

# IAP Data Analytics and Reporting User Guide



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| Title        | IAP Data Analytics and Reporting User Guide |
| Document No. | TCA-G57                                     |
| Version      | 4.1   |
| Date         | March 2021                                  |
| Status       | Published                                   |

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Transport Certification Australia Ltd  
T: +61 3 8601 4600  
E: [tca@tca.gov.au](mailto:tca@tca.gov.au)  
W: [www.tca.gov.au](http://www.tca.gov.au)  
ABN 83 113 379 936

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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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# Introduction

# 1

## Welcome

Welcome to the user guide for the IAP Data Analytics and Reporting service of the Telematics Analytics Platform (TAP).





This guide will help you perform tasks related to this service and understand important elements of the screens you will use.

## What is the Telematics Analytics Platform?

TAP is a secure portal that allows authorised users to access data, analysis and map-based reporting for telematics applications of the National Telematics Framework.

TAP comprises various services that support the use of telematics within the National Telematics Framework, as shown in Table 1.

**Table 1: TAP Services**

| Service                          |   | Allows users to   |
|----------------------------------|---|---|
| IAP Data Analytics and Reporting |  | <ul style="list-style-type: none"><li>• View information regarding non-compliance reports (NCRs)</li><li>• View NCR position records on a map.</li></ul>  |
| Road Use Analytics and Reporting |  | <ul style="list-style-type: none"><li>• View and filter dashboards of telematics data of vehicle use on road networks</li><li>• Extract telematics data of vehicle use on road networks.</li></ul>  |
| Malfunction Management           |  | <ul style="list-style-type: none"><li>• View and modify records of malfunctions or possible tamperers of devices or systems used to support telematics applications</li><li>• Create new records of malfunctions or possible tamperers of devices or systems used to support telematics applications</li><li>• Monitor progress towards their resolution.</li></ul> |
| Help Desk                        |  | <ul style="list-style-type: none"><li>• View and modify helpdesk records related to usage of telematics applications</li><li>• Create helpdesk records related to usage of telematics applications</li><li>• Monitor progress towards their resolution.</li></ul>   |

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## Related Documents

The following document is referred to in this document:

- *Accessing the Telematics Analytics Platform*

## Comments and Feedback

TCA welcomes your feedback on improvements to future editions of this document. Please send any documentation-related comments and suggestions to [documentation@tca.gov.au](mailto:documentation@tca.gov.au).

## Further Information

For further information regarding the use of the IAP Data Analytics and Reporting service, please contact TCA at [support@tca.gov.au](mailto:support@tca.gov.au).

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# Getting Started

# 2

This section provides information on the following:

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## Logging In

To set up your account and log into TAP for the first time, refer to *Accessing the Telematics Analytics Platform*. The guide is available on the TCA website and includes information on how to best view and experience this portal.

If you fail to log in after 10 attempts, you will be locked out of TAP. If you cannot log in, or if you think you may be locked out, please email [support@tca.gov.au](mailto:support@tca.gov.au).

## Logging Out

To log out of TAP, click Logout at the top right of any TAP screen that is open.

Your session will time out after 30 minutes of inactivity using this service. If this happens, log in again to start a new session.

## User Permissions

When you have been approved as a TAP user, an administrator at TCA will give you access to applicable TAP services in accordance with your completed application form.

If you would like to access a TAP service other than those you currently have access to, please email [support@tca.gov.au](mailto:support@tca.gov.au) to request an application form.

Certain screens may display minor differences in function and the results displayed, depending on the preferences of your Jurisdiction. The guide will note any of these differences where they occur.

---

## Changing Your Password

You will set your first password when you set up an account and log in for the first time.

You can change your password at any time.

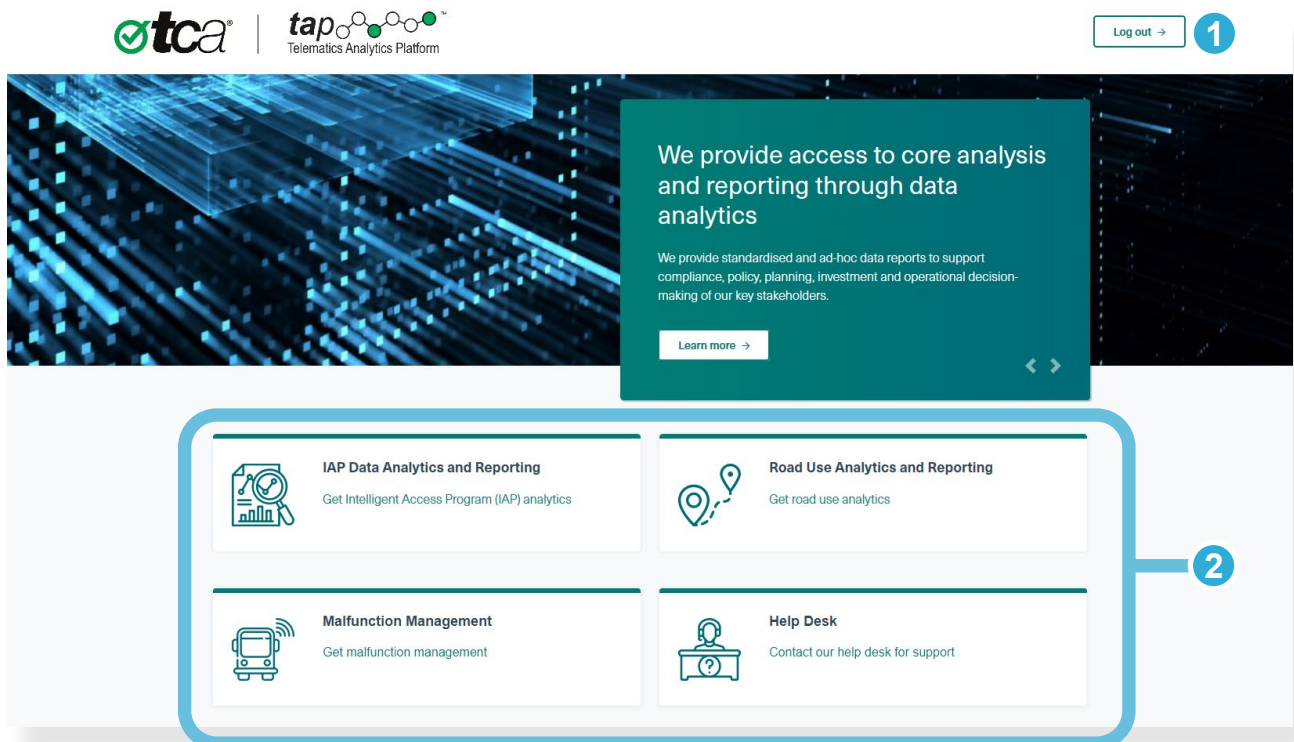
### To change your password:

1. Navigate to the TAP Login screen: <https://tap.tca.gov.au/tcaportal/login>. The Login screen appears.
2. At the bottom of the screen, click **Send mail to reset password**. The Send mail to reset password screen appears.
3. In the **Email** field, enter your email address.
4. Click **Send mail**. A Reset Password email is sent to your inbox.
5. Follow the instructions in the email you receive.

