FORM 37

Rule 60(1)

FINDING INTO DEATH WITH INQUEST

(Amended pursuant to s76 of the *Coroners Act 2008* on the 3rd August 2010)

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

Court reference: 221/06

Inquest into the Death of GEORGE PANAYIOTIS

Delivered On:	18th June, 2010
Delivered At:	Coroners Court of Victoria at Melbourne sitting at Melbourne Magistrates' Court
Hearing Dates:	16th, 17th & 18th April and 31st July, 2008
Findings of:	Coroner Paresa Antoniadis SPANOS
Representation:	Mr Geoffrey HORGAN S.C., Counsel Assisting the Coroner, instructed by Mr Anthony ROONEY from Office of Public Prosecutions
	Mr Darren BRACKEN of Counsel appeared on behalf of the relatives of Ms K. OLSEN, Mr G. PANAYOTIS, and on behalf of the relatives of Mr W. GREVILLE until 18th April 2008, instructed by Maurice Blackburn.
	Mr Phillip DUNN Q.C. with Mr John TOAL of Counsel appeared on behalf of Mr Stephen SEIF, instructed Hallett West, Lawyers
	Mr John OLLE of Counsel appeared on behalf of the Chief Commissioner of Police, instructed by the Victorian Government Solicitor's Office.
Date of death:	10th January, 2006
Place of death:	Approximately 46 kilometres north-west of Cairo, Arab Republic of Egypt,

FORM 37

Rule 60(1)

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

Court reference: 221/06

In the Coroners Court of Victoria at Melbourne

I, PARESA ANTONIADIS SPANOS, Coroner

having investigated the death of:

Details of deceased:

Surname: PANAYIOTIS
First name: GEORGE
Address: 16 Cowra Street, Altona 3018

AND having held an inquest in relation to this death on 16th, 17th, 18th April and 31st July 2008 at Southbank

find that the identity of the deceased was GEORGE PANAYIOTIS born on the 31st October, 1957

and death occurred on or about 10th January, 2006,

approximately 46 kilometres north-west of Cairo on the Cairo-Alexandra Road, in the Arab Republic of Egypt

from: 1(a) MULTIPLE INJURIES SUSTAINED IN A MOTOR VEHICLE COLLISION (PASSENGER)

in the following circumstances:

INTRODUCTION

1. Five Victorians died on 10th January, 2006, when their tour bus ran off the Cairo - Alexandria Road, Egypt. They were returning to Cairo after a day trip to El Alamein and Alexandria. At a point about 46 kilometres from Cairo, a short time after passing through a left-hand bend, the driver of the tour bus lost control, the bus ran off the carriageway to the right, struck a light pole and a palm tree nearby and came to a rest on its side. A total of six Australians died at the scene as a result and 24 others were injured. The five Victorians who died were Ms Kristy Olsen, a thirty-four year old member of Victoria Police; Mr Warwick Greville, a sixty-eight year old Medical Practitioner; Mr George Panayotis, a forty-eight year old member of Victoria Police; Mr Mark Ritchie, a forty-eight year old Careers Counsellor and his fourteen

year old son Dean William Ritchie. The sixth person to die was from Queensland and therefore falls outside the Victorian coronial jurisdiction.[1]

2. This finding is based on the totality of the material, the product of the coronial investigation of the deaths of the five Victorian deceased, that is the original brief compiled by Inspector Douglas King from Victoria Police, the Supplementary brief compiled by Senior Constable Eugene Kontos from the State Coroners Assistants Unit, the statements and testimony of those witnesses who testified and any documents tendered through them during the inquest, and the submissions of Counsel. All this material together with the inquest transcript will remain on the coronial file.[2] I do not purport to summarise all the material/evidence in this finding, but will refer to it only in such detail as is warranted by its forensic significance and in the interests of narrative clarity.

PURPOSES OF A CORONIAL INVESTIGATION

3. The primary purpose of the coronial investigation of a *reportable death* is to ascertain, if possible, the identity of the deceased, how death occurred, the cause of death and the particulars needed to register the death - effectively, the date and place where the death occurred. In order to distinguish *how* death occurred from the *cause* of death, the practice is to refer to the latter as the *medical* cause of death, incorporating where appropriate the *mode* or *mechanism* of death, and the former as the context, or background and surrounding *circumstances.* These circumstances must be sufficiently proximate and causally relevant to the death, and not merely circumstances which might form part of a narrative culminating in death.

