



Transport Connected Bus Program

Operator FAQ 2023 v0.4

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Program Overview

What is the Transport Connected Bus Program?

Transport for NSW (TfNSW) is investing in smart, connected vehicle technology, as part of the Transport Connected Bus (TCB) Program, to give regional bus customers the information they need to make informed travel choices; and provide regional bus operators and TfNSW with the right information and tools to improve regional bus services.

The new technology will:

- enable regional bus customers to make more informed travel choices; customers can use websites and apps to plan their journeys, and access real-time information to find out when buses will arrive and an indication of vehicle occupancy
- provide regional bus operators with the right tools to connect with customers, manage operations and keep services running on time; and
- give TfNSW data to support key business activities.

Phase 3 of the TCB Program will deliver connected vehicle technology on approximately 1800 buses providing regular and school services across regional NSW with vehicle tracking, automatic passenger counting, and service analytics and reporting.

What are the key components of the TCB solution?

Bus hardware installation

Core technology components

Installed on bus:

- Vehicle computer
- Driver console
- Automated Passenger Counter (APC)

Accessed via Windows computer

- Traffic Studio application

Installations take approx. **4 hours per bus**
(dependent on vehicle/install team)

Onboard computer

Automatic passenger counter

Driver console

Traffic Studio

The best time to raise installation issues is while the install teams are still onsite

Component	Function
On-board computer (including, GPS tracking unit)	Automatically collects and relays service information such as location, time, speed, direction, kilometres travelled, number of passengers on-board, and ignition status.
Driver Console (Driver interface)	The user-friendly driver interface provides drivers with: <ul style="list-style-type: none"> • Easy login • Electronic pre-departure checks • Simple shift selection • Navigation support • On-time running indicator • Two-way text messaging • Ability to record cause for a timetable deviation; and • Ability to cancel a trip/stop (if instructed to do so by the depot). <p>Note: When the bus is in motion, the driver will be unable to interact with the Driver Console for safety reasons.</p>

<p>Traffic Studio Application (Operator interface)</p>	<p>The new Windows-based Operator Portal allows Operators to:</p> <ul style="list-style-type: none"> • View vehicles in real-time on the map • Broadcast announcements and targeted messages to drivers • Cancel specific stops or whole journeys • Generate reports that assist with TfNSW reporting; and • Set up driver IDs to manage driver access to the Driver Console.
<p>Automatic Passenger Counter</p>	<p>The Automatic Passenger is mounted above each vehicle door to automatically record the number of passengers boarding and alighting at each stop while the engine is on.</p>

What will Operators be required to do?

Operators will need to:

- log into the Traffic Studio application (Operator interface)
- input driver details into the system (first name, last name, employee ID)
- monitor vehicles using a real-time map
- view historical data to support resolution of customer complaints and enquiries
- cancel trips where applicable (including partial cancellations)
- generate reports in the Traffic Studio application to collect data for contractual reporting; and
- support their drivers in how to operate the Driver Console.

What will drivers be required to do?

Drivers will need to:

- log into the Driver Console
- complete electronic pre-departure checks
- select shift and/or trip
- complete electronic post-shift checks; and
- log off the Driver Console.

Note: Driver training material and an easy-to-follow Quick Reference Guide on how to complete these tasks are available on the [Transport Connected Bus website](#).

What are the benefits for Operators?

- **Improved visibility of buses in historical and real-time data** – Live fleet maps allow Operators to track the location of each bus. You can also view this information after the trip has taken place (e.g., a week later) so that you can address customer queries or to inform service improvements.
- **Support the investigation of customer enquiries** – Bus Operators can use Traffic Studio to generate reports and view information to investigate events to support customer enquiries.
- **Improved driver support** – New drivers can use the onboard route map feature to follow their route.
- **Improved operations to driver communication** – Text messages can be sent between operators and drivers. Announcements can also be broadcast to the whole fleet, allowing for more streamlined communication during operations and improved situational awareness.
- **New data available to improve services** – You will have access to new service insights that will help streamline operations, improve customer safety, keep services running on time, and improve future service planning.
- **Improved communication with customers** – Customers will be able to access online timetables and real-time trip updates (predicted departure time and an indication of bus occupancy) via TfNSW digital channels (including transportnsw.info) and third-party transport apps.

Note: A list of transport apps are available at transportnsw.info/apps.

Driver Console

What will drivers see on the Driver Console screen?

The Driver Console will allow drivers to:

- view on-time running indicator (how early or late they are running)
- follow map-based route navigation; and
- view and reply to text messages sent from Control Centre (Operator). **This functionality will only be accessible when the bus is stationary.*

Note: Driver Console training material is available on the [Transport Connected Bus website](#).