## Home Screen

The Home screen is the first screen you will see when you have logged in to TAP. The main elements of this screen are shown in Figure 1.

Figure 1: Home Screen



1 The **Log out** button logs you out of TAP.

2 The area at the bottom of the screen allows you to open a TAP service, depending on your user access settings.

To open a TAP service, click the green hyperlink beneath a service name.



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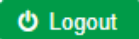

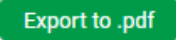
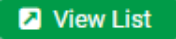

## Common Screen Elements

### Mandatory Fields

Fields marked with a red asterisk (\*) are mandatory.

### Buttons

On most screens, you will see one or more of the following buttons.

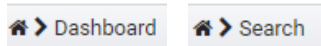
|   |  |
|---|--|
|  | Logs you out of TAP                                      |
|  | Exports selected information to a document in CSV format |
|  | Exports selected information to a document in PDF format |
|  | Shows detail of selected records in a list               |
|  | Shows selected records on the NCR Map screen             |

### Breadcrumbs

At the top of some screens, you may see breadcrumbs as shown in the examples below. Breadcrumbs allow you to return to a previous screen, and they may appear differently depending on your navigation path to the screen. Clicking a breadcrumb item will return you to the screen with all parameters retained.



In the examples below:

- Clicking **Dashboard** will take you back to the dashboard
- Clicking **Search** will take you back to the Search screen.







### Table Sort Icons

In some tables, you can re-sort the content of a column. Depending on the content, information may be sorted numerically, alphanumerically, by date, by priority or by status.

|   |  |
|---|--|
|  | Sorts table by column content, in ascending order  |
|  | Sorts table by column content, in descending order |

### Paging Icons



















In lists that consist of several pages of results, you can click arrows at the bottom of the list to navigate to the page you would like to see.

|   |                         |
|---|-------------------------|
|  | Moves forward one page  |
|  | Moves to the last page  |
|  | Moves backward one page |
|  | Moves to the first page |

---

## Map Icons

The following icons are featured on the NCR Map screen:

|   |  |
|---|--|
|    | Alarm record   |
|    | Record that is not compliant with the off-the-shelf (OTS) condition  |
|    | Start of a group of records that include non-alarm NCRs, where the lead-in record is not compliant with the OTS condition      |
|    | Position record that is compliant with the OTS condition   |
|    | Start of a group of position records that include non-alarm NCRs, where the lead-in record is compliant with the OTS condition |
|    | SD TCM record that is compliant with the OTS condition   |
|    | Speed record that is compliant with the OTS condition  |
|   | Bridge   |
|  | Bridge on which a record that is not compliant with the OTS condition occurred   |
|  | Railway  |
|  | Railway on which a record that is not compliant with the OTS condition occurred  |
|  | Railway over a structure (e.g. railway over a road bridge)   |
|  | Railway over a structure, on which a record that is not compliant with the OTS condition occurred                              |
|  | Tunnel   |
|  | Tunnel in which a record that is not compliant with the OTS condition occurred   |
|  | City Loop structure at intersections of Latrobe St, Melbourne  |
|  | Unspecified structure  |
|  | Unspecified structure on which a record that is not compliant with the OTS condition occurred                                  |

---

# IAP Data Analytics and Reporting

# 3

This section provides information on the following:

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## About Intelligent Access Conditions

'Intelligent access condition' (IAC) is a term used in the Intelligent Access Program (IAP) for the document (paper or electronic) by which a specified Operator, and its vehicle combination, are granted access to road networks by an Authority under a particular scheme (IAP application), on condition that its vehicle complies with certain conditions (IAP conditions) which are referenced in the IAC.



*Note:* In the IAP, an Authority is referred to as a Jurisdiction. The term 'Jurisdiction' will be used in this user guide accordingly, from this point forward.

## IAP Conditions

IAP conditions include the spatial, temporal, speed and self declaration (SD) conditions specified in the scheme (IAP application).

IAP conditions can either be:

- 'Off-the-shelf' (a set of conditions for widespread use that can be referenced in one or more enrolments), or
- Unique (a condition tailored to a specific requirement).

On the interface of this service, off-the-shelf conditions are abbreviated to OTS conditions.

The IAP service provider (IAP-SP) assesses compliance of an enrolled vehicle with the IAP conditions. It reports any non-compliance to the Jurisdiction in non-compliance reports (NCRs).

---

## About Non-Compliance Reports

An NCR is the electronic report of non-compliance with IAP conditions, or of possible tampering, forwarded to a Jurisdiction by an IAP-SP.

An NCR is also generated when an alarm is raised either from the telematics in-vehicle unit (IVU) or from IVU data processed within the IAP-SP System.



Alarm NCRs generated by the IVU may relate to possible instances of tampering, unauthorised access, and when parts of the IVU are disconnected and reconnected. Alarm NCRs generated by the IAP-SP System can relate to irregularities and inconsistencies in the collection, presentation, quality or plausibility of data and vehicle behaviour.

An NCR informs the Jurisdiction of a situation where a vehicle is not compliant with one or more IACs, situations where the IVU may not be operating correctly, or possible instances of tampering with the IVU.

NCRs include structured supporting data which is based on the IVU data records that identified the non-compliance. An NCR may include, as relevant, the vehicle's position, speed, the day and time at which the incident occurred, and any self-declared records, which might justify the non-compliant behaviour (for example, a road closure resulted in the vehicle taking an alternative, non-approved route).

The IAP Data Analytics and Reporting service allows you to monitor and work with the following NCRs:

- Alarm
- Spatial
- Speed
- SD (vehicle type/total combination mass), shown on the interface as SD TCM.

