INQUEST INTO THE DEATHS OF WILLIAM PETTET, CHERYLYNN PETTET, ROBERT PETTET, SHARNIE PETTET AND ROSA GUAJARDO

FINDINGS

IDENTITY, DATE, PLACE AND CAUSE OF DEATH

The deaths of William Pettet[1], Cherylynn Pettet[2], Robert Pettet[3], Sharnie Pettet[4] and Rosa Guajardo[5] occurred at South Gippsland Highway, Koo Wee Rup (150 metres west of Sybella Avenue) on 26th January 2001 all from multiple injuries.

SUMMARY OF CIRCUMSTANCES

At about 9.45am on 26th January a collision occurred in the northern lanes of the South Gippsland Highway about 150 meters west of Sybella Avenue between an out of control unladen petrol tanker and prime mover being driven in a westerly direction in the southern traffic by Mr. Ranjith Naranpanawa and two sedans being driven in an easterly direction in the northern traffic lanes. The tanker strayed into the lanes for traffic travelling in the opposite direction.

Shortly prior to the collision Mr. William Pettet was driving his maroon Ford Sedan Registered Number OZQ 164 in an easterly direction on the South Gippsland Highway with an number of passengers, being his wife Cherylynn Pettet and two children, Robert Pettet and Sharnie Pettet. He was driving his sedan in the left hand lane of the highway at about 80 kph. Likewise, Mr. Cesar Guajardo was travelling in the same direction with his wife, Rosa as a passenger in their green Ford sedan (registered number FXO 282). Guajardo was also travelling at about 80 kph. The Pettet family was going to Phillip Island for the long weekend and the Guajardos were going for a drive after visiting a local market garden.

A Marshall Lethlean Tanker (registered number 28860S) was hitched in combination with a Mack Prime Mover owned and operated by Cootes Transport Group (registered number QHI 333) and being driven by Mr. Naranpanawa was travelling in the opposite direction (west). The vehicle combination was painted in Shell Petroleum livery.

Mr. Naranpanawa lost control as the Prime Mover moved into the left hand lane of the two-lane carriageway for vehicles travelling in that direction. The tanker, which was travelling at about 95 or 97 kph, lost control on a poorly surfaced, wet, slippery rutted road, entered the eastbound carriageway and collided with the vehicles in which the Pettets and Guajardos were travelling. When the tanker lost control it was in the process of moving into the left-hand lane for westbound traffic.

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[1] **Coroners Case Number 269/2001**
[2] **Coroners Case Number 270/2001**
[3] **Coroners Case Number 271/2001**
[4] **Coroners Case Number 272/2001**
[5] **Coroners Case Number 273/2001**

It appears that, after the tanker lost control the incident unfolded in the following order (as per the police summary of the evidence in the Coroner's Brief):

> *"...after crossing onto the east bound lanes and travelling in a general north westerly direction the front of the Prime Mover has struck the front of the Maroon Ford and then has torn all the offside panels from the vehicle. At this time the Tanker was travelling at approximately 86 km/h. As a result of this impact the Ford has been pushed sideways towards the northern edge of the road whilst rotating clockwise. All four occupants received instantaneous fatal injuries as a result of this impact.* (the vehicle was rotated and came) *to rest facing a general westerly direction along the northern bitumen edge approximately 7 metres from the point of impact.*
>
> *As a result of the impact, NARANPANAWA has lost control of the Prime Mover and it began to jack knife to the right with the tanker travelling in a straight north westerly direction.*
>
> *The Green Ford has then impacted with the nearside rear of the Prime Mover causing the Ford to rotate anti clockwise and vault over onto it's roof before sliding to its rest position facing north east on the northern grass reserve.*
>
> *As a result of this impact Rosa GUAJARDO received fatal injuries whilst Cesar received life threatening injuries.*
>
> *The tanker has continued travelling in a north westerly direction onto the northern grass reserve where it came to rest. The tanker has travelled approximately 49 metres from the first impact to its point of rest."*

The South Gippsland Highway at the location of the collision is a single carriageway, divided by double white lines, with provision for two lanes of traffic in each direction. The speed limit was 100 kmh.

The condition of the road pavement was dangerous when wet, and shortly prior to the collision, the general area was hit by a sudden squall or "*microburst*." There is some doubt as to how this microburst affected the tanker driver. Cootes, in its submission to the Coroner, summarised the position on the "*microburst*" as follows:

> *"This geographical area of Victoria is known, particularly to local residents, to be subject to torrential rain squalls of sudden onset and short duration (even in summer months). Such rain squalls have the effect of leaving the highway surface either damp or wet. They can be very localised within a small and sharply defined area."*

And on the roadway:

> *"Many witnesses have attested to their own knowledge of the treacherous nature of the highway at this location when wet. Of course, these witnesses learnt of this fact only when they or their employees' vehicles lost road traction and hence control in wet and slippery conditions.*
>
> *As of the 26th January 2001, no warning signs were erected at the location to alert motorists to the potential dangers.*

At the location of this tragedy the pavement surface of the highway is of bituminous seal. The condition of the seal varied across the four lanes with the southern most west bound lane (lane 1) in extremely poor condition due to extensive flushing.

A flushed pavement is one where the aggregate is partially or completely immersed into the bituminous binder causing low texture depth and inadequate tyre to stone contact.

The pavement surface, particularly within lane 1, was also subject to considerable rutting. Rutting is a longitudinal deformation of the pavement surface in a wheel path.

Friction testing (that is the friction co-efficient relative to the tyre and road surface interaction) within lane 1 demonstrated exceptionally low friction values which can be regarded as dangerous for vehicular traffic."

VicRoads knew or ought to have known of the dangerous condition of the roadway as it had test results for a number of years in its maintenance files indicating the continuing poor state of the road surface. In November 2000 the owner of a trucking company telephoned VicRoads and informed it of a number of instances of his trucks suddenly loosing control in the wet, in the general area of the collision that occurred on 26th January 2001. Action taken by VicRoads on this advice was inadequate - motorists were not warned and speed limits were not reduced. The maintenance records were not accessed and the data checked. Work on the South Gippsland Highway did occur but in the wrong area, even in that area temporary warning signage went missing at some time unknown to the roads corporation.

The police summary in the Brief for the Coroner states that:

"?... The highway is constructed of a bituminous substance. The right hand lanes for each direction were in good condition. The left hand lane for eastbound traffic had evidence of bitumen bleeding giving the surface a polished smooth appearance in areas. The left-hand lane for westbound traffic had significant bitumen bleeding for a considerable section of the bitumen, giving the surface a smooth polished appearance. There was evidence of rutting caused by heavy vehicles in this lane."

Cootes noted that:

"Significantly, within hours of this tragedy, VicRoads (or its contractors) erected 80 km/h speed advisory signs and ?slippery when wet? signs. Perhaps more significantly, it was not until after a further similar accident of potentially catastrophic proportions on the 15th February 2001 that VicRoads commenced re-sealing this portion of the highway."

At the inquest VicRoads acknowledged that *"the stretch of road at the accident site needed to be resurfaced."* It is understood that the tanker driver had limited knowledge of the road.

THE DETAIL OF CIRCUMSTANCES - OBSERVATIONS OF EYE WITNESSES

Introduction

The observations of a number of eye witnesses are relevant in setting the scene and presenting an understanding of how the incident occurred. In analysing the observations and evidence of the eye witnesses there are many differing impressions of what happened.

Interestingly, Cootes in its submission pointed to the fact that in analysing the circumstances of ***`The Accident'*** the *"many versions of the circumstances surrounding this accident provided by honest lay witnesses cannot be reconciled. They differ on time, distance, speed, movements of the tanker and other matters."* According to Cootes this is a common phenomenon:

> *"A brief article in the Australian Law Journal (November 2001 – 75 ALJ at 653) refers to reportage of the result of tests which establish that ?people are not good observers?. The reported article itself is entitled ?What the Eye Sees, the Mind Probably Misinterprets?. An experiment outlined led to the conclusion ?that people use extra information to fill in visual gaps.? The article concludes by saying that ?lawyers should be aware of this fallibility.? Therefore we must seek "?objective"? evidence to guide conclusions."*

In this regard it is noted that in addition to the eye witnesses there is a considerable amount of expert evidence, which in reality, seeks to reconstruct the events following a limited amount of collected physical evidence. It is noted that the *"black box"* (Fleetcom system) installed in the tanker only recorded a limited amount of information and as such was of minimal use in reconstruction.[6] The Pettet family made a pertinent comment about this issue

It is also noted that Mr. Naranpanawa did not give evidence at the inquest on legal advice. Earlier, he had elected not to make a statement on the same basis. Thus it was necessary to draw conclusions as to what happened solely on the basis of the eye witnesses, physical evidence and the opinions of various experts.

Background - the driver and his duties on the day of the incident

Mr. Naranpanawa was employed as a driver for Cootes Holdings Pty. Ltd. of 9 Healey Road, Dandenong. Cootes is a large transport company, mainly transporting LPG and petroleum.

