RIM HPLV Monitoring Schemes (VIC)

Schemes using the Road Infrastructure Management (RIM) application for the Department of Transport and Planning, Victoria

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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 HPLV Monitoring Schemes (VIC), which are being made available by the Department of Transport and Planning (DTP), Victoria. The following schemes are associated with the Road Infrastructure Management (RIM) application:

- RIM HPLV Up to 36.5m Monitoring Scheme (VIC)
- RIM HPLV Up to 42m Monitoring Scheme (VIC).

The RIM HPLV Monitoring Schemes (VIC) will enable monitoring of eligible high productivity livestock vehicles (HPLV) operating on the Victorian road network. HPLVs are Class 3 heavy vehicle combinations that exceed 26 metres in length, are designed to move livestock, and fall outside the Performance-Based Standards (PBS) scheme that applies to high productivity freight vehicles.

1.2　Scope

This document describes the RIM HPLV Monitoring Schemes (VIC) and how they are used with the RIM application.

The following information is included:

- Common scheme features
- Key scheme processes
- Roles and responsibilities of scheme participants
- Scheme descriptions in appendices.

1.3　Background

DTP has introduced HPLV road networks into Victoria to assist the livestock carrier industry attain a high level of productivity.

HPLV road network access in Victoria is based on meeting the reference vehicle designs and other requirements stated in *Victoria's High Productivity Livestock Vehicle Pre-Approved Permit Information Sheet*, which is available from the National Heavy Vehicle Regulator (NHVR) website. Table 1 shows the maximum lengths of HPLVs.

Table 1: HPLV Maximum Lengths

Description	Length
HPLV Tri A-Double	36.5m
HPLV B-Triple	36.5m
HPLV AB-Triple	42m

To participate in a RIM HPLV Monitoring Scheme (VIC), a transport operator ('Operator') must conform with the requirements specified within the instrument of access approval, which is an applicable Class 3 permit available from the National Heavy Vehicle Regulator.

Enrolment in the RIM application is one of the requirements that must be met by the Operator. Enrolment in the RIM application is performed by the registered or certified Application Service Provider (ASP) selected by the Operator[1].

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[1] The Operator may be eligible to perform the role of ASP in full or part, subject to the approval of TCA.

The ASP is responsible for:

- The installation of a telematics device or similar in the vehicle being utilised in accordance with the instrument of access approval.
- The collection of data from vehicles enrolled in accordance with the requirements of the RIM application for the scheme.

ASPs provide data records to TCA. TCA analyses the data and makes reporting available to DTP and other bodies authorised by DTP, via the Telematics Analytics Platform (TAP).

The RIM application[2] is offered at Level 1 Assurance appropriate to these vehicles (see Appendix A for a definition of Level 1 Assurance).

Note: Eligible HPLVs may be enrolled under either the RIM or TMA applications. For information on enrolling an eligible HPLV under the TMA application, see TMA HPLV Monitoring Schemes (VIC).

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[2] The RIM application can be used for a variety of purposes. In this document, RIM is described in the context of the scheme, which has specific business requirements associated with the standard operation of the RIM application.

2 RIM HPLV Monitoring Schemes (VIC)

2.1 Participants

Figure 1 outlines the key interactions between participants for the use of the RIM application for a HPLV Monitoring Scheme (VIC):

- DTP, as the Authority of the scheme, requires the monitoring, with reporting, of the Operator's vehicle(s) as a condition of the Authority allowing the Operator and its vehicle(s) to participate in the scheme.

- 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 ASP–Operator Agreement).

- ASPs, registered by TCA, offer telematics services (hardware, software and associated processes) to enable enrolment of eligible vehicles in the RIM application (as well as other applications available within the National Telematics Framework), 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 ASPs, and makes ASP–Operator Agreements available to participants. TCA also receives telematics data from ASPs, performs data 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 ASP–Operator Agreement.