Is operating the Driver Console difficult?

The Driver Console is designed to be easy to navigate and accessible for all users. The [training material](#) will equip you with the knowledge you need to confidently use the Driver Console.

Can the Driver Console handle harsh conditions – dust, dirt roads, heat, frost etc.?

TfNSW mandated the Driver Console must meet dust, shock, moisture, and heat requirements. The hardware has been designed to tolerate long-term use and operate in extreme conditions.

Currently, the TCB hardware is installed in very cold climates such as Canada and very hot climates such as Abu Dhabi. The device must be independently wired/isolated from other devices on-board to minimise electrical interference.

How will the Driver Console be mounted? On a cradle? Will it be secure?

The hardware is securely fitted with brackets and is either flush or surface mounted depending on the bus body type. The vendor will discuss the best position to mount the Driver Console with Operators, ensuring it meets safety standards.

Does the Driver Console need to be charged?

No, the Driver Console will be directly connected to the vehicle power; the Driver Console will automatically power up when the engine is switched on.

Vehicle Tracking

How will the vehicle-tracking technology work?

A Global Positioning System (GPS) tracking device is mounted on each vehicle and will automatically collect information about the bus; its location, predicted arrival time at a stop, and indication of bus occupancy. This information will be relayed to the Operator, TfNSW and customers in real-time.

Real-time tracking provides customers with up-to-date service information via the [TfNSW Trip Planner website](#) and other third-party transport apps. This enables customers to have access to information that can be used to help them decide how to make the most of their rural and regional bus service.

What happens if the vehicle is in a black spot (i.e., no network coverage)?

- Real-time vehicle tracking information will only be available when there is 4G network coverage. Where there is no network coverage available, the data will be stored locally on the vehicle computer. This data will be shared when the vehicle re-enters an area with network coverage. No data will be lost.
- When a vehicle is in a “black spot”, customers will not have access to real-time information for this service via website and apps. Instead, they will see a message that states, “Real-time information not available.”
- Historical trip information such as the time the bus arrived at a stop or how many passengers boarded or alighted at a stop will be automatically stored in a database enabling Bus Operators and TfNSW to view and use it for reporting purposes.
- Although "black spots" may be frequent in regional areas and particularly in remote areas, the amount of network coverage required to send real-time trip updates is small i.e., less than what is required to make a phone call. Intermittent real-time updates provide customers with a better picture of a vehicle's location rather than no information at all.

Will vehicle tracking information only be recorded when a driver is completing a contracted bus service route?

Vehicle tracking information is always recorded when the engine is switched on.

Note: Operators can select ‘charter’ for all non-TfNSW trips; ‘charter’ information will not be included in performance reporting or passed to customer information channels.

Can I view the location of a vehicle if the driver has not logged in? For example, when a bus is being relocated for repairs or being taken for a test drive with a mechanic?

Yes, vehicle tracking information is always recorded when the engine is switched on, even when a driver has not logged in. Operators can track a vehicle's location in real-time using Traffic Studio.

Note: Real-time tracking information will not be available to customers when a driver has not logged in and has not selected the shift.

Can I locate the position of a vehicle in the yard if the vehicle is switched off?

Vehicle tracking is only enabled when the vehicle is switched on. After ignition has been switched off, Traffic Studio will show the last location of the vehicle prior to ignition being switched off.

Does a driver still need to complete all stops on a scheduled school trip if no students are on board?

Bus operators are contractually obliged to complete the entire route as per the contract as other customers may wish to board. Contact your Contract Manager to discuss changed routes and stops.

Note: School trips will be listed as available travel options on the [TfNSW Trip Planner website](#) and other third-party transport apps.

By default, customers will not have school trips included in their search results within the [TfNSW Trip Planner](#). Customers will need to update their settings to include school trips in the search results.

Families are constantly moving in and out of the district. If I know that no one is going to be at that stop, do my drivers still need to stop there?

If you are aware that a particular stop will not be used during a certain period, please discuss with your Contract Manager. If it has been agreed this stop will no longer be serviced, the stop will no longer be displayed on the [TfNSW Trip Planner website](#) or other third-party transport apps.

Traffic Studio (Operator interface)

Can Operators see the buses being tracked on their PC/laptop/tablet? If yes, what software/program is required and do Operators require a special login?

Operators that have been provisioned with access to Traffic Studio can access it via a Windows PC or laptop using their assigned login details.