# Working with the Dashboard

## About the Dashboard Screen

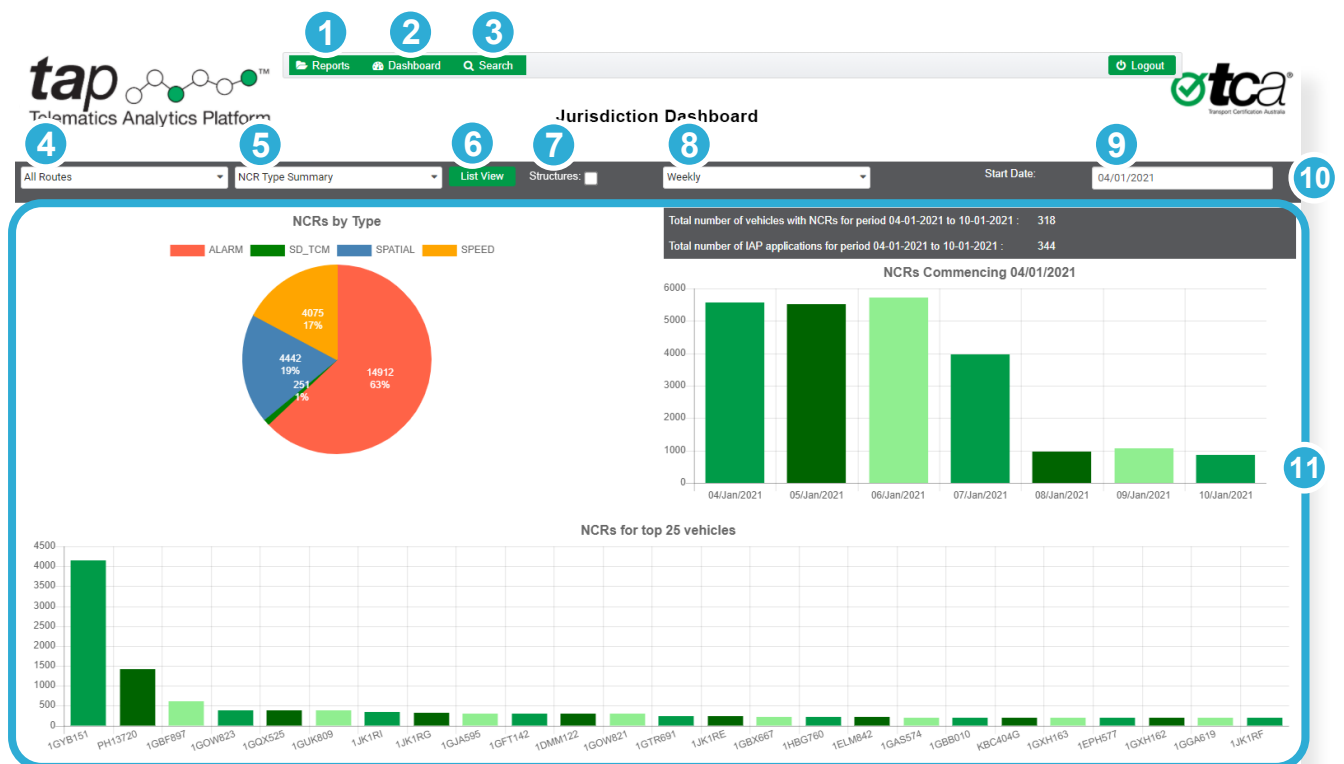
The Dashboard screen is the first screen you see when opening the IAP Data Analytics and Reporting service. The initial default view is set by your Jurisdiction, but you can select other views and refine the information you see on this screen.

Figure 2 shows an example of a dashboard that displays an NCR Type Summary chart report type for all routes for the previous week (which in this case is the week beginning 04/01/2021). On this screen, you can see:

- a pie chart that shows the number of NCRs by type
- a column chart that shows daily numbers of NCRs for the week beginning 04/01/2021
- a column chart that shows the top 25 vehicles, by registration number, that are responsible for creating the most NCRs in that week.

From the menu bar **10**, you can select criteria to show different results on this screen. The Dashboard screen will show charts as appropriate to the selected chart report type **5**.

**Figure 2: Dashboard Screen (Example)**



- 1** The **Reports** tab allows you to download and view a report from the Reports list.
- 2** The **Dashboard** tab allows you to return to the Dashboard screen.
- 3** The **Search** tab allows you to search for an NRC or IAC that contains a text string you have entered (see [Searching for NCRs or IACs](#)).

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4 The **OTS Condition** dropdown list allows you to filter charts with data from all routes (i.e. routes of all IAP applications for the Jurisdiction), or by a particular off-the-shelf (OTS) condition.

5 The **Chart Report Type** dropdown list allows you to select the report type of the chart, as appropriate to your Jurisdiction – for example, a summary of approved IACs, NCR type, alarm NCR, speed NCR, spatial NCR or SD TCM NCR. Each chart report type shows charts that are appropriate to the record type.

*Note:* An NCR summary will only be available if an NCR type has been applied to a selected OTS condition (as specified by your Jurisdiction).

6 The **List View** button takes you to a summary list containing all NCRs or IACs for the period selected on the Dashboard screen.

7 The **Structures** checkbox allows you to filter only those results that showed spatial NCRs over structures.

Structures include bridges, tunnels and railway.

*Note:* This feature is only available on charts that feature spatial NCRs, and it may not be available for all Jurisdictions.

8 The **Chart Period** dropdown list allows you to modify the chart reporting period.

9 The **Start Date** field allows you to modify the first day of the chart reporting period.

10 The **menu bar** allows you to select criteria to change a chart report type, or modify and/or refine the data displayed on a chart.

*Note:* The menu is dynamic, and the criteria shown may depend on the record type that is selected. For example, if Spatial NCR Summary is selected, a **Filter by Status** dropdown list will appear on the menu bar, allowing you to select all spatial NCRs or filter results by spatial NCRs not processed, confirmed or rejected.

11 The **Chart** area displays charts according to the chart report type and other criteria selected in the menu bar. This area allows you to:

- Hover over the column of a column chart to see its value
- Click a chart element (e.g. column or pie slice) to view a summary list of records for that selection for the selected time period (see [Working with NCR or IAC Summary List Screens](#)).

## Viewing Charts

### To display a period of results as a chart:

1. From the menu bar of the Dashboard screen, either leave the default All Routes or select the OTS condition from the **OTS Condition** dropdown list.
2. From the **Chart Report Type** dropdown list, select the report type of the chart.
3. From the **Chart Period** dropdown list, select the period of the results you want to see.
4. From the **Start Date** field, select the first day of the chart reporting period.
5. Select other criteria available on the menu bar, as applicable to the record type and the results you want to see, such as Structures or spatial NCR status.

---

## Using the Dashboard to Select Records for a Summary List

### To view a summary list of NCRs or IACs:

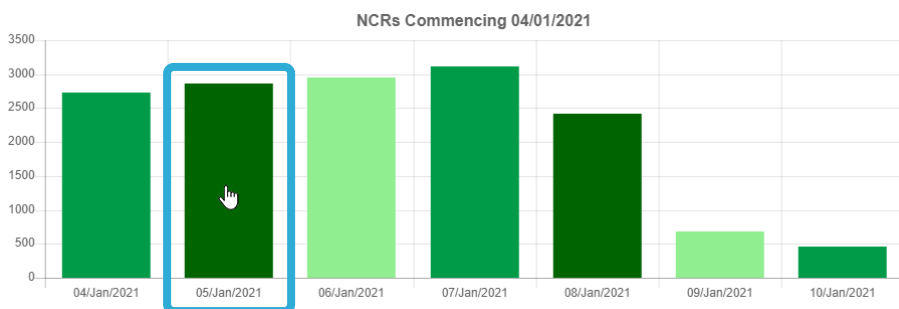
- From the Dashboard screen, select criteria from the menu bar and click **List View** to show details of all NCRs or IACs for the period selected; or
- From the Dashboard screen, select criteria from the menu bar and click an individual chart element, such as a column or pie chart slice.  
Listed records will be filtered by that chart element for the period selected.