4. A secondary purpose of the coronial investigation arises from the coroner's power to report to the Attorney-General on a death; to comment on any matter connected with the death they have investigated, including public health or safety or the administration of justice; and to make recommendations to any Minister or public statutory authority on any matter connected with the death, including public health or safety or the administration of justice. Whilst the *Coroners Act 1985* does not explicitly refer to the purpose of any reports, comments or recommendations made by a coroner, the implicit and generally accepted purpose, is the prevention of similar deaths in the future.[3]

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1 The *Coroners Act 1985* requires certain deaths to be reported to the coroner for investigation. The definition of a "reportable death" in section 3 of the Act includes all deaths from accident or injury, but also requires a jurisdictional nexus with Victoria - "reportable death" means a death ... where the body is in Victoria; or that occurred in Victoria; or the cause of which occurred in Victoria; or of a person who ordinarily resided in Victoria at the time of death".

2 Since the **Coroners Act 2008** became operational, access to the coronial file may be sought pursuant to section 115 of that Act.

3 While these deaths fall under the *Coroners Act 1985*, this is to be contrasted with the situation which pertains under the **Coroners Act 2008** which came into operation on 1 November 2009 and in its Preamble and Purposes explicitly refers to the coroner's prevention role.

5. It should be noted that a coroner is specifically prohibited from including in a finding or comment any statement that a person is or may be guilty of an offence. This gives rise to something of a paradox, as a coroner is under an obligation to report the matter to the Director of Public Prosecutions, if at the conclusion of a coronial investigation, a coroner believes that an indictable offence has been committed in connection with a death.[4]

CAUSE OF DEATH

6. The medical cause of each death the subject of this finding was uncontentious in each case. The death of each deceased person was certified in accordance with the laws of the Arab Republic of Egypt. The certificates were officially translated into English, and accompanied the remains of each deceased which were returned to Victoria.

7. At the Coronial Services Centre, Southbank, Senior Forensic Pathologist Dr Noel Woodford from the Victorian Institute of Forensic Medicine performed an external examination, considered the circumstances as reported by the police to the coroner, reviewed post-mortem CT scanning of the whole body and advised that it would be reasonable to attribute the death of each deceased to *"multiple injuries sustained in a motor vehicle collision (passenger)"*. There were no signs of medical intervention on any of the deceased, consistent with the general understanding that they had died at the scene immediately upon impact or very shortly thereafter.

FINDINGS AS TO UNCONTENTIOUS MATTERS

8. As well as the cause of death, a number of other matters required to be ascertained, if possible, are also uncontentious, namely the identities of the deceased, and date and place of their death. I accordingly find as a matter of formality that -

- Kristy Olsen, born on the 10th March, 1971, late of 32 Anderson Avenue, Yallourn North, died from multiple injuries sustained in a motor vehicle collision as a passenger, on the 10th January, 2006, approximately 46 kilometres North-West of Cairo, Egypt, on the Cairo-Alexandria Road.
- Warwick Lorne Greville, born on the 30th May, 1937, late of 12 McShane Street, Balwyn North, died from multiple injuries sustained in a motor vehicle collision as a passenger, on the 10th January, 2006, approximately 46 kilometres North-West of Cairo, Egypt, on the Cairo-Alexandria Road.
- George Panayotis, born on the 31st October, 1957, late of 16 Cowra Street, Altona died from multiple injuries sustained in a motor vehicle collision as a passenger, on the 10th

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4 Sections 21(3) and 19(3) of the *Coroners Act 1985* ("the Act"). All references to legislation which follow will be to the provisions of this Act unless otherwise stipulated.

January, 2006, approximately 46 kilometres North-West of Cairo, Egypt, on the Cairo-Alexandria Road.

- Mark Ritchie, born on the 25th October 1957, late of 54 Chapel Street, Wedderburn, died from multiple injuries sustained in a motor vehicle collision as a passenger, on the 10th January, 2006, approximately 46 kilometres North-West of Cairo, Egypt, on the Cairo-Alexandria Road.
- Drew William Ritchie, born on the 15th February, 1991, late of late of 54 Chapel Street, Wedderburn, died from multiple injuries sustained in a motor vehicle collision as a passenger, on the 10th January, 2006, approximately 46 kilometres North-West of Cairo, Egypt, on the Cairo-Alexandria Road.

