IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

Court Reference: 2008 0417

FINDING INTO DEATH WITH INQUEST

Form 37 Rule 60(1)
Section 67 of the Coroners Act 2008

Inquest into the Death of: KAY ALEXANDRA STANLEY

At:	Coroners Court of Victoria Level 11, 222 Exhibition Street Melbourne
Hearing Dates:	7 to 10 May 2012
Findings of:	JACINTA HEFFEY, CORONER
Representation:	Mr R. Gipp appeared on behalf of Connex Trains Pty Ltd and Metro Trains Melbourne Pty Ltd Ms M.A. Hartley SC with Ms S. Hinchey appeared on behalf of Department of Transport and Public Transport Victoria Mr R. Taylor appeared on behalf of VicRoads Mr R. Niall SC with Ms K. Foley appeared on behalf of V/Line Mr G. Livermore appeared on behalf of Mainco Ms F. Ellis appeared on behalf of VicTrack Mr P. Lawrie appeared on behalf of Invensys Rail Systems Australia Pty Ltd Mc C. Melis appeared on behalf of Transport Safety Victoria Mrs G. Bates appeared on behalf of the Deceased
Police Coronial Support Unit	Leading Senior Constable G. McFarlane

I, JACINTA HEFFEY, Coroner having investigated the death of KAY STANLEY

AND having held an inquest in relation to this death on 7 to 10 May 2012
at MELBOURNE
find that the identity of the deceased was KAY ALEXANDRA STANLEY
born on 10 April 1975
and the death occurred on 28 January 2008
at the railway crossing on the Mornington-Tyabb Road, Tyabb
from:

1 (a) MULTIPLE INJURIES

in the following circumstances:

1. The deceased was born on the 10 April, 1975 and was a UK citizen. She was engaged to be married to an Australian, Brett Vogel. She had been a kindergarten teacher in Tyabb for just over a year. She was 10 weeks pregnant at the time of her death and was planning to marry Mr Vogel at Uluru at the end of March, 2008. She was an only child and her mother Gwen Bates was going to come to Australia for the wedding. She held an unrestricted UK drivers licence and had approximately ten years driving experience. According to Mrs Bates and Mr Vogel, Ms Stanley was a cautious driver particularly around level crossings.

2. The east-bound route that she took along the Mornington-Tyabb Road, Tyabb was the same route she took every working day to attend the kindergarten. The speed limit at the point of impact is 70 kph. January 28 was a public holiday and she left home later than usual to drop some materials off at the school. She and Mr Vogel were then planning to drive to Adelaide later that day.

3. Ms Stanley's VW was struck on the driver's side by the northbound diesel powered locomotive at shortly after 10.25am. The level crossing in question is an "active" level crossing; that is to say, it is equipped with flashing LED lights, railway signage and warning bells. At the time of the accident, it was not equipped with a boom gate. Mornington-Tyabb road crosses it in an east-west direction. There is no obstacle to visualizing the flashing lights from any significant distance as a car approaches. The train was scheduled to stop at Tyabb Station on the other side of Mornington-Tyabb Road. Ms Stanley's car was pushed on impact

along the railway line approximately 170 metres towards the platform where it was crushed between the locomotive and the platform. Ms Stanley was declared dead at the scene.

4... Mr Vogel gave evidence at the Inquest but otherwise did not participate in it. He told the court that Ms Stanley's car was a 1976 VW Beetle that she had owned for 3 or 4 years. It was regularly maintained by a VW mechanic.

5. Mornington-Tyabb Road is a sealed bitumen dual carriageway. The road is straight and continuous on the east-bound approach to the level crossing for approximately a kilometre. On 28 January, the surface was dry, weather fine and the traffic was light.

6. No autopsy was performed. Toxicological analysis did not reveal the presence of any substance that might have borne on the circumstances of the death.

7. There is no basis to support a finding of suicide in this case. From all accounts, Ms Stanley was blissfully happy and looking forward to her wedding to Mr Vogel and to the birth of their first child. According to her fiancée, she had slept well the night before and was not suffering from any ill-effects from her pregnancy.