You can select a chart element to filter records in a number of ways, for example:

- On an NCR Type chart, click an NCR type pie slice
- On a Period chart, click a period column (e.g. a day, week, month or quarter)
- On an IAC ID chart, click an IAC ID column
- On a Registration Number chart, click a registration number column
- On a Transport Operator chart, click a transport operator column
- On an Alarm NCR Type chart, click an alarm type column (see [Appendix A](#) for definitions of alarm types)
- On an Alarm NCR Code chart, click an alarm code column (see [Appendix B](#) for definitions of alarm codes)
- On an LGA chart, click an LGA column
- On a Suburb chart, click a Suburb column
- On a Street chart, click a Street column.

Figure 3 shows an example of a user clicking on a Period chart element to select a list of all spatial NCRs that occurred on 5 January 2021.

**Figure 3: Filtering Records by Selecting a Chart Element**



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## Working with NCR or IAC Summary List Screens

### About NCR and IAC Summary Lists

Once you have selected records to be displayed in a summary list (as described in the previous section), you will see the appropriate Summary List screen, for example:

- Approved IAC Summary List
- NCR Summary List
- Alarm NCR Summary List
- Spatial NCR Summary List
- Speed NCR Summary List
- SD TCM NCR Summary List
- NCR Cluster Summary List (from which NCR List for Cluster ID screens can be accessed)
- NCR Summary for LGA
- NCR Summary for Suburb
- NCR Summary for Street.

Each Summary List screen shows NCRs or IACs in columns of information that are appropriate to the record type. Clicking a hyperlinked NCR or IAC ID allows you to view the detail contained in the NCR or IAC.

In addition, with the exception of the NCR Cluster Summary List, each NCR Summary List screen contains editable fields that allow you to update details such as status, permit, suburb/postcode, street name and a comment. With regard to the NCR Cluster Summary List, each NCR List for Cluster ID screen that is accessed after clicking a Cluster ID will contain editable fields.



Figure 4 shows an example of a Spatial NCR Summary List. In this example, a user has selected the following criteria from the Dashboard screen:

- OTS Condition dropdown list: All Routes
- Chart Report Type dropdown list: Spatial NCR Summary
- Chart Period dropdown list: Daily
- Start Date field: 28/12/2020
- Transport Operator chart element: GO PTY LTD

The resulting list shows that for the Operator Go Pty Ltd, two spatial NCRs occurred on 28/12/2020 for vehicle 1AB2CD, under the VIC\_HPFFV0001 OTS condition.

**Figure 4: NCR Summary List (Spatial NCR Example)**

| Map View                 | NCR ID                          | Registration | Transport Operator | IAC ID      | IAP Application Name         | OTS Conditions | Issued Date             | Start                   | End                     | Duration | Status        | Permit | Suburb/Postcode | Street Name | Comment |
|--------------------------|---------------------------------|--------------|--------------------|-------------|------------------------------|----------------|-------------------------|-------------------------|-------------------------|----------|---------------|--------|-----------------|-------------|---------|
| <input type="checkbox"/> | <a href="#">ABC201200041507</a> | 1AB2CD       | GO PTY LTD         | V0009997339 | Non Standard Freight Vehicle | VIC_HPFFV0001  | 01:59:49<br>29/Dec/2020 | 16:56:37<br>28/Dec/2020 | 16:57:37<br>28/Dec/2020 | 1        | Not Processed |        |                 |             |         |
| <input type="checkbox"/> | <a href="#">ABC201200041583</a> | 1AB2CD       | GO PTY LTD         | V0009997339 | Non Standard Freight Vehicle | VIC_HPFFV0001  | 12:10:09<br>29/Dec/2020 | 17:06:07<br>28/Dec/2020 | 14:58:00<br>29/Dec/2020 | 1311     | Not Processed |        |                 |             |         |

- 1 The **Map View** checkboxes allow you to select one or more NCRs in order to view them on the NCR Map screen (see [Selecting NCRs to View on the NCR Map Screen](#)).

*Note:* If a checkbox is unavailable, the NCR does not contain information that allows it to be viewed on the NCR Map screen (for example, it may not contain spatial information).

- 2 A hyperlinked **NCR ID** allows you to click on it to view all the detail it contains in an NCR Detail screen (see [Working with NCR or IAC Detail Screens](#)).

- 3 **Editable NCR Fields** allow you to view information in those fields and update them as necessary (see [Modifying an NCR in a Summary List](#)).

*Note:* Compared with an NCR Summary List, an Approved IAC Summary list contains the following differences:

- There is no Map View column or View Map button
- The first column contains hyperlinked IAC IDs which open the IAC Detail screen
- There are no editable fields.

Compared with an NCR Summary List, an NCR Cluster Summary list contains the following differences:



- The first column contains hyperlinked Cluster IDs which open the NCR List for Cluster ID screen. The NCR List for Cluster ID screen shows clustered NCRs related to the Cluster ID
- There are no editable fields, although fields in the NCR List for Cluster ID screen are editable.

*Note:* See [Appendix A](#) for a definition of 'NCR cluster'.

## Modifying an NCR in a Summary List

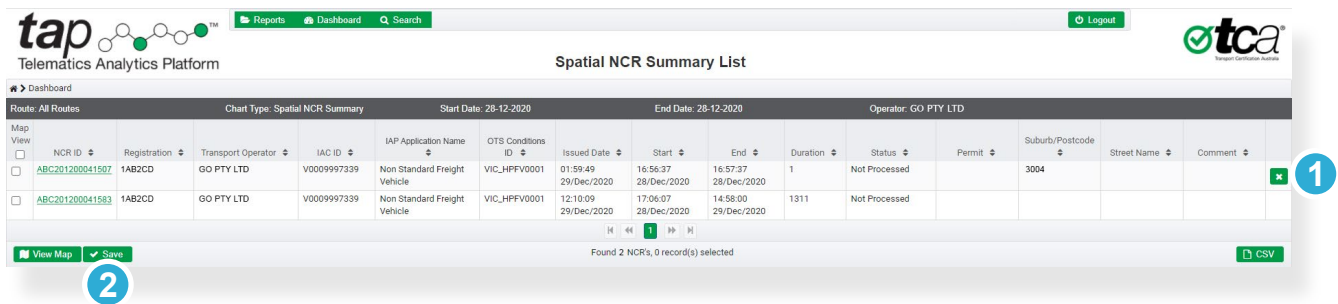
As shown in item 3 of Figure 4, there is a group of editable fields at the right of every NCR Summary List. They allow you to add or modify the information they contain.

Figure 5 shows two additional buttons that appear when you modify any of these fields:

- A Reset  button appears in the final column.
- A Save  button appears in the footer.

In the example below, a user has entered a postcode in the Suburb/Postcode field, but has not yet saved it.

