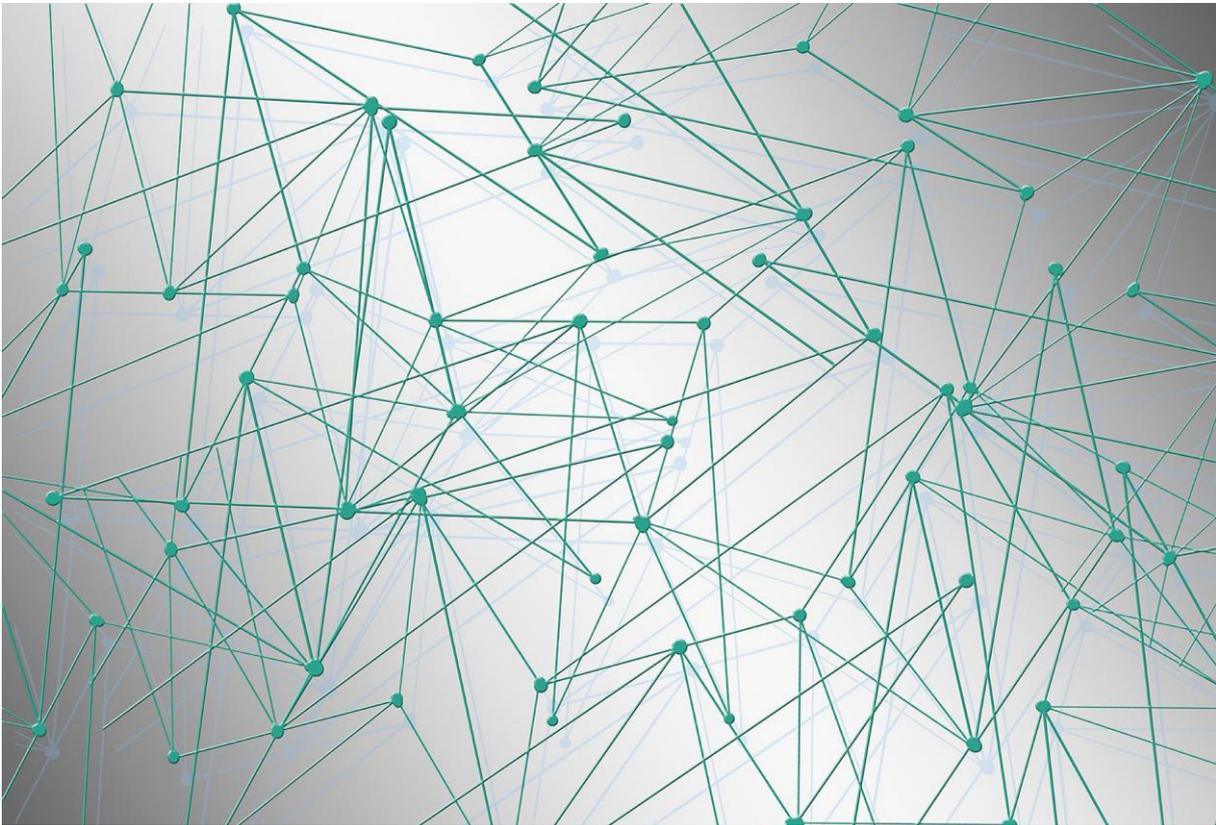


IMPROVEMENTS TO THE INTELLIGENT ACCESS PROGRAM (IAP)

STAKEHOLDER REPORT



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STAKEHOLDER REPORT

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ABOUT US

Transport Certification Australia (TCA) is the national government body responsible for providing assurance in the use of telematics and related intelligent technologies.

The term 'telematics' refers to systems which exchange data between vehicles and other locations, including:

- Vehicle to infrastructure (V2I) applications
- Vehicle to vehicle (V2V) applications
- Vehicle to elsewhere (V2X) applications.

OUR MISSION

To support government agencies and regulators by providing outcome-focused, technology neutral, disruption-resilient programs that address:

- Security
- Privacy
- Encourage innovation
- Facilitate an appropriate private sector contribution to the costs of regulation.

WHAT WE DO

Advice founded on a demonstrated capability to design and deploy frameworks and platforms as enablers for reform

Accreditation in the type-approval and certification of telematics and intelligent technologies and services, that give confidence to all stakeholders for their consideration and use

Administration of applications founded on the National Telematics Framework.

THE NATIONAL TELEMATICS FRAMEWORK

TCA is responsible for the management of the National Telematics Framework.

The Framework is a contemporary digital business platform which delivers:

- Public outcomes through an open technology Market, which sustainably delivers upon the needs of government, industry and end-users
- Different assurance levels, based on objectives and risks of each telematics application
- Consistency and certainty to technology providers, so that government positions can be relied upon to make investment decisions
- Competition and choice, with technology providers delivering the latest technological developments at lower costs.

The National Telematics Framework has been adopted as an international standard by the International Standards Organization (ISO).

LINKING PRODUCERS AND CONSUMERS

Similar to other operational frameworks in other portfolios and industry sectors, the National Telematics Framework provides the enabling infrastructure, rules and administrative arrangements which bring together 'producers' and 'consumers'.

The structured interaction of producers and consumers deliver:

- Public outcomes sought by governments, industry sectors and the community (including productivity and safety reforms enabled through the use of telematics)
together with
- Private interests of individuals and organisations (in pursuing business outcomes through the use of telematics).

EXECUTIVE SUMMARY

At the request of Responsible Ministers, TCA has developed and presented a business case with improvements to the Intelligent Access Program (IAP) to the Transport and Infrastructure Council (TIC).

The development of the business case responds to the first of six recommendations which emerged from the National Transport Commission (NTC) Review of Regulatory Telematics, which was endorsed by the TIC in May 2018.

The six recommendations are detailed on page 8 of this report.

The purpose of this report is to:

- Present and consolidate the feedback received from consultation with stakeholders
- Inform the development of the business case to TIC
- Describe the improvements contained in the business case approved by TIC.

THE INTELLIGENT ACCESS PROGRAM (IAP) AS AN APPLICATION OF THE NATIONAL TELEMATICS FRAMEWORK

The IAP is one of numerous applications of the National Telematics Framework, which ensures ‘the right truck is on the right road, at the right time’.

The National Telematics Framework is a digital business platform consisting of infrastructure and rules that support an open marketplace of telematics and related intelligent technology providers.

The IAP represents a contemporary approach to the management of heavy vehicle access. By using telematics to monitor the operation of vehicles, the IAP provides a means for road managers and regulators to offer heavy vehicle access, or improved access, to the road network.

The IAP application is relied upon by road managers and regulators to provide high levels of assurance (Level 3 assurance), which enables certificate-based data and evidence to be obtained from the application, which can be relied upon as prima-facie evidence for compliance and enforcement purposes.

As a Level 3 regulatory telematics application, the IAP application provides road managers with the required level of confidence that risks associated with offering heavy vehicle access to the road network are being effectively managed and as such, is a key enabler for improved productivity, safety and asset management.

The IAP *is not* intended to meet all the needs and expectations of different producers and consumers, who may be better served by *other applications* with lower levels of assurance.

KEY FINDINGS

Discussions about the IAP are inevitably interwoven with other issues which – although arguably beyond the scope of TCA's business case – cannot be excluded from consideration of improvements to the IAP, or for that matter, the use of other telematics applications through the National Telematics Framework.

Three key themes emerged from engagement with stakeholders:

- The need to distinguish IAP policy arrangements from the 'IAP application'
- Understanding where the IAP application should be used by road managers and regulators
- How different telematics applications are needed to meet the needs and expectations of different producers (road managers and regulators) and consumers (heavy vehicle operators and drivers).

