
TMA Livestock Loading Scheme



**A Scheme using the Telematics Monitoring Application
(TMA) for Transport for NSW**

June 2021

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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

The TMA Livestock Loading Scheme is a scheme administered by Transport for NSW (TfNSW), to permit access of B-Triple and AB-Triple vehicles on approved routes of the NSW road network.

Transport for NSW has made amendment to the *New South Wales Class 3 Livestock Transportation Exemption Notice* ('the Notice') to provide a more flexible approach to telematics requirements. Eligible vehicles now have the option to enrol in the Telematics Monitoring Application (TMA) or they can elect to remain enrolled in the Intelligent Access Program (IAP).

1.2 Scope

This document describes the TMA Livestock Loading Scheme and how it will be used with the Telematics Monitoring Application (TMA).

Note: Although Appendix B of this document includes references to related Intelligent Access Program (IAP) Livestock Loading schemes, TfNSW maintains full documentation of those schemes. In the IAP, a scheme is referred to as an 'IAP Application'.

The following information is included:

- the scheme parameters
- key scheme processes
- roles and responsibilities of scheme participants.

1.3 Background

In response to the requirements of the TfNSW initiative 'New South Wales Livestock Loading Scheme', the TMA Livestock Loading Scheme and related IAP schemes were developed to enhance productivity and contribute to job sustainability in the NSW meat and livestock industry. The schemes provide increased mass limits for livestock loads, and include measures to minimise road pavement wear, protect vulnerable bridges, and reduce the incidence of livestock vehicle rollovers.

Eligible vehicles are defined in the *New South Wales Class 3 Livestock Transportation Exemption Notice 2021* ('the Notice').

The following vehicle categories are eligible to enrol in the TMA Livestock Loading Scheme or applicable related IAP scheme:

- B-Triples with a combined total deck length up to 28.2m
- AB-Triples with a combined total deck length up to 28.2m.

Eligible vehicles may enrol in either the TMA Livestock Loading Scheme or a related IAP scheme.

If eligible vehicles are already enrolled in a related IAP scheme, enrolment may be cancelled in the IAP scheme and commenced in the TMA Livestock Loading Scheme.

If eligible vehicles are not enrolled in a related IAP scheme, they may be enrolled in the IAP scheme (refer to Appendix B, Table B.2) or the TMA Livestock Loading Scheme.

Enrolled vehicles may use the following approved routes:

- the NSW Livestock Loading Scheme network (as shown on the map and the approved and non-approved routes lists provided by TfNSW)
- restricted bridges on approved routes which have signage to indicate maximum loads.

To participate in the TMA Livestock Loading Scheme ('the scheme' henceforward), an Operator (e.g. a transport operator) must conform with the requirements specified within the Notice. Enrolment in the TMA application is one of these requirements.

Data is collected from vehicles fitted with TCA-approved telematics devices.

Note: Approval may be in the form of type-approval or an equivalent approval mechanism acceptable to TCA. Application Service Providers (ASPs) must meet applicable requirements in the functional and technical specification, irrespective of the approval mechanism.

ASPs provide data to TCA. TCA analyses the data and makes reporting available to TfNSW and participating local governments in NSW via the Telematics Analytics Platform (TAP).

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

The use of the TMA application for the scheme provides network-wide movements of enrolled vehicles on approved routes of the NSW road network. The use of the IAP application for schemes associated with it provides certificate-based data and evidence for the movements of enrolled vehicles on approved routes, as well as independent assessment and oversight of all aspects of a telematics application and service provision.