Figure 1: Scheme Participants and Key Interactions
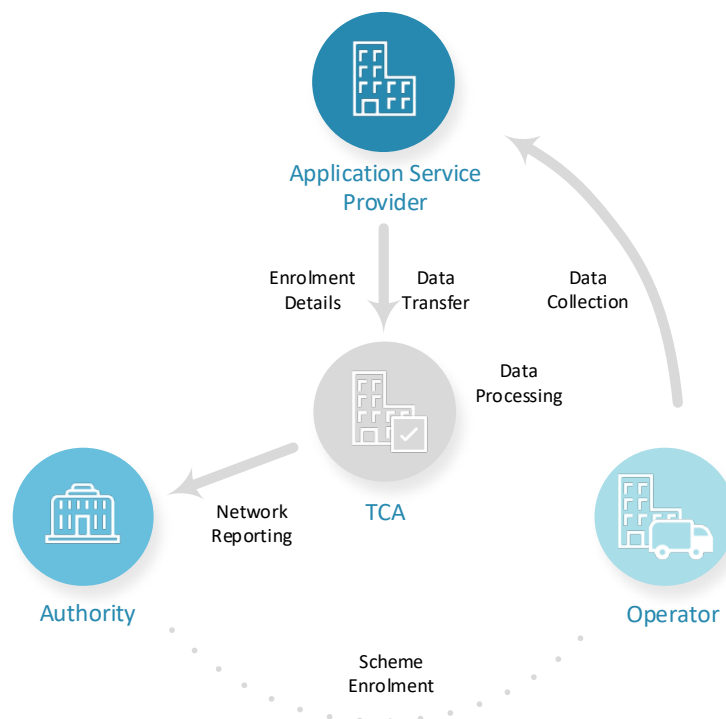
Note: The ASP may also be the Operator.

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

2.2   Common Scheme Features

This section describes the common features of a RIM HPLV Monitoring Scheme (VIC). For information on features that are specific to a RIM HPLV Monitoring Scheme (VIC), refer to the scheme descriptions in the appendices of this document.

a. ASP Registration

TCA will register ASPs to provide services for the RIM application.

b. Enrolment

ASPs will enrol vehicles in the RIM application and a RIM HPLV Monitoring Scheme (VIC) at the request of the Operator.

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

Figure 2 shows the pre-enrolment steps for a RIM HPLV Monitoring Scheme (VIC).

Figure 3 shows the reporting processes for a RIM HPLV Monitoring Scheme (VIC).

Figure 4 shows the enrolment cancellation and reporting processes for a RIM HPLV Monitoring Scheme (VIC).

Note: See Appendices 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 ASP)

*   Date and time data.

d. Data Reporting

The ASP shall transfer data records collected through the RIM application to TCA no less frequently than each calendar month, and as described in *Road Infrastructure Management Functional and Technical Specification*.

e. Data Analysis and Reporting

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

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

Through TAP, the Authority (and other bodies authorised by the Authority) will have access to:

*   Interactive maps, which represent de-identified data using data elements collected as part of the scheme; and

*   Specific reporting required for scheme management.

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

A Scheme Participation Report will be made available to the Authority on a monthly basis via TAP. This report may include standard measures and dimensions as shown in Table 2.

Table 2: Scheme Participation Report

Examples
- Count of all vehicles enrolled in a RIM HPLV Monitoring Scheme (VIC)   - Count of vehicles enrolled in a RIM HPLV Monitoring Scheme (VIC) that TCA received data from   - Vehicles enrolled in a RIM HPLV Monitoring Scheme (VIC) that TCA did not receive data from for at least 30 consecutive days *Note: Reporting of this measure will include vehicle identities. A participating vehicle will only be included in this measure if, without a satisfactory explanation, it has not provided data for at least 30 consecutive days.*   - Count of Operators with vehicles enrolled in a RIM HPLV Monitoring Scheme (VIC)   - Count of ASPs reporting data for vehicles enrolled in a RIM HPLV Monitoring Scheme (VIC)

2.3   Key Scheme Processes

Figure 2 outlines the key actions taken by each participant during the pre-enrolment stage of the operation of a RIM HPLV Monitoring Scheme (VIC).