Note: Traffic Studio will only work on a Windows platform, not a Mac-based system.

Automatic Passenger Counting

How will the passenger-counting technology work?

The Automatic Passenger Counter (APC) is mounted above each vehicle door and automatically records the number of passengers boarding and alighting at each stop while the engine is on. This information is stored for reporting purposes. Where network coverage is available, customers can see an indicator of the occupancy level of the bus on the [TfNSW Trip Planner website](#) and other third-party transport apps.

Note: The customer-facing occupancy indicator shows: low, medium and high, not the number of passengers onboard.

Does the passenger counter differentiate between adults and students?

The APC does not differentiate between adults and students. The APC provides raw individual counts of passengers boarding and alighting at each stop. Where connectivity is available, the real-time occupancy information will be shared with customers via digital channels such as the [TfNSW Trip Planner website](#) and other third-party apps.

Does the driver need to switch on the Automatic Passenger Counter?

The APC technology will automatically turn on and count passengers boarding and alighting when the engine is switched on. The driver can view the passenger boarding and alighting counts in real-time on the Driver Console.

Note: Drivers must select the correct shift and/or trip prior to arriving at the first stop and before allowing passengers to board the vehicle. This ensures all boarding/alighting counts are recorded within the acceptable 10% variation. If the shift or trip is selected after passengers are already on-board the passenger count for 'alighted' may appear as a negative value when those passengers eventually alight from the vehicle.

Will passengers be counted when the engine is off?

The APC is only active when the bus engine is switched on.

Does the automatic passenger counter get reset?

Yes, the counter automatically resets when the vehicle arrives at the first stop of the trip.

Will the Automatic Passenger Counter record the number of passengers when the vehicle is completing a non-TfNSW contracted trip, for example, when completing a charter service?

Yes, the APC records the number of passengers whenever the engine is switched on - this includes non-contracted work such as charter services.

Do door types impact the Automatic Passenger Counter?

The door type has minimal impact to passenger counting as the APC can be configured to suit different door types. There will be minor impact to accuracy on doors with a lower clearance height, but this has been deemed negligible.

What should the driver do if they notice that the passenger counts are not accurately displayed on the Driver Console?

If the passenger count on the Driver Console consistently displays a variance of greater than 10%, the Operator should [raise a ticket via OT Connect](#).

How accurate is the Automatic Passenger Counter (APC)?

The APC technology will automatically collect counts for passengers boarding and alighting at each stop. This will enhance the overall customer experience providing our regional customers with real-time indication of bus capacity.

Transport for NSW sees this tool as a vital and enhanced mechanism to ensure customers are getting the best service possible.

The commercially agreed threshold with our sub-contractor is at 90% target.

How will the data collected from the APC be used?

The occupancy data generated by the APC will allow Operators the flexibility to match their fleet capacity to transport demand.

Can the TCB passenger counts be corrected if there is evidence that the numbers are not accurate?

There is currently no mechanism for the Driver or Operator to manually adjust the passenger count if it is incorrect. If the average count consistently shows a variance of greater than 10%, Bus Operators should:

- email TCB.Team@transport.nsw.gov.au if you are not yet live with TCB; or
- [raise a ticket via OT Connect](#) if you are already live with TCB.

Will the Automatic Passenger Counter indicate if a child was left on a bus?

The passenger count indicator on the Driver Console will indicate how many passengers are currently on board and how many boarded and alighted at the last stop. This should be used as a guide only. For customer safety precautions, drivers should continue to follow their existing post-trip/shift checks at the end of the trip, such as completing a visual check for remaining passengers.

Breakdowns and Spares

Will operators be given spare units or components in the case that one may be faulty?

No spare parts or units will be provided. To request a replacement, [raise a ticket via OT Connect](#). The vendor will hold small levels of stock locally and will proactively detect device faults remotely.

Service Level Agreements are in place to monitor how quickly devices are replaced when requested. The hardware is robust with a very low failure rate, so we do not anticipate failures or replacements to be a regular requirement.

What if a bus breaks down and I need to use a non-contracted spare vehicle that does not have the TCB equipment installed? Can the TCB equipment be easily moved to a spare bus? Will I be required to collect any data manually for reporting purposes during this period?

Unfortunately, the Driver Console, computer and APC cannot be swapped out for temporary use in another vehicle while the contracted bus is out of service.

The Driver Console, computer and APC will stay on the bus and there will be no data collected from the bus until it is back in service. If the screen is faulty (blacked out), the device will still track and send vehicle location information.