It appears that Mr. Naranpanawa left his home at about 4.30am and travelled to his employer's premises where he was required to transport diesel fuel to the Murray Goulburn Complex at Leongatha. He had to collect the fuel at Shell's Newport Refinery and from there, travel to

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[6] Cootes noted that:

> *"The unfortunate failure of the on-board Fleetcom recording device and the inability of the Fleetcom system to be downloaded can not be put at the door of Cootes.*
>
> *?... the system was installed in vehicles operating in Victoria was a desire by Cootes to improve the information available to that organisation so it could address the multiple issues connected with the driving of its fleet. The aim was and is for greater safety for all concerned on the roads. This expensive system is not compulsory in Victoria. The only State with a statutory requirement is New South Wales.*
>
> *Cootes understood that the computer had a reserve to record information (e.g. in the event of an accident) even if the basic storage was full. Further, there had been some difficulties with the system which it had been trying to iron out before the accident. Paul Cootes described the situation that "?... the Fleetcom unit was full ?... that they weren't able to retrieve the information from the Fleetcom unit ... Our real disappointment in that was that there's meant to be about 2 per cent of the memory left open for an accident report. Our corrective action from this disappointment was to completely remove Fleetcom as a supplier and we were already trialling other suppliers. So we had two suppliers at that point in time, but we were really devastated that we could not get that information given that was one of the main reasons it was fitted to the vehicle in the first place.."*

Leongatha. He left Newport at approximately 7am, travelled to the destination, unloaded the fuel and was on the return journey when the incident occurred.

It appears that the tanker driver had driven on the road about ten times previously.

The police summary for the Coroner indicates that the investigation has not uncovered any indication that Mr. Naranpanawa may have been fatigued. On the available evidence, this conclusion appears to be likely.

Background - a description of the roadway and its surface condition

The police summary for the Coroner states that:

> *"?The South Gippsland Highway is a highway under the Road Safety Act It has a restricted speed limit of 100 km/h. To the east of Sybella Avenue the highway is a dual carriageway with provision for two lanes of traffic in both east and west directions. These lanes are separated by a median strip. To the west of the intersection of Sybella Avenue, The South Gippsland Highway is a single carriageway with provision for two lanes of traffic in each direction. Double white lines divide these lanes. The highway is constructed of a bituminous substance. The right hand lanes for each direction were in good condition. The left hand lane for eastbound traffic had evidence of bitumen bleeding giving the surface a polished smooth appearance in areas. The left-hand lane for westbound traffic had significant bitumen bleeding for a considerable section of the bitumen, giving the surface a smooth polished appearance. There was evidence of rutting caused by heavy vehicles in this lane."*

The condition of the road surface will be examined in more detail throughout the finding.

The witnesses and their observations

As a matter of background, the police summary for the Coroner stated that:

> *"?NARANPANAWA was observed travelling west along the South Gippsland Highway, east of Sybella Avenue. At this time he was observed travelling in the right hand lane overtaking vehicles. Witnesses have estimated his speed at between 95 to 105 km/h. Some have expressed the opinion that his driving at this time was dangerous due to his speed and the weather, road and traffic conditions. NARANPANAWA was observed to travel in the right hand lane for an extended distance without moving into the left-hand lane.*
>
> *After having passed the intersection with Sybella Avenue, NARANPANAWA entered the undivided section of the South Gippsland Highway and was travelling in the right hand lane. At this time the road surface was damp. NARANPANAWA was observed to overtake a slower moving vehicle in the left-hand lane after which witnesses have stated that he appeared to commence to diverge into the left-hand lane. At this time NARANPANAWA has lost control of his vehicle when the front left hand left side drive wheels of the prime mover entered the left-hand lane. Either as a result of losing control or causing the loss of control, NARANPANAWA has oversteered to the right causing his vehicle to diverge right across the double white lines onto the eastbound lanes. A re - construction of the collision indicates that NARANPANAWA was travelling at approximately 95 km/h and the steer angle, which he induced, was approximately five degrees. This steer angle resulted in a sharp change of direction."*

It is necessary to examine what the witnesses observed in some detail in order to begin to test each of these assertions.

Mr. Harold Gassman, Retired, was driving in his white Ford sedan with a number of passengers being his wife, grandson and a friend. He was travelling in a northerly direction towards Koo Wee Rup. Gassman noted that he has never *"had a problem with the road surface."* He noted that there was a storm:

> *"When I was about three to four minutes travelling time away from Koo Wee Rup, and driving on a divided section of the South Gippsland Highway, I drove though a heavy rain storm. At this time I was travelling at 104 kilometres per hour. I know this because I had my cruise control set on 104 kilometres per hour. I had to put my wipers on fast. The rain lasted about a minute before it stopped.*
>
> *Immediately after this storm, I was travelling in the left lane. Prior to the storm I had seen a Shell tanker travelling in the same direction as me but behind me. He was catching up to me."*

And that:

> *"After the storm the roads were wet and the Shell tanker overtook me in the right-hand lane. This was about one to one and a half kilometres from Koo Wee Rup. When the tanker overtook me I said to my wife that the tanker was going faster than the 100 kilometres per hour speed limiter should let it. After the tanker passed me, it stayed in the right-hand lane. I could see a white utility in the left-hand lane about 60 to 80 metres in front of me. I could also see a Mitsubishi beige sedan in the left-hand lane behind me. The tanker gradually pulled away from me to a distance of about 100 metres.*
>
> *At this time the beige Mitsubishi moved into the right-hand lane and began to overtake me, and the tanker had started to overtake the utility in front.*
>
> *This all happened when I was at the start of an undivided section of the South Gippsland Highway, and I was directly opposite a Caltex Service Station."*

Mr. Gassman then described the incident:

> *"After passing the utility, the tanker started to move to the left. I didn't see any indicators or brake lights on the tanker when it started to move. There was a bit of water coming up off the road onto my windscreen at this point.*
>
> *All of a sudden, I noticed the tanker had changed direction and the prime mover was facing towards the centre of the road. It looked like the tanker was starting to jack-knife?. The tanker started to cross onto the wrong side of the road...?"*

After the incident Mr. Gassman remembered:

> *"walking to the driver of the 4 x 4 utility and he saying to me that the tanker was hiking. I think there was a policeman nearby when this was said. I recall seeing the trailer of the tanker bouncing on the road in the undivided section after he had passed me. I thought then that the tanker must have been unloaded."*

Mr. Gassman noted that he *"was so mad"* as he *"believed the tanker was going too fast for the conditions. He may not have been going too fast on a dry road but he certainly was for a wet road?..."* He considered that *"the movement to the left and the speed of the tanker is what caused the driver to lose control of the tanker."*

Mr. Gassman gave evidence. He said that:

> *"At the critical moment when you noticed the tanker had changed direction, at least the whole of the prime mover and part of the leading portion of the trailer was in that left hand lane? Yes, as I could see."*

Mr. Gassman also acknowledged that it was possible that half the prime mover's wheels were in the left hand lane and also that the prime mover was completely in the left hand lane, with the trailer still coming across. He considered that the *"left hand wheels and the left hand side of the prime mover was in the left hand lane."*

Mr. Gassman acknowledged that he was concerned about the speed of the tanker, so concerned the made a remark to his wife. He said to his wife *"He's going faster than what he should go, especially in this kind of weather."* By the time the tanker was moving into the left lane he was 100 meters ahead of Gassman.

According to Mr. Gassman the rain was *"a slight drizzle, but it was not actually raining, the rain was shortly before and came on after again."* The rain that Gassman described was *"about seven, eight kilometres before he overtook..." ?*and it was *"a very short shower."* The road was wet.

Mr. Gassman agreed that the area is *"prone to sudden localised rain squalls."* He answered the following questions:

> *"**Q:** ...?it can be almost to the point where it can be raining here, and a hundred yards down the road, it isn't raining?*
> ***A:** Correct.*
> ***Q:** There'd been showers on or off, heavy showers on or off over the period of time that we're talking about. From the time you were seven or eight k's down the road, and there's another heavy shower you remember after the accident?*
> ***A:** There was a shower after the accident, yes.*
> ***Q:** Whether there was one in the middle or not, you can't recall?*
> ***A:** No, not as far as I know. It could have been drizzling, but there was no proper rain coming down.*
> ***Q:** At the time of the accident itself when the semi trailer suddenly diverts from that left hand lane across the other side of the road - whether it was actually raining or not, you don't know?*
> ***A:** No."*

Mr. Gassman's speedometer on his Ford Falcon EA Sedan (Registered number QAT 779) was checked and found to be reading high by 7 kph. At 100 on the speedometer the actual speed was 93 kph. Thus on Gassman's assessment the speed of the tanker at the relevant times is about 97 kph (Gassman's vehicle's cruise control was set on 104).

Mr. Paul Gardiner, Labourer and volunteer fireman, was driving a white EA Ford Falcon in the same direction as the tanker and travelling at about 90-95 kph. His fan belt makes a loud squealing noise if the speed is in excess of 95 kph. His fan belt was not "*screaming*." Gardiner stated:

> *"While I was travelling in the rain, I was following a white station wagon, a fairly new model. I was back passing Sybella Avenue, travelling north, when I noticed a truck up in front of me. I took notice of the truck because I saw the brake lights come on the trailer. I can't remember if it was raining or not, but there was a lot of spray coming from the tyres of the vehicles travelling on the road. I had my windscreen wipers on still, but this was to keep the spray from the cars off my windscreen. The truck was travelling about two hundred metres in front of me. I don't know why I kept watching, but I watched the truck then start to pull back into the left lane of the two lanes for north bound traffic. At this stage, I saw the truck was a petrol tanker. When he was pulling back into the left lane the brake lights were off again.*
>
> *I watched the truck pull into the left lane and then start to correct to pull the trailer back into line back behind the cab. It wasn't out of the ordinary what he was doing, it was what I see trucks do all the time to get the trailer behind the cab and travelling in a straight line again.*
>
> *I was still watching the truck and it struck me as strange that I didn't see the cab of the truck again, and then I saw the truck as it started to skate on the road. It was strange the way it travelled, it was as though the trailer was pushing the cab but the whole rig wasn't jack knifing severely."*

Mr. Gardiner then noticed that *"the brake lights were back on the truck."* The truck then *"started to skate across the right-hand lane and then started to travel across into the oncoming lanes of traffic. While it was skating, it also was travelling around in a wide arc on a right turn. It was similar to when you see traffic lose control on ice, they have a minimal amount of steering but they are sliding as well."*

After the collision Mr. Gardiner still observed that the brake lights were operating. He also observed that the road was dry *"other than a couple of wet patches where the tyres of passing vehicles had created wear lines in the bitumen."* He put the cause of the incident *"down to rain."* Gardiner did not consider that the truck was *"doing excessive speeds..."* and did not think he was speeding.

