



# OFFICE OF THE STATE CORONER

## FINDINGS OF INQUEST

**CITATION:** **Inquest into the death of  
Amanda Lee Hirning**

**TITLE OF COURT:** Coroner's Court

**JURISDICTION:** Brisbane

**FILE NO(s):** COR 2946/05(0)

**DELIVERED ON:** 24 December 2009

**DELIVERED AT:** Brisbane

**HEARING DATE(s):** 30 September 2008, 1 June 2009 & 11 December 2009

**FINDINGS OF:** Mr Michael Barnes, State Coroner

**CATCHWORDS:** Coroners: Inquest, pedestrian running down, motorcycle accident

**REPRESENTATION:**

Counsel Assisting:	Mr Peter Johns
Family of Ms Hirning:	Mr Michael Alexander (instructed by Keddies Lawyers)
Mr Luke Tucker:	Mr Craig Eberhardt (instructed by Robertson O'Gorman Solicitors)

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So far as is relevant to this case, the *Coroners Act 2003* provides in s45 that a coroner's written findings must be given to the family of the person who died and to each of the persons or organisations granted leave to appear at the inquest. These are my findings in relation to the death of Amanda Lee Hirning. They will be distributed in accordance with the requirements of the Act and posted on the web site of the Office of State Coroner.

## **Introduction**

Amanda Lee Hirning was 30 years of age when she died on 2 December 2005. She had suffered fatal injuries at about 4:50pm on the previous afternoon after being struck by a motorcycle when attempting to cross Stanley Street East at East Brisbane. The only eye witnesses to the collision and the moments leading to it are Ms Hirning's partner, Mr Christopher Mann and the rider of the motorcycle, Mr Luke Tucker.

These findings

- confirm the identity of the deceased woman, how she died and the time, place and medical cause of her death; and
- critique the QPS investigation into the accident leading to Ms Hirning's death.

## **The investigation**

The collision was investigated by Senior Constable Leigh Kuskie of the then Accident Investigation Squad. On her arrival at the scene Senior Constable Kuskie noted that all debris had been cleared from the road. She was later advised by solicitors acting for Mr Tucker, Robertson O'Gorman, that certain items from the road had been handed to them by Mr Tucker's brother. Police were advised by the solicitors that this had been done to prevent any further incidents on the busy roadway. This property and debris was photographed by police after being accessed through the solicitors.

A QPS vehicle inspection officer inspected the motorcycle making a finding that it was in a satisfactory mechanical condition and no defects were found.

A sample of Mr Tucker's blood was taken at the Princess Alexandra Hospital on the night of the incident and laboratory tests revealed no alcohol in the blood sample.

Statements were taken from two witnesses who had heard, though not seen, the collision. A detailed statement was taken from Mr Mann and Senior Constable Kuskie later attended the scene with Mr Mann and noted his recall as to the point of impact.

A detailed scale map of the scene was prepared by the Accident Investigation Squad based on measurements taken at the scene.

A very brief version of the incident was obtained from Mr Tucker while he was attending hospital on the night of the incident to have his injuries treated.

An inspection of the helmet and leather jacket worn by Mr Tucker suggested to Senior Constable Kuskie that a head clash occurred between the rider and the deceased woman. Senior Constable Kuskie formed the opinion the damage sustained to the motorcycle was consistent with a front and right-hand side impact with the pedestrian.

As already mentioned, the usual markers of the accident scene were not preserved in this case. By the time the police investigators arrived the debris had been cleared from the road and it had rained. Even the position in which Ms Hirning fell after being struck could only be estimated by her partner. These uncertainties hindered the investigation.

On the basis of her investigation, Senior Constable Kuskie came to the conclusion there was insufficient evidence to proceed with a prosecution for any criminal or traffic offence based on the manner of Mr Tucker's riding.

He was however charged with two offences:

- Use of unregistered vehicle – section 10 *Transport Operations (Road Use Management – Vehicle Registration) Regulations 1999*; and
- Rider of uninsured vehicle – section 20(1) *Motor Accident Insurance Act 1994*.