HOW THE DEATHS OCCURRED - BACKGROUND

9. Although aspects of the circumstances were very contentious and were the main focus of the inquest, other aspects dealt with in summary here were not contentious, at least in so far as they are relevant for coronial purposes.[5]

10. The deceased were members of a group of 78 Australians on an organised tour of Egypt which had commenced in Cairo, late in the evening of 7 January, 2006 or early on the morning of the 8th January, depending on the arrival time of their particular flight. The tour organiser and primary contact for those wanting to join the tour was Mr Stephen Seif, an Australian of Egyptian background who was based in Melbourne. For a number of years before (and after) the 2006 tour, Mr Seif had been organising tours for Australians wanting to travel to Egypt. He did so through his business "Egypt Tours". A large number of those on the 2006 tour were serving or former members of Victoria Police, their families or friends, or people connected to the police forces of other Australian States or Territories. While Mr Seif made arrangements from the Australian end, the tour operator in Egypt was "Grand Tours". It was this entity which arranged the itinerary, all accommodation, transportation and tour guides. It was this entity which apparently sub-contracted the provision of the two buses and two drivers to "Fujy Travel".

11. Various sightseeing activities had taken place on 8th and 9th January, 2006. Except in so far as they are relevant to the suggestion of poor organisation and/or driver fatigue which will be dealt with below,[6] the details of these activities are largely irrelevant for present purposes. On the third day of the tour, 10th January, 2006, there was an optional tour to El Alamein and Alexandria on offer. As the majority of tour group members had elected to go, both buses were to be used.

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5 See the "opening" remarks of Counsel assisting me and the report of Inspector Douglas Ramon KING - Exhibit "A".

6 See paragraphs 39-41 below.

12. The bus in which all five deceased were travelling, contained a total of thirty-one tourists, two security guards and a tour guide as well as the driver. Each bus was provided with only one driver for the whole trip. Both buses departed Cairo at about 6:30am. They travelled first to El Alamein, some 300 kilometres north-west of Cairo, then to Alexandria some 100 kilometres north-east of El Alamein. After sightseeing in Alexandria, the tour group dined there before departing after 8:00pm for the return trip to Cairo, some 225 kilometres to the south-east.

13. The return trip involved travelling along the Cairo-Alexandria Road, commonly known as the "desert road", a divided bitumen highway with three lanes and an emergency lane in each direction, separated by a six metre wide median strip. The southbound carriageway was lit by street lights located two metres in from the shoulder, at intervals of 25 metres. In Egypt, driving is on the right hand side of the road. Approaching the crash site from the direction in which the buses were travelling, the roadway rises gradually. At the crest there is a sweeping left hand bend. From there the road descends in a gentle slope in a straight line.

14. At a point about 46 kilometres from Cairo, after passing through the left-hand bend, the driver appears to have lost control of the bus. The reason/s for this loss of control will be discussed in some detail below, suffice for present purposes to say that the evidence suggests that the driver appeared to approach the median strip to his left before over-correcting by steering too far to the right. The bus left the roadway to the right of the carriageway at speed, struck one of the light poles and a nearby palm, and ended on its right side with the front of the bus facing the highway. The violence of movement and momentum of the bus between the point where it left the roadway and the point where it came to rest on its side is the subject of conflicting evidence, and will also be discussed below.

HOW THE DEATHS OCCURRED - THE LIMITATIONS OF AN EXTRATERRITORIAL INVESTIGATION

15. There is no doubting that all members of the tour group, in particular those who were on the bus which collided and those who were injured, survived a horrendous experience. No less horrendous and life-altering was the experience of the families of the deceased. Their emotion was palpable even at the inquest some two years later, removed as it was both in time and place. Many concerns were raised in the brief, and to an extent during the inquest, about poor organisation of the tour and poor response in the aftermath on the part of some individuals and organisations. The constraints of this jurisdiction do not allow a full airing of all these concerns. That does not mean that they are unfounded.

16. Understandably, the incident attracted a great deal of media attention in Australia, and in Melbourne in particular, as five of the deceased were Victorians. One of the matters which remained controversial, at least for survivors, some of whom testified at the inquest, was the role

played by senior police officers tasked by the Chief Commissioner to go to Cairo in the immediate aftermath of the collision. Whereas their role was to keep the Chief Commissioner informed of developments, and to provide such support and facilitation as was appropriate, the expectation of survivors was that they should conduct as thorough an investigation of the collision as if it had occurred within their jurisdiction.[7]

17. This was not possible. In the first place, to do so would offend against the sovereignty of the Arab Republic of Egypt, not just as a matter of diplomatic nicety, but as a matter of international law. Furthermore, the officers tasked to go were not chosen for their experience in the investigation of motor vehicle collisions. They did, however, obtain such information/material as they could within the limitations imposed on them by the local authorities, and provided this to officers from the Major Collision Investigation Unit (M.C.I.U.) who provided a limited forensic investigation of the collision and/or an accident reconstruction to inform the inquest. To that extent the coronial investigation is based on their endeavours.