On the rain, Mr. Gardiner stated that he had:

> *"just gone through that rain it was like - there's two bridges like someone pulled a bucket out and threw it on the windscreen, and then at the second bridge it stopped.*
> ***Q:** By the time you saw the truck for the first time, the rain had stopped had it?*
> ***A:** Yes.*
> ***Q:** Was it drizzling. Had it stopped altogether. What was the situation?*
> ***A:** It has stopped, but there was a lot of spray off the road..?.when it did rain I could hardly see anything...?"*

The rain lasted for about 10 seconds, Mr. Gardiner could hardly see anything and was a torrential downpour. Gardiner reduced his speed during the downpour and was in the process of accelerating to where the fan belt noise starts. The distance between the tanker and his vehicle remained *"about the same."*

Mr. Gardiner said the brake lights went on just before the tanker moved into lane one and that the vehicle completely got into lane one.

Mr. Richard Artis, Accountant, stated that he was driving along the South Gippsland Highway in the left-hand lane travelling to Phillip Island. His wife was in the front passenger seat. Artis stated:

> *??"... I saw a Shell Tanker travelling in the opposite direction to me and crossing the double white lines in the centre of the road. This tanker was approximately 300 metres in front of me.*
>
> *My first impression was the tanker was travelling in the right hand lane heading towards Melbourne. The trailer was in a straight line down the right hand lane whilst the cabin was on an angle facing towards the centre of the road and just crossing the double white lines. I was too far away to be able to estimate the speed of the tanker but I believed that the tanker was out of control because of the angle of the cabin and what happened next. The change in direction of the tanker was gradual initially, but got sharper as the events unfolded."?*

Mr. Artis observed light rain in the undivided section and he reduced his speed to 90 kph as he *"?thought it was the safe thing to do."?* He indicated that he had his windscreen wipers on the intermittent setting. Also it had *?"not been raining heavily enough or long enough to cause the road surface to be wet or puddles to form."?* Artis could not say that the observations of Gassman and Gardiner were wrong.

Mr. Emilio Sorrentino who was travelling towards Phillip Island, stated that when he first saw the tanker *"?it was up near the Caltex Service Station"?* and about 150-200 meters in front. His attention was first drawn to the tanker because the *"?trailer? was ?swaying behind the truck."?* The movement *?"was predominant sway – it was obvious and it appeared to be out of control. The front of the truck seemed as though it was moving in a way to try and regain control.?"*

Mr. Emilio Sorrentino noted the action of the truck caused him to:

> *?"...become a bit concerned. I began to think of an escape plan, where I was going to go. There were cars in the lane in front of the truck and cars in the left lane as well.*
>
> *There was a bit of a distance between the car which was immediately in front of the truck and the truck.*
>
> *As the tanker section was swaying, it travelled over the double white lines by only a bit. The cars which were in the left lane of the traffic approaching us didn't appear to be in any danger of being hit. It wasn't really going into our lane either. It was just moving over the white lines a bit.*
>
> *Then, all of a sudden, it came straight across the road and the truck collided with a maroon coloured Ford sedan?..."?*

Mr. Mario Sorrentino, was a passenger in a vehicle driven by Emilio Sorrentino in the outside lane for east-bound traffic. He noted:

?"At this point the road was a good smooth road on our side, not dry, but slightly wet, probably from earlier rain."?

Mr. Mario Sorrentino noticed:

?"...a Shell tanker coming towards us, perhaps a hundred and fifty metres or more away. It was in its outside lane which was the lane near the centre."?

Also:

?"Where I first saw it, it was coming around a left curve and then as it was coming toward us it was travelling in a straight line. I did not see any spray of water from the wheels. Suddenly the truck started to sway from left to right as if the driver was trying to control the truck. I couldn't tell you what the truck's speed was, but it wasn't flying – put it that way.

I would say the truck was swaying for a good twenty metres, and I thought the driver was trying to put it this way, then that way, to get it under control. Then suddenly it shot across to the wrong side of the road. There was no smoke from the tyres and it looked as though the driver had done a right-hand turn.

We were wondering where he was going because there was no turn there. As the truck swung into the wrong lane it struck the red Ford. The strange thing was we didn't hear any noise when the truck hit that red Ford. I didn't see it brake at all – it was all too quick?...

?...After the tanker hit the red Ford it jack-knifed, with the driver's cabin going around to the right, or away from us."?

Mr. Mario Sorrentino also noted that when the *"?tanker was swaying, I would say it wasn't violently, but the driver was trying to control. It was sufficient to obviously be causing him trouble.?"*

Ms. Linda Clark was driving her vehicle in an easterly direction along the South Gippsland Highway with her daughter as a passenger. Clark's daughter made an exclamation:

?"As soon as she said this I had noticed the car in front of me braking heavily. I could also see a Shell tanker travelling in the opposite direction. This tanker had crossed onto my side of the road. The tanker was gradually veering across the road but the passenger side of the engine part was facing me."?

The truck was *"?jack knifing"?*. The prime mover was coming into one of the traffic lanes for eastbound traffic. It had been raining, light drizzle and wash on road. The witness also noticed a problem with *?"pooling"?* of the rain water.

Mr. Michael Monti, Truck Driver, stated that he:

?"...could see the rain coming like a sheet from the Tooradin area. It looked like it was coming straight up the highway.

When I finally got a gap in the traffic, I turned right onto the highway and straight to drive towards Tooradin. By this stage the rain had arrived and was heavy. As far as I was concerned, visibility through the rain was about thirty yards. I've been in heavier rain in the past.

When I was on the highway I saw a Shell tanker about 30 to 40 metres in front of me and travelling towards Tooradin. I'm pretty sure the tanker was in the right-hand lane. I can't recall any cars being between the tanker and myself.

I was still going up through the gears of my truck, and I estimated the tanker' s speed at less than 100 kilometres per hour as he was pulling out away from me. At this time I had my windscreen wipers on the first setting. The rain didn't warrant the double speed.

When I first saw the tanker I did not see anything in the way it was being driven to cause me any concern.

A couple of seconds later I checked my exterior mirrors and then looked back to the road in front of me as I would normally. I immediately saw the Shell tanker had crossed over the other side of the road and was on the grass, I heard a bang as it hit a tree.

Prior to this I did not see the tanker braking, or its brake lights on, nor did I hear any skidding?..."?

Mr. Monti did not know what caused the accident. He considered that the *"?road shouldn't have contributed to the accident."?* Monti noted that the road surface had slight wheel corrugations in it but it was *"a lot smoother than other areas either side of it?..."*

Mr. Bruce Rogers, Electrician, was driving in an easterly direction along the highway, was viewing truck through light rain. He considered that the truck started loosing control before it reached Sybella Avenue. The truck never moved into its left-hand lane. He stated that he regularly travelled on the highway. He considered:

??"... the section of highway between Tooradin and the Bass turn-off to be a very hairy stretch of road- By that I mean I consider it very dangerous when it has had rain on it. When it's dry, it's not too bad as long as you know where the bends are. The road is basically straight but there are more bends than what you might think.

When it has rained, the road surface is very slippery and it has uneven cambers. The section of road where the accident occurred on Australia Day has no median strip, which I find a bit odd and dangerous.

From my memory, on the approach to a lot of the bends, there is minimal signage and warning and you tend to come to the bends in a hurry.?"

However, in evidence Mr. Rogers considered that from *"when it came around the bend?...it gradually veered on an angle?...and went into - eventually - into lane one."* The witness also said that *"Never, ever at any stage was it in lane one."* Rogers also repeated his contention that the road was *"just a very dangerous stretch of road, traffic-wise."* And that this was because of both the volume of traffic and *"the nature of the road."* As to the nature of the road Rogers was referring to the bends in the road and the road surface.

Mr. Rogers noted that when he first saw the tanker it was over the centreline. This occurred as the tanker just came around the bend and was before Sybella Avenue (as it came past Sybella Avenue it was on the wrong side of the road). According to the witness it came *"round the bend to wide"* and never *"corrected itself."* However, it is noted that there was a median strip up to Sybella Avenue which would have prevented the tanker crossing the road as the witness described.

Mr. Rogers did not observe any other cars in the vicinity of the approaching truck. It is noted that Mrs. Faye Rogers (the front seat passenger) stated:

> *"... the truck was in the right hand lane on its side of the road and was leading the pack, meaning there were other cars behind it. I could not say how fast the truck was going I saw it so briefly before the accident."*

Mr. Rogers agreed that, on this point, his wife might have been right. The result of this evidence is that the tanker may not have lost control where Rogers said but somewhat closer and after the bend and Sybella Avenue (as the tanker would have obscured other vehicles travelling in the same direction if it was out of control as it rounded the bend). The witness acknowledged this possibility. This would count against an earlier loss of control.

Mr. Rogers also commented on the weather conditions and that this section of the road gets extremely greasy when it rains. His windscreen wipers were put on and it got quite dark *"just prior to the accident."* Rogers had slowed his vehicle down to 80 kph.

Mr. Michael Coleman was driving in a westerly direction behind the tanker with a number of passengers, including his wife, Carolyn Coleman.