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

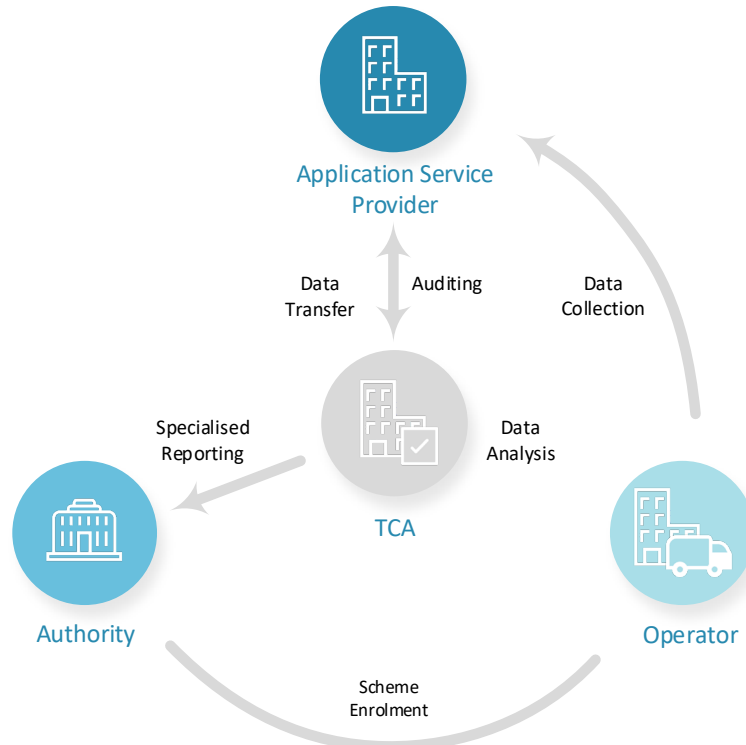
2 TMA Livestock Loading Scheme

2.1 Participants

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

- TfNSW, as the Authority of the scheme, requires the monitoring, with reporting, of the Operator's eligible vehicle(s) (B-Triples and AB-Triples) as a condition of the Authority allowing the Operator and its vehicle(s) to participate in the scheme. The Authority may conduct compliance activities as necessary.
- Operators are vehicle operators that agree to enrol vehicles in the scheme, and consent to their data collected through the TMA application to be used for the intended purpose (as defined by the Authority and agreed to by the Operator in the ASP–Transport Operator Agreement).
- ASPs, certified by TCA, offer telematics services (hardware, software and associated processes) to enable enrolment of eligible vehicles in the TMA 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 TMA 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–Transport Operator Agreements available to participants. TCA also receives telematics data from ASPs, performs data analysis, 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–Transport Operator Agreement.

Figure 1: Scheme Participants and Key Interactions



Note: Interactions between scheme participants are consistent with interactions between TMA 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 TMA application for the scheme.

a. ASP Certification

TCA will certify ASPs to provide services for the TMA application.

b. Enrolment

ASPs will enrol vehicles in the TMA application and the scheme at the request of the Operator.

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

Note: Operators are expected to be more inclined to have their vehicles monitored through the TMA application based on the Authority transparently communicating the intended use of the TMA application, and obtaining assurance and safeguards from TCA that data collected through the TMA application will not be used for other, undisclosed purposes (such as compliance and enforcement).

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 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 TMA application is a telematics device, approved by TCA for use at Level 2 Assurance or higher.

The telematics device will collect:

- position data at 30-second intervals; and
- date and time data.

d. Data Reporting

The ASP shall transfer data records collected through the TMA application to TCA no less frequently than each calendar month, and as described in *Telematics Monitoring Application Functional and Technical Specification*.

e. Data Analysis and Reporting

TCA will make data analysis and reporting for the scheme available to the Authority and participating local governments in NSW through TAP.

Through TAP, the Authority and participating local governments in NSW will have access to:

- interactive maps, which represent 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.

The use of TMA for this scheme is intended to provide a basic representation of individual and identifiable vehicle movements based on the data collected and the use of data for the intended purpose (as agreed by the Operator in the ASP–Transport Operator Agreement).

The Authority and participating local governments in NSW will manually review the operation of vehicles (through TAP) against the approved road network. TCA does not offer automated exception reporting to assess whether a vehicle has not met access conditions granted by the Authority.

A Scheme Participation Report will be made available to the Authority on a monthly basis via TAP. This report may include the following standard measures and dimensions as shown in Table 1.

Table 1: Scheme Participation Report

| Report Content | Examples |
|---------------------|--|
| Aggregated measures | <ul style="list-style-type: none">• Count of all vehicles enrolled in the scheme• Count of vehicles enrolled in the scheme that TCA received data from• Vehicles enrolled in the scheme that TCA did not receive data from for at least 30 consecutive days <p><i>Note: Reporting of this measure will include vehicle identities. An enrolled vehicle will only be included in this measure if, without a satisfactory explanation, it has not provided data for at least 30 consecutive days.</i></p> <ul style="list-style-type: none">• Count of Operators with vehicles enrolled in the scheme• Count of ASPs reporting data for vehicles enrolled in the scheme |
| Dimensions | <ul style="list-style-type: none">• Operator• ASP |

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.