RESPONDING TO STAKEHOLDER NEEDS

Different stakeholders have specific needs and expectations about the use of telematics applications across:

- Road managers
- Regulators
- Telematics providers
- Transport operators and drivers.

Each of the above stakeholder groups has different, but complementary needs and expectations from the use of telematics applications. Significantly, the collective feedback received from road managers, regulators, transport operators and drivers has revealed:

- Strong support for the originally intended core role of the IAP as an evidentiary-quality access management and assurance tool
- Significant differences in the *perceived* purpose and use of the IAP application
- The need for a broader suite of telematics applications, with appropriate levels of assurance, to suit the needs of different stakeholders.

PROPOSED IMPROVEMENTS (FOR INCLUSION IN BUSINESS CASE)

Stakeholder	Proposed improvements
1. Road managers	1.1 Introduce a new application to support road asset management and planning application specifically for road managers (including local governments), with lower levels of assurance 1.2 Enhance the availability of IAP information for research purposes.
2. Regulators	2.1 Optimise electronic conditions to manage key risks 2.2 Enable on-demand access to telematics data 2.3 Improve the management of enrolments and cancellations 2.4 Improve the management of self-declarations.
3. Road managers and regulators (common needs)	3.1 Enable the use of real-time alerts 3.2 Improve vehicle configuration identification 3.3 Enable new access applications with lower levels of assurance ('IAP lite') 3.4 Make the Telematics Analytics Platform (TAP) available for use across multiple producers.
4. Telematics providers	4.1 Streamline processes for providers to offer applications with lower levels of assurance (through the National Telematics Framework) 4.2 Improve the management of alarms and malfunctions 4.3 Update hardware requirements.
5. Transport operators and drivers	5.1 Enable turn-by-turn navigation/route guidance for heavy vehicle drivers 5.2 Allow transport operator systems to be used for access applications 5.3 Share Non-Compliance Reports (NCRs) with transport operators and drivers.

NEXT STEPS

Responsible Ministers approved the business case presented by TCA, which incorporates the 16 improvements listed above.

7 of the 16 improvements are already being progressed as part of TCA's work program for 2018-19.

The remaining improvements to be prioritised in future work streams.

Queries and comments about the report can be directed to TCA by emailing tca@tca.gov.au or by phoning (03) 8601 4600.

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1 INTRODUCTION

1.1 BACKGROUND

During 2017 the National Transport Commission (NTC) undertook a review of Regulatory Telematics. The purpose of the Review was to improve safety, productivity and uptake of telematics in the heavy vehicle industry by optimising current telematics systems whilst also developing the best-practice model for the future.

The NTC's final report from the Review was presented to the Transport and Infrastructure Council (TIC) on 18 May 2018.

TIC approved the review of regulatory telematics report and its six recommendations, as detailed below.

1. TCA will examine the feasibility of improving the Intelligent Access Program (IAP)
2. The NTC will develop national guidelines to assist agency decision-making when assessing new IAP applications
3. The National Heavy Vehicle Regulator (NHVR) will develop a compliance and enforcement policy for regulatory telematics
4. The NHVR will monitor the implementation of electronic work diaries and report on their effectiveness
5. The NTC, in consultation with relevant stakeholders, will develop a best practice model for regulatory telematics
6. The NTC, in consultation with relevant stakeholders, will assess whether the best practice model should be legislated and included in the Heavy Vehicle National Law (HVNL).

TCA has carriage of the first recommendation and is required to develop and present a business case to TIC with improvements to the IAP by November 2018.

Based on the NTC's recommendation, the TIC has directed TCA to explore the feasibility of improving the IAP in the following areas:

- 1.1 Reviewing the IAP specification to improve the accuracy of vehicle location, mapping information and alarm records, with the aim of minimising the number of non-conformance reports generated by IAP
- 1.2 Providing real-time information to IAP service providers and operators, including underlying navigable data (for example, to support dynamic decision-making when roadworks result in unexpected road closures)
- 1.3 Improving business processes to manage access and map updates in a timelier manner, and to rationalise IAP certificates
- 1.4 Any other areas that would improve the value, efficiency and affordability of IAP for government and industry.

1.2 PURPOSE OF THIS REPORT

TCA has engaged with a diversity of stakeholders to inform the development of a business case to improve the IAP application.

The preparation of this document – as a stakeholder report ahead of the business case to TIC in November 2018 – is intended to:

- Present and consolidate the feedback received from consultation with stakeholders
- Seek final comments and input from stakeholders
- Inform the development of the business case to TIC.

The stakeholder report consists of the following chapters:

1. Introduction (this section)
2. Overview of the National Telematics Framework
3. Overview of the Intelligent Access Program (IAP)
4. Key themes emerging from consultation and engagement
5. Understanding stakeholder needs
6. Improvements included in the business case to TIC.

2 OVERVIEW OF THE NATIONAL TELEMATICS FRAMEWORK

The National Telematics Framework is a digital business platform consisting of infrastructure and rules that support an open marketplace of telematics and related intelligent technology providers.

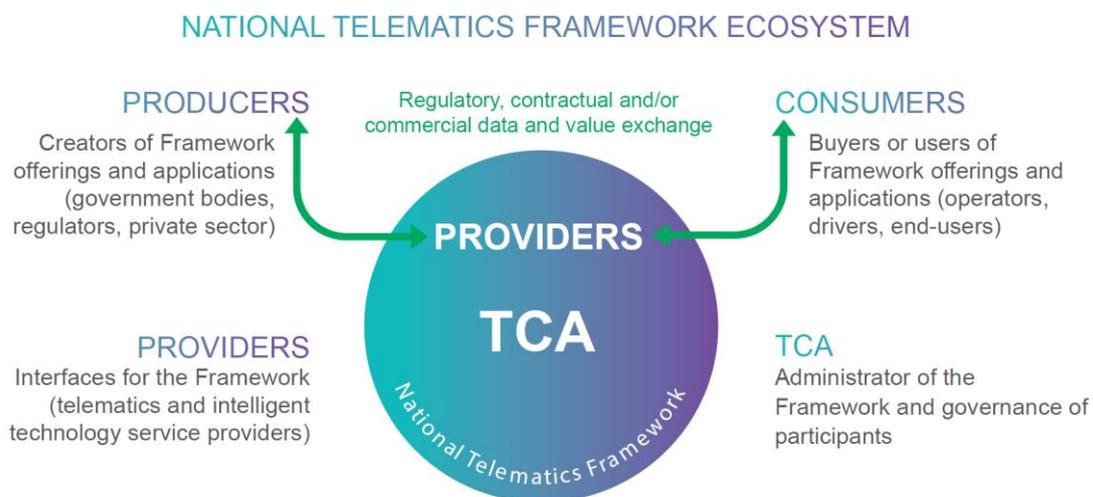
The National Telematics Framework:

- Provides a national platform for the use of telematics and related intelligent technologies
- Supports different applications across regulatory, contractual and commercial needs
- Supports different levels of assurance
- Is outcome focussed and encourages innovation.

The adoption of the National Telematics Framework for the delivery of offerings and applications both for public policy and private decision making is a world first. It has positioned Australia as the leader in the delivery of such services through the advent of the digital economy.

The National Telematics Framework was established following a series of decisions made by Responsible Ministers between 2003 and 2008 and was globally recognised as an International Standard (ISO 15638) in 2012.

The Framework provides an ecosystem to manage relationships and interactions between 'producers', 'consumers' and 'providers', as presented in the image below:



The entities represented in the National Telematics Framework are explained as follows.

2.1 PRODUCERS

Producers create offerings and applications through the National Telematics Framework by:

- Establishing policies and programs
- Referencing the use of existing programs which utilise telematics applications, or creating new applications (to deliver policies and programs)
- Determining the level of assurance sought.

Examples of producers include:

- Government agencies
- Regulators
- Private sector entities.