TfNSW acknowledges that there will be a data outage if a non-contracted spare vehicle is used while a contracted vehicle is out of service. Operators will be required to revert to manual data collection methods for reporting purposes during this period. During this time, customers will continue to see scheduled data, but will not receive any real-time updates.

Operators should inform their respective Contract Manager or Commercial Manager if using a non-contracted spare vehicle.

Note: Contracted spares will be fitted with the TCB technology if they have been identified as part of the installation process.

Data Usage and Customer Information

What is TfNSW planning to do with the data that is collected?

Any service data collected may be used to:

- support service performance, e.g., on-time running reporting
- provide real-time situational awareness e.g., locate a vehicle in an emergency
- inform future service planning
- provide customers with up-to-date service information via online transport planning websites/apps
- assist the identification of constraints and/or opportunities in service delivery; and
- help TfNSW identify industry-wide issues that may assist the development of future strategy.

If school services are made visible as available travel options for regular passengers in Trip Planner, will I need to start carrying a fare box on these services?

If you will be taking fares from non-student passengers that catch school services, then yes, you will be required to carry a fare box and provide a receipt as per the Passenger Transport (General) Regulation 2017.

Note: There have been no changes to the policies regarding which passengers can catch a school service.

Can other Operators see my vehicles and data?

Operators can only view their own vehicles and real-time data in Traffic Studio. However, Operators can see planned trip data for other Operators available to the public via Trip Planner and other third-party transport apps.

Installs and Decommissioning

Will new buses procured from the TfNSW bus procurement panel or NSW Government pre-qualification scheme be fitted with TCB equipment before they are delivered to the Operator?

At this stage, only vehicles identified as part of TCB Phase 3 will be retrofitted with the TCB solution. In the future, it is intended that new vehicles procured via the TfNSW Bus Procurement Panel and the NSW Government pre-qualification scheme will be fitted with the TCB equipment before delivery to the Operator.

What happens to the TCB equipment when a bus is retired from service?

The TCB program is currently defining the decommissioning process. Further information will be provided soon. If your vehicle has been fitted with the TCB solution and will be retired shortly, please contact your Contract Manager as soon as possible.

Can I arrange my own technician to repair or move the technology installed on the bus?

The Driver Console is permanently mounted to the vehicle and can only be repaired or removed by a TfNSW approved technician. For issues with the Driver Console, document the issues in detail (i.e., a description of the issue, dates, times and route/shift the issue occurred on):

- email TCB.Team@transport.nsw.gov.au if you are not yet live with TCB; or
- [raise a ticket via OT Connect](#) if you are already live with TCB.

Maintenance & Faults

What do Operators need to do if the TCB equipment fails?

On return to the depot, Drivers need to report the fault to their supervisor, document the issues in as much detail as possible (i.e., a description of the issue, dates, times and route/shift the issue occurred on) and:

- email TCB.Team@transport.nsw.gov.au if you are not yet live with TCB; or
- [raise a ticket via OT Connect](#) if you are already live with TCB.

Will Operators be responsible for maintaining the technology installed? Will an operations and maintenance manual be provided for each system being installed?

Operators are not responsible for maintaining the TCB technology, except for keeping the surface of the hardware clean from dust and debris. A full routine maintenance will be performed by the technology partner regularly to ensure the device is kept in good condition for the life of the system. No maintenance manual will be supplied. If a fault or issues is detected, Operators will be required to:

- email TCB.Team@transport.nsw.gov.au if you are not yet live with TCB; or
- [raise a ticket via OT Connect](#) if you are already live with TCB.

Reporting

What type of reporting is available?

Traffic Studio includes route and trip-based reporting allowing Operators to view trip-specific data and historical reports. A full list of available reports will be covered during Traffic Studio training.

Will contract reports no longer be required due to data being available to TfNSW directly from TCB?

There will be no change to the current Rural and Regional Bus Service Contracts (RRBSC) reporting requirements or process in the short-term. Operators will continue to submit their contractual reports via the ODIN application as per the current requirements.

TCB will provide Operators with access to automatically collected data that may supplement other data sources for self-reporting.

Driver & Operator Staff Support

What TCB training will be provided by TfNSW (or its contractors) for Drivers and Operators?

Operators will be supported with training and support materials.

These materials include:

- training for Operators, delivered remotely via webinar
- opportunity for guided hands-on practice in Traffic Studio
- quick reference guides; and
- video tutorials.

Who do I contact if I have more questions?

If you have any questions or concerns:

- email TCB.Team@transport.nsw.gov.au if you are not yet live with TCB; or
- [raise a ticket via OT Connect](#) if you are already live with TCB.