# Intelligent Transport System
# Compliance Framework
## FY24/25

Industry Consultation Draft

JULY 2024

# INTRODUCTION

## PURPOSE

This document aims to provide transparency to industry on the National Heavy Vehicle Regulator's (NHVR) approach to obtaining and using data from intelligent access programs (as defined in Chapter 7 of the *Heavy Vehicle National Law* (HVNL)). The NHVR will achieve this in the performance of the following functions;

- to monitor compliance with the HVNL[1]
- to investigate contraventions or possible contraventions of provisions of the HVNL, including offences against the HVNL[2]
- to encourage and promote safe and productive business practices of persons involved in the road transport of goods or passengers by heavy vehicles that do not compromise the object of the HVNL[3]
- managing the impact of heavy vehicles on the environment, road infrastructure and public amenity.

The Framework is designed to improve NHVR's compliance capability from a process-based approach, which currently only uses IAP data, to a risk-based, data-driven approach which incorporates all three types of intelligent access programs and is transparent to industry

The Framework aligns with the NHVR's corporate goals, outlined in the NHVR Corporate Plan 2022-2025, of:

- **Productivity** – deliver greater and timely road network access certainty and increased productivity across the industry.
- **Regulatory Capability** – ensure the NHVR maintains a consistent and streamlined approach to the delivery of services to our customers.

## INTELLIGENT ACCESS PROGRAM BACKGROUND

As defined in Chapter 7, Section 403 of the HVNL an approved intelligent transport system, means an intelligent transport system approved by Transport Certification Australia (TCA). The intelligent transport system is approved for the purposes of the intelligent access program. A Service Provider uses the system to monitor an intelligent access program vehicle. In line with their powers under the HVNL, the TCA approves intelligent transport systems for the following intelligent access programs:

**1)** Intelligent Access Program (**IAP**)

**2)** Telematics Monitoring Application (**TMA**) with optional Smart On-Board Mass

**3)** Road Infrastructure Management (**RIM**) applications.

An intelligent access program as defined under Chapter 7, 401 of the HVNL is a program to allow heavy vehicles to have access, or improved access, to the road network in return for monitoring, by an approved intelligent transport system, of their compliance with stated access conditions. This is achieved through the integrated use of information and communication technologies to transmit, store and receive data.

Intelligent access programs are used in accordance with the HVNL and are used by road managers under gazette Notices and/or permits to grant;

- access to specific routes at particular times or under specific conditions (e.g. speed)
- additional mass to specific vehicles or journeys

Since 2022, jurisdictional road managers have been utilising different intelligent access programs as a condition of a mass or dimension authorisation, from IAP to TMA (with or without Smart OBM) and RIM in certain circumstances. This has resulted in the enrolments in the IAP decreasing as operators move to the newer intelligent access program. The differences between the TCA approved intelligent access programs and the assurance levels are outlined in **Appendix A.**

IAP, TMA and RIM all monitor the road manager's conditions of access. The selection of the intelligent access program, be it IAP, TMA or RIM, depends on policy decisions made by road managers (see **Appendix B** for approved intelligent access programs and the applicable scheme).

1 HVNL, s. 659(2)(b)
2 HVNL, s. 659(2)(c)
3 HVNL, s. 659(2)(k)
4 HVNL, s. 425

The following points are relevant to the NHVR's compliance role outlined in Chapter 7 of the HVNL;

1) Chapter 7 of the HVNL deals with the requirements for heavy vehicles to have an intelligent access programs as a condition of a mass or dimension authorisation.

2) Chapter 7 of the HVNL contains information disclosure safeguards to ensure that information is only disclosed to the NHVR in certain circumstances.

3) The obligation of heavy vehicle operators under Chapter 7 arises only when intelligent access programs are applied as a condition of a mass or dimension authorisation.

4) The central point of the NHVR's role in Chapter 7 of the HVNL is to facilitate and improve access to networks by intelligent access program vehicles via the imposition of intelligent access program conditions and the monitoring of compliance with those conditions.