8. The train driver was breath-tested immediately after the accident and no trace of alcohol was detected.

9. The death under investigation does not fall within any category in which a formal inquest is mandatory. An inquest was conducted at the urging of Mrs Bates who was and still is not prepared to accept that her daughter's death was caused by any inadvertence on her part. [1] She engaged John Lambert as an expert and various reports were proffered by him on her behalf. [2] However, she did not accept many significant conclusions and opinions advanced by Mr Lambert. In particular, she did not accept the range of speeds (between 15 and 39 kph) at which he estimated Ms Stanley was driving immediately before the accident. She did not accept that the flashing warning lights facing Ms Stanley were functioning and operating– a

[1] Mr Lambert's qualifications as an expert witness were challenged throughout his evidence in respect of many areas upon which he expressed opinion evidence.

[2] Indeed Mr Lambert continued to forward "Submissions" after the close of evidence. Mrs Bates advised the Coroner's Office that these were not being forwarded on her behalf. Mr Lambert was not present during the evidence of other experts but nevertheless submitted typed comments about their evidence on a copy of the transcript. As these "submissions" were not authorised by his client, these documents were not disseminated to the other parties and were not read by me.

conclusion that Mr Lambert accepted as being unavoidable on all the evidence.[3] A forensic examination of Ms Stanley's car concluded that the brakes had not been applied prior to the accident. This led Mr Lambert to opine that some obstacle must have fallen between the brake pedal and the floor, preventing Ms Stanley from applying the brakes to stop in time. Mrs Bates would not accept the possibility of Mr Lambert's hypothesis. In her statement, she said "I do not believe she would have had a loose object rolling on the floor".[4] She continued to maintain that the flashing lights were not operating and it was this factor, along with the absence of a boom gate and the presence of what she considered to be a speeding train whose emergency brakes were not applied in a timely manner, that led her daughter to drive into the path of the train and to her death.

10. Mr Lambert's evidence and reports contained a substantial amount of material not relevant to this inquest and to the Findings I have to make. Amongst these were critical commentary about the FAID scoring system as applied to railways and the duration of warning signals for trains travelling south on the line.[5] He suggested design changes to the coupler system (even though he has no qualifications or experience in locomotive design), increasing de-acceleration capacity on passenger train braking systems - in respect of which he drew an analogy with trucks. He drew inferences of probabilities where the evidence only admitted of possibilities - for example that the train driver was suffering from fatigue, may have had a micro-sleep. He resisted any suggestion of professional care being taken by the train driver. For example, he admitted that although the horn should be sounded at the whistle board, which in this case was 410 metres from the level crossing and around a curve, it was better to sound it and it would be more audible at 183 metres, which is what the driver did. But rather than credit the driver with being cautious in this respect he drew the conclusion that he must have been inattentive and that, in any event, the whistle board should have been located closer to the level crossing.

11. At the conclusion of the Inquest, time-lines were drawn for delivery of written submissions with Mrs Bates being given the opportunity to provide hers first after being provided with the

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[3] See Transcript Page 46.

[4] No hypothesis was advanced by Mr Lambert as to why, in this circumstance, Ms Stanley, who reportedly was so cautious approaching level crossings that she did not trust the absence of warning signals and would occasionally stop and get out of her car to check there was no train approaching, did not steer her car onto the wide shoulder of the road instead of driving forward onto the crossing. See Photographs 14 and 16 of Exhibit O (Rest of Brief).

[5] See Transcript Pages 83-84; Transcript Pages 46-47;

transcript of the inquest hearing and then to have a right of reply when responding submissions were filed by the other parties. An extension was later provided to her at her request. She then objected to being asked to put in her submission before the other parties, notwithstanding that she had a right of reply (had *oral* submissions been invited, as is the usual procedure, this would have been the order). It is regrettable that Mrs Bates disengaged from two different firms of solicitors that had acted for her at different stages prior to the hearing, including at the past two Directions Hearings. It was precisely because she was representing herself at the Inquest that an order was made inviting *written* submissions to give her a chance to collect her thoughts after reviewing the transcript and to submit her arguments. The post-inquest objections expressed by her led to my inviting submissions from the other parties before hers was received. Unexpectedly, given her earlier indication, Mrs Bates' submission was received whilst the other submissions were coming in. This was then forwarded to the other parties for further comment should they wish to do so.

