



**Road Safety
Camera
Commissioner**

**REPORT TO THE MINISTER FOR
POLICE ON THE ROAD SAFETY
CAMERAS AT LODERS RD BRIDGE,
PENINSULA LINK**

04 October 2018

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 future.



TABLE OF CONTENTS

TABLE OF CONTENTS	1
EXECUTIVE SUMMARY	3
Summary of my key findings	3
ACKNOWLEDGEMENTS	4
ACRONYMS & DEFINITIONS	5
PURPOSE	6
BACKGROUND	6
SCOPE OF INVESTIGATION	7
RESULTS OF INVESTIGATION	10
CONCLUSIONS	11
RECOMMENDATIONS	11
ANNEXURE A – Diagram of Peninsula Link Cameras	12

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EXECUTIVE SUMMARY

- 1** After public disquiet, and a Facebook page, I previously investigated the integrity accuracy and efficiency of the road safety cameras operating along Peninsula Link. In particular that investigation dealt with a significant number of people who asserted that their recorded infringement speed was not accurate. On 26 April 2017, I delivered my report, finding no error with the fixed digital road safety cameras, but significant poor driving behaviour.
- 2** During the 2017 investigation, I noted that the ratio of instantaneous infringements per vehicle on the northbound camera at Loders Rd Bridge was much higher than at other locations along Peninsula Link.
- 3** On or about the night of 31 December 2016, the camera system operating at Loders Rd Bridge in Moorooduc was damaged by vandalism which significantly impaired our investigation. We stated that this camera site merited further analysis of the apparently anomalous statistics.

Summary of my key findings

- 4** Victoria's road safety cameras are an integral part of the state's *Towards Zero* road safety strategy. The public rightly expects the complete accuracy and integrity of the cameras and of any infringements issued. Given the public interest and the number of complaints we received about Peninsula Link, the cause of the high infringement ratio at Loders Rd Bridge merited further examination.
- 5** This further investigation into the fixed digital road safety camera at Loders Rd Bridge demonstrated that the camera was working correctly both prior to the vandalism, and after its reinstatement.
- 6** The reinstated camera system shows similar traffic volume and infringement rates in the same date period in 2016 and 2018.
- 7** I am satisfied that there **have not been any** inappropriate infringements detected at Loders Rd Bridge in Moorooduc. I am satisfied that there are no systemic or technical issues with the operation of the camera system at this location.

ACKNOWLEDGEMENTS

- 8** This report has been achieved thanks to the people and organisations who have generously shared their knowledge, expertise, ideas and time. Foremost this has involved the imaginative Mr Stuart McCormack of ByteSmart Pty Ltd, who yet again has enabled this modest-sized office to organise and analyse intimidatingly large volumes of data and to perform complex work in an innovative manner. I thank also the members of the Department of Justice and Regulation who have enthusiastically provided support to this investigation, including but not limited to the Road Safety Camera Program headed by Ms Allegra Walsh. I also thank the staff of the Office of the Road Safety Camera Commissioner.

ACRONYMS & DEFINITIONS

Camera	This refers in this report to fixed digital road safety cameras. In the context of the Peninsula Link freeway, this term is used in this report to include the camera system and any associated computers.
Event	A road safety camera detecting any vehicle, regardless of speed.
FDRSC	Fixed Digital Road Safety Camera.
Infringement	A traffic infringement as defined in the <i>Road Safety Act 1986</i> and regulations made thereafter and relates to driving above the posted speed limit or entering an intersection against a red traffic signal.
Instantaneous	A speed calculation completed by a road safety camera at the camera's location.
Point-to-point (P2P)	A camera system that records the time it takes to travel a known distance between two points and calculates the average speed.
SmartDip	A system deployed on FDRSCs to report data such as primary and secondary detected speeds, location details and where relevant, the registration of a vehicle.

