

RIM Express Scheme



A scheme using the Road Infrastructure Management (RIM) application

June 2022

Title	RIM Express Scheme
Document No.	TCA-SR23
Version	1.0
Date	June 2022
Status	Published

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About Us

Transport Certification Australia (TCA) is a national organisation that provides assurance services relating to transport technologies and data to enable improved public purpose outcomes from road transport.

Priority outcome areas enabled by TCA services include improved road safety, transport efficiency, freight productivity, asset management and sustainability.

Key aspects of TCA include:

- An independent not-for-profit entity, with government oversight
- Administration of the National Telematics Framework, including its rules, specifications, agreements, digital infrastructure and other supporting services
- Assurance services that support but are appropriately separated from regulators, policy makers and enforcement activities, and underpin telematics applications and associated information and data services
- Advice that is based on evidence and a deep subject matter knowledge
- Trusted partner to both government and industry stakeholders, enabling a nationally consistent open market, with services covering all road vehicle types and associated digital infrastructure.

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1 Introduction

1.1 Purpose

This document describes the RIM Express Scheme ('scheme') associated with the Road Infrastructure Management (RIM) application.

The scheme allows an Authority to monitor road utilisation of eligible vehicles under an operating arrangement on Australian and New Zealand road networks where:

- Immediate, short-term monitoring of a vehicle is required (for a maximum duration of one month), and
- The service provider may or may not be registered by TCA to provide RIM application services.

Note: An Authority may be any authority listed in Appendix B.

1.2 Scope

This document describes the scheme and how it will be used with the RIM application.

The following information is included:

- Scheme parameters
- Key scheme processes
- Roles and responsibilities of scheme participants.

1.3 Background

RIM Express provides a rapid way of enrolling vehicles into the RIM application when the following apply:

- A transport operator ('Operator') needs to enrol a vehicle for an immediate, short-term purpose with a Authority, such as in an emergency or a short-term operating arrangement
- A vehicle needs to be monitored by a service provider that may or may not be registered as an Application Service Provider (ASP) through the National Telematics Framework (NTF) for the RIM application.

RIM Express also provides a gateway for an unregistered service provider to enter the NTF by becoming registered to provide services for the RIM application after the vehicle has been enrolled.

In this document, 'Service Provider' is a service provider that may or may not be registered as an ASP through the NTF.

To participate in the RIM Express Scheme, an Operator must conform with the requirements specified within the instrument of access approval (one or more applicable permits or a Notice issued by the National Heavy Vehicle Regulator [NHVR]), and an eligible vehicle must be fitted with a telematics device or similar.

Enrolment in the RIM application, which is administered by TCA as part of the NTF, is one of the requirements that must be met by the Operator. Enrolment in the RIM application is performed by the Service Provider nominated by the Operator, assisted by TCA.

Note: If an entity is both a Service Provider and an Operator, any responsibilities described in this document for either a Service Provider or an Operator will apply to the combined entity.

The Service Provider is responsible for:

- The installation of a telematics device or similar in the vehicle (if the vehicle is not already fitted with a telematics device)
- With assistance from TCA, the collection of data from vehicles enrolled in accordance with the requirements of the RIM application for the scheme.

The Service Provider provides data to TCA. TCA will aggregate, de-identify and process the data to enable the generation of reporting for use by the Authority via the Telematics Analytics Platform (TAP).

The RIM application is offered at Level 1 Assurance (see Appendix A for a definition of Level 1 Assurance).

Note: The RIM application can be used for a variety of purposes. In this document, RIM is described in the context of the schemes.