Note: This process assumes that TCA has already registered the ASP to provide RIM application services.

Figure 2: Pre-Enrolment Process

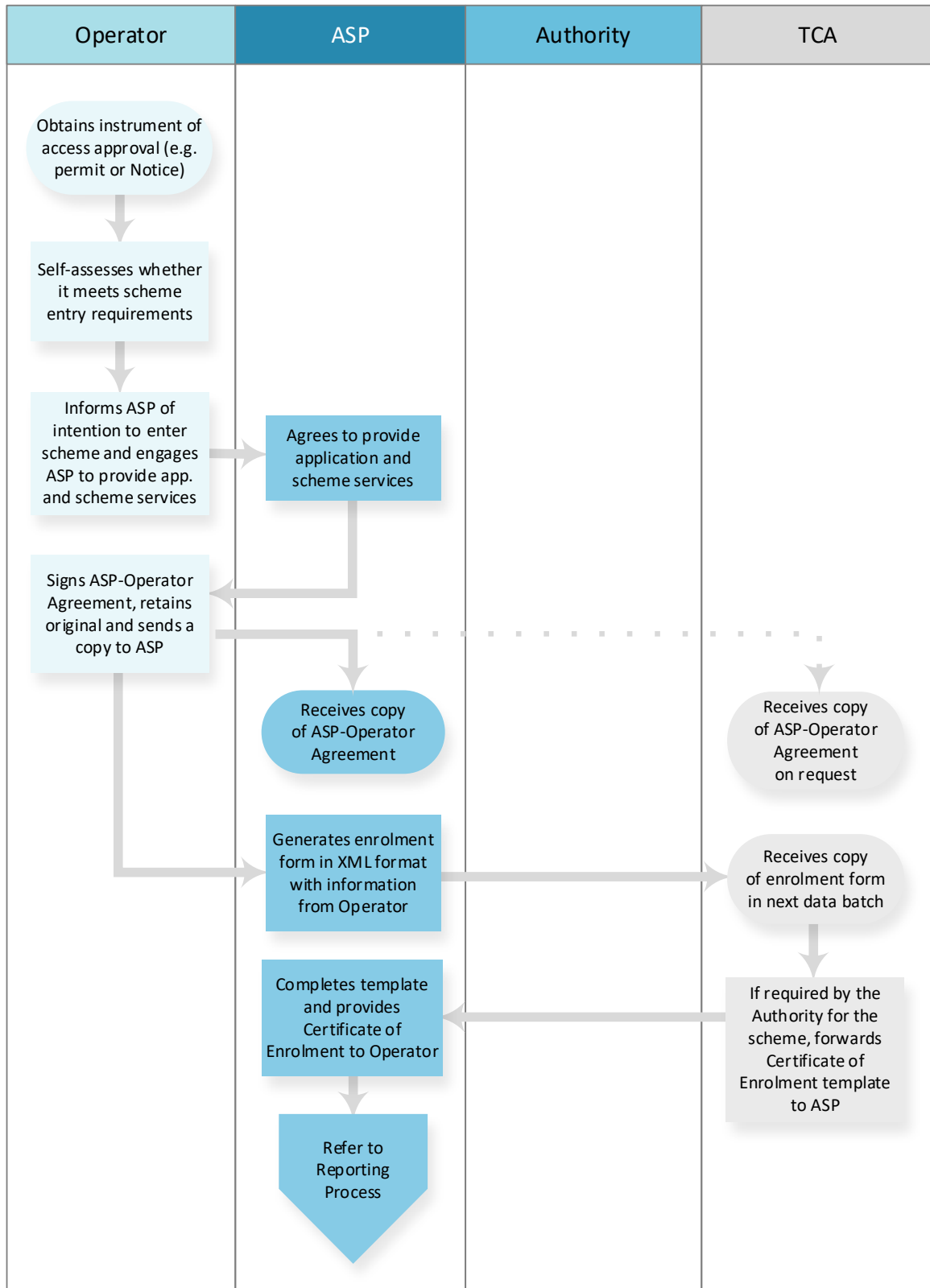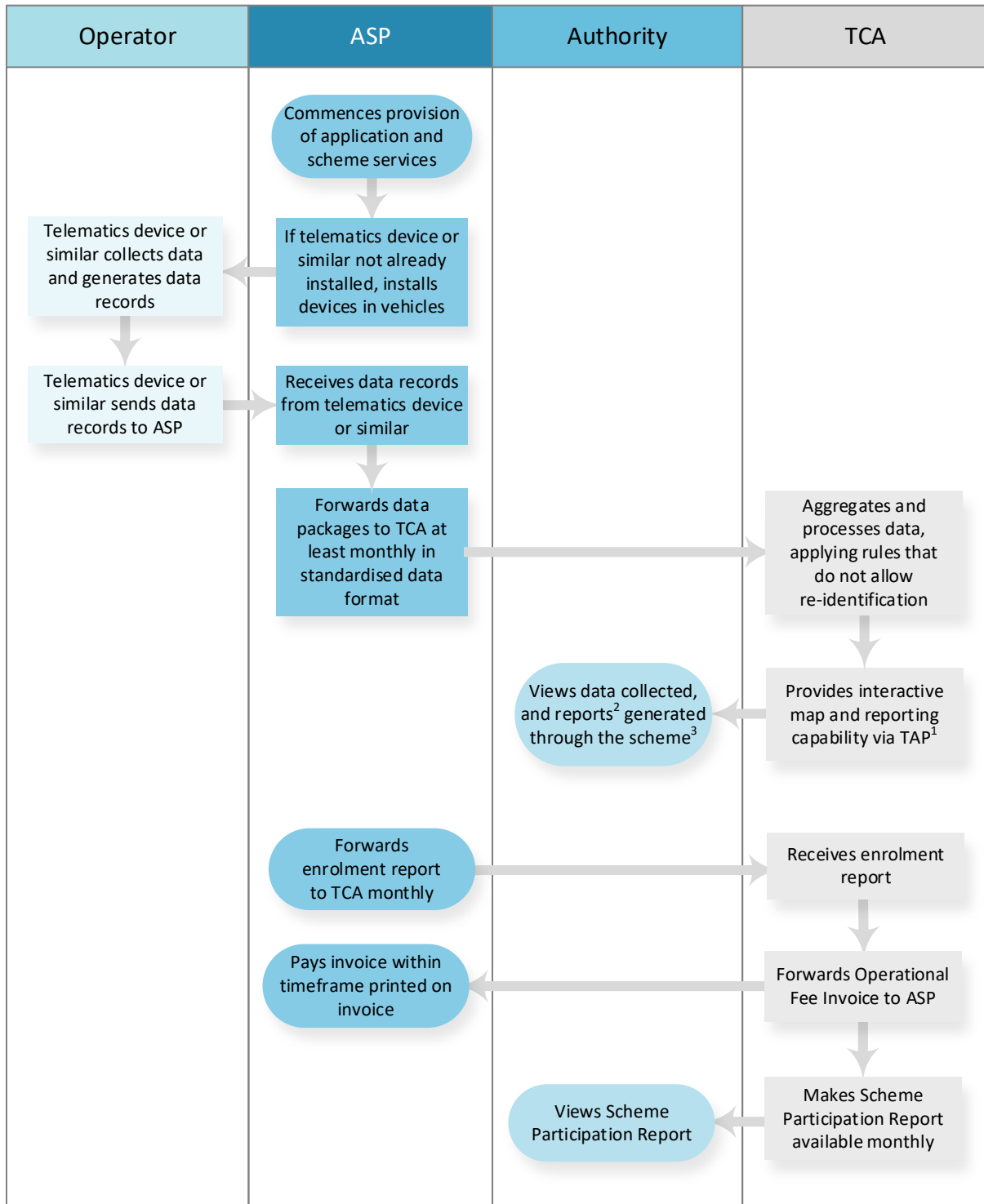| Operator	ASP	Authority	TCA
Obtains instrument of access approval (e.g. permit or Notice)			
Self-assesses whether it meets scheme entry requirements			
Informs ASP of intention to enter scheme and engages ASP to provide app. and scheme services	Agrees to provide application and scheme services		
Signs ASP-Operator Agreement, retains original and sends a copy to ASP	Receives copy of ASP-Operator Agreement		Receives copy of ASP-Operator Agreement on request
	Generates enrolment form in XML format with information from Operator		Receives copy of enrolment form in next data batch
	Completes template and provides Certificate of Enrolment to Operator		If required by the Authority for the scheme, forwards Certificate of Enrolment template to ASP
	Refer to Reporting Process		