**Figure 5: Modifying an NCR (Spatial NCR Example)**



The screenshot shows the 'Spatial NCR Summary List' interface. At the top, there are navigation links for Reports, Dashboard, Search, and Logout. The main header includes the 'tap' logo and 'Telematics Analytics Platform'. The title 'Spatial NCR Summary List' is centered. Below the header, there are filters for Route (All Routes), Chart Type (Spatial NCR Summary), Start Date (28-12-2020), End Date (28-12-2020), and Operator (GO PTY LTD). A table displays NCR records with columns for NCR ID, Registration, Transport Operator, IAC ID, IAP Application Name, OTS Conditions ID, Issued Date, Start, End, Duration, Status, Permit, Suburb/Postcode, Street Name, and Comment. Two rows are visible, both with 'Not Processed' status. The 'Suburb/Postcode' field in the second row contains '3004'. A 'Reset' button (marked with a circled '1') is located at the end of the second row. In the footer, there is a 'Save' button (marked with a circled '2') and a 'View Map' button. The status bar at the bottom indicates 'Found 2 NCR's, 0 record(s) selected' and a 'CSV' export button.

- 1 The **Reset** button allows you to clear any unsaved information you have entered in the editable fields of an NCR row.
- 2 The **Save** button allows you to save any information you have entered in the editable fields of an NCR row.


### To add or modify NCR details in editable fields of a Summary List:

1. From an NCR Summary List, click in an editable NCR field (as shown in Figure 4, item 3).
2. Update the information in the field.
3. Repeat steps 1 and 2 for any other editable field that needs to be updated in that row.
4. Click **Save**.

---

## Selecting NCRs to View on the NCR Map Screen

As shown in item 1 of Figure 4, you can select one or more NCRs to view on the NCR Map screen.

You can open the NCR Map screen by clicking  in the footer.

### To select NCRs to view on the NCR Map screen:

1. From an NCR Summary List, either:
  - Select all NCRs by clicking the checkbox in the header of the Map View column, or
  - Select one or more individual NCRs from the Map View column.

2. Click **View Map**.

The NCR Map screen opens, showing all records recorded for the selected NCRs.

*Note:* If you selected a spatial or speed NCR, you will see around 10 lead-in and lead-out records in addition to the records that were not compliant with the OTS condition.

# Working with NCR or IAC Detail Screens

## About NCR Detail Screens

An NCR Detail screen contains full details of the NCR, including the Service Provider (IAP-SP), Operator, IVU and vehicle details. It also allows you to open the associated IAC, and view the NCR records on a list or map.

You can view the details of an NCR by clicking the hyperlinked NCR identifier on an NCR Summary List screen as shown in Figure 4.

Figure 6 shows an example of an NCR Details screen. It shows a spatial NCR that consists of 63 position records.

*Note:* If position or speed records make up an NCR, the total number of records will include around 10 lead-in and lead-out records.

**Figure 6: NCR Detail Screen (Spatial NCR Example)**

The screenshot shows the 'NCR Detail' screen in the TAP Telematics Analytics Platform. The interface includes a top navigation bar with 'Reports', 'Dashboard', and 'Search' options, and a 'Logout' button. The main content area is divided into several sections:

- Navigation:** 'Previous' and 'Next' buttons are located at the top of the main content area.
- NCR Details:** A table of key information including:
  - NCR Identifier: ABC200400803405
  - State: VIC
  - Service Provider: Service Provider A
  - ABN: 12334445566
  - ACN: [Blank]
  - Address: 12 St Klida Road, Melbourne, VIC 3004
  - Phone: 1300 122345
  - Fax: 03 1234 5677
  - Email: iap@spa.com.au
  - NCR Generated: 18:39:20 28-04-2020
  - IAP Version: 3.01
  - Transport Operator: GO PTY LTD
  - IVU: SPA20411
  - VIN: 1FVJAWAV17L997635
  - Registration: 1AB2CD
  - Make: F LI
  - Model: [Blank]
  - State Registered: VIC
  - Audit Reference: 12:11:47 28-04-2020
  - IAM Version: TCA-IAM-AUG19
  - ABN: 72004264706
  - NCR Start: 11:50:47 28-04-2020
  - Initial Position: Lat -37.80478 Long 144.91554
  - NCR End: 12:11:47 28-04-2020
  - Final Position: Lat -37.80586 Long 144.91504
  - Duration: 0 days, 0 hours, 21 minutes, 0 seconds
- IACs:** A section for 'IAC: V0002313100' with a 'View List' button. Below this is a table of record counts:
  - Total NCR Position Records: 63
  - Total Speed Records: 0
  - Total Alarm Records Type 1: 0
  - Total Alarm Records Type 2A: 0
  - Total Alarm Records Type 2B: 0
  - Total NCR SD (Vehicle Type/TCM) Records: 0
  - Total NCR SD (Comments) Records: 0
- Export:** An 'Export to .pdf' button is located at the bottom right.

- 1 The **Previous** button allows you to open the previous NCR of a Summary List. It will not appear if the NCR is the first record of the Summary List.
- 2 The **Next** button allows you to open the next NCR of a Summary List. It will not appear if the NCR is the last record of the Summary List.
- 3 The **View Map** button allows you to view the NCR on the NCR Map screen (see [Working with NCR Maps](#)).
- 4 The **IAC Details** hyperlinks both open the IAC Detail screen, which provides details on the IAC related to the NCR.
- 5 The **View List** button allows you to view a summary of details of each record that comprises an NCR, including, if applicable, any lead-in and lead-out records.

*Note:* The button only appears against a record type if one or more of those records comprise the NCR.

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## About the IAC Detail Screen

The IAC Details screen contains full details of the enrolment of a vehicle in a scheme (IAP application).

You can view the details of an IAC by clicking the hyperlinked IAC identifier on an Approved IAC Summary List screen or from an NCR Summary List screen.

### To display IAC details from an Approved IAC Summary List:

1. From the Dashboard screen, select criteria from the menu bar and select **Approved IAC Summary** from the Chart Report Type dropdown list.
2. Click **List View** or an individual chart element.  
The Approved IAC Summary List screen appears.
3. Click the hyperlinked identifier of the IAC you want to view.  
The IAC Detail screen appears.

### To display IAC details from an NCR Summary List:

- From an NCR Summary List screen, click the hyperlinked IAC identifier in the bottom half of the screen (see item 4, Figure 6).  
The IAC Detail screen appears.

# Working with NCR Maps

## About NCR Maps

The NCR Map screen allows you to:

- View and print one or more NCRs on a map
- Toggle views on and off (for example, the IAP Application Layer allows you view the route taken and compare it against the colour-coded allowed route described in the OTS condition)
- Select a record on the map and view or update its status, permit number, suburb/postcode, street and comment.

Graphical icons on each map allow you to clearly distinguish NCR types and structures, and show you activity that is compliant and non-compliant with the OTS condition (see Section 2, [Map Icons](#)).

You can open this screen by selecting NCRs and clicking [View Map](#) on any of the following screens:

- NCR Summary List screen (see [Working with NCR or IAC Summary List Screens](#))
- NCR Detail screen (see [Working with NCR or IAC Detail Screens](#))
- Search screen (see [Searching for NCRs or IACs](#)).