12. These delays have had the consequence that the deadline for receipt of such responding submissions was fixed for the 15 August, only a few days before I am to go on extended leave overseas on the 24 August. Appraised of this, Mrs Bates asked that this Finding be concluded before I leave. Accordingly, I propose to do this, although given other pressing matters I wish to conclude before I leave, I have been selective and shall deal with the issues which arose in the course of the inquest and which I consider merit a response in the Finding.

13. These are:

    (i) Were the flashing lights applicable to Ms Stanley functioning?

    (ii) Did the train driver contribute to the collision?

    (iii) Were there any infrastructure or design features that bore on the accident?

(i) Were the flashing lights applicable to Ms Stanley functioning?

14. The Court heard evidence from Kathleen Simons who was in a parked car on the platform at the Tyabb Station waiting for the train. She was adamant in her evidence that she was in a position to see the flashing lights facing the direction Ms Stanley was approaching the level crossing as they are at an angle. Mr Lambert, who had gone to the scene and spent some time there, conceded this. Mr Paul Sexton was stopped at the level crossing on the other side of it

from the side on which Ms Stanley was approaching. He said the flashing lights facing him were operating. Leading Senior Constable Adrian Shelbourne arrived at the scene at 10.35am, ten minutes after the accident. He approached the level crossing from the same direction as Ms Stanley. He told the court that the lights were flashing and the bells clanging as he neared it. The only personnel there before him were the CFA who were attending the deceased. He placed a cordon around the scene and placed a guard at the level crossing signal control box. Paul Downes, a senior Investigator with Metro Trains, attended the scene at 11.45am. He also observed the 8 LED flashing lights to be operating. He examined the maintenance log maintained by Mainco and that indicated that the two monthly maintenance check had been performed on 7 January 2008 and all was in order. Finally, there is the evidence contained in the Report of Robert Baird[6], a railway signalling specialist with 32 years rail experience, in which he states

> *"There is no known intermittent or permanent single failure mode whereby all flashing lights facing the west fail without failure of flashing lights facing the east as well. If the lights facing the east side were working before and during the collision and all the flashing lights were working after the collision, then the flashing lights on the west side were also working before and during the collision".*

15. Mr Lambert could not argue with this and set out to find some other explanation as to why Ms Stanley proceeded through the intersection and could only posit that something must have mechanically prevented her from applying the brake.

16. The conclusion that the flashing lights were operating as they applied to Ms Stanley is inescapable. That the bells were operating is also clear from the report of Mainco (attached to Mr Downes' report) and from the eye witness accounts. It is hard to avoid the inference from this material that Ms Stanley for whatever reason was distracted and, uncharacteristically, not attentive to the state of the level crossing. The lights/bells circuit had operated for at least 25 seconds. They were visible from at least 350 metres away.[7] There were written signs with which Ms Stanley was familiar warning of the presence of the level crossing. There was the fact of Mr Sexton's car stationery on the other side of the level crossing. All of these factors were visible to Ms Stanley as she approached.

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[6] Report of Robert Baird – Expert Witness report at page 7 (Exhibit O)

[7] Report of George Lekkas Paragraph 24 at page 3.

17. Given her historical caution with respect to level crossings as outlined by Mrs Bates, it is a tragedy that her inadvertence in this respect has claimed her life. But in my view the evidence is overwhelming that this was the case.

(ii) Did the conduct of the train driver contribute to the collision?

18. Given the above finding, the issue of the conduct of the train driver is in my view of secondary significance. Were there some compelling case for the view that this accident could have been avoided or have had a lesser impact had the train driver conducted himself differently, it might be a useful exercise. The Inquest explored this at some length due to its being raised by Mrs Bates and Mr Lambert and, accordingly, I shall refer to it as part of this Finding.