18. The officers were also requested by the then State Coroner, Mr Graeme Johnstone, to provide him with a report as to any safety learnings of relevance to Victoria from this multi-fatality bus collision. In due course, a report was provided and the State Coroner identified driver fatigue, bus safety issues and tour organisation as issues to be explored at inquest.[8] When the State Coroner was unwell, I stepped into his shoes and presided over the inquest which had already been listed for 16-18th April 2008.[9]

19. The issues ultimately explored at inquest were essentially the same. The evidence heard at inquest and the various documents and other material tendered will be considered below under the following headings, all aspects of how the deaths occurred -

- prevailing road and climatic conditions, in particular rain;
- speed;
- the movement of the bus from loss of control to rest;
- driver fatigue;
- tour organisation, not at large, but as it may have impacted on driver fatigue; and,
- bus safety issues

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7 See for example transcript pages 5-11 and following where Insp KING gave evidence about his understanding of their limited permitted role. At transcript page 258 Sen Const Urquhart gives some insight into how an M.C.I.U. investigation may have looked. Mr Olle's submissions expand on their role including references to transcript.

8 Perhaps most conveniently encapsulated in Exhibit "J" a memo from Senior Constable Eugene KONTOS, then assisting the State Coroner, requesting Ms Carmen BUTCHER to provide a detailed statement addressing the issues - "a. Driver fatigue. b. Hours and distance of driving c. Should a relief driver had been provided? d. Any comments about the tour operators procedures/responsibiltiies/ and obligations prior to and during the tour. e. Any other information or suggestions with the view of improving bus safety in Victoria."

9 An earlier listing on 11th December 2007 had also been adjourned due to the State Coroner's ill health.

PREVAILING ROAD AND CLIMATIC CONDITIONS

20. As described above, the road was a bitumen highway commonly known as the "desert road", with three lanes and an emergency lane in each direction, separated by a six metre wide median strip. Inspector King testified that it appeared superficially like any multi-laned road you might find in a regional area of Victoria but, on closer inspection, the surface was *"probably not in all that good a condition ... continually undulating and bumpy"*. At the collision site there was no concrete or other barrier to prevent sand encroaching from the shoulder onto the road surface.[10] On the whole, those survivors who provided statements and/or testified raised no concerns about the condition of the road.[11]

21. Although he did not have the advantage of visiting the collision site, Senior Constable Glen Stewart Urquhart from the Major Collision Investigation Unit of Victoria Police made a number of comments about the road surface based on photographs and other material in the inquest brief, which potentially provide a foundation for loss of traction/control independent of driver error, and to some extent independent of a wet surface and/or rain at the time of the collision - the roadway was well worn and "polished" on travel lanes; bitumen "bleed" is evident, potentially creating a slippery surface; variable friction across lanes could not be discounted; and the roadway would be slippery due to rain after a long dry period.[12]

22. Rain is a relatively rare occurrence in the vicinity of Cairo. It would therefore be reasonable to infer a greater risk of greasy road surfaces following rain, as well as a greater risk of succumbing to the hazards of driving in the wet due to relative unfamiliarity. Apart from notes taken by Senior Sergeant Michael Talbot from the M.C.I.U. of a conversation with Mr Stephen Seif on 19th May 2006 and Mr Seif's statement dated 16th April 2008[13] in which rain at the time of the collision is inferred rather than explicit, the overwhelming weight of the evidence is that it was not raining at the time of the collision. Mr Seif's evidence at inquest was somewhat different in that he stated that it was raining before, but not at the time of the collision.[14] Although described in different terms by different witnesses, I am also satisfied that the road surface at the collision site was wet as a result of earlier rain at the collision site, consistent with the rain event experienced by the tour group earlier in the afternoon and evening

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10 Transcript pages 2-3. See also his statement Exhibit "A" at page 11.

11 See for example transcript page 115 for Detective Carmen BUTCHER'S evidence in this regard.

12 Encapsulated in Exhibit "A" Insp KING'S statement, page 7. In the DVExperts International Pty Ltd Preliminary Report page 12, at page 193 of the original brief - Exhibit "B" - there is a different explanation. They attribute the "over-tarring" of the road surface to the method of construction.

13 Exhibit "R" the balance of the inquest brief at page 36, and Exhibit "O" respectively.

14 Evidence given 18th July 2008 at transcript page 300. To be distinguished from his earlier evidence from 18th April 2008 at transcript pages 239-242. Note also that the "Verbal Process" which I understand represents a formal record of the investigation by local authorities describes the state of the road and visibility in the following terms *"The road is normal, there is much rain in the site, visibility is dark."* - Exhibit "B" the original brief at page 19.

in Alexandria.[15]

WAS "SPEED" A FACTOR?

