

IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

Court Reference: 0418 / 2011

FINDING INTO DEATH WITH INQUEST

Form 37 Rule 60(1)

Section 67 of the Coroners Act 2008

Inquest into the Death of: MELISSA RYAN

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| Delivered On: | 15 November 2013 |
| Delivered At: | Coroners Court of Victoria Level 11, 222 Exhibition Street Melbourne VIC 3000 |
| Hearing Dates: | 27-28 May 2013 |
| Findings of: | Coroner Heather Spooner |
| Representation: | Ms Hinchey on behalf of Volkswagen Group Australia |
| Police Coronial Support Unit | Sergeant David Dimsey |

I, HEATHER SPOONER, Coroner having investigated the death of MELISSA RYAN

AND having held an inquest in relation to this death on 27 and 28 May 2013

At MELBOURNE

find that the identity of the deceased was MELISSA ANN RYAN

born on 1 February 1978

and the death occurred on 31 January 2011

at Monash Medical Centre, 246 Clayton Road, Clayton, 3168

from:

1 (a) HEAD INJURIES POST MOTOR VEHICLE INCIDENT (DRIVER)

in the following circumstances:

1. Melissa Ann Ryan was 32 years of age at the time of her death. She was much loved by her family and was looking forward to a future with her fiancé, Mr Wayne Belford, with whom she was living in Berwick. Melissa held a full driver's licence. She had no known relevant medical history.

Brief summary of events leading to death

2. On the afternoon of Monday 31 January 2011, Melissa left her place of work and commenced driving in an easterly direction along the Monash M1 Freeway. She was driving her 2008 model Volkswagen Golf GTI hatchback ('VW Golf') with a manual transmission and petrol engine.¹ She was the sole occupant of the vehicle.
3. At 3.47pm, Melissa's close friend and former colleague Ms Khanh-vy Ho received a telephone call from Melissa. Ms Ho knew that Melissa was in her car driving at the time. The two friends engaged in a conversation for approximately 11 minutes. In her statement to police, Ms Ho recalled that:

*'Half way through Mel's sentence her speech slowed down like she was distracted and there was a pause, for not even a second. Mel then gasped 3 times. It was 3 short quick gasps. I could hear a car swerve then a crash.'*²

¹ This was not a model that was subject of a subsequent Volkswagen Group Australia (VGA) recall notice that is referred to later in this finding

² Exhibit J, Statement of Ms Khanh-vy Ho, p 10 of the Inquest Brief

4. At this time, Melissa was driving in the far right lane of the four eastbound-running lanes of the Monash Freeway. Mr Ivan Mumford, a commercial truck driver operating a B-double truck-trailer combination, was travelling directly behind Melissa.
5. As Mr Mumford approached the Huntingdale Road overpass, the front of his truck collided into the rear of Melissa's vehicle causing major damage. Mr Mumford applied the brakes of his vehicle in an attempt to avoid the collision, leaving 74 metres of skid marks.
6. Melissa's vehicle spun clockwise 180 degrees, with the passenger side of the vehicle striking the wire rope safety barrier before coming to rest in the emergency stopping lane facing the opposite direction. The point of impact was approximately 130 metres east of the Huntingdale Road overpass.
7. The driver's side and curtain airbags deployed as a result of the side impact. The front driver and passenger airbags did not deploy.
8. The environmental conditions at the time were described as fine. It was daylight, visibility was deemed excellent and the road surface was dry. Several other witnesses who were travelling on the Monash Freeway at the time and who provided statements to police had described the traffic as light and flowing quite well.
9. Apart from Mr Mumford, there were no other direct eyewitness accounts of the actual collision.
10. A trainee paramedic was driving behind Mr Mumford's truck when the collision occurred. This witness stopped his car behind the truck and saw Melissa's damaged vehicle on the far right side facing the opposite direction and immediately provided assistance. In his statement, this witness recalled that he alighted from his car, and saw Mr Mumford get out of his cabin and run back towards Melissa's car, yelling "she just stopped, she just stopped."³
11. Melissa was assisted at the scene by the trainee paramedic and several other witnesses until MICA paramedics arrived. She was then transported by MICA to The Alfred Hospital. En route to The Alfred, Melissa suffered a cardiac arrest and was instead taken to the Monash Medical Centre Emergency Department. Melissa underwent an exploratory laparotomy and left thoracotomy, however death was confirmed at 6.10pm.

³ Exhibit J, Statement of Joshua Wilson, p 56 of the Inquest Brief

The coronial investigation

12. The *Coroners Act 2008* (the Act) sets out the role of the coronial system in Victoria. This role is to independently investigate certain deaths to establish, if possible, the identity of the deceased, the cause of the death (interpreted as the medical cause of death) and the circumstances in which the death occurred. A coroner's role is also to contribute to the reduction of the number of preventable deaths and the promotion of public health and safety and the administration of justice.⁴
13. At my direction, Leading Senior Constable (LSC) Allen Fraser from the Nunawading Highway Patrol was the investigating police member who compiled a coronial brief of evidence for me.
14. Identity and the medical cause of Melissa's death were not in dispute. The circumstances in which her death occurred were the primary focus of this inquest.

Post-mortem examinations

15. An external examination was performed by Dr Paul Bedford, Specialist Forensic Pathologist from the Victorian Institute of Forensic Medicine (VIFM). He formulated the medical cause of death as '*head injuries post motor vehicle incident (driver)*' and in his report, Dr Bedford noted in part:

'No definite markings of a seatbelt seen in the right shoulder or clavicular region. In the lower abdomen there is an area of greenish purple bruising 40 x 25 mm just lateral to the right iliac crest. No mark is seen across the lower abdomen. On the left lower abdomen over the hip joint is an area of greenish bruising 90 x 50 mm'.⁵

16. Dr Bedford concluded his report by stating:

'No definite indication of the wearing of a seatbelt was identified.'

17. Post-mortem toxicological analysis did not detect the presence of alcohol or common drugs and poisons.

⁴ *Coroners Act 2008* (Vic) Preamble and s 1

⁵ Exhibit J, Report of Dr Paul Bedford, p 3 of the Inquest Brief

The truck

18. The truck driven by Mr Mumford was a 2005 Volvo FM12 prime mover B-double truck and trailer combination measuring 25 metres in length and an overall total weight of 38,360 kg.⁶
19. Mr Mumford's employer provided the court with documents relating to the truck's service history. The truck had been purchased new in 2005 and it had been regularly serviced.

The truck driver

20. Mr Mumford held a full and valid driver's licence with a multi combination endorsement. He had no prior traffic offences recorded.
21. LSC Fraser spoke to Mr Mumford at the scene. During that conversation he asked several questions, including the following:

'I said, "What were you doing prior to noticing that she had slowed?"

He said, "I had just started to accelerate, I checked my mirrors and then checked the traffic flow ahead. She was in my peripheral vision; all of a sudden she had almost come to a stop in front of me. I stood on the brakes and at this time there was only about 8 feet between us. I hit her, pushed her forward and then her car took off and stopped against the wire."

I said, "Did you see the VW's brake lights come on at all?"

He said, "Not that I noticed."

22. Mr Mumford prepared a handwritten statement for his employer later on the day of the incident. His handwritten statement read in part:

'On Monday, 31/01/2011, somewhere between 4 and 5 pm, I was travelling outbound on the Monash Freeway in a B-double truck. I came over Warrigal Road. The freeway was running good [sic]; all the traffic was flowing. I was travelling at 100 kilometres per hour. As I approached Huntingdale Road, I looked at the top of the hill; I spotted some brake lights so I backed off to 85/90. As I went under Huntingdale Road the traffic had picked up again. I started to accelerate. The car in front of me had also started to pick up speed. As that car had about two to three

⁶ Exhibit H, Statement of Detective A/Senior Sergeant Bellion dated 7 September 2012, p 102 of the Inquest Brief

B-double lengths in front of it, and I had at least a good semi-length in front of me. The car in front of me also had started to accelerate. I re-checked; all was go. Next thing, the car had stopped in front of me. There was no warning, no brake lights, no nothing, just stopped. I jumped on the brakes. I skidded a short distance and hit the car, and then continued to slide. I remember getting off the brakes and straight back on them. The car spun out to the right as I slid past and stopped'.⁷

23. Mr Mumford was also formally interviewed by police on 23 March 2011.

24. During this Record of Interview, when police asked how the collision occurred, Mr Mumford said:

'At the time, we were travelling up the Monash Freeway. I'd come over Warrigal Road. The traffic was flowing... - what I'd call it brilliantly. We were up right on the 100 k mark on the speedo, and come up to Huntingdale Road. And as I approached Huntingdale Road bridge, I looked up to the top of the hill further and noticed brake lights so I backed off, as you do, with a big truck like that. And I slowly approached up towards the back of the brake lights. When I went under Huntingdale bridge the brake lights had all disappeared, the traffic had picked up, and all the vehicles in front of me had started to accelerate and go with the flow of traffic. I looked up the road further again, and all the traffic had moved on – like, there was a big gaps. And the couple of cars and that that were in front of me, they were also still accelerating away from me. So I kept accelerating, now building back up to speed. I presume I got up to somewhere around the 90, 95 k mark, if that, and I looked again, and the cars were still going. And I probably had a semi – semi and a half lengths between me and the first car in front of me. And I just happened to glance around in the mirrors to make sure everything was still alright around me, as you do. I looked up the road again, everything was still flowing. The next minute I knew – or next minute – next couple of seconds, 'cos that's what it seemed like – the car in front of me had literally stopped, and it was less than a truck length in front of me. I've applied the brakes as hard as I could to try and avoid the accident.'⁸

⁷ Exhibit A, handwritten statement of Mr Ivan Mumford, pp 55a – 55b of the Inquest Brief

⁸ Transcript of Victoria Police Record of Interview with Mr Ivan Mumford on 23 March 2011, pp 16 – 18

Victoria Police decision not to prosecute

25. Mr Mumford was advised at the conclusion of the police interview that he may be charged with careless driving, however the charge was not pursued by Victoria Police.⁹

The mobile phone and conversation

26. The police located Melissa's mobile phone in the emergency stopping lane, approximately two metres east of the rear of her vehicle.

27. In her statement to police, Ms Ho detailed the nature of her relatively lengthy mobile conversation with Melissa. The pair had discussed various things including work-related matters, recent holidays and rescheduling Melissa's birthday dinner. During the conversation, Ms Ho had asked Melissa if she was on hands-free:

'We were just about to end the conversation.