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

Figure 2: Pre-Enrolment Process

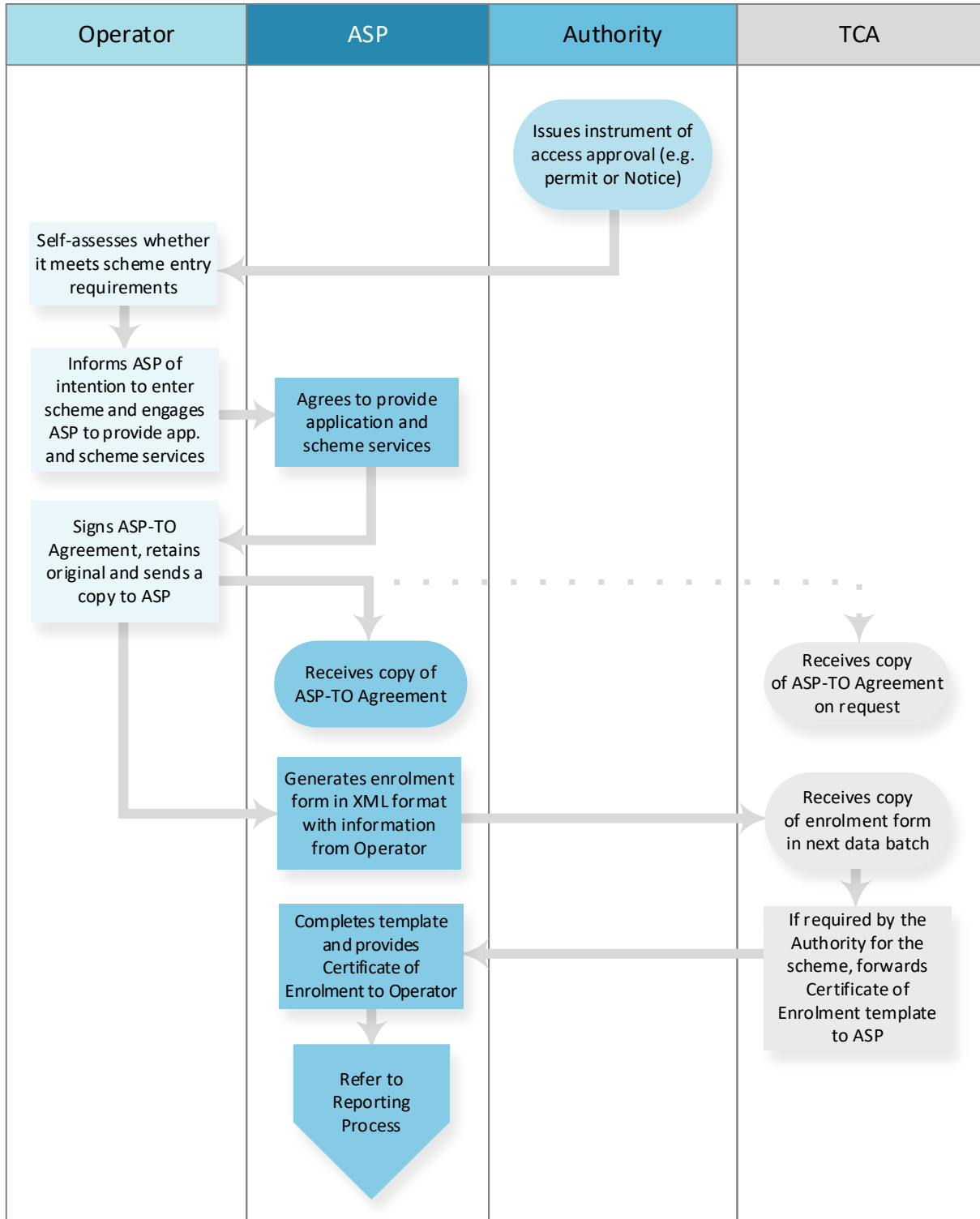
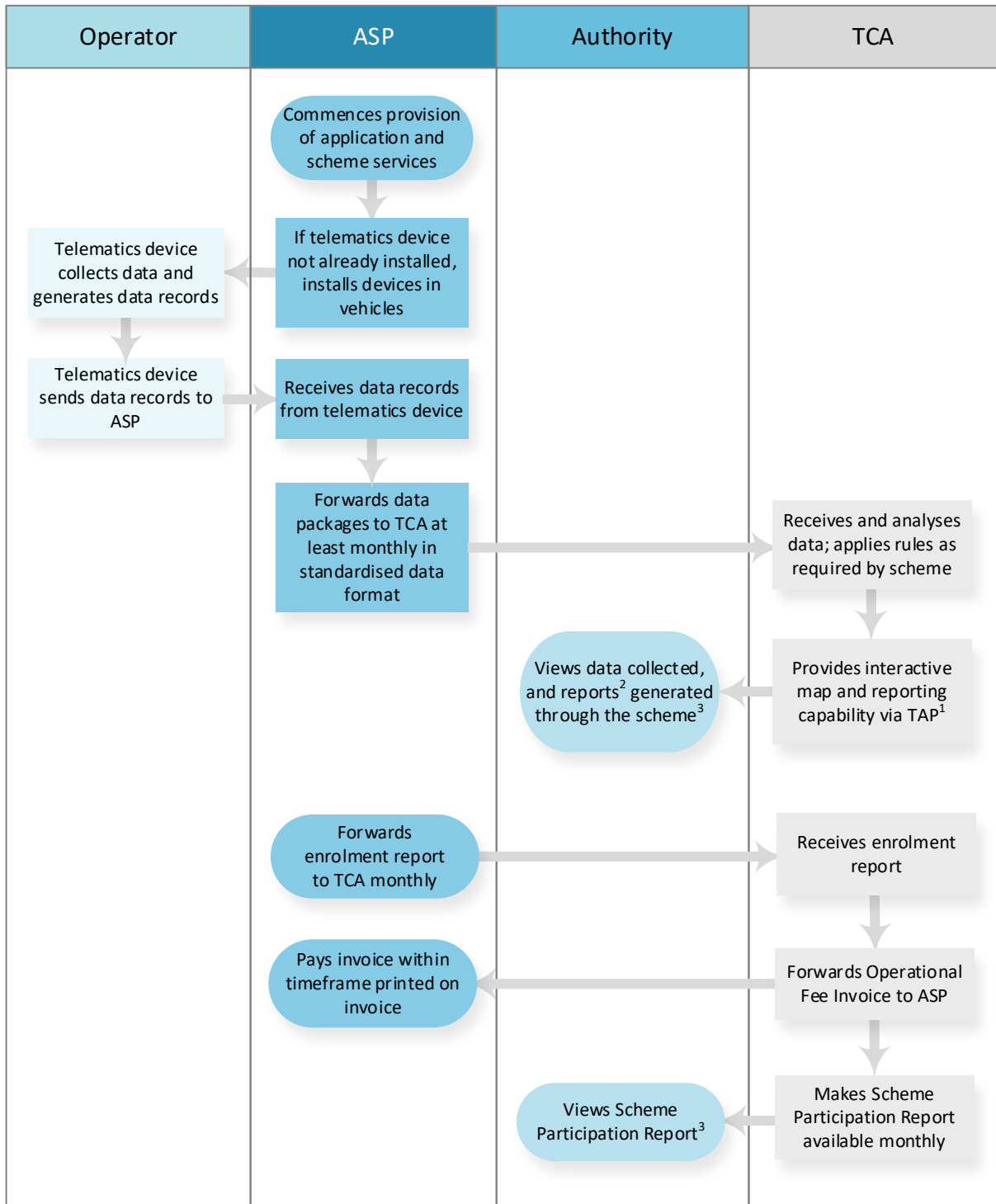