19. As indicated above, the train driver sounded the horn 183 metres from the level crossing rather than at the whistle board, some 410 metres away. It was clearly heard by witnesses Kathleen Simons [8] and Linda Papanikolas.[9] Mr Lambert agreed with Mr Gipp (for Connex and Metro) that *"because of the anomalies with this particular crossing and the curvature and the gradient and the cutting that exists prior to approaching that particular crossing that sounding the horn in this case was more effective in terms of a warning at the intersection at 183 metres than had the driver sounded the horn at 400 metres.* [10] Against this, Mrs Bates' contention that hearing it so close, her daughter would have thought it was a further distance away, is without merit. There is no evidence that Ms Stanley was aware of how far away the whistle board was. In any event, it would be foolhardy to rely on such a calculation when confronted with flashing lights and clanging bells, and all the evidence is that Ms Stanley was not of this disposition. Based on the speeds recorded on the data logger, several seconds would have elapsed from the sounding of the horn and the arrival of the train at the level crossing, during which the lights were flashing, giving ample time to slow down and stop.

20. Other allegations made against the driver and co-driver were without any foundation. To suggest that Mr O'Day had a mini-sleep or was otherwise distracted is fanciful.

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[8] Exhibit D Transcript P 20

[9] Exhibit E Transcript P 24.

[10] Transcript P.51

21. The suggestion that "due to inattentiveness", Mr O'Day did not apply his emergency brake in a timely manner was based on calculations made by Mr Lambert of the period during which the progress of Ms Stanley's vehicle would have been visible to the driver as he approached the level crossing. This involved an extremely tenuous calculation using as the base speed one calculated on the basis of Mr Lambert's "experience" that drivers tend to underestimate speeds. Using Mr Sexton's estimate that the VW was travelling at 10 kph, on Mr Lambert's assessment that "it was highly likely that the speed was higher than he estimated", he increased this to 15 kph and used this as the base speed. The upper speed of 39 kph he calculated adapting formulae applied in accident reconstruction based on throw distances of human beings which he in turn adapted using the distances of items thrown from the car as measured by Mr Downes. He told the court "*What I've done is the best you can-that can be done with the information available*".[11] Using this less than optimal formula to set the range of speed of the VW, Mr Lambert went on to calculate the period of time that Mr O'Day would have had the VW in sight adding on numerous occasions the words "if he had been looking". Using this questionable speed range, Mr Lambert calculated that Mr O'Day would have had Ms Stanley in his view "if he had been looking" for between 2.5 and 5.5 seconds depending on the speed within the stated range. He was critical of Mr O'Day for not applying the emergency brake earlier.

22. Later in his evidence, Mr Lambert changed his view to announcing that he now considered that Mr O'Day maybe had not applied the emergency brake at all but was braking as he approached Tyabb Station.[12] He came to this conclusion after "double-checking the figures over lunch-time".

23. I reject the range of speeds on which Mr Lambert's calculation of the driver's visibility is based.

24. Mrs Bates submitted that the train driver was speeding as he approached the level crossing. She relied on the data logger for the previous trip along the same line earlier that day and submitted that at the time Mr O'Day was travelling at 62 kph, the driver of the earlier train was driving at 17 kph and relied on the evidence of Mr Armstrong, Operations Standards Manager for V Line, in his interpretation of the data logger. In fact this is entirely wrong.

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[11] See Transcript Pp 137-8.

[12] See Transcript P 130.

Mrs Bates cross-examined Mr Armstrong about this. At the point at which the earlier train was travelling at 17 kph Mr Armstrong calculated that it was only 11 metres from the point at which it stopped at the platform of the Tyabb Station.[13] Indeed, Mr Armstrong had Mr O'Day reducing to 62 kph at almost exactly the same spot as had the earlier train.[14]

25. Another argument advanced by Mrs Bates to support her contention that the train driver was speeding was that the train was running late. She relied on the wrong timetable to support this proposition. The correct timetable showed the journey taking four minutes which is the time that the train would have arrived at Tyabb Station.

(iii) Were there any infrastructure or design features that bore on the accident?