5) Monitoring is undertaken via intelligent access program Service Providers, whose intelligent transport systems are approved for use by the TCA and audited.[4]

6) Chapter 7 does outline additional functions including.

- an intelligent access Service Provider is to '... disclose intelligent access program information to the Regulator for compliance purposes'[5] and

- the TCA is to disclose '... intelligent access program information to the Regulator if it is satisfied the information is relevant to the Regulator's functions under this Law'.[6]

The heavy vehicle operator undertakes journeys in heavy vehicles fitted with intelligent access program devices to facilitate productivity.

A heavy vehicle operator requires access to the road network to operate at greater than general access limits to facilitate productivity

The Service Provider for the intelligent access program receives data from the intelligent access program devices and transmits the data to the TCA.

The TCA determines if the data should be transited to the NHVR to achieve its legal functions under the HVNL eg, compliance with the Law, investigation of contraventions of the law, encourage safe and productive business practices.

The Road Manager approves access to specific road networks to types of vehicles via gazetted Notices or specific vehicles via permits.

The NHVR receives the approved data and determines if the operator complied with the conditions of the approved access e.g while travelling under the Notice or permit the vehicle travelled on the approved route, at the approved weight, at the approved time and/or date.

The NHVR monitors intelligent access program enrolment information to ensure compliance with Notice and permit conditions.

The type of vehicle (Notice) or specific vehicles (Permit) may require enrolment in an intelligent access program to monitor compliance with conditions of the Notice or permit eg approved route, weight, time and dates of travel.

**Figure 1** - Framework for the legal use of Chapter 7 intelligent access programs data by the NHVR

5  The NHVR is assigned functions under Chapter 7 (e.g., receiving reports of tampering with approved intelligent transport systems).
6  HVNL, s. 418(2) (note, too, s. 416 of the HVNL).
7  HVNL, s. 433(2) (note, too, s. 432 of the HVNL).

## INTELLIGENT ACCESS PROGRAM COMPLIANCE OBJECTIVES

By implementing the specified functions outlined in the HVNL, this Framework seeks to accomplish the following compliance objectives;

1) Encourage and promote safe and productive business practices by notivating industry adoption of intelligent access programs.

2) Manage the impact of heavy vehicles on the environment, road infrastructure and public amenity by using intelligent access program data to ensure compliance with the requirements of road manager as outlined in the Notice or permit that allows additional access to the road network.

3) Monitor compliance with the HVNL; informing, educating and enforcing where non-compliance is detected, applying an escalating range of regulatory interventions to change and promote positive behaviour.

4) Use data to monitor trends that may assist in resource allocation (e.g., SCOs in certain areas based upon trends in non-compliance) and the investigation of potential systemic offending under the HVNL.

## ENCOURAGING INDUSTRY ADOPTION OF INTELLIGENT ACCESS SYSTEMS

By assuring the uptake of intelligent access systems, the NHVR aligns with the requirements of jurisdictions to improve access to the road network by certain restricted access vehicles.

Road managers also use intelligent access program information to monitor the usage of assets including tunnels, bridges and approved routes. For infrastructure planners, intelligent access program information is being used to support decision making and resource allocation.

Transport operators benefit commercially from using intelligent access programs which can provide other functions and services such as generating real-time vehicle position records for use downstream, allowing operators to monitor vehicle performance, manage fatigue, optimise scheduling, and enhance delivery progress visibility.

To encourage industry adoption of intelligent access programs, **the NHVR will use its data sources and collaborate with jurisdictions to monitor vehicles which are not enrolled in the required intelligent access program. Vehicles not enrolled in the required program and use roads that have access condition are considered non-compliant with the conditions of road access.**