I said, "Hey, are you on hands free"

Mel said, "Yeah"

Then we started talking again. I know she is always on hands free but I have a habit of asking all my friends and clients'.¹⁰

28. In letters from Melissa's family to the court, it was stated in part:

On 12 July 2011: *'We understand the mobile was on hands free speaker'.*

On 10 August 2011: *'We know it was Melissa's pattern to speak on her mobile when driving. She would have it in her console, or lap, and have it on loud speaker'.*

On 4 October 2012: *'We accept that she was 'on the phone' with the phone in the console on loudspeaker'.*

29. LSC Fraser did not locate a hands-free kit or phone holder in Melissa's vehicle. In his statement he stated in part:

'During the inspection of the collision scene a mobile phone was located in the emergency stopping lane, approximately 2 metres east of the rear of the VW, next to the centre wheel of the rear trailer of the B-double. The phone was in pieces. It was later identified to be Melissa Ryan's phone.

⁹ The evidence at inquest of LSC Fraser regarding this issue is referred to later in this finding

¹⁰ Exhibit J, Statement of Ms Khanh-vy Ho, p 10 of the Inquest Brief

*I inspected the VW and found there was no mobile phone holder or hands free kit fitted to it, I was unable to locate one lying inside the vehicle.'*¹¹

30. However, LSC Fraser told the Inquest that the VW Golf had a Bluetooth facility that Melissa could operate by logging the mobile phone into the system and that once she sits in the car and turns on the ignition on, it recognises the telephone and can be controlled from the steering wheel.¹²
31. Although this new evidence at Inquest indicated that Bluetooth was fitted to the vehicle, it was apparent that the various references during the course of the investigation to 'hands-free' and 'loud speaker' may have created some ambiguity and confusion.¹³
32. As it transpired this issue was not crucial in my determination of the potential level of any driver distraction that may have occurred; whether Bluetooth was fitted or, as the weight of evidence suggests, that Melissa's mobile was 'hands-free' on 'loud speaker' either on her lap or in the console, as her family indicated in their correspondence to the court.

Family concerns

33. The court first received a letter of concern from Melissa's family dated 12 July 2011. Melissa's family acknowledged that Melissa was using her mobile telephone at the time of the collision. However, they did not believe that the mobile phone was a key factor in the incident as there was no evidence of erratic driving, swerving or meandering out of her lane. Melissa's family suggested that the distraction that caused Melissa to stop speaking for a second, was that the vehicle had inexplicably dramatically slowed down, and that a plausible explanation was a vehicle malfunction. They continued to assert and maintain

¹¹ Exhibit F, Statement of LSC Allen Fraser dated 25 May 2011, p 91 of the Inquest Brief

¹² Transcript of Inquest held on 27-28 May 2013, p 90

¹³ During the preparation of my finding, it became apparent that a mistake may have been made during the Inquest opening summary to the effect that the vehicle was fitted with Bluetooth technology (p 7, Inquest Transcript). This assertion was repeated during the course of the evidence from LSC Fraser (pp 83-84 Inquest Transcript). I could not locate any evidence to support the retrofitting of Bluetooth technology to Melissa's vehicle or any other evidentiary basis for this change of view so I requested some clarification from LSC Fraser through my Police Assistant Sergeant David Dimsey. On 29 October 2013, LSC Fraser sent him the following email message:

'Good afternoon David, As per our earlier phone conversation in relation to a blue tooth device being fitted to Melissa's VW. My evidence has always been that I did not observe a blue tooth device of any description fitted to her VW on the day of the collision nor any day after that. The reason I gave evidence at the inquest that I conceded that there was a blue tooth device fitted to her vehicle, was based on what her family had told me. There was no physical evidence to support this.'

It is noted that this recent explanation of LSC Fraser differs from his evidence at inquest and particularly insofar as it refers to any reliance on what he may have been told by Melissa's family, it was never tested.

this position throughout my investigation.

Vehicle inspection by Victoria Police

34. Melissa's vehicle was towed by Mack Towing & Transport to a location in Huntingdale. On 8 February 2011, LSC David Ackland from the Victoria Police Mechanical Investigation Unit performed a mechanical inspection (not computer-based) on Melissa's vehicle and prepared a statement.¹⁴ In his report, LSC Ackland stated:

*'Prior to and at the time of the collision, this vehicle would have been classed as being in a roadworthy and safe condition. My inspection did not reveal any mechanical faults that would have caused or contributed to the collision.'*¹⁵

35. LSC Ackland recorded the following observations in his statement:

'Salvage Damage: Off-side front seatbelt salvage cut

...

*Rear lighting: All severely impacted, stop and tail filaments distorted indicating possible illumination at impact.'*¹⁶

Vehicle inspection by Mr McCabe

36. Melissa's family requested that Mr Michael McCabe, a highly experienced auto-electrician, assess Melissa's vehicle. A few weeks after the collision, Mr McCabe and Mr Belford attended Mack Towing & Transport in Huntingdale and inspected the vehicle. Mr McCabe used a Hana Tech Ultrascan to read the codes stored in the vehicle computer, accessed through an On Board Diagnosis Connector.

37. On 26 January 2013, Mr McCabe prepared a statement for police. Mr McCabe's analysis identified five fault codes displayed. Mr McCabe stated:¹⁷

'After reading these codes in my opinion the VW had gone into Limp Home Mode. This means that the car would operate at a reduced rate of power. This occurs when the computer has sensed faults within the car, and the computer has reduced the amount of power the car can use in order to protect the car, whilst still keeping it

¹⁴ Exhibit G, Statement of LSC David Ackland dated 22 February 2011, pp 76 – 79 of the Inquest Brief

¹⁵ Exhibit G, Statement of LSC David Ackland dated 22 February 2011, p 79 of the Inquest Brief

¹⁶ Exhibit G, Statement of LSC David Ackland dated 22 February 2011, pp 77 – 78 of the Inquest Brief

¹⁷ Exhibit E, Statement of Michael McCabe dated 26 January 2013, p 83 of the Inquest Brief

mobile. The common denominator in the codes is that the power supply is too large.'

38. Further:

'In my opinion, Melissa was travelling at a speed, when the computer detected a fault and put the vehicle into a Limp Home Mode. This would have meant a reduction in speed. In this mode the car will not operate at a higher speed. The driver would only be able to navigator [sic] the car to a safe position, i.e. the emergency stop lane or a low speed lane. The only way to rectify these faults would be to take it to a repairer and have the cause established and rectified.'

Vehicle inspection by Mr Chilvers, Barloworld Volkswagen Glen Waverley

39. Victoria Police requested Warren Chilvers, a qualified diagnostic technician for Barloworld Volkswagen in Glen Waverley with 17 years experience, to examine Melissa's vehicle. On 19 May 2011, Mr Chilvers attended Mack Towing & Transport in Huntingdale and successfully retrieved the diagnostic log and interpreted the information. In his report, Mr Chilvers stated:¹⁸

'The event memory regarding Motronic Engine Management shows 5 detected faults relating to the crash signal received from the airbag control unit instructing the ECU to cut off voltage supply to components which could ignite fuel which might spill after a crash. The crash shut-off was triggered at a time of 15:58:42 and the others followed at 15:58:43 a split second later with the mileage at 38,970 kms.

Further on in the diagnosis log there is information regarding the vehicle's electrical system showing all the light bulb and door control unit faults as well as the triggered airbags due to the damage done in the crash.

In conclusion to the outcome of the diagnostic log it is evidence to me that there is no information implicating the car as being the cause of the accident.'

Volkswagen Group Australia (VGA) investigations

40. In light of the concerns raised, and the apparent conflict in the statements, Volkswagen Group Australia was contacted by the court.

41. On 23 September 2011, and on 3 and 4 October 2011, Senior Constable Jones of the

¹⁸ Exhibit C, Statutory Declaration of Warren Chilvers dated 26 May 2011, p 80 of the Inquest Brief

Mechanical Investigation Unit retrieved additional components from Melissa's vehicle including the S.R.S. Module, S.R.S. crash sensors from the front doors, and the engine ECU.¹⁹

42. On 7 October 2011, I requested VGA to assist with analysis and interpretation.
43. On 8 June 2012, the solicitors for VGA wrote to me requesting further components and an inspection of Melissa's vehicle. Enquiries revealed that the vehicle had been sold as a 'write off' on 13 December 2011 to an unknown buyer after the insurer had apparently been advised that it was no longer required for a police investigation.
44. Had VGA's request been made in the intervening two months between my request for their assistance and the vehicle disposal, then clearly it could have been accommodated.
45. It would be a rare circumstance indeed for a vehicle to be retained under a Coroners Authority and in this case, the vehicle had already been subject to several inspections including those of Mr McCabe, Mr Chilvers and also by the mechanical inspection unit of the Victoria Police. Later evidence indicated that there may have been little to gain from a further vehicle inspection, given the items that had been removed from the wreck.

Mr Ralf Leist, Manager at Volkswagen AG, Wolfsburg, Germany

46. Mr Ralf Leist, Chartered Engineer and Manager at Volkswagen AG Department of Quality Assurance in Germany provided a report on the analysis of the log, and the speed of the vehicle. In his original report dated 10 September 2012, (also dated 21 September) Mr Leist stated in part:²⁰

'As the vehicle is not available anymore, the analysis report is based on the analysis of the available engine and airbag ECUs as well as the descriptions, statements and reports provided by the Coroners Court (i.e. report dated 25.10.2011, letter dated 7.10.11).'

47. Mr Leist stated:

'The engine ECU has been analysed by its manufacturer Bosch on behalf of Volkswagen. For evaluating whether the recorded data are [sic] reliable, the engine ECU has been tested for determining if the ECU operates within specification or if

¹⁹ Exhibit J, Statement of LSC Jones dated 4 October 2011, pp 93 – 94 of the Inquest Brief

²⁰ Exhibit J, Report of Mr Ralf Leist dated 10 and 21 September 2012, pp 95 – 98 of the Inquest Brief

*any malfunction occurs.*²¹

A series of tests were performed, and Mr Leist stated that:

*'The engine ECU operated in these test [sic] within specification and no malfunction was detected. The entries recorded in the ECU states that the system operated within specification and did not record any malfunction.'*²²

48. Further:

*'The airbag ECU and two pressure satellites from the front vehicle have been analysed by its manufacturer, Continental, on behalf of Volkswagen. For evaluating whether the recorded data are reliable, the airbag ECU has been tested for determining if the ECU operates within specification or if any malfunction occurs.'*²³

Again, a series of tests were performed and:

*'Both, ECU and pressure satellites operated in these tests within specification and no malfunction was detected.'*²⁴

49. Thus, the manufacturers of both the engine ECU and airbag ECU deemed them to be operating correctly at the time. Mr Leist therefore concluded that:

*'The entries in the data log of the ECU are plausible and reflect a comprehensible crash incident; the system operated within specification and no malfunction has been recorded in the ECU.'*²⁵

50. Mr Leist's report goes on:

'The data log shows an entry related to the brake light electric circuit. The entry "on" indicates that the brake lights were operating before the crash and were shut off (entry "off") after the crash. That is in line with the findings summary of the Victoria Police Mechanical Investigation Unit which stated that "Rear lighting: All severely impacted, stop and tail filaments distorted indicating possible illumination at impact" and is, therefore, plausible while date and time of the brake light electric

²¹ Exhibit J, Report of Mr Ralf Leist dated 10 and 21 September 2012, p 96 of the Inquest Brief

²² Ibid

²³ Ibid

²⁴ Ibid

²⁵ Ibid

circuit related entries (13.09.2005, 31:63:63) are implausible.

