Guidelines for suppliers of in-vehicle security camera systems for taxis in New Zealand

February 2014





TERMS AND DEFINITIONS

The following terms and definitions are used in this document.

TERM	DEFINITION
Agency (the Agency)	The NZ Transport Agency
AS4806.2	Australian standard for CCTV including facial recognition
ATO	Approved Taxi Organisation as defined in section 2 of the Land Transport Act 1998
Camera tester and certifier	A person or organisation recognised by the Agency as having the necessary expertise to test taxi camera systems to meet the Agency's requirements and certify that the system is fit for purpose
DC (in relation to camera system voltage)	Direct current, supplied by the battery fitted to the taxi (normally this will be a 12-volt supply)
Event	The capture of a single image by a taxi camera. Taxi camera systems must record all images for at least 168 hours after each image is captured (each event).
Fault mode	The system is not fully operational, or is completely inoperable.
Images	The recorded images that show the facial image of all people seated in the taxi in each of the different seating positions. This includes the driver and any passengers who may be seated in a wheelchair in a wheelchair capable taxi.
LED	Light emitting diode
Non-volatile memory	Computer memory that can retain stored information even when not powered.
Operating mode	The camera system is operating normally and capturing images
Off mode	The camera system is not recording images and most camera functions are inoperative, except for monitoring the vehicle ignition
Primary functions	The minimum functions the in-vehicle security camera system must be capable of as shown in Schedule 6 of the Rule
Registration number (of the taxi)	The number shown on the number plates of the taxi in which the camera system is fitted (not the fleet number allocated by the ATO to the taxi)
Sleep mode	Images are not being captured. Sleep mode may be entered no sooner than 30 minutes after the ignition has been switched off. This is where all camera system functions have shut down. During sleep mode the camera system is not capturing images.
Specialised tools	A tool that is not routinely available to the general public. For example, not flat or crosshead (Phillips or PoziDriv) screwdrivers, hex (Allen) keys, or spanners/sockets
Supplier	Any person or organisation who supplies a taxi camera system for use in a taxi in New Zealand.
Target	Is a normally seated driver or passenger in any seating position inside the taxi
Taxi (As defined in the Land Transport Act 1998)	 a motor vehicle that is— (a) a small passenger service vehicle; and (b) fitted with a sign on its roof displaying the word "taxi" and any other signs required by the regulations or the rules; and (c) in use or available for use for hire or reward for the carriage of passengers other than on defined routes
Taxi camera system (the system)	Includes a camera and its mounting, cables, assemblies, storage media and other components that are essential to make a system fully operational and to keep working as required by the Rule
Taxi service (As defined in the Land Transport Act 1998)	Means a passenger service carried on by means of a taxi or taxis
The Rule	Land Transport Rule: Operator Licensing 2007 and any amendments
Timely manner	When requested by the Police investigating alleged criminal activity the camera images are to be made available within four hours of the request being made
Unauthorised access	Access by any person who is not authorised in the ATO rules to access camera material under clause 4A.3(3), 4A.3(4), or 4A.3(5) of the Rule

GUIDELINES FOR APPLICANTS

These guidelines:

- Are not the source of the legal obligations relating to security camera systems. (See the Rule for the full legal obligations).
- 2. Give potential suppliers of in-vehicle security camera systems the relevant information together with the expectations of the Transport Agency for a taxi camera system to ensure that it meets the function and design requirements required by the Rule.
- 3. Explain the process for making an application for approval of a system.
- 4. Explain the general conditions that will apply to all approvals.

Potential suppliers are responsible for ensuring that any application for the approval of a system relies on the most current version of these guidelines.

2. INTRODUCTION

The Rule requires taxis operating in specified locations throughout New Zealand to be fitted with approved in-vehicle security camera systems.

Taxis operated in those areas where these systems are required include a variety of makes/models and types of vehicle. Types of vehicles include sedans, station wagons, people movers and vans. Systems must be adaptable for all of these.

It is an offence for:

- I. A taxi driver to accept a hire in any of the areas specified if the taxi is not fitted with an approved operating in-vehicle security camera system.
- II. A person to require a taxi to accept a hire in one of the areas specified unless it is fitted with an approved operating in-vehicle security camera system.
- III. An ATO not to ensure a taxi is fitted with an approved in-vehicle taxi security camera system that is fit for purpose.

3. AREAS WHERE IN-VEHICLE SECURITY CAMERA SYSTEMS MUST BE FITTED

These are as shown in Schedule 5 of the Rule. The Rule is available on-line at http://www.nzta.govt. nz/resources/rules/operator-licensing-2007-index.html

4. APPROVAL

The Agency is responsible for approving taxi security camera systems.

