamper with the IAP will be reported to Authorities to an evidentiary standard.

In commercial applications, telematics technology is already being used by elements of the transport industry to monitor heavy vehicle position, engine speed, engine temperature, load temperature and load security. Vehicle telematics technology has developed at a time when the road system nationally is facing influences which are increasingly in conflict, including:

- a growing transport task;
- constrained road infrastructure budgets;
- pressure from the road transport industry to permit operation of larger and heavier vehicles to meet this demand; and
- community expectations about the safety of the road network.

The draft model legislation and the draft RIS were released by the NTC for a two month period of public consultation from February 2005. In response to the comments received during this round of public consultation some limited further changes have been made to both the model legislation and the RIS. However, the general conclusions of this final RIS are fully consistent with those of the draft RIS.

The Commission would like to sincerely thank all those parties who have contributed to the many phases in developing IAP.

I wish to acknowledge the significant contributions made by the Austroads IAP National Team. In particular the excellent cooperation on the legislative aspects between jurisdictions, Austroads, industry and the National Transport Commission. Additionally, I would like to wish Mr Chris Koniditsiotis, inaugural CEO of Transport Certification Australia, all the best in moving the IAP forward.

Michael Deegan

A/Chairman, National Transport Commission

SUMMARY

This regulatory impact statement (RIS) assesses the regulatory proposal for Stage 1 of the Intelligent Access Program (IAP), a voluntary program in which remote monitoring of heavy vehicles using vehicle telematics technology will support regulatory concessions schemes. This initial stage of IAP will effectively establish a framework to govern the certification and auditing of IAP Service Providers. Also included in the proposal are a set of Stage 1 applications and a model set of legislative provisions. The model legislative provisions are intended to be implemented in the road transport legislation of each Australian jurisdiction, to build on the nationally agreed provisions in the model *Road Transport Reform (Compliance and Enforcement) Bill* that are being introduced in all jurisdictions from late 2005 and 2006.

The objective of the regulatory proposal is to facilitate safer and more efficient use of the national road network (that is, more tonne kilometres for a given length and condition of road) through better and more predictable compliance with road transport laws. By accurately remotely monitoring compliance of heavy commercial vehicles to ensure that they are complying with their permitted operating conditions, the IAP provides new opportunities for both jurisdictions and transport operators to optimise performance of their businesses in terms of both their efficiency and safety, and also to maximise the performance of the existing (and future) road infrastructure.

Stage 1 IAP is intended to guarantee levels of compliance that will afford jurisdictions the confidence to offer specific regulatory concessions. It is not intended that Stage 1 will be directed at improving overall compliance *per se*. Using IAP as a tool to improve levels of compliance in road transport generally would give rise to a set of costs and benefits different to that estimated in this RIS.

The RIS draws on the results of the Austroads feasibility study to assess the economic viability of a Stage 1 IAP containing twenty possible applications. Based on that earlier work takeup is estimated to be eventually 8,400 vehicles (for Stage 1), assuming jurisdictions are satisfied with the performance of IAP as it progressively rolls out. By comparison Austroads had previously estimated that a takeup of 2,500 vehicles would be needed to encourage at least three service providers to enter the IAP market. Overall, at a takeup of 8,400 vehicles, IAP is estimated to generate a net present value (that is, present value of benefits less costs) of \$264.2 million over seven years (allowing for two implementation years) and a benefit cost ratio of 5.4. Across all applications, the jurisdictions' NPV is estimated to be \$80.9 million and the operators' NPV \$183.3 million. These results do not appear highly sensitive to assumptions about benefits and costs. Operators are estimated to accrue positive NPVs in all but two applications – dangerous goods and NHVAS mass management. Jurisdictions might need to consider offering some sort of additional incentive to encourage operator take up of the dangerous goods application. NHVAS mass management may become attractive to operators as an incremental or 'add-on' IAP application once IAP related-costs have been defrayed in adoption of more profitable applications.

The performance of alternative delivery options relative to the regulatory proposal was evaluated. A body containing the policy and regulatory functions envisaged for Transport Certification Australia (TCA) has the advantages over other models of transparency, national coverage and a central focus for IAP. There is little to choose between the corporations law and corporation and statutory body models for TCA other than administrative practicability.

Finally, the effect of the regulatory proposal on competition was considered. Against the tests used here the regulatory proposal is not expected to be anti-competitive.

The draft model legislation and the draft RIS were released by the NTC for a two month period of public consultation from February 2005. In response to the comments received during this round of public consultation some limited further changes have been made to both the model legislation and the RIS. However, the general conclusions of this final RIS are fully consistent with those of the draft RIS.

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1. INTRODUCTION

Austrroads, representing all Australian State and Territory road authorities, has been developing the Intelligent Access Program (IAP) to improve both compliance with road transport laws among heavy vehicle road users and the efficiency of road use by heavy vehicles.

The IAP is built around vehicle telematics technology that can remotely monitor heavy vehicle use. In very broad terms, vehicle telematics comprises a combination of global positioning systems (GPS), in-vehicle sensors and transmitters, and communications technology (such as mobile phone links) for transmitting vehicle performance data to a base station for downloading and analysis. In commercial applications, telematics technology is used to monitor, for example, vehicle position, engine speed, engine temperature, load temperature and load security. In the IAP the technology would be used to monitor (Stage 1 Implementation):

- spatial descriptors of vehicle activity – that is, that the monitored vehicle is travelling on permitted routes;
- temporal descriptors – that the vehicle is travelling within permitted hours of the day and/or days of the week; and
- speed compliance performance¹ – that the vehicle is travelling within its permitted maximum speed.

The availability of this technology opens up to road authorities the possibility of higher levels of compliance with road transport laws, and hence higher levels of safety and road use efficiency with lower enforcement costs. Not only would compliance with current regulations be improved, but jurisdictions could also have confidence that new regulations permitting operation of more efficient vehicles or wider use of the road network would also be complied with.

For many road users (operators and drivers), compliance is motivated by goodwill and it is important that that motivation be encouraged.² However, the probability that the non-compliant behaviour of other operators will be intercepted by jurisdictions is very low using current on-road enforcement practices, which are predominately based around physical observation and detection. With 598 on-road enforcement operators working in Australia, overseeing 810,000 km of road, the probability that a breach by an articulated vehicle will be detected is only 1-2 percent. The current approach is reactive and is widely recognised as often failing in its quest to achieve high compliance with road transport laws.³

¹ Due to the technical limitations of electronic maps, identifying posted speed limits to an evidentiary (legally enforceable) standard is not feasible. Therefore only one speed compliance performance indicator for a particular heavy vehicle is practical. As an example, a specific speed compliance performance level may be set for a particular innovative vehicle or combination which due to its design and/or purpose may need to be restricted to a specific maximum speed. The IAP provides a means of identifying compliance (or non-compliance) with that speed restriction.

² See Austrroads (2003b) p 43

³ See Austrroads (2003a) p4

Based on the capability of telematics technology, Austroads initiated a feasibility project to investigate the application of vehicle telematics technology. The purpose of the project, the ‘Intelligent Access Program feasibility project’ was to:

- identify the applications to which jurisdictions could apply the IAP; and
- demonstrate the feasibility of the IAP within the context of the parameters mentioned above, such as route access and speed. The feasibility project was undertaken in four sub-project components as follows:
 - intended applications and business feasibility;
 - regulatory feasibility and implications for jurisdictions;
 - technical feasibility and standards; and
 - proof of concept pilots, demonstrations and other lessons.

1.1 Rationale for Regulation

The main rationale for regulating the operators of heavy road transport vehicles lies in road safety, the environment and the use of the fixed infrastructure. Operation of these vehicles produces significant safety, environmental and road infrastructure externalities which have been regulated through a range of rules, standards and charges. Recent developments in global positioning and digital communications technology offer the opportunity, through the IAP, for improved outcomes in vehicle efficiency and vehicle regulation.

2. CURRENT REGULATORY ENVIRONMENT

Heavy vehicles are generally managed within a general or ‘as of right’ access framework. This framework typically constrains the maximum mass and dimensions of vehicles on the overall network, with exceptions governed by permits, guidelines, alternative compliance schemes and codes of practice. Current enforcement strategies reflect such regulation.

IAP Stage 1 will be voluntary for operators who will access the program through a third party service provider to obtain regulatory concessions from jurisdictions. IAP might be attached as a condition of existing or new concessional arrangements or used by operators to meet compliance assurance requirements in schemes such as the National Heavy Vehicle Accreditation Scheme (NHVAS). In this sense, IAP is an adjunct to the various regulatory concession arrangements for mass, dimensions or route access which may be enacted by the jurisdictions through various forms of permit or gazettal arrangements. These concessions are provided by jurisdictions, subject to conditions, to respond to emerging road use demands, to accommodate developments in vehicle technology or otherwise to enhance the efficiency of the road network without altering regulated requirements for general access vehicles.

There is currently a suite of current and dormant national instruments which make for a complicated and disparate framework for the regulation of the heavy vehicle freight task in Australia. For example, as shown in Table 1, there are 26 national instruments (other than

the *Road Transport Reform (Compliance & Enforcement) Bill*) that could be complemented by IAP or hinder the operation of IAP.⁴

Table 1. National Instruments relevant to IAP

Administrative Guideline: Assessment of Defective Vehicles
Australian Road Rules
Australian Vehicle Standard Rules 1999
Driving Hours Regulations
Exemptions From Mass and Dimension Standards 1995
Heavy Vehicle Roadworthiness Guidelines
Higher Mass Limits – Model Legislation 1999
Interstate Road Transport Act (FIRS)
Interstate Road Transport Regulation 1986 (FIRS)
Mass and Loading Regulations
National Guidelines for Network Access 1995
National Stationary Exhaust Noise Test Procedures for In-service Motor Vehicles
Oversize and Overmass Regulations
Recommended Conditions for Permit Travel 1995
Road Transport Reform (Dangerous Goods) Act 1995
Road Transport Reform (Dangerous Goods) Regulations 1997
Road Transport Reform (Heavy Vehicle Registration) Act 1997
Road Transport Reform (Heavy Vehicle Registration) Regulations
Road Transport Reform (Restricted Access Vehicles) Regulations
Road Transport Reform (Vehicles and Traffic) Act 1993
Road Transport Charges – Australian Capital Territory Act – 1993
Road Transport Charges – Australian Capital Territory Amendment Act 2000
Road Transport Charges - Australian Capital Territory Regulations 1995
Road Transport Charges – Australian Capital Territory Regulations 2000
Speeding Heavy Vehicles National Policy 1997
Vehicle Standards Regulations

As Table 2 shows, there are also a very large number of relevant jurisdictional instruments.⁵

⁴ See Austroads (2004), Appendix A

⁵ See Austroads (2004), Appendix F

Table 2. Jurisdiction Instruments (by Exception)