> *?"When I came onto the dual lanes at the Bass Highway Junction I was aware of a Shell tanker which I believe was yellow. It was sitting in the right-hand lane at the time, and was only fifty metres ahead. I was in the left lane and I wondered why he didn't move to the left lane instead of sitting in the right.*
>
> *I passed probably only three vehicles in the dual laned section prior to the collision, and the truck had increased the gap between us to about 100 to 150 metres. I was sitting on around 100 kilometres per hour and not more, and so was the truck.*
>
> *The traffic driving conditions were good. The road was in good condition and it was a 100 kilometres per hour zone. I am very careful and found the speed comfortable for the conditions.*
>
> *I was driving relaxed and only in my peripheral vision I saw the yellow truck turn right across the east bound lanes and I think I heard a crash. There was some vehicles between the truck and us. But I'm not sure how many. The truck would have been maybe 150 metres in front when I saw it turn. He looked like he was just driving the wrong way.*
>
> *I had been observing the truck for fifteen minutes prior to the crash and other than sitting in the right lane, he appeared to be driving normally. I didn't see him as a threat. I wasn't watching the truck all the time but I had no reason to.*
>
> *I don't remember any vehicles in front of the truck prior to the crash. Most other vehicles were in the left lane. The crash happened on a nice straight stretch of road. Just passed the Caltex*

Service Station. I know it's towards Tooradin. There was no centre median strip where the truck veered over.?"

It is noted that the collision occurred on a straight stretch of road. Mr. Coleman did not believe the tanker was travelling at over 100 kph. He did not have his wipers operating. Although Coleman did acknowledge the possibility that there may have been a heavy downpour very shortly before the incident he noted that he did not drive through it. It is noted that Coleman he also said he was "*comfortable*" that there was no such downpour. Apparently Mrs. Coleman thought the wipers might have been on intermittent.

Mr. Coleman did not notice the truck move into the left-hand lane. He first noticed something out of the ordinary in his *"peripheral vision"* when he saw the truck veer into the opposite lanes. At this time Coleman thought that he (Coleman) was doing about 100 kph (Mrs. Coleman considered that the speed was about 95 - speedometer as viewed from the passenger's angle of seating). He was just *"cruising along."* Although Coleman was not catching up to the tanker he considered that it was a couple of hundred meters ahead *"compared with 50 ... ?but that's over a considerable period of time."* Just *"edging in front."*

Mr. Coleman considered that he (Coleman) was driving safely and carefully, appropriate to the circumstances and conditions that he was confronted with. He did not consider the tanker driver was speeding He acknowledge that he was not looking when other witnesses said the truck moved partially, or to some extent, into the left lane.

After the incident Mrs. Carolyn Coleman had some difficulty in standing on the roadway. She slipped over near the edge. She also noted that there was a lot of water lying on the road. Mrs. Coleman also noted that their vehicle was following the tanker for a significant number of kilometres.

Mrs Coleman stated:

"... the truck seemed to be going with the flow of the traffic and only overtaking slower moving vehicles." (although Mr. Coleman did not see this issue in quite the same way as his wife)

Again:

"Just after Korumburra I saw a truck in the distance ahead. It was a single lane for us and there were a couple of cars between us. Michael was driving at less than 100 kilometres per hour all the way to the Bass Highway and a lot of the time was going slower. We didn't catch the truck and it was just ahead of us without obstructing us or holding us up. After we got into the dual lane section of the Bass Highway, there was a centre median strip to separate the traffic and three lanes for the Melbourne bound traffic until the left lane cuts out and it becomes two lanes. We were travelling in the left lane and I looked at the speedo and saw we were doing about 90 kilometres per hour. It wasn't more than 100 kilometres per hour though. I looked at the speedo on an angle but it had a shadow of the needle on the speedo face. It was around 90. We weren't catching the tanker, although we had caught up enough over the past 20 to 30 kilometres to only be 100 or so metres behind it".

On this issue Counsel for Cootes questioned Mr. Coleman:

*"**Q:** So your wife's got a different recollection than you it seems?*
***A:** She certainly, yes, seemed to have then - she probably - that's normal, that she'd sort of probably notices things more than I do.*
***Q:** She's a fairly observant person?*
***A:** Yes, and I'm not all that observant, I have to admit. I'm not totally observant unless something has happened to activate me, if you ask me what colour car or things I would probably not remember, but - -*
***Q:** So it's not out of the question that your wife may have given an accurate account?*
***A:** 0f the speed?*
***Q:** Of your speed?*
***A:** That's possible, although I still thought I was cruising probably faster than - I was definitely going faster than 90. I'm not sure, if she looks on an angle where she sees it, or if she looked at a particular time, but - and I can't say I'm 100 per cent right, but I would have thought I was sitting on closer to 100. Maybe it was under 100, but I don't believe I was over 100.*
***Q:** It may have been 95?*
***A:** It may have been 95, yes, yes.*
***Q:** Over a very long distance?*
***A:** Yes."*

Interestingly, Mr. Coleman's speedometer was also checked and found to be reading high by 4 kph. At 100 on the speedometer the actual speed was 96 kph. Mrs Coleman's evidence puts the estimated speed of the tanker a lot lower at about 91 kph at some points.

Shortly prior to the incident Mr. Jay Town, a Press Photographer, was travelling towards Melbourne on the South Gippsland Highway, and stated that the *?"heavens opened and it bucketed down?* and it *?had gone from no rain to torrential rain straight away."?* His wipers were put on fast mode. Town's *"?forward visibility was instantly reduced to about 200 metres and the road felt slippery."?* The rain only lasted about 10 to 15 seconds.

Mr. Town took photographs after the incident which do not show water lying on the road.

Mr. Town first noticed the Shell Tanker in the Melbourne bound lanes when it was about 200 meters ahead. He stated:

"The first time I saw the tanker I would say he was about ten seconds or 200 metres in front of me. The trailer was swinging from side to side. It was like a pendulum swinging with the arc getting longer. The trailer appeared sliding on the road. I couldn't see the brake lights of the tanker so I couldn't tell if the tanker was braking. There were about ten cars between the tanker and me, and I was looking over the top of these cars?...

I could see the swing of the tanker getting bigger to the point where the tanker was pointing about seventy-five degrees to the direction it was travelling, and the rear of it was facing out to my left. The tanker was basically rotating in a clockwise direction.

The next thing I saw, was seeing the prime mover of the tanker for the first time. The prime mover was swinging around :at this time and it jumped up in the air for about two metres, as if it hit something...?"

Mr. Town described the movement of the tanker as a *"jack-knife."* Later, when questioned by Counsel for VicRoads, Town described it as a *"fish tail."* But he also acknowledged that the movement of the trailer happened *"almost instantaneously."*

When Mr. Town first saw the truck he was coming around the corner and it was about 200 meters ahead, moving laterally (but it could have been further west). Town was looking through very heavy rain at that stage, *"it had just gone past me. It was like a big wall of water had gone past my car and kept going."* It was much worse than just a rain storm and he backed off the speed *"because it was dangerous."* He did not notice the truck until it was out of control and it would appear that he first saw the tanker at about the point of the collision.

Mr. Bruce Bourne, a Physics Teacher, came across the scene of the incident a short time after it had occurred. He stated, that vehicles were just starting to stop and that prior to:

> *"... arriving at this scene, I had driven through light drizzle, which had stopped before the collision. The road surface was what I would call greasy at the most. When I got to the scene, I did not believe it had been raining and formed the opinion that the weather did not contribute to the collision."*

AN EXAMINATION OF PARTICULAR ISSUES

Introduction

There are a range of issues that are relevant to consider before determining how this incident occurred. The issues include - The speed of the tanker; The contribution of the road surface to the incident - general discussion; *`Rutting'* and the road surface; The relevance of the rain squall or *`Microburst';* A *`jack-knife'* or a *`fish-tail'*; The role of the engine brake; The role of *`oversteer'* in the collision - a *`benign lane change?*'; Driver behaviour - a general overview; VicRoads' knowledge about the state of the road surface

Useful and detailed submissions on all of these issues were received from most of the parties, and considered during an examination of the factors involved in this incident.

Mechanical condition of the tanker and other vehicles

The police summary for the Coroner states that:

> *"?...All vehicles were examined mechanically and found to have no fault which may have caused or contributed to the collision."*

There is no evidence to the contrary.

Background - Texture loss; an explanation

Texture loss is a major factor for roadway maintenance. Hence it is important to understand what it means. The following exchange with Mr. Wall, Engineer from VicRoads is helpful (it is noted that *`rutting*' is not part of texture loss):

> *"**Coroner:** What's "texture loss"?*

A: *Loss of surface texture. When a bitumen surface is put down it has generally got about a third of the stone proud of the bitumen. Where there is texture loss is where the stone has been pushed into the bitumen so that you get less surface texture. It's not necessarily related to skid resistance.*
Chettle: *Now these documents are generated every year - - -*
Coroner: *Within the texture surface loss argument, do you have bleeding as part of the - - -?*
A: *Bleeding would be a result of - it would be a similar, I suppose, outcome from texture loss. It's where the bitumen has got to the surface of the stone and you start to get - especially in hot weather - the bitumen actually coming out and bleeding.*
Q: *So is it correct to say that bleeding is a category of texture loss, a sub-category of texture loss?*
A: *You can have texture loss without bleeding, but generally for this type of surface I would say that, yes, bleeding is another - could be a descriptor for a road that's got texture loss.*
Q: *Of a severe type?*
A: *It doesn't necessarily have to be severe for the road to bleed.*
Q: *Let's say you've got your aggregate standing proud of your bitumen surface?*
A: *Yes.*
Q: *That's what happens, is that - - -?*
A: *That's generally when a new seal is put down on a road, you have the - it will be a much coarser surface.*
Q: *As the vehicles wear the surface you either get loss of the stones or they get pounded into the bitumen, is that what happens?*
A: *That can happen over time, depending on the level of traffic.*
Q: *Or you get wear?*
A: *Yes, you can get wear of the stones or pushing in of the stones. With lighter traffic roads surfaces can remain proud of the bitumen for up to 20 years.*
Q: *Is there any way of categorising bleeding in the database?*
A: *I believe it's probably a descriptor used to categorise under "texture loss". So I would have to refer to the document to confirm that, but my belief is that the descriptors to describe "texture loss" would probably include "bleeding" as a descriptor of that defect.*
Q: *Sub-group?*
A: *You could say that. I would need to confirm that in the guidelines document.*
Chettle: *And so would rutting, you would expect, be part of texture loss?*
A: *No.*
Q: *Would it not fit within that?*
A: *No."*

The speed of the tanker

Shortly before the incident the speed of the tanker was probably about 95 to 97 kph in a 100 kph speed zone. This conclusion is based on the observations of the eye witnesses, the testing of some of the witnesses' speedometers and expert assessment.