**The NHVR will incentivise these non-compliant operators to enrol in the appropriate intelligent access program application using the "inform, educate and enforce" model aligning with the NHVR's risk-based intervention strategy.**
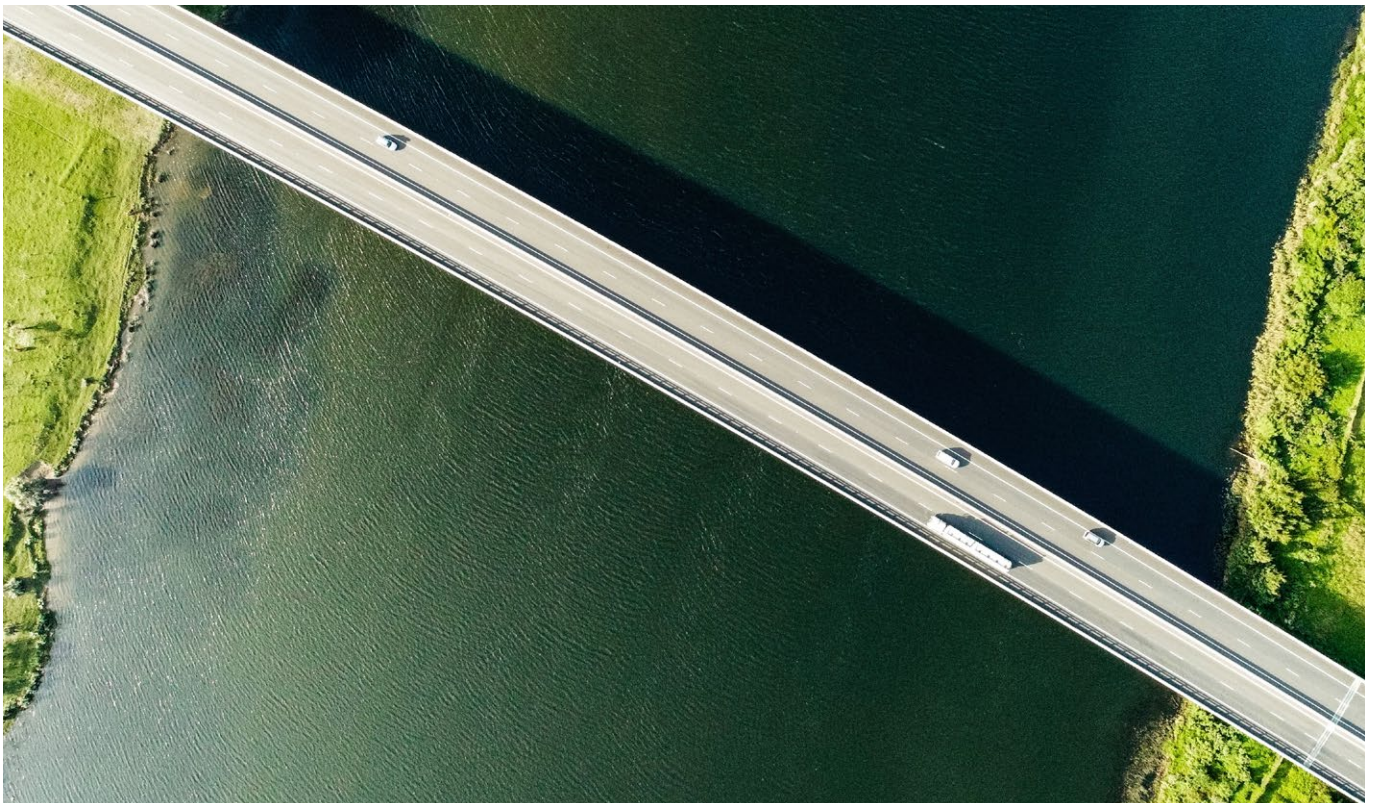
## PROTECTION OF THE ROAD NETWORK

Chapter 1 Section 3 of the HVNL outlines the object of the Law to facilitate and regulate the use of heavy vehicles on roads in a way that:

- manages the impact of heavy vehicles on the environment, road infrastructure and public amenity.

To operationalise this objective, the NHVR make various underlying assumptions. For instance, special purpose vehicles and vehicles operating at higher mass limits present risks to the integrity of the road network when non-compliant with operating conditions.