Jurisdiction	Instruments (by Exception)
Australian Capital Territory	Road Transport (General) Act 1999 Road Transport (General) Regulations 2000 Road Transport (Safety and Traffic Management) Act 1999 Road Transport (Safety & Traffic Management) Regulations 2000 Road Transport (Vehicle Registration) Act 1999 Road Transport (Vehicle Registration) Regulations 2000 Roads and Public Places Act 1937 Road Transport (Dimensions and Mass) Act 1990 Road Transport (Dimensions and Mass) Regulations 2000
New South Wales	Road Transport (General) Act 1999 Road Transport (General) Regulation 1999 Road Transport (Safety and Traffic Management) Act 1999 Road Transport (Safety and Traffic Management) (Road Rules) Regulation 1999 Road Transport (Safety and Traffic Management) (Driver Fatigue) Regulation 1999 Road Transport (Vehicle Registration) Act 1997 Road Transport (Vehicle Registration) Regulation 1997 Roads Act 1993 Road Transport (Mass, Loading and Access) Regulation 1996
Queensland	Transport Operations (Road Use Management) Act 1995 Transport Operations (Road Use Management) Regulation 1995 Transport Operations (Road Use Management – Dangerous Goods) Regulations 1998 Transport Operations (Road Use Management – Vehicle Standards and Safety) Regulations 1999 Transport Operations (Road Use Management – Fatigue Management) Regulation 1998 Traffic Regulations 1962
South Australia	SA: Road Traffic Act 1961 SA: Motor Vehicles Act 1959 SA: Dangerous Substances Act 1979 SA: Road Traffic (Miscellaneous) Regulations 1999 SA: Road Traffic (Driving Hours) Regulations 1999 SA: Road Traffic (Vehicle Standards) Rules 1999 SA: Road Traffic (Mass & Loading Requirements) Regulations 1999 SA: Road Traffic (Oversize or Overmass Vehicle Exemptions) Regulations 1999
Tasmania	Vehicle and Traffic Act 1991 Traffic Act 1925 Dangerous Goods (Road and Rail) Transport Regulations 1998 Vehicle and Traffic (Vehicle Operations) Regulations 2001 Vehicle and Traffic (Vehicle Operations) Notice Vehicle and Traffic (Vehicle Standards) Regulations 2001 Vehicle and Traffic (Offence Detection Devices) Regulations 2002
Victoria	Road Safety Act 1986 Road Safety (Vehicles) Regulations 1999 Road Safety (Drivers) Regulations 1999

Jurisdiction	Instruments (by Exception)
	Road Safety (General) Regulations 1999 Transport Act 1983
Western Australia	Road Traffic Act WA 1974 Road Traffic (Vehicle Standards) Regulations 2002 Road Traffic Vehicle Rules 2002 Road Traffic Code Occupations Safety and Health Act 1984 (refer also to Fatigue Management for Commercial Vehicle Drivers – Operating Standards for Work and Rest in the Western Australian Road Transport Industry) Dangerous Goods (Transport Act 1998)

Austrroads review⁶ of existing legislation found that IAP could generally be accommodated within the existing legislation schemes provided relevant provisions of the national model *Road Transport Reform (Compliance and Enforcement) Bill* and of national privacy legislation were adopted. In respect of the individual jurisdictions the review found:

- New South Wales and the Australian Capital Territory: With minor amendments current legislative instruments would not hinder IAP but adoption of the principles of the *Road Transport Reform (Compliance and Enforcement) Bill* would substantially fill any gaps.
- Victoria: Like other jurisdictions in which minor legislative amendments would be needed to accommodate IAP – for example, recognition of third party service providers – current Victorian legislation would not hinder an IAP system. This position would be strengthened with the adoption of the *Road Transport Reform (Compliance and Enforcement) Bill*.
- Queensland: Minor amendments to Queensland legislation would be required to facilitate an IAP system. Also, the adoption of the key principles of the *Road Transport Reform (Compliance and Enforcement) Bill*, in particular provisions relating to offences by service providers and the powers of authorised officers to search on-broad equipment would be required.
- South Australia: Legislative provisions are already available – such as to attach conditions to regulatory concessions – or could readily be made to accommodate an IAP.
- Western Australia: Current legislative instruments do not contain specific provisions that would support an IAP but minor amendments and adoption of the key principles of the *Road Transport Reform (Compliance and Enforcement) Bill* would fill the gap. NTC has been made aware that WA-specific privacy requirements could limit the degree to which IAP could be implemented in the state.
- Tasmania: Minor amendments would be required to some legislation to facilitate an IAP. Much of the affected legislation already reflects national model road transport legislation.

⁶ Austrroads 2004(a)

The Austroads legislative review gave specific and detailed consideration to privacy considerations in an IAP. From consultations with Privacy Commissions at the Commonwealth and State levels, the review made the following recommendations:

- IAP design must ensure that the minimum type (monitored parameters) of information is collected for the purposes of specific IAP applications.
- While driver identification information will not be collected as part of the IAP, it was recognised that driver ID may be collected and stored by the transport operator as part of their system. As such, at some future time these two databases may be linked to create personal information. Therefore, while in the first instance personal information is not stored for IAP, the position that Austroads took was to assume that the information was of a personal nature hence triggering the national privacy principles.
- IAP design must ensure that any future change in the type of information or usage of that information would be made only through the legislative process.
- IAP design must ensure that information is retained for a pre-defined period or pre-defined use and then disposed of.
- IAP design must ensure that any future information uses are identified prior to application including any aggregation or de-individualisation of data.
- IAP design must ensure that the highest regulatory order privacy principles form part of the contract between the IAP service provider and transport operator (and be a condition of certification of service providers).
- IAP service providers and road authorities will need to ensure the accurate collection, storage and security of information including protection against loss, unauthorised access, use, modification, disclosure or misuse within the storage or transmission phase.

The Austroads legislative review noted in respect of these recommendations that road authorities already have a sound knowledge base and experience in dealing with personal information through their existing systems.

3. STATEMENT OF THE PROBLEM

Vehicle telematics technology has developed at a time when the road system nationally is facing influences which are increasingly in conflict, including:

- a growing transport task;
- constrained road infrastructure budgets;
- pressure from the road transport industry to permit operation of larger and heavier vehicles to meet this demand; and
- community expectations about the safety of the road network.

Road transport laws seek to manage these conflicts by defining the rights and responsibilities of road users and legislating penalties for non-compliance. As noted

earlier, current on-road enforcement procedures are unable to guarantee high levels of compliance with road transport laws. Road authorities are therefore constrained in encouraging, facilitating or permitting innovative approaches to road use – which might include larger, heavier and more efficient vehicles – knowing that on-road enforcement might not be capable of managing the inherently greater risk that each of these innovative vehicles potentially poses. The problem to which the IAP responds is therefore multi-layered:

- Innovative vehicle technology will be needed to absorb growing demand for road space, given tightening road infrastructure constraints.
- Innovative vehicles, being larger and/or heavier, may pose safety or infrastructure protection risks.
- The current on-road enforcement methodology is poorly placed to manage these additional risks.

Two important elements of the National Transport Commission (NTC) agenda specifically respond to the first two of these challenges:

- The Performance-Based Standards (PBS) program currently under development is intended to facilitate nationally consistent means of approving and regulating innovative vehicles; and
- The model *Road Transport Reform (Compliance and Enforcement) Bill*, intended for national adoption, provides legislative mechanisms to improve compliance with road transport law using traditional and emerging enforcement practices.

Both these initiatives, and the regulation of a growing fleet of heavy vehicles, will be reliant on means of intercepting and identifying breaches of road transport law that are more effective and more efficient than currently used means of on-road enforcement.

The objective of the regulatory proposal is to facilitate safer and more efficient use of the national road network (i.e. more tonne kilometres for a given length and condition of road) through better and more predictable compliance with road transport laws.

By means of accurate, remote monitoring of heavy commercial vehicles to ensure that they are complying with their permitted operating conditions, the IAP provides new opportunities for both jurisdictions and transport operators to optimise performance of their businesses in terms of both their efficiency and safety, and also to maximise the performance of the existing (and future) road infrastructure.

4. OPTIONS

Options for addressing the regulatory problem are as follows:

- do nothing;
- adopt the regulatory proposal;
- adopt the regulatory proposal but with different forms and levels of regulatory oversight; or

- adopt other measures for improving the regulatory system such as improved on-road enforcement.

Of these, the RIS considers all but the ‘do nothing’ option because that particular option offers no contribution to addressing the regulatory problem.

5. THE REGULATORY PROPOSAL

5.1 Introduction

Vehicle telematics could potentially be used in a wide range of purposes, including:

- regulatory concession arrangements in which heavy vehicle operators are accorded the right to more permissive use of the national road network subject to conditions more stringent than those applying to operators generally. One condition could be that their vehicles are monitored for compliance purposes by a third party telematics service provider that is the IAP;
- as a condition of general access to the road network for heavy vehicles. This would be a mandatory application;
- as a means of road use charging. This could be a voluntary or a mandatory application of telematics depending on the scope of road use charging adopted. (Decisions on road use charging are of course broader transport policy matters outside the immediate scope of IAP.); and
- as a punitive measure to control operators who persistently breach road transport law. The *Road Transport Reform (Compliance and Enforcement) Bill* provides for this application.

The regulatory proposal evaluated in this RIS provides for the first of these purposes, that is for the IAP to support voluntary regulatory concessions schemes as Stage 1 of a progressive implementation of IAP. The recommended implementation approach involves⁷:

- Stage 1 – which effectively will establish a framework to govern the certification and auditing of IAP Service Providers, without exposing the telematics industry to additional risk associated with developing specialised compliance monitoring parameters; and
- Stage 2 – which will involve an expansion of the applications that may be available, including an increase in the complexity and number of compliance-monitoring parameters in parallel with the development of specialist IAP management systems within jurisdictions.

⁷ See Austroads (2003c)

The logic of staging is to allow a gradual build up of jurisdiction and transport industry familiarity with IAP, but is also influenced by the capacity of the vehicle telematics industry to absorb the new business.⁸

Three aspects of IAP are of particular importance:

- IAP is a tool being developed by agencies to improve both compliance with road transport law and road use efficiency, and it may have application also in conjunction with other specific programs such as PBS.
- The focus is on IAP as a tool, rather than on the specific compliance parameters (such as mass or route compliance) to which it is applied.
- A key motivation for a gradual, voluntary takeup of IAP is to control demand for the program in the early years while operators, third party service providers and regulators are building their IAP experience and capability.

5.2 Elements of the Regulatory Proposal

The regulatory proposal contains the following elements:

- a set of generic Stage 1 applications of IAP;
- model national provisions to give effect to the proposal, set out in the *National Transport Commission (Model Legislation — Intelligent Access Program) Regulations 2005*. These provisions are intended to build on the model national provisions of the *Road Transport Reform (Compliance and Enforcement) Bill* that was approved unanimously by Transport Ministers on 3 November 2003 and which is being implemented in all Australian jurisdictions from late 2005; and
- the adoption of the IAP operating model, including implementation of Transport Certification Australia (TCA) as a certification and audit group.

Supporting elements including:

- intelligent access conditions;
- provision of non-compliance reports to jurisdictions;
- sanctions model; and
- intelligent access maps.

5.3 Stage 1 Applications of IAP

The IAP feasibility study⁹ evaluated a range of potential generic and specific IAP applications. Additionally these applications were further considered as part of the IAP implementation. The generic level Stage 1 applications are shown in Table 3.

⁸ See Austroads (2003c) p 11

⁹ Austroads (2003c) p i.

Table 3. Types of Applications Included in Stage 1

Vehicle/Operation Type (Generic)	Incentive/Concession
Dangerous goods vehicles (route compliance, temporal speed compliance performance)	Ability to access a wider network and provide an early warning system for incidents involving these vehicles. Savings in dangerous goods incident costs
Specialised rigid vehicles (route compliance and speed compliance performance)	Better utilisation of vehicles
Low loaders (route compliance, temporal compliance and speed compliance performance)	Better utilisation of vehicles
Mass concession scheme (route compliance, mass management accreditation and speed compliance performance)	Operation of over-mass vehicles on an approved network (<i>niche level</i>)
Performance Based Standards/ Innovative Vehicles and Speed Compliance Performance	Route compliance, mass management accreditation and speed compliance performance (<i>niche level</i>)
Higher Mass Limits (route compliance, mass management accreditation and speed compliance performance)	Operation of HML over an expanded network, (<i>niche level</i>)

These proposed applications include a mix of full generic applications (the first three) that may not change significantly with the future development of the IAP, and niche applications (the latter three) which could be tested in Stage 1 for eventual broader Stage 2 delivery.