2 RIM Express Scheme

2.1 Participants

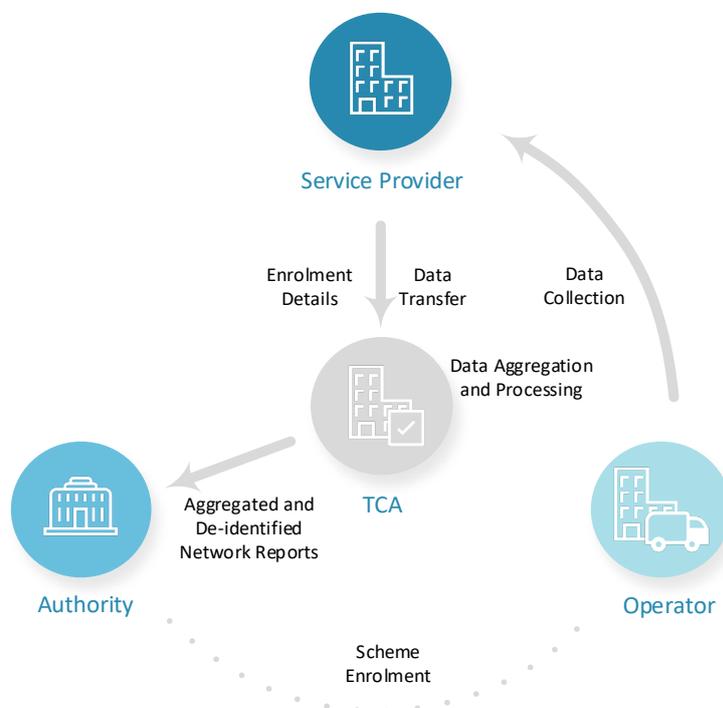
Figure 1 outlines the key interactions between participants for the use of the RIM application for the scheme:

- An Authority requires the monitoring of an Operator's vehicle(s) as a condition of the Authority allowing the Operator and its vehicle(s) to participate in the scheme and operate under specific access arrangements.

Note: Although 'RIM Express' may not explicitly be requested by an Authority or stated in the instrument of access approval, this scheme can be used when rapid monitoring by a RIM scheme is required and when the Service Provider may not be registered by TCA to provide services for the RIM application.

- Operators are vehicle operators that agree to enrol vehicles into the scheme, and consent to their data collected through the RIM application to be used for the intended purpose (as defined by the Authority and agreed to by the Operator in the Service Provider–Transport Operator Agreement).
- Service Providers offer telematics services (hardware, software and associated processes) to enable enrolment of eligible vehicles in the RIM application collection of data from installed telematics devices and reporting of data to TCA.
- TCA administers the RIM application and its schemes within the NTF, ensuring that data security and privacy concerns are managed. TCA receives vehicle enrolment details from Operators via Service Providers, and makes Service Provider–Transport Operator Agreements available to participants. TCA also receives telematics data from Service Providers, performs data aggregation, de-identification and processing; and makes standard and specialised reporting available to the Authority (and other bodies authorised by the Authority) via TAP as agreed between the Authority and TCA, and in accordance with the intended purpose as agreed by the Operator in the Service Provider–Transport Operator Agreement.

Figure 1: Scheme Participants and Key Interactions



Note: The Service Provider may also be the Operator.

Interactions between scheme participants are consistent with interactions between RIM application participants, and are not specific to the scheme.

2.2 Scheme Parameters

This section describes the constraints and assumptions that will be used to deliver the RIM application for the scheme.

a. Registration

It is not a requirement for TCA to register the Service Provider to provide services for the RIM application.

However, the Service Provider may apply to register as an ASP to provide services for the RIM application after the vehicle has been enrolled in the RIM Express scheme.

b. Enrolment

With assistance from TCA, the Service Provider will enrol vehicles in the RIM application and the scheme at the request of the Operator.

The Service Provider will manage key steps of enrolment including approval, and as necessary, cancellation and replacement.

Figure 2 shows the pre-enrolment steps for the scheme.

Figure 3 shows the reporting processes for the scheme.

Figure 4 shows the enrolment cancellation and reporting processes for the scheme.

Note: See Appendix B, Table B-1, for values that must be entered into the Scheme and Authority Code data elements of an enrolment form or enrolment report.

c. Devices and Data Collection

The device used in the RIM application is a telematics device or similar.

The telematics device or similar will collect:

- Position data at intervals of no greater than 1 minute and no less than 1 second (as determined by the Service Provider)
- Date and time data.

d. Data Reporting

The Service Provider shall transfer data records collected through the RIM application to TCA as described in *Road Infrastructure Management Functional and Technical Specification* and as described in this section.

The preferred reporting methods and formats for data records, enrolment forms and (optional) enrolment reports are shown in Table 1.