The investigation was later reviewed by SC Kuskie's supervising officer, Sergeant David Tulloch, a very experienced traffic accident investigator.

The parents of Ms Hirning, and Mr Mann, have expressed their frustration at the manner in which police have handled the investigation of this matter. They consider it was not sufficiently thorough and was poorly handled (especially in regards to securing the scene); that not enough weight was placed on the statement of Mr Mann; and that not enough consideration was given to the possibility of charging Mr Tucker with a driving or criminal offence beyond those relating to the unregistered vehicle.

It is unfortunate that the scene was not better secured and I can understand the perception of possible interference that arose by virtue of certain physical items of evidence being forwarded to police via Mr Tucker's solicitors.

However, for the reasons I detail below, I have concluded the decision not to place greater weight on the evidence of Mr Mann and the decision not to charge Mr Tucker with any criminal or traffic offence based on his manner of riding, were reasonable.

I am satisfied that the integrity of relevant evidence in this case was maintained as well as was possible in circumstances where the collision occurred on a very busy arterial road and the seriousness of the Ms Hirning's injuries were not immediately apparent. I am satisfied that the investigation was adequate in circumstances where the unusual nature of the collision necessarily led to a dearth of physical evidence.

## **The evidence**

I turn now to the evidence. Of course, I cannot even summarise all of the information contained in the exhibits but I consider it appropriate to record in these reasons, the evidence I believe is necessary to understand the findings I have made.

### ***Crossing Stanley Street***

At the time of her death, Ms Hirning and her partner Christopher Mann lived at 32 Norman Street East Brisbane. The property is situated on the north eastern corner of the intersection of Norman Street and Stanley Street East. It has a rear driveway exiting on to the northern side of Stanley Street East approximately 30 metres east of the intersection. The intersection is controlled by traffic lights and includes a pedestrian crossing.

At approximately 4:50 pm on Thursday 1 December 2005, Ms Hirning and Mr Mann exited their property via the rear driveway and started to cross Stanley Street East 30-40 metres east of the intersection. Their intention was to walk to a butcher's shop on the southern side of Stanley Street East that was approximately 30 to 40 metres further east from their driveway.

At the time the road was dry and the sky overcast but the visibility was good. Stanley Street East is a two lane one way arterial road which diverges into four lanes near the point at which Ms Hirning and Mr Mann crossed. There is an approximately 200 metre line of sight along Stanley Street East to the east although, 60-70 metres east of the Norman Street intersection it kinks briefly, but sharply, to the south before again straightening to an east-west alignment. The speed limit on this section of the road was 60km/h.

Moments earlier, Luke Tucker had finished working at his father's business at 991 Stanley Street East, approximately 250m to the east of the Norman Street intersection. He was intending to ride home on his Honda motorcycle heading west along Stanley Street East which was his usual route.

Mr Tucker says that he did not heavily accelerate the bike as he proceeded along Stanley Street East. He says it was a straight run with no other cars and no challenging manoeuvres. He says he did not look at the bike's speedometer but estimated the maximum speed he reached as he travelled west was 55km/hr. Mr Tucker says that as he first saw Ms Hirning as he approached the intersection of Withington Street. She was about 80 metres ahead of him and had just stepped onto the road way. He does not recall seeing Mr Mann then or at any point in the lead up to the collision.

Mr Mann is the only other eye witness to the manner in which Mr Tucker's motorcycle was ridden along Stanley Street East. In his statement to police he estimated that Mr Tucker's motorcycle was travelling at least 80km/h in the immediate lead up to the collision. When the statement was presented to him for signing, he added "*or a lot faster*" after the estimation of the speed. In later correspondence with police, the Office of the State Coroner and at the inquest Mr Mann has made it clear that in fact his estimate, and always was, that the motorcycle was travelling at 100km/h or greater. He says that he gave a lower

estimation originally because he feared being disbelieved. He says he recalled the very loud noise being made by the motorcycle which, when coupled with his riding experience allowed him to form the view that Mr Tucker's motorcycle was being ridden in the powerband as it accelerated.