23. There was no conflict in the evidence before me as to the applicable speed limit at the collision site, and I am satisfied that the evidence supports a finding that it was 100 kph for motor vehicles and 90 kph for buses, indicated by signage including pictograms, the universal language.[16] Two witnesses on the other bus who testified, that is Superintendent Braam and Detective Butcher, estimated the speed as *"in excess of 110 kph"* and *"well over 100 kph ... between 110 and 120"* respectively.[17] Apart from Mr Seif who was also travelling on the other bus and who testified that the bus was travelling at eighty miles per hour (which I am prepared to allow was a slip of the tongue),[18] the witnesses who were passengers on the bus which collided disagreed with the driver's assertion that he was travelling at 80 kph prior to the collision. Their estimates varied as follows -

- 'between 90-110 kph but did not appear excessive',[19]
- 'about 100, maybe 110 kph, it wasn't fast, it wasn't slow, just a normal bus speed',[20]
- 'no less than 100 kph, had seen the signs being 90 kph and it wouldn't have been less than 100, couldn't/wouldn't like to say how much more',[21] and
- 'the bus generally travelled at 100-105 kph'.[22]

24. When we speak of speed as a causal or contributory factor in a motor vehicle collision, we are usually referring to excessive speed, whether excessive in relation to the applicable speed limit, excessive in the circumstances (encompassing road condition, weather, traffic, visibility and the like), or both. The weight of the evidence detailed above supports a finding that the driver was driving at around 100 kph, in excess of the applicable speed limit of 90 kph. Driving at an excessive speed, even if only modestly so, in the dark with poor visibility and in wet unfamiliar conditions decreased the driver's margin for error and his ability to recover control of the bus once compromised or lost.

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15 Transcript pages 95, 130, 144, 153, 173, 176. See also notes taken by Commander HART of conversations with three others on the bus which collided - Dr Radhakrishna NAIDU, Mr Paul HARRIS and Mr Gary WAUGH at pages 31, 32 and 34 respectively of Exhibit "B". The driver's account according to the "Verbal Process" was that it was raining at the time of the collision and that the rain caused the collision - see Exhibit "B" page 26 and following.

16 Both Superintendent BRAAM and Detective BUTCHER stated that they saw pictograms indicating a speed limit of 90 kph for buses, as does Sgt JESSUP. Other evidence, notably in the DVExperts International Pty Ltd Preliminary Report page 11, at page 192 of the original brief - Exhibit "B" - indicates 100 kph for motor vehicles and 90 kph for buses.

17 Superintendent BRAAM'S statement Exhibit "F" at paragraph 35. Det BUTCHER'S evidence at transcript page 116.

18 Transcript page 240.

19 Statement of Commander DICKINSON page 2 - Exhibit "K".

20 Transcript page 176, evidence of Mr SNELL. Consistent with his statement Exhibit "M" page 2.

21 Transcript page 226, evidence of Sgt JESSUP. Consistent with his statement Exhibit "N" page 2 'I estimate in the vicinity of 100 kph.

22 Statement of Mr Paul HARRIS page 5, part of Exhibit "R" the balance of the inquest brief.

THE BUS' MOVEMENT FROM LOSS OF CONTROL TO REST - EYE WITNESSES

25. A large amount of time during the inquest was spent on elucidating the precise movement of the bus from the point where it first appeared to diverge from its path and/or it could be inferred that the driver's control of the bus was compromised or lost, to the point where it came to rest on its right side in the desert sands abutting the road. While the buses precise trajectory after loss of control was somewhat controversial, for coronial purposes it is the initial loss of control and the cause of it, if ascertainable, which is most germaine. The buses trajectory speaks to the momentum of the bus and its impact with roadside obstacles but does not shed light on this issue.

26. Some discrepancy is to be expected in the accounts of witnesses to traumatic events. People see things differently, from different perspectives and have differing ability to recall and to articulate what they have seen. Within these constraints, and focussing on the initial loss of control, there is significant commonality among the witness accounts from those in the bus which collided -