Table 1: Preferred Reporting Methods and Formats

Document	Aspect	Preferred reporting method or format	Allowed alternatives in order of preference
Data records	Reporting method	RESTful API*	FTPS, email or another approved mechanism
	Format	JSON*	CSV*
Enrolment form, enrolment report	Reporting method	RESTful API*	FTPS, email or another approved mechanism
	Format	XML*	Microsoft Excel*

* TCA-prescribed format

Note: Preferred formats and reporting methods are defined in the TMA and RIM Data Reporting Guide, which references the Telematics Business-to-Business Data Exchange Functional and Technical Specification.

e. Data Analysis and Reporting

TCA will perform data transformation, data aggregation, de-identification and processing functions on data obtained from position records. TCA will make data reporting for the scheme available to the Authority and other bodies authorised by the Authority through TAP.

TCA will perform basic data cleaning, which includes:

- Removal of duplicates
- Removal of anything that is not in the prescribed format
- Removal of alarm data
- If necessary, changing column names.

Incomplete or unacceptable data records will not be included in data processing.

Note: The type, number and frequency of road usage reporting will be subject to agreed terms reached between TCA and the Authority.

A Road Usage Report will be made available to the Authority and other bodies authorised by the Authority via TAP.

2.3 Key Scheme Processes

Figure 2 outlines the key actions taken by each participant during the pre-enrolment stage of the operation of the scheme.