Road authorities will be able to consider other applications but, during Stage 1 implementation, they will need to be cognisant of possible limitations, both technically and economically, as identified in the IAP feasibility report.¹⁰

5.4 Legislative Amendments

There is currently a suite of active and dormant national instruments which make for a complicated and disparate framework for the regulation of the heavy vehicle freight task in Australia (see Table 2 in section 2). As noted in section 2 of this RIS, there are 26 national instruments (other than the *Road Transport Reform (Compliance and Enforcement) Bill*) that may trigger or hinder a potential IAP. In Austroads' report on the legislative environment¹¹, each of these national instruments was assessed against a range of measures appropriate to an implemented IAP, in order to establish the number requiring no amendments (16 out of 26), some amendments (7 out of 26) or major amendments (3 out of 26).

While the majority of these national instruments were found to be supportive (with some amendments) of IAP applications, the continuing cross-referencing, cross-vesting

¹⁰ Austroads (2003c) p v

¹¹ Austroads (2004a)

amendments and interpretations needed to apply an IAP suggests that the current framework is not suitable to a seamless, or at least a nationally consistent regulatory framework for the IAP. The Austroads report found that the regulatory feasibility of an intelligent access regime would be better served by guidance from the proposed compliance and enforcement model laws, rather than by reliance on piecemeal amendments to existing current and dormant instruments.¹²

The majority of the assessed State legislation was found by Austroads not to hinder implementation of an IAP regime. The main conclusion of the regulatory feasibility study was that:

“it is imperative that the principles of the Road Transport Reform (Compliance and Enforcement) Bill be incorporated into jurisdictions’ legislation to support IAP concepts and promote national consistency of processes.”

The Austroads regulatory feasibility study stressed that without national consistency in the application of an IAP, there would be little incentive for transport operators to participate in a voluntary alternative compliance scheme such as that envisaged in the regulatory proposal.

The IAP Model Legislation is consistent with and builds on the model *Road Transport Reform (Compliance and Enforcement) Bill*. The key elements of the Model Legislation include:

- powers for road transport authorities to issue IAP conditions when granting concessions to transport operators;
- duties of transport operators, drivers and IAP services providers – including process for certification of IAP service providers;
- privacy safeguards;
- auditing requirements;
- obligations to report certain types of breaches and any tampering with IAP equipment;
- provisions relating to non-compliance with IAP conditions, including offences and defences; and
- provisions for ensuring data is of evidentiary standard.

The new provisions are intended to be model provisions in the same way that the model C&E Bill’s provisions are model. That is, they are intended to be adapted for use by each jurisdiction according to local requirements and local law. IAP will begin in each jurisdiction when the Model Legislation is passed by its respective Parliament.

5.4.1 Privacy

Austroads (2003) concluded that the IAP could be accommodated within the national and State level privacy principles. In the first instance, it could be argued that because driver identification is not collected *per se*, personal information and the privacy of the same do

¹² See Austroads (2004a),

not apply. However, close examination and assessment of both national, and where available, state level privacy principles indicate that personal information most probably would be stored in another location or database containing the driver identification and details. This information would in most occurrences be stored for fleet management purposes by the transport operator. Thus there is a possibility that the merging or combining of two separate databases, namely IAP data with transport operator driver identification data, would permit the construction of personal information. The position was taken by the IAP Feasibility Project to regard data collected under IAP as personal in nature and subscribing to the national and State level privacy principles. Importantly, the highest order privacy principles were adopted, rather than a consensus or minimum level. This means that IAP Service Providers and jurisdictions need to ensure the accurate collection, storage and security of information to protect against loss, unauthorised access, use, modification, disclosure or misuse within the storage and transmission phase.

In the development of the Model Legislation there has been extensive consultation with Privacy Commissioners to resolve issues surrounding privacy issues in the IAP model. It is well known that the ability of GPS to locate the whereabouts of a person is quite powerful and accurate. With proper authority, and used with proper accountability, the data can be a valuable compliance tool. However, used without proper authority, or without proper accountability or for improper purposes, they can be a source of privacy intrusion. As a result, the IAP adopts the highest level of privacy protection found in Australian law.

IAP provides for any collection, use and disclosure of IAP information by the relevant jurisdictional authority to be consistent with privacy principles and laws applying in individual jurisdictions. The relevant authority is empowered to obtain, use and disclose IAP information only for the purposes of enforcing the road laws and approved road transport compliance schemes. It may only disclose that information to other agencies for broader law enforcement purposes. This is consistent with privacy laws, which provide that information, including personal information, may be collected, stored, used and disclosed for 'enforcement purposes' only. The transport operator must also take reasonable steps to inform drivers before their journey that they are being monitored, personal information cannot be used without consent of the driver for any other reason, and information is only kept for a limited period.

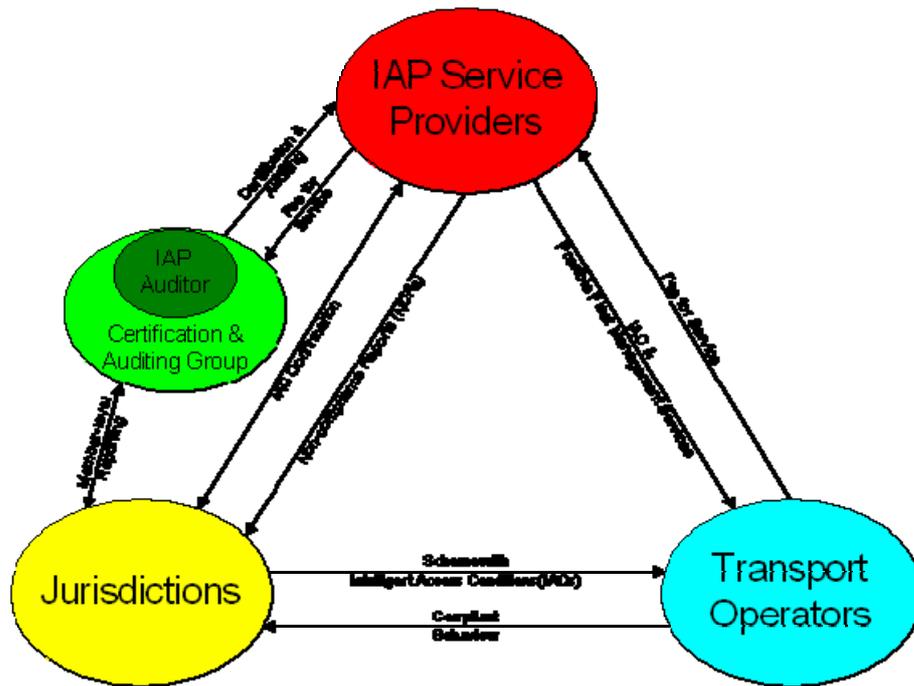
5.5 Implementation of the IAP Operating Model

The IAP Operating Model comprises:

- Transport Certification Australia (TCA) as the proposed IAP certification and audit group, a national body established by the jurisdictions to certify and audit IAP service providers;
- a system of nationally consistent Intelligent Access Maps (IAM);
- a nationally consistent system for issuing Intelligent Access Conditions (IACs) that operators must comply with in order to obtain the regulatory concession in each IAP application;
- a nationally consistent system for reporting vehicle non-compliance; and
- a system of sanctions against breaches of IACs and related regulatory provisions.

Each of these elements is discussed briefly below. The overall IAP Operating Model is shown in Figure 1.

Figure 1. Schematic of the IAP Operating Model



5.5.1 Transport Certification Australia (TCA)

Purpose and Function

Purpose

TCA's purpose would be to serve its members and the community by ensuring that IAP Service providers are certified and audited.¹³

Function

To achieve the purpose, TCA's function would be to:

- manage the certification and auditing regime for the IAP;
- certify, audit and cancel the certification of IAP Service Providers; and
- select and coordinate IAP Auditors.

To successfully undertake the function, TCA would:

- be a focal point for the IAP;
- undertake communication and disseminate information in the IAP;
- monitor technological developments; and
- liaise with government authorities and IAP Service Providers.

¹³ Discussion in section 5.5.1 from Austroads (2004) p 4 et seq and the agreed Constitution of TCA

TCA will deal with telematics organisations intending to provide IAP services and organisations that have already achieved the necessary certification requirements (that is, IAP Service Providers).

The behaviour of participating operators on the other hand would be the responsibility of the jurisdiction which has implemented the scheme, permit or application for which the IAP forms the compliance solution. For example, TCA would not audit transport operators to ensure that they were not tampering with their in-vehicle units (IVU); rather TCA would audit IAP service providers to ensure they are detecting and reporting any IVU tampering that might be occurring.

The jurisdiction would remain responsible for the non-compliant behaviour of the transport operator, while TCA would be responsible for the IAP Service Provider.

Manage the Certification and Auditing Regime for the IAP

TCA would:

- oversee the IAP operating model structure and associated rule architecture; and
- maintain the certification and audit regime.

In doing the above, TCA would:

- be the central point of contact with respect to the generic aspects of the IAP;
- provide an effective line of communication between jurisdictions and IAP service providers with respects to the IAP; and
- be monitoring and advising road authorities and IAP service providers of any emerging issues.

Certify, Audit and Cancel the Certification of IAP Service Providers

General

It would be mandatory for a telematics organisation to meet the certification requirements in order to become an IAP Service Provider. Changing, modifying or enhancing hardware, software processes or systems would necessitate the re-certification of the particular changed component.

TCA would be responsible for:

- initial and on-going certification of IAP Service Providers;
- auditing of IAP Service Providers; and
- cancellation of the certification of IAP Service Providers not meeting performance standards.

A two level approach to managing IAP Service Provider non-compliance with the certification and audit regime is proposed, comprising minor non-compliance and substantial non-compliance. An IAP Service Provider who incurs a substantial non-compliance may be asked to show cause why their IAP certification should not be cancelled.

Select and Coordinate IAP Auditors

TCA will be required to:

- procure the services of IAP Auditors;
- maintain standards for selection of IAP Auditors; and
- co-ordinate the activities of IAP Auditors in relation to the conduct of certification and audit tasks.

The information communication technology (ICT) sector, with its high level of technical development and innovation would clearly necessitate the use by TCA of third party experts to audit IAP Service Providers. While the decision making process would remain with TCA, the use of these IAP Auditors would ensure the most appropriate expertise is utilised for specific audit tasks. Overall IAP Auditors would be used to undertake tasks as follows:

- certification audit;
- re-certification audit; and
- formal audit.

TCA may use a number of IAP Auditors in one or all of the above functions.

TCA Structural (Governance) Model

TCA is a body corporate under the Corporations Act, owned by and having as its members those jurisdictions participating in the IAP¹⁴ and established via a memorandum of understanding (MoU) between the governments of the participating jurisdictions.

The precedent for this structure and governance model is the National Electricity Market Management Company (NEMMCO) which manages the national electricity market. The MoU establishing NEMMCO is an agreement between the governments of New South Wales, Victoria, Queensland and South Australia to establish a quasi-national power grid. These States are the members of NEMMCO and form its board. As well overseeing the power grid covered by the agreement, NEMMCO certifies Metering Data Agents and Metering Providers who provide services to participants in the electricity generation and supply market, similar to the model embodied in the regulatory proposal.

