IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

COR 2022 005245

FINDING INTO DEATH WITHOUT INQUEST

Form 38 Rule 63(2)

*Section 67 of the **Coroners Act 2008***

Findings of:	Coroner David Ryan
Deceased:	KLH
Date of birth:	[redacted]
Date of death:	10 September 2022
Cause of death:	1(a) Multiple injuries sustained in a tram incident (pedestrian)
Place of death:	Tram Stop, Kings Way/York Street, South Melbourne, Victoria

INTRODUCTION

1. On 10 September 2022, KLH was 66 years old when she died from injuries sustained after she was struck by a tram in South Melbourne.

2. At the time of her death, KLH lived alone in South Melbourne. She is survived by her son, RYJ, and her grandchildren. KLH became a permanent resident of Australia in 2012 and ultimately moved to Australia from China in 2020.

3. KLH is warmly remembered and mourned as a loving and devoted mother and grandmother.

THE CORONIAL INVESTIGATION

4. KLH's death was reported to the Coroner as it fell within the definition of a reportable death in the *Coroners Act 2008* (**the Act**). Reportable deaths include deaths that are unexpected, unnatural or violent or result from accident or injury.

5. The role of a coroner is to independently investigate reportable deaths to establish, if possible, identity, medical cause of death, and surrounding circumstances. Surrounding circumstances are limited to events which are sufficiently proximate and causally related to the death. The purpose of a coronial investigation is to establish the facts, not to cast blame or determine criminal or civil liability.

6. Under the Act, coroners also have the important functions of helping to prevent deaths and promoting public health and safety and the administration of justice through the making of comments or recommendations in appropriate cases about any matter connected to the death under investigation.

7. Victoria Police assigned an officer to be the Coroner's Investigator for the investigation of KLH death. The Coroner's Investigator conducted inquiries on my behalf, including obtaining CCTV footage and taking statements from witnesses – such as family, the forensic pathologist, treating clinicians and investigating officers – and submitted a coronial brief of evidence. I was also assisted by a Yarra Trams incident review and engineering report, and a report arising from an independent review conducted by the Office of the National Rail Safety Regulator (**ONRSR**).

8. This finding draws on the totality of the coronial investigation into KLH's death, including evidence contained in the coronial brief. While I have reviewed all the material, I will only

refer to that which is directly relevant to my findings or necessary for narrative clarity. In the coronial jurisdiction, facts must be established on the balance of probabilities.[1]

MATTERS IN RELATION TO WHICH A FINDING MUST, IF POSSIBLE, BE MADE

Circumstances in which the death occurred

9. At around 9.00am on 10 September 2022, KLH attended a tai chi class with her grandson. Following the class, they caught a tram to meet the rest of their family at a restaurant in Albert Park Village at 12.00pm.[2]

10. After lunch, they visited the playground at a local primary school in Albert Park. At approximately 1.20pm, KLH left the playground and boarded a Route 1 tram at stop 29, Cardigan Street, Albert Park, to return home.[3]

11. At this time, Carmelo Monello, a driver employed by Yarra Trams, was driving Tram 2098 along Route 6, Glen Iris to Moreland. At approximately 12.00pm, while travelling towards Melbourne CBD, Mr Monello was directed by the Operations Control Centre to divert via Park Street, Kings Way, William Street and Latrobe Street due to a protest in the city. Upon arriving at the tram stop on Toorak Road, Mr Monello advised passengers that the tram would not continue along St Kilda Road as expected.[4] Mr Monello subsequently advised investigators that he was confident in his ability to travel along the diversion route and had completed the same route on other occasions.[5]

12. Mr Monello then continued along the diversion route 6A towards the Melbourne CBD. He travelled along Kings Way and crossed Sturt Street in accordance with the white T-signal that permitted his travel through the intersection.[6]