Figure 2: Pre-Enrolment Process

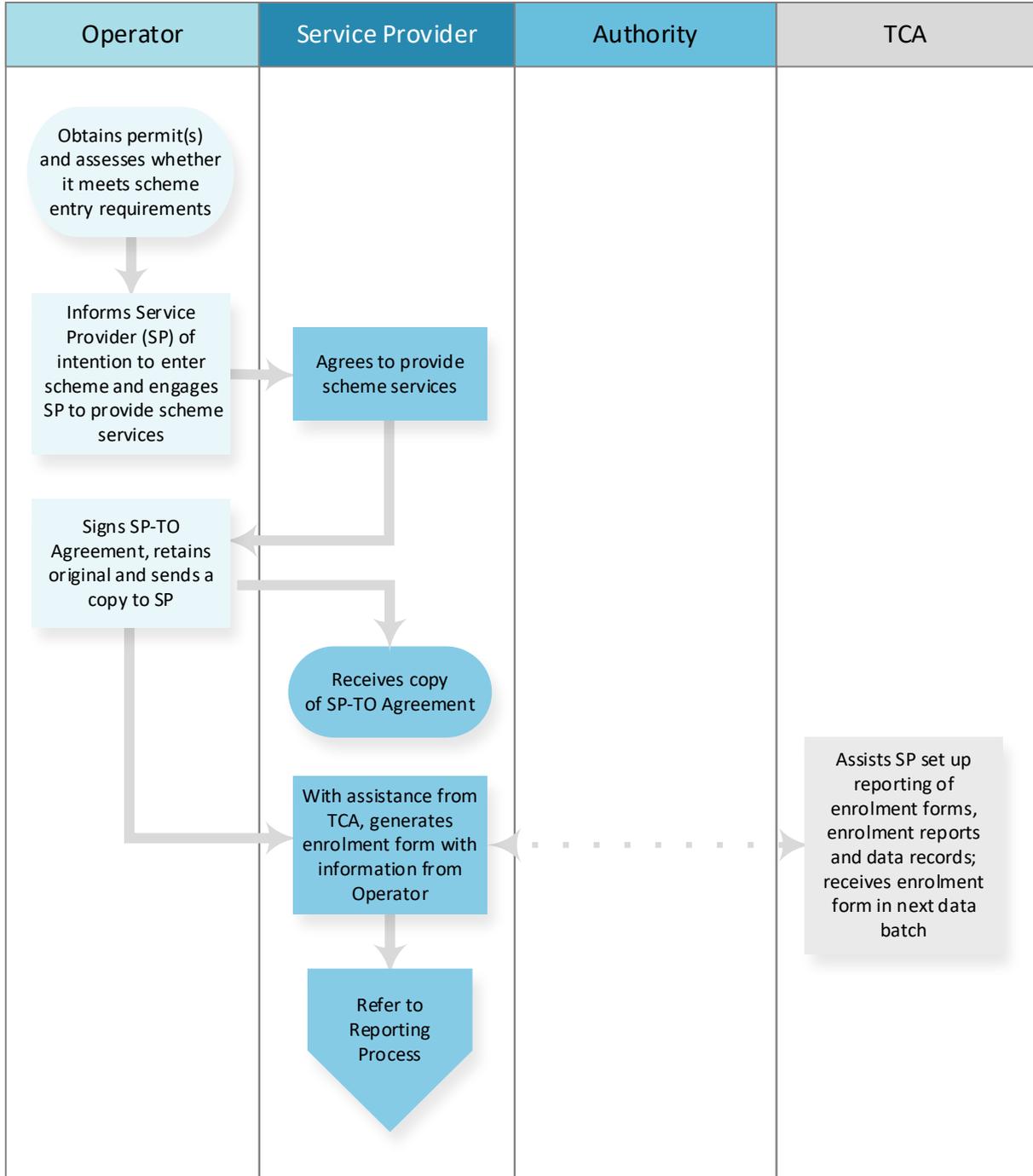
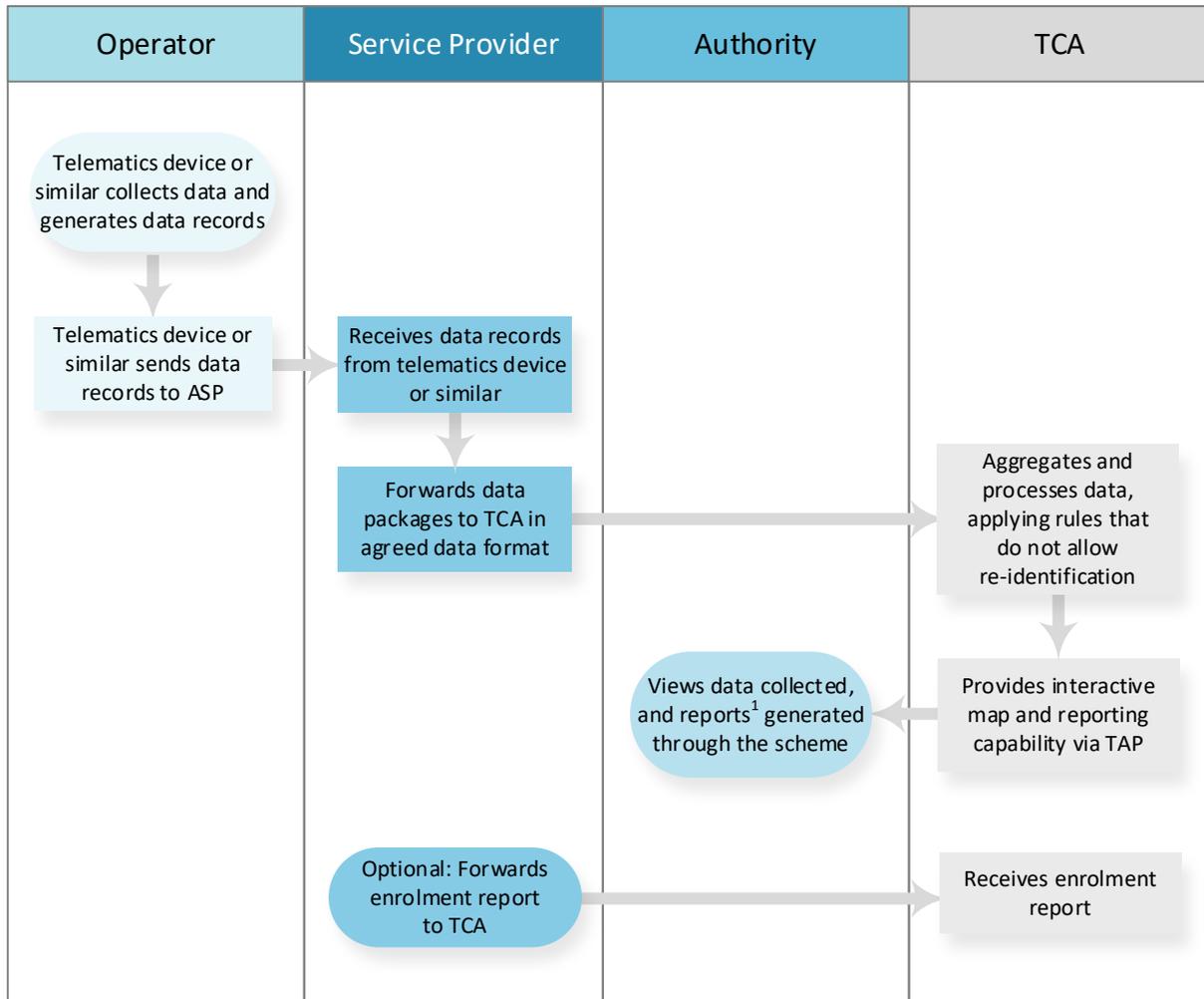


Figure 3 outlines the key actions related to data collection, record generation and reporting.