At the inquest Mr Mann gave evidence for the first time that when he first saw the motorcycle it was travelling around a right hand bend at such speed that it was necessary for the rider to be leaning hard to his right.

Mr Tucker stated at the inquest that when he saw Ms Hirning step out on to the road, he was riding in the right hand lane, near to the line dividing it from the other lane. He says that this caused him to move towards the left hand side of the road and that shortly after this Ms Hirning appeared to notice him and she came to a halt in the middle of the road near the line marking dividing the two lanes.

At the inquest Mr Tucker gave evidence of an 'understanding' formed through what he perceived to be eye contact between the pair; the understanding, it seems being that Ms Hirning would remain stationary and Mr Tucker would pass to the left or south of her. The lights at the intersection ahead were green and Mr Tucker says that he maintained a constant speed of 55km/h neither slowing nor speeding up in response to the presence of Ms Hirning.

Mr Tucker says when he was around 8 metres from Ms Hirning he had moved to about the centre of the left hand lane just before it divided in two. He has no recollection of what movements, if any, Ms Hirning made at or after that time, recalling only that he suddenly felt a shock to his head.

Mr Mann's evidence is that he was only a metre or two to the north-east of Ms Hirning as the motorcycle approached – that is she was to his right and slightly further across the road than he. He says that Ms Hirning stopped very close to the centre line of the road (perhaps a little closer to the northern kerb than Mr Tucker recalls). He says that Ms Hirning was struck while she remained stationary at that point. He does not recall Mr Tucker veering to the left or making an attempt to avoid the collision. He acknowledges he looked to see where she was when the motorcycle was only about eight to ten metres from him and accordingly had only a second or less to fix her position before the collision.

### ***The collision***

Mr Mann says that the collision caused Ms Hirning to be propelled high into the air in a westerly direction. According to him she came to rest approximately 17m away. In his interview with police on the evening of the crash Mr Tucker said his bike "*got sort of wobbly, then I came to a stop. I just dropped my bike and went back to see what was going on*". Mr Tucker pulled up on the southern side of Stanley Street, west of its intersection with Norman Street. The distance between the collision point and where he stopped the bike was variously estimated to be between 45 and 56 metres. At the inquest Mr Tucker stated he had maintained control of the motorcycle and came to a halt without incident. Mr Mann, says that he clearly recalls seeing, in his peripheral vision, the motorcycle coming to a halt by way of a crash.

Ms Hirning was carried by Mr Mann onto the northern kerb of Stanley Street East. The noise of the collision had alerted others nearby and an ambulance was called almost immediately. Mr Tucker returned immediately to the scene where an understandably emotional exchange took place between he and Mr Mann. This involved an immediate allegation of speeding and a direct denial. Mr Tucker made it known to others at the scene that he was going to return to his father's business to get his brother which he did, returning shortly after.

Ms Hirning was transported by ambulance to Princess Alexandra Hospital.

### ***Other witnesses***

Ian Svensson was the proprietor of the butcher's shop that Mr Mann and Ms Hirning had been intending to visit. He did not see the collision, its lead up or immediate aftermath but told police that while serving a customer he had heard a loud revving noise that he recognised as a motorcycle. He said that it "*sounded like it was going very quick*" to the extent that it prompted him to say to his customer "*gee, he's moving*". In that statement to police he says that his egress was sufficiently quick that he saw Ms Hirning standing for a second and taking a few steps "*in the middle lane*" before Mr Mann came to assist her. At the inquest he acknowledged he had no clear recollection of Ms Hirning ever standing and in fact gave evidence that he saw Ms Hirning lying on the road. It was clear that Mr Svensson's recollections had been affected by conversations relating to the incident. His recollections are of limited assistance.