The data log states a speed of 31 kph. The speed recorded in the data log reflects the speed at the time of recording. As the sensors and the ECUs have to communicate with each other, the recording is principally started after an incident with a delay of up to 2 seconds after the incident occurred according to our experience. Due to this delay, the speed entry in the data log does principally not indicate the actual speed of a vehicle at the time of collision [sic]. According to the accident description, the impact has caused the VW Golf GTI to spin clockwise 180° coming to rest in the emergency lane. The spinning of the vehicle reduces substantially its speed. Having a delayed recording and a speed reduction caused by the spinning of the vehicle, the actual speed must have been substantially higher than 31 kph.'

Assessment of the Accident:

The Volkswagen Accident Research Department has been involved for assessing the accident based on the available pictures and the accident statements and descriptions. According to the engineering judgment [sic] and experience of the accident analysis experts, the deformation of the VW Golf GTI indicates an application of force at collision [sic] similar to a Δv [²⁶] of approximately 40 kph.

The VW Golf GTI was being followed by the truck trailer combination approximately 40 meters behind the vehicle travelling at approximately the same speed of 100 kph. No wheel traces are documented or described. Thus, neither the VW Golf GTI nor the truck made a full application of the brake. As the truck driver did not see any braking lights, we assume that he drove further on at approximately 100 kph.

The actual speed of the VW Golf GTI at the time of collision [sic] was considerably higher than the 31 kph stated in the data log (see explanations above). Assuming an actual speed of approximately 50 kph or 60 kph and having a Δv of approximately 40 kph, the speed of the truck at the time of collision [sic] is supposed to be approximately 90 kph or 100 kph.

Assuming that the VW Golf GTI did not brake (the truck driver did not see any braking lights), the deceleration of the VW Golf GTI would be caused by the engine brake (i.e. the driver stopped to push accelerator pedal, maybe as a result of being

²⁶ Delta-V, or Δv , indicates an upward differential in scalar velocity, i.e. a greater speed

distracted by making a phone call). The VW Golf GTI would have decelerated by the engine brake in approximately 20 seconds from approximately 100 kph down to approximately 60 kph. If the VW Golf GTI driver pushed the braking pedal instead of the acceleration pedal, the truck would have colluded [sic] into the VW Golf GTI in less than approximately 20 seconds.

According to the data log and the findings summary of the Victoria Police Mechanical Investigation Unit, we assume that the brake lights have been illuminated at impact which indicates that the VW Golf GTI has applied the brake without full application of the brakes as wheel traces are neither documented nor described.

According to the accident description, the truck driver has braked immediately when he realized that the VW Golfs [sic] GTI has slowed dramatically. As no wheel traces were documented we assume that the truck driver applied the brakes immediately before the collusion [sic] without reducing substantially the speed of the truck as wheel traces are neither documented not described.

Assuming a Δv of approximately 40 kph, a speed of the VW Golf GTI considerably higher than 31 kph, 40 m distance between truck and VW Golf GTI before decelerating, the Volkswagen Accident Research Department comes to the conclusion that at the time of collusion [sic] the VW Golf GTI was travelling at a speed of approximately 50 kph or 60 kph and the truck at approximately 90 kph or 100 kph.²⁷

Collision reconstruction by Detective Sergeant Bellion

51. On 6 September 2012, LSC Fraser requested Detective Sergeant (Det Sgt) Peter Bellion from the Major Collision Investigation Unit to perform a collision reconstruction and to provide a report on his findings.²⁸ Det Sgt Bellion is a civil engineer with extensive qualifications and experience in collision reconstruction. Det Sgt Bellion was provided with the following material/information to inform his analysis:

- Photographs of the scene and the damaged VW Golf;
- Crush damage to the rear of the VW Golf (200mm), sketch plan and measurements;

²⁷ Exhibit J, Report of Mr Ralf Leist dated 10 and 21 September 2012, pp 97 – 98 of the Inquest Brief

²⁸ Exhibit H, Statement of Detective Sergeant Peter Bellion dated 7 September 2012, pp 99-105 of the Inquest Brief

- Vehicle details;
- Travel speed of the truck (90-95kph);
- Travel speed of the VW Golf (31kph from data download);
- LSC Fraser's statement;
- Skid marks of 74 metres;
- Yaw mark of VW Golf measuring 12 metres long indicating it spun 180 degrees.

52. Det Sgt Bellion calculated a post collision speed of the VW Golf as 46km/h to 48km/h. He reiterated that the data download of the VW Golf indicated it was travelling at 31km/h on impact. Det Sgt Bellion went on to state that, taking into account the post collision speed calculated, Melissa's VW Golf had a forward speed change of 15km/h to 17km/h during the impact, which Det Sgt Bellion deemed was consistent with the 200mm crush damage observed at the rear of the VW Golf.

53. Det Sgt Bellion noted that studies had shown perception and reaction time that elapses prior to braking will be 1.5 seconds or less for 85% of the adult population. After setting out the basis for his calculations he stated:

'The front of the truck was most likely between 54.4 metres to 58 metres back from the point of impact when the truck driver first perceived an impending threat. As the VW was still moving forward at 31km/h when struck the actual gap between the rear of the VW and the front of the prime Mover would be less than these distances.

*A minimum two second hang-back distance should be maintained at all times when driving to compensate for perception and reaction time prior to braking. In 100km/h speed zone, this would be a gap of in excess of 55 metres. Heavy vehicles take longer to pull up than passenger cars, so it would be more pertinent to maintain a larger gap than 55 metres, to compensate for heavy vehicle's braking ability compared to a passenger car.'*²⁹

Directions hearing

54. On 5 October 2012, a Directions Hearing was convened. Mr Peter Clinch, of Clinch Long Letherbarrow Lawyers, appeared to represent VGA. The purpose of the Directions Hearing was to determine what the particular issues in dispute were, and whether, because of those

²⁹ Exhibit H, Statement of Detective A/Senior Sergeant Peter Bellion dated 7 September 2012, p 104 of the Inquest Brief

issues, I should proceed to an inquest hearing.

55. The primary concern of Melissa's family was determining why her car allegedly suddenly slowed down in the path of a B-double truck travelling along the freeway between 95 to 100 kilometres per hour; slowing to such a rate that the truck was unable to avoid the impact.
56. Mr Clinch for VGA submitted that the report of Mr Chilvers, the report of Mr Ackland and the report of Mr Ralf Leist all indicated that there was no mechanical fault with Melissa's vehicle at the time of the collision. Mr Clinch suggested that a mistaken analysis by Mr McCabe in terms of the sequence of logs had added to the confusion.³⁰ With respect to the speed of Melissa's vehicle prior to impact, Mr Clinch suggested that the 31 kph was not the speed of impact, but rather the speed when the recording took place. Mr Clinch further suggested that why the vehicle slowed down, and to what extent it had slowed down, was unexplained but it was not a result of a mechanical or electrical fault of the vehicle.³¹
57. Mr Wayne Belford, Melissa's fiancé, made submissions on behalf of her family and contended that there was still an absence of accurate, detailed information in regards to the fault codes, the triggering of those fault codes, and the subsequent impact they may have had in regards to the rapid deceleration of the vehicle.³²
58. At the Directions Hearing, Sgt Dimsey raised an issue in relation to rapid deceleration experiences of VW Golf drivers. Sgt Dimsey advised the hearing that enquiries made by the court had found that these issues were confined to automatic vehicles only, which was a different type of transmission to that of Melissa's manual vehicle. Having done some research himself on the area, Mr Belford on behalf of the family indicated that he was happy to leave this issue outside of the inquest deliberations.³³
59. I directed that the reports of Mr Leist and Det Sgt Bellion be exchanged for their comment.
60. The central issue for investigation was just how the collision occurred.

³⁰ Transcript of Directions Hearing held on 5 October 2012, p 10

³¹ Ibid, p 13

³² Ibid, p 17

³³ Ibid, p 31

Further information received prior to the Inquest

Supplementary report from Mr Ralf Leist, VW Germany

61. A supplementary report dated 24 April 2013 was received from Mr Leist.³⁴ He concurred with Mr Chilvers that when a crash occurs, a crash signal is sent from the airbag control unit to the engine control unit, which interrupts the power supply to the components in the vehicle, with the aim of avoiding further fuel combustion or leaks. Mr Leist also opined that the 31 kilometres per hour recorded was the speed at the time of the storage of the data, most likely when the vehicle struck the wire barrier after the initial impact, and the airbags were deployed.

Truck lane restrictions on Monash Freeway

62. The court wrote to VicRoads on 5 April 2013, seeking information with respect to truck lane restrictions on the Monash Freeway. In their response, received 10 May 2013, VicRoads advised:

*'Analysis of the micro-simulation modelling found that truck lane restrictions would result in: a very small reduction in crashes (a decrease of less than one crash per year); increased travel time for all vehicles, adding to congestion; increased fuel consumption; and increased CO2 emissions. Based on these findings, VicRoads has no plans to implement truck lane restrictions on the Monash Freeway.'*³⁵

63. This matter was not pursued further.

The Inquest

64. An Inquest was convened pursuant to s 52(1) of the Act. It commenced on 27 May 2013, concluding the following day, 28 May 2013. The following individuals gave evidence:

- Mr Ivan Mumford, the truck driver via video link;
- Mr Peter Micklewright, a truck driver travelling in lane adjacent to Mr Mumford;
- Mr Warren Chilvers, diagnostic technician Barloworld Volkswagen, Glen Waverley;
- Mr Michael McCabe, auto-electrician;
- LSC Allen Fraser, investigating member;
- LSC David Ackland, Mechanical Investigation Unit; and

³⁴ Exhibit J, Supplementary Report of Mr Ralf Leist dated 24 April 2013, pp 106 – 110 of the Inquest Brief

³⁵ Exhibit J, Letter from VicRoads dated 1 May 2013, pp 171 – 173 of the Inquest Brief

- Det Sgt Peter Bellion, Major Collision Investigation Unit.