13. As Mr Monello approached the intersection of Kings Way and York Street, he observed another tram that was stopped approximately 250 metres ahead at tram stop 117, which is south of York Street and positioned on the western (left) side of the tram line.[7] He recalled

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[1] Subject to the principles enunciated in *Briginshaw v Briginshaw* (1938) 60 CLR 336. The effect of this and similar authorities is that coroners should not make adverse findings against, or comments about, individuals unless the evidence provides a comfortable level of satisfaction as to those matters taking into account the consequences of such findings or comments.
[2] Statement of Yuxi Su dated 24 November 2022.
[3] Statement of Yuxi Su dated 24 November 2022.
[4] Statement of Carmelo Monello dated 24 December 2023.
[5] ONRSR Final Investigation Report, 11.
[6] Statement of Carmelo Monello dated 24 December 2023.
[7] ONRSR Final Investigation Report, 18.

observing several passengers alight and board the tram at stop 117. One of those passengers was KLH, who disembarked the tram. Her tram had also been diverted and would no longer include her expected destination of stop 18, Grant Street.

14. The relevant section of Kings Way is divided into lanes for north and southbound travel for motor vehicles, which is further separated by two sets of tram tracks in the middle of the carriageway. The intersection of Kings Way and York Street is controlled by traffic lights and also permits pedestrians to cross Kings Way with pedestrian lights.

15. On approach to stop 117, Mr Monello observed people standing immediately to the north of the tram stop, in the narrow section between the roadway and the tram tracks but facing out towards the roadway with their backs to the tram line. No commuters signalled for the tram to stop and Mr Monello proceeded to drive Tram 2098 past stop 117.[8]

16. Stop 117 includes an area pedestrians must remain behind, defined by yellow line markings and additional signage on the ground alerting pedestrians of the need to give way to trams. North and southbound trams travelling through stop 117 and the adjacent intersection are controlled by white T-signals. There are no pedestrian lights for the passage of pedestrians across the tram line.

17. At approximately 1.36pm, KLH was observed to be crossing the pedestrian crossing at the intersection of Kings Way and York Street that traverses the north and southbound tram lines. While there are inconsistencies between witness accounts regarding the exact path taken by KLH after exiting the tram, and it remains unclear whether she had been using her phone while crossing Kings Way, the witness evidence is consistent that KLH, inadvertently and without warning, stepped into the path of the oncoming Tram 2098. At this time, Tram 2098 had cleared stop 117 and Mr Monello estimated he was within a metre of crossing York Street, travelling in a northerly direction on the south side of the intersection of Kings Way and York Street.

18. A review of the CCTV footage from a nearby business on Kingsway shows KLH disembarking the tram at stop 117 via one of its rear door and proceeding to walk towards the pedestrian crossing at the northern end of the stop. The pedestrian crossing is obscured by a sign but there is at least one other pedestrian waiting at the pedestrian crossing.

[8] Statement of Carmelo Monello dated 24 December 2023; ONRSR Final Investigation Report, 19-20.

19. Mr Monello maintained that he did not have sufficient time to react and although he immediately applied full brakes after observing KLH move into his path, he was unable to avoid a collision.[9] KLH was struck by the front of the tram, which caused her to fall and hit her head. The tram ultimately came to rest approximately 28.4 metres from the point of impact and KLH was situated underneath the front of the tram.[10]

20. At approximately 1.41pm, Mr Monello notified the Operations Control Centre, and several bystanders stopped to render assistance and contacted emergency services. Ambulance Victoria, Fire Rescue Victoria, and Victoria Police arrived a short time later. Responding paramedics were able to assess KLH once the tram had been raised on hydraulic jacks by Fire Rescue Victoria, however they were unable to find signs of life and pronounced KLH deceased at 2.30pm.[11]

21. Police spoke with Mr Monello and conducted preliminary breath and saliva tests, which were negative for alcohol and illicit drugs.[12] Mr Monello was subsequently transported to the Brunswick depot by the Yarra Trams incident response team, where he underwent breath, urine and saliva analyses. The results were similarly negative for alcohol and illicit drugs.[13]