2.2 CONSUMERS

Consumers are the purchasers or users of offerings and applications through the National Telematics Framework.

Examples of consumers include:

- Transport operators
- Fleet managers
- Drivers
- End-users
- Other parties.

2.3 PROVIDERS

Providers are the interface between producers and consumers, by making technology offerings and applications available to consumers.

Examples of providers include:

- Suppliers of telematics and related intelligent technologies
- Vehicle manufacturers
- Other technology providers
- Subject to the specifics of an application – individual consumers.

2.4 TCA

TCA is the government appointed administrator of the Framework and is responsible for the management of:

- Governance arrangements for the platform
- The approval and oversight (subject to level of assurance) of providers
- The infrastructure and common components that aim for an open market.

3 OVERVIEW OF THE INTELLIGENT ACCESS PROGRAM (IAP)

The IAP is one of numerous applications of the National Telematics Framework, which ensures ‘the right truck is on the right road, at the right time’.

The IAP represents a contemporary approach to the management of heavy vehicle access. By using telematics to monitor the operation of vehicles, the IAP provides a means for road managers and regulators to offer heavy vehicle access, or improved access, to the road network.

The IAP application is relied upon by road managers and regulators to provide high levels of assurance (Level 3 assurance), which enables certificate-based data and evidence to be obtained from the application, which can be relied upon as prima-facie evidence for compliance and enforcement purposes.

As a Level 3 regulatory telematics application, the IAP application provides road managers with the required level of confidence that risks associated with offering heavy vehicle access to the road network are being effectively managed and as such, is a key enabler for improved productivity, safety and asset management.

The IAP *is not* intended to meet all the needs and expectations of different producers and consumers, who may be better served by *other applications* with lower levels of assurance, and for the purposes of accessing data and performing analytics.

As a regulatory telematics application, the operation of the IAP is underpinned by legislative provisions contained within Chapter 7 of the Heavy Vehicle National Law (HVNL). These provisions reflect the policy and operational interactions between five separate entities which give effect to the operation of the IAP application:

Entity	Role and function within the IAP
Road manager	Approves access to the road network, and sets conditions of access, with which transport operators need to comply.
Regulators	Manages the compliance of transport operators, including the use of Non-Compliance Reports (NCRs) generated by the IAP to manage access compliance.
Transport operators	Obtains approval from road managers to operate specific vehicle configurations and/or loads on the road network.
IAP Service Providers	Uses certified telematics to monitor road access conditions set by road managers through the 'IAP application', which sends NCRs to regulators when transport operators do not comply with their conditions of access.
Transport Certification Australia (TCA)	Administers the National Telematics Framework, oversees the operation of the IAP application, and certifies and audits IAP Service Providers.

4 KEY THEMES EMERGING FROM ENGAGEMENT WITH STAKEHOLDERS

In preparing this report, TCA has engaged with a diversity of producers, providers and consumers of the IAP application, and more broadly, the National Telematics Framework.

A list of stakeholders consulted is contained at Chapter 7.

4.1 OVERVIEW OF KEY THEMES

Discussions about the IAP are inevitably interwoven with other issues which – although arguably beyond the scope of TCA's business case – cannot be excluded from consideration of improvements to the IAP, or for that matter, the use of other telematics applications.

Three key themes emerged from engagement with stakeholders:

- The need to distinguish IAP policy arrangements from the 'IAP application'
- Understanding where the IAP application should be used by road managers and regulators
- How different telematics applications are needed to meet the needs and expectations of different producers (road managers and regulators) and consumers (heavy vehicle operators and drivers).

These themes provide the necessary backdrop to understand the needs and expectations of different stakeholders (refer to Chapter 5) and help inform the business case TCA will prepare for TIC.

These three themes are explored in the following sections.

4.2 DISTINGUISHING IAP POLICY ARRANGEMENTS FROM THE 'IAP APPLICATION'

Stakeholders have expressed the need to distinguish between IAP policy settings – which have been established by road managers and regulators – and the operation of the IAP application.

The policy and program decisions made by road managers and regulators:

- Determine how and when the IAP application is used
- Influence the number of access schemes/entitlements made available through the IAP application
- Create demand from 'consumers' (transport operators) to use the IAP application.

In the context of the National Telematics Framework, road managers and regulators are 'producers', who are responsible for establishing the policies and operational program settings for the IAP application.

This distinction was highlighted in the NTC Review of Regulatory Telematics, and was articulated in Finding 10 of the Review:

IAP uptake is driven by road transport agency policy settings. There are no agreed national principles or policies that determine why some applications* are in IAP, and others are not. Variable state policy settings have led to differences in use of IAP applications* as a condition of access. For example, IAP is a requirement for HML access in Queensland and parts of New South Wales, but not elsewhere. This is largely due to varying infrastructure standards, but these differences limit the value proposition of IAP for industry.

* The use of the term 'applications' in this context relates to access policies, entitlements and schemes offered by road managers, as distinct from telematics applications administered through the National Telematics Framework.

Many of the issues raised during the consultation and engagement to inform the development of the business case to TIC – and as identified in the NTC's report on its Review of Regulatory Telematics – are closely interconnected with decisions made by road managers and regulators about the use of the IAP.

Demand for the IAP application is a function of the incentives (or removal of disincentives) from road managers and regulators to encourage users to opt-in to regulatory telematics applications (in a voluntary environment).

As highlighted during the NTC Review of the IAP in 2013-14, only half of the access reforms identified in the original 2005 RIS for the IAP have yet been implemented by jurisdictions (or the NHVR). In the five years since the review, there have been no major new access entitlements which have significantly driven the demand for the IAP application.

The lack of regulatory incentives (or removal of dis-incentives) to promote the use and adoption of regulatory telematics applications in a voluntary environment (and a perceived lack of leadership (or interest) from 'government' to drive adoption) is a key barrier to wider use of the IAP application, as well as other telematics applications.

Road managers and regulators may revisit policy settings, and the use of the IAP application (and other telematics applications), following the completion of work currently being progressed, including:

- The Oversize Overmass (OSOM) Review
- The development of national guidelines that set out agreed principles and a methodology for road transport agencies to apply when assessing the costs and benefits of including new vehicle types or future applications (schemes) in the IAP (Recommendation 2 from the NTC Review of Regulatory Telematics).

The use of telematics applications – with appropriate levels of assurance – provides opportunities to transform the way road access can be managed, by removing the reliance on traditional tools and processes (such as permits) to manage heavy vehicle access to the road network.

4.3 UNDERSTANDING THE LIMITS OF THE IAP APPLICATION

The IAP application is a regulatory telematics application which provides a high level of assurance commensurate with the management of risks associated with the operation of specific heavy vehicle configurations and loads on the road network.

The intended purpose of the IAP application is to manage access and compliance. Consistent with its intended purpose, the IAP application:

- Is applied as a condition of access by road managers for specific vehicle configurations and/or loads (this means only 10% of the 45,000 heavy vehicles already fitted with a TCA-recognised device collect and make data available – through the National Telematics Framework – for access and compliance purposes)
- Generates certificate-based data and evidence for compliance and enforcement purposes, in accordance with specific provisions contained in the HVNL.

Road managers and regulators voiced strong support for the core role of the IAP application in providing high levels of assurance for route compliance and access conditions. There was no interest expressed by road managers or regulators to 'water down' the core IAP application and policy process, but rather a desire for other needs (such as accessing broader data for planning purposes) to be met.