By way of example, Mr. Gassman was initially of the view that the tanker was travelling faster than his set cruise control speed of 104. However, when Gassman's speedometer was tested it was found to be actually reading 7 kph slower.

Also Mr. Coleman was initially of the view that the tanker was travelling at 100 kph. When Coleman's speedometer was tested it was found to be actually reading 4 kph slower.

Cootes' Counsel provided the following examination and conclusions on the evidence as it relates to ***"Speed"***:

"As Mr NARANPANAWA drove this vehicle west along the South Gippsland Highway the probabilities are that he was travelling at a speed of approximately 95 km/h. See for example the evidence of Michael MONTI, Michael and Carolyn COLEMAN and Paul GARDNER.

The vehicle performance system fitted to this particular Mack Prime Mover when interrogated on the 6th February 2001 shows that the vehicle had never exceeded 100 km/h. In addition, the vehicle was speed governed to 100 km/h.

This is consistent with the evidence from Michael Monti about the movements of his own vehicle (CB 102 Ex. "K"? and T78 ->). Prior to the arrival of the tanker, Monti was stationary facing south in Sybella Avenue at its intersection with the South Gippsland Highway. The accident occurred 150 metres west of this intersection. (C B 166 per S/C Dettman; C B 182 per Sgt Bellion who produced a scale plan). An examination of the scale plan, particularly measuring the distance of the marks on the roadway from the ?intersection?, leads to the conclusion that the distance from the intersection to the point where the tanker lost traction is probably less than 150 metres.

Monti allowed the tanker to pass him as it travelled in a westerly direction. From a stationary position driving an Isuzu refrigerated rigid truck, Monti proceeded into the intersection, crossing the east bound lanes and through the median strip, turned right into lane 2 and commenced to travel west, following the path of the tanker. He had travelled a short distance when he saw the accident occur. At the time of the accident, he was travelling at 65-70 kilometres per hour.

Mathematically, a vehicle travelling at 100 kilometres per hour takes approximately 5.4 seconds to travel 150 metres. To allow time for the movement of Monti's vehicle as described, it is highly improbable that the tanker was travelling at or near 100 km/ph leading up to or at the time of the accident. (At 90 kph, you are doing 25 metres per second. At 100 kph, it is 27.77 metres per second – T.42)

The evidence of Paul Gardner supports this conclusion. He said that his vehicle made a squealing noise if it went over 95 kilometres per hour. Further, he had been following the tanker which had not ?got away? from him. In fact, he caught up and was closing in on the prime mover which makes it more probable than not that the tanker was travelling at no more than 95 kilometres per hour leading up to the time when the tanker lost traction on the road surface. (T 50 -> T 51)

The evidence of Mr. and Mrs. Coleman confirms the steady driving pattern of the tanker over a considerable period prior to the accident at a speed which was unremarkable in the circumstances. (Statements Mr. Coleman at CB 107 Ex. "O?" and Transcript T122 and Mrs. Coleman C B 110.) See also the evidence of Mario Sorrentino (C B 58 Ex ?"H"? and T 69 -> 71).

This is also consistent with the calibrations of speed conducted on the vehicles of Mr Gassman (Exhibit "?M"?) and Mr Coleman (Exhibit "?W"?).

The evidence of several witnesses who gave evidence as to speed must be seen in the light of the warning contained in the introduction. For example, Mr. Gassman (C B 91 and T1) and Mr. Rogers (C B 74 and T 104 ->)."

Cootes Holdings makes the point in its submissions that:

"As Mr NARANPANAWA approached the scene of the accident, he had to negotiate a sweeping left hand bend. This, of course, meant that for him the road conditions ahead were unknown to a certain degree. However, he like all motorists, was entitled to assume in the absence of warning signs or signs permitting of a speed less than 100 km/h that the road conditions ahead would remain constant. His steady speed and safe driving behaviour over a considerable distance supports that he was driving according to that norm, assuming that the roadway was predictable."

On the other hand VicRoads submitted that:

"The submissions on behalf of both the TAC and Mr Naranpanawa proceed on the basis that the speed of the tanker was in the vicinity of 95-97 km/h (TAC [10]; Naranpanawa at p18). However, Mr Gassman gave evidence that the tanker caught up to and then drew away from him, ending up approximately 100m in front of him prior to the collision. On the basis of this evidence, the tanker must have had a speed of more than 97km/h at the time at which it lost control.

This conclusion is given further weight by the simulations performed by Sergeant Bellion, which indicate that slippage of the drive wheels did not occur at any speed below 100km/h (T. p770) He conceded that this might be a slight overestimation, since the simulation was based on a two dimensional model and could not take account of the effects of rutting on the road. On this basis, it is submitted that the Court ought to accept that the speed at which the tanker was travelling just prior to the collision, was in excess of 97km/h, but no more than 100km/h."

Critically, the issue of rutting is not factored into Sergeant Bellion's testing model.

It is more likely that the tanker was travelling at about 95 or 97 kph when it lost control. However, this does not exclude the possibility that it was travelling slower (see for example the evidence of Mrs. Coleman). It is unlikely that the tanker was travelling any faster than 97 when it lost control, and more likely it was travelling marginally slower.

The contribution of the road surface to the incident - general discussion

TAC, in its submission, argues the tanker entered lane one before the loss of control. That Sergeant Bellion *"at CB 184 and his evidence"* suggests *"that the vehicle entered up to 1/3 of the width of the lane."* As described in the following questions and answers:

"***Q:*** *Just finally for me, ... (To witness) You were satisfied enough that the near side tyre marks left a pattern which in your mind were consistent with them coming from the right-hand edge of lane one?*
A: *Well, that's - that's where they were observed to commence, which would lead you to the possibility of them originally coming from the right side of the left-hand lane.?*

Q:*? ...And at some time before that vehicle lost control it is possible for you to scientifically assess where it would have been before that?*
A: *Yes, the extrapolation of that tyre mark and also simulation to lead to it getting over the top of those marks.*
Q: *And everything puts it partially in the left lane?*
A: *Correct.?"*

According to TAC also:

"Mr. Keramidas accepts that the vehicle entered lane 1. In fact the expert witness for Vicroads accepted that the vehicle entered lane 1 before any loss of control, refer report from Mr. Keramidas p.25, paragraph 4."

And:

"Reference can also be made to the evidence of the following vehicle driven by Mr Gardiner at 33/22 and 39/13. Mr Sorrentino agreed that the truck may well have entered lane 1 before loss of control, 72/6. Jay Town could not deny that the truck had entered lane 1, 155/9."

TAC commented *"the fact that the truck entered lane one at this point was to be expected as it followed immediately after the end of the division between the east and westbound lanes."*

On the issue of wheel ruts the TAC submitted:

"While Mr Potesta swore that a depth of 15 mms was a ?low value? in that in some areas a depth of 70mls is recorded ***(712)****, no-one controverts the potential of such ruts to adversely affect steerage of vehicles. Sgt Bellion was questioned at length on the inadequacies of his 2D simulation in that it could be programmed to reflect wheel ruts. The sergeant did not suggest that such a factor was not relevant here. He agreed that the ruts can increase steerage angle... ?:*

Q: *So that given the ruts on this road it may well have demanded of the driver that he put more into the steerage angle than would be the case if the ruts weren't there?*
A: *Yes, I'd agree with that.*
Q: *That would follow wouldn't it?*
A: *I'd agree with that."?*

TAC submitted that the *"effect of the vehicle entering into lane one was to pick up the split friction effect between lanes one and two which was of a differential of the order of 55%."* As Sergeant Bellion stated:

?"Q: *And on your assessment, the capacity of lane one to decelerate the vehicle was only 55 per cent of that in lane two?*
A: *Whatever I've said in my report*
Q: *That is quite a significant differential between the two lanes isn't it?*
A: *Yes, it is actually probably - when you look at the friction values there, the friction value on that left lane is probably less than what you would get on say a gravel shoulder.*
Q: *So you think you are driving on something safer than gravel and you are not?*
A: *Not in terms of friction co-efficient.*
Q: *Yes. In terms of friction capabilities, that proposition is correct, isn't it?*

A: *Correct."?*

TAC noted that:

> *"the scrim testing relied on by Sgt Bellion was undertaken in the afternoon when further rains had occurred flushing oil and contaminants from the surface. The surface was no less slippery and may have been more so when the accident occurred."*

And argued that the result of the split friction effect was that:

> *"the near-side wheels would have less grip on the road surface than the off-side wheels and with the mass of the trailer pushing in a generally westerly direction a clockwise rotation of the prime mover would be induced. This in fact happened. It accords with the observations given by Mr Donohue of the manner in which he has seen articulated vehicles come to grief ?and this occurs even without the brakes being applied according to Mr Donohue."*

TAC submitted that the effect of Sergeant Bellion's evidence was that *"without the split friction effect there would have been no accident"* as the following question and answer elucidate:

> ?"*Dry, or the road surface had been wet but was in fact to standard, the road surface ... In other words if we had had the frictional properties of the right-hand lane?*
>
> *Yes?---It wouldn't have happened."?*

And that both Sergeant Bellion and Mr Axup *"agreed that had the road been re-surfaced, the accident would not have occurred."*

The police summary for the Coroner states that the investigation:

> *"?... revealed the surface of the left-hand lane may possibly played a factor in this collision as NARANPANAWA was diverging from the right hand lane towards the left lane at the time of loss of control. An experienced driver should have been aware of this road condition and driven the vehicle according to the conditions present. Thus the road surface was not the cause of the collision."*

And:

> *"The left hand lane for westbound traffic was in need of repair due to bitumen bleeding. This problem had been reported to Vic Roads in late 2000. An experienced driver should have been aware of the state of the road and driven accordingly."*

`Rutting' **and the road surface**

It is noted that VicRoads did not include rutting in its assessment of the pavement *"?texture loss."?*

Rutting, according to Mr. Wall an engineer from VicRoads is:

"?That's - if you look laterally, a cross section of the road it's a deflection due to a wheel - a wheel path over time deflecting the pavement downwards permanently. So it's a permanent deflection of the pavement where the wheel paths go?..."

As indicated, on the issue of wheel ruts the TAC submitted:

"While Mr Potesta swore that a depth of 15 mms was a ?low value? in that in some areas a depth of 70mls is recorded... no-one controverts the potential of such ruts to adversely affect steerage of vehicles. Sgt Bellion was questioned at length on the inadequacies of his 2D simulation in that it could be programmed to reflect wheel ruts. The sergeant did not suggest that such a factor was not relevant here. He agreed that the ruts can increase steerage angle... ?:

***Q:** So that given the ruts on this road it may well have demanded of the driver that he put more into the steerage angle than would be the case if the ruts weren't there?*
***A:** Yes, I'd agree with that.*
***Q:** That would follow wouldn't it?*
***A:** I'd agree with that."?*

Cootes argued that the information on rutting was used *"for maintenance purposes – not driver safety."* The Company says that Mr. Potesta referred to *"?pavement life?"* when asked about the level 5 scrim tests:

*"**Q:** But before then you may have vehicle ruts in the surface of the roadway?*
***A:** Yes, you may, but it may be - I suppose in the context of how the deflection testing is used, deflection testing is also used to determine, I mean, pavements - unbound pavements are generally flexible by nature, so testing of that sort could also indicate whether the pavement is - well, for resurfacing treatments, for example, **what resurfacing treatments one could recommend for paving**. So for a paving to find deflection, which may be OK on the basis that you have a seal and that seal can deflect with the - with the pavement. So that's the general context of what - what deflection testing is used for. It's also used for, as you say, to determine the, you know, if a - a re-sheet treatment to determine, say, a depth of re-sheet to counter a foundation deficiency. But it can also be used to determine types of resurfacing treatments that can be applied once a pavement is there."*

And Cootes submitted that this is made abundantly clear by Mr. Potesta in the following questions and answers:

*"**Q:** Did you see rutting along the relevant road section of roadway?*
***A:** Minor, I did note that it was minor in my view, yes.*
***Q:** I believe it was measured by police and found to be, as I understand it, in the realms of 15 millimeters per track, wheel track?*
***A:** Well again, you know, I think I mentioned yesterday our routine maintenance specification generally works on about - **an intervention level** of about 25 millimeters.*
***Coroner:** So you won't intervene until you get to 25 millimetres, is that right?*
***A:** Well that is basically the guide, yes.*
***Q:** So is that a standard that has been developed?*
***A:** Again, I can only record information that is available to me, now maintenance specification and generally it is not seen - again, we are talking small areas of say under five square metres but all defects greater than 25 mil depth measured at - within a straight edge of 1.2 metre or under three metre straight edge, so that is the intervention.*

Q: *But if 15 goes for some distance what do you do, is that a problem or not a problem?*
A: *Well not really, I mean - you know I've been involved with re-surfacing the South Gippsland Highway over many years and I mean we have had rut there that is of 70 mil that we have regulated prior to putting a surface in. 15 mil would be considered a fairly low value.*
Q: *A low value in the sense of?*
A: *In the sense of - you know there is worse than that.*
Q: *So what you are saying is there was worse than this section of highway and that is why it didn't come up to an alert in your mind, is that what you are saying to me?*
A: *I suppose what I am saying is that it would not have ranked - you know, having the knowledge that I put the program together would not have ranked within the sites that did rank for the program.*
Mr. Kohlmann: *Do I take it that from what you've just said, that the degree of rutting, although it was detectable and appreciated by you without physically measuring it?*
A: *I didn't have to measure it.*
Q: *No, but you could see that it was evident but it wasn't at the sorts of level or degree that necessitated immediate action just in terms of it alone?*
A: *Yes, it wouldn't have triggered for me to take immediate action, no it is certainly on the lower scale.*
Q: *The other feature that you saw that prompted you to recommend road work at this location was?*
A: *As I said, it is mainly the knowledge of the fact that the paving had been re-sealed '95. Usually a sealed treatment would last a good ten years. This is only half of its life and obviously what has happened is that the bitumen must have activated to an extent that the stone has been moving in so another seal over that would have only exacerbated the current surface condition and again, that wasn't just my opinion, as I said, I had other experts that is in Ian Cousins come out and look at the site.*
Q: *So correct me if I am wrong. The main factor as far as you were concerned that led you to conclude that some sort of major road work was required to this section of roadway was a fact or a combination of the rutting and the texture loss, but mainly the texture loss?*
A: *Mainly the texture loss and an appropriate treatment to address the type of pavement that there was.*
Q: *As you walked along the roadway in the left-hand lane, lane one, as per the diagram there, you could see evidence of flushing or bleeding couldn't you, along the section of road?*
A: *Yes.*
Q: *And that was evident for some considerable distance wasn't it?*
A: *I couldn't say for how long but I do recall seeing it, yes."*

Cootes noted *"Mr. Wall was told of rutting and the texture problem by Mr. Miller (T 554) but this did not result in a response to safety – only to priorities of funding."*

Cootes, in its submission, pointed to the evidence of Sgt. Bellion and that his conclusions were based on modelling which was two dimensional and did not include rutting. On the issue of rutting Bellion said:

"With the rutting feature, you can get compression rebound effects on suspension on the tyres which may lead to more slip when coming down."

And:

"But certainly in terms of steering a vehicle on a rutted pavement, normally there is more components of steering required."

That:

*"**Q:** Did the wheel ruts that are said to have been present in the road, did they have anything to do with this collision, in your view?*
***A:** As indicated yesterday, the rutting may cause a little bit more steering than normal to keep it correct if pathed, but that would be the only effect it would have had.*
***Q:** Would it have taken it to a five degree steer angle?*
***A:** I wouldn't think you would need that much to keep it in a straight line.*
***Q:** So the five degree steer angle can't be explained by a phenomenon of hydroplaning or aquaplaning?*
***A:** Correct.*
***Q:** A five degree steer angle in your view can't be explained by rutting in the road?*
***A:** Correct.*
***Q:** One of the possibilities for the five degree steer angle is, isn't it, that the vehicle is already out of control by the time that those wheel marks that I've asked you about were left?*
***A:** They could be an over-reaction to something that had occurred earlier, yes."*

It depends on where this over-reaction happened, on entry into the lane or after the commencement of the loss of control due to the road surface and conditions (rutting is also discussed under the sub-heading - **`The role of *`oversteer'* in the collision - was it a benign lane change?'**).

The relevance of the rain squall or *`Microburst'*

Did the rain squall create such a situation for the tanker driver that necessitated significantly different driver behaviour? To answer this question it is necessary to examine when and where the rain squall hit and the likely knowledge of that event by the tanker driver. Ultimately, other than to say that the squall hit the area shortly before the incident and potentially created a far more dangerous road environment, it is impossible to come to a definitive answer on the issue. There is the reasonable possibility that the surface, where the incident occurred was only marginally effected by the weather conditions and was wet and slippery but not awash.

It is noted that localised rain squalls or "*microbursts*" are not unknown in the general area of the incident. Indeed, sudden squalls have been the subject of other coronial investigations (see inquest into the death of Lindsay Dack, which occurred during the Big Bay Yacht Race in Port Phillip Bay, December 2000).

It is noted that there were various views as to the actual weather conditions applying on the day. The police summary for the Coroner states that witnesses *"describe the weather conditions as being overcast; roads were damp to wet on various parts of the highway. The rain was described as drizzle to heavy, torrential rain prior to 10.30 a.m."* In more detail, the police summary, comments:

"?... Witnesses have given varying accounts of the weather conditions from being overcast, drizzling to torrential rain. The road surface was dry through to extremely wet. One witness a Jay TOWN took photographs of the scene, which indicate the road surface was dry at the time of the collision. Despite this TOWN states that there was a heavy downpour at the time of impact and that his unqualified opinion the weather conditions caused the collision. Inquiries with the

Bureau of Meteorology reveal no rain was recorded in the Koo Wee Rup region at the time of the collision. 5 witnesses have stated that it was raining and the roads were wet at the time of the collision. The remaining witnesses have said it was not raining and the roads were wet with two saying the roads were dry."

