



**Road Safety  
Camera  
Commissioner**

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# **ROAD SAFETY CAMERA PROGRAM – MOBILE T- SERIES CAMERA REVIEW**

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**3 September 2020**

The Road Safety Camera Commissioner respectfully acknowledges the Traditional Owners of the land of Victoria and pays respect to their culture and their Elders past, present and emerging.

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## **ACKNOWLEDGEMENTS**

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I would like to thank Ms Karen Batt the Secretary of the CPSU and Ms Lisa Pearce Industrial Organiser, CPSU.

I would also like to thank Ms Corri McKenzie, Deputy Secretary, Police, Fines and Crime Prevention and Mr Craig Howard, Executive Director, Fines and Enforcement Services from the Department of Justice and Community Safety.

## PURPOSE

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- 1 This report is in response to the request of the Minister for Police and Emergency Services (“the Minister”) dated 10 March 2020, to conduct a review of new mobile road safety technology (T-Series). The request is in accordance with s10(c) of the *Road Safety Camera Commissioner Act 2011*.

## BACKGROUND

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- 2 In July 2018, the Department of Justice and Community Safety (“the Department”) entered a contract with Sensys Gatso Australia (SGA) for the supply of T-series Mobile Road Safety Cameras. Type Approval was given following testing of the device by Enex Testlab Pty Ltd a local testing firm. Trials of the cameras were conducted from 14 October 2019 until 11 December 2019. During this trial over 300 sessions were conducted providing some 6,500 incidents for review. Advice from the Department is that no issues were identified during the trial period.
- 3 Approval for enforcement was given on 8 November 2019 with Authority to Enforce provided by Victoria Police on 2 December 2019. The Minister launched the use of the new cameras on 11 December 2019, with enforcement commencing the following day, 12 December 2019. The cameras have operated continually since that date and have not been withdrawn from enforcement.
- 4 Existing Mobile Camera Operators were provided a 3 day conversion training course progressively since roll out of the new devices with the final course conducted in June 2020. New Mobile Camera Operators are provided training on the new device as part of their induction training.
- 5 On Thursday 5 March 2020, Mr Julian Kennelly, Media and Communications Manager, Community and Public Sector Union (“CPSU”) was interviewed by Neil Mitchell on 3AW where he raised concerns on behalf of CPSU members regarding the operation of the new T Series Mobile Speed Cameras. The interview was preceded with comments by Mitchell in the days prior that he had tips from various sources about issues with the cameras. During the interview Mr Kennelly raised a range of issues ranging from technical problems with the setup of the cameras for operators and problems he suggested that would affect the accuracy of the cameras. In addition, he raised a range of concerns on behalf of Mobile Camera Operators ranging from OHS, safety concerns and other work practice issues.
- 6 I received preliminary advice and analysis of the issues raised by Kennelly from the Department on Saturday 7 March 2020 and continued to have discussions with the Department and staff from the Minister for Police and Emergency Services’ office. On

Tuesday 10 March 2020, I received a letter from the Minister requesting, I conduct a review of the issue.

- 7 I was interviewed by Mr Neil Mitchell on Tuesday 10 March 2020 on 3AW. I outlined that I would be conducting a review and indicated on air I would be happy to hear from operators if they wished to come forward.

## **SCOPE OF REVIEW**

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- 8 The issues raised by Mr Kennelly included matters relating to OHS and employment conditions of Mobile Camera Operators. Those issues were not included as part of this review outlined in the letter of request for review from the Minister and are subject to separate management responsibility of the Department. The CPSU have raised concerns with me regarding what they describe as a power imbalance between staff and management at Serco due to zero hour employment contracts. This is an industrial issue which I do not propose to deal with, however, I note the submission of the CPSU that that may have adversely affected Mobile Camera Operators preparedness to come forward.
- 9 Issues that are dealt with under this review include matters that affect the accurate operation of the cameras, the compliance with relevant legislation, regulation and policy and the appropriate maintenance and providence of the equipment prior to operation on each shift.

## **PROCESS OF REVIEW**

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- 10 In the days following the 3AW interview I exchanged correspondence with the Department to establish an agreed list of issues to be considered. On 13 March 2020, I wrote to the Secretary of the Department identifying those issues and seeking advice and providing time to consider their response. I also wrote to the Secretary of the CPSU requesting she provide any further and better particulars she had relating to the issues raised by Kennelly on 3AW. The request to the CPSU was followed up by my office with a series of email and telephone exchanges with CPSU staff.
- 11 I have had 3 meetings with the Secretary and an industrial officer from the CPSU. During these meetings I worked through the range of issues they had raised. Further correspondence was exchanged by email with the CPSU.
- 12 No Mobile Camera Operator contacted my office during this review outside the representation by the CPSU.