PURPOSE

- 9 This report documents my findings regarding my investigation into the accuracy, integrity and efficiency of the road safety camera system operating on the northbound carriageway of Peninsula Link at Loders Rd Bridge in Moorooduc (known as PL33N).

BACKGROUND

- 10 In this report the terms "road safety camera" and "road safety camera system" will be used interchangeably. A not-to-scale diagram of the road safety camera system along Peninsula Link can be found in **ANNEXURE A**.
- 11 On page 17 of my annual report to Parliament 2016/17 I stated in part:
During the Peninsula Link investigation we found one curiosity, worthy of further scrutiny, (at Loders Road bridge, northbound). Regrettably this system was the subject of vandalism before we could analyse it.
- 12 In 2016/17 we noted that the proportion of vehicles travelling northward on Peninsula Link at Loders Road bridge, recorded as infringing the speed limit at an instantaneous speed of over 100 km/h, was much greater than for the other five Peninsula Link instantaneous sites. This is shown in the graph in **Figure 1**:

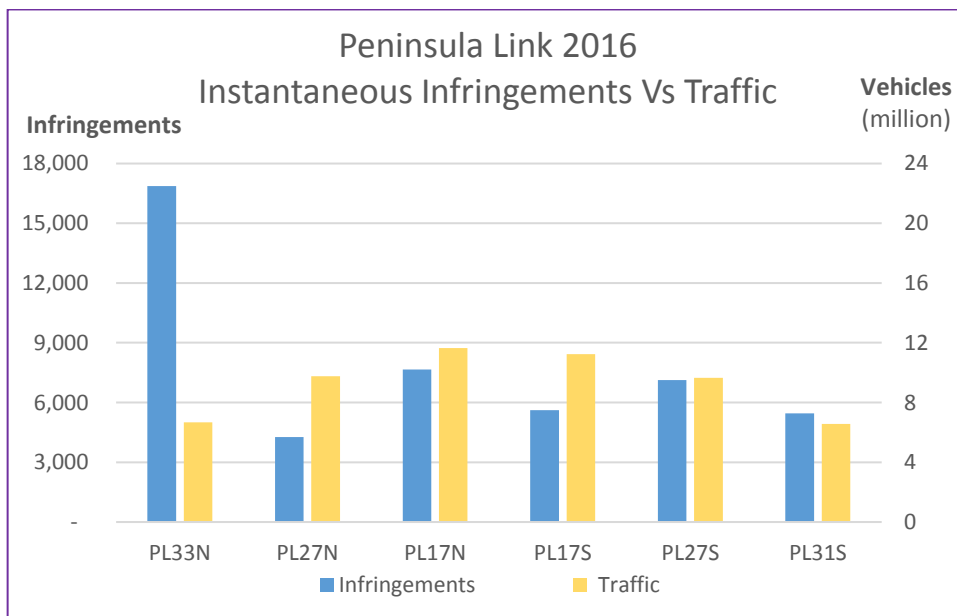


Figure 1

- 13 **Figure 1** shows a set of pairs of data, being the number of infringements (left axis) and number of vehicles comprising the traffic (right axis). The pairs of columns show the numbers of vehicles paired with the number of infringements for each of the six instantaneous camera sites. It identifies what at first blush appears to be the out-of-proportion nature of infringements at "PL33N", Loders Road Bridge. This was what I wanted to revisit to ensure as best I can the integrity accuracy and efficiency of the road safety camera system at PL33N; on Peninsula Link at Loders Road Bridge for inbound traffic.