Figure 3: Reporting Processes



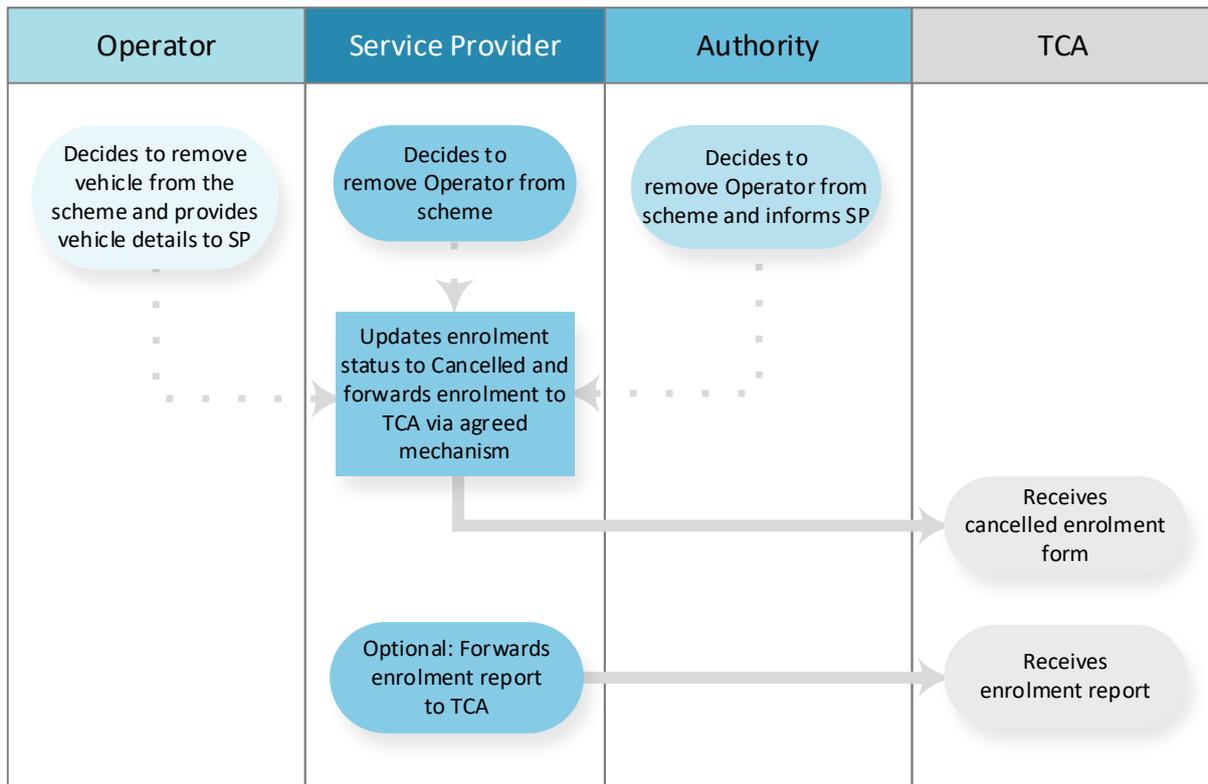
1. The Authority will nominate the locations that will be subject to location-based reports (subject to agreed terms).

A cessation date and time is a mandatory element of RIM Express. It is included by the Service Provider at the time of enrolment creation, and must be for a duration of no more than one month from the commencement date of the enrolment. The monitoring period is typically included in the instrument of access approval. The Enrolment will cease automatically on the cessation date and time.

If an enrolment needs to be cancelled before the cessation date and time, cancellation may be initiated by the Operator, the Authority or the Service Provider.