The evidence of Mr Mumford

65. Mr Mumford told the inquest about the events leading up to the collision. He stated that prior to checking his mirrors, he was travelling somewhere between a semi length and a semi-and-a-half length behind Melissa's vehicle and her vehicle was *'still getting away from me.'*³⁶
66. After checking the mirrors and looking back *'the car had stopped in front of me, with no indication whatsoever of what was happening.'*³⁷ He described the apparent dramatic speed reduction that he observed with Melissa's vehicle as though *'they had pulled on the handbrake without the brake lights coming on. It was just ridiculous.'*³⁸
67. Mr Mumford was asked by Sgt Dimsey:
*'So from the time you've looked in the mirrors, checked your mirrors and looked back forward, the distance has decreased from 75 feet to eight feet?-----Roughly yes.'*³⁹
68. When asked by Mr Belford on behalf of Melissa's family whether there was any indication that Melissa's vehicle was stopping, Mr Mumford replied, *'I didn't see any brake lights, hazard lights, indicator lights, nothing at all. It was like it just stopped in front of me.'*⁴⁰ With respect to her travel speed, *'she was accelerating and going with the flow of the traffic, and probably not as quick as the car in front of her but she was still accelerating away from the front of me.'*⁴¹

Ms Hinchey questioned Mr Mumford

69. Her questioning proved telling. I will not set out the questioning in full,⁴² but have included some of the more salient aspects.

³⁶ Transcript of Inquest held on 27-28 May 2013, p 21

³⁷ Ibid, p 22

³⁸ Ibid

³⁹ Ibid

⁴⁰ Ibid, p 25

⁴¹ Ibid

⁴² Ibid, pp 27 – 37

70. Mr Mumford agreed that stopping time for a heavy vehicle was much greater than a normal light vehicle, a reason why you always keep a look-out well ahead of your vehicle so that you can anticipate how the traffic is flowing:⁴³

'Ms Hinchey: All right. And one of the things you do is you look as far as you can up the road to see what's occurring well in front of you; is that right? ---That's right

All right. And that's so that you've got enough time to modify your driving if there is an obstruction or slowing down of the traffic occurring ahead?---That's correct.

Okay. So it's in that context that you looked at the top of the hill, as you've said it and noticed the brake lights. And you say, "So I backed off, like you do with a big truck like that"? ---Yes'

Ms Hinchey referred Mr Mumford to his record of interview where he stated *'And all the vehicles in front of me had started to accelerate and pick up also, so I started to accelerate and go with the flow of the traffic':⁴⁴*

'And so these are the important things that you say that you did. "I looked up the road further again", so this is again looking hundreds of metres up the road to ensure the traffic is still flowing? ---Yes.

And you say, "And all the traffic had moved on." And you say, "like there were big gaps." In other words, it wasn't heavy traffic, there wasn't bumper-to-bumper traffic; is that right? ---No, the traffic in front of all the cars had moved on and there was [sic] gaps in between the vehicles.

All right. And the reason that's important is because it's less likely that someone is going to come to a sudden halt if they've got a good gap in front of them? ---That's correct.

And that's something that you specifically noticed on this day? ---Yes.⁴⁵

...

All right. So what we know is this, that you are looking in your mirrors prior to the accident for maybe up to a second, a second-and-a-half. You then look out over the

⁴³ Transcript of Inquest held on 27-28 May 2013, pp 29-30

⁴⁴ Transcript of Victoria Police Record of Interview with Mr Ivan Mumford on 23 March 2011, p 17

⁴⁵ Transcript of Inquest held on 27-28 May 2013, p 31

top of Melissa's car to the traffic hundreds of metres in front of you, to ensure that the traffic is still flowing properly. And I guess that would have taken another second, maybe second-and-a-half; is that correct, Mr Mumford? ---Something like that.

Yes. And that you had Melissa's vehicle in your peripheral vision. In other words, you're keeping an eye on where she is but you weren't looking directly at the vehicle; is that right? ---That's correct.

And that's no criticism of you; it's just physically impossible to look at her vehicle at the same time you're looking in your mirrors? ---That's right.

And physically impossible to be looking directly at her car while you're looking up at the road ahead. You just have her, as you've said, in your peripheral vision; is that correct? ---Yes, I was looking at her car, and then glanced up over the top of it to see what the traffic in front of her was doing.⁴⁶

...

And also that you only had Melissa in your peripheral vision at the time, that you first realised she was slowing down or had slowed down dramatically by that stage, is it fair to say Mr Mumford, that she may well have had the brakes on but you didn't notice them before you went into emergency braking mode, and everything presumably started to cave in on top of you as far as the emergency was happening? ---The brake lights were not on.

That you saw; is that fair? ---What I saw, and as I was coming – as I applied the brakes, I was heavy under brakes and I was watching the back of her car and the brake lights were not on.

Yes. And what I want to suggest to you is that in the perhaps three or four seconds leading up to the event where you had to apply emergency braking, she may well have had her brake lights on and you didn't notice it; would you accept that? --- No I will not accept that because her brake lights were working prior to me getting close to her when I first came over the - before I came under Huntingdale Road, all the traffic had slowed and her brake lights were working.⁴⁷

⁴⁶ Transcript of Inquest held on 27-28 May 2013, pp 33 – 34

⁴⁷ Ibid, pp 34 – 35

Further on he stated, *'the brake lights were not on because as I was severely under brakes I could see the back of her car coming up so quick and they were not on'*.⁴⁸ Although he was adamant in his evidence at inquest about not seeing any brake lights, I did not accept his account and concluded that Melissa had engaged her brakes.

The evidence of Mr Micklewright

71. Mr Micklewright was driving in the lane adjacent to Mr Mumford. When speaking to Mr Mumford at the scene, Mr Micklewright stated that Mr Mumford repeatedly said *'I don't know why she stopped.'*⁴⁹

The evidence of Mr Chilvers

Process of extracting information

72. At Inquest, Mr Chilvers expanded on the process of extracting the diagnosis log. Mr Chilvers stated that the diagnostic unit he used was designed by Volkswagen and had the ability to delve into the system more intricately than other machines available, such as the one used by Mr McCabe.⁵⁰ He described it as a simple procedure, *'Plug it in, switch on the ignition and access the vehicle's details on the display, and it will download.'*⁵¹

73. When asked whether he looked at just one unit or a number of units Mr Chilvers explained:
*'basically what it does is it has a central unit, which they call the gateway. This is the main unit in the vehicle and from that unit it sort of stretches out to all the other control units. So the gateway is the link. Once you're into the gateway, you are able to see engine control, you will be able to see gearbox control, airbag control, door control. How ever many control units are in the vehicle, you will be able to access.'*⁵²

Results of analysis and potential for 'limp home mode'

74. Mr Chilvers confirmed that his analysis indicated that there had been an impact which involved the airbag unit then telling the engine unit to shut everything down. With respect

⁴⁸ Transcript of Inquest held on 27-28 May 2013, p 35

⁴⁹ Exhibit B, Statement of Mr Peter Micklewright dated 14 February 2011, p 60 of the Inquest Brief

⁵⁰ Transcript of Inquest held on 27-28 May 2013, pp 44 – 45

⁵¹ Ibid, p 45

⁵² Ibid, pp 45 – 46

to the 'limp home mode', Mr Chilvers explained:

*'So what it does is it reduces the engine power output. The car is still driveable but not to the extent where you can accelerate fully. You will be able to get yourself out of a sticky situation, and maybe get the car safe to the road, but it doesn't bring the car down to a halt at all.'*⁵³

75. Mr Chilvers confirmed that if Melissa's vehicle had gone into the 'limp home mode', he would have expected to see other fault codes logged, all accessible from the one access point. He would not need to get each unit out separately. No other fault codes were logged prior to the impact.

Mr Chilvers' and Mr Leist's reports

76. Mr Chilvers was of the view that Mr Leist agreed with his interpretation of the diagnosis log, *'Both of our conclusions seem to be identical or near identical.'*⁵⁴

Gear selection

77. On the question of gear selection, Sgt Dimsey questioned as follows:

*'[Sgt Dimsey reading Mr Leist's Report] "In the diagnosis protocol the engine speed of 3710 RPM in the context of the 31 kilometres per hour at the time of the recording is significant,' and there's a table below. I will just read on. 'This combination indicates that a lower gear was selected. We estimate that a gear lower than third gear was selected.' Was that something that surprises you or – 100 k on the freeway, that should this vehicle have been in the third gear or should it have been a higher gear? ---Well, no, that should definitely have been in a higher gear, if she was doing 100 kilometres an hour. Yes, those revs are high but I'm not too sure – I'm not sure why they would be at those sort of revs with that sort of speed.'*⁵⁵

*Is there a possibility that the impact has knocked the gear lever and put it in another - - -? ---That could a possibility that, yes, maybe it has been knocked out of gear and into neutral, and her foot has gone onto the accelerator. It's very difficult to establish why.'*⁵⁶

⁵³ Transcript of Inquest held on 27-28 May 2013, p 54

⁵⁴ Ibid, p 55

⁵⁵ Ibid, p 55-56

⁵⁶ Ibid, p 56

78. Mr Chilvers agreed that the side airbag deployment was a result of the impact with the wire barrier and a rear impact would not deploy the frontal airbags or side curtain airbags. The 31km/h speed related to this side impact.

Mr Belford questioned Mr Chilvers over the Control Units examined

79. Mr Belford queried Mr Chilvers about a gearbox engine control unit, which he indicated was only relevant to an automatic vehicle. Mr Belford also asked whether there was any examination of the vehicle's transmission or power train control and Mr Chilvers explained that the vehicle only has an engine control unit and it does not have a transmission control unit, therefore it is not possible to detect anything in the gearbox electronically.⁵⁷

80. Mr Belford asked Mr Chilvers whether he accepted the evidence given by Mr Mumford that the VW Golf had decelerated at a very rapid pace but Mr Chilvers disagreed:

*'No, I don't because the fact that Mr Mumford was at speed and the Golf had decelerated, I don't think that it was an – a sudden stop. It's just the fact that he was approaching the Golf at speed, at 100 kilometres an hour. And I think in his mind it obviously seems as though the vehicle was – had gone to a complete stop.'*⁵⁸

Ms Hinchey questioned Mr Chilvers

81. Ms Hinchey recapped *'in layman's terms, what has occurred is the computer has detected a crash and the computer has then responded to that crash by shutting off certain systems?'* Mr Chilvers agreed.⁵⁹

82. Ms Hinchey asked Mr Chilvers:

'[If] there had been an electronic fault in the engine of this car prior to the crash being detected, when you downloaded the diagnostics of this car, would you have expected to see the historical record of such a fault being a pre-existing fault? ---Yes, I would have.

And is it also the case that in the Volkswagen reports that you've now had an opportunity to have a look at, both suppliers of the relevant control unit – so the engine control unit and the airbag control unit – they being Bosch and Continental

⁵⁷ Transcript of Inquest held on 27-28 May 2013, p 60

⁵⁸ Ibid, pp 61 – 62

⁵⁹ Ibid, p 63

respectively, were given an opportunity to assess whether or not their computer systems were working correctly at the time of the crash; is that true? ---That's true, yes.