As a regulatory telematics application, the IAP is not intended to be used for purposes other than heavy vehicle access and compliance management. There are deliberate policy and legislative restrictions on the use of the IAP application which restrict its use to its intended purpose – and deliberately limit the use of IAP information for other purposes sought by road managers (such as the collection of road and bridge utilisation data). Although the HVNL allows road infrastructure managers to use IAP information for research purposes, there are limitations on the use of this information which reflect:

- The legislative instruments (the HVNL) which underpin the purpose and operation of the IAP application, and the use of IAP information

-
- The agreements with transport operators (who have vehicles enrolled in the IAP), which provide for informed consent on the permitted purpose of IAP data collection and usage (that is, transport operators retain ownership of the data collected through the IAP, and only consent to information being shared with road agencies and regulators through exception-based reporting – through the generation of NCRs – when a vehicle breaches its conditions of access set by road managers).

4.4 DIFFERENT TELEMATICS APPLICATIONS TO MEET THE NEEDS OF DIFFERENT PRODUCERS (ROAD MANAGERS AND REGULATORS) AND CONSUMERS (HEAVY VEHICLE OPERATORS AND DRIVERS)

Stakeholders consulted during the preparation of this report – both within government and industry – highlighted how the expectations of different 'producers' can be met through different telematics applications.

In other words, different telematics applications need to be used to meet the different needs of 'producers' and 'consumers' – with appropriate levels of assurance commensurate with their use.

Compared with other economic utilities (such as electricity, water or communications infrastructure), there is a comparative shortfall in data collected from road assets to inform the level of asset utilisation and consumption, which can in turn influence forward planning and investment.

To this end, road managers and regulators have expressed interest in leveraging the latent data collection capabilities across the heavy vehicle fleet (over 45,000 heavy vehicles now fitted with TCA-recognised devices which can support multiple applications of the National Telematics Framework). The ability to leverage the telematics devices already fitted to heavy vehicles is limited only by producers (road managers and regulators) and their willingness to make applications available, into which transport operators can voluntarily enrol vehicles.

By using the National Telematics Framework, road managers can create telematics applications specific to their needs to assist in making better-informed decisions which can:

- Change the way road networks are managed
- Improve route assessment decision making and approvals
- Enable a transition away from transactional, permit-based arrangements to manage restricted access vehicles
- Optimise the balance between productivity, safety and the use of infrastructure assets.

The ability to create new applications, by referencing the 'Application Builder' document included in the updated suite of National Telematics Framework documents released during July 2018, enables the needs of different producers to be met by referencing the Telematics Data Dictionary, the Telematics Data Exchange, and the common Business Rules of the National Telematics Framework.

5 UNDERSTANDING STAKEHOLDER NEEDS

Different stakeholders have specific needs and expectations about the use of telematics applications to deliver improved outcomes with respect to:

- Road freight productivity
- Regulatory compliance
- Heavy vehicle safety.

There are four inter-related stakeholders who utilise telematics applications (either as a producer, provider or consumer – refer to Chapter 2) to achieve these outcomes:

- Road managers

-
- Regulators
 - Telematics providers
 - Transport operators and drivers.

Each of the above stakeholder groups has different, but complementary needs and expectations from the use of telematics applications.

In this context, it is worth noting the feedback received from road managers, regulators, transport operators and drivers have revealed significant differences in the *perceived* purpose and use of the IAP application. Through these observations two fundamental matters emerge:

- Road managers, regulators, transport operators and drivers have different needs and expectations from the IAP application (which in practicality, act as revealed preferences for other telematics applications)
- The challenges and frustrations that some stakeholders have expressed about the IAP application are derived from a misinterpretation of the purpose and intended use of the application.

Concerning the latter, some stakeholders have expectations of the IAP application which – in some instances – extend well beyond the policy and regulatory context in which the IAP application (as well as the IAP Program) operates (refer to section 4.3).

Road managers, regulators, transport operators and drivers have revealed significant differences in the perceived purpose and intended use of the IAP application

For example, some road managers and regulators have expressed an expectation that data collected through the IAP should be able to be used to count the number of times a vehicle traverses a route or a structure (to inform asset management and planning).

In broad terms, this represents an attempt to collect greater amounts of data from vehicles monitored through the IAP application – an action which has not been agreed to by all participants using the application.

Although Chapter 7 of the HVNL allows the use of IAP information for research purposes, road managers have elected to use the IAP application to achieve this by triggering NCRs whenever a vehicle passes specific locations.

This means the digital conditions which vehicles are monitored against through the IAP application do not necessarily reflect the conditions of access articulated in regulations, notices, gazettes or permits.

This leads to major distortions in the operation of the IAP application (highlighted in the NTC Review of Regulatory Telematics), including:

- Increasingly complex Off-the-Shelf (OTS) Conditions (which are generated by road managers and regulators to reflect conditions of access granted to vehicles, against which IAP Service Providers are required to monitor vehicles, and generate NCRs)
- The generation of far greater numbers of NCRs (by IAP Service Providers to regulators), than what should be generated (that is, NCRs are being generated when vehicles are in fact operating in accordance with their access conditions).

With some transport operators continuing to express concerns about the cost of the IAP application, some road managers and regulators are inadvertently contributing to increased costs to transport operators by using the IAP application inappropriately.

The additional processing requirements incurred by IAP Service Providers (associated with overly complex OTS conditions, and the greater than intended level of NCR processing) gets passed on to transport operators in the form of higher costs.

Some road managers and regulators are inadvertently contributing to increased costs to transport operators, by using the IAP application inappropriately

Notwithstanding the misinterpretations associated with the purpose and intent of the IAP application, it serves to reveal the emergent needs and expectations in using telematics applications to achieve improved outcomes.

The specific needs which have been identified with each stakeholder group are presented in the following sections:

- Proposed improvements for road managers
- Proposed improvements for regulators
- Proposed improvements for road managers and regulators (common needs)
- Proposed improvements for telematics providers
- Proposed improvements for transport operators and drivers.

Each of the proposed improvements are relevant to the IAP application *and* other applications (and features) of the National Telematics Framework

5.1 RESPONDING TO THE NEEDS OF ROAD MANAGERS

Road managers are responsible for assigning the IAP application as a condition of access, by managing road infrastructure and safety risks associated with the operation of specific vehicle combinations and/or loads on the road network.

The use of telematics applications provides opportunities to transform the way road access can be managed, by removing the reliance on traditional tools and processes (such as permits) to manage heavy vehicle access to the road network.

The feedback received highlights that road managers are moving to adopt the use of telematics data to:

- Better understand the utilisation of road infrastructure by specific heavy vehicle configurations and/or loads
- Identify challenges and risks on the road network (including the incidence of harsh braking at specific locations, areas subject to traffic congestion, and where the on-road performance of heavy vehicles may impact on the performance of other traffic)
- Combine it with other data sources, including traditional road-based monitoring systems
- Obtain assurance that compliance with access entitlements are complied with (a role performed by regulators in coordination with road managers).

Refer to Chapter 6 for proposed improvements for road managers (Proposals 1.1 to 1.2).

5.2 RESPONDING TO THE NEEDS OF REGULATORS

Regulators are responsible for using the IAP as a regulatory telematics application to achieve improved compliance outcomes, by managing conformance with the conditions of access assigned to transport operators' vehicles by road managers.

Feedback from regulators has reaffirmed the value of the IAP application, and the high level of assurance it provides.

Despite the relatively few prosecutions which have relied on IAP information (and associated certificates of evidence issued by TCA), the high-integrity of data collected through the IAP – coupled with the ability to rely upon IAP data as prima-facie evidence – assists regulators in driving behavioural change through other compliance management interventions available through the HVNL.

The ability to reference IAP information without requiring supporting information or corroborating evidence enhances the capacity of regulators to enter into engagements with transport operators about compliance improvements.

Notwithstanding the above, regulators have expressed a view (shared with road managers) that not all access arrangements warrant the level of assurance offered through the IAP application. To this end, lower applications with lower levels of assurance can be offered commensurate with the level of risk being managed.