22. During the course of the investigation, records were provided by the Department of Transport which confirmed that aside from a pedestrian globe outage at the east leg crossing of Kings Way, there were no reported faults for traffic signals in the vicinity at the time of the collision.[14]

Identity of the deceased

23. On 12 September 2022, KLH, born [redacted], was visually identified by her son, RYJ.

[9] Statement of Carmelo Monello dated 24 December 2023.
[10] Victoria Police Traffic Incident System Incident Report, Incident Number T20220020492.
[11] Statement of Sergeant Nick Kiri dated 28 October 2022; Statement of Euan Ellis dated 2 February 2023.
[12] Statement of Leading Senior Constable Iqbal Singh dated 12 September 2022.
[13] Statement on behalf of KDR Victoria Pty Ltd trading as Yarra Trams dated 23 December 2022; Statement of Carmelo Monello dated 24 December 2023.
[14] Exhibits 12, Department of Transport, Traffic signal operation record.

24. Identity is not in dispute and requires no further investigation.

Medical cause of death

25. Forensic Pathologist Dr Melanie Archer from the Victorian Institute of Forensic Medicine (**VIFM**) conducted an examination on 13 September 2022 and provided a written report of her findings dated 3 October 2022.

26. Dr Archer reviewed a post-mortem computed tomography (**CT**) scan, which revealed multiple traumatic injuries, predominantly to the right-hand side, including to the chest, pelvis, and extremities, and fractures to the left ankle and foot. Dr Archer also observed extensive abrasions and lacerations to the face and upper limbs.

27. Toxicological analysis of post-mortem samples did not identify the presence of any alcohol, common drugs or poisons.

28. Dr Archer provided an opinion that the medical cause of death was 1(a) Multiple injuries sustained in a tram incident (pedestrian).

29. I accept Dr Archer's opinion.

YARRA TRAMS MECHANICAL INSPECTION

30. Immediately following the incident, a Yarra Trams Track Response unit identified that the track was clean, dry and in good condition. Their inspection further identified evidence of braking having been applied for a distance of approximately 10 metres.[15]

31. Yarra Trams conducted a mechanical inspection of the tram following the collision, which did not reveal any fault or failure in brake performance that would have caused or contributed to the incident.[16]

32. An analysis conducted by Yarra Trams of the tram's event recorder data identified that the driver activated the gong (an audible sound to alert traffic and pedestrians) and was coasting at approximately 30 kilometres per hour on approach to tram stop 117. While the data revealed that the driver momentarily pressed the accelerator pedal, the tram's speed did not increase.[17]

[15] Yarra Trams Incident Report TRK52/22, Statement on behalf of KDR Victoria Pty Ltd trading as Yarra Trams dated 23 December 2022.
[16] Engineering report, Statement on behalf of KDR Victoria Pty Ltd trading as Yarra Trams dated 23 December 2022.
[17] Engineering report, Statement on behalf of KDR Victoria Pty Ltd trading as Yarra Trams dated 23 December 2022.

33. At the time of the collision, the driver applied the full-service brakes, which released the dead man (safety) and braking pedals simultaneously and slowed the tram before reaching its resting position. The Yarra Trams review revealed that the driver did not apply the emergency brakes at the time of the collision, despite the driver's recollection that he in fact did so.[18]

34. Yarra Trams was not critical of its driver in this respect and acknowledged that he appropriately demonstrated his knowledge of braking techniques in a post-incident interview.

35. The Yarra Trams review concluded, given the close proximity of KLH when Mr Monello applied the brakes, that emergency braking would have reduced the tram's stopping distance but not significantly reduced the speed for the initial impact.[19]

REVIEW BY THE OFFICE OF THE NATIONAL RAIL SAFETY REGULATOR (ONRSR)

36. Victoria Police and Yarra Trams notified the ONRSR of the incident and the circumstances surrounding KLH's death. The ONRSR subsequently conducted a review of systems and processes applicable to the tram network and driver at the time of the incident, as well as an assessment of possible contributing factors.