Figure 7 shows an example of an NCR Map screen, displaying a spatial NCR. The map shows:






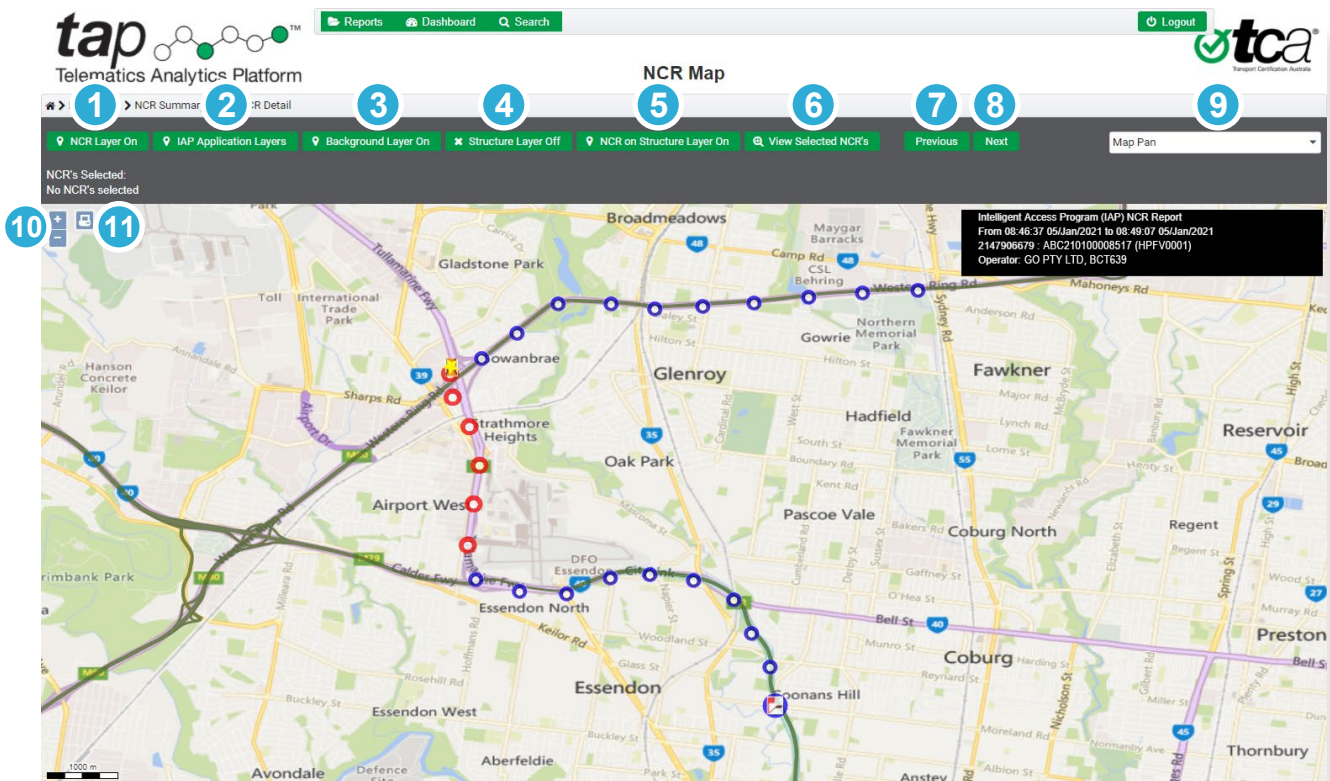
- The first of the lead-in position records that are compliant with the OTS condition 
- Lead-in position records that are compliant with the OTS condition 
- Non-compliant position records , along with a record of non-compliance on a managed bridge 
- Lead-out position records that are compliant with the OTS condition .



Figure 7: Map Screen (Spatial NCR Example)



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- 1 The **NCR Layer** button allows you to show or hide the data records that make up the NCR. It is on by default.
  - 2 The **IAP Application Layers** button allows you to show or hide the OTS Conditions IDs dialog. It shows by default the allowed route(s) as described by the OTS condition that corresponds to the selected NCR(s).

The OTS Conditions IDs dialog lists all the OTS conditions for your Jurisdiction. The OTC condition name is followed by an @ symbol and a number, which represents the version of the condition set. More than one allowed route will be selected if more than one NCR is displayed on the map, although the OTS Conditions IDs dialog allows you to toggle each one on or off.



*Note:* You cannot use this dialog to show the route of an OTS condition if it does not correspond to the selected NCR(s).
  - 3 The **Background Layer** button allows you to show or hide the background map. It is on by default.
  - 4 The **Structure Layer** dropdown list allows you to show or hide all the bridges and other structures on the map. It is off by default.
  - 5 The **NCR on Structure Layer** button allows you to view bridges and other structures on which a record that is not compliant with the OTS condition occurred. It is on by default.
  - 6 The **View Selected NCRs** button works in conjunction with the Selection command on the Map Function dropdown list.

If you have selected more than one NCR on the map, you can click this button to view the NCR details on an NCR Summary List and modify editable fields as necessary (see [Map Navigation and Item Selection](#)).
  - 7 The **Previous** button allows you to view the previous NCR in the list from which you viewed the map (e.g. NCR Summary List, or a list of results on a Search screen). It will not appear if the NCR is the first record of the list.
  - 8 The **Next** button allows you to view the next NCR in the list from which you viewed the map (e.g. NCR Summary List, or a list of results on a Search screen). It will not appear if the NCR is the last record of the list.
  - 9 The **Map Function** dropdown list allows you to pan across the map to a preferred location, select objects on the map, view location details on the map, and zoom into or out of the map (see [Map Navigation and Item Selection](#))
  - 10 The **Zoom In** button  allows you to zoom into the map. The **Zoom Out** button  allows you zoom out of the map.
  - 11 The **Print** button allows you to download a PDF file that shows the current screen. You can then print the document.

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## Map Navigation and Item Selection

The Map Function dropdown list allows you to do the following:

- **Map Pan:** Drag the map to a preferred location
- **Selection:** Select one or more objects on the map to view their details and modify as applicable
- **Location:** View location details on the map
- **Zoom In:** Zoom into the map (*Note:* The Zoom In  button performs the same function)
- **Zoom Out:** Zoom out of the map (*Note:* The Zoom Out  button performs the same function).

### To move to different areas on a map:

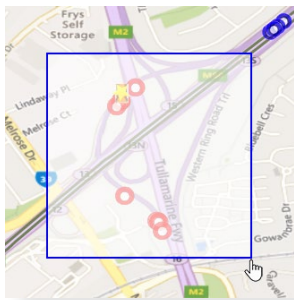
1. From the Map Function dropdown list, select **Map Pan**.
2. Click and drag the map to the preferred location.

### To select and view details of one NCR or object on a map:

1. From the Map Function dropdown list, select **Selection**.
2. On the map, click the object to select it, noting the following:
  - If you click the coloured route of an OTS Condition, the name of the OTS condition appears on the route.
  - If you click a bridge or other structure (such as a tunnel or railway), its details will appear as a popup.
  - If you click a record of an NCR, the NCR Details dialog appears and shows details of that record. You can modify and save any of the details of the NCR record.

### To select and view details of more than one NCR on a map:

1. From the Map Function dropdown list, select **Selection**.
2. On the map, click and drag the cursor diagonally to create a bounding box around the NCRs you want to select.