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

Figure 3: Reporting Processes

| Operator	ASP	Authority	TCA
	Commences provision of application and scheme services		
Telematics device or similar collects data and generates data records	If telematics device or similar not already installed, installs devices in vehicles		
Telematics device or similar sends data records to ASP	Receives data records from telematics device or similar		
	Forwards data packages to TCA at least monthly in standardised data format		Aggregates and processes data, applying rules that do not allow re-identification
		Views data collected, and reports[2] generated through the scheme[3]	Provides interactive map and reporting capability via TAP[1]
	Forwards enrolment report to TCA monthly		Receives enrolment report
	Pays invoice within timeframe printed on invoice		Forwards Operational Fee Invoice to ASP
		Views Scheme Participation Report	Makes Scheme Participation Report available monthly

1. Data will be updated at least monthly.

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

3. Other bodies authorised by the Authority may also view this information.

Cancellation of enrolment may be initiated by the Operator, the Authority or the ASP.

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

Figure 4: Enrolment Cancellation and Reporting Processes
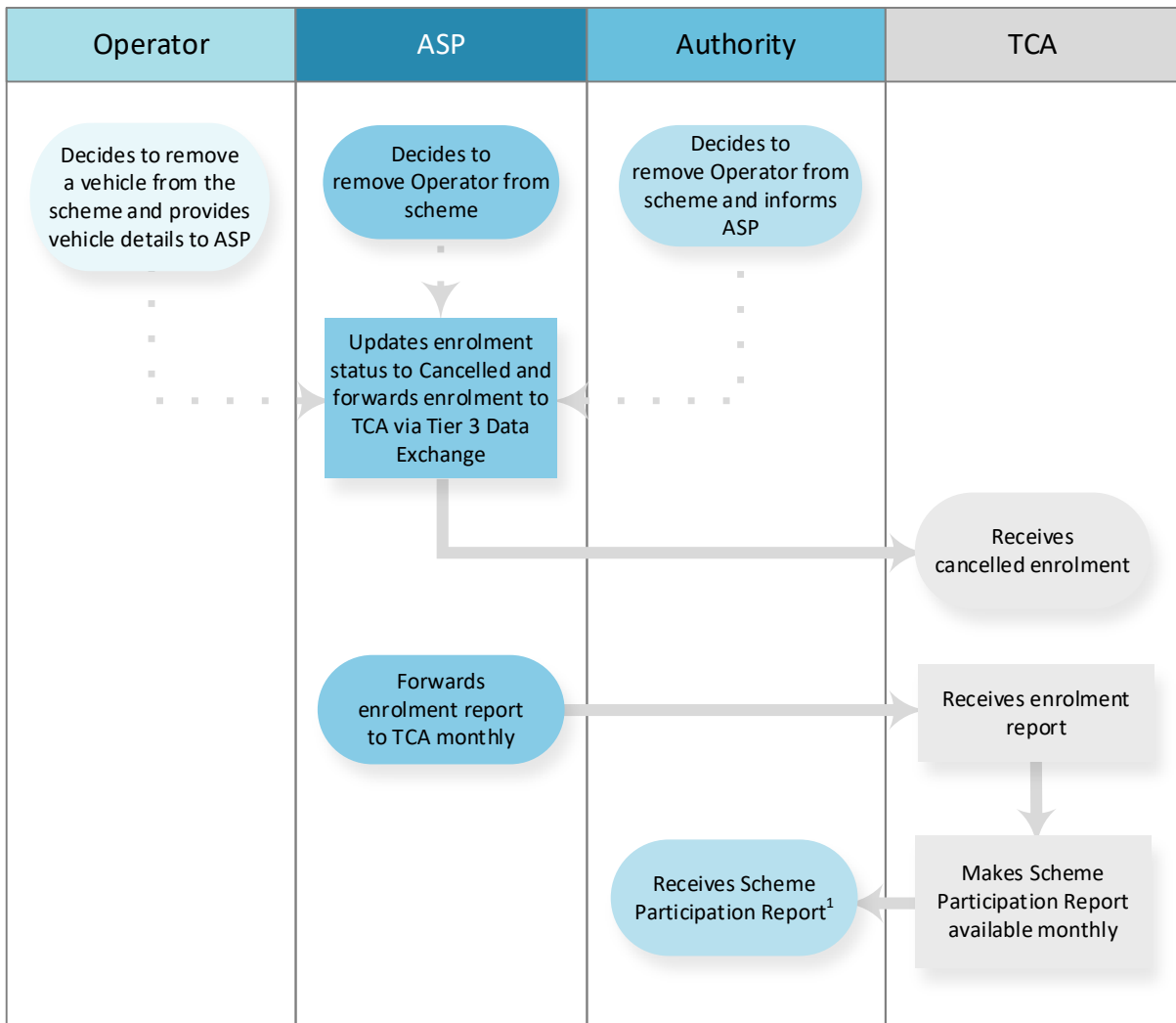
1. Other bodies authorised by the Authority may also view this information.