37. In considering whether driver distraction in any way contributed to the collision, during the course of its review, the ONRSR examined Mr Monello's phone data and usage immediately prior to the collision. Investigators were unable to reach a definitive conclusion as to whether data usage approximately 10 minutes prior to the collision indicated user-driven data usage.[20]

Tram warning gong

38. The ONRSR relevantly highlighted Rule 33 of the Yarra Trams General and Driving Rules in its final report, which requires drivers to sound the gong as a warning to pedestrians observed in the vicinity of the tram line. The tram's warning gong is described as a safety mechanism whereby tram drivers can warn pedestrians of a tram's presence, or potential or imminent danger at both platform stops and safety zones.

39. Despite not having observed any pedestrians waiting at stop 117, Mr Monello nevertheless activated the tram's gong several seconds prior to the intersection. While there is also reference in Yarra Trams Defensive Driving documentation that drivers are to confirm eye

[18] Engineering report, Statement on behalf of KDR Victoria Pty Ltd trading as Yarra Trams dated 23 December 2022.
[19] Engineering report, Statement on behalf of KDR Victoria Pty Ltd trading as Yarra Trams dated 23 December 2022.
[20] ONRSR Final Investigation Report, 17.

contact with pedestrians to ensure the tram has been seen and/or heard, Mr Monello was unable to confirm that he established this eye contact prior to the collision and he maintained that he observed KLH at the pedestrian crossing north of the stop, and not waiting at the stop itself.

Safety in design and risk register

40. The ONRSR also considered Yarra Trams risk assessments relevant to stop 117, including a Safety in Design (**SiD**) and Risk Register conducted by Yarra Trams on 11 April 2021. This assessment identified hazards specific to this location, including the 'possible' risk that a pedestrian could be struck by a tram and suffer fatal injuries. The assessment also examined controls which could reduce the likelihood of this risk eventuating, including signage prohibiting pedestrian access at the end of the platform.[21]

Event recorder data – Speed and braking

41. During the course of its engineering review, the ONRSR also reviewed the tram's event recorder data. The data revealed that at approximately 1.38pm, the tram appeared to accelerate to a speed of between 30 to 32 kilometres per hour, before braking approximately 31 seconds later. The ONRSR considered that this particular application of brakes was "*significantly more aggressive*" than those recorded earlier and that this was the likely time of the collision. The ONRSR considered that the data demonstrated the tram was functioning as required, which was consistent with Mr Monello's recollection of the tram's operation that day.

42. As noted above, Mr Monello did not recall observing pedestrians waiting at tram stop 117. He was therefore not required to stop and was permitted to continue at the signposted speed limit of the adjacent road. In a record of interview, Mr Monello confirmed his understanding of this practice but advised that his preference was to adopt a cautious approach with busy intersections and that on this occasion, he maintained a speed of approximately 30 kilometres per hour through the tram stop.[22]

43. Having reviewed the event recorder, the ONRSR also identified the use of normal brakes at the point of impact as opposed to emergency brakes, contrary to Mr Monello's recollection of

[21] ONRSR Final Investigation Report, 13.
[22] ONRSR Final Investigation Report, 11.

events. Notwithstanding, the ONRSR was also of the view that emergency braking would have not have materially affected the force of impact at the time of the collision.