Information in the menu bar confirms the number of NCRs selected. It will show IDs of NCR records if less than 10 are selected; otherwise, the total number of NCRs will appear.

3. Click **View Selected NCRs**.  
The NCR Summary List screen appears. To modify information in any of the editable fields, see [Modifying an NCR in a Summary List](#)).

### To view location details on a map:

1. From the Map Function dropdown list, select **Location**.
2. Click the point on the map you want to view the location of.  
The latitude and longitude appear.



# Searching for NCRs or IACs

## About the Search Function

The Search screen allows you to search for any NCR or IAC, using criteria in the menu bar.

You can open this screen by clicking **Search** at the top of any screen.

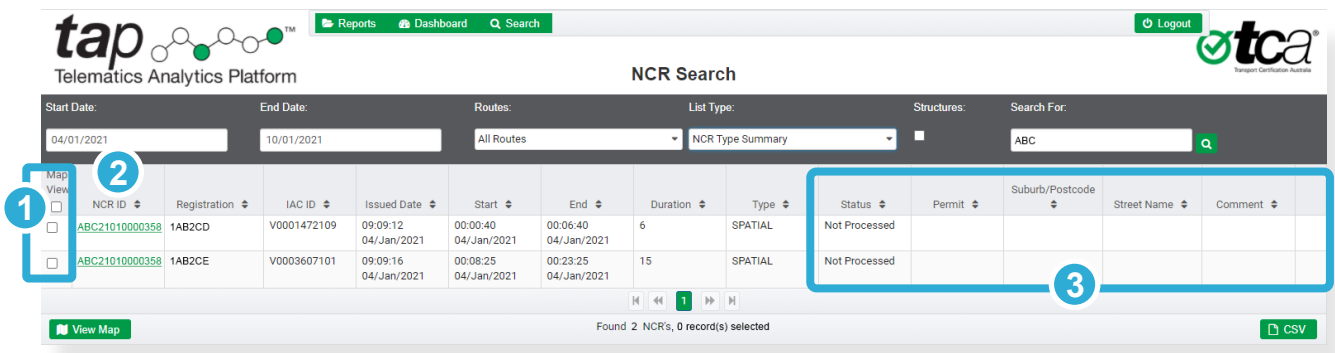
At the top of the Search screen, you can use any of the following filters to help narrow your search:

- Start date
- End date
- Route(s) (i.e. OTS condition)
- List type (i.e. record type)
- Structures (e.g. if a spatial NCR record type is selected from the List Type dropdown, this filters spatial NCRs that have occurred while traversing a structure such as a bridge)
- Alphanumeric string.

The Search button **Search** allows you to initiate the search.

Figure 8 shows an example of a search for any NCR between 4 and 10 January 2021, with the string **ABC**. The results appear as they would in an NCR Summary List, and the results area allows you to work with the results in the same way.

**Figure 8: Search Screen (Example of NCR Results)**



**1** The **Map View** checkboxes allow you to select one or more NCRs in order to view them on the NCR Map screen (see [Selecting NCRs to View on the NCR Map Screen](#)).

*Note:* If a checkbox is unavailable, the NCR does not contain information that allows it to be viewed on the NCR Map screen (for example, it may not contain spatial information).


**2** A hyperlinked **NCR ID** allows you to click on it to view all the detail it contains in an NCR Detail screen (see [Working with NCR or IAC Detail](#)).

**3** **Editable NCR Fields** allow you to view information in those fields and update them as necessary (see [Modifying an NCR in a Summary List](#)).

The results of a search for an IAC appear similar to the information in an Approved IAC Summary List, with the same available features in the results area.

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**To search for an NCR or IAC:**

1. From any screen, click **Search** at the top of the screen.  
The Search screen opens.
2. Using the filters that the top of the screen, select parameters to help narrow your search.
3. Click the Search  button.  
A list of results is displayed, showing a summary of information. You can perform actions on the results of this list as described in Figure 8.

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## Viewing Reports

### About Reports

The Reports screen allows you to download and view reports.

A report can be any document that your Jurisdiction deems to be a useful resource for other users, such as a dashboard of all activity over structures for a particular month.

After report parameters are defined by your Jurisdiction, TCA designs the report and makes it available on this screen.

You can open this screen by clicking  at the top of any screen.

*Note:* If there is a large number of reports, you can find the report you are looking for more easily by clicking the Date/Time and Report Name sort arrows in the header.

#### To view a report:

1. At the top of any screen, click **Reports**.  
The Reports screen appears.
2. Find the report you want to view and click **Export**.  
The file is saved to your device.
3. Navigate to the file location and click **Open**.

To request for a report to be added to or removed from this screen, please contact TCA at [support@tca.gov.au](mailto:support@tca.gov.au).

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# A Acronyms and Definitions

## Acronyms

|     |   |
|-----|---|
| CSV | comma-separated values                  |
| IAC | intelligent access condition            |
| IAP | Intelligent Access Program              |
| IVU | in-vehicle unit                         |
| NCR | non-compliance report                   |
| OTS | off-the-shelf (i.e. designed for reuse) |
| PDF | portable document format                |
| SD  | self-declared                           |
| SP  | service provider                        |
| TAP | Telematics Analytics Platform           |
| TCM | total combination mass                  |

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## Definitions

|   |   |
|---|---|
| <b>alarm</b>                              | A system response resulting from testing data transmitted from the IVU against pre-defined criteria.  |
| <b>alarm type 1</b>                       | An alarm category where data was collected by or generated on an IVU.   |
| <b>alarm type 2A</b>                      | An alarm category where data was generated in the back office and, after analysis of data received from the device, an indication that data is not reliable.  |
| <b>alarm type 2B</b>                      | An alarm category where data was generated in the back office and, after analysis of data received from the device, an indication that device behaviour is not reliable.  |
| <b>alarm type 2C</b>                      | An alarm category where data was generated in the back office and, after analysis of data received from the device, an indication that vehicle operation may not be consistent with prerequisites of application and operating condition.   |
| <b>Authority</b>                          | <p>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.</p> <p><i>Note:</i></p> <ul style="list-style-type: none"><li>• In the IAP, an Authority is referred to as a Jurisdiction. <i>See also: Jurisdiction.</i></li><li>• The functions associated with an Authority may involve a road authority or regulator, or both, as applicable to the scheme.</li></ul> |
| <b>enrolment form</b>                     | An electronic document that formally and simultaneously records the enrolment of a vehicle within a scheme (i.e. IAP application), and within the application required by that scheme.  |
| <b>IAP application</b>                    | The generic term for road access schemes, permits, concessions, exemptions, gazettals or notices which include an IAP compliance solution.  |
| <b>IAP conditions</b>                     | The conditions determined by the issuing Jurisdiction with which the vehicle must comply, in return for the access granted by the IAP application.  |
| <b>IAP Service Provider (IAP-SP)</b>      | A service provider that has been certified by TCA as meeting the requirements of the Intelligent Access Program.  |
| <b>IAP-SP System</b>                      | The IAP-SP's hardware and software, excluding the IVU and other devices, used in the collection, processing, testing, storage and reporting of IAP data.  |
| <b>intelligent access condition (IAC)</b> | A term used in the IAP for the document (paper or electronic) by which a specified Operator, and its vehicle combination, are granted access to road networks by an Authority under a particular scheme, on condition that its vehicle complies with certain conditions (IAP conditions) which are referenced in the IAC. <i>See also: enrolment form.</i>  |
| <b>in-vehicle unit (IVU)</b>              | In the IAP, the primary telematics unit which monitors parameters (known generically as a telematics device). <i>See also: telematics device.</i>   |
| <b>Jurisdiction</b>                       | In the IAP, a road agency of one of the States, Territories or the Commonwealth of Australia as cited in the TCA/IAP-SP Certification Agreement. May be referred to generically as an Authority. <i>See also: Authority.</i>  |
| <b>jurisdiction</b>                       | A geographical area containing a road network (i.e. typically an Australian state or territory). <i>See also: Authority.</i>  |
| <b>malfunction</b>                        | A malfunction of a device or system used in a telematics application.   |