2.4   Roles and Responsibilities

In delivering the objectives of a RIM HPLV Monitoring Scheme (VIC), **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:

  o *Road Infrastructure Management Functional and Technical Specification*

  o *Telematics Business-to-Business Data Exchange Functional and Technical Specification*

- Support the reporting of data records via Tier 3 Data Exchange using a RESTful API, with these records formatted using a JSON format

- Support the reporting of enrolment forms and enrolment reports using a RESTful API, with these documents formatted using an XML format

- Inform ASPs of scheme details and entry conditions

- Produce an ASP–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 ASP–Operator Agreement)

- Maintain the cloud environment and databases to support the ingestion of data from the RIM application

- Produce terms and conditions, which formalise the relationship between TCA and the ASP with regard to ASP registration

- Verify that an ASP meets requirements to provide RIM application services

- If required by the Authority, provide registered ASPs with the Certificate of Enrolment template

- At the end of each month, forward Operational Fee Invoices to ASPs upon receipt of enrolment reports

- Provide the Authority, (and other bodies authorised by the Authority), with reporting outlined in 2.2e via TAP

- Ensure the confidentiality of ASP data is maintained.

The Authority will:

- Maintain documentation required by the Authority for the scheme

- Undertake program coordination activities related to the scheme with TCA

- Access reporting outlined in 2.2e via TAP, and review data trends and numbers of enrolled vehicles

- In conjunction with TCA, communicate scheme-related policy changes to industry and stakeholders.

ASPs 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)

- Receive notification from Operators regarding the enrolment status of vehicles, and forward this information to TCA using an agreed mechanism on a monthly basis

- Provide the ASP–Operator Agreement to an Operator once an agreement to provide services for the scheme has been made

- Be responsible for the installation, operation and maintenance of telematics devices or similar, and the reporting of data received from those devices, and as described in the *Road Infrastructure Management Functional and Technical Specification.*

- 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

- Pay Operational Fee Invoices received from TCA, generated upon receipt of enrolment reports, within the timeframe shown on the invoice

- 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.