Details of the functions and funding of TCA are contained in the MoU.

The body corporate model has clear advantages over other possible models as discussed in a later section of this RIS.

5.5.2 Intelligent Access Conditions (IAC)

Each application of the IAP would contain a set of conditions attached to the regulatory scheme, permit or concession that the application provides. For example, a specific scheme may have a number of conditions associated with it, including National Heavy Vehicle Accreditation Scheme requirements, vehicle conditions and furthermore, an IAP compliant

¹⁴ See Austroads (2004) p 10 for outline of TCA model,

solution for spatial compliance. In this case, the IAP Service Provider would monitor the route used by the vehicle participating in the concession scheme. The telematics information received by the IAP Service Provider from the vehicle would cause a non-compliance report (NCR; see below) to be raised if the vehicle ventured off the approved route. That NCR would be forwarded directly to the jurisdiction sponsoring this particular IAP application.

IACs could be attached to those new regulatory concessions made possible by the compliance confidence that IAP affords jurisdictions, or to already existing regulatory concession schemes such as the National Heavy Vehicle Accreditation Scheme (NHVAS).

5.5.3 Intelligent Access Maps (IAM)

Conversion of vehicle position as measured by telematics technology to an actual location requires spatial mapping data. The Intelligent Access Map (IAM) is the approved and issued electronic road network map as the ‘reference’ from which each participating vehicle’s compliance with the IAC is monitored. The IAM would be managed by TCA as the IAP certification and audit group and would be issued directly to IAP Service Providers (as part of their certification) and jurisdictions. Importantly, the IAM comprises one singular electronic road network map, effectively one map for one route. The same electronic road network map would be used by all participants in the IAP, namely, TCA, IAP Service Providers and Jurisdictions. Thus the entities involved in the issuing and receiving of IACs, NCRs and the auditing of the same would be facilitated by the same IAM.

As part of the evaluations regarding the availability and accessibility of electronic road network map data, the IAP Steering Committee endorsed the recommendation for the Public Sector Mapping Agencies of Australia (PSMA Australia) to, in the first instance, provide via contract the IAM to TCA. This would ensure that, in addition to a one route one map policy, the data would be the latest available, appropriately checked and reviewed, and interoperable with connectivity across jurisdictional boundaries. It is also important to note that PSMA Australia does not collect spatial data as such. It relies instead on jurisdictional agencies to collect (directly or via contract) road network data and through governmental arrangements issue this data to PSMA for cleaning, processing and updating of the national road database.

5.5.4 Non-Compliance Reports

IAP monitoring of compliance with IACs will take the form of non-compliance reports (NCR) provided by the operator’s service provider to the jurisdiction managing the specific IAP application. This reporting-by-exception system means that sponsoring jurisdictions will only be notified of non-compliance even though IAP is capable of continuous monitoring of the parameters contained in an IAC, such as route access or hours of operation. IAP Service Providers will be required to provide the following minimum information to jurisdictions in NCRs:

- vehicle identification;
- trailer(s) identification (if applicable);
- transport operator details;
- vehicle location when non-compliance occurred;

- vehicle date/time when non-compliance occurred; and
- non-compliance details (that is vehicle position, time of access and/or speed compliance performance).

5.5.5 Sanctions

The proposed sanctions model contains scheme-based (administrative) sanctions and regulatory sanctions.¹⁵ The *Road Transport Reform (Compliance and Enforcement) Bill* provides for either or both types of sanction to be used in concessional schemes.

Administrative sanctions would include a hierarchy including a warning letter for a minor breach of an IAC, escalating to suspension and ultimately cancellation of an operator's participation in the specific IAP application.

Regulatory sanctions, set out in legislation, can include infringement notices, improvement notices and court imposed penalties. In any event a breach of an IAC detected on road by an enforcement officer would result in the issue of an infringement notice. The contemporaneous issue of an NCR by the operator's IAP Service Provider would result also in application of an administrative sanction.¹⁶

This model, containing both administrative and regulatory sanctions is used in NHVAS and was previously agreed by the Australian Transport Council (ATC). As such it has policy support, operators are familiar with it, and it would also allay fears that IAP operators might be accorded preferential treatment for breaches.

6. ASSESSMENT OF THE REGULATORY PROPOSAL

This section presents the results of cost benefit analyses (CBAs) of twenty specific potential applications of telematics technology to be included in Stage 1. Applications included in this assessment were identified by the IAP project team. It is envisaged that Stage 2 will commence in several years time, when IAP has been successfully trialled in Stage 1.

The analysis here assesses the potential Stage 1 applications collectively. While a previous assessment¹⁷ examined applications individually, as self-standing initiatives, a package approach more adequately reflects both the potential overall performance of IAP and recognises that fixed jurisdictional costs are likely to be spread across the totality of applications.

¹⁵ The detail of this model is contained in Austroads (2003a) p14 et seq

¹⁶ An infringement not logged contemporaneously as an NCR would trigger investigation of the IAP-service provider by TCA and in this sense, on-road enforcement can provide a useful external audit check on IAP operation. (See Austroads 2003a p 16).

¹⁷ Economic Associates (2003)

6.1 Previous Feasibility Assessment

The earlier feasibility assessment prepared by Austroads¹⁸ considered four scenarios for IAP, each scenario containing 27 specific IAP applications. The scenarios are described in the Table below.

Table 4. Scenarios Examined in Cost Benefit Analyses

Scenarios	Description
Scenario 1	‘Best guess’ takeup, and on-board weighing scales fitted to IAP vehicles in all relevant applications
Scenario 2	‘Best guess’ takeup, and on-board weighing scales not fitted in any application
Scenario 3	100% takeup and on-board weighing scales fitted to IAP vehicles in all relevant applications
Scenario 4	100% takeup and on-board weighing scales not fitted in any application

Scenarios 3 and 4 with the 100% takeup assumption were analysed to provide guidance on the potential scale and impacts of IAP. Because 100% takeup implies a mandatory IAP, these scenarios are not pertinent to the regulatory proposal (which provides for voluntary take-up of the IAP) and are not examined further here. Scenarios 1 and 2, which are predicated on a voluntary IAP are differentiated by the requirement for on-board (in-vehicle) weighing scales. Scenario 1, which assumes that installation of on-board scales would be a condition of operator participation in relevant IAP applications was deleted from the regulatory proposal on two grounds: firstly that the high costs of on-board scales would outweigh the benefits of IAP in about 50% of the applications examined; and secondly that the IAP Feasibility and Implementation projects determined that the current state of in-vehicle weighing technology would not provide compliance information which satisfies the tests of evidentiary proof.

Hence after extensive feasibility analysis, the regulatory proposal is based on Scenario 2 in which installation of on-board weighing scales will not be required on the part of operators in any Stage 1 IAP application.

6.2 Scope of the Assessment

The CBA prepared for this RIS is relatively simplistic, relying on available data for estimation of takeup and for operator costs and benefits. The IAP team supplied conservative estimates of jurisdiction implementation and operational costs. Operator benefits and costs were extrapolated from the results of the previous feasibility analysis.

6.3 Proposed Applications

Table 5 below lists the twenty specific applications relevant to Stage 1.

¹⁸ Economic Associates (2003)

Table 5. Applications Included in the Cost Benefit Analysis

Generic Application Type	Specific Application	Explanation
Dangerous Goods Specialised rigid vehicles	Dangerous Goods	Route compliance
	Over-dimensional & Over Mass Cranes	Route compliance
Low loaders	Heavy Tow Trucks	Route compliance
	Pick and Carry Cranes	Route compliance
	Concrete Pump Trucks	Route compliance
	Rubber tracked agricultural vehicles	Route compliance
	Over-dimensional loads	Route compliance
	Low loaders	Route compliance
Mass concession schemes	Gazetted access for low loaders < 55 t SA	Route compliance
	NHVAS Mass Management	Mass and length (comply on axles)
	Grain Harvest	Configuration and weight issue
	B-Double Operation	Access – route compliance
	B-Triple Operation	Access – route compliance
	A-B Triple Operation	Access – route compliance
PBS	Medium Articulated Vehicles with Dog	Access – route compliance
	PBS Related Vehicles	Configuration and weight issue
Higher mass limits	Additional Mass	Configuration and weight issue
	Truck-Trailer	Configuration and weight issue
	Increased HML Network	Mass and route compliance
	Road Train Operation	Access – route compliance

6.4 Treatment of the Base Case

The base case against which the regulatory proposal is assessed is taken to be the regulatory environment as it currently exists (and the associated compliance outcomes) as discussed in section 2.

It is important to note in considering Stage 1 IAP relative to the base case that the intention of Stage 1 is to guarantee levels of compliance that will afford jurisdictions the confidence to offer specific regulatory concessions. It is not intended that Stage 1 will be directed at improving overall compliance *per se*. Using IAP as a tool to improve levels of compliance in road transport generally would give rise to a set of costs and benefits different to that estimated here.

Otherwise, the extent to which benefits are attributable to IAP depends on the particular application, since benefits can be joint with other regulations. In the mass and network access applications, IAP is the instrument which triggers the relevant regulatory concession and accordingly all of the relevant benefits can be attributed to IAP. In other applications, such as Performance-Based Standards (PBS) or NHVAS mass management, IAP is assumed to assist operators in managing their compliance task. For these scenarios, the benefits to operators are savings in compliance costs. Other benefits such as mass gain are properly attributed to the regulatory scheme (PBS or NHVAS) that IAP augments. This

approach implicitly assumes that the regulatory concession is not sufficiently large or risky as to require a mandated IAP.

For some regulatory concessions offered, IAP will be a necessary condition to the realisation of benefits. That is, jurisdictions will only accord the concession on the condition of the operator taking up IAP (i.e. the high level of compliance assurance that IAP provides make possible concessions that the jurisdictions would not otherwise offer). In this eventuality, the benefits are joint between IAP and any other costs incurred by road authorities and operators, and the concession can only be assessed on a total cost and total benefit basis rather than an ‘incremental IAP’ basis.

In the final group of applications that cover special purpose vehicles, benefits derive from improved vehicle utilisation through less restrictive temporal or spatial conditions on network access. Benefit parameters have been drawn entirely from the evaluation of the New South Wales Mobile Crane Concessional Benefit Scheme¹⁹.

Fleet management benefits are not addressed in this analysis because the costs operators are assumed to incur to take up IAP are specific to IAP. Fleet management benefits will give rise to another set of costs not included here. To some degree IAP and fleet management will share costs and benefits, but the emphasis in this report has been on establishing as much as possible, the viability of IAP as a self standing initiative.

6.5 Analytical Assumptions

Assumptions in the analysis are as follows:

- Some candidate applications have been excluded from the analysis to eliminate over-counting of operator costs. In addition, takeup estimates from the previous feasibility analysis for some more general applications – such as higher mass – have been reduced to reflect the takeup of more specialised ‘mass’ applications. Estimated total takeup across all applications has been set to reflect the telematics industry’s capacity to absorb Stage 1 demand. Total elimination of over-counting of operator or jurisdictional estimates will not be possible until some in-service experience with IAP provides data about operator consumption of multiple IAP applications. Even with these limitations, the CBA provides a broad overview of the likely performance of IAP and of key factors influencing that performance.²⁰
- Suitable incentives, over and above those embedded in the regulatory concession schemes to which IAP is to be applied, are assumed to be available to stimulate voluntary takeup of IAP in respect of any applications the benefits of which accrue mainly to jurisdictions rather than to operators. The dangerous goods application, and to a lesser extent the NHVAS mass management application, exhibit this imbalance in the incidence of benefits and costs with operators bearing most of the costs and agencies (or the community) accruing most of the benefit).