SCOPE OF INVESTIGATION

- 14** We were supplied with raw data spanning the 30 month period 1 January 2016 to 30 June 2018. These data included:
- instantaneous camera events,
 - potentially matched point-to-point trips, and
 - details of all issued infringements.
- 15** The infringement results for June 2018 have not been completely settled at the time of writing.
- 16** As regards instantaneous camera events, these data amounted to **135,556,762** vehicle detections and **98,938** infringements.
- 17** These numbers result in the following graph, **Figure 2**:

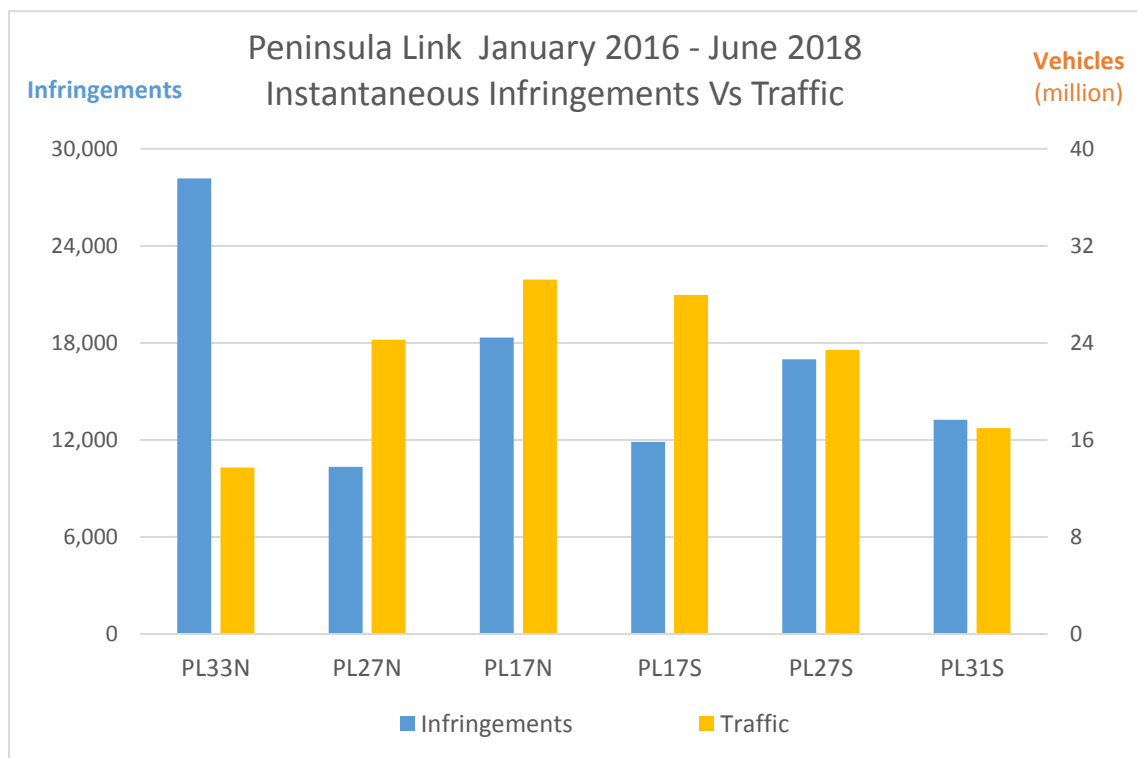


Figure 2

18 We also received detail of **35,802,648** potential Point-to-Point (**P2P**) vehicle trips and **39,330** P2P infringements. There are four P2P zones on Peninsula Link, as depicted in the diagram in Annexure A. For convenience these are described by "entry point" to the P2P zone, using Peninsula Link names:

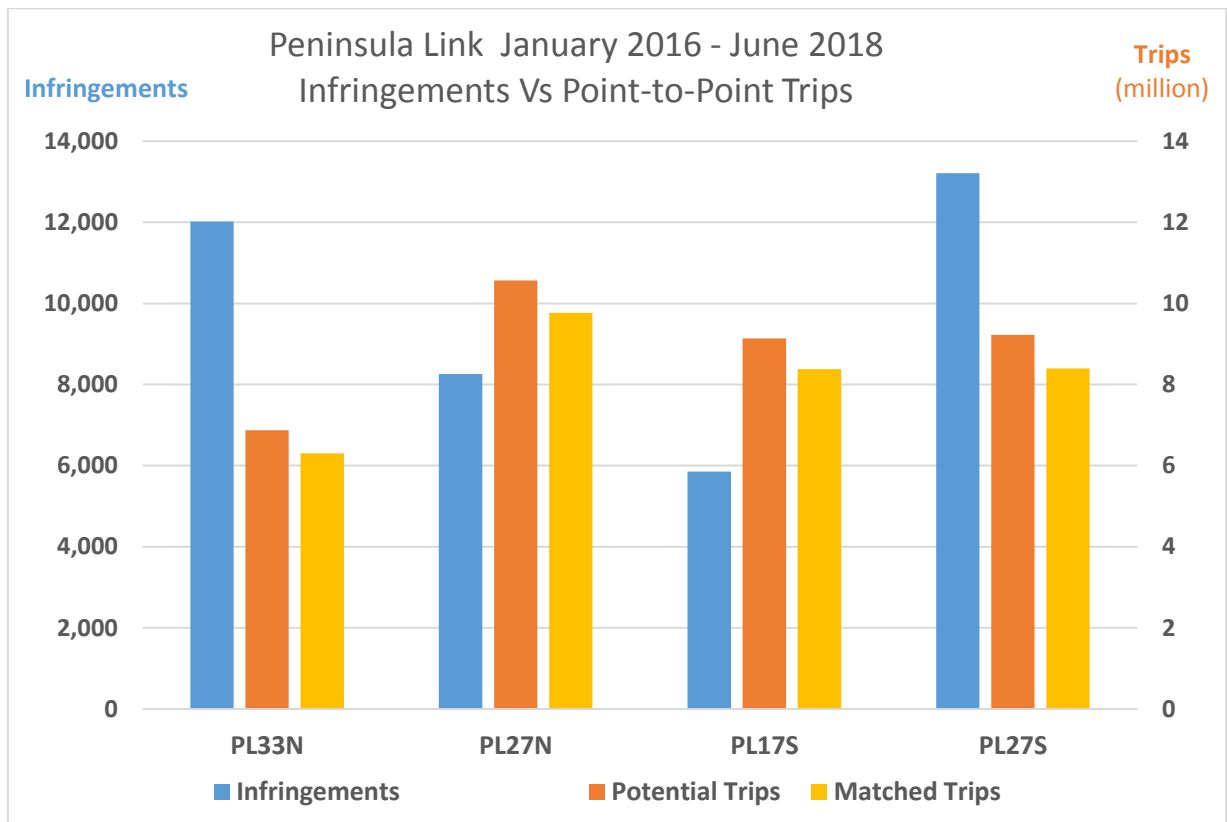


Figure 3

- 19** While it appears from the above graphs that PL33N is 'overrepresented' in infringement numbers, particularly in instantaneous infringements, it is worth noting that PL33N generated zero infringements in eleven of the thirty months considered. If infringements in that eleven month period had occurred at the same rate then PL33N's infringement numbers might have been more than 40% higher than as shown.
- 20** Due to the extraneous matters, comparative data was restricted to January to May for 2016 and for the same period in 2018. The results appeared consistent in both periods.
- 21** Allowing for the impact of camera site downtime, it would also appear that Peninsula Link traffic volumes have increased over the two years reported. These data are depicted in **Figures 4 and 5**.
- 22** The graphs show that the slope of each 2016/2018 pair is essentially identical at each site. That is, the camera sites are recording similar volumes over two similar periods two years apart. Further, they are showing a decline in the level of infringements; more vehicles using the road, but fewer vehicles speeding. **This is a noteworthy road safety message.**
- 23** **Figure 4** contains data about northbound traffic, **Figure 5** depicts data for southbound traffic:

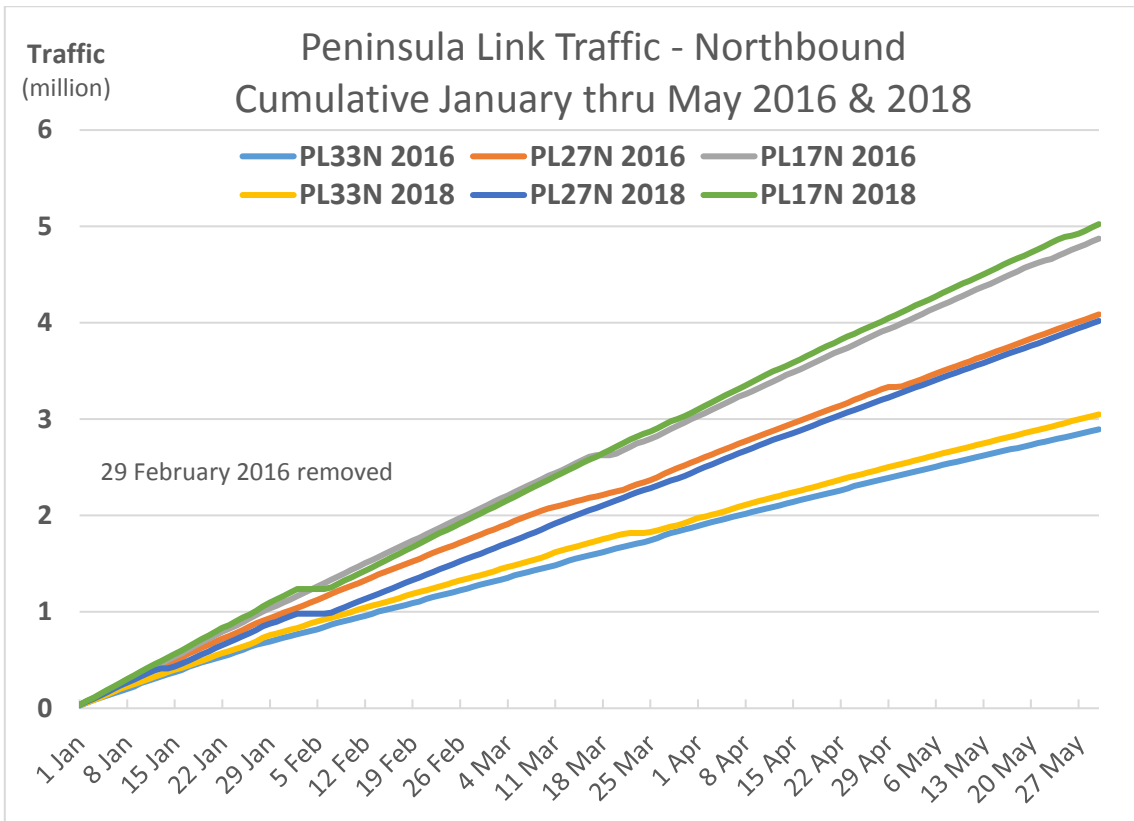


Figure 4

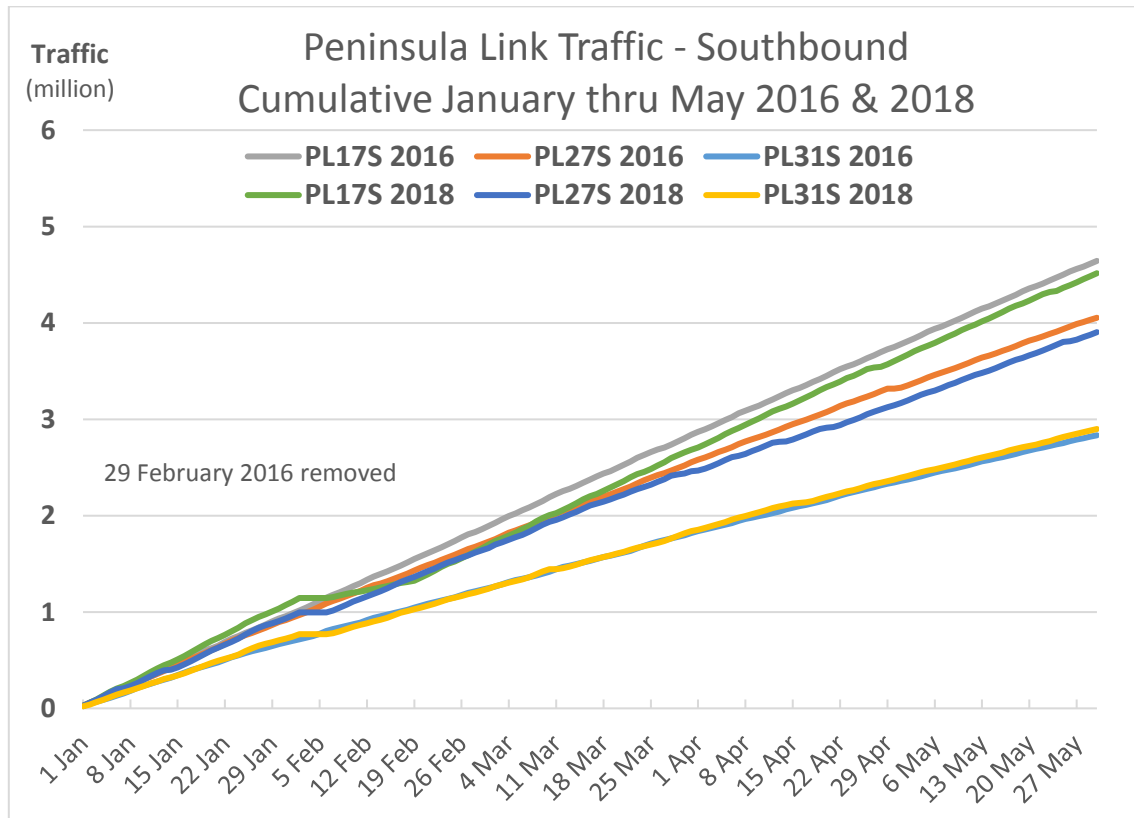


Figure 5

24 Some flatlines as appear on the graphs, such as around late January/early February, represent periods where cameras were experiencing downtime.

RESULTS OF INVESTIGATION

25 **Figure 6** is a graph which contrasts incidents from which an infringement could potentially be issued against actual infringements issued for PL33N, Loders Road Northbound. To avoid confusion (and to avoid an unnecessarily noisy graph) **only instantaneous** events and incidents are displayed. The graph does not contain point-to-point incidents. After the vandalism in late December 2016, PL33N appears to have become operational again in mid-March 2017. Site acceptance and recommissioning was completed in mid-November 2017.