William Lawrence had just emerged from Mr Svensson's butcher shop and was walking in a westerly direction on the southern kerb of Stanley Street East heading towards the intersection with Norman Street. Allowing for the usual vicissitudes on the accuracy of evidence given by witnesses to motor vehicle accidents I found Mr Lawrence to be a reliable witness. Mr Lawrence does not recall hearing anything out of the ordinary in the immediate lead up to the collision although he acknowledged he was possibly inured to loud traffic noise as a resident of the area. I accept his evidence that after the collision Mr Tucker drew the motorcycle to a controlled halt on the eastern side of the Norman Street intersection. Mr Lawrence did not observe the collision but turned to look at the scene very shortly after hearing it. He does not recall seeing Mr Mann on the road at this time although his attention was naturally drawn to the prostrate body of Ms Hirning.

### ***Medical treatment and autopsy examination***

Ms Hirning was taken to Princess Alexandra Hospital and was unconscious on arrival. An emergency laparotomy took place. Her injuries included:

- splenic tear
- perforated bowel
- severe traumatic brain injury
- facial fractures
- chest injury
- bilateral femoral and tibial fractures.

The following morning testing confirmed that Ms Hirning was brain dead. A life extinct certificate was issued at 11:16am on 2 December 2005. Ms Hirning

went on to become an organ donor thanks to her previously expressed desire in this regard and the generous permission of her parents given at the most difficult of times.

An external post mortem examination was carried out on Ms Hirning's body on 6 December 2005. The findings were consistent with the facts of the collision as then alleged and the injuries outlined in Ms Hirning's medical records.

The cause of death was found to be:

- 1(a) multiple injuries *due to or as a consequence of*,
- 1(b) motorcycle accident (pedestrian).

### ***Expert evidence***

The inquest had the benefit of hearing from two engineers with expertise in traffic incident analysis. Professor Rod Troutbeck was engaged by the Office of the State Coroner while Mr Brendan McDougall was engaged by solicitors for the family and partner of Ms Hirning. By applying mathematical and engineering principles to the evidence, attempts were made to estimate the speed of Mr Tucker's motorcycle at the point of impact and explain the mechanics of how the collision may have occurred in circumstances where it is accepted that Ms Hirning and Mr Tucker were aware of each other's presence prior to impact.

### **Speed**

Estimates of speed were derived by considering two aspects of the incident: first, the 'throw distance' (the distance that Ms Hirning travelled between the point of impact and her coming to rest on the roadway); and second, the distance over which Mr Tucker brought his motorcycle to a stop.

The inquest heard that the throw distance is a function of several factors including, importantly, the speed of the vehicle involved. Other factors influencing throw distance though include the relative weights of the vehicle and pedestrian, the trajectory after impact and whether the impact is direct or glancing.

Mr McDougall reviewed research data reflecting the relationship between the speeds of vehicles involved in pedestrian collisions and the resulting throw distances. He made allowance for the smaller than usual difference between the weight of the vehicle and the pedestrian in this incident. He calculated a minimum pre-impact speed of the motorcycle as being 57-70km/h. This assumed a full transfer of force from the vehicle to pedestrian; if a glancing blow was in fact involved, a higher minimum speed is likely. Professor Troutbeck was supportive of the methodology used and did not suggest that the speed estimate provided was unreliable.

However the reliability of these calculations is dependant upon the accuracy of the measurement of the throw distance. I accept the submission that while the 17m used for the above calculation is a reasonable estimate, the actual distance may have been slightly more or significantly less. I also accept that

small changes in the throw distance can lead to significant changes to the estimated speed.

The other method for attempting to verify the speed of the motorcycle at the time of the crash relies on consideration of the stopping distance. Stopping distance is a function of speed but is also affected by a myriad of factors including rider reaction time, breaking efficiency and loss of momentum at impact.

The accuracy of the speed estimate will depend upon the accuracy of the measurement of the stopping distance. In his report Mr McDougall suggested that the minimum breaking stopping distance for a motorcycle travelling at 100km/h would be 55m though when giving evidence he confirmed that this assumed perfect breaking efficiency and made no allowance for reaction time. I consider the most useful application of the evidence concerning stopping distance to be the ruling out of any suggestion of a high speed rather than in calculating an actual speed. I am persuaded that the distance over which Mr Tucker was able to bring his motorcycle to a halt enables me to find to the requisite standard that he was not travelling over 80km/h at the point of impact.