Operators will:

- Access scheme rules and entry conditions on the Authority website (or other website as applicable, such as the NHVR) and determine whether they meet those conditions

- Obtain the instrument of access approval and ensure compliance with its requirements for the scheme

- Upon self-assessment that scheme entry conditions are met, notify the ASP of its intention to enrol in the scheme

- Agree to share data collected by its ASP with TCA for the scheme using a signed ASP–Operator Agreement

- Follow rules for enrolment in the scheme

- Store original signed ASP–Operator Agreement and forward copies to the ASP and TCA (on request)

- Engage an ASP to provide services for the scheme

- Notify the ASP of the date that a vehicle or the Operator will no longer participate in the scheme.

A   Acronyms and Definitions

Acronyms

Acronym	Definition
API	application programming interface
ASP	Application Service Provider
HPLV	High Productivity Livestock Vehicle
NHVR	National Heavy Vehicle Regulator
NTF	National Telematics Framework
PBS	Performance-Based Standards
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.
ASP–Operator Agreement	A written agreement between an ASP, an Operator and TCA which sets out the terms on which the ASP 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. *See also: jurisdiction.*
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.

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.
high productivity livestock vehicle (HPLV)	Class 3 heavy vehicle combination that exceeds 26 metres in length, is designed to move livestock, and falls outside the PBS scheme that applies to high productivity freight vehicles.
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.
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.

B   RIM HPLV Up to 36.5m Monitoring Scheme (VIC)

Purpose

The RIM HPLV Up to 36.5m Monitoring Scheme (VIC) is a scheme made available by DTP to monitor road utilisation of HPLVs up to 36.5m in length under the instrument of access approval (which is the applicable NHVR permit) on the Victorian road network.

Background

To participate in the scheme, Operators must conform with the requirements specified within the applicable NHVR permit. Eligible vehicles must be fitted with a telematics device or similar.

Examples of eligible vehicles include:

- HPLV Tri A-Doubles
- HPLV B-Triples.

as described in *Victoria's High Productivity Livestock Vehicle Pre-Approved Permit Information Sheet.*

Scheme Features

Through TAP, the Authority (and other bodies authorised by the Authority) will have access to reporting as described in 2.2 that includes road utilisation of enrolled vehicles on the Victorian road network.

Other aspects of this scheme operate in accordance with generic RIM HPLV Monitoring Scheme (VIC) processes, such as ASP Certification, Enrolment, Data Reporting, and Data Analysis and Reports. For more information, see 2.2.

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

Table B.1: Scheme Name and Authority Code

Scheme Name (full)	Scheme Data Element Value (e.g. for enrolment form or report)	Authority Code
RIM HPLV Up to 36.5m Monitoring Scheme (VIC)	`RIMHPLV_36.5`	VIC

C   RIM HPLV Up to 42m Monitoring Scheme (VIC)

Purpose

The RIM HPLV Up to 42m Monitoring Scheme (VIC) is a scheme made available by DTP to monitor road utilisation of HPLVs up to 42m in length under the instrument of access approval (which is the applicable NHVR permit) on the Victorian road network.

Background

To participate in the scheme, Operators must conform with the requirements specified within the applicable NHVR permit. Eligible vehicles must be fitted with a telematics device or similar.

Examples of eligible vehicles include:

- HPLV AB-Triples.

as described in *Victoria's High Productivity Livestock Vehicle Pre-Approved Permit Information Sheet.*

Scheme Features

Through TAP, the Authority (and other bodies authorised by the Authority) will have access to reporting as described in 2.2 that includes road utilisation of enrolled vehicles on the Victorian road network.

Other aspects of this scheme operate in accordance with generic RIM HPLV Monitoring Scheme (VIC) processes, such as ASP Certification, Enrolment, Data Reporting, and Data Analysis and Reports. For more information, see 2.2.

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

Table C.1: Scheme Name and Authority Code

Scheme Name (full)	Scheme Data Element Value (e.g. for enrolment form or report)	Authority Code
RIM HPLV Up to 42m Monitoring Scheme (VIC)	RIMHPLV_42	VIC