And could you see from their reports that what they concluded was that their computers were in fact working correctly at the time of the crash? ---Yes, that's correct.

Does that give you confidence that the data that you downloaded from the computer is in fact an accurate record of faults that were occurring in this car? ---Yes, I do.

In other words, there were no faults that were missed by those two computer systems historically? ---Definitely not.

And is it also the case that whilst those two systems were the most important ones that you diagnosed, that you did in fact, as part of the diagnostic process, diagnose the other control units that were available to you on the computer? ---Yes.

And are you able to tell her Honour whether or not they showed any pre-existing faults with this car? ---Your Honour, yes, they – I just want to get to it. Page 9 of 12.

Yes? ---Under "driver's side door electronics".

Yes? ---"Driver's door central locking safe motor," and "locking unit for central locking driver's side range performance." That specific fault there is inherent in the Golfs over time.

Yes? ---So it stores it there. Eventually what happens is the door cannot be opened, although it's unlocked, so the door lock has to be replaced. It's a pretty common thing that happens.

All right. So that's an example of data you can see that would have been pre-existing but which didn't have anything to do with the happening of this accident? ---That's correct.

All right. And again that tells you that this computer was logging faults as they occurred because you can see that that would have been a pre-existing fault that was already stored in the computer? ---That's correct.'⁶⁰

83. Ms Hinchey asked Mr Chilvers, in his experience, when a car such as Melissa's does

⁶⁰ Transcript of Inquest held on 27-28 May 2013, pp 65 – 66

experience a rapid deceleration, that it is likely to have been because of some driver input, such as braking input:

*'And is that because the only way to cause a car like this to decelerate rapidly is to have input other than just the natural slowing - - -? ---Yes.'*⁶¹

Mr Chilvers on the analysis of Mr McCabe

84. Mr Chilvers confirmed that he *'absolutely disagreed with Mr McCabe's description or conclusion to this diagnosis log of his'*, as Mr McCabe's Ultrascan diagnostic unit was a generic scan tool, and could only read certain information.⁶²

The evidence of Mr McCabe

85. Mr Michael McCabe had not seen the statement of Mr Chilvers prior to the inquest and it resulted in a dramatic change of opinion. Having read Mr Chilvers diagnosis log, Mr McCabe confirmed that it changed his attitude as he was not earlier privy to a time stamp on any of the fault codes which provided an order of occurrences. Mr McCabe confirmed that it now altered his conclusion that the impact precipitated the fault codes.

86. Mr McCabe was asked by Sgt Dimsey whether 'limp home mode' would make the car come to a slow deceleration or a sudden stop:

*'The car – well, maybe in Mr Mumford's case, and I certainly can understand him perceiving it that way that it would come to a stop, but in limp home mode the car slows to, depending on the manufacturer, around 30 to 40 kilometres an hour, as I've had in my shop, that would be the experience.'*⁶³

87. Mr Belford asked Mr McCabe whether there was any *'other diagnostic tool, other than a proprietary Volkswagen diagnostic tool that could provide an accurate diagnostic log as to what actually occurred within Melissa's Volkswagen? ---No.'*⁶⁴

88. Ms Hinchey queried 'limp home mode' – *'Okay. So when you're talking about limp home mode, that's exactly the process you're talking about, the gradual slowing due to the withdrawal of power to the accelerator? ---Yes, you lose power to the accelerator in the*

⁶¹ Transcript of Inquest held on 27-28 May 2013, p 69

⁶² Ibid, p 67

⁶³ Ibid, p 75

⁶⁴ Ibid, p 76

*car. It will allow it to reduce to a speed that will not damage the engine.*⁶⁵

The evidence of LSC Fraser

89. LSC Fraser told the Inquest that he had originally prepared a brief of evidence for a careless driving charge against Mr Mumford. It was submitted to his sergeant, but no charges were authorised so Mr Mumford was not pursued in relation to any charges.⁶⁶

90. LSC Fraser was questioned about this issue and the way the Record of Interview with Mr Mumford progressed:

'Whilst Mr Mumford was giving evidence he was referred to a tape-recorded interview between yourself and him, sometime after this incident? ---Yes, about two months after the incident.

And the purpose of that interview was to establish as to whether you would lay any charges in relation to this incident? ---That's correct, yes.

You heard me read his answers to you in relation to what happened, and that was consistent with the version he gave you on the day? ---Yes.

Was there anything else you learn from witnesses that might indicate that Mr Mumford was driving in a dangerous manner? ---Nothing at all, no. No. Most witnesses said he was just driving along at or just under the speed limit, and the first thing they knew of anything that had gone wrong was all the smoke coming off his rear tyres. No witnesses actually saw the movements of Melissa's vehicle; only Ivan Mumford was the only one who can shed any light on that. But the other witnesses were behind the truck and had no vision of her vehicle.

And in relation to the interview, at page 55 of the inquest brief, Your Honour, at question 356, "Look, you may receive a summons for careless drive charge. That's the worst case scenario. But I think my partner would agree with me, from how you've explained things, your story hasn't wavered from the day of the collision. And it, and other evidence from other drivers, corroborate that. Yes, I can't see you being charged. Okay. All right. That's not my final decision but at this stage I couldn't see you copping a charge out of this. All right. Do you wish to make a

⁶⁵ Transcript of Inquest held on 27-28 May 2013, p 77

⁶⁶ Ibid, p 85

further statement in relation to this matter?” “No, not at this stage.” Do you recall that part of your conversation? ---I do.

In respect to the follow-up from that conversation, did you indeed prepare a brief of evidence against - - - ? ---It was submitted to my sergeant and he decreed there was no charges to be laid against Ivan Mumford.

And that's why Mr Mumford wasn't pursued in relation to a charge of careless driving? ---That's correct.

And if we look a little bit higher, there was nothing there in relation – that would support a driving in a manner dangerous causing death, or culpable drive that you would have considered as well? ---Not with the evidence we had, no.’⁶⁷

91. I note here that the comments made by the investigating member regarding the circumstances of the accident (as outlined above) were made in the context of potential criminal charges and when considering prosecutions for summary offences (such as careless driving) a decision must be made by police within a year of the *offence* being committed.
92. The comments however have no bearing on the findings I am required to make pursuant to the Act with respect to the circumstances of a reportable death. It is clear however that comments which imply conclusions have the potential to confuse families when trying to understand the role of a coronial investigation.
93. Mr Belford questioned whether LSC Fraser observed any skid marks from Melissa's Volkswagen, other than the yaw marks that were observed. LSC Fraser stated that there could have been but they would have been covered by the amount of skid marks left by the B-double.
94. LSC Fraser was asked of his experience observing people using mobile telephones and the effect that it has on their driving in relation to perception of space between them and other vehicles. LSC Fraser stated that you can be driving beside them in a marked police car but they are totally unaware you are there:

‘They're just too engrossed in their phone conversations, etcetera, and speed has slowed dramatically. You see people in the right-hand lane at low speed, you often

⁶⁷ Transcript of Inquest held on 27-28 May 2013, p 84 – 85

*think, yes, they will be on the phone. Pull up beside them; yes, they've got a phone in their hand and not concentrating on what they should be doing.*⁶⁸

And the speed differences in the right-hand lane, *'20 to 30 ks difference, sometimes.'*⁶⁹

The Evidence of LSC Ackland

95. He expanded on his original statement.

Position of gear stick

96. Sgt Dimsey questioned LSC Ackland whether, during his inspection, he checked to see what gear the vehicle may have been in. LSC Ackland did not, nor was it normal practice unless requested to do so, which he was not. He went on, *'And even with a collision it's not guaranteed that it's going to be in that same gear as well, unless you're going to pull the transmission right out of it,'* while another reason can be that the gear lever *'may be put into neutral to allow for salvage towing.'*⁷⁰

Sgt Dimsey went on to ask:

*'Have you had any experience where transmission fails to such extent that the vehicle will stop in the middle of the road? ---Not generally, no.'*⁷¹

Rear brake lights

97. Sgt Dimsey sought comment in relation to LSC Ackland's observations detailed in his report in relation to rear lighting, LSC Ackland confirmed that they may have been operating at the time of the impact, as the distortion in the filament is an indication that they were operating at impact.

98. However, LSC Ackland conceded that, in his experience of inspecting over 2,000 vehicles, he has had cases where one would have expected to see this filament and has not. LSC Ackland was unwilling to make a definitive statement that the rear brake lights were definitely on.⁷²

⁶⁸ Transcript of Inquest held on 27-28 May 2013, pp 91 – 92

⁶⁹ Ibid, p 92

⁷⁰ Ibid, p 96

⁷¹ Ibid, p 97

⁷² Ibid, p 104

The Evidence of Detective Sergeant Bellion

99. Det Sgt Bellion elaborated upon his original report to assist in clarifying the likely travel speed of Melissa's vehicle prior to impact. He also provided opinions on several issues including the adequacy of the following distance of the truck, the brake light evidence, and the impact of Melissa's mobile phone conversation on her driving performance given his knowledge and experience in road policing and research in the area. Extracts from the transcript of parts of his evidence follow:

Accuracy of 31km/h detected in diagnostic log

100. Sgt Dimsey asked:

*'In your opinion, what was the speed of the Volkswagen Golf at the time of impact? ---It would be consistent with the 31 kilometres per hour that's also found from the data download. If it was 50 to 60 kilometres per hour it would be inconsistent because it's coming out of the crash at 46 to 48 kilometres per hour, so you've effectively got no speed differential to cause the crush to the back of the car.'*⁷³

101. Sgt Dimsey referred Det Sgt Bellion to the last paragraph of Part C of Mr Leist's report dated 24 April 2013:⁷⁴

'[Sgt Dimsey reads the report] The diagnosis protocol of the VAG dealership has recorded a speed of 31 kilometres per hour. As described above, this is the speed at the time of storage and that can differ from the speed at the time of the accident event'?---Yes, I know, I'm aware of that comment, yes. Effectively, with my training with crash data retrieval, from a diagnostic point of view and also, you know the technician and analyst role which I've had training in, the way these systems work is that the airbags in the vehicle have an airbag control model which have accelerometers in them. So when you've got frontal airbags, you've got a longitudinal accelerometer which detects acceleration to the vehicle front to rear. You've also got lateral accelerometers where you've got side airbags fitted, which detects deceleration across the vehicle. And it is effectively – the airbag systems will deploy depending on what levels of acceleration are detected in the early stages of a crash event. That's what it's using to predict the outcome and whether an airbag

⁷³ Transcript of Inquest held on 27-28 May 2013, p 109

⁷⁴ Exhibit J, Supplementary Report of Mr Rolf Leist dated 24 April 2013, p 110a of the Inquest Brief

should be deployed for that type of crash. So in this type of crash, effectively the main impact is a rear end collision from the truck into the back of the car. So the airbag sensor longitudinal accelerometer would have detected acceleration input along that longitudinal axis. Because the frontal airbags are for a frontal collision, they're not for a rear collision, it won't deploy the frontal airbags for that type of event. But what happens, as soon as that acceleration level is detected, it automatically sends a signal to the vehicle's computer access network which taps into all the control units that are in that vehicle. And that's when it sends a message to sort of capture that last lot of data storage that's coming through. Now, effectively that's occurring in a very short period of time, from my experience. And where we've had, you know, systems like in the current model Falcons and the current model Commodores, and we've been able to download them as well as doing a reconstruction ourselves, and we've got pre-crash data, post-crash data, and we've got speed-change data, we're finding that the actual speeds recorded from those systems are fairly accurate in terms of what the speeds were at impact. We've also got reports from the US where they have validated data that's coming from crash data retrieval systems from downloading the vehicles compared to crash test data. And they're also finding the correlation is fairly good, normally within one or two kilometres per hour of the actual speed on impact. And that's what we're finding from our analysis from other cases. So that's why I say it's more likely that it's probably 31 kilometres per hour.⁷⁵

...