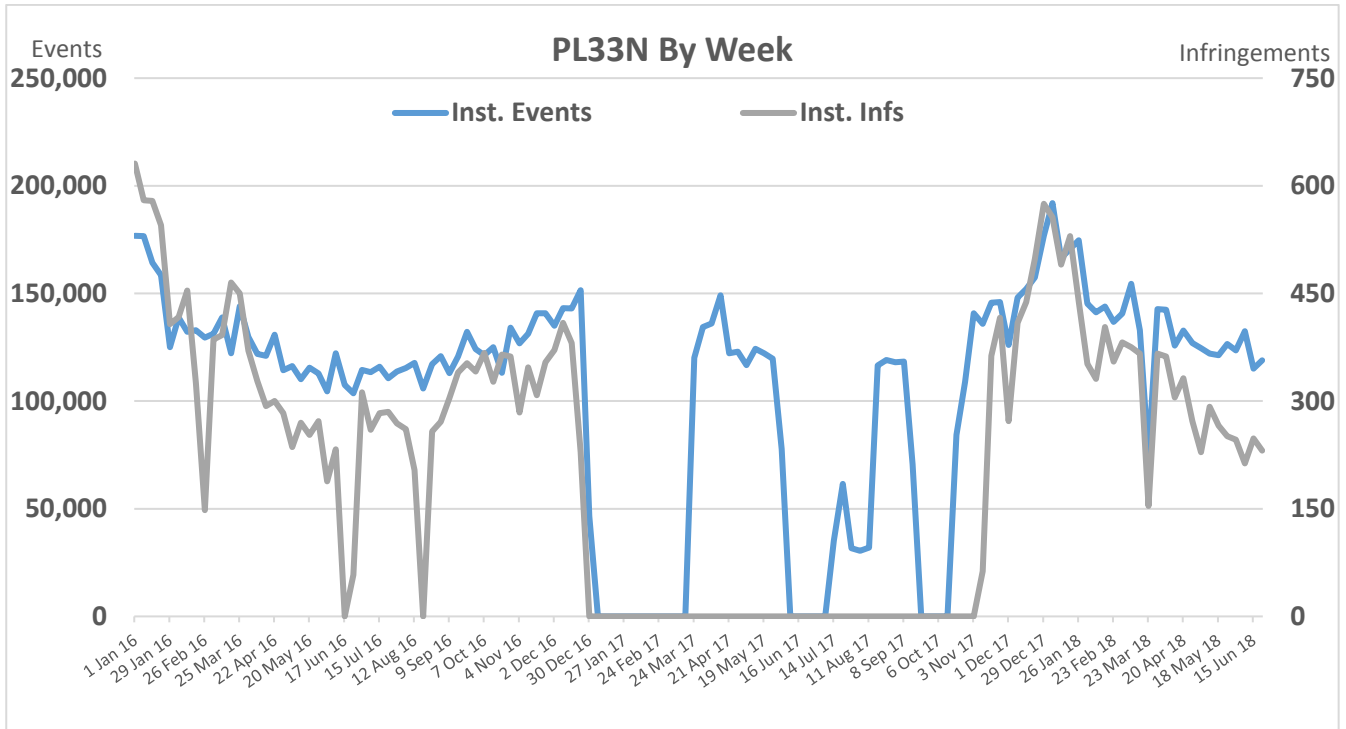


Figure 6

26 It is clear from the above that, despite the site functioning from late March 2017, delays in recommissioning meant that many thousands of likely infringements were forgone. PL33N generated 16,708 instantaneous infringements in 2016, but only 2,695 in 2017. The opportunities for correcting poor driving behaviour, in accordance with *Towards Zero*, were lost during this period.

27 The Department of Justice and Regulation had previously been administering the site through its Infringement Management & Enforcement Services (IMES) group. It is now administered through the newly-created Road Safety Camera Program Unit.

CONCLUSIONS

- 28** The Loders road site has previously shown a far higher rate of infringement than other Peninsula Link sites. Since recovery from the vandalism the site has performed in a manner consistent with the rate of performance pre-vandalism.
- 29** I found no evidence of any incorrect infringements issued on Peninsula Link as a whole, nor in particular at PL33N. There is no evidence of any systemic error.
- 30** I found issues with the *level* of enforcement on Peninsula Link over certain periods of deactivation, but there was no issue with the *accuracy* of that enforcement.
- 31** I note again that PL33N records numbers of infringements which substantially exceed the rate of infringement at other Peninsula Link sites. However, the data do not point to any reason why this should be so. We have heard theories, but they are speculative and not supported by evidence.
- 32** Whatever the cause of the high rate of infringements detected at Loders Road, this behaviour has been consistent over an extended period; a period that spans the almost complete replacement of the site's computing hardware.

RECOMMENDATIONS

- 33** That the Department of Justice and Regulation's newly-created Road Safety Camera Program Unit investigate the reasons for the delay in recommissioning the site on Peninsula Link at Loders Road bridge with a view to ensuring ongoing improved efficiency of the road safety camera system.
- 34** I make no other recommendations in relation to this report.

ANNEXURE A – DIAGRAM OF PENINSULA LINK CAMERAS