Figure 4 outlines the key actions to cancel enrolment of a vehicle.

Figure 4: Enrolment Cancellation and Reporting Processes



2.4 Roles and Responsibilities

In delivering the objectives of the scheme, **TCA** will:

- Provide a document (this document) describing the use of the scheme as part of the RIM application
- Produce or maintain collateral, as necessary, to support the scheme. Examples include the provision of current versions of:
 - *Road Infrastructure Management Functional and Technical Specification*
 - *Telematics Business-to-Business Data Exchange Functional and Technical Specification*
 - *TMA and RIM Data Reporting Guide*
- Support the reporting of data records using a RESTful API (with FTPS, email or other approved mechanism as allowed alternatives), and with these records formatted using JSON (with CSV as an allowed alternative)
- Support the reporting of enrolment forms and enrolment reports using a RESTful API (with FTPS, email or another approved mechanism as allowed alternatives), and with these documents formatted using XML (with content provided in an Excel spreadsheet as an allowed alternative)
- Inform Service Providers of scheme details and entry conditions
- Produce a Service Provider–Transport Operator Agreement for use with the scheme and make it available from the TCA website
- Ensure that TAP is set up to enable the Authority and other bodies authorised by the Authority to access reporting generated by the scheme (in accordance with the intended purpose as agreed by the Operator in the Service Provider–Transport Operator Agreement;
- Maintain the cloud environment and databases to support the ingestion of data from the RIM application
- Verify that a Service Provider meets requirements to provide services for the scheme
- Provide the Authority and other bodies authorised by the Authority with reporting outlined in 2.2e via TAP
- Ensure the confidentiality of Service Provider data is maintained
- Notify the Service Provider and Operator at least three business days prior to the cessation date that the enrolment will cease and that no further data for the enrolled vehicle(s) should be sent after that date
- Confirm that the data is no longer being received from vehicles for which enrolment in the scheme has ceased or been cancelled, and reject any data that is received after the cessation date or cancellation date.

The Authority will:

- Undertake program coordination activities related to the scheme with TCA
- Access reporting outlined in 2.2e via TAP, and monitor enrolled vehicles.

Operators will:

- Obtain the applicable instrument(s) of access approval and ensure compliance with its requirements for the scheme
- Upon self-assessment that scheme entry conditions are met, notify the Service Provider of its intention to enrol in the scheme
- Agree to share data collected by its Service Provider with TCA for the scheme using a signed Service Provider–Transport Operator Agreement
- Follow rules for enrolment in the scheme

-
- Store original signed Service Provider–Transport Operator Agreement and forward copies to the Service Provider and TCA (on request)
 - Install telematics devices and engage a Service Provider to provide application services for the scheme
 - Notify the Service Provider of the date that a vehicle or the Operator will no longer participate in the scheme.

Service Providers will:

- Interact with TCA to establish the delivery mechanism for provision of data packages to TCA (noting that a data package includes data records, enrolment forms and enrolment reports)
- Provide a cessation date in the enrolment of each vehicle that is to be enrolled in the scheme
- Receive notification from Operators regarding the enrolment status of vehicles in the scheme, and forward this information to TCA using an agreed mechanism
- Provide the Service Provider–Transport Operator Agreement to an Operator once an agreement to provide application services for the scheme has been made
- Be responsible for the installation (if not already installed), operation and maintenance of telematics devices (or similar) and the reporting of data received from those devices
- If required by the Authority, provide Certificates of Enrolment to enrolled Operators, using the template received from TCA, and coordinate their removal from vehicles no longer enrolled in the scheme
- In the event of a device malfunction: liaise with the Operator and/or device supplier to resolve the issue
- Provide back-office capability to process collected data records as required by the scheme
- Deliver data records to TCA, using agreed data delivery mechanism, required data formats and meeting data reporting requirements
- Discontinue providing data of an enrolled vehicle after the enrolment has ceased or been cancelled.