On the issue of ***"Weather conditions and the squall"*** and as to how it related to the incident Cootes said that the weather conditions *"were overcast and the likelihood is that a localised rain squall had just passed, leaving the road wet with water laying in and obscuring the rutting. In the overcast conditions, the flushing to the pavement surface would not have been apparent to an observant driver."*

The company submitted that many witnesses described the prevailing weather conditions and that it should be kept in mind that this evidence *"identifies what they were experiencing at various times and distances from the accident scene."* That:

"Prior to the time of the accident, there had been severe rain squalls, one of which had come from the west (Tooradin direction) and cut across the highway west of the area of the scene of the collision. (Another rain squall may have occurred several kilometres before the accident in an easterly direction – see Gassman at T 6)."

And:

"There was no witness who was at the scene of the accident for a period of time up to and co-incident with the collision. Other than Mr. Monti, all other witnesses were travelling from opposite directions towards the scene at speeds about 95 – 100 kph. In other words, they were covering distances of about 1.25 kilometres during the minute preceding the accident."

As to Mr. Monti's evidence, Cootes summarised the information as follows:

"A rain squall was coming towards the scene from the west. It hit the accident scene suddenly a short time before the accident and then was gone. This heavy downpour left the roadway wet with water in the ruts."

And that this *"is consistent with the evidence of Mr. Gassman (travelling in the same direction as the tanker)"* and Mr. Gardiner who said that *?by the time I saw the truck the first time, it had stopped raining..."??*

Cootes suggested that the rain squall:

"... must have cut across the highway at an angle in the vicinity of the accident scene shortly before the accident going in an S/SE direction. There is no evidence from witnesses travelling east (i.e. from the west in the opposite direction to the tanker) that they were travelling in rain leading up to the accident. (See Mario Sorrentino at T 68 and Bruce Rogers C B 72 and T 104/105). Particularly, Mr. Gardner describes the ?microburst? at a point S-E of the vicinity of the collision near ?the first bridge? (C B 95 and T 38 and T 46). And by the time of the accident, the squall had passed – it was drizzling or raining lightly or traffic was throwing up spray. (See evidence of Mr. Monti and Mr. Coleman and Mr. Gardner T 38)."

And that:

"At the time this squall passed over the scene of the accident, Mr. NARAPANAWA was probably well over a kilometre away."

Cootes submitted that this observation:

"... together with the clear evidence of witnesses familiar with the area regarding the sharp definition of local rain squalls, leads to the conclusion that at the area and time of the accident, there was water in the ruts in the roadway. It is unlikely that it was raining because the surface had to be dry to provide friction for the ?transfer of material? i.e. the skid marks (See Sgt. Bellion's evidence at T 834). There may have been spray coming up from the road pavement caused by the traffic."

Cootes submitted that it is possible that *"the tanker did not drive through the squall. For example, Mr. Gassman does not mention it in the time and vicinity shortly before the accident occurred. And Mr. Gardner describes the short localised sections in which these ?microbursts? occur."* Its submission illustrates the point by the following question:

*"**Q:** So it could be a situation where you might be on one side of the road, get one of these microbursts and somebody a couple of hundred yards down the road won't get any?*
***A:** That's right.*
***Q:** You're in and you're out of it?*
***A:** Yes."*

And that Mr. Gardiner was following the tanker and when the rain came, he slowed down ?"*only for the period the rain lasted and it was literally a few seconds?"* before accelerating and resuming his observation of the tanker. Cootes say that Gardiner identifies that the squall hit *him* when he was travelling *between* the two bridges in the sweep of the road before reaching Sybella Ave.

Clearly, a sever rain squall or "*microburst*" hit in the general area of the incident. Some witnesses describe the squall, and yet others in the vicinity of the collision and travelling behind the tanker do not. Some approaching the developing scene from the opposite direction describe rain. The issue of whether the rain squall necessitated the tanker driver modifying his driving is very difficult to determine without knowing if his vehicle experienced the same severe, short duration storm effect as others. There are significant doubts as to whether he did, or if so when he did in relation to the loss of control.

A *`jack-knife'* or a *`fish-tail'*?

There was considerable discussion as to whether the manoeuvre by the tanker could be described as a *"jack-knife"* or a *"fish-tail."* If a "*fish-tail*" it is more likely that the tanker was loosing control earlier than its lane change to the left and less likely that the road surface had anything to do with the collision. Some witnesses describe the movements as suddenly occurring (a jack-knife), another that the trailer was "*bouncing*" on the approach to the site of the incident and then it was *"fish-tailing."* Other drivers and passengers see nothing wrong until the tanker suddenly lost control about the time it was moving into to the left hand lane.

Ultimately, the issue is resolved in the determination of the likelihood of the road surface's contribution to the incident and whether or not the tanker began to execute a controlled movement into the left hand lane.

The role of the engine brake

The police summary for the Coroner states that:

> *"... ?an inspection at the scene revealed the engine brake was on at the time of impact. When a vehicle commences to decelerate engine braking can cause some rotational slip at the rear drive wheels. This problem is most pronounced if the vehicle is empty and following a curved path, such as changing lanes, on a slippery road surface. This along with an oversteer to the right may have contributed to the collision."*

The issue of whether the engine brakes were in operation shortly before the incident is one of the crucial factors in order to determine whether or not the driving contributed to the event. In summary the core of the issue can be explained by virtue of VicRoads' submission on Sergeant Peter Bellion's conclusions in his report. That:

> *"The engine brake being on with an unladen trailer, undergoing a lane change manoeuvre for the slippery conditions was a factor that led to jack-knifing. A professional and properly trained truck driver should have been aware of the potential problems associated with engine braking and unladen trailers in slippery conditions."*

And that, in addition, the Sergeant's evidence that:

> *"The <u>speed of travel</u> of the vehicle: ?on approach to the site, given the conditions of the atmospheric conditions was too high. There was an indication by witnesses to say that there was wheel bouncing in the trailer and that is an indication that the trailer is not sitting stable (T. p. 1109)....?If it is accepted that this trailer did develop a swing, as indicated by Mr Town and Mr Sorrentino, then clearly the motion of the vehicle through the bend has been the initiation of the entire sequence of events."?*

Against the earlier conclusion, Counsel for the tanker driver, Mr. Naranpanawa, argued:

> *"A great deal of focus was given to engine brakes by VicRoads. Ultimately the issue of engine brakes should be seen as somewhat of a red-herring designed to divert attention from the true cause of these collisions, the defective and dangerous road surface in the left hand lane. It is not known whether the engine brakes were operating at the time of collision. It is known that the use of conventional braking overrides any engine brake and Sgt Bellion properly analysed the position at pages 820-821 when he conceded that it is impossible to say that engine braking contributed in any way to these collisions."*

Likewise, the Cootes' submission on this issue *"there is no evidence that the engine brakes were in fact engaged by the driver of the tanker prior to the accident"* and:

> *"The observation by Snr. Constable Patterson (C B 147) that ?the engine brake (was) in the down position? in the cabin after the accident does not establish that the engine brake was in fact engaged prior to the accident. Indeed, the analysis of the facts by Sgt. Carnie's superior,*

Inspector Allway and Carnie himself is in evidence... "??There is no evidence to indicate whether the engine brake had in fact been engaged and whether it was operating at the time of the collision??." ... That is the fact isn't it? ... Yes. It is only supposition that it was actually operating...?"

Cootes submitted that the :

"... observation about the engine brake switch does not identify whether the engine brake was on at point 1 or point 2. (That has a consequence in the effect of the brake if it had been operating.) There had been a number of people inside the cabin after the accident and prior to the observation. Further, the driver of the tanker had been undoubtedly thrown around in the cabin, suffered head and facial injuries and had scrambled out across from the driver's position to the passenger door, exiting from that point – after having made a telephone call from the mobile phone located beside the engine brake switch..."

Cootes challenges the theory that the brake lights went on *"over that last couple of hundred yards?"* Cootes says that the:

"... only witness who gave evidence of this was Mr. Gardner. Neither Mr. Gassman ...? and repeated several times ?... nor Mr. Town ...? saw lights. An analysis of the evidence of Mr. Gardner confuses rather than clarifies this point. He says that the lights came on and went off – but says that the lights were on continually after the accident as you would expect of illuminations?..."

And that:

*"**...** if the engine brake was engaged prior to the accident, then it is submitted that it is highly unlikely that it became operative at any time that influenced the course of the tanker or trailer before it began to slew out of control."*

Cootes suggested that the evidence of the eye witnesses can be explained thus:

"The evidence concerning the lights on the rear of the trailer of the tanker lacks consistency – but the most detailed description (in the evidence of Mr Gardner) supports the submissions which we put in relation to the interpretation of events.

Mr Gardner sees lights high up on the top of the trailer (T33) only a few seconds after he first saw the tanker (T39) at or about the intersection of the highway with Sybella Avenue (T42). The implication is that Mr Gardner saw the brake lights come on. At that point, the tanker was in lane 2 and before it started to move into lane 1. Interestingly, the lights seen by Mr Gardner were on the "?trailer?" and were still on after the accident (T43).

Also of relevance is Mr Gassman's evidence which does not mention lights at all in any of the statements made by him or in evidence. Again this brings into play the warning included in our introduction. This absence of observation is despite Mr Gassman being in quite possibly the best position and also as his evidence would have it, being focussed on the driving of the tanker."