Figure 3 outlines the key actions related to data collection, record generation and reporting for the scheme.

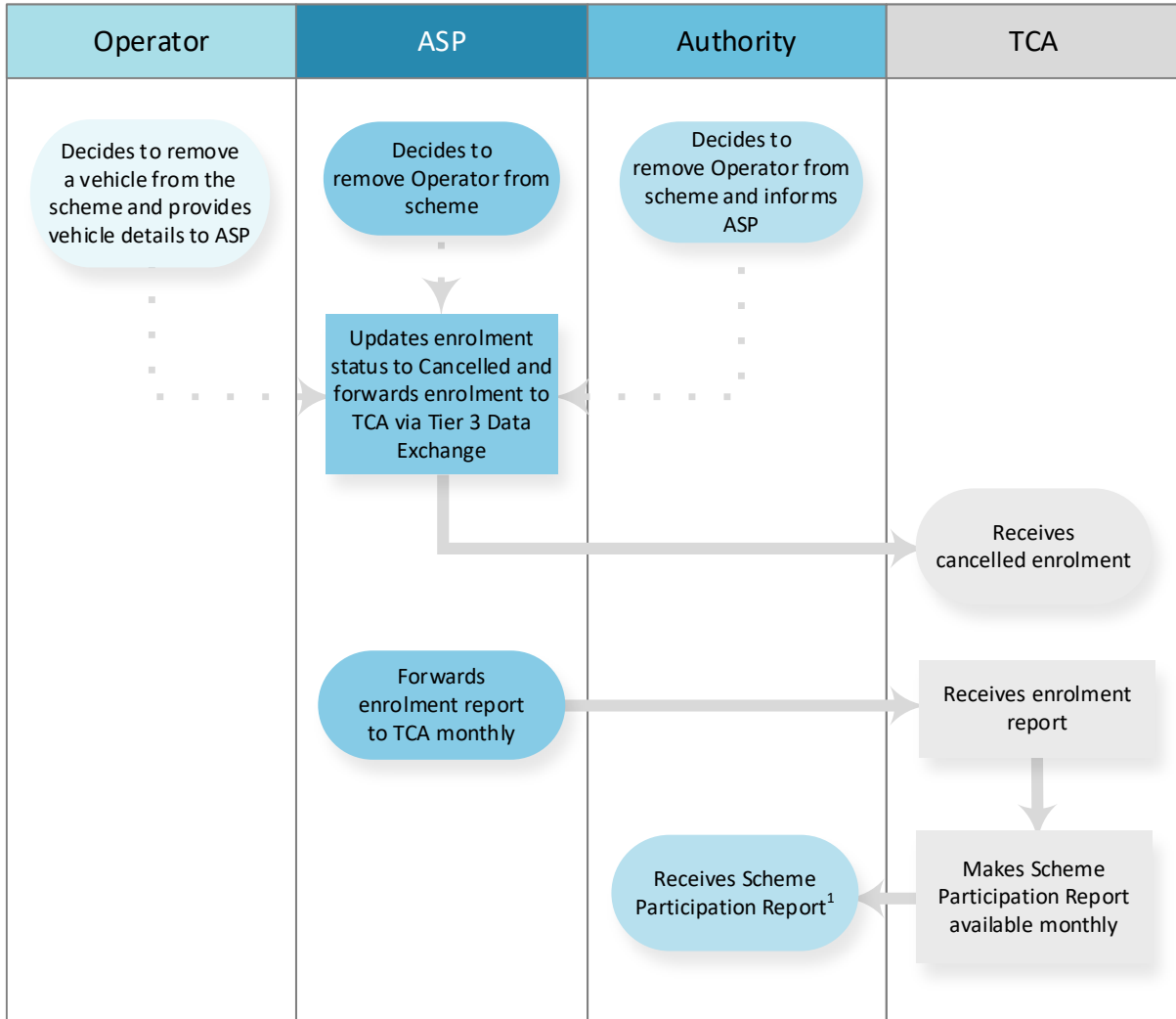
Figure 3: Reporting Processes



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. Local governments in NSW 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 in the scheme.

Figure 4: Enrolment Cancellation and Reporting Processes



1. Local governments in NSW may also view this information.

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 TMA application;
- produce or maintain collateral, as necessary, to support the scheme. Examples include the provision of current versions of:
 - *Telematics Monitoring Application Functional and Technical Specification*
 - *Telematics Business-to-Business Data Exchange Functional and Technical Specification*
 - *Telematics Device Functional and Technical Specification*
- support the reporting of data records via Tier 3 Data Exchange using a RESTful API, with these records formatted using JSON;
- support the reporting of enrolment forms and enrolment reports using a RESTful API, with these documents formatted using XML;
- inform ASPs of the scheme details and entry conditions;
- produce an ASP–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 participating local governments in NSW to access reporting generated by the scheme (in accordance with the intended purpose as agreed by the Operator in the ASP–Transport Operator Agreement), and any malfunctions associated with vehicles enrolled in the scheme;
- maintain the cloud environment and databases, etc. for receipt of data records from the TMA application;
- produce and execute an ASP–TCA Certification Agreement, which formalises the relationship between TCA and the ASP with regard to ASP certification, or update the current Agreement;
- assess and certify whether an ASP meets requirements to provide TMA services;
- approve devices used in the scheme;
- ensure the intellectual property rights of ASPs are protected when assessing whether an ASP can meet operational requirements of the scheme;
- if required by the Authority, provide certified ASPs with the Certificate of Enrolment template;
- after the end of each month, forward Operational Fee Invoices to ASPs upon receipt of enrolment reports;
- with the ASP, monitor via TAP whether a device malfunction has been resolved within agreed timeframes;
- notify the ASP when data from an enrolled vehicle has not been received for one month, followed by the Authority if unresolved;
- provide the Authority with reporting outlined in 2.2e via TAP;
- ensure the confidentiality of ASP data is maintained; and
- unless directed by the Authority and consented to by the Operator, de-identify the TMA telematics data it has received relating to the Operator’s nominated vehicle(s) 12 months from its receipt of the data.