A Acronyms and Definitions

Acronyms

Acronym	Definition
API	application programming interface
ASP	Application Service Provider
NHVR	National Heavy Vehicle Regulator
NTF	National Telematics Framework
RIM	Road Infrastructure Management
TAP	Telematics Analytics Platform
UTC	Coordinated Universal Time

Definitions

Term	Definition
application	A capability of the NTF that provides business value to stakeholders, delivered as an assembly of policy, business components and technical components, within in the context of an identified level of assurance.
Application Service Provider (ASP)	A service provider that has been registered by TCA as meeting the requirements of one of more telematics applications. This may also be the Operator.
Service Provider– Transport Operator Agreement	A written agreement between a Service Provider, a Transport Operator and TCA which sets out the terms on which the Service Provider will provide application services to the Operator, and the intended purpose for collecting data from the Operator’s vehicle(s) enrolled in the scheme.
Authority	An entity, associated with a jurisdiction, responsible for the administration of one or more NTF applications. An Authority may appoint an administrator to perform its functions. <i>See also jurisdiction.</i>
data collection period	A whole number of days in the UTC time zone for which all application data is provided. Successive data collection periods are contiguous.
data package	A package of information sent via Tier 3 Data Exchange for a data collection period.
data record	A discrete and defined set of data elements generated by a device.
enrolment	Both the process and outcome by which an Operator enters an Authority’s scheme. Each vehicle must be enrolled for each scheme it participates in. Enrolment also confirms the application and conditions (if applicable) that the vehicle is monitored under.
enrolment cancellation	The process by which an enrolment manager manually cancels an enrolment after the vehicle has commenced its enrolment.
enrolment cessation	The process by which an enrolment automatically ends on the date and time that is provided in the enrolment at the stage of its creation.

Term	Definition
enrolment form	An electronic document that formally and simultaneously records the enrolment of a vehicle within a scheme, and within the application required by that scheme.
enrolment report	A summary of enrolments relevant to a given Authority for a specified reporting period, including any aggregated data required by specific applications.
jurisdiction	A geographical area containing a road network (i.e. typically an Australian state or territory).
level of assurance	An assurance level that supports telematics applications, structured around the intended use of a telematics application, risks being managed, and the needs and expectations of consumers and other stakeholders.
Level 1 Assurance	Self-assessment of data and no independent oversight of a telematics application.
Operator	An entity that operates one or more vehicles eligible to enter a scheme.
Performance-Based Standards (PBS)	An alternative compliance scheme for heavy vehicles setting minimum performance levels for safe and efficient operation (as opposed to standard prescriptive rules). Greater access is generally afforded for higher performance.
scheme	The generic term for a specific use of an application linked to delivering a policy objective.
Service Provider	A service provider that has been verified by TCA as meeting the base requirements of a telematics application at Level 1 Assurance.
telematics device	The primary telematics unit which monitors vehicle parameters.
Tier 1 Data Exchange	A web services solution where structured information is exchanged that complies with requirements such as authentication, security, privacy and certainty of delivery. It includes exchanges of information related to a vehicle's enrolment in telematics applications, conditions and adherence to those conditions.
Tier 2 Data Exchange	The human-initiated (rather than automated) exchange of business-related information and advice. Typical exchanges via this tier include reporting of issues and resolutions, correspondence regarding certification and re-certification, advice regarding information and communications technology (ICT), data assurance and other reporting.
Tier 3 Data Exchange	The packaging and delivery of data packages, comprising data records and enrolment-related artefacts. Data packages have several uses which include data analysis by the recipient, data assurance, and for research purposes.
vehicle category	A named business-level description of a prime mover/rigid truck and any trailers as defined by a vehicle category data set approved for use by TCA. Example: 'Semi Trailer 6 Axle'.

B Data Element Reference Values

Refer to the following when entering values into data elements for Scheme or Authority Code – for example, in an enrolment form or enrolment report.

Table B.1: Scheme Name

Scheme Name (full)	Scheme Data Element Value (e.g. for enrolment form or report)
RIM Express Scheme	RIMEXP

Table B.2: Authority Code

Authority Name	Jurisdiction	Authority Code Data Element Value
Transport for NSW	New South Wales state border	NSW
Department of Transport	Victoria state border	VIC
Department of Transport and Main Roads	Queensland state border	QLD
Main Roads Western Australia	Western Australia state border	WA
Department of State Growth	Tasmania state border	TAS
Department of Infrastructure and Transport	South Australia state border	SA
Department of Transport	Northern Territory border	NT
Access Canberra	Australian Capital Territory border	ACT
Waka Kotahi NZ Transport Agency	New Zealand national border	NZ



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