- 13** I received a letter of response from the Secretary DJCS dated 3 April 2020 with a comprehensive response to each of the issues raised. Since that date, a series of briefings have been provided to me by the Department which identified further issues which have been included in this Review. I have also been provided with numerous briefings, documents, policies and manuals from the Department which I have reviewed.

## **RESULTS OF REVIEW**

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- 14** Based on the advice I have from the Department and review of briefings and other documents provided I am satisfied that the accuracy of the Road Safety Camera System has not been affected in a substantive way. I am therefore confident that infringements arising from the operation of the T-Series mobile cameras are verified and issued appropriately.
- 15** I have also worked through the issues with the Secretary of the CPSU and I am satisfied that she has accepted my conclusion regarding the accuracy of the Road Safety Camera System.
- 16** However, an observation I would make is that many of the concerns raised by the CPSU in regard to the proper operation of the new T-Series Camera system may have been resolved much earlier had there been greater engagement by the contractor (Serco) and the Department in the change management process. This is a lesson now understood by the Department and efforts are being made to provide clearer manuals and policy references, Fact Sheets and feedback loops for operators to engage them in identifying both the issues and the solutions.

## **KEY ISSUES IDENTIFIED IN THE REVIEW**

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### **CAMERAS SUFFERING DOUBLE DOPPLER AFFECT RISKING INCORRECT SPEED MEASUREMENT OF LARGE VEHICLES**

- 17** Operators had raised concerns that they were on some occasions seeing real time detections of heavy vehicles at up to twice actual speed as they were conducting sessions. They expressed concern that they did not have any opportunity to raise their concerns and were of the belief that motorists were being issued with infringements incorrectly. One example raised was a truck detected at 114km/h in a 60 km/h.
- 18** It is possible that the T-Series will be affected by the double Doppler effect. However, there are two forms of identification of this error within the system to safeguard these detections from moving through to infringement. The first being visible to the operator

on their operating system within the vehicle in real time. The second is contained within the system radar software algorithms. Operators have no visibility nor apparently any awareness of the second filter. This left Operators with the opinion that erroneous detections were being processed within the system.

- 19** In addition to the system filters, Serco is required to conduct strict back of house verification processes before an incident is progressed across to Victoria Police as an infringement. As a final check, any anomaly of a heavy vehicle detected in a session at twice the posted speed should be identified in that process and a determination made as to the accuracy of the detection.
- 20** In order to ensure no errors have been made resulting in the issue of an infringement, the Department has advised that they have conducted an audit of some 200,000 incidents to ensure the systems had been operating accurately. Their advice is that only one incident was identified as affected by this error and that infringement has now been withdrawn.

## **PROPOSED SOLUTION**

- 21** The Department has undertaken to take the following actions: -
  - Work with Serco to implement enhanced review processes for excessive speed incidents to ensure errors do not reoccur.
  - Compile a Fact Sheet for clarification on functional issues for operators.
  - Review training and instructional material and communication updates at Serco to ensure both forms of double Doppler detections are adequately described.
- 22** I accept this advice and support the Department's proposed approach.

## **DIRECTIONS NOT TO COMPLY WITH TESTING OFFICER OPERATING INSTRUCTIONS AND POLICIES AND PROCEDURES - THE 'KERB' ISSUE**

- 23** This is fundamentally an issue surrounding the proper set up of the Camera Car on the side of the road. This relates to the where on the road surface the Camera Car is parked in relation to the kerb.
- 24** There are 3 legislative instruments that relate to the correct set up of the Camera Car in relation to the road surface. These being: -
  - Road Safety Act 1986.
  - Road Safety Rules 2017.
  - Road Safety (General) Regulations 2019.
- 25** In addition, there are 3 policy documents that give advice to operators on set up. These being: -

- Testing Officers Operating Instructions (TOOI)
- Gatso T-Series Victoria Police Policy and Operations Manual
- MRSCO Standard Operating Procedures (Gatso T-Series mobile) (SOPs)