So as I understand, what you're saying is that it wouldn't have been – if it was – if they have – if the diagnostic log is showing up 31 kilometres an hour at the point of impact, even with this spinning and everything that occurred afterwards, but it – the vehicle was probably, if it was doing any more it would have only been in the vicinity of one or two kilometres an hour more? ---That would be my opinion, Your Honour, yes.

So we're talking about perhaps up to 33 kilometres per hour?
--- Correct.⁷⁶

⁷⁵ Transcript of Inquest held on 27-28 May 2013, p 109 – 111

⁷⁶ Ibid, p 122

Brake light application

102. In relation to operation of the brake lights of Melissa's vehicle, Det Sgt Bellion told the Inquest:

'Probably the other thing that's – in terms of previous questions of Mr Ackland in regards to the braking, now, I've obviously looked at a number of stop and tail lights over a period of time, and when you're getting distortion of those filaments it's indicating the filaments are alight at impact and subjected to force to cause that scenario. The other thing, in terms of with the report from the data download from VW, that's indicating that the – there was an entry related to the brake light circuit. The entry "on" indicates that the brake lights were operating before the crash, which is consistent with the fact that there's distortion found to the stop light filament, as indicated by Leading Senior Constable Ackland. Those two bits of information, from my opinion, would indicate that the brakes on the VW were operating at the time of impact.

The brakes were operating? ---Yes. Because what happens when – effectively the – in terms of the data download from these devices, when it's indicating a brake switch is activated, that's activated when the driver puts a foot on the brake pedal and there's a switch then that's set off, that there would then record that being on. And that's the way the system works.

So in relation to the explaining of this sudden deceleration of the Volkswagen, you're indicating to the court that there appears to be have been an application of the brakes? ---Yes.⁷⁷

...

Is it fair to say that those four entries that I've taken you to, being the rear tail lights and the rear brake lights - - - ? --- And the head light, would indicate that the head lights, tail lights and brake lights were on.

Were all on at the time of the crash? ---Yes.

⁷⁷ Transcript of Inquest held on 27-28 May 2013, pp 111 – 112

*Okay. And also consistent with the evidence that Mr Ackland gave just before?
---Yes.*⁷⁸

Safe following distance maintained by Mr Mumford

103. On further examination by Sgt Dimsey, in relation to the issue of following distance, Det Sgt Bellion stated:

'Out on the open highway. Well, what do the road rules say - - - ? ---In the metropolitan area, it effectively says you must keep a safe distance behind. It doesn't stipulate what that actually is.

*Well, was it a safe distance that he kept behind this vehicle, on your calculation?
---Well, given the previous paragraph, where I indicate that the gap was likely to be between the vehicles 54.4 to 58, it may have been a little bit less as indicated in the following sentence, that would be consistent with that particular gap.*

So you're saying he was keeping a safe distance? ---Yes, according to that, yes.

*Mr Mumford, when it was put to him in relation to the two second gap, his evidence was that he believed that he was 2.5 to three second gap. Again, does [sic] your calculations accord with that at the speed they're travelling at between 95 to 100 kilometres per hour? ---Yes, it's indicating he is somewhere around about the two second mark, yes.'*⁷⁹

Mobile phone impact on driver distraction

104. Det Sgt Bellion outlined his experience as an operational police member and having read research papers on the subject, he told the inquest:

*'[T]he research basically indicates that even with a, you know, whether you're using Bluetooth or hands-free, that there's still a distractive effect associated with it. And the research is indicating it's equivalent crash risk of a driver with a blood alcohol of somewhere around about 0.08. It's about four times increased crash risk. 0.05 it's twice the crash risk.'*⁸⁰

⁷⁸ Transcript of Inquest held on 27-28 May 2013, p 131

⁷⁹ Ibid, p 114

⁸⁰ Ibid, p 115 – 116

In terms of driving behaviour, it's not uncommon if somebody is on a call to have a late take-off. Say if they have been slow for a reason in, say, traffic build-ups, sort of later on in the afternoon, particularly which can occur on the Monash Freeway. And they might be slow to take off, whereas the other vehicles in front might take off a bit earlier, so there's a bit of a delayed response to that, which is a possibility. The other thing is, that I've observed, is that it's not uncommon for somebody to be talking on a phone in that right-hand lane to have been travelling, you know, quite considerably slower than what the rest of the traffic was. And they're the sort of things that I've observed in enforcement activity where, you know, you've observed something and you've come up alongside and you see what the behaviour is. And, you know, they're that involved in a conversation – I've done the same thing, been in a marked car or unmarked car and been in uniform, and you look across and, you know, they even – I've even had them look across at me and, you know, don't even detect that you're a police officer even when they've looked across, and they go straight back to either talking on the phone or whatever they're doing with it.

*In relation to the speed differences, 40 to 60 k or - - -? ---Yes, I certainly observed vehicles in 100 kilometre per hour speed zones as low as, you know, 50/60 kilometres per hour in that situation.'*⁸¹

Seat belt status

105. On the issue of whether Melissa was wearing her seatbelt, Det Sgt Bellion provided his opinion, as follows:

'Yes, and it hasn't been severe enough to set off the driver airbag?---Yes. But what's also of interest is the downloads in regards to the vehicle indicate that the pretensioners have fired.

Yes? ---In my experience - - -

I was going to ask you about that? ---Yes.

*So those readouts on the diagnostic log, which I will take you to in a minute - - -?
---Yes.*

⁸¹ Transcript of Inquest held on 27-28 May 2013, p 116 – 117

- - - do indicate that the pretensioners did activate? ---Correct. And my experience with that would be that where they have actually activated, they won't activate unless the seatbelt is buckled in, is my experience in that area.

Yes. But that reading in that diagnostic log is also indicative of the fact that the seatbelt was in fact being worn? ---Yes, from my experience, yes.⁸²

Gear selected

106. As to the gear selection of Melissa's vehicle:

*'Okay. So it's inconclusive. There's nothing to be drawn from the REV read-out on the diagnosis log? ---From that it's certainly possible that it was in third gear at that speed, yes.'*⁸³

The opinion of Det Sgt Bellion about the cause of the collision

107. Det Sgt Bellion expressed the following opinion in relation to the likely collision scenario:

*'I would expect the most probable scenario is that there has been a delayed reaction by the driver of the VW to continue moving on with that other traffic. I'm not necessarily saying they were stopped initially but certainly at that time of day on that freeway, you know, you've got a stop/start situation or a slowing down to lower speeds, not necessarily stationary, and then the traffic will start to move off and you build up your speed again. So the most probable scenario, there has been some sort of delayed response to the traffic ahead moving off.'*⁸⁴

108. In answer to a question from Mr Belford, Det Sgt Bellion stated:

'The most probable scenario from looking at the whole – everything I've heard and everything I know in regards to this matter, is that obviously the traffic has slowed at some stage or another. Mumford is saying that the traffic ahead is moving off. I think there has just been a delay in Melissa actually taking off in this instance. That she has still been – and he is looking ahead but he's actually not directly looking at her. And I don't think he has actually registered that she has actually been still, you know, travelling at a low speed in front of him. I believe he is probably looking

⁸² Transcript of Inquest held on 27-28 May 2013, p 127

⁸³ Ibid, p 132

⁸⁴ Ibid, p 117 – 118

*ahead at the other traffic. The other traffic is starting to move off. Because you're sitting up high and you tend to look over the top of vehicles in a heavy vehicle, and I think that's what has happened. From looking at it all, in all the years I have been doing this, that's the most probable scenario here. I can't say it definitely happened but that's the most probable.'*⁸⁵

Submissions

109. On behalf of VGA, Ms Hinchey made the following oral submissions:⁸⁶

'Your Honour, in my submission, it appears almost beyond doubt that the brake lights were operating at the time of the car crash, and of course Mr Ackland's report had always noted that possibility, but Mr Bellion's evidence, in my submission, has put the matter beyond doubt, and I draw your attention, Your Honour, to pages 141 to 144 of the inquest brief, which are the relevant pages of the diagnostic log, where the computer-generated information for the rear tail lights and also for the rear brake lights have printed out relevant information for those sensory inputs, which include a reading that each one of those four elements was on at the time of the crash, which of course is itself consistent with the observation Mr Ackland made that the head light switch was found to be in the on position when he inspected the car.

Your Honour, Volkswagen Group Australia adopt and commend to you Mr Bellion's opinion about what was the most likely scenario to have caused this accident. And it is of course unfortunately the case, due to a lack of witnesses who saw Ms Ryan's vehicle just prior to the collision, that the court will never know precisely what occurred. But based on Mr Bellion's experience over many years, it does seem to be a plausible explanation for what occurred.'

110. Ms Hinchey submitted that I ought to find that there was no pre-existing fault in Melissa's VW Golf.⁸⁷ Further, that I ought to prefer the evidence of Mr Chilvers to the evidence of Mr McCabe, given that Mr McCabe acknowledged that the addition of the time stamps to the information before the court made all the difference to the evidence he was going to give. Additionally, that it was the absence of those time stamps that had led him to effectively misinterpret the manner in which those fault codes were generated.

⁸⁵ Transcript of Inquest held on 27-28 May 2013, p 123 – 124

⁸⁶ Ibid, p 138 – 139

⁸⁷ Ibid, p 138

The Family's Written Submissions

111. Mr Belford and Melissa's parents elaborated upon what was briefly put at the conclusion of the inquest. Melissa's family submitted that either one and/or a combination of the below scenarios occurred:

- Mr Mumford is culpable - for not allowing a reasonable space for his B-double to stop safely and avoid impact;
- Driver error;
- Car malfunction.