Refer to Chapter 6 for proposed improvements for regulators (Proposals 2.1 to 2.4).

5.3 RESPONDING TO THE (COMMON) NEEDS OF ROAD MANAGERS AND REGULATORS

There are several common needs which are shared between road managers and regulators. First among these is preserving and, if possible, enhancing the capability of the IAP application as a highly trusted compliance assurance tool.

In addition to the proposed improvements identified at 5.1 and 5.2, this section presents a package of proposed improvements which respond to the needs of, and provide benefits to, road managers and regulators.

Refer to Chapter 6 for proposed improvements for road managers and regulators (Proposals 3.1 to 3.4).

5.4 RESPONDING TO THE NEEDS OF TELEMATICS PROVIDERS

Telematics providers are responsible for linking producers and consumers within the National Telematics Framework ecosystem (refer page 9).

TCA's role is to ensure there is an open technology market which enables new applications and features of the National Telematics Framework to be easily activated, by referencing common components associated with the digital business platform:

- The Telematics Data Dictionary
- The Telematics Data Exchange
- Telematics Business Rules.

The telematics sector benefits from the consistency and certainty offered through the National Telematics Framework, so that forward investment decisions can be made, and innovative technologies and service offerings can be made available to consumers.

Importantly, by referencing the common components of the National Telematics Framework, telematics providers can offer new applications and features at marginal cost to consumers. It also means that producers can activate applications which meet their policy and program needs, without 'reinventing the wheel'.

Besides referencing the National Telematics Framework, the telematics sector relies on the policy and program decisions by producers to:

- Create demand from consumers (by using and/or creating telematics applications)
- Offer a diversity of applications with different levels of assurance (for different policy needs and management risks)
- Improve operational efficiencies between producers and providers
- Expand the use of telematics applications to deliver improved outcomes with respect to road freight productivity, regulatory compliance and heavy vehicle safety.

Refer to Chapter 6 for proposed improvements for telematics providers (Proposals 4.1 to 4.3).

5.5 RESPONDING TO THE NEEDS OF TRANSPORT OPERATORS AND DRIVERS

Transport operators and drivers have strongly communicated the need for improved functionality and flexibility from the IAP application.

Despite the access benefits which are made available by road managers through the IAP, transport operators and drivers have expressed a view that the benefits of the IAP application predominantly favour road managers and regulators.

This argument is premised on the view that road managers and regulators benefit from the flow of data and information from IAP-monitored vehicles, while transport operators and drivers are not able to use the IAP application to improve compliance (by operating on approved routes). Furthermore, where instances of non-approved travel are recorded through the IAP application, there is no immediate feedback to transport operators or drivers that a NCR has been generated by an IAP Service Provider and sent to regulators.

Transport operators recognise the opportunities available to use telematics applications to:

- Improve the way restricted access arrangements are made available by road managers and regulators to transport operators (by transitioning away from transactional, permit-based arrangements to manage restricted access vehicles)
- Underpin productivity reforms, based on improved access to suitable parts of the road network.

Although these opportunities are beyond the remit of the business case – and are being dealt with in other work currently being progressed – the development of the business case to TIC should focus on *enabling* reforms to progress through the use of different telematics applications, with appropriate levels of assurance.

To this end, transport operators and drivers appear to support the use of telematics applications which can assist in delivering productivity, compliance and safety outcomes.

Refer to Chapter 6 for proposed improvements for transport operators and drivers (Proposals 5.1 to 5.3).

6 IMPROVEMENTS INCLUDED IN BUSINESS CASE TO TIC

This section contains package of improvements included in the business case to TIC based on stakeholder needs:

1. Improvements for road managers
2. Improvements for regulators
3. Improvements for road managers and regulators
4. Improvements for telematics providers
5. Improvements for transport operators and drivers.

Each improvement contains:

- An assessment of the relative priority of each proposed improvement (Low, Medium, High)
- An assessment of the policy, technical, operational and commercial dimensions of each proposal
- An assignment of accountabilities between TCA, road managers, regulators, telematics providers, and transport operators and drivers.

The assigned accountabilities for each proposed improvement are represented with the following key:

Lead entity	Primary entity	Secondary entity
Entity/s responsible for leading and coordinating the improvement with other entities/stakeholders	Entity/s responsible for making changes to implement and operationalise the improvement	Entity/s which are likely to be influenced or impacted in some way by the improvement
		

A.1 IMPROVEMENTS FOR ROAD MANAGERS

1.1	Description	Accountabilities					Priority (L, M, H)
<p>Introduce a new application to support road asset management and planning application specifically for road managers (including local governments), with lower levels of assurance</p>	<p>It is proposed to introduce a new application specifically for road managers (including local governments). This new Road Infrastructure Management (RIM) application – as an application of the National Telematics Framework – will allow road managers to access road use data for asset planning and network management.</p>	TCA	Road Managers	Regulators	Telematics Providers	Transport operators	H
	<p>As distinct from the IAP application – or the proposed introduction of new access applications with lower levels of assurance ('IAP lite'), the RIM application is not intended to support access policies and the management of risks associated with the operation of heavy vehicles on the road network.</p>	✓	✓		✓	✓	
	<p>Rather, the RIM application provides a mechanism to collect aggregated, de-identified data from vehicles equipped with a telematics device.</p>	Policy, technical, operational and commercial dimensions					
	<p>Implementing the RIM application will offer a more flexible, lower cost alternative for road managers to obtain telematics data from a wider population of vehicles (including over 45,000 heavy vehicles across Australia which are already fitted with a TCA-recognised Telematics IVU).</p> <p><i>The Road Infrastructure Management application is currently being enabled through the National Telematics Framework through TCA's Work Program for 2018-19.</i></p>	<p>Policy</p> <p>The adoption and use of the application will be dependent upon 'producers' (road managers) and the incentives for 'consumers' to voluntarily 'opt-in' to the application (and share telematics data with road managers).</p>		<p>Technical</p> <p>Establish a new application of the National Telematics Framework utilising the Telematics Data Dictionary, the Telematics Data Exchange and common Business Rules.</p>			
	<p>Operational</p> <p>There may be changes required to operational systems, policies and procedures for road managers to utilise the RIM application,</p>		<p>Commercial</p> <p>The availability of the RIM application will address the problem of road managers and regulators attempting to use the IAP application for the wrong purposes, which has resulted in increased IAP costs transport operators.</p>				

1.2	Description	Accountabilities					Priority (L, M, H)
Enhance the availability of IAP information for research purposes	Enhancing the availability of IAP information for research purposes includes: <ul style="list-style-type: none"> Establishing more efficient arrangements between TCA and road managers (including local governments) to request the analysis of IAP information for research purposes Improving the operational mechanisms for road managers to receive the results of ad-hoc requests, with quicker turnaround times. The provision of aggregated, de-identified data to road managers can be enabled through the access to the Telematics Analytics Platform (TAP).	TCA	Road managers	Regulators	Telematics providers	Transport operators	H
		✓	✓				
		Policy, technical, operational and commercial dimensions					
		Policy N/A	Technical N/A				
Operational Operational enhancements will be implemented to improve the management of requests for the analysis of IAP information for research purposes from road managers.	Commercial N/A						