There is no limit on the number of systems the Agency may approve.

The Agency does not approve suppliers of in-vehicle taxi security camera systems.

It does however have high expectations of the fitness and propriety of the organisations and individuals that supply these systems for use by the New Zealand taxi industry.

The Agency does not have any preference over what type, makes and/or models of systems are fitted to taxis.

It cannot direct a taxi operator or taxi service provider to purchase a particular system. They are free to choose any system that is approved for use in New Zealand.

5. ENQUIRIES

Any enquires about the content of these guidelines or taxi cameras in general can be made to taxicameras@nzta.govt.nz

6. TAXI SECURITY CAMERA SYSTEM TO BE **INDEPENDENTLY TESTED**

The proposed camera system must be sent to an independent person or organisation who is suitably qualified to assess the system and test it as "fit for purpose", being compliant with the legal requirements set out in the Rule. (See Section 3 of the Application for Approval of an In-vehicle Taxi Camera Security System for New Zealand)

If the proposed system is deemed to be "fit for purpose" after the testing process, the tester will issue a certificate (a letter) to that affect and provide a report of how the system was tested to meet the requirements.

All costs associated with this testing process must be met by the applicant person or organisation that is seeking approval of their system.

A copy of the test certificate and report is to be sent directly to the Agency by the tester as part of the application for the systems approval. Another copy is to be provided to the applicant person or organisation.

7. MINIMUM FUNCTION AND DESIGN FEATURES OF IN-VEHICLE TAXI SECURITY CAMERA **SYSTEMS**

Schedule 6 of the Rule contains the minimum functional requirements for an in-vehicle taxi security camera system.

The expectations of the Agency as to how camera systems should meet these requirements are detailed in the following pages.

Despite a system meeting or not meeting the listed expectations, the Agency reserves the right to approve or withhold approval of a particular system. Withholding an approval could occur, for example, where the Agency is not satisfied the system is authentic. In this situation the Agency will seek further information from the supplier before proceeding.

RULE REQUIREMENTS

The camera system must record and securely store images and enable the retrieval of those images for copying, viewing and printing.

(To be confirmed by independent certifier)

COMPLIANCE TO BE MET BY

Operating conditions

The camera system must:

- i. Be able to operate within the typical temperature ranges experienced in New Zealand; and
- ii. Be able to operate satisfactorily within a voltage range of 8-9 volts DC to 18 volts DC; and
- iii. Must be of a sufficiently robust design to resist wilful damage, and
- iv. Withstand normal vibrations occurring in a vehicle; and
- v. Be able to maintain Operating Mode continuously; and
- vi. In Off mode, enter Operating Mode within 30 seconds of the vehicle ignition being turned on, or power being supplied to the system; and
- In Sleep Mode take no more than 3 seconds to enter operating mode.
- ii. In Sleep Mode take no more than 3 seconds to enter operating mode.

A camera system may enter sleep mode or stop recording images (enter Off Mode) no sooner than 30 minutes after the vehicle ignition has been switched off. (Sleep mode is optional.)

The storage and deletion of images must be fully automated. Where images are stored on board the vehicle, the storage medium must automatically commence re-recording when it has reached capacity. The oldest images must be overwritten first.

A camera system may store images remotely. If this option is chosen, the remote storage function must include an automated encrypted transmission.

Images must be retained in the vehicle until confirmation is received by the camera system that the transmitted images have been received at the remote location. An out-of-vehicle storage system must demonstrate to the Agency's satisfaction how image retention and storage will meet the requirements regardless of failures in any communication equipment; or outages or lack of coverage in the communications network.

Images must be stored with a minimum of 256 greyscale levels.

All memory used in a camera system must be non-volatile.

To avoid loss of data due to vehicle vibration all file storage is to be solid state.

No system is to rely on easily removable storage media as this would not achieve satisfactory protection from unauthorised access. It also poses a risk to image retention. Storage media, such as SD cards, must be secured within the DVR cabinet by security screws or other such fastenings that prohibit easy access.

For testing and operational purposes a secure way to view images must be made available for a person to download and view images.

The system must be designed to allow access to images by authorised persons only and provide adequate security measures to minimise unauthorised access.

All access to the system must be recorded in the system log, and also recorded on a log held by the

The system must include an ability to print images to a standard printer in a timely manner.