**The NHVR will monitor targeted locations on the road network – including those that may be nominated by road managers – such as bridges, curfewed roads, and level crossings (road managers consider these road assets to be high risk and in need of specific protection).**

## DELIVERING PRODUCTIVITY FOR INDUSTRY

The NHVR is committed to increased productivity across the industry. Transport operators can obtain an unfair commercial advantage over their competitors in delivery time (breaching curfews), speed (exceeding speed limits), mass (overloading vehicles) and location (driving on prohibited routes).

Persistent non-compliance in these areas can result in a combination of unfair commercial benefit to the non-compliant operator, accelerated infrastructure wear and high noise emissions.

**The NHVR will use intelligent access program information to help identify non-compliance and take appropriate regulatory action in line with published NHVR policies.**

| ADOPTION OF INTELLIGENT ACCESS PROGRAMS | PROTECTION OF THE ROAD NETWORK | PRODUCTIVITY FOR INDUSTRY |
|---|---|---|
| Develop local operational plans to target non-enrolled vehicles travelling on designated routes. | Identification of vulnerable and critical road assets by the road managers and the applied conditions. | Analyse and monitor restrictions on Notice and permit conditions in relation to;<br><br>• Mass<br>• Location<br>• Speed<br>• Time |
| Deliver current enrolment data to on-road officers through enforcement and screening lane technology. | Monitoring of intelligent access program vehicles using vulnerable and critical structures | |
| Monitor permit and enrolment data to ensure compliance with permit conditions. | Undertake risk analysis of the number and severity of journeys of operators who are non- compliant on vulnerable and critical structures | Apply risk methodology to target greatest risk. |
| Develop and implement a risk algorithm which can identify in real time, vehicles travelling on restricted routes who are not appropriately enrolled. | Apply NHVR's inform, educate and enforce model. | Apply NHVR's inform, educate and enforce model. |
| Monitor installed intelligent access program devices to ensure they are functioning correctly. | Monitor behavioral change and report. | Monitor behavioral change and report. |

**Figure 2** outlines activities the NHVR will undertake to achieve our compliance objectives.

# INTERVENTION APPROACH – USE OF INFORMATION

Intelligent access program information will be monitored and the NHVR will undertake compliance action in line with NHVR's published policies and guidelines which outline the NHVR's inform, educate and enforce model[7].

**The NHVR will monitor intelligent access program information to inform intelligence gathering activities. This will in turn be used to inform and direct on-road compliance resourcing, education and stakeholder engagement activities.**

Performance reporting of NHVR activities will also be provided to road managers to monitor the use of their road networks and assets.

## INTELLIGENT ACCESS PROGRAM INFORMATION VERIFICATION

Once the NHVR has formed a reasonable belief that a non-compliant event has occurred through the analysis of intelligent access program information, authorised officers will seek secondary verification of the offence from other data sources available to the NHVR as the heavy vehicle regulator. Once verified **the NHVR will implement the inform, educate and enforce approach to the identified non-compliance (see section Risk-Based approach to encourage behavioural change below).**

This verification of the accuracy of intelligent access program information is particularly relevant for TMA (with or without Smart OBM) data or RIM which are not designed to be prima facie proof that a non-compliant event has occurred.

Examples of secondary data verification sources (see **Appendix C**) may include road usage data, ANPR sightings, weigh-in motion sensor readings, traffic infra-red loggers' readings, and NHVR intercept information.

Examples of how secondary verification may occur include:

- Similarity of position records between intelligent access program information and non-intelligent access program data, to inform tampering detection.
- The overall rate of compliance for operators normalised for the size of their fleet.
- The overall rate of compliance of intelligent access programs, to inform the prioritisation of vehicle types for education and/or targeting.

## RISK-BASED APPROACH TO ENCOURAGE BEHAVIOURAL CHANGE.

For confirmed non-compliant events, the NHVR will determine the appropriate intervention response for the liable person or party by considering the severity of the risk and pattern of behaviour of the industry participant. For low severity events with low frequency, no action will be taken, and records will be deleted after a period which is regulated by the Public Records Act 2002.

1) For high severity events with low frequency, vehicle monitoring officers will use an inform, educate and enforce approach. Nudge letters and other educational interventions can be utilised to change behaviour.