- 26** In order to comply with the legislation, Operators must set up in accordance with the TOOI. The Camera Car must be parallel to the centre of the road and record the measurement of the front and back wheels to the road kerb, road edge or white line. The measurement of the two wheels to whichever reference point is selected must be within 4.0 cm. For each session, Operators must complete a statement that they have complied with the TOOI. If set up is consistent with the TOOI, then an evidential certificate can be issued by Serco that the camera was operated in the prescribed manner. This is provided to Victoria Police for use in any future prosecution or infringement as evidence that the camera was operated in accordance with the law.
- 27** The policy documents themselves range in detail from a simple one page advice of the TOOI to more complex advice and instruction of the latter two documents. The SOPs are a comprehensive document that outline the procedures for Operators to follow from start to end of shift. They include advice to Operators as to placement of the Camera Car on the road that complies with the TOOI but also maximises effectiveness of the T Series Camera across multiple lanes and traffic travelling in either direction. The SOPs include a much narrower interpretation of the TOOI and require the Camera Operator, if not parking on the nature strip, to park on the road surface outside the line of where, on most roads in built up areas, the bitumen of the roadway meets the concrete edge of the gutter or on nature strip.
- 28** In order to comply with the SOPs, some Operators have expressed concerns they were too far into the carriageway and exposed to risk of collision from through traffic. Parking on the nature strip for various reasons is not always possible. The CPSU has advised that they had been raising issues on behalf of Operators who they advised had also been raising this with Serco at training sessions and directly with management. It has been alleged by the CPSU that Serco supervisors and managers had refused to reconsider the SOPs but had given Operators verbal advice that if Operators were unable to establish a reference point as described then they could park hard against the kerb and consider recording the measurement with a generic (-1) measurement. Operators had sought to have this instruction included in the SOPs, however, they claim Serco had refused. Operators were of the belief that a failure to follow the SOP's was a breach of the legislation and they were being asked to do something improper that would bring into question the accuracy of the system. This issue was raised directly with me in my discussions with the CPSU and not raised in the 3AW interview. The CPSU indicated to me in both my meeting of 22 April 2020 and 26 May 2020 they believed this practice had in fact been adopted by some Mobile Camera Operators.

## **DIAGNOSIS OF THE ISSUE**

- 29** Camera Accuracy: - Advice has been received by the Department from Sensys Gatso Australia, the manufacturers of the cameras, with the State's Independent Testing



Officer that set up parking hard against the gutter will not affect the accuracy of the camera. I have been provided with a copy of that advice and am satisfied accuracy is not affected by the practice.

- 30** Compliance with the SOPs: - On my review of documents provided it is my opinion that while the SOPs give broad guidance to Operators, any compliance with the SOPs or the Victoria Police Policy and Operations Manual is secondary to the TOOI.
- 31** Compliance with the TOOI: - On the face of it, parking hard against the kerb is consistent with the TOOI. In principle then, provided an Operator undertakes the measurement of the vehicle wheels to the road kerb, road edge or white line then the set up complies, and an evidential certificate can be issued.
- 32** Compliance with the legislative instruments: - If it is accepted that parking hard against the kerb is consistent with the TOOI, then the practice would comply with the legislative instruments provided the Camera Operator undertook the measurement process at the commencement of each session. Any infringement issued then would be lawfully issued.

### **PARKING HARD AGAINST KERB BUT OPERATOR FAILS TO TAKE MEASUREMENTS AT THE COMMENCEMENT OF THE SESSION**

- 33** Operators through the CPSU claimed that at a training session when raising safety concerns about parking out from the kerb to get measurements, were advised an option was to just include a (-1) measurement if they park hard against the kerb. If as suggested by the CPSU, that Operators have followed advice to park hard against the kerb but do not take measurements, then clearly, they will not have complied with the TOOI. As described above any failure to comply with the TOOI would inevitably lead to the camera session being void.
- 34** Understanding if any operators had followed this practice has taken some time. At my request the Department has taken the following steps: -
- Reviewed approximately 13,000 camera sessions conducted by the T series mobile identifying 330 sessions with a (-1) measurement.
  - Review of those 330 sessions identified that some 223 (68%) related to just 7 operators.
  - A review of when those operators had undertaken training indicated that only 2 had attended training on the same session on the same day.
  - These operators are all located in the metro south east and bayside suburbs.
  - The analysis of sites where the measurement does demonstrate some commonality.
  - The Department reviewed the Camera Operator Statements for all 330 sessions. That review did not indicate that sessions were conducted without proper measurements being taken.

- Two operators were identified as high users of the (-1) measurement. Those operators have provided an account through Serco that they complied with the TOOI and took measurements at the time of set up as required.
- Departmental Officials have advised that during or following any 'Townhall' meetings conducted, they have not received any advice from any Mobile Camera Operators that they or others had not followed the correct procedure.