25. Owing to various recommendations made by Mr Lambert in areas in which he had little or no expertise, a number of highly qualified experts were lined up to respond to these suggestions. Whilst acknowledging that he was not an expert in injury mechanism or in train design, Mr Lambert suggested that had the design of the train been different, there would have been "a very high chance of survival. In fact you could guarantee she would have survived". [15]

26. Mr Lambert advocated an energy absorbing barrier at the front of the train which would have the effect of the coupler not impaling any vehicle it came into contact with and thereby causing fatal head injuries. This barrier, he maintained, could be mounted on the front of the train to absorb energy, and "technically that's not a big issue", and this, he said, would reduce the acceleration forces applied to the person in the car dramatically. He said that if it extended 1.2 metres in front of the train you would reduce the acceleration forces by a factor of close to 10 if it actually compressed at 1.2 metres. [16]

27. Mr Neil Smith, a mechanical engineer with over 20 years experience as a rolling stock engineer specialising in rolling stock braking system design, was asked about this suggestion in evidence. He told the court that he could not imagine what such a device would actually achieve. A 200 tonne train travelling at 62 kph colliding with a one tonne car would not reduce energy in the train at all. He said he could not see how it could make the system any

[13] See Transcript P 192-3.

[14] See Transcript P184.

[15] See Transcript P. 116.

[16] See Transcript Pp 114-115

safer.[17] Train drivers having access to blowing up an airbag at the front of the train as suggested by Mr Lambert, was met by Mr Smith with equal surprise. He knew of no project where it was being considered and commented that "it sounds like an additional hazard, to be honest".[18]

28. Mr Lambert's contention that trains should be able to brake with the same capacity as triple road trains was also dismissed by Mr Smith. In his report he noted major differences: the differing weight of the two vehicles, the fact that road trains have rubber tyres and travel on tarmac compared with a steel wheel on a steel rail and the fact that trains carry unrestrained passengers. When challenged by Mrs Bates in cross-examination as being more concerned with protecting the people on the train than "people that have to go across level crossings", Mr Smith pointed out the difficulties when one is dealing with a 200 tonne train. He added "*I think the goal needs to be to keep the train and cars apart*". I do not propose to address further the evidence of Mr Smith in relation to the de-acceleration braking systems. This is covered in his report and in the transcript in some detail and save to say that I accept his evidence and expertise, I do not propose to comment further.

29. The one remaining issue I wish to address is the question of the boom gate. It was Mrs Bates' contention that had there been a boom gate, her daughter's life would have been spared. Clearly, the presence of a boom gate provides optimal protection short of grade separation. Mrs Bates expressed suspicion about the actions and inactions of the various agencies involved. The history of the up-grade of the Tyabb level crossing was rehearsed at length in the course of the Inquest. I am satisfied that there was a reasonable explanation for the delay. Funding was approved. The presence of a gas pipeline where the footing was planned to be placed was an obstacle which required re-designing. The Statement of Geoffrey Walker details the reasons for the delay. I accept those reasons. It should be noted that it cannot be said that the presence of a boom gate would necessarily have led to a different outcome. Mr Sexton described Ms Stanley's car as "rolling" towards the level crossing at he estimated about 10 kph. He said in his statement "I was expecting the VW to stop but it didn't". He said that at about 50 – 150 metres from the level crossing he saw the VW wobble for a moment and then straighten up. Mr Lambert said in evidence that he did not believe that the presence of a boom gate would have made any difference. But this was based on his belief,

[17] See Transcript P 207-8.

[18] See Transcript P 208

based on nothing but conjecture, that Ms Stanley was trying to apply the brake but could not due to some object being under the brake pedal. Without knowing the cause and extent of Ms Stanley's distraction it is not possible to conclude that the presence of a boom gate would have prevented the accident. Indeed there have, according to Mr Downes report been three accidents along the same line at level crossings where boom gates are installed.

CONCLUSION

Mrs Bates maintained in her final submission that "my girl would never, ever drive through a red light". In fact, even experienced airline pilots make errors. The evidence is, in my view, overwhelming that the flashing lights were operating, as were the clanging bells as Ms Stanley approached the level crossing. The evidence the court heard about the limited options and responses available to train drivers in such a circumstance was discussed at length in the course of the inquest hearing. I find no fault on the part of the train-driver. As Mr Smith pointed out, the goal is to keep the train and cars apart. For reasons that cannot be determined, Ms Stanley through inadvertence or being distracted did not observe or hear the warning signals until it was too late. Her car entered the level crossing in circumstances that rendered it impossible for the train driver to take any effective evasive action.

I direct that a copy of this finding be provided to the following:
Mrs Gwen Bates
Interested Parties

Signature:

JACINTA HEFFEY
CORONER
Date: 23 August 2012