112. Melissa's family questioned the independence of the diagnostic log assessment by Mr Chilvers. However, the letter noted:

*'We state our intention is not to lay blame regarding Mel's death and the contributing factors to the accident in the first place, our sole intention is to seek whatever clarity may eventuate as an outcome of the inquest process and subsequent findings of the Coroner.'*⁸⁸

113. VGA provided a response to the Family's submissions. Following intense media coverage, the Family wrote again to the court.

Developments post inquest

Media

114. On 28 May 2013, an article featured in The Age newspaper, *Family questions why woman's car suddenly slowed leading to fatal collision*. On 31 May 2013, the article *Death prompts VW owners to speak out* featured in The Age, reporting that at least 15 Volkswagen owners had revealed they experienced the same *'terrifying loss of acceleration that appears to have led to the 2011 death of 32-year-old Melissa Ryan'*. By 6 June 2013, The Age was reporting that 243 motorists had confirmed that their cars experienced unexpected and rapid deceleration, and that the Department of Infrastructure and Transport (DIT) was investigating issues of sudden deceleration. On 12 June 2013, The Age reported *'Outcry on safety forces VW recall'*, stating that almost 26,000 Volkswagen vehicles would be recalled in Australia.

115. The public response to the media coverage was extraordinary and overwhelming.

⁸⁸ Letter from Mr Wayne Belford to Coroner Spooner, dated 29 May 2013, p 2

116. In the light of media reports, and the further family letter, I decided to seek information from DIT on the nature of their investigations into Melissa's particular model of vehicle and any safety concerns. In a response dated 15 June 2013, Ms Judith Zielke, Executive Director of Surface Transport Policy Division, advised in part:

'[T]he Department has not and is not currently undertaking any ADR [Australian Design Rules] or safety related investigation into Ms Ryan's model of vehicle, as I understand it, a 2008 Volkswagen Golf GTI fitted with a manual transmission and petrol engine.

Recent Departmental and ACCC action was focused on Volkswagen vehicles with direct shift seven speed gearboxes (DSG7). This gearbox was not fitted to Ms Ryan's vehicle.

Volkswagen Australia announced a recall of 25,928 vehicles manufactured with DSG7 gearboxes on 11 June 2013 following consultation with the Department and the ACCC. ...

*The Department also undertook an investigation into service action initiated by Volkswagen Australia to rectify a fault in 5,874 vehicles manufactured with a Pumpe Duse diesel fuel injection system. This system was not fitted to Ms Ryan's vehicle. The investigations into DSG7 gearboxes and Pumpe Duse diesel fuel injection systems have been closed at this stage but the Department will continue to actively monitor the situation.'*⁸⁹

117. On 30 July 2013, I caused correspondence to be sent to both the DIT and Volkswagen Group Australia seeking comment in relation to developments post inquest and the relevance to the investigation into Melissa's death. The Department was requested to outline the nature of their investigations into the complaints or otherwise received to identify whether systemic safety issue exist.

118. By letter dated 16 August 2013, Ms Zielke wrote:

'Thank you for your letter dated 30 July 2013 seeking information on the investigation by the Department of Infrastructure and Transport's (the Department) into Volkswagen safety complaints. In particular, your letter noted the Coroner's

⁸⁹ Letter of Ms Judith Zielke, Executive Director Surface Transport Policy Division, Department of Infrastructure and Transport, dated 15 June 2013

interest in whether the Department had identified any systemic safety issues that may be connected to Ms Ryan's particular model of vehicle. The Department has also received a copy of the inquest brief and inquest transcript.

Our records indicate that from 1 January 2007 to 30 May 2013, the Department received three formal complaints about Audi, none about Skoda and 15 about Volkswagen. Since 30 May 2013, the Department has received more than 1000 phone calls and emails about the safety of Volkswagen (and other) vehicles, however, the vast majority of these were enquiries rather than complaints. Complainants who indicated a safety concern about a particular vehicle were asked to complete the Department's vehicle complaint form.

From 30 May 2013 to 13 August 2013, the Department received 4 formal complaints about Audi, one about Skoda and 64 about Volkswagen. In the first instance, all formal complaints have been forwarded to the relevant manufacturers for investigation. Complaints about Audi and Skoda have been considered as potentially relevant because they are part of the Volkswagen Group and have some commonalities in design and manufacture. For example, the Direct Shift Gearbox (DSG) is present in all three makes of vehicle.

The vehicle driven by Melissa Ryan, the subject of your inquest, was a 2008 Volkswagen Golf 5 GTI Vehicle Identification Number (VIN) WWZZZ1KZ8U023387. This vehicle had a 2.0l turbocharged petrol engine and manual transmission. Given the statements made that Ms Ryan's vehicle had slowed unexpectedly, media commentary, and other complaints about unexpected deceleration, loss of power or limp-home mode – all of which involve a vehicle's ability to move – the engine and transmission type are key considerations in determining whether there was a systemic issue.

The Department has determined that none of the Audi and Skoda complaints are relevant. Of the eight complaints, four did not relate to deceleration, loss of power or limp-home mode. In the remaining four complaints, none of the vehicles were identified as having manual transmission (two had diesel, one had petrol and one was unknown).

Of the 79 formal complaints about Volkswagens received before and after 30 May 2013:

- 11 did not relate to unexpected deceleration, loss of power or limp-home mode;
- Of the remaining 68 formal complaints, 30 had diesel engines and automatic or DSG transmission;
- 32 had petrol engines and automatic or DSG transmission;
- Two had diesel engines and manual transmission;
- Three had petrol engines and manual transmission; and
- One with unknown engine type and DSG transmission.

These 79 complaints cover year models between 2002 and 2012 and include the models Caddy Maxi, Caravelle, Eos, Golf, Jetta, Passat, Polo, Touareg, Tiguan, and Transporter.

None of the three petrol manual vehicles identified are of the same type as that driven by Ms Ryan. Two of these vehicles were Golf models, but have a different engine, being the 1.4l TSI (turbocharged) engine:

- *2010 Volkswagen Golf TSI (1.4l turbocharged petrol, manual) - a complaint was received on 6 September 2012 and the vehicle had several issues resulting in replacement of whole engine;*
- *2010 Volkswagen Golf TSI (1.4l turbocharged petrol, manual) – a complaint was received on 26 June 2013 and the vehicle previously had its engine and water pump replaced, but the complaint was made following recent media coverage.*

The third vehicle is a different model (Eos), but has broadly the same engine and transmission combination as Ms Ryan's vehicle. The complaint regarding this vehicle, however, did not relate to unexpected deceleration or loss of power:

- *2010 Volkswagen Eos (2.0l turbocharged petrol, manual) – a complaint was received on 12 June 2013 that the vehicle experienced loss of speed and vibration, and had high oil consumption in August 2011, leading to pistons being replaced.*

Volkswagen has undertaken a service campaign for diesel fuel injectors, and a recall for the 7 Speed Direct Shift (DSG7) gearboxes. There has also been a recall for some DSG6 gearboxes. As the vehicle driven by Ms Ryan was a petrol manual, none of

these service campaigns or recalls appear to be relevant to the matter before the Coroner.

The Department also sought advice from Volkswagen Australia on whether the Volkswagen Group had conducted any recalls or service campaigns anywhere in the world relating specifically to the type of vehicle Ms Ryan was driving. The Volkswagen Group has confirmed that no pre-delivery, service, or recall actions have been conducted in Australia or overseas that were relevant to Ms Ryan's vehicle.

*Based on review of the inquest brief and inquest transcript, the formal complaints received by the Department, and information received from Volkswagen Australia and Volkswagen Group, the Department has found no evidence of systemic safety issues in the design or manufacture of Volkswagen vehicles related to the type of vehicle Ms Ryan was driving at the time of her accident.'*⁹⁰

119. VGA were requested to answer three questions and by letter dated 21 October 2013 VGA, through their solicitors, responded as follows:

'Was VGA notified of complaints relating to sudden deceleration implicating a Volkswagen vehicle with manual transmission and/or petrol engine prior to the Inquest?

VGA has reviewed all of the information available to it through active quality analysis and is able to confirm that it had received no such complaint prior to the Inquest. This search covered vehicles within the period 1 January 2010 to the date of the Inquest.

Has VGA undertaken investigations into complaints relating to sudden deceleration implicating Volkswagen vehicle with manual transmission and/or petrol engine?

By reason of the fact that it has received no such complaints, the answer to this question is that it has not. As part of the process of determining whether any such investigation was warranted, VGA has analysed each and every complaint of which it has been notified by the Department of Infrastructure and Transport

⁹⁰ Letter of Ms Judith Zielke, Executive Director Surface Transport Policy Division, Department of Infrastructure and Transport, dated 16 August 2013

(DOIT), and has concluded that none of the complaints as lodged with DOIT concern complaints of sudden deceleration.

Please confirm VGA's position that no relevant vehicle faults or concerns were known prior to the Inquest.

Having undertaken the further review as requested by the Coroner and referred to in answer to question 1 above, VGA is able to confirm that no vehicle fault or concerns relevant to the issues raised by this Inquest, were known to VGA prior to the Inquest.⁹¹

120. It is unusual (but not improper) for further investigation to be carried out following the conduct of an inquest. I determined following further correspondence from the family and the intense public discourse regarding the operation of VW vehicles concerning whether there was evidence of systemic faults causing unexpected and rapid deceleration, that it was appropriate to do so.⁹² I am grateful for the assistance provided by DIT with respect to this matter and in particular the timeliness of their response.
121. I have considered the outcome of the DIT review and accept their conclusion that they found no evidence of systemic safety issues in the design or manufacture of Volkswagen vehicles related to the type of vehicle Melissa was driving at the time of her accident.

Coroners Prevention Unit (CPU)⁹³ Review

122. At my request, the Coroners Prevention Unit compiled a report summarising the available literature on the impact of mobile phone conversations on driver performance. The literature consistently reported that conversing on a mobile phone adversely affected driving performance in various ways including travel speed, braking behaviour, following distance and general awareness of one's surroundings. As part of their submission to the Parliament of Victoria Road Safety Committee's Inquiry into Driver Distraction, the Monash University Accident Research Centre (MUARC) summarised 29 research publications and concluded that using a mobile phone while driving can, amongst other

⁹¹ Letter from Clinch Long Letherbarrow Lawyers to the court, dated 21 October 2013

⁹² I should note that the court also received individual correspondence from members of the public following the Inquest regarding their experiences or knowledge on these matters. Where appropriate the court referred the correspondence to the DIT for their consideration. It was not appropriate to include this material as evidence before me in the investigation into Melissa's death.