**35** In addition to this, during my conversations with the CPSU, I asked that any Operator who had undertaken the incorrect procedure should come forward and arrangements were put in place to provide the mechanism of a Protected Disclosure under the IBAC Act to facilitate this if necessary. No Operator has come forward through that approach to identify themselves or others in undertaking the incorrect practice.

## **FINDING**

**36** This was the most difficult and drawn out issue to resolve. Lessons have been learnt along the way regarding the technical capacity of the T-series cameras, consistency or otherwise of SOPs and other documents, and a deeper understanding developed at management level of the Department as to the operation of the cameras by Serco staff.

**37** On balance, I find that it is possible that discussions between Operators and Serco staff covered the option that a solution to concerns raised by operators could be to park hard against the kerb and record a (-1) measurement. However, on the information that is available at this time, there is no evidence that that practice was adopted by any Mobile Camera Operators.

## **OPERATORS ASKED TO MAKE FALSE STATEMENTS DUE TO THE LIMITATION OF THE FORM OF THE ELECTRONIC OPERATOR STATEMENTS AND OPERATOR SETUP LOGS**

**38** The CPSU have raised this issue during this Review directly with the Department and was referred to my Office. The position of the CPSU is that because the electronic forms on the system have limited fields, Operators cannot include the full and correct explanation as to technical faults or observed errors or issues that occur during a session.

**39** The Department has provided advice that while they do not accept there are limitations in the form of the electronic statements, there are other options open to the Operators including the use of a paper Camera Operator Statement.

**40** I accept the advice of the Department. While it may be the view of Mobile Camera Operators that there are limitations of the electronic statements, they have open to them several mechanisms to ensure they contemporaneously record events that occur during any session.

## **OTHER ISSUES**

### *PUSHBIKE BEING BOOKED AT 58 KM/H*

**41** Advice from Department: -

- On some occasions, bicycles will be captured in the foreground or background of an incident photo. However, no bicycle rider can be issued with an infringement and if present in an image the incident could be rejected in the verification process in the back of house.

**42** I accept that advice.

### *SOFTWARE FAULTING, GPS NOT WORKING*

**43** Advice from the Department: -

- Operators do need to have GPS at the time of set up to ensure their location is correct for the designated site. On some occasions, connectivity drops out or is not available in some sites. If the Operator has already setup then the loss of connectivity does not impact the continuing accurate operation of the camera. If the operator has not yet set up then validation of the site can be achieved in other ways, as a fail safe if the Operator is not comfortable, they can request a move to another site.

**44** I accept that advice.

### *TRACKER (TARGET VEHICLE MARKER) HAS REGISTRATION PLATE OBSCURED*

**45** Advice from the Department: -

- The Target Vehicle Marker (TVM) does on occasion obscure the registration plate on the vehicle. The operator will see this in the Camera Car in real time. If this obstruction of the TVM occurs, an incident image that does not display the TVM is used to confirm the vehicle registration plate. Some of the Mobile Camera Operators were not aware of this and assumed errors were making their way through the system. This issue to be resolved through better advice to Mobile Camera Operators.

**46** I accept that advice.

#### *ALIGNMENT AND POWERING DOWN ISSUES*

**47** Advice from the Department: -

- These issues have been resolved during the development and testing of the cameras. Powering down issue can relate to the actions of the Operator. While this has caused frustration for Operators, better Operator training and advice addresses the issues.

**48** I accept that advice.

#### *CAMERA ARRIVES WITH BROKEN SEALS*

**49** Advice from the Department: -

- The State's independent Testing Officer determines the number of seals that must be intact for the camera certification to remain valid. The Cameras can only be operated with the required number of seals determined by the Testing Officer. The Department has, in consultation with Victoria Police, provided formal guidance to Serco on this matter and is unable to identify any sessions where the Testing Officer's requirements were not met.

**50** I raised this issue in my interview on 3AW reinforcing the expectation that Operators would fault any camera car with broken camera seals. No Operator has come forward to identify an occurrence where this has happened.

**51** I accept that advice.

#### *TARGET VEHICLE MARKER (TVM) IS INACCURATE*

**52** Advice from the Department: -

- During testing over some 10,000 incidents, the TVM was accurate. As part of the verification process a poorly placed TVM will be picked up. However, it has been found that there have been instances where the TVM placement has been imprecise. Advice has been received from the camera provider that this does not affect the accuracy of the camera. However, it may impact detection rates. An improvement for this was developed and included in the June 2020 software release. Following that release, a pilot was conducted with selected senior Mobile Camera Operators who undertook training with the new software and site testing. The Department advises it is working with Serco in reviewing its operational procedures and Serco's backend system that need further development to enable the transfer of additional data from the camera car.