A.2 IMPROVEMENTS FOR REGULATORS

2.1	Description	Accountabilities					Priority (L, M, H)		
<p>Optimise electronic conditions to manage key risks*</p> <p>* Responds to recommendations 1.1 and 1.3 from NTC Review of Regulatory Telematics</p> <p>(Interrelated with: 5.3 – Share NCRs with transport operators and drivers)</p>	<p>Electronic conditions – known within the IAP application as Off-The-Shelf (OTS) Conditions – should be better optimised to reflect the key risks associated with the operation of specific vehicles, vehicle combinations and/or loads on the road network.</p> <p>The optimisation of electronic conditions will reduce:</p> <ul style="list-style-type: none"> • The complexities incurred by IAP Service Providers in processing electronic conditions • The number of NCRs • The costs incurred by IAP Service Providers and transport operators. 	TCA	Road managers	Regulators	Telematics providers	Transport operators	H		
		✓		✓	✓				
		Policy, technical, operational and commercial dimensions							
		<p>Policy N/A</p>	<p>Technical Minor technical changes may be required to assist regulators to optimise the crafting of electronic conditions.</p>						
<p>Operational Administrative procedures will be updated to improve the management and oversight of electronic conditions.</p>	<p>Commercial N/A</p>								

2.2	Description	Accountabilities					Priority (L, M, H)
<p>Enable on-demand access to telematics data</p> <p>On-demand access to telematics data allows regulators to trigger a request for data (as and when needed) with the assurance that information is secure and able to be relied upon at a later time.</p> <p>Not all telematics applications need to adopt a 'push' model, where telematics data is automatically transmitted from telematics providers to regulators. Depending on the policy context and use of an application, regulators may prefer to adopt a 'pull' model, where data is accessed 'on-demand'.</p> <p><i>On-demand access to telematics data is being enabled as a new feature of the National Telematics Framework through TCA's Work Program for 2018-19.</i></p>		TCA	Road managers	Regulators	Telematics providers	Transport operators	L
		✓		✓	✓		
		Policy, technical, operational and commercial dimensions					
		<p>Policy</p> <p>Regulators will need to consider, as part of their policy and program design for the use of telematics applications, where on-demand access to telematics data is required.</p>	<p>Technical</p> <p>N/A</p>				
<p>Operational</p> <p>There may be changes or additions to the Business Rules within the National Telematics Framework to support on-demand access to telematics data.</p>	<p>Commercial</p> <p>The adoption and use of on-demand access to telematics data will be dependent upon the 'producers' of the application (road managers and regulators) and the incentives for 'providers' to offer the feature.</p>						

2.3	Description	Accountabilities					Priority (L, M, H)
<p>Improve the management of enrolments and cancellations</p> <p>Improving the management of enrolments and cancellations of vehicles into the IAP application can reduce the incidence of avoidable cancellations and re-enrolments.</p> <p>The package of improvements will include:</p> <ul style="list-style-type: none"> Overcoming the need for regulators to cancel and re-enrol vehicles in the IAP application when there is a change of vehicle registration Reducing the number of steps involved in enrolments Reducing the number of steps involved in cancellations (inclusive of removing the need for regulators to confirm/finalise cancellations) <p>This package of improvements will reduce the administrative burden (and costs) to telematics providers and transport operators.</p>	<p>Improving the management of enrolments and cancellations of vehicles into the IAP application can reduce the incidence of avoidable cancellations and re-enrolments.</p> <p>The package of improvements will include:</p>	TCA	Road managers	Regulators	Telematics providers	Transport operators	M
		✓		✓	✓	✓	
	<ul style="list-style-type: none"> Overcoming the need for regulators to cancel and re-enrol vehicles in the IAP application when there is a change of vehicle registration 	Policy, technical, operational and commercial dimensions					
	<ul style="list-style-type: none"> Reducing the number of steps involved in enrolments 	<p>Policy N/A</p>		<p>Technical N/A</p>			
	<ul style="list-style-type: none"> Reducing the number of steps involved in cancellations (inclusive of removing the need for regulators to confirm/finalise cancellations) <p>This package of improvements will reduce the administrative burden (and costs) to telematics providers and transport operators.</p>	<p>Operational Administrative procedures will be updated to improve the management of enrolments and cancellations.</p>		<p>Commercial N/A</p>			

2.4	Description	Accountabilities					Priority (L, M, H)
<p>Improve the management of self-declarations</p> <p>Improving the self-declaration feature of the National Telematics Framework will improve the efficient operation of the IAP application by transport operators and drivers.</p> <p>The package of improvements will include:</p> <ul style="list-style-type: none"> Consolidate the list of vehicle categories available to be selected through the self-declaration feature (by harmonising vehicle categories across jurisdictions) Allow IAP Service Providers to customise vehicle category lists for specific transport operators and drivers Allow the last SD input to be carried-forward until the next SD input is recorded (where there are infrequent changes to vehicle configuration and/or mass). <p>This package of improvements will reduce the administrative burden (and costs) to telematics providers and transport operators.</p>	<p>Improving the self-declaration feature of the National Telematics Framework will improve the efficient operation of the IAP application by transport operators and drivers.</p>	TCA	Road managers	Regulators	Telematics providers	Transport operators	L
		✓		✓	✓	✓	
		Policy, technical, operational and commercial dimensions					
		<p>Policy N/A</p>	<p>Technical Minor technical changes will be required to the performance-based functional and technical requirements of the IAP application.</p>				
	<p>Operational N/A</p>	<p>Commercial N/A</p>					

A.3 IMPROVEMENTS FOR ROAD MANAGERS AND REGULATORS

3.1	Description	Accountabilities					Priority (L, M, H)
<p>Enable the use of real-time alerts</p> <p>* Responds to recommendation 1.2 from NTC Review of Regulatory Telematics</p>	<p>Real-time alerts can increase the identification of high-risk events associated with specific drivers, vehicles, vehicle configurations, and/or vehicle loads, where an immediate response or intervention is required by road managers or regulators.</p>	TCA	Road managers	Regulators	Telematics providers	Transport operators	M
	<p>The introduction of real-time alerts through the National Telematics Framework will enable:</p> <ul style="list-style-type: none"> The content and format of alerts to be standardised across all providers Duplicates of the same alert to be transmitted to one or more recipients simultaneously (i.e. drivers, transport operators, traffic management personnel, authorised officers and/or any other nominated person – as defined by road managers and regulators). 	✓	✓	✓	✓	✓	
	<p>Real-time alerts will represent a new feature within the National Telematics Framework.</p> <p><i>Real-time alerts are being enabled as a new feature of the National Telematics Framework through TCA's Work Program for 2018-19.</i></p>	<p>Policy</p> <p>Road managers and regulators will need to consider, as part of their policy and program design for the use of telematics applications, where real-time alerts are required (see Commercial).</p>		<p>Technical</p> <p>Standardise the method and format of real-time alerts between providers and road managers/regulators, using the Telematics Data Dictionary, Telematics Data Exchange and the common Business Rules of the National Telematics Framework.</p>			
		<p>Operational</p> <p>Establish administrative processes for road managers and regulators to define when real-time alerts should be triggered, and the recipients of real-time alerts.</p>		<p>Commercial</p> <p>Adoption and use of real-time alerts will be dependent upon the policy and program uses set by 'producers' – road managers and regulators – as well as the incentives for 'providers' and 'consumers' (transport operators) to adopt the use of 'real-time' alerts (see Policy).</p> <p>Providers would be expected to recover costs from charging a marginal cost to transport operators and drivers in providing an additional application.</p>			