Cootes explained the operation of the braking system thus:

*"**First**, all the evidence is that the tanker was maintaining a steady speed (for example Mr Gassman and Mr Gardner).*

***Second**, engine brakes only become operative when the switch is on and the driver wishes to decelerate by removing pressure on the accelerator.*

***Third,** when a brake pedal is applied (i.e. the conventional braking system), it overrides the engine braking system which then cuts out (T257). And in the words of Sgt. Peter Bellion (T735):*

> *?The suggestion that the engine brake was operated on the Mack truck is surely negated if it were the case that the manual brakes were operating at the relevant time? ... If that is the situation, yes.?*

***Fourth,** if the observations of Mr Gardner are correct regarding brakes lights coming on when the tanker was in lane 2 (T38/39), and that then there was an unremarkable movement towards lane 1, it is most unlikely that the driver of the tanker used or intended to use the engine brake or had it in an operative position at the time. Why use the conventional brake in lane 2 when travelling straight ahead? If there was a desire to slow down in that lane (and there is no apparent need for him to do so – rather it would be more likely that he maintained constant speed), then releasing the accelerator would engage the engine brake which does not cause brake lights to come on. (It is accepted that the tanker in question ?"was not rigged so that the brake lights would come on if the engine brake was applied"? – Mr Hill Q.C. T906). The most likely alternatives are that the engine brake was not operative **or** if it was, it was not engaged at any time relevant to the movements or loss of control of the tanker. "*

Cootes suggested that it was at this point in the sequence of events that *"the hidden trap of the roadway influences the path of the tanker which begins to move ?"sideways?" (evidence of Mr Gardner...?)."*

Cootes also suggested that the testing done using an identical truck and trailer combination to that involved in the accident, produced results which *"support these propositions (for example see the details in the Road User Report of Professor Sweatman, the evidence and reports of Mr D Axup, the supplementary reports both experts and their comments on the Keramidas' report..."*

Also that the evidence of Sergeant Bellion *"agrees that, in the circumstances of the roadway at the time and place of the accident"* that *??"... with the deceleration levels associated with just backing off the throttle, without the engine brake there could also have been slip on the drive wheels on the left lane."?*

And that most importantly:

> *"the simulation did not and could not include the influential factor of rutting ..."*

Finally, Cootes says that *"taking the foot off the accelerator is a normal incident of driving – which no one suggests could or should have been anticipated by the tanker driver to cause loss of control in the circumstances. This again points to the hidden trap caused by the slippery, wet, rutted road surface."*

On the other hand, VicRoads in its submission, argued that the engine brake combined with the driving effectively caused the incident. It progressively examined the experts' evidence.

Of Sergeant Bellion's report, VicRoads submitted the conclusions were that:

> *"The engine brake being on with an unladen trailer, undergoing a lane change manoeuvre for the slippery conditions was a factor that led to jack-knifing. A professional and properly trained truck driver should have been aware of the potential problems associated with engine braking and unladen trailers in slippery conditions."*

And that the Sergeant's evidence that:

> *"The speed of travel of the vehicle: ?on approach to the site, given the conditions of the roadway and the atmospheric conditions was too high. There was an indication by witnesses to say that there was wheel bouncing in the trailer and that is an indication that the trailer is not sitting stable (T. p. 1109)?If it is accepted that this trailer did develop a swing, as indicated by Mr Town and Mr Sorrentino, then clearly the motion of the vehicle through the bend has been the initiation of the entire sequence of events.? (T. p. 1113)"* [7]

VicRoads also pointed to the evidence of Mr. Keramidas:

> *"Engine Braking – Mr Keramidas stated that he considered the engine brake to have been active to have created this motion of the tanker which ultimately led to the collision (T. p. 1114). ?Had the driver selected the engine brake to off, due to the wet conditions, then the rate of retardation generated on those drive wheels would've been half to a third of what it was actually.? In discussions with the Coroner, Mr Keramidas noted that there is a developing incompatibility between new vehicles and the roadway. This is a matter which is addressed in Appendix A to this submission (T. p. 1117)."*

When examining the evidence of Mr. Axup, VicRoads looked at the conclusion in this expert's report for Cootes:

- *There is no evidence of any violent steering manoeuvres by the driver of the articulated vehicle.*
- *The road surface at the site of the incident was in a very poor condition and hazardous to vehicles. It can be regarded as the primary cause of this incident.*
- *The incident has been the result of a momentary loss of traction at the drive wheels of the prime-mover resulting in a partial clockwise rotation of the prime mover.*
- *The driver of the articulated vehicle would have had no chance of avoiding the subsequent collisions with the east bound vehicles.*
- *There is no suggestion that the work practices of either Cootes Transport or of the driver have contributed to this incident.*

Counsel for VicRoads submitted:

[7] Mr Keramidas accepted that if the Court did not find that the trailer had developed a sway, then speed could not be said to have been a factor in the collision (T. p. 1114).

"It is clear from his reports and oral evidence, that Mr Axup was of the opinion that the cause of the tanker's loss of control was a ?wheel spin breakaway? due to encountering a surface friction value which was lower than the friction demand on the near side tyres (eg. T. p. 904). Mr Axup did not change his view at any time. (T. p. 919).

It is submitted that the objective evidence before the Court does not support Mr Axup's conclusions in this case. Although the surface friction value in lane one was undeniably low, nevertheless, Sergeant Bellion stated quite clearly that a normal lane change would not have placed more friction demand on the tanker's tyres than the road surface was able to offer (T. p. 732). Sergeant Bellion noted that one of the assumptions upon which Mr Axup's conclusions were based, was that there was no evidence of any violent steering manoeuvres by the driver of the articulated vehicle. Sergeant Bellion stated (T. p. 748), ?"Well ...? they refer to it as not a sudden steering manoeuvre, but I would." ?

And pointed to the fact that Mr Axup made the following concessions:

- *If the tanker was coming toward the scene of the accident, with the trailer swinging out, like a pendulum, with the arc getting bigger, that fact may indicate that the rig was out of control (T. pp 899-900)*

- *The type of trailer swing described by Mr Town is possible and happens frequently in articulated vehicles (T. p. 903)*

- *To get lateral movement in the trailer, with the arc getting longer, as in a pendulum, would require steering movements in the prime mover (T. p. 900)*

- *The steering movement from the prime mover required to cause a pendulum like movement in the trailer (even without the arc getting bigger), would be larger than the steering input required for a normal lane change (T. p. 900)*

- *In order for the trailer swing to have been present and have caused the accident, there would need to have been a continued and prolonged movement in the vehicle. To get the truck to rotate to the right, there has to have been a forward pushing motion from the trailer onto the prime mover, and a loss of traction at the drive axles (T. p. 901), either through wheel spin break away, or through braking. In that case, the prime mover is retarded in respect of the trailer and the trailer pushes on the fifth wheel and rotates the prime mover (T. p. 902).*

- *The dual tyre marks left by the tanker could have been left by retardation of the prime mover (T. p. 903), by virtue either of an engine brake, or a foot brake, but most likely, an engine brake (T. p. 904).*

VicRoads sought to explain Mr. Axup's evidence thus:

"Although he conceded the possibility of the above scenario (which almost exactly mirrors that postulated by both Sergeant Bellion and Mr Keramidas)[8]*, Mr Axup did not accept that this scenario had occurred, because:*

a) he said that Mr Town's evidence was not suggestive of a prolonged swinging of the trailer (T. p. 903); and
b) there was no evidence of braking in this case (T. p. 903)."

And that the objective evidence did not support Mr. Axup's assumptions:

"Mr Town's evidence ?... (and his statement) leaves the reader with an overwhelming impression that although the entire incident was over very quickly, nevertheless, Mr Town had sufficient time to observe the truck's movements prior to its loss of control. Similarly, the tanker's swaying went on for long enough to cause Mr Emillio Sorrentino ?to become a bit concerned. I began to think of an escape plan, where I was going to go?."

When considering Mr. Axup's evidence VicRoads explained that *"no criticism"* is made of his professional integrity. However:

"He undoubtedly did the best he could, reviewing and attempting to digest the significance of the enormous body of evidence from lay witnesses, while in the witness box and during a short adjournment. However, it is clear that Mr Axup was unfamiliar with critical witness statements such as that from Mr Emilio Sorrentino. Nor had Mr Axup digested the significance of Mr Town's evidence that his statement was the most accurate account of what he observed. For a witness such as Mr Axup to make the assertion that there was no evidence that the tanker braked just prior to the loss of control, he could not have been aware of the eye witness accounts which clearly suggested that the tanker's brake lights came on during the movement of the tanker from lane two to lane one. Similarly, Mr Axup acknowledged that prior to writing his report, he was not aware that there was any suggestion that the engine brake was operating on the tanker (T. pp 906-907). Mr Axup freely conceded that it would have been an advantage to have read the eyewitness accounts (T. p. 899)."

And:

"Mr Axup's conclusions are undermined by a lack of familiarity with the evidence which was before the Court in this case. It is clear that Mr Axup may well have concurred with Sergeant Bellion and Mr Keramidas, had he been supplied with the appropriate documentation on which to form his opinion. As they stand, his conclusions ought to be rejected by the Court as being unreliable."

With the evidence of Dr. Sweatman (Cootes' second expert) VicRoads submitted that he did not have the expertise to re-construct motor vehicle accident collisions. As VicRoads pointed out Sweatman's report stated:

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[8] See also the evidence of the lay witnesses who actually observed and described the trailer pushing the prime mover in the following terms: Jay Town (T. p. 187): "?[I saw the trailer move] *from one side back, and across, back, and then the last time, then the trailer sort of took over and pushed the whole thing across to the wrong side of the road*.?" Paul Gardiner (Statement p.2): "?*I was still