IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

Court Reference: COR 2010 / 4963

FINDING INTO DEATH WITHOUT INQUEST

Form 38 Rule 60(2)
*Section 67 of the **Coroners Act 2008***

I, IAIN TRELOAR WEST, Coroner having investigated the death of **KAM WAH KOH**

without holding an inquest:
find that the identity of the deceased was Kam Wah Koh
born on 15 March 1926 and aged 84 years
and the death occurred on 31 December 2010
at Alfred Hospital, Commercial Road Prahran
from:

1 (a) Pneumonia complicating fractured cervical spine in the setting of fall.

Pursuant to section 67(2) of the **Coroners Act 2008**, I make findings with respect to **the following circumstances**:

1. Kam Wah Koh was an 84 year old man who died on 31 December 2010 from respiratory complications following an acute admission to the Alfred Hospital on 22 December 2010. His hospitalisation was necessitated by a fall from his seat (a raised front seat over the wheel arch) on a bus which was forced to brake suddenly and hard to avoid an accident (with an unidentified vehicle) on leaving Glen Waverley Railway Station. Mr Koh was found by a fellow passenger on the floor on his back with his head near the driver's exit. He was unable to move, and was later found to have suffered a fracture of the cervical spine which rendered him paraplegic.

2. As well as the investigating member, Constable M Keatley's own statement, she obtained statements from the passenger who assisted Mr Koh on the bus following the fall, Ms A Cook, the bus driver, Mr P Singh, Forensic Pathologist, Dr M Lynch, an attending ambulance paramedic, Ms T Pezzimenti, and one of Mr Koh's daughters, Ms M Koh.

3. There was clear evidence that the true nature, extent and seriousness of Mr Koh's injuries were not immediately apparent to Ms Cook or Mr Singh. Although Mr Singh immediately notified his company of the accident and sought ambulance assistance, the ambulance did not arrive for a period of one hour. In part, this was because the ambulance service was not advised of any particular urgency until after Mr Singh made a second and third call. Given the nature of Mr Koh's actual

injury to his spine, which was directly caused by the fall, there was no evidence to suggest that the delay in Mr Koh being transferred to hospital in any way changed the outcome or the course of events which led to his death nine days after the fall.

FORENSIC PATHOLOGIST EXAMINATION AND MEDICAL EVIDENCE

4. Mr Koh was taken to the Alfred Hospital by ambulance where a full spine MRI was conducted revealing extensive spinal damage involving immediate loss of sensation from the strernum down and profound lower limb weakness and upper limb weakness. He was seen by the trauma team and was found to be unable to move his legs and had no sensation from T4 down. Mr Koh was seen by the orthopaedic spinal team as to medical management. He was managed in the intensive care unit from 23 to 27 December 2010 to monitor respiratory function, and was treated conservatively with dexamethasone. After returning to the ward, Mr Koh was diagnosed with LLL pneumonia and was commenced on intravenous penicillin and medication. The condition was compounded by a loss of intercostal/accessory muscles of breathing, leading to respiratory distress. On review by trauma, respiratory and ICU teams and physiotherapy, Type 2 respiratory failure was diagnosed and treated with some improvement. All treatment options were considered and discussed with family and Mr Koh, who was palliated on 30 December 2010.

5. An external examination of Mr Koh was undertaken by Dr Lynch, a Forensic Pathologist with Victorian Institute of Forensic Medicine, who provided a report to the Coroner. Dr Lynch noted that Mr Koh was an elderly man with a past history of ischaemic heart disease, coronary artery bypass graft surgery and hypertension, together with an indwelling catheter in situ. He had evidence of a C5 fracture with cord compression. The pathologist stated that his external examination of the body and his findings were consistent with the history of cervical spine fracture following the fall from the seat of the bus. He went on to confirm that Mr Koh developed pneumonia and Type 2 respiratory failure, leading to a decision to treat him palliatively. He died on 31 December 2010. The pathologist found "no issues on the medical deposition. A MRI in hospital described posterior paravertebral oedema with haematoma extending from occiput to C5-6." He concluded that "(H)aving regard to the above in my view it would be reasonable in the circumstances and in the absence of internal examination to express the cause of death" as described above. No toxicology report was available, as no suitable ante mortem specimens could be obtained from the Alfred Hospital.