The Authority will:

- maintain documentation required by the Authority for the scheme;
- undertake program coordination activities related to the scheme with TCA;
- monitor whether device malfunctions have been resolved within agreed timeframes;
Note: TCA will notify the ASP when data has not been received for one month, followed by the Authority if unresolved.
- access reporting outlined in 2.2e via TAP, and review data trends and numbers of enrolled vehicles; and
- conduct compliance activities as necessary; and.
- 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 in the scheme, and forward this information to TCA using an agreed mechanism on a monthly basis;
- provide the ASP–Transport 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 (and any connected devices) 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;
- 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; report the malfunction (unidentifiable) to TCA within the required time period; monitor via TAP whether the device malfunction has been resolved within agreed timeframes; and notify TCA when the malfunction has been resolved;
- provide back office capability to process collected data records as required by the scheme; and
- 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 and determine whether they meet those conditions;
- access the Notice 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 TMA ASP–Transport Operator Agreement;
- follow rules for enrolment in the scheme;
- store original signed ASP–Transport Operator Agreement and forward copies to the ASP and TCA (on request);
- install telematics devices (including any connected devices, as required by a scheme) and engage an ASP to provide services for the scheme; and
- 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 |
| FTPS | File Transfer Protocol Secure |
| IAP | Intelligent Access Program |
| NTF | National Telematics Framework |
| TAP | Telematics Analytics Platform |
| TMA | Telematics Monitoring Application |
| 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 the context of an identified level of assurance. |
| Application Service Provider (ASP) | A service provider that has been certified by TCA as meeting the requirements of one of more telematics applications. |
| approval mechanism | The mechanism by which TCA approves a device, such as a telematics device or connected device, for use in a telematics application. The approval mechanism used may be type-approval, or an equivalent approval mechanism acceptable to TCA. |
| ASP–TCA Certification Agreement | The written agreement made between an ASP and TCA that recognises the fact that the ASP, having satisfied TCA's requirements for appointment as an ASP, is appointed in that capacity, and sets out the legal obligations of each party with respect to the ongoing role of the ASP. |
| ASP–Transport 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, and compliance activities as necessary. An Authority may appoint an administrator to perform its functions. <i>See also: jurisdiction.</i> |
| connected device | Any device or technology connected to a telematics device. |
| 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. |

| Term | Definition |
|----------------------|--|
| 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 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 2 Assurance | Independent assessment of specific elements of a telematics application. Telematics data is combined with other data sources. |
| Operator | An entity that operates one or more vehicles eligible to enter a scheme. |
| scheme | The generic term for a specific use of an application linked to delivering a policy objective. |
| self-declaration | The self-declaration of data by an Operator and/or its nominated representative to the ASP. |
| 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 Data Element Reference Values

For the TMA Livestock Loading Scheme, 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 Data Element Value |
|-------------------------------|--|--|
| TMA Livestock Loading Scheme | TMALS | NSW |

For related IAP schemes (which are referred to by the term 'IAP Applications'), refer to the following when entering values into business documents such as intelligent access conditions (IACs) and participation reports (PRs).

Table B.2: Scheme Names and Authority Codes

| Scheme Name (full) | IAP Application Name Data Element Value | Off-the Shelf Conditions ID | Authority Code Data Element Value |
|--|--|--|--|
| IAP Livestock Loading Scheme – B-Triple | Livestock B-Triple | LS_BT | NSW |
| IAP Livestock Loading Scheme – AB-Triple | Livestock AB-Triple | LS_ABT | NSW |



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