2) For low severity events with high frequency, operators and vehicles will be sent to intelligence to monitor for ongoing non-compliance with access conditions.

3) For high severity events with high frequency, operators will be referred for investigation including when educational interventions have been unsuccessful.
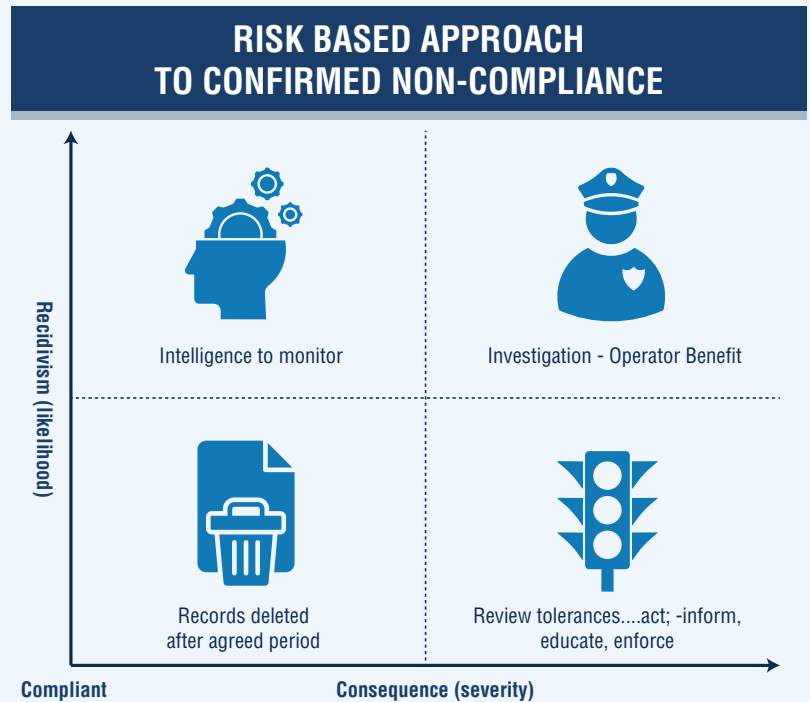


## RISK BASED APPROACH TO CONFIRMED NON-COMPLIANCE

Recidivism (likelihood)

Intelligence to monitor

Investigation - Operator Benefit

Records deleted after agreed period

Review tolerances....act; -inform, educate, enforce

Compliant      Consequence (severity)

**Figure 3 -** Regulatory action on confirmed non-compliance using a risk-based approach

7  NHVR Compliance and Enforcement Policy, September 2022

## MONITORING BEHAVIOURAL CHANGE

Once the appropriate intervention has been completed, the non-compliant operator will be monitored for behavioural change, and that the non-compliant behaviour has ceased. If the non-compliant behaviour has not ceased after the implementation of the appropriate intervention, the NHVR will escalate in line with the principles outlined in the NHVR Statement of Regulatory Approach. After each intervention, the NHVR will monitor and report on the effectiveness of the interventions.

## SURVEILLANCE LEGISLATION

Various Surveillance Acts across HVNL jurisdictions regulate 'tracking devices' and the use of such devices however there is a lawful mechanism under Chapter 7 of the HVNL for the TCA and service providers, who collect the information, to provide the data to the NHVR.

## CONCLUSION

The Intelligent Access Program Compliance Framework has been established based on jurisdiction and other regulatory partner feedback. By applying a risk-based data-led approach, equitable outcomes will be achieved in relation to the application of the HVNL to intelligent access program compliance.