3.2	Description	Accountabilities					Priority (L, M, H)
<p>Improve vehicle configuration identification</p> <p>The ability to reliably identify vehicle configurations through the IAP application (and other applications of the National Telematics Framework) is sought by road managers and regulators alike.</p> <p>Road managers and regulators are seeking greater integrity and assurance in the recording of vehicle combinations by using low-cost trailer identification devices.</p> <p>This proposal would complement other approaches available through the National Telematics Framework to identify vehicle configurations:</p> <ul style="list-style-type: none"> • Self-declaration (lower assurance) – currently available • OBM Program (higher assurance) – currently being implemented, which will allow road managers and regulators to identify vehicles configurations, based on mass data collected from axle groups. <p>Although the trailer identification is a feature already offered through the National Telematics Framework, road managers and regulators (producers) have not yet sought their use (which has not induced providers to make offerings).</p>	<p>TCA</p> <p>Road managers</p> <p>Regulators</p> <p>Telematics providers</p> <p>Transport operators</p>	<p>✓</p>	<p>✓</p>				<p>M</p>
	<p>Policy, technical, operational and commercial dimensions</p>						
	<p>Policy</p> <p>Road managers and regulators (producers) need to establish clear directions and communicate their intention to use low-cost trailer identification devices. This will encourage 'providers' and 'consumers' (transport operators) to adopt the use of low-cost trailer identification devices (see Commercial).</p>	<p>Technical</p> <p>N/A</p>					
	<p>Operational</p> <p>There may be changes required for existing systems used by road managers and regulators to enable the use of low-cost trailer identifiers.</p>	<p>Commercial</p> <p>The adoption and use of low-cost trailer identification devices will be dependent upon the 'producers' of the application (road managers and regulators) and the incentives for 'providers' and 'consumers' (transport operators) to adopt the use of low-cost trailer identification devices (see Policy).</p> <p>Providers would be expected to recover costs from charging a marginal cost to transport operators and drivers in providing an additional application.</p>					

3.3	Description	Accountabilities					Priority (L, M, H)
<p>Enable new access applications with lower levels of assurance ('IAP lite')</p> <p>(Interrelated with: 5.2 – Allow transport operator systems to be used for access applications)</p>	<p>Offering new access applications with lower levels of assurance (in addition to the current IAP application) will allow road managers and regulators to apply monitoring conditions to vehicles, commensurate with the risks being managed.</p>	TCA	Road managers	Regulators	Telematics providers	Transport operators	H
	<p>These new access applications will complement the existing IAP application, which provides a high level of assurance in the form of certification of providers, and the availability of certificate-based evidence, to manage the highest risk heavy vehicles operating on the road network.</p>	✓	✓	✓	✓	✓	
	<p>New access applications with lower levels of assurance will reference the Telematics Data Dictionary, the Telematics Data Exchange and the Business Rules common across all applications of the National Telematics Framework.</p>	Policy, technical, operational and commercial dimensions					
		<p>Policy</p> <p>Road managers and regulators will need to consider establishing new access arrangements with lower levels of assurance.</p> <p>Transport operators will respond to decisions made by road managers and regulators by 'opting-in' to new access arrangements (see Commercial).</p>			<p>Technical</p> <p>N/A</p>		
		<p>Operational</p> <p>There may be minor operational changes between TCA, road managers, regulators and providers to support access applications with lower levels of assurance (to reflect policy and program designs established by road managers and regulators).</p>			<p>Commercial</p> <p>The adoption and use of new access applications with lower levels of assurance will be dependent upon the 'producers' of the application (road managers and regulators) and the incentives for 'providers' and 'consumers' (transport operators) to opt-in to these applications (see Policy).</p> <p>Providers may be able to reduce charges incurred by transport operators, commensurate with a lower level of assurance.</p>		

3.4	Description	Accountabilities					Priority (L, M, H)
<p>Improve availability to telematics data</p> <p>The Telematics Analytics Platform (TAP) supports the use of telematics applications administered within the National Telematics Framework, and forms part of the common infrastructure of the Framework.</p> <p>TAP is already utilised by road managers and regulators to manage applications of the Framework. The availability of the TAP enables:</p> <ul style="list-style-type: none"> Producers to easily use established applications, or create new applications within the National Telematics Framework New producers to use the National Telematics Framework Provides secure, remote access for authorised representatives to view information and reports generated through applications of the Framework. <p>To ensure the strategic expectations of producers are met, consideration should be given to appropriate investments in ICT infrastructure to ensure scalability and sustainability. These investments can be offset:</p> <ul style="list-style-type: none"> By investments that would be otherwise be incurred by individual producers in establishing stand-alone systems and services The cost savings to telematics providers and transport operators that can be achieved by minimising the number of individual systems with which providers need to interface. 	<p>The Telematics Analytics Platform (TAP) supports the use of telematics applications administered within the National Telematics Framework, and forms part of the common infrastructure of the Framework.</p>	TCA	Road managers	Regulators	Telematics providers	Transport operators	H
	<p>TAP is already utilised by road managers and regulators to manage applications of the Framework. The availability of the TAP enables:</p>	✓	✓	✓			
	<ul style="list-style-type: none"> Producers to easily use established applications, or create new applications within the National Telematics Framework New producers to use the National Telematics Framework Provides secure, remote access for authorised representatives to view information and reports generated through applications of the Framework. 	Policy, technical, operational and commercial dimensions					
	<p>To ensure the strategic expectations of producers are met, consideration should be given to appropriate investments in ICT infrastructure to ensure scalability and sustainability. These investments can be offset:</p> <ul style="list-style-type: none"> By investments that would be otherwise be incurred by individual producers in establishing stand-alone systems and services The cost savings to telematics providers and transport operators that can be achieved by minimising the number of individual systems with which providers need to interface. 	<p>Policy</p> <p>Producers can use the TAP for applications utilised and/or created by each producer, to deliver policy and program objectives.</p> <p>Individual producers may use or create applications, with different levels of assurance, available through the National Telematics Framework.</p>	<p>Technical</p> <p>N/A</p>				
	<p>Operational</p> <p>Administrative procedures will be updated to improve the management of alarms and malfunctions.</p>	<p>Commercial</p> <p>Strategic investments in ICT infrastructure and support will ensure appropriate scalability and sustainability, to meet the expectations of producers.</p> <p>Individual producers should contribute to the costs associated with the provision and use of the TAP.</p>					

A.4 IMPROVEMENTS FOR TELEMATICS PROVIDERS

4.1	Description	Accountabilities					Priority (L, M, H)
<p>Streamline processes for providers to offer applications with lower levels of assurance (through the National Telematics Framework)</p>	<p>The open technology market of telematics providers are able to support applications through the National Telematics Framework – across different levels of assurance.</p>	TCA	Road managers	Regulators	Telematics providers	Transport operators	H
	<p>Applications with lower levels of assurance should have a commensurate level of approval and oversight, based on the needs of producers (road managers and regulators).</p>	✓			✓		
	<p>Efficient processes to approve new telematics providers offering lower level assurance applications (through the National Telematics Framework) will further promote competition and choice (through an open technology market) to transport operators.</p>	Policy, technical, operational and commercial dimensions					
		<p>Policy N/A</p>	<p>Technical N/A</p>				
	<p>Operational Optimise operational processes and procedures to support telematics providers seeking to offer applications with lower levels of assurance.</p>	<p>Commercial Maintain transparent cost recovery mechanisms (through TCA's Triple A Model) for:</p> <ul style="list-style-type: none"> • Approvals of telematics providers offering applications with lower levels of assurance through the National Telematics Framework • Operational oversight of telematics applications commensurate with the level of assurance sought. 					