Safety zones

44. The ONRSR identified tram stop 117 had been classified as a 'safety zone' by Yarra Trams in accordance with the definition in the *Road Safety Road Rules 2017*, namely:

> "*…an area of a road at a place with Safety Zone signs at or near a tram stop and indicated by a structure on the road (for example, a dividing strip, pedestrian refuge or traffic island).*"[23]

45. According to Yarra Trams' safety management system, trams travelling through *occupied* tram stops classified as 'safety zones' are restricted to a maximum speed of 20 kilometres per hour. The ONRSR was unable to identify a clear definition of an unoccupied safety zone within the Yarra Trams General and Driving Rules.[24]

46. According to Mr Monello, the pedestrians he observed in the immediate vicinity of the pedestrian crossing were beyond the marked safety zone. Mr Monello had understood that the safety zone at stop 117 was confined to the pedestrian waiting area bordered by metal guide rails and did not extend to the pedestrian crossing immediately after stop 117.

47. As he did not observe KLH within stop 117 and believed the tram stop and associated safety zone were otherwise clear of pedestrians, Mr Monello maintained a speed of 30 kilometres per hour rather than reducing the speed to 20 kilometres per hour.

48. Notwithstanding tram stop 117 was classified as a safety zone, the ONRSR noted the lack of relevant signage in the vicinity, including the requisite yellow 'Safety Zone' sign, to alert tram drivers or pedestrians to this classification. The ONRSR considered that the tram stop did not satisfy the definition of a safety zone due to the absence of signage and was therefore not subject to the associated unoccupied speed restrictions.

49. The ONRSR review concluded that in the circumstances, Mr Monello's operation of the tram immediately prior to the collision was reasonable, appropriate, and not in breach of his duties pursuant to the *Rail Safety National Law*. Further, the review noted that as part of a

[23] Regulation 162(2), *Road Safety Road Rules 2017*.
[24] ONRSR Final Investigation Report, 13.

post-incident assessment, Yarra Trams recognised the need to provide clearer definitions and guidance to drivers on safety zones and their occupancy status.

FINDINGS AND CONCLUSION

50. Pursuant to section 67(1) of the Act, I make the following findings:

    a) the identity of the deceased was KLH, born [redacted];

    b) the death occurred on 10 September 2022 at Tram Stop, Kings Way/York Street, South Melbourne, Victoria, from multiple injuries sustained in a tram incident; and

    c) the death occurred in the circumstances described above.

51. While I accept the conclusions of Yarra Trams and ONRSR with respect to the application of emergency brakes, I consider that KLH could have been more readily observed and a collision ultimately prevented had the tram been travelling at a reduced speed.

52. Having regard to the available evidence, I am satisfied that the configuration of the pedestrian crossing adjacent to tram stop 117 presents an unacceptable risk to pedestrians. I consider that this risk warrants the introduction of appropriate 'safety zone' signage and associated speed restrictions which, given the proximity of commuters who may be waiting at the tram stop, should extend to the pedestrian crossing.

I convey my sincere condolences to KLH's family for their loss.

RECOMMENDATIONS

Pursuant to section 72(2) of the Act, I make the following recommendations:

(i) Yarra Trams carry out works to Stop 117 to ensure that it complies with the requirements under the definition of 'safety zone' pursuant to Regulation 162(2)(a) and (b) of the *Road Safety Road Rules 2017*.

(ii) Yarra Trams' amend its safety management system, to require trams travelling through *occupied* pedestrian crossings adjacent to tram stops classified as 'safety zones' to restrict their speed to a maximum speed of 20 kilometres per hour.

Pursuant to section 73(1B) of the Act, I order that this finding be published on the Coroners Court of Victoria website in accordance with the rules.

I direct that a copy of this finding be provided to the following:

Senior Next of Kin

Yarra Trams

First Constable Briony Strongman, Coroner's Investigator

Signature:

Coroner David Ryan

Date : 03 May 2024

NOTE: Under section 83 of the ***Coroners Act 2008*** ('the Act'), a person with sufficient interest in an investigation may appeal to the Trial Division of the Supreme Court against the findings of a coroner in respect of a death after an investigation. An appeal must be made within 6 months after the day on which the determination is made, unless the Supreme Court grants leave to appeal out of time under section 86 of the Act.