**53** I accept that advice.

### *INCORRECTLY SURVEYED SITES*

**54** Advice from the Department: -

- There are some 2000 sites that have been identified by Victoria Police for the operation of the T-series Camera. The Department's position is that the sites were not incorrectly surveyed. However, to address concerns raised by Mobile Camera Operators the Department has undertaken to work with Operators and Victoria Police to review sites Operators identify as problematic and develop a feedback loop to resolve issues at both the local level with the relevant Victoria Police Highway Patrol office and at a State level. Most recent advice received from the Department is that the 901 kerbed sites will, as a priority, be the first reviewed and that process will take some 3 to 4 months.

**55** I accept that advice.

### *INCLINE OF THE ROAD CAMBER AFFECTING THE CAMERAS (IDENTIFIED BY SERCO DURING THE REVIEW)*

**56** Advice from the Department: -

- Certain sites have excessive camber that the camera roll sensor cannot account for to determine the angle of the road. This relates to site selection and will be addressed through the review of sites.

**57** I accept the advice of the Department.

### *SET UP DEPENDENT ON CENTRE WHITE LINE (IDENTIFIED BY SERCO DURING THE REVIEW)*

**58** Advice from the Department: -

- This is a training issue which will be addressed following advice from the provider (Gatso).

**59** I accept that advice.

## **OBSERVATIONS OF CHANGE MANAGEMENT ISSUES**

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**60** While I find that the accuracy of the camera system has not been substantially affected. As outline above, one infringement of some 200,000 audited was withdrawn as being subject to double Doppler affect.

- 61** The resolution of the 'kerb' issue was the most difficult to resolve in this review process. Part of that has been developing clarity around the processes followed by Mobile Camera Operators and the implications of a deviation of that process. Much of that complexity came from the lack of alignment of the 3 policy documents. Both the Department and Serco now recognise that it is important that these policy documents are made simpler and further additional information be provided to Mobile Camera Operators by way of practice notes, review of training materials, and setting up feedback loops to engage with them and listening to their concerns.
- 62** While conducting this review it is also apparent that many of the issues raised may have been avoided or resolved through the change management process. Change management in any large organisation is difficult and the roll out of the T-series Mobile Camera has not been immune from problems that can sometimes plague the roll out of new technology. There has now been considerable time since the March 2020, 3AW radio interviews and while I make these observations the Department has taken considerable steps to address them. However, more ongoing work will be required.

## CONCLUSIONS

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- 63** As identified in this Review, none of the issues raised by the CPSU during the March 2020 media interview or since have been found to affect the accuracy of incidents captured on the T-Series Mobile camera, save for the one identified due to the double Doppler effect. However, as part of this Review, some shortcomings in the change management process in introducing the new technology has been identified. The Department has engaged with the CPSU and Serco in order to understand the issues and address them. All parties appear to be working more closely on resolving those issues and I commend that collaboration.
- 64** The conduct of this Review has taken considerable time. Part of that has been the complication of work arrangements due to the Covid-19 pandemic. In addition, some of the technical issues raised have taken some time to analyse and identify and test the robustness of the relevant operating systems of the T-series and its relationship to legislative and policy requirements.
- 65** Throughout the review there have been a series of meetings held with this Office and Departmental staff and Executives as well as the provision of numerous briefings, documents and policy documents in order to identify, understand and where necessary address a range of issues. During this time there has also been regular meetings with the Secretary and officers of the CPSU as well as the provision of email correspondence raising a range of concerns on behalf of Mobile Camera Operators. The Department to its credit has taken responsibility for the issues identified and has applied considerable time and effort to address them. As a result of that work, the recommendations of this Review will be brief.

## RECOMMENDATIONS

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I make the following recommendations: -

- 1** That an evaluation of the project management of the roll out of the T-Series Cameras be conducted to identify lessons learnt in the change management process.
- 2** Engagement with Mobile Camera Operators and the CPSU, such as town hall meetings, continue in a structured and regular format.
- 3** The Department provide periodic update advice as to progress of review of camera sites following the publication of this review.
- 4** Once completed, updated operating manuals and policies be provided to this Office and dates set to conduct periodic review of those materials.