4.2	Description	Accountabilities					Priority (L, M, H)	
<p>Improve the management of alarms and malfunctions</p> <p>* Responds to recommendation 1.1 from NTC Review of Regulatory Telematics</p>	<p>Improving the management of malfunction alarms will improve the efficient operation of the IAP application.</p> <p>The package of improvements will include:</p> <ul style="list-style-type: none"> Revising the requirements so that alarms are sent only once to regulators Revising the requirements for malfunction alarms so that the number of 'false alarms' generated from vehicles which remain stationary for an extended period (an IVU may be incorrectly deemed to be malfunctioning in these scenarios) Allowing simple malfunction rectifications to be performed by transport operators, under guidance from their provider. <p>This package of improvements will reduce the administrative burden (and costs) to telematics providers and transport operators.</p>	TCA	Road managers	Regulators	Telematics providers	Transport operators	M	
		✓		✓	✓	✓		
		Policy, technical, operational and commercial dimensions						
		<p>Policy N/A</p>	<p>Technical N/A</p>					
<p>Operational Administrative procedures will be updated to improve the management of alarms and malfunctions.</p>	<p>Commercial N/A</p>							

4.3	Description	Accountabilities					Priority (L, M, H)	
Update hardware requirements	Update specific requirements for hardware used in the IAP application, based on an assessment of risk and evidence collected from TCA's audit program. The package of revisions will include hardware requirements which relate to: <ul style="list-style-type: none"> • Water resistance • Security seals • Independent movement sensor • Programmed maintenance requirements. This package of improvements will reduce the administrative burden (and costs) to telematics providers and transport operators.	TCA	Road managers	Regulators	Telematics providers	Transport operators	M	
		✓		✓	✓			
		Policy, technical, operational and commercial dimensions						
		Policy N/A			Technical Update of performance-based functional and technical requirements for the IAP application.			
		Operational N/A			Commercial N/A			

A.5 IMPROVEMENTS FOR TRANSPORT OPERATORS AND DRIVERS

Enhancement 5.1	Description	Accountabilities					Priority (L, M, H)
<p>Enable turn-by-turn navigation/route guidance for heavy vehicle drivers</p> <p>* Responds to recommendation 1.2 from NTC Review of Regulatory Telematics</p>	<p>Heavy vehicle drivers seek turn-by-turn navigation guidance for restricted access vehicles, using telematics devices and services.</p>	TCA	Road managers	Regulators	Telematics providers	Transport operators	H
	<p>Turn-by-turn route guidance for heavy vehicle drivers can be tailored for specific vehicle configurations, dimensions and loads – as well as other parameters such as time of day.</p>	✓	✓	✓	✓	✓	
	<p>Despite the prevalence of consumer navigation devices and services which meet the needs of passenger vehicles, there are no equivalent devices or services available to meet the multitude of different access entitlements and restrictions available to different vehicle configurations and loads.</p> <p>Turn-by-turn route guidance can significantly reduce the risks associated with the operation of restricted access vehicles (including those not monitored through the IAP application).</p> <p>The provision of road attribute data will be made available through the Traveller Information Exchange (TIX) which provides a platform to facilitate an 'open exchange' of information between producers, providers and consumers.</p> <p>The provision of road attribute data can be supplemented with real-time information exchanges through TIX, which can support dynamic decision making by drivers during a journey.</p>	Policy, technical, operational and commercial dimensions					
<p>Policy</p> <p>Road managers need to make accurate and reliable road attribute data available for use through the National Telematics Framework, to enable providers to offer turn-by-turn navigation/route guidance for heavy vehicle drivers.</p>		<p>Technical</p> <p>Providers may need to make technical enhancements to offer turn-by-turn navigation/route guidance to heavy vehicle operators and drivers.</p> <p>TCA proposes the development of a performance-based functional specification to ensure consistency in the provision of turn-by-turn navigation/route guidance across all providers.</p>					
<p>Operational</p> <p>Specific business rules will need to be incorporated within the National Telematics Framework to enable regular updates, and a standardised release of road attribute data to providers (this can build upon established operational practices for map updates within the National Telematics Framework).</p>		<p>Commercial</p> <p>The willingness of providers to develop and offer turn-by-turn navigation/route guidance for heavy vehicle drivers will be dependent upon commitments being made by road managers to make road attribute information available (see Policy).</p> <p>Providers would be expected to recover costs from charging a marginal cost to transport operators and drivers (by offering turn-by-turn navigation/route guidance as an additional application).</p>					

5.2	Description	Accountabilities					Priority (L, M, H)
<p>Allow transport operator systems to be used for access applications</p> <p>(Interrelated with: 3.3 – Introduce new access applications with lower levels of assurance)</p>	<p>Transport operator telematics systems (which are not already recognised by TCA) can be used to support applications within the National Telematics Framework.</p> <p>Many of these systems have been developed in-house as bespoke systems, and/or integrated with other business systems, to meet the specific needs of transport operators.</p>	TCA	Road managers	Regulators	Telematics providers	Transport operators	H
	<p>These systems are able to support multiple applications of the National Telematics Framework, by conforming with the Telematics Data Dictionary, the Telematics Data Exchange and Telematics Business Rules.</p> <p>Specific Business Rules (within the National Telematics Framework) may also need to be established to ensure transport operators can offer the level of assurance expected of road managers and regulators.</p>	✓	✓	✓	✓	✓	
	Policy, technical, operational and commercial dimensions						
	<p>Policy TCA, road managers, regulators and transport operators should work together to establish suitable criteria and means of assessment to approve the use of transport operator systems for access applications within the National Telematics Framework (consistent with the level of assurance sought by road managers and regulators).</p>	<p>Technical Transport operator systems may need updating to conform with the Telematics Data Dictionary, the Telematics Data Exchange of the National Telematics Framework (if they do not already conform).</p>					
<p>Operational Transport operator systems may need to conform with specific Business Rules of the National Telematics Framework (if they do not already conform).</p>	<p>Commercial The willingness of transport operators and their system providers to conform with the National Telematics Framework will be dependent upon the relative costs and benefits (see Policy in this section, and Enhancement 3.3).</p>						

5.3	Description	Accountabilities					Priority (L, M, H)
<p>Share NCRs with transport operators and drivers</p> <p>(Interrelated with: 2.1 – Optimise electronic conditions to manage key risks)</p>	<p>Sharing NCRs with transport operators will improve the transparency of the IAP Program and the use of the IAP application.</p>	TCA	Road managers	Regulators	Telematics providers	Transport operators	H
	<p>Transport operators and drivers will be able to better understand where non-compliant events are being detected through the IAP, and pro-actively manage their compliance obligations.</p>	✓		✓	✓	✓	
	<p>Allowing IAP Service Providers to share NCRs with transport operators extends the current provisions contained in the IAP application – and the Business Rules of the National Telematics Framework – where ownership of telematics data is retained, and available for use, by transport operators.</p>	Policy, technical, operational and commercial dimensions					
		<p>Policy</p> <p>Revisions to the provisions in Chapter 7 of the HVNL will be required to remove ambiguity so that IAP Service Providers can share NCRs with transport operators.</p>	<p>Technical</p> <p>N/A</p>				
	<p>Operational</p> <p>IAP Service Providers may need to amend their existing service offerings to transport operators, to enable transport operators to receive NCRs.</p>	<p>Commercial</p> <p>Providers would be expected to recover costs from sharing NCRs, by charging a marginal cost to transport operators and drivers.</p>					

7 STAKEHOLDERS CONSULTED TO INFORM THIS REPORT

7.1 PEAK INDUSTRY BODIES

Australian Logistics Council (ALC)
Australian Trucking Association (ATA)
Livestock, Bulk and Rural Carriers Association (LBRCA)
NatRoad
Queensland Trucking Association (QTA)
Road Freight NSW
South Australian Road Transport Association (SARTA)
Victorian Trucking Association (VTA)
Western Roads Federation.

7.2 ROAD MANAGERS/REGULATORS

Department of Transport and Main Roads (QLD)
Department of Planning, Transport and Infrastructure (SA)
Department of State Growth (TAS)
National Heavy Vehicle Regulator
Main Roads Western Australia (WA)
Roads and Maritime Services (NSW)
Transport for New South Wales (NSW)
Transport for Victoria (VIC)
VicRoads (VIC).

7.3 TELEMATICS PROVIDERS

Bigmate
BlackBox Control
Ctrack
EROAD
FleetEffect
PinPoint Communications
Teletrac Navman
Telstra
Transport Compliance Services (TCS).

7.4 OTHER ENTITIES

National Transport Commission
Department of Infrastructure, Regional Development and Cities.