### **Mechanics of the collision**

Mr McDougall gave consideration in his report to studies of pedestrian walking speeds. He applied the normal free gait walking speed for adult women of between 1.2 and 1.35m/sec in an attempt to show where Ms Hirning was likely to be on the road way when hit. However, I consider the very short times and distances involved in this case and the imprecision of many of the relevant points make these calculations of little assistance to an understanding of what occurred.

The investigating police officer sought to explain the crash with reference to the phenomenon of gyroscopic precession. Professor Troutbeck agreed that gyroscopic precession is well documented and its effect are real. He explained it will affect a rider's ability to avoid a hazard if the action is taken very close to the hazard. It is not something that will significantly affect the trajectory of a motorcycle if action is taken many metres away. Mr Tucker denies that there was any need or indeed, attempt to manoeuvre the motorcycle suddenly or in the immediate lead up to the point of collision and if that is accepted then gyroscopic precession provided no explanation for the crash.

### **Conclusions**

Even though he says he did not look at the speedometer on his motor bike, Mr Tucker was adamant that at the time of the crash he was travelling no faster than 55km/hr. Common experience leads one to suspect that a young man who finishes work, gets onto a highly tuned motorcycle cycle and sets off for home on a long straight and largely deserted road is unlikely to proceed at less than the speed limit. While such suspicions may justify one in questioning the contrary evidence, they do not amount to evidence on which a finding can be made.

For reasons I have already explained, the evidence of the only other eye witness, Mr Mann, can not be relied upon to estimate the speed of the bike. The two other witnesses who were in the vicinity can not much assist, nor can the mathematical calculations – they suggest a minimum speed in the range 55 – 70 km/hr. Accordingly, I find that Mr Tucker was either not exceeding the speed limit at all, or not by very much.

I am satisfied that Ms Hirling saw his approaching motorcycle soon after she stepped onto the road and realised she may not have time to get to the other side before he reached her position. She stopped in the middle of the road. Mr Tucker thought she would remain there until he passed. That was not unreasonable.

As he moved to his left to pass in front of Ms Hirling, to the south, the road made a slight left hand bend that meant that Mr Tucker would have to steer further left to follow it. If he went straight ahead he would hit the pedestrian. Accordingly, as the motorbike approached Ms Hirling, it looked from her perspective as if it was headed right for her. Whether this panicked her into dashing for the safety of the opposite footpath, or whether Mr Tucker, having just leant to his left to take a line in front of the pedestrian was unable to quickly make a further adjustment in that direction to follow the curve of the road, I can not tell.

### **Findings required by s45**

I am required to find, as far as is possible, who the deceased person was and how, when, where and by what cause she came by her death. As a result of considering all of the material contained in the exhibits, I am able to make the following findings.

**Identity of the deceased -** The deceased person was Amanda Lee Hirling

**How she died -** She died from multiple injuries caused when she was struck by a motorcycle while walking across Stanley Street East, East Brisbane at about 4:50pm on 1 December 2005.

**Place of death -** Ms Hirling died at the Princess Alexandra Hospital, Woolloongabba in Queensland.

**Date of death -** She died on 2 December 2005

**Cause of death -** She died of multiple injuries.

### **Comments and recommendations**

Section 46, insofar as it is relevant to this matter, provides that a coroner may comment on anything connected with a death that relates to public health or safety, the administration of justice or ways to prevent deaths from happening in similar circumstances in the future.

The only possible issue concerning public safety in a wider sense arising from this inquest concerns the design of Stanley Street East at the point of the collision. In particular, the relatively sharp 's' bend on an otherwise straight stretch of road was considered by Professor Troutbeck and Mr McDougall. Intuitively, it might be considered the propensity for this bend to 'propel' a rider suddenly to the right, insofar as the lane markings are concerned, even though travelling straight, is something that must have added to the confusion in this case. However there is insufficient evidence for a finding that it played a sufficiently contributory role in this accident. Accordingly I make no comments in relation to it.

I close the Inquest.

Michael Barnes  
State Coroner  
Brisbane  
24 December 2009