FACTORS CAUSING AND CONTRIBUTING TO DEATH

6. I find that Mr Koh died on 31 December 2010 at the Alfred Hospital, Commercial Road Prahran and that the cause of his death was pneumonia and respiratory failure. The context to the development of this fatal respiratory condition was his hospitalisation following the fall on the bus and consequent serious cervical spine injury. Given Mr Koh's age and previous medical history, and notwithstanding his generally good state of health for his age, in all the circumstances, I am satisfied that the mechanism of his death was due to a natural deterioration of his respiratory system in the context of his hospitalisation for his spinal injuries.

COMMENTS:

Pursuant to section 67(3) of the **Coroners Act 2008**, I make the following comment(s) connected with the death:

7. A number of issues has been raised by Mr L Hain, a road safety campaigner, on behalf of the family of Mr Koh, regarding the course of events after the incident. He pointed particularly to the time taken for an ambulance to arrive to transport Mr Koh to hospital, and the apparently inconsistent statements made by the bus driver about how the fall had occurred, the circumstances leading up to it, and his actions in response to the predicament of Mr Koh on the floor of the bus awaiting the ambulance. Mr Hain made several representations, both on behalf of the family and independently, touching on a range of general issues concerning bus safety, including compulsory seat belts, compulsory first aid training for drivers (particularly skills in identifying injuries and acting as a first responder), the powers of Transport Safety Victoria, including its investigation powers, and the failure by any authorities to notify Victoria Police until after Mr Koh's death some 9 days after the accident.

8. Having carefully considered the various representations, I am not persuaded that an inquest or obtaining further medical advice beyond that available to me in the medical notes and reports from Mr Koh's Alfred Hospital files will clarify the relevant medical issues before me, nor will they throw any further light on the cause of death in this case. Each of the issues raised is important, but is beyond the scope of the inquiry that I am required to undertake in accordance with the relevant legislation. Having carefully considered all the available evidence, and the various issues arising from this tragic event, I cannot be satisfied that any other intervention at an earlier time would have changed the course of events which led to the death of Mr Koh.

9. I am aware that, as a result of previous inquiries and inquests, coroners have made a range of recommendations regarding bus safety issues. These include compulsory seat belts on school, public transport and other buses, and compulsory training of bus drivers in first aid and CPR. In relation to the former, there is a range of practical complexities that make it very difficult to recommend compulsory seat belts on urban commuter passenger buses including large capacity (seated and standing passengers), high turnover and short distance travelling, and design standards around safe seat anchoring and related issues. It is noteworthy that there are now Australian Design Standards requiring compulsory seat belts on long distance coaches following previous coronial and other recommendations, but not yet the same for even rural school buses, despite their obvious safety attraction.

10. In my view, all of these recommendations were appropriate. However, in particular, this case highlights the importance of bus drivers being provided with regular and adequate first aid training to enable them to assist passengers in the event of injury. Even in the event that this recommendation were fully implemented by Transport Safety Victoria or individual bus companies, it is unlikely that, in the circumstances of Mr Koh's fall, the outcome would have been any different. That, however, is no reason not to recommend the implementation of such training on a statewide basis for all bus drivers.

RECOMMENDATION:

Pursuant to section 72(2) of the **Coroners Act 2008**, I make the following recommendation connected with the death:

That Transport Safety Victoria implement a program to ensure that there is regular and adequate first aid training of bus drivers to enable them to assist passengers in the event of injury. The program should include the ability to give cardio pulmonary resuscitation when required and to provide a reasonable assessment of the seriousness of any injuries and the urgency of any ambulance, or other medical response, to minimise the likelihood that a passenger's condition will deteriorate.

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

Mr Koh's family

Mr L Hain, Applewood 18 Grand Boulevarde Doncaster 3108

Manager, Clinical Governance Unit, Alfred Health, PO Box 315 Prahran 3004

Chief Executive Officer, Transport Safety Victoria, 121 Exhibition Street Melbourne 3000

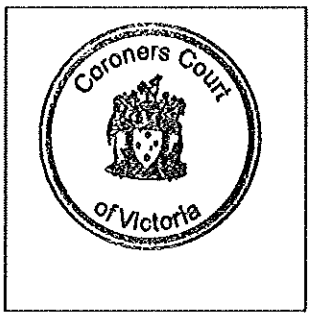
Chief Executive Officer, Dysons Bus Services, 121 McKimmies Road Bundoora 3083

Chief Executive Officer, Bus Association

Mr M Averkiou, Manager Transport Insurance and Risk Management, Department of Transport, PO Box 2797, Melbourne

Chief Executive Officer, Vic Roads, 60 Denmark Street Kew 3101.

Signature:



IAIN WEST
DEPUTY STATE CORONER
Date: **17 November 2014**