- The camera must be designed to be fitted inside a taxi in a position that:
 - (a) is clearly visible to persons seated in the vehicle; and
 - (b) enables it to record the faces of all persons seated in the taxi.

(To be confirmed by independent certifier) The camera lens unit must be designed to be mounted in a position inside the taxi where it is clearly visible to all people seated inside the taxi.

Recorded images must show the facial images of all people seated in the taxi in all seating positions. This includes the driver and any passengers who may be seated in a wheelchair in a wheelchair capable taxi.

For some taxis this may require the installation of more than one camera lens.

The system must not make audio recordings of conversations or similar activity inside the taxi.

The recorded images must The recorded imagines must show the facial images of all people seated in the taxi in any seating be of a sufficient quality to position including the driver. enable facial identification Images must be captured in all light conditions including complete darkness. of all occupants seated Images are to be of ample clarity and resolution so as to provide facial Identification of the target in the taxi, in all lighting as defined in Australian Standard AS4806.2, or confirmed by use of the Agency's test cards, conditions including available from the Agency on request. complete darkness. Sufficient quality of images is best achieved by the camera system capturing monochrome images. (To be confirmed by Colour images are permitted provided they meet an equivalent image resolution and quality to a independent certifier) monochrome camera in normal lighting conditions and the camera reverts to monochrome in low light conditions. A test of the quality of the images captured by the system is to be included with the application for camera system approval. The camera system must When the camera is in Operating Mode, the camera system must capture images at a minimum of record images at a rate one (1) image per second, independent of any external trigger. of at least one image per Additional recording by other triggers is allowable. second. (To be confirmed by independent certifier) All images must be time and date stamped, stamped with the registration number of the taxi to The recorded images which the camera is fitted and identification of the camera that took the image. This stamping must contain a unique and unambiguous must be located on the printed image so as not to interfere with the image target. identification of the The Agency must be satisfied as to the means of ensuring stamping, as outlined above, is accurate camera, the taxi it belongs at all times. to, and accurate time and The time stamp is to be taken from a Real Time Clock (RTC) built into the taxi camera system and date information. must automatically compensate for time changes (Daylight saving). (To be confirmed by Alterations to the RTC are to be recorded in the system activity record. independent certifier) The camera system must The Agency approves a system only. be permanently marked All physical components of the system are to be clearly and permanently identified as part of an with a unique means of approved system with sequential serial numbers and either the supplier's initials or the model identification. number of the system applied by engraving or laser etching. Paper based sticker or temporary (To be confirmed by identification is not acceptable. independent certifier and Applied either by engraving or laser etching. Paper sticker based identification is not acceptable signed declaration by the applicant) The camera system must store all images for a minimum period of 168 hours. This will require a The camera system must be capable of storing 16GB storage medium as a bare minimum, with 32GB preferred. images for at least 168 If the system is dependent on "operating hours" to over-write information, sufficient "operating hours. hours" of data must be stored before it is overwritten to ensure that any image recorded is (To be confirmed by available up to 168 hours after the event. independent certifier) Upon startup the system must test that a suitable storage medium is installed. If the storage medium has been removed or is not installed - (Display a **red** light). The camera system must The camera system must include a self-test process that automatically detects and reports when undertake regular selfthe system is not operating correctly. The self test must include a test for lack of image from the testing in order to check camera. that it is recording and If a fault is detected the system must automatically enter fault mode (display a red light). storing images. (To be confirmed by independent certifier)

The camera must have a system status indicator, that is clearly visible to the vehicle's driver and that indicates when the system is operating and when the system has detected that it is not recording or storing images or both.

(To be confirmed by independent certifier)

The system must have the following modes:

- 1. **Operating mode**, (Camera system is operating normally and capturing images); and
- 2. **Fault mode**, (The system is not fully operational, or is completely inoperable); and
- 3. **Off mode**; (The camera system is not recording images and most camera system functions are inoperative except for monitoring the vehicle ignition).

The system may also include a sleep mode.

Modes are to be indicated on the camera and must be visible to a person sitting in the driver's seat. LED Indicators are to be used to indicate the mode each camera is in.

These indicators are to be-

- I. Operating mode: **green** or **blue**. Green is preferred. (No red light is to be visible).
- II. Fault Mode: **Red flashing** (no green or blue light is to be visible)
- III. Off Mode: No lights are to be visible

Optional Sleep Mode; no specific colour but must not be red, green or blue

Where the system cannot capture images it must enter fault mode. Reasons for entering fault mode may include but are not limited to:

- Camera is not capturing images; or
- ii. System is not storing images.