- *"the bus was veering slightly to the left of the road. We then made an adjustment to the right and I could then tell that we [sic] sliding out of control across to the three lanes to the right hand side of the highway ... There had been no other sounds, bumps or movements that could have indicated a reason for the sudden deviation in direction. ... the movements of the bus were consistent with the driver momentarily going to sleep thus allowing the bus to veer to the left side of the road"*[23]
- *"Suddenly we began to fishtail down the road I had no doubt that the driver had gone to sleep and when he had awoken he was trying to regain control of the bus. We slid across and struck what I presume was the centre median ... and this bounced the bus back onto the carriageway but more out of control as the bus began to spin ..."*[24]
- *"I felt the back of the bus slide to the right ... which meant that the bus was pointing to the left instead of going straight. It went in a bit of a slide towards the side of the road ... only a slight slide. The driver obviously corrected by turning the wheel to the right and the bus came back to straight and then went past that, he over corrected so the back of the bus then slid out to the left so that the front of the bus at this stage was pointing to the right hand side ... He then corrected again and over corrected in doing so. The back of the bus then slid round to the right again so that we were facing the left hand side of the road in a much more exaggerated position and then finally the back of the bus went round*

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23 Statement of Mr HARRIS page 5, part of Exhibit "R" balance of the inquest brief.

24 Statement of Sgt JESSUP, Exhibit "N" and transcript pages 217 and following where he elaborates on his account.

to the left in a big turn nearly 180 degrees ... until the front of the bus was facing almost back towards the direction where we had come. We were probably at an angle of 45 degrees across the road, and the whole bus was sliding sideways ... "[25]

27. Accepting that Superintendent Braam and Det Butcher's attention was not drawn to the other bus until they heard an exclamation from someone in their bus and that their attention remained focussed on the bus thereafter, their description of the bus moving across the lanes from left to right, without apparent steering input, is consistent with the above accounts from those on the bus.[26]

28. Absent other evidence of driver fatigue which will be discussed below, the eye witness accounts are consistent with, as opposed to indicative of, a loss of traction whether related to speed, fatigue (micro-sleep and over-correction on waking, poor steering in negotiating the bend), a problematic road surface (whether due to wet conditions or imperfections), or a combination of some or all of these factors.

THE BUS' MOVEMENT FROM LOSS OF CONTROL TO REST - EXPERT EVIDENCE

29. The preliminary report of DVExperts Pty Ltd dated 10 February 2006, commissioned by lawyers acting on behalf of QBE Insurance, was included in the original brief.[27] The report contains scene measurements and photographs apparently taken on 21st January 2006 and formed part of the material considered by Sen Sgt Talbot and Sen Const Urquhart in arriving at their conclusions about the collision. The report contains, amongst others, the opinion that the condition of the tyres did not contribute to the collision, and that the structural support for the roof of the bus was poorly designed and manufactured. Beyond a relatively contemporaneous appraisal of the scene, the report is of limited assistance in contributing to an understanding of the cause of the collision and any contributory factors. In particular although broadly consistent with witness accounts, any connection between the tyre, skid and yaw marks in the vicinity of the collision site is speculative.

30. Similarly, Sen Sgt Talbot's report in which he outlined the scenario which he considered the most likely, must be read the proviso that the connection between the various tyre marks and the collision is speculative. Nevertheless, his scenario is consistent with the various witness accounts of the initial loss of control and apparent correction by the driver and the ensuing skid, at least as far as the roadside shoulder. In evidence Sen Sgt Talbot allowed of the possibility that

25 Statement of Mr SNELL, Exhibit "M", diagram drawn during inquest, Exhibit "Q" and transcript pages 178 and following where he elaborates on his account.

26 Statement of Superintendent BRAAM, Exhibit "F" and transcript pages 63-64, 70-72, 95. Statement of Det BUTCHER, Exhibit "I" page 8 and transcript pages 120-125, 130. See also Mr SEIF'S evidence at transcript pages 242 and following.

27 Page 182 and following of the original brief, Exhibit "B".

the driver may have been asleep momentarily but stressed that yaw marks implied steering input, so he must have been awake in order to provide that input.[28] He was strongly of the view that the bus did not roll after impact with the light pole base - he defined rolling as analogous to the movement of a ball which remains in contact with the ground - but allowed of the possibility of the bus tumbling whilst airborne.[29]

31. Sen Const Urquhart produced a video reconstruction of the collision based on the inquest brief and discussions with Insp King and Sen Sgt Talbot. He explained that the video which was played during the inquest was not merely an animation produced by him, but rather a simulation generated by mathematically correct and physics based software after input of appropriate variables. He described Mr Snell's account as the most compelling in terms of detail, the most likely sequence of events and the one which fitted best with the overall witness accounts.[30] He testified that the rotation of the bus through the air was possible and that the ejection of passengers from the bus prior to the collapse of the roof was more suggestive of a rotation through the air than the bus simply sliding/skidding along the sand and coming to a rest after falling onto its right side.[31]

32. The major point of departure between the simulation and Mr Snell's account was the point of impact between the bus and the light pole - the right side according to the simulation and the left according to Mr Snell. As I understood Sen Const Urquhart's evidence, it was the evidence of an apparent scuff mark on the light pole and correlation with damage on the right rear tyre which told against Mr Snell's account in this regard. Also, based on the tyre marks on the left side of the road some 100 metres back from the collision site,[32] there was not enough room for another correction as described by Mr Snell. However, as I have already noted, the connection between these tyre marks and the collision is speculative.