⁹³ The Coroners Prevention Unit is a specialist service for coroners created to strengthen their prevention role and provide them with professional assistance on issues pertaining to public health and safety

things, *'impair appropriate and predictable speed ability'*.⁹⁴

123. I note that under Rule 300 of the *Road Safety Road Rules 2009*, a driver must not use a mobile phone while their vehicle is moving, or is stationary but not parked, unless the phone is being used to make or receive a phone call or to perform an audio playing function; and the body of the phone is secured in a mounting affixed to the vehicle while being used, or, is not being held⁹⁵ by the driver, and the use of the phone does not require the driver, at any time, to press anything on the body of the phone or to otherwise manipulate any part of the body of the phone.
124. Learner drivers and probationary P1 drivers are restricted from using a mobile phone of any kind, including hands free, hand-held and text messaging of any kind.
125. Yet while legal, the available research indicates that hands-free mobile phone use is not necessarily without risk, because the cognitive distraction of the conversation itself is a key factor, diverting attention away from the driving task.⁹⁶ For example, in the transcript of evidence from a public hearing held in December 2005 as part of the Parliamentary Inquiry into Driver Distraction, Dr Regan from MUARC stated:

*'There is a public perception out there — and we know it is a real one — that hands-free phones are relatively safe and that they do not have the same effects that hand-held phones do. But it is quite clear from a large amount of accumulating evidence now that hands-free phones degrade performance similarly.'*⁹⁷

126. Moreover, conversing on a mobile phone is not equivalent to holding a conversation with a passenger within the vehicle. The VicRoads website for example states:⁹⁸

'If a dangerous situation develops, your passenger can stop talking and let you concentrate on driving. On a mobile phone, the person you're talking to isn't aware of the danger and will keep talking, further distracting you when your full

⁹⁴ Road Safety Committee, Parliament of Victoria, *Inquiry into Driver Distraction* (2006), p 41

⁹⁵ Under Rule 300(4), "held" includes held by, resting on, any part of the driver's body, but does not include held in a pocket of the driver's clothing or in a pouch worn by the driver

⁹⁶ Suzanne McEvoy et al, (2005) 'Role of mobile phones in motor vehicle crashes resulting in hospital attendance: a case cross-over study' 331 (7514) *British Medical Journal*, p 428-30

⁹⁷ Evidence to the Road Safety Committee, Parliament of Victoria, Melbourne, 6 December 2005, p 3 (Dr Michael Regan, Senior Research Fellow, MUARC) <<http://www.parliament.vic.gov.au/rsc/inquiries/article/544>>

⁹⁸ VicRoads, *Driving and mobile phones – a dangerous mix* (2013) <<http://www.vicroads.vic.gov.au/Home/SafetyAndRules/SafetyIssues/MobilePhonesAndDriving.htm>>

concentration is needed.'

127. Driving is in itself a complex task, requiring constant vigilance on behalf of a driver, particularly in a freeway environment where drivers must be attentive to their surroundings. Mobile phone conversations, even in hands-free mode adversely impact driver performance. Drivers are encouraged to limit mobile phone use for this reason.

Conclusions

128. The standard of proof with respect to all coronial findings is the balance of probabilities.⁹⁹ Having considered the material and evidence I am able to conclude to the required standard of proof as follows:

- Melissa was driving in the far right lane of the four eastbound-running lanes of the Monash Freeway and a commercial truck driver operating a B-double truck-trailer combination, was travelling directly behind Melissa's vehicle. Despite the truck driver applying the brakes of his vehicle in an attempt to avoid a collision the front of his vehicle collided into the rear of Melissa's vehicle causing major damage.
- Melissa's vehicle spun clockwise 180 degrees, with the passenger side of the vehicle striking the wire rope safety barrier before coming to rest in the emergency stopping lane facing the opposite direction. The point of impact was approximately 130 metres east of the Huntingdale Road overpass.
- Melissa was engaged in a lengthy mobile phone conversation prior to the collision and it continued up to the actual point of the collision
- It is likely that Melissa was speaking on her mobile phone that was '*hands-free*' or on '*loud speaker*' either on her lap or in the console of her VW Golf. The evidence about Bluetooth technology having been fitted became less likely and was probably due to either confusion or mistaken belief.
- The evidence of Det Sgt Bellion, together with some of the post mortem findings, supported the conclusion that Melissa was wearing a seatbelt at the time of impact.
- When her vehicle collided with the safety barrier, Melissa was probably travelling within one or two kilometres per hour of 31 kph, given all the evidence and including the physical evidence at the scene, the diagnostic log and extent of crush

⁹⁹ A coroner applies the principles from *Briginshaw v Briginshaw* (1938) 60 CLR 336

damage. I preferred the evidence of Det Sgt Bellion to that of Mr Leist regarding her speed post the initial rear impact, which he estimated at about 46-48 kph.

- Apart from the evidence of the truck driver, there was nothing to suggest that Melissa had suddenly stopped her vehicle; there was no fault detected in the diagnostic log and it may simply have been the speed at which the truck driver approached that made it appear as though Melissa had come to an incomprehensible stop when she had not.
- The collision reconstruction revealed that the truck driver was probably travelling at about 90-95 kph and within the applicable 100 kph speed limit prior to braking and subsequently colliding into the rear of Melissa's vehicle.
- The overall import of the evidence was that the truck driver probably maintained a sufficient distance (albeit minimal) between his truck and Melissa's vehicle.
- In regard to whether there was any vehicle fault detected in the ECU, it was apparent that Mr McCabe, Mr Chilvers and Mr Leist were all of the belief that there was no evidence of a vehicle fault prior to impact. The original analysis of Mr McCabe in the absence of the time sequence certainly raised a concern for the family that a pre-collision fault may have occurred in Melissa's vehicle, however his conclusions changed after reading and hearing the evidence of Mr Chilvers regarding the time sequence stamp.
- The destruction of the vehicle in December 2011 did create somewhat of a dilemma in that it eliminated the ability to perform further inspections or examinations. However, the evidence given at inquest tended to indicate that the engine ECU provided a gateway to all other control units in the vehicle therefore the possibility that a particular control unit was not interrogated, thereby not detecting an existing fault, may not exist. Volkswagen and computer manufacturer were only able to interrogate the unit. Both Bosch and Continental examined their units and concluded that both units were operating correctly.
- In relation to the brake lights, the more the truck driver was questioned the more certain he became about there being none visible prior to the collision. At the scene he was fairly equivocal in answering '*not that I noticed*' to a question put by police, however in subsequent versions of events and at inquest his evidence firmed up considerably. Conversely, the diagnostic log indicated that the brake lights were

switched on and whilst LSC Ackland could not be definite, despite the supportive findings regarding the filament distortion present upon his mechanical inspection, Det Sgt Bellion was fairly definite that given the combination of the log results and mechanical inspection findings the brake lights would have been illuminated and I preferred his evidence on the issue.

- In regard to the impact of any mobile phone conversation it was the opinions of experienced operational police officers, Det Sgt Bellion and LSC Fraser, that drivers can become engrossed in phone conversations to the extent that their ability to maintain travel speed is adversely affected, they slow down considerably, even on freeways. Det Sgt Bellion was of the opinion that this is what had occurred in Melissa's case and I agree that this is likely to have been a feature in the circumstances of this case.

129. There are, however, some circumstances surrounding the death of Melissa, which even after the conduct of an inquest and consideration of all the evidence I am unable to reach a conclusion upon, to the required standard of proof. The overall impression of Det Sgt Bellion was persuasive in part, but I could not conclude with sufficient certainty that Melissa suddenly and inexplicably applied her brakes, nor that the truck driver approaching from behind altogether failed to notice that she was slowing and had not moved off with other traffic ahead.

FINDINGS

130. Having considered all the evidence I find that Melissa Ann Ryan born on 1 February 1978 died on 31 January 2011 as a result of 'Head Injuries Post Motor Vehicle Incident (Driver)'.
131. I find that immediately preceding Melissa's death she was involved in a motor vehicle accident which occurred in the circumstances described in my conclusions outlined in this finding.

COMMENTS

A coroner may comment on any matter connected with a death, including matters relating to public health and safety and the administration of justice.¹⁰⁰ A coroner may also report to the Attorney-

¹⁰⁰ *Coroners Act 2008*, s 67(3)

General and may make recommendations to any Minister, public statutory authority or entity, on any matter connected with a death, which the coroner has investigated including recommendations relating to public health and safety or the administration of justice.¹⁰¹

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

1. Section 300(1) of the *Road Safety Road Rules 2009* (Vic) permits drivers to use a mobile phone whilst underway if the body of the phone is secured in a mounting affixed to the vehicle or is not being held or manipulated by the driver. This does not reflect the scientific research evidence that has shown the risk of crashing whilst using hands-free is equal to that of hand-held use of mobile phones¹⁰². Amending the *Road Safety Road Rules 2009* to extend the regulations prohibiting the use mobile phones to hands-free use by drivers while operating a vehicle is worthy of consideration by VicRoads given the body of research evidence now available.
2. It is also recognised that enforcement of legislation on mobile phone use is difficult and requires ongoing effort by Victoria Police and the courts who already spend considerable resource on traffic-related offences to reduce the risk of death and injury on our roads. To overcome this, the development of in-vehicle technologies to prevent drivers from using a mobile phone while operating a motor vehicle should be the subject of further research. VicRoads, in consulting with appropriate bodies such as the Transport Accident Commission, may be in the best position to research and determine the feasibility and impact (for example on vehicle manufacturers and consumers) of such technologies.

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

1. I recommend that the Minister for Roads, and the Secretary to the Department of Department of Transport, Planning and Local Infrastructure (Vic) be provided with a copy of this finding.

¹⁰¹ *Coroners Act 2008*, s 72(1) & (2)

¹⁰² Suzanne McEvoy et al, (2005) 'Role of mobile phones in motor vehicle crashes resulting in hospital attendance: a case cross-over study' 331 (7514) *British Medical Journal*, p 428-30

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

The Family of Melissa Ryan

Investigating Member, Leading Snr Const. Allen Fraser, Nunawading Highway Patrol

Volkswagen Group Austalia

The Hon. Terry Mulder MP, Minister for Roads,

Mr Dean Yates, Secretary for the Department of Transport, Planning and Local Infrastructure (Vic)

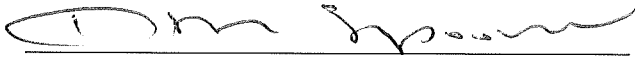
Ms Judith Zielke, Executive Director, Surface Transport Policy, Department of Transport and Infrastructure (Cth)

Mr Gary Liddle, Chief Executive Officer, VicRoads

Ms Janet Dore, Chief Executive Officer, Transport Accident Commission

Professor Mark Stevenson, Director, Monash University Accident Research Centre

Signature:



HEATHER SPOONER

CORONER

Date: 15 November 2013