# APPENDIX A

| Information disclosed to the NHVR | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Intelligent Access Transport System** | Location | Time | Identity of enrolled vehicle | Level 3 assurance | Weight of vehicle | Level 2 assurance | Level 1 assurance |
| Intelligent Access Program **(IAP)** | ✓ | ✓ | ✓ | ✓ | ✗ | ✗ | ✗ |
| Telematics Monitoring Application **(TMA)** | ✓ | ✓ | ✓ | ✗ | ✗ | ✓ | ✗ |
| TMA with Smart On-Board Mass **(Smart OBM)** | ✓ | ✓ | ✓ | ✗ | ✓ | ✓ | ✗ |
| Road Infrastructure Management **(RIM)** | ✓ | ✓ | ✗ | ✗ | ✗ | ✗ | ✓ |

## COMPLIANCE ACTION ALIGNMENT TO LEVELS OF ASSURANCE

**Level 3 Assurance** *can be relied upon for enforcement purposes. It is prima facie evidence for the purposes of enforcement of the HVNL.*

**Level 2 Assurance** *can be relied upon for enforcement purposes if it is supported by other corroborating data.*

**Level 1 Assurance** *is deidentified data and can be used for intelligence and planning purposes.*

## WHAT ARE THE LEVELS OF ASSURANCE?

*Transport Certification Australia supports three broad levels of assurance to cater for the different needs of stakeholders in digital technology and data.*

|  | Level 1 Assurance | Level 2 Assurance | Level 3 Assurance |
|---|---|---|---|
| **Performance-based requirements** | Less stringent | Stringency between Level 1 and 3 Assurance | Most stringent |
| **Assessment and approval** | TCA registers Application Service Providers through a self-assessment process<br><br>Application Service Providers self- assesses devices | TCA certifies Application Service Providers using a combination of self-assessment and independent assessment<br><br>TCA type-approves devices for use at Level 2 Assurance | TCA certifies Application Service Providers with a greater emphasis on independent assessment<br><br>TCA type-approves devices for use at Level 3 Assurance |
| **In-service performance** | Minimal oversight by TCA | TCA provides oversight of all aspects of service provision and performs risk-based audit on selected aspects of service and data | TCA provides oversight of all aspects of service provision and performs risk-based audit on critical aspects of service and data |
| **Management of changes** | Application Service Provider manages changes through a self-assessment process | Changes are managed through a risk-based assessment using a combination of self-assessment and independent assessment by TCA | Changes are managed through a risk-based assessment with a greater emphasis on independent assessment by TCA |
| **Data management and security** | High | High | High |
| **Usage** | Associated with advisory, lower-cost applications; data is not depended upon for high levels of accuracy or integrity | Associated with applications that are used for purposes of data accuracy, integrity and authenticity and/or risk mitigation; information may be actionable but is not intended to be used as evidence for regulatory purposes | Associated with regulatory applications; the collection and secure storage of high-integrity data may provide data and information as evidence for regulatory purposes |

## APPENDIX B

https://tca.gov.au/national-telematics-framework/schemes/

# APPENDIX C: COMPLIANCE MONITORING INFORMATION SOURCES

## Table 1: Attributes captured by each vehicle data source

| Information disclosed to the NHVR | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | ANPR[1] | TIRTL[2] | TMA | TMA+OBM | IAP | RCMS[3] | Traffic logger | WIM[4] |
| Image of vehicle | ✓ | | | | | | | |
| Driver | | | | | | ✓ | | |
| VIN | | | ✓ | ✓ | ✓ | ✓ | | |
| Registration number | ✓ | | ✓ | ✓ | ✓ | ✓ | | |
| Date-time | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Location | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Direction of travel | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| Derived speed | | | ✓ | ✓ | ✓ | | | |
| Certified speed | | ✓ | | | ✓ optional | | | |
| Compliance flag | | | | | ✓ | | | |
| Self-declared weight | | | ✓ optional | | ✓ optional | | | |
| WIM total | | | | | | | ✓ | |
| WIM groups | | | | | | ✓ | ✓ | ✓ |
| Total mass | | | | ✓ | | | | ✓ |
| Axle group masses | | | | ✓ | | ✓ | | |
| Axle configuration | ✓ | | | | | ✓ | | ✓ |
| Axle count | ✓ | ✓ | | ✓ | | | | |
| Axle spacing | ✓ | ✓ | | | | | ✓ | ✓ |

1  Automatic Number Plate Recognition Cameras.
2  The Infra-red Traffic Logger.
3  Road Compliance Monitoring System.
4  Weigh in Motion Scales.