33. To the extent that it is based on limited scene examination, there are further limitations on the weight to be accorded the expert evidence which I simply note - contamination of the scene by rescue efforts, no cordoning off even after rescue efforts, no complete view of the left side of the bus and, accepting that the tyre mark on the light base indicates impact with the bus, no clear indication of which corner it was when in place. I neither intend nor imply any criticism of the credentials or bona fides of any of the experts who contributed to this investigation. Ultimately, the expert evidence is also consistent with, as opposed to indicative of, a loss of traction whether related to speed, fatigue (micro-sleep and over-correction on waking, poor steering in negotiating

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28 Transcript pages 30-32.

29 Trancript page 33 and 51. I note that Sen Sgt TALBOT pointed to the absence of the sort of damage and disruption which he would have expected in the event of a rollover event, in particular the relatively undamaged left rear vision mirror/arm.

30 Statement of Sen Const URQUHART, Exhibit "P" and transcript page 254.

31 Transcript page 264.

32 See paragraph 28 above - the tyre marks are also depicted in photos 19 & 20.

the bend), a problematic road surface (whether due to wet conditions or imperfections), or a combination of some or all of these factors.

34. For completeness and despite my comments above that the germaine issue is the initial loss of control and cause of the collision, rather than the precise trajectory of the bus after loss of control, the weight of the evidence before me supports a finding that between impact with the concrete light pole base and coming to rest, the bus became airborne and rotated on its horizontal axis, at least once and possible two or more times before finally coming to rest on its right side.[33]

DRIVER FATIGUE - EYE WITNESS OBSERVATIONS OF THE DRIVER

35. Quite apart from any inferences to be drawn from the movement of the bus across the road and onto the shoulder and from the sheer length of the day[34], and the cumulative effect of his duties on the preceding two days, Det Butcher gave evidence of observations of the driver relevant to the issue of driver fatigue and comments from others to like effect.[35] Sgt Jessup, in particular, testified that he first saw signs that he recognised as fatigue in the driver about five minutes before the collision and again immediately before the collision. The cumulative impression was of someone struggling to stay awake.[36]

DRIVER FATIGUE - EXPERT EVIDENCE

36. Professor William Andrew Dawson, Director Centre for Sleep Research and Dean of Research, University of South Australia, provided an expert opinion at the request of Maurice Blackburn.[37] I did not require him to testify at the inquest and none of the parties sought the opportunity to cross-examine him. I find him to be appropriately qualified to give expert evidence on the issue of driver fatigue as a factor in this collision.

37. Prof Dawson's opinion is premised on there being no obvious mechanical failure in the bus or medical condition in the driver that might have led to the collision. He also observed that it is generally difficult to attribute a collision to fatigue unless the driver admits to having fallen asleep, or is observed falling asleep by a witness. As a consequence, it is generally necessary to infer attribution based on the exclusion of other obvious alternate explanations, clear evidence that the driver was likely to have been fatigued at the time, and/or from the circumstances of the collision which are consistent with fatigue-related error. It will be apparent that his opinion might therefore fall foul of the "ultimate issue" rule in other circumstances.

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33 Transcript pages 66, 130, 181-3, 218.

34 By the end of the inquest it was common ground that day 3 commenced for the tour group with a 6:30am departure, some 550kms of travel in three legs, no relief driver and the collision at about 10:00pm. Duties on the first two days of the tour involved no less than 12 hours each day with the tour group, plus travel time to and from the hotel in each direction.

35 Transcript page 113

36 Exhibit "N" and transcript page216-217.

37 The report which includes his formal qualifications (Ph.D., Psychology) and experience is part of Exhibit "R" the balance of the inquest brief. It is apparent on the face of the opinion that it is based on the material in the original brief and inquest brief.

38. For the purposes of this inquest, I accept his analysis of the driver's sleep opportunity and his conclusions that the driver was likely to be fatigued at the time of the collision, that the level of fatigue was not consistent with a safe system of work, was directly attributable to the system of work and was reasonably foreseeable and easily preventable. As to his opinion that the collision was consistent with a fatigue-related error, I am not persuaded that this is properly within his expertise. In any event, there is ample other evidence to this effect.