In **fault mode**, where possible, images must continue to be recorded and stored.

Other indicator lights may be used, in addition to those required, to demonstrate other functionality, but not instead of. The meaning of other indicator lights must be clearly explained in the camera system operating instructions.

Note: The status indicator must be connected to and powered through the camera system, and not be wired to a separate source of power, such as directly to the vehicle's battery.

The camera system must create an automatic log of activity including accessing of recorded material and modifying settings.

> (To be confirmed by independent certifier)

The system must allow a detailed review of auditable events and actions and support diagnostic analysis of errors and system integrity. This review must include a chronological record of changes in system status and shall include logging any:

- 1. Downloading of images stored in the camera system; and
- 2. Setting or changing of system parameters, including the old and new values of the changed parameter; and
- 3. Any mode changes.
- 4. In the event of a loss of permanent power the system must record 'power off + time +date + last recorded GPS location'.

All log files must be permanent and unable to be modified.

The recorded images must be protected from unauthorised access.

> (To be confirmed by independent certifier)

In order to meet obligations under the Rule and the Privacy Act 1993 the system must provide suitable safeguards to prevent unauthorised access to any of the images recorded and/or stored in the taxi camera system.

The storage media should be protected from removal by an access cover that requires, as a minimum, security type screws, such as Snake-eye, Phillips pinhead, socket pinhead, Tri-wing, Torx pinhead, or similar, which will require a specialised tool to remove. Simple type screw heads are not adequate.

Note: Storage medium, such as SD cards, must be secured within the DVR cabinet by security screws or other such fastenings that prohibit easy access. They must not be accessible to unauthorised persons.

The camera system must not interfere with other electronic devices or systems likely to be found in a taxi and must not be adversely affected by a vehicle's electrical system.

> (To be confirmed by independent certifier)

The taxi camera system must not interfere in any way with other electronic devices or systems likely to be found in a taxi.

The system, including recording, storage and retrieval of images must not be negatively impacted in any way by the presence of other electronic systems found or likely to be found in a taxi.

It must not give off any electromagnetic interference that causes issues for other equipment.

13 The camera system must meet all operating requirements, including storage of images, without the need for any manual processes during normal operation.

(To confirmed by independent certifier)

All operating parameters of a taxi camera system must be automatic. This includes providing power to the system to activate it.

The system must not be fitted with any:

- a) Switches or similar devices that require manual operation by the driver before the system starts to work.
- b) Devices that could prevent the system from undertaking its automatic functions.

Additional functions

Taxi camera systems may include other functions that are not covered by in the list above.

Any additional functions must be noted in the application form.

Additional functions must not interfere in any way with the primary functions of the taxi camera system.

8. THE APPROVAL PROCESS

The Agency will accept applications for a system approval on the approved application form only. Applications together with the appropriate fee must be sent to the Agency at the address shown on the form. Email applications will not be accepted.

All questions asked in the application form must be answered. No application will be processed if the system has not been tested and issued with a compliance test certificate and report by an acceptable person or organisation.

Application forms can be requested by email from taxicameras@nzta.govt.nz

The Agency will process all applications in the order they are received and as swiftly as it can. Our ability to do so is dependent on the number of applications received and other factors. Our intention is to process applications within ten working days from the date when a complete application is received. Incomplete applications, including non-attachment of requested documents, and non-payment of fees, will delay consideration of applications and the application may be returned to the applicant.

When considering any application the Agency may request additional information from the applicant. The Agency may request to view the proposed system in operation when considering an application.

9. APPLICATION FEES

A fee of \$118.30 per hour (including GST) is payable to the Agency for assessing and processing an application. All applications must be accompanied by a fee equivalent to two (2) hours of time, (\$236.60). Non-payment will delay consideration of an application.

The NZTA will maintain a record of time spent processing your application; and if it takes more than two hours, we will contact you with an estimate of the amount of extra time (above 2 hours) that will be required.

If all information is supplied to the Agency as requested, and the system is fully compliant, no further fees should be payable. If information is incomplete or ambiguous or presents the Agency with additional work the fees payable may increase. If you elect to withdraw your application or we decline your application having spent no more than two hours assessing it, we will refund an amount equivalent to any unused portion of your application fee to the nearest hour.

Payment must accompany this application and should be by cheque and made out to the NZ Transport Agency.

10. UNPAID APPLICATION FEES

Consideration of an application will be delayed if the application fees are not paid.

11. THE APPLICATION FORM

The Agency will only consider applications for taxi camera system approval on the approved forms that it provides.