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|   |   |
|---|---|
| <b>non-compliance report (NCR)</b>          | A term used in the IAP for a report forwarded to a road agency by an IAP Service Provider in respect of a non-compliance with applicable IAC(s), or suspected tampering with the system. <i>See also: event report.</i>   |
| <b>NCR cluster</b>                          | A group of related non-compliance reports where the end time of one record overlaps with the start time of the next record in the sequence.   |
| <b>off-the-shelf (OTS) condition</b>        | A set of operating conditions that is published by a Jurisdiction and that can be referenced in one or more enrolments.   |
| <b>Operator</b>                             | An entity that operates one or more vehicles eligible to enter a scheme (referred to in the IAP as an IAP application).   |
| <b>scheme</b>                               | The generic term for a specific use of an application linked to delivering a policy or program objective.   |
| <b>SD TCM condition</b>                     | A condition specified in the IAP conditions within an IAC which requires collection of total combination mass by self-declaration, where the driver inputs the information through their user interface (referred to in the IAP as a self-declaration input device, or 'SDID'). |
| <b>self-declaration input device (SDID)</b> | A user interface device used by the Operator and/or its nominated representative to enter self-declared data into the telematics IVU. <i>See also: user interface.</i>  |
| <b>spatial condition</b>                    | A condition specified in the IAP conditions within an IAC which describes a vehicle's route or zone access.   |
| <b>speed condition</b>                      | A condition specified in the IAP conditions within an IAC which prescribes the speed threshold.   |
| <b>structure</b>                            | In the context of this TAP service, any structure such as a bridge, tunnel or railway, that may be monitored by a Jurisdiction.   |
| <b>tamper</b>                               | Conduct towards a device or system which is intended to prevent the device or system from functioning correctly.  |
| <b>telematics device</b>                    | The primary telematics unit which monitors parameters, which may include identity, datetime, location, speed, vehicle category or mass.   |
| <b>temporal condition</b>                   | A condition specified in the IAP conditions within an IAC that describes the permitted date and time for accessing, or not accessing, particular routes and zones.  |
| <b>user interface</b>                       | A generic term for any device or interface used by the Operator and/or its nominated representative to enter data into the telematics device.   |

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## B IAP Alarm Codes

This appendix specifies the alarm codes that are used by the IAP-SP to indicate the event that caused the alarm and generate event reports.

### Alarm Code Types

Alarm codes are classified into major categories according to where they are generated or collected (e.g. a physical device or back office). Alarms may be classified further into subcategories.

Current classification of alarm types and subtypes is shown in Table B-1.

**Table B-1: Alarm Code Types**

| Type | Definition  | Subtype | Definition  |
|------|---|---------|---|
| 1    | Collected by or generated on a <b>telematics device</b> | None    |   |
| 2    | Generated in the <b>back office</b>                     | 2A      | After analysis of data received from a device, indication that <b>data</b> is not reliable  |
|      |   | 2B      | After analysis of data received from a device, indication that <b>device behaviour</b> is not reliable  |
|      |   | 2C      | After analysis of data received from a device, indication that <b>vehicle operation</b> may not be consistent with prerequisites of application and operating condition |

### Alarm Codes

Each alarm record is identified by a corresponding code as provided in Table B-2.

**Table B-2: Summary of Alarm Codes**

| Alarm Code | Description  | Alarm Record Type |
|------------|--|-------------------|
| 1          | External power supply disconnected from IVU  | 1                 |
| 2          | External power supply reconnected to IVU   | 1                 |
| 3          | External power supply disconnected from IVU - vehicle movement indicated by ignition                         | 1                 |
| 4          | External power supply disconnected from IVU - vehicle movement detected by other independent movement sensor | 1                 |
| 5          | Ignition disconnected  | 1                 |
| 6          | Ignition reconnected   | 1                 |
| 7          | Other independent movement sensor disconnected   | 1                 |
| 8          | Other independent movement sensor reconnected  | 1                 |

| Alarm Code | Description   | Alarm Record Type |
|------------|---|-------------------|
| 9          | Unauthorised access to data in IVU detected   | 1                 |
| 10         | Unauthorised access to IVU software detected  | 1                 |
| 11         | GNSS antenna disconnected from IVU  | 1                 |
| 12         | GNSS antenna reconnected to IVU   | 1                 |
| 51         | No vehicle type and TCM data self declared, when required, where at least one SD (vehicle type/TCM) condition is applicable   | 2A                |
| 52         | Position records, alarm records and SD records are not numbered consecutively   | 2A                |
| 53         | Speed records are not numbered consecutively  | 2A                |
| 54         | IVU data record numbering does not increase chronologically   | 2A                |
| 55         | After a period of non-operation, the distance between the position record before and the position record after that period exceeds 500 metres   | 2A                |
| 56         | Zero satellites used for a continuous period of operation of at least five minutes while the vehicle was moving   | 2A                |
| 57         | After a period where zero satellites were used for a continuous period of operation of at least five minutes, the distance between the position record before and the position record after the cessation of signal, exceeds 500 metres | 2A                |
| 58         | Less than four satellites used for a continuous period of operation of at least 20 minutes, while the vehicle was moving  | 2A                |
| 59         | Less than four satellites used in more than 20% of a sequence of 10,000 position records  | 2A                |
| 80         | No data blocks have been received within a 72 hour period   | 2B                |
| 81         | Loss of integrity and/or authenticity of data blocks  | 2B                |
| 82         | Incomplete or inconsistent framing data   | 2B                |
| 83         | IVU data records incomplete, inconsistent or containing errors  | 2B                |
| 84         | Implausibility of incoming position, alarm and speed records  | 2B                |
| 85         | IVU defective for more than seven days  | 2B                |
| 86         | Type 1 Alarm malfunction – threshold reached  | 2B                |





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## CONTACT

**Transport Certification Australia**  
Level 6, 333 Queen Street  
Melbourne VIC 3000

Phone: + 61 3 8601 4600  
Email: [tca@tca.gov.au](mailto:tca@tca.gov.au)  
Website: [www.tca.gov.au](http://www.tca.gov.au)

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