TOUR ORGANISATION - IMPACT ON DRIVER FATIGUE

39. The identity of the person or entity legally responsible for tour arrangements, especially when they went awry, was a heated and emotional issue for all those involved in this inquest. It is also an issue the determination of which falls outside the proper scope of a coronial investigation and squarely within the scope of a court exercising civil jurisdiction.

40. To the extent that there is evidence before me which is capable of bearing on the issue, it is ambiguous. On the one hand, there is Mr Seif's evidence about his pre-tour role as a mere travel "agent", Grand Tours as the principal and Fujy as their sub-contractor. During the tour he characterised his role as a facilitator/liaison simply conveying arrangements already made by others. On the other, there is the unanimous yet ambiguous evidence of tour group members that they dealt exclusively with him, were unaware of the involvement of other legal entities and that it was Mr Seif who appeared to be in control at all material times of both personnel and scheduling. This sits uncomfortably with the uncontested evidence that no member of the tour group raised any safety issues with him prior to the collision, including any concerns about the driver's competence, driving attitude or their safety generally.

41. Restricting myself to findings of fact, relevant to this coronial investigation, I find (and in my view it is self-evident), that whichever legal entity was responsible for organising this tour which ended so tragically, they did so poorly, engaging insufficient personnel and/or allowing insufficient time to ensure the driver was sufficiently rested to undertake his duties safely and not under the burden of fatigue, whether flowing from his duties on that day, or the cumulative effect of his duties on the preceding days.

HOW THE DEATHS OCCURRED - FORMAL FINDING OF CAUSE/CONTRIBUTION

42. Factors which cannot sensibly be excluded as causally relevant to the initial loss of traction and ensuing collision are speed (as described above), dark poorly lit conditions, wet relatively unfamiliar conditions and an imperfect road surface. Whilst the evidence does not allow me to quantify the contribution of each factor, it is clear that all these factors were extant for some time and many kilometres before the collision. The variable, compounding and crucial

factor was driver fatigue which I find was the precipitant for the collision, and the factor which caused or significantly contributed to the collision.

BUS SAFETY ISSUES

43. In the absence of a proper forensic scene investigation and better understanding about how the deceased sustained their injuries, it is difficult to assess with any certainty whether any particular bus safety improvements may have saved some of the lives lost in this collision and/or ameliorated some injuries.

44. The collapse of the roof shortly after the bus came to rest on its right side in the sand is one of the more graphic aspects of this collision. Detective Butcher who was rendering assistance to others at the time was herself seriously injured by the falling roof. The roof structure was poorly designed and manufactured and would not have complied with Australian Standards.[38]

45. None of the tour group members wore seatbelts during their tour. Those who addressed the issues of seatbelts in their evidence indicated that they did not realise the bus was fitted with seatbelts. Some even testified that they looked for seatbelts and did not find any.[39] The fact of seatbelts being available was gleaned from the DV Experts report and photographs circulated in the media after the collision. It appears that the seatbelts on the bus involved in the collision were lap-only belts with two anchoring points, probably hidden between the seat and backrest of each seat, for reasons which are not apparent. In the circumstances of this investigation I can only say what is obvious and very general, that is that the wearing of seatbelts could potentially have prevented ejection from the bus and saved some lives and ameliorated some injuries.

46. Mr Woltanski was invited to testify as an expert[40] on "electronic stability program" (ESP) technology, which was relatively new vehicle safety technology at the time. He explained how ESP works and the safety gains it provides. He testified about the need to build ESP in at the earliest stages of manufacture, about the ability to calibrate ESP to a manufacturer's specifications and about its relative affordability (estimated at about 0.5% of total cost). Significantly, by reference to Sen Const Urquhart's video simulation of the collision, he testified that ESP would have played a role in preventing the understeering and oversteering seen in the simulation. He was not prepared to say that the collision would have been avoided if ESP had

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38 See paragraph 29 above and transcript page 25 for Insp KING'S evidence on this issue.
39 Transcript pages 97-98, 135-6, 154.
40 Transcript page 201 for his qualifications. Mr Woltanski's evidence was demonstrated by a video presentation showing various scenarios of heavy vehicle manoeuvrability with and without ESP.

been fitted to the bus as there were too many unknown variables.[41] In my view the potential was there for ESP to have prevented the collision altogether, or at least to afford the driver some control and more effective braking so as to reduce the momentum and curtail the bus' trajectory.

Signature:

Paresa Antoniadis SPANOS
Coroner
3rd August, 2010

41 Transcript page 211-215