The application form includes a declaration to be signed by the applicant.

12. APPROVAL OR NON-APPROVAL OF AN **APPLICATION**

The Agency will tell you, in writing, if your application has been approved or if the Agency intends to decline your application. If the application is declined you will be told the reasons why and be given an opportunity to amend your application. Declined applications remain valid for only three (3) months from the date the application is declined. After three months the application will be deemed to have lapsed and a further full application will have to be made. This will include the payment of a further application fee.

If the Agency intends to decline your application you will also be told of your options to appeal the decision under section 106 of the Land Transport Act 1998.

If your application is approved, your camera system will be added to the list of approved systems on the Agency's website, http://www.nzta.govt.nz/commercial/passenger/security-cameras.html Note: The Agency will only list approved systems on its website, not details of suppliers.

13. GENERAL CONDITIONS OF APPROVAL

An approved application may include a number of general conditions. These may include all or some of those shown below.

Before an application is approved the Agency must be satisfied the conditions of any approval can be

Intending applicants should read and understand these conditions before making their application. Failure to comply with any of the conditions of approval could result in the Agency revoking the approval.

The installation

The installation must:

- Ensure the camera system is installed in a professional manner and, tested and certified in accordance to the manufacturer's specifications.
- 2. Ensure the installation is undertaken by a suitably qualified technician who is approved to install the camera system by the supplier such as a security technician, as defined in the Private Security Personnel and Private Investigators Act, or a qualified Automotive Electrical Engineer with related security system experience.
- 3. Be installed in such a way to resist vandalism and/or accidental damage of any images.
- 4. Not include any switches, excluding the ignition/engine start switch, easily removable fuses or any other such device inside the passenger area of the taxi that could be used to make the taxi camera system inoperable or interfere in any way with the taxi camera system's fitness for purpose.
- 5. Ensure all cabling associated with the camera system is concealed, tamper proof and vandal resistant as far as practicable.
- 6. Be protected from any electromagnetic influence generated by other electrical equipment in the taxi.

- 7. Not emit any electromagnetic influence that could affect other electrical equipment fitted to the
- 8. Require specialised tools for access to the storage medium and for the removal of the various parts of the system so as to protect the entire camera system from unauthorised access and/or
- 9. Disable or make inoperable any provision the camera system may have to make audio recordings in a taxi.

Supply of information and operating instructions

The supplier must:

- 1. Provide the approved installer with sufficient installation instructions that enable the system to be installed and operate correctly. (This may be an electronic file).
- 2. Supply operating instructions for each taxi, one for each system installed. These must be produced in such a way that recognises English is a second language for many taxi operators and/or drivers. The instructions must be able to fit easily in the glove box of vehicles commonly used as taxis and must include:
 - I. How to operate the system
 - II. Explanations of the indicator lights and what they indicate
 - III. What action to take in the event the system displays a fault warning light
- 3. Provide instructions and training to manage the system, including downloading of images, to each of the approved taxi organisations whose taxis operates the camera system(s) supplied.

Maintenance and after sales support

Taxis operating in the areas where taxi security camera systems are required operate 24 hours a day 7 days a week. The camera system must be operational during these periods. The supplier must provide and maintain an after sales support and maintenance service that recognise this level of public service and reduces the time a taxi may be unserviceable due to a fault in a camera system.

Approved system identification

The supplier must ensure that each system supplied is engraved or etched with the approval number supplied by the Agency when the system is approved and other unique identifying marks that will identify each system from another. E.g. Make of system (could be the initials)/model/sequential serial number/NZTA approval number

This identification must be engraved on the outside of all components of the system in a place that is visible to an enforcement officer inspecting the system.

The engraving shall be sufficiently large to enable it to be easily read.

14. INSTALLING THE APPROVED TAXI CAMERA **SYSTEM**

The Agency's strong preference is for camera suppliers to manage the installation process.

If the supplier is not managing the installation process they must ensure the installation conditions (see 14. above), will be complied with.

When considering an application, the Agency may request the applicant to provide details of how it proposes to comply with the installation conditions.

15. CONSUMER PROTECTION

The relevant sections of the Fair Trading Act 1986 and the Consumer Guarantees Act 1993 that apply to the supply and installation of devices such as taxi cameras in New Zealand apply for these systems.



If you have further queries, call our contact centre on 0800 699 000 or write to us:

NZ Transport Agency Private Bag 6995 Wellington 6141

This publication is also available on NZ Transport Agency's website at **www.nzta.govt.nz**



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