¹⁹ Economic Associates (2003)

²⁰ This approach is taken because the IAP feasibility analysis considered the take up, costs and benefits of individual, effectively stand-alone applications which were not necessarily mutually exclusive. In particular, the previous analysis examined both generic and specific mass-[related] applications. To avoid over-counting, this analysis considers specific applications within each application type as being mutually exclusive thus eliminating some specific applications and ‘residualising’ the takeup estimates for other more general applications.

- All values are expressed in real 2003 terms.
- The discount rate is 7% real per annum.
- For applications involving higher mass, it is assumed that the nominated mass gain will be consistent with performance measures that have emerged from the NTC/Austrroads Performance Based Standards (PBS) project.
- The analysis period is seven years, including two implementation years and five operational years. Implementation costs are distributed evenly over two years.
- Because of rapidly changing technology, capital inputs (telematics equipment) are assumed to have no residual value at the end of the five operational years.
- Fleet takeup estimates are based on current fleet size. No adjustment has been made to project fleet sizes to say 2006 or 2007. A synthesised implementation year of 2007 would require judgments not only about fleet size but also jurisdiction costs and movements in the prices of telematics equipment. The analysis is therefore somewhat timeless and could be taken as incorporating an implementation date somewhere over the next three to four years. In this respect the analysis does not allow for progressive take up. The viability of the regulatory proposal would therefore be overstated, but balancing that, the operator cost estimates do not allow for the efficiencies inherent in individual operators taking up more than one application.
- Related to the preceding point, the conservative assumption is made that there will be no growth in the national heavy vehicle fleet over the analysis period.

6.6 Description of Costs and Benefits

The analysis takes the following parties as being affected by IAP:

- road authorities: implementation and recurrent costs; additional road wear costs, safety and environmental benefits;
- road transport operators who take up IAP: implementation and operational costs associated with their participation in IAP; savings in compliance costs; improvements in vehicle operating efficiency; and
- the community (as for jurisdictions).

6.6.1 Costs

The regulatory proposal could have the following impacts:

Road authority costs

Road authority costs are shown in Table 6 and cover the set up and operation of TCA, development of systems and processes, development and testing of functional specification, mapping, development of common report formats, and marketing/communications strategy. Implementation costs totalling \$3.064 million are assumed in the cost benefit analysis to be incurred evenly over each of two years. Annual operational costs are estimated to be \$1.686 million.

Table 6. Road Authority Costs

Broad activity	Cost			
	Direct	Review Group (in kind) ⁽ⁱ⁾	Working Group (in kind) ⁽ⁱⁱ⁾	NTC
	(\$)	(\$)	(\$)	(\$)
Generic IAP implementation	988,000	300,300	334,000	-
Other IAP implementation activities	190,000	-	1,152,000	100,000
Total implementation	1,178,000	300,300	1,486,000	100,000
Operational activities (pa)	650,000	-	1,036,000	-

(i) Assume 13 members. (ii) Assume eight jurisdictions participating and offering all applications

Source: Austroads 2003c plus latest IAP Project Team input

Pavement wear costs

Heavier vehicles and vehicles operating with increased network access will impose additional pavement wear costs. These costs have been estimated here at five cents for every dollar of operator productivity improvement²¹.

Operator costs

Operator costs are estimated to be \$1600 per vehicle per year, with \$900 representing service provider charges (\$75 per month) and \$708 covering monitoring of drivers, trailers and loads. Not all applications will need these add-ons and as such the analysis here is likely to understate net economic benefits (net present values).

²¹ Austroads (2003c)

6.6.2 Benefits

Jurisdictions are assumed to gain directly because monitored vehicles could be expected to be operated more safely, thereby reducing crash costs, and because more efficiently utilised vehicles will generate fewer vehicle kilometres, possibly reducing emissions costs.

In NHVAS applications, operators are assumed to benefit from reduced compliance costs. In other mass related applications, benefits are productivity related.

For some applications that cover special purpose vehicles, benefits to operators derive from improved vehicle utilisation through less restrictive temporal or spatial conditions on network access. Benefit parameters have been drawn entirely from the evaluation of the New South Wales Mobile Crane Concessional Benefit Scheme prepared for the Roads and Traffic Authority.²²

6.6.3 Unquantifiable Benefits

IAP could stimulate the compliance culture in the road transport industry more generally, and assist jurisdictions to more efficiently deploy their on-road enforcement resources. The progressive implementation of IAP should also stimulate further private sector development in telematics and fleet management. Table 7 below summarises the benefits and costs described above.

Table 7. Summary of the Types of Benefits and Costs

Road authorities and TCA	Benefits	Costs
	Infrastructure savings Emissions Crash cost savings	Implementation: Generic IAP Implementation IAP related training Specific IAP Application Implementation Sanctions Regime Operational: Operation of TCA Updating of IAMs Issuing IACs and Assessing NCRs
	Unquantifiable Benefits: Stimulation of compliance culture in road transport industry more generally More efficient deployment of on-road enforcement resources Improved enforcement of road transport law Stimulation of further private sector development of IAP & the realisation of delivery cost efficiencies Enhanced fleet management practices Improved management of the road network and critical assets Increased confidence of regulators, the road transport industry and the public in the road transport industry regulations	
Operators	Benefits	Costs
	Productivity gains (e.g. increased	Implementation:

²² Economic Associates (2003)

Road authorities and TCA	Benefits	Costs
	network access either additional roads or increased time of day access)	Equipment procurement
	Compliance cost savings	Operational (Recurrent): Service Provider fees and equipment lease costs
	Unquantifiable Benefits: Enhanced information (data) on vehicle and driver operations through processing of vehicle telematics data	
	Underpinning and supporting of a compliance culture	

6.7 Estimated Takeup

Estimated takeup of IAP Stage 1 is shown in Table 8 below. Takeup proportions apply to the applicable industry fleet segments, with low takeup in the larger segments reflecting the novelty of IAP. Adjustments for over-counting have been made as referred to earlier. High takeup in some applications covering very specialised vehicles or vehicle uses needs to be considered relative to the small fleet size in these segments. Total takeup is estimated to be approximately 8,400 vehicles over the full implementation period of Stage 1.

Earlier Austroads work identified 2,500 vehicles as the minimum takeup necessary to attract at least three service providers into the market (over a three year period). The take up of 8,383 vehicles used in the CBA will be gradual as applications are progressively implemented by jurisdictions in response to program performance monitoring of IAP. Takeup, at least in the early implementation years, is expected to be constrained by the capacity of the Australian telematics industry.

Table 8. Estimated Takeup by Application

Application type	Application	Takeup (%)	Takeup (vehicles)
Dangerous Goods	Dangerous Goods	20%	1200
Specialised rigid vehicles	Over - dimensional & Over Mass Cranes	100%	78
	Heavy Tow Trucks	100%	7
	Pick and Carry Cranes	100%	78
	Concrete Pump Trucks	50%	100
	Rubber Tracked Agricultural Equipment	5%	150
Low loaders	Over-dimensional Loads	50%	250
	Low Loaders	20%	400
	Gazetted Access for Low Loaders<55t SA:	50%	100
Mass concession schemes	NHVAS Mass Management	10%	500
	Grain Harvest	5%	75
	B-Double Operation	20%	940
	B-Triple Operation	50%	50
	A-B Triple operation	50%	50
	Medium Articulated Vehicles with	20%	16

Application type	Application	Takeup (%)	Takeup (vehicles)
	Dog		
Performance-Based Standards	PBS Related Vehicles	35%	917
Higher mass limits	Additional Mass	25%	1330
	Truck Trailer	10%	870
	Increased HML Network	20%	372
	Road Train Operation	20%	900
	TOTAL		8,383

6.8 Comparison of Benefits and Costs

Table 9 shows the Stage 1 IAP implementation to be economically viable with a net present value (NPV) of \$264.2 million and a benefit cost ratio of 5.4. The road authorities’ NPV is estimated to be \$80.9 million and the operators’ NPV \$183.3 million. Operators accrue positive NPVs in all applications with the exception of dangerous goods and NHVAS mass management (see Table 10). In the dangerous goods application, operator costs would be covered if operator benefits were equal to only 30% of jurisdiction benefits. (Across the average of all other applications, operator benefits are approximately three and a half times jurisdiction benefits.) In the NHVAS mass management application, reduced compliance costs for operators are insufficient to offset IAP related costs. However, operators may take up NHVAS management as an add-on IAP application once IAP-related costs have been defrayed in more profitable applications.

Detailed results of the cost benefit analysis are contained in Table 10.

Table 9. Results of the Cost Benefit Analysis (Summary)

	PV Benefit (\$ m)	PV Cost (\$ m)	Net present value (\$ m)	Benefit cost ratio
Road authorities	89.7	8.8	80.9	10.2
Operators	235.1	51.8	183.3	4.5
Total	324.8	60.6	264.2	5.4

PV: Present value (totalled over two implementation years and five operating years)

Table 10. Detailed Cost Benefit Analysis Results by Application

Application type and application	Takeup (%)	Takeup (vehicles)	Road Authority Costs* (\$ m)	Operator Costs (\$ m)	Road Authority Benefits (\$ m)	Operator Benefits (\$ m)	Net Present Value (\$m)
Dangerous goods**							
Dangerous Goods	20	1,200	*	7.4	23.9	2.4	18.9
Specialised rigid vehicles							
Over - dimensional & Over Mass Cranes	100	78	*	0.5	0.6	9.4	9.4
Heavy Tow Trucks	100	7	*	0.1	0.1	0.8	0.8
Pick and Carry Cranes	100	78	*	0.5	0.6	9.4	9.4
Concrete Pump Trucks	50	100	*	0.6	0.8	12.0	12.2
Rubber Tracked Agricultural Equipment**	5	150	*	0.9	1.5	1.5	2.1
Low loaders							
Over-dimensional Loads	50	250	*	1.5	2.0	30.1	30.6
Low Loaders	20	400	*	2.5	3.2	48.1	48.8
Gazetted Access for Low Loaders<55t SA:	50	100	*	0.6	0.8	12.0	12.2
Mass concession schemes							
NHVAS Mass Management	10	500	*	3.1	5.1	0.6	2.6
Grain Harvest	5	75	*	0.5	0.6	3.4	3.5
B-Double Operation	20	940	*	5.8	7.6	40.5	42.3
B-Triple Operation	50	50	*	0.3	0.5	0.6	0.8
A-B Triple Operation	50	50	*	0.3	0.5	0.6	1.0
Medium Articulated Vehicles with Dog	20	16	*	0.1	0.2	0.2	0.3
Performance-Based Standards							
PBS-related vehicles	35	917	*	5.7	8.6	15.9	18.8

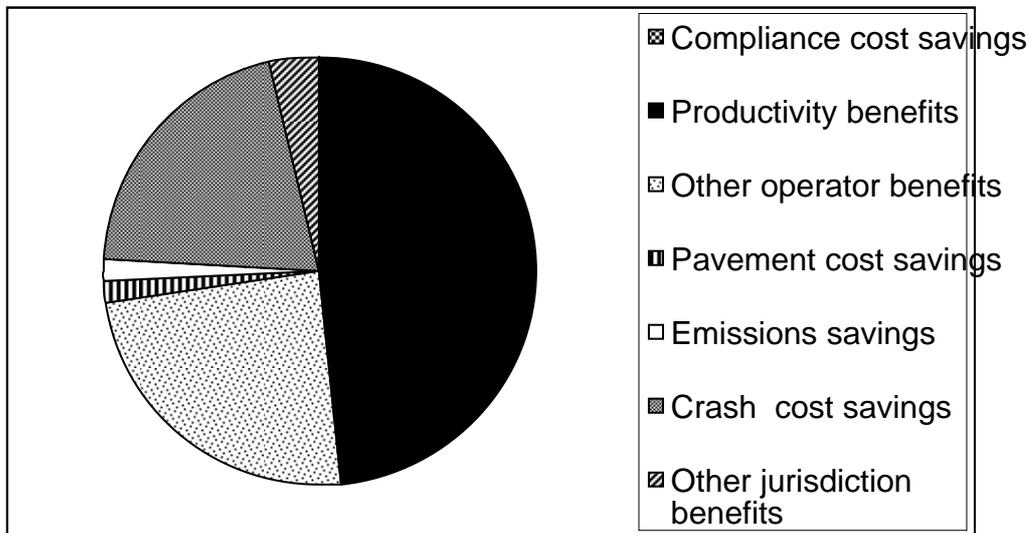
Application type and application	Takeup (%)	Takeup (vehicles)	Road Authority Costs* (\$ m)	Operator Costs (\$ m)	Road Authority Benefits (\$ m)	Operator Benefits (\$ m)	Net Present Value (\$m)
Higher Mass Limits							
Additional Mass	25	1,330	*	8.2	12.7	17.9	22.4
Truck Trailer	10	870	*	5.4	8.0	16.7	19.3
Increased HML Network	20	372	*	2.3	3.7	2.7	4.1
Road Train Operation	20	900	*	5.5	8.7	10.3	13.5
TOTAL		8,383	8.8	51.8	89.7	235.1	264.2

* Road authority costs are not allocated across applications hence individual NPVs do not add to the total
 **In the absence of better data, operator benefits in the dangerous goods application are assumed to equal 10% of jurisdiction benefits, reflecting the preponderance of emergency services and clean up costs in dangerous goods incidents.

6.9 Distribution of Benefits

Figure 2 shows the incidence of benefits. In total 72% of benefits accrue to operators and the remainder to jurisdictions or the community generally. The largest benefit categories are productivity (48.1%) and crash cost savings (20.7%).

Figure 2. Benefits by Type



6.10 Sensitivity of the Results

In aggregate, the results are not highly sensitive. For example, operator costs would need to increase by a factor of five for the NPV of the regulatory proposal to be zero (at which point benefits would equal costs). Alternatively even were there to be no road authority benefits the regulatory proposal’s NPV would still be \$175.2 million and its benefit cost ratio (BCR) 3.9. Varying the discount rate does not greatly affect the results because of the short analysis period. Were all the other assumptions used in the analysis to remain

unchanged but the discount rate to be increased from 7% to 10%, the NPV would still be approximately \$227 million and the BCR 5.

The accumulation of road authority costs as the IAP develops momentum could render some applications economically unviable if the incremental road authority costs associated with an additional application exceeded the application's benefits. At this stage it is not possible to foreshadow likely outcomes because of the overlap and economies of scale inherent in the road authority costs. On the other hand some applications (such as NHVAS Mass Management) may become more viable for operators as incremental ('add-on') applications as takeup of the most profitable applications progresses. In the dangerous goods application, incentives may be needed to encourage operator takeup because the currently available data suggests that the balance of benefits is likely to favour jurisdictions.

6.11 Risk Assessment

The intensive policy development work undertaken to date by Austroads is expected to substantially reduce risks in the implementation of IAP. The main areas of risk are outlined here.

6.11.1 Technology Risk

The IAP architecture is not reliant on proprietary technology. The monitoring and communications technology that will collect and transmit non-compliance data is well developed, available from a range of service providers and gaining increasing industry application. Risks have been further reduced by deleting from this stage of IAP those applications that would be reliant on expensive or uncertain technology. Examples include on board mass monitoring.

At this point, technology risk is expected to be low.

6.11.2 Commercial (Including Takeup) Risk

Road transport operators and third party telematics service providers will bear the commercial risks of IAP. From price information supplied by the telematics industry, operator risk would not be high. For third party service providers, the road transport industry's size and product variety would minimise risk but there would remain some risk that road authorities would not provide the regulatory incentives that would make IAP attractive to operators. The commitment of road authorities and their participation in IAP to date suggest this risk to be low. Further, IAP is being implemented to allow gradual takeup of operators and applications. Should implementation 'roadblocks' arise, implementation could be slowed to ensure emerging risks are minimised. Commercial risk is expected to be low to moderate.

6.11.3 Administrative and Policy Risk

There is a risk that the process for transmitting non-compliance data to agencies or of agency response will not be effective, leading to low confidence in IAP among the stakeholders (road transport industry, the telematics industry, agencies, police and the community more generally).

A range of regulatory concession schemes have developed over recent years, exposing stakeholders to more flexible regulatory processes. IAP is an adjunct to those processes. The administrative and policy risks in IAP should be no greater and might actually be

lower than those attaching to current regulatory concession schemes. In addition the processes have already been tested, for example in the NSW Mobile Crane Concessional Benefits Scheme pilot.

Accordingly administrative and policy risk is expected to be low.

6.12 Conclusion

The CBA results suggest IAP Stage 1 to be economically viable and not overly sensitive to assumptions about its costs and benefits. Ultimate Stage 1 take up of 8,383 vehicles is based on the results of the previous feasibility analysis prepared by Austroads. Risks are expected to be low (although commercial risk for the telematics industry might be low to moderate).

In one application – dangerous goods – jurisdictions might need to consider offering appropriate incentives to operators to encourage takeup.

7. ASSESSMENT OF ALTERNATIVES TO THE REGULATORY PROPOSAL

The proposed model provides for TCA to supervise the delivery of IAP services to operators, including developing and implementing business rules, ensuring that IAP-service providers are suitably qualified and equipped, periodically auditing service providers and disciplining them for non-compliance with the business rules. TCA would also be responsible for managing the jurisdictions' interests in IAP more broadly including monitoring technology development and acting as a policy liaison between jurisdictions and the telematics industry.

The following alternatives to the regulatory proposal are considered here (Table 11):

- the regulatory proposal but with different forms of oversight (varying according to the functions and/or structure of TCA);
- the regulatory proposal without any form of oversight such as TCA;
- other means for improving operation of the exemptions (permit and gazettal) system; and
- improved on-road enforcement generally.

For analytical purposes, these alternatives are treated as mutually exclusive. However, in reality combinations of these alternatives could be adopted.

7.1 A Different Form of Oversight

There are two elements to the oversight model in the regulatory proposal:

- the structure of the overseeing body (in the regulatory proposal TCA is a body corporate under the Corporations Act with regulatory powers); and
- the functions of the overseeing body (that is, with or without regulatory powers).

Alternative structural models considered by the IAP Steering Committee in formulating the IAP were (Table 12):

- statutory body model;
- association model;
- mutual recognition model; and
- outsource model.

Of these, the association model and the mutual recognition model lack the guarantee of strong centralised policy making and policy implementation that will be essential for seamless national operation of IAP. The outsource model may have some administrative efficiency advantages but these would be qualified: firstly because TCA is expected in any event to outsource the bulk of the auditing function of IAP Service Providers; and secondly outsourcing would probably be confined to those audit-type functions, still leaving jurisdictions to manage and co-ordinate the policy aspects of IAP. The statutory body model may have advantages relative to a body corporate under the Corporations Act, since the latter would be an entity separate from its ownership and as such, may lack the normal political and parliamentary controls which exist over the activities of statutory authorities. However, it is recognised that as its members are State and Territory governments, precedents in this structure exist. In addition IAP is to be voluntary with a niche market takeup in its early phases, and with IAP having these characteristics, the Corporations Law corporation model is expected to be appropriate.

7.2 No Oversight

A ‘no oversight’ model would be less expensive for agencies (minimal administration costs) and for operators (easier entry to the market on the part of service providers should lead to lower prices) but at the expense of a lower quality IAP in terms of:

- a lack of confidence among road authorities in the integrity of IAP;
- a lack of confidence in, and hence low takeup of, IAP among operators because IAP services were not seamless across jurisdictions;
- no guarantee of inter-operability: a series of ad hoc arrangements between individual service providers, individual operators and individual jurisdictions would constrain the development of an IAP ‘network’ with its attendant potential for economies of scope and scale, and would inhibit the migration of operators between service providers. The ease with which operators can switch between providers is important for the contestability of the market for IAP monitoring services; and
- potentially higher costs for jurisdictions in remedying the inadequacies of a poorly performing IAP, costs including for example management of and response to unreliable non-compliance data streams.

The no oversight model is unlikely to be desirable because it could offer no guarantee of an efficient IAP that engenders confidence among jurisdictions, operators, and the community more generally.

The no oversight model is effectively the current operating environment in which telematics providers offer fleet and commercial monitoring services to vehicle operators. While these telematics services allow operators to increase revenue and better manage costs, they do not provide the robustness necessary for regulatory purposes.

7.3 Other Means of Improving the Exemptions System

The pressure for the granting of exemptions to heavy vehicle regulations arises in part because a prescriptive regulatory system is not able to embrace all circumstances and possibilities and is relatively inflexible in response to advances in vehicle design and technology. Agencies consider and grant exemptions subject to conditions recognising the efficiency and safety advantages that can accompany either a closer consideration of particular operating circumstances or advances in vehicle efficiency.

IAP and the NTC's related Performance-Based Standards (PBS) initiative have developed as means to overcoming the inflexibility of the prescriptive regulatory system. PBS is expected to deliver more flexible and efficient means of optimising vehicle use and road infrastructure capacity. Developments which the PBS initiative has stimulated, such as better understanding of vehicle behaviour, and more reliance on computer modelling of vehicle behaviour, are improving the decisions jurisdictions make in approving vehicles outside the regulated prescriptive standards.

With its advantages PBS will also increase the complexity of the on-road enforcement task because a wider array of vehicle designs will be permissible and (within safety limits) the envelope of vehicle performance will be expanded (the latter as a means of enhancing road network efficiency). Both of these outcomes elevate the need for vehicle monitoring both as a means of identifying vehicles and their permitted characteristics on-road and of ensuring compliance with more permissive standards.

7.4 Improved On-road Enforcement

The jurisdictions are already co-operating to improve the current enforcement model by progressive implementation of the provisions of the *Road Transport Reform (Compliance & Enforcement) Bill*. Compliance could also increase through a larger enforcement effort (more enforcement officers) but the potential is limited by the size of the network, the size of the transport task across the network, and by difficulties in visual detection of some breaches of road transport law. Once a vehicle is intercepted for a suspected breach, checks for compliance such as weighing, checking of loads and checking of log books are also labour intensive. While this alternative may be cheaper for operators, on all other criteria the outcomes would be worse than those under the regulatory proposal.

Table 11. Assessment of Options Relative to the Regulatory Proposal

Assessment Criteria	A Different Form of Oversight	No oversight	Other means of operating an exemption system	Improved on-road enforcement
National inter-operability of IAP	See following Table for alternative structures and functions of TCA	Worse than regulatory proposal: No guarantee of or mechanisms for achieving national inter-operability	Not applicable	Not relevant
Compliance	See following Table for alternative structures and functions of TCA	Worse than regulatory proposal: Absence of standards for service provider monitoring will not guarantee compliance outcomes needed to preserve the integrity of IAP	Not relevant	Worse than regulatory proposal: lacks the monitoring immediacy, reliability and coverage that IAP can deliver
Innovation and efficiency of vehicle use	See following Table for alternative structures and functions of TCA	Worse than regulatory proposal: Fragmentation and lack of standards could discourage jurisdictions from permitting innovate, more efficient use of the road system	Worse than regulatory proposal: PBS supported by IAP where appropriate is intended to satisfy this objective. In some PBS applications, IAP could provide jurisdictions with the compliance certainty needed to support innovative vehicle solutions	Worse than regulatory proposal: PBS supported by IAP where appropriate is intended to satisfy this objective. In some PBS applications, IAP could provide jurisdictions with the compliance certainty needed to support innovative vehicle solutions
Operator costs	See following Table for alternative structures and functions of TCA	Possibly better than regulatory proposal provided service quality is not an issue in that an absence of standards could encourage more providers into the market leading ultimately to lower costs to operators. However, lower prices will only be worthwhile if the service standards required by jurisdictions can be delivered by service providers	Depends on the specifics of individual road use applications	Better than regulatory proposal: Less costly
Road authority costs	See following Table for alternative structures and	Possibly better than regulatory proposal: in terms of lower direct costs	Depends on the specifics of individual road use applications	Worse than regulatory proposal: Costs are likely to

Assessment Criteria	A Different Form of Oversight	No oversight	Other means of operating an exemption system	Improved on-road enforcement
	functions of TCA	but overall the costs of managing or repairing a system which does not deliver its objectives may be greater than the direct cost savings		be higher than IAP for a given level of compliance

Table 12. Assessment of Oversight Options Relative to the Regulatory Proposal

Assessment Criteria	TCA as Body Corporate with no regulatory powers	Statutory Body Model	Association Model	Mutual Recognition Model	Outsource Model
National inter-operability of IAP	Worse than under proposal: Lack of regulatory powers may cause similar outcome to ‘no oversight’	Similar to regulatory proposal: Centralised, national body positive for national inter-operability	Worse than the regulatory proposal: Less certainty of cohesion and agreement between jurisdictions on national system issues	Worse than under proposal: Could be constrained by lowest common denominator decision making. Service providers and operators could shop around for the most accommodating jurisdiction, thereby weakening the national delivery of IAP	Worse than the regulatory policy An outsourced body could not assume regulatory functions, leaving these and policy decisions to be made by the jurisdictions in some other forum
Compliance	Worse than under proposal: While Corporations Law gives legal basis for its existence, authority and function – lack of regulatory powers may result in similar outcome to ‘no oversight’	Similar to regulatory proposal: Likely to gain industry confidence due to formal legal basis for its existence, authority and function	Worse than under proposal: Lack of a specific legislative base may generate less industry confidence. Generally unsuitable for operational level activities interacting with the private sector	Worse than under proposal: May result in lower compliance due to lack of uniformity between jurisdictions and lack of confidence in outcomes among service providers, jurisdictions and operators	Similar to the regulatory proposal because TCA would in any event outsource regulatory functions
Innovation and efficiency of vehicle use	Worse than under proposal: Lack of regulatory powers may cause similar outcome to ‘no oversight’	Similar to regulatory proposal: Innovation and efficiency of vehicle use made possible	Worse than under proposal: An IAP that gives the jurisdictions the confidence to approve innovative vehicles or vehicle uses is less likely to be delivered by the looser association model	Worse than under proposal: A fragmented system might not provide jurisdictions with the compliance assurance necessary to approve innovative vehicles and vehicle uses	Similar to the regulatory proposal because TCA would in any event outsource regulatory functions
Operator costs	Neutral with proposal: No reason for operator costs to be significantly different than those under	Similar to regulatory proposal: No reason for operator costs to be significantly different than those under the regulatory	Similar to the regulatory proposal Operator costs not likely to be affected by the choice of oversight model	Similar to the regulatory proposal Operator costs not likely to be affected by the choice of oversight model	Similar to the regulatory proposal because TCA would in any event outsource regulatory

Assessment Criteria	TCA as Body Corporate with no regulatory powers	Statutory Body Model	Association Model	Mutual Recognition Model	Outsource Model
	the regulatory proposal	proposal			functions
Jurisdiction costs	Better than under proposal: Less costly as the legislative role would be less intensive	Worse than regulatory proposal: Higher costs associated with legislative processes required in each jurisdiction to establish the statutory body	Better than under proposal: Less administratively demanding and quicker to establish	Not possible to determine. Depends on the basis of and mechanisms to deliver mutual recognition	Worse than the regulatory proposal: As well as managing the outsourcing contract and overseeing the contractor, the jurisdictions would need to manage policy and regulatory matters in another forum anyway. Hence the outsourcing arrangement may lead to some duplication of administrative costs

7.5 Conclusion

A body containing the policy and regulatory functions envisaged for TCA has the structural and functional advantages over other models of transparency, national coverage and a central focus for IAP. A no oversight model is impracticable because IAP is part of a set of regulatory processes, while the association and mutual recognition models appear too loose for an environment which is technically complex and rapidly evolving.

There is little to choose between the Corporations Law corporation and statutory body models other than administrative practicability but some stakeholders might see the statutory body model as being more suitable for an agency envisaged as having regulatory functions. It should be noted however that IAP is to be voluntary and, with its niche market takeup, the Corporations Law corporation model is expected to be an appropriate approach to delivery.

8. CONSULTATIONS

8.1 Transport Industry

Austroads and the IAP project team have carried out a number of industry consultation on the IAP.

The first consultation took the form of a survey conducted by BIS Shrapnel of 52 transport companies.²³ BIS Shrapnel reported a general acceptance of telematics and of the IAP concept from both large and small operators. Key findings from the report were:

- The initial reaction to telematics and the IAP was positive (57% of respondents reporting positive or very positive reaction) with smaller operators being generally more in favour than large operators.
- The IAP concept was seen to offer better utilisation of vehicles, significant cost reductions (depending on the increased IAP related charges) and better fleet management.
- The general response was that IAP would be of greater benefit to large operators.
- Large operators favoured the use of a third party service provider (61% in favour) more than small operators (39% in favour) but reservations were expressed as to confidentiality of information.
- Final judgement on an IAP concept would depend on the costs of the telematics systems in relation to the potential savings available to operators.

A further consultation occurred in a forum with industry representatives held in Melbourne on 16 September 2002. Ten representatives including operator companies and industry associations attended. The objectives of the forum were to:

- present the Austroads IAP feasibility report;

²³ Reported as Internal Report IR-IAP1. See Austroads 2003(c)

- identify the most appropriate mechanism for communicating with the transport industry;
- identify the top ten IAP applications (that is, concessions and access conditions) of most interest to the industry; and
- gain an appreciation of the views that the transport industry has towards the IAP.

The forum's discussions concluded with a positive opinion among the industry representatives towards IAP which was viewed as:

- a new and positive way of doing business;
- providing regulators with a tool to undertake smart compliance; and
- a driver for 'raising the bar' for the transport industry:
 - providing a logical tool to support business accreditation schemes such as ISO9000 accreditation (which was also suggested as a precondition for IAP entry); and
 - providing business incentives and information that will assist in producing better overall industry performance.

Individual fleet structure is expected to be an important factor for the takeup of IAP, with large and small operators, including owner drivers, being attracted to IAP for different reasons. Industry representatives acknowledged that the better performing and better managed operators are likely to take up IAP initially leading eventually to general industry takeup.

The transport industry participants also expressed some concerns about IAP which have been and are being addressed:

- compliance with data security and the protection of commercial-in-confidence data held by IAP service providers;
- that jurisdiction enforcement officers not view IAP operators as easy enforcement targets;
- the approach taken to application and enforcement of IAP needs to be consistent across all jurisdictions; and
- that the IAP does not become a revenue raiser through 'technical' enforcement of minor breaches that, with IAP, will be more readily detected.

These issues have been considered as part of the IAP implementation.

More recently a series of detailed "IAP Road Show" type forums have taken place across Australia. These forums have specifically targeted jurisdictional staff and transport operators. The "IAP Road Show" forums conducted have been as follows:

- 30 April – NSW
- 20 May – Victoria

- 16 to 18 June – Tasmania
- 7 July – ACT
- 13 July – Queensland
- 11 October – South Australia.

Additionally transport industry peak bodies are represented on the NTC's Legislative Advisory Panel (LAP) which was established to review and make legal recommendations to the team drafting the necessary legislation.

8.2 Telematics Industry

The telematics industry forms a key stakeholder in the IAP. Austroads and the IAP Project Team have had ongoing consultation with the telematics industry from the outset of the IAP feasibility project. The telematics industry in Australia is relatively new and has no peak body to represent its interests. To ensure the proper consultation process Austroads and the IAP Project Team formed an industry collective group referred to as the IAP Focus Group. The IAP Focus Group was open to all telematics industry players and anyone else who wished to join. This group was formed in 2002 and held a number of sessions throughout the feasibility and implementation projects. In particular, IAP Focus Group meetings were held as follows:

- National Road Transport Commission in Melbourne on 8th August 2003;
- Sydney Harbour Marriott Hotel in Sydney on 27th February 2004;
- National Transport Commission in Melbourne on 12th August 2004; and
- National Transport Commission in Melbourne on 8th December 2004.

This ongoing consultation was critical to ensuring that IAP was broadly understood, had input by key telematics stakeholders and had the telematics' industry's overall acceptance. In particular, consultation with the IAP Focus Group has revolved around the following:

- technical and performance based telematics specifications;
- content and format of IAC, NCR and other common reports;
- legal contractual documentation between key IAP stakeholders;
- overall certification, audit and de-certification framework;
- TCA as the IAP certification and audit group;
- legislation underpinning the IAP; and
- business case and fundamental commercial type queries.

8.3 Comments on the Preliminary Draft RIS

Comments on the preliminary draft RIS were received from:

- Commonwealth Department of Transport and Regional Services (DOTARS);

- Roads and Traffic Authority of New South Wales (RTA); and
- Department of Primary Industries Western Australia (DPI).

Comments and NTC's response are contained in the following section.

Issues raised included the 'targeting' of IAP, takeup of IAP, costs to government and program risk.

8.4 Comments on the Model Legislation

The Model Legislation – the *National Transport Commission (Model Legislation – Intelligent Access Program) Regulations 2005* - has been shaped by extensive consultation. Major stakeholders that have been involved in extensive consultations over this period include State and Territory road transport and enforcement agencies, the road transport industry, police and the Transport Workers Union. As well, the NTC has established and worked consultatively with Privacy Commissioners and engaged barristers for expert legal advice.

In short, the consultation has been as follows:

1. Drafting instructions
 - (a) 2 July 2004;
 - (b) 11 October 2004;
 - (c) 6 December 2004;
 - (d) 20 January 2005;
 - (e) 2 May 2005;
 - (f) 23 May 2005;
 - (g) 21 June 2005;
 - (h) 7 July 2005.
2. Legislation Advisory Panel (LAP) meetings on IAP:
 - (a) 18-19 March 2004;
 - (b) 11-12 May 2004;
 - (c) 26 November 2004;
 - (d) 19 April 2005.
3. Legal Advice
 - (a) Peter Rozen, Barrister (Joan Rosanove Chambers, Victoria), 7 June 2004;
 - (b) Desmond Lane, Barrister (Owen Dixon Chambers, Victoria), 15 December 2004;
 - (c) Desmond Lane, Barrister (Owen Dixon Chambers, Victoria), 8 March 2005.
 - (d) Alan MacSporran, Barrister, (More Chambers, Queensland), 14 June 2005.

4. Advice from Privacy Commissioners:

- (a) Privacy Victoria, 19 August 2004;
- (b) Office of the Federal Privacy Commissioner, 24 August 2004;
- (c) Privacy Victoria, 18 April 2005.

As a result of this extensive consultation, the Model Legislation was released for public comment on 2 February 2005. The public comment period in respect of this revised Model Legislation closed on 1 April 2005. A total of 14 submissions were received and have been taken into account in preparing the final Model Legislation. All of the submissions received were all extremely positive about the IAP. The majority of comments received on the revised Model Legislation acknowledge the significant progress made in developing the Model Legislation and the extent to which the concerns raised were addressed through the extensive consultation period and working groups.

None of the comments received in respect of the revised Model Legislation raise new substantive issues. In sum, there is broad support for the Model Legislation among the stakeholder groups. The main areas in which changes were made were:

- Definitions – some minor changes were made.
- Access to IAP data by law enforcement agencies for other law enforcement purposes – it was agreed that warrant provision would be added so that all third party enforcement bodies would require warrants to access IAP information from IAP service providers. This would ensure that the courts assessed the merits of each request in a judicial process. This is consistent with fisheries legislation regarding access to GPS data.
- Tampering – provision of offence for tampering or attempted tampering which is not picked up electronically by the IVU and which is not reported through a NCR.

The comments received in the consultation did not disclose any new issues of substance in which there was disagreement with the provisions of the Model Legislation, nor any substantial new arguments in favour of the other positions. Consequently, the Model Legislation required only further minor changes.

9. REVIEW/IMPLEMENTATION

9.1 General

To ensure the best possible implementation roll-out of the IAP there are a number of issues and key drivers that need to be considered, as they affect the environment and landscape in which the IAP Stage 1 Implementation is occurring.

These issues/drivers are as follows (not in any particular order of importance):

- Transient schemes/permits with IAP compliance solutions are currently operational. In particular there are schemes available in Victoria, New South Wales and Queensland. These schemes have been established under a 'transient IAP environment'. The certifying and auditing authority is the particular Road Transport Agency in each State. The powers for certification and audit are effectively their existing statutory power.

- There are a number of other applications being negotiated for adoption. These applications comprise schemes/permits with IAP compliance solutions. The status of these proposed schemes vary between jurisdictions, however negotiations are taking place with both transport industry and potential service providers.
- The inevitable increase in awareness of the IAP is beginning to create an increase in the number of transport operator requests (to road authorities) for improved access to the road network under an IAP environment.
- The telematics industry is keen to commence provision of IAP services. This is witnessed in the ongoing participation of the industry through the Austroads established IAP Focus Group (attendance to meetings and responses to requests for information and consultation).

9.2 Proposed Implementation Schedule

The introduction and use of IAP was considered via two broad approaches. The basic difference in the two approaches was the sequencing of steps revolving around the period required to enact model law at the local jurisdictional level. The first approach considered was a formal series of steps in which all jurisdictions enact the model provisions prior to the establishment of TCA as the proposed IAP certification and audit group, while the second approach undertakes events in parallel, driven more by individual jurisdictional needs. The preferred approach was the latter.

The implementation of the IAP by individual jurisdictions will be scheduled on a jurisdictional priority basis. There are however, a number of transitional activities required to facilitate the national implementation. The anticipated broad implementation timeline for TCA as the IAP certification and audit group is as follows:

- Establishment of Transport Certification Australia (register with ASIC and physical set-up) – July/August 2005 (completed).
- TCA commence trial testing and receipt of applications for certification – September/October 2005.
- Schemes and permits with an IAP compliance solution roll-out and commencement in jurisdictions subject to individual jurisdiction priority – mid 2006.

9.3 Review

The TCA Memorandum of Understanding between participating jurisdictions stipulates that the funding model sets out the estimated capital requirements of the company for three years. There is a requirement on Members to conduct a review of the operations and funding of the company no later than two years and nine months from commencement in order to determine whether the operations of the company are to continue, and if so, on what funding basis.

10. NATIONAL COMPETITION POLICY ASSESSMENT

This section considers the effect of the regulatory proposal on competition. A regulatory change which restricts competition will be acceptable only if:

- the benefits of the restriction on competition cannot be obtained in any other way; and
- the benefits of the restriction on competition exceed the costs.

The regulatory proposal could potentially restrict competition by:

- imposing methods of work on operators;
- directly restricting the number of operators in the industry;
- advantaging large relative to small operators;
- erecting barriers to entry to the industry; and
- limiting the range of individuals or organisations able to supply services related to implementation or operation of the regulatory proposal.

10.1 Imposing Methods of Work on Operators

The IAP's main focus is on reducing non-compliance with permitted operating conditions by remotely monitoring heavy commercial vehicles. It provides new opportunities for operators to optimise the performance of their business in terms of efficiency and safety. IAP in Stage 1 is voluntary, such that operators will be inclined to take up IAP when the financial incentives (such as reduced compliance costs or increased productivity) warrant it. As such, the regulatory proposal is not imposing methods of work on operators and is not expected to be anti-competitive in this respect.

10.2 Directly Restricting the Number of Operators in the Industry

In no respect would the regulatory proposal limit the number of participants in the industry. Operators are able to take up IAP on a voluntary basis, when the net benefit to them makes it worthwhile. There is nothing in the regulatory proposal that would restrict numbers of other parties such as consignors and consignees in road transport-related industry sectors. The regulatory proposal is not expected to be anti-competitive in this respect.

10.3 Advantaging Large Relative to Small Participants

The costs to operators of accessing IAP in the form of service provider charges are not onerous and would be unlikely to deter takeup among the small operator sector of the market. Therefore the regulatory proposal is unlikely to be anti-competitive in this respect.

10.4 Erecting Barriers to Entry to the Industry

Participation in IAP is intended to be voluntary and the participation costs for operators are expected to be low as telematics technology is becoming more and more ubiquitous. The structure and rules of IAP are intended to facilitate migration of operators between service providers in response to normal market conditions so that as much as possible operators will not be stranded if a service provider exits the market or loses their certification. There is no sense therefore in which IAP erects barriers to entry to the road transport industry.

10.5 Limiting the Range of Individuals Able to Supply Services Related to Implementation or Operation of the Regulatory Proposal

The regulatory proposal provides that intending third party service providers be certified by and be subject to periodic audits by TCA. The market for the supply of IAP vehicle monitoring services could be construed as containing those organisations with the expertise and technology to satisfy the overall requirements of the IAP. The certification and auditing process will be restricted to ensuring that applicant providers are capable of satisfying, and continue to satisfy those requirements. Operators will be free to engage any one or more of the service providers certified by TCA. ICT providers who do not wish to participate in IAP will not be constrained in offering other existing and future possible services to road transport operators.

Therefore the regulatory proposal is unlikely to be anti-competitive in this respect.

10.6 Conclusion

Against the tests used here, the regulatory proposal is not expected to be anti-competitive.

11. REFERENCES

Austrroads (2003a) *Intelligent Access Feasibility Project – Draft Guidelines for Regulatory Responses within IAP Applications*, Internal Report IR-IAP 11

Austrroads (2003b) *Intelligent Access Project – Public Policy Analysis*, prepared for Austrroads by TFG International Pty Ltd, Internal Report IR-IAP10

Austrroads (2003c) *Intelligent Access Feasibility Project – Intended Applications and Business Feasibility*, Internal Report IR-IAP12

Austrroads (2004) *IAP Certification and Audit Group (IAP-C&AG) – Position Paper*, Internal Report

Economic Associates (2003) *Intelligent Access Project – Cost Benefit Analysis of Stage 2 Applications*

Austrroads (2004a) *Intelligent Access Program, Stage 1 Implementation – Regulatory Enablers (IR-IAP20)*

12. GLOSSARY OF TERMS

Term	Meaning
Application	See Intelligent Access Program (IAP) Application
Audit	See IAP Audit
Auditor	See IAP Auditor
Certification	A formal statement or declaration that attest an organisation as meeting the Certification Standards for IAP-SPs i.e. having the capacity and capability to be a provider of IAP services
Certification and Auditing Regime	The documents, practices and procedures comprising the C&A requirements of the IAP
Certification Standards for IAP-SPs	The set of operational standards for IAP-SPs set by TCA from time to time and published by TCA

Term	Meaning
Compliance & Enforcement (C&E) Laws	The national compliance and enforcement reform law
IAP Auditor	A person appointed by TCA to: Conduct investigations of applications for certification, ongoing certification and re-certification as IAP service providers; Conduct audits of IAP-SPs
IAP Condition	A condition issued in a written instrument (including, but not limited to a regulation, gazettal notice, permit, exemption or other document including in electronic format) by an Authority under which a vehicle may be used on a road or road related area. This must include the spatial data for route access and may include the temporal and speed data
IAP Service Provider (IAP-SP)	An operator of an intelligent transport system who is accredited by TCA as a suitable company to provide IAP services
IAP Vehicle	A vehicle operating under the IAP
Intelligent Access	The collective term used to define concession, permission or condition gained by a TO being a member of a scheme, permit which has an IAP Compliance Solution
Intelligent Access Condition (IAC)	The written instrument (including, but not limited to a regulation, gazettal notice, permit, exemption or other document including in electronic format) issued by an Authority under which an IAP vehicle may be used on a road or road related area. The IAC includes the access conditions that detail the spatial data for route access and may include the temporal and speed data – IAP conditions
Intelligent Access Map (IAM)	The electronic map approved and issued by TCA as the reference from which intelligent access conditions are monitored
Intelligent Access Program (IAP)	An approved alternative compliance scheme that provides for monitoring of vehicle access conditions through an IAP-SP using intelligent transport systems
Intelligent Access Program (IAP) Application	The specific use of the IAP as defined by the jurisdiction via an Intelligent Access Condition (IAC)
Jurisdiction	See 'Participating Road Authority'
Non-compliance Report (NCR)	The report forwarded to an Authority by an IAP-SP in respect of a suspected breach of the applicable IAC, or suspected tampering with the system
Parameter	A vehicular, or consignment-specific item being monitored as part of a granted IAC (see also Non-compliance report)
Participating Operator	An operator of a heavy vehicle who is a member of the IAP
Public Sector Mapping Agencies (PSMA)	An unlisted public company limited by shares and owned by the state, territory and Commonwealth governments of Australia. PSMA acts as a "clearing house" within the Australia New Zealand Land Information Council (ANZLIC) model for the Australian Spatial Data Infrastructure.
Spatial data	The information that describes either of the following through a coordinate system that allows vehicle location to be monitored through a locating technology such as GNSS. The specific route on which an IAP vehicle is travelling The road network on which an IAP vehicle may travel
Speed Data	The information that describes either of the following. The speed at which an IAP vehicle is travelling The speed at which an IAP vehicle is allowed to travel
Tampering	To improperly, and without authorisation: Alter hardware, software, systems or processes so that they no longer perform or behave as originally intended or certified; Alter data stored in or generated by such hardware, software, systems or processes; or Wilfully damage, destroy or remove an intelligent transport system, or any component of that system
TCA	Transport Certification Australia – the certification and audit group is established under the Corporations Law. The purpose of TCA is to serve its members and the community by ensuring providers

Term	Meaning
	of monitoring services to the Intelligent Access Program (IAP) are certified and audited. TCA will: Manage the Certification and Auditing Regime for IAP, Certify, audit and cancel or suspend the certification of IAP Service Providers; and Select and coordinate IAP Auditors
Temporal Data	The information that describes either of the following: The date and time of the movement of an IAP vehicle; or The date and time that the movement of an IAP vehicle is, or is not, permitted
Transport Operator (TO)	An operator of one or more heavy vehicles eligible to enter a scheme, permit or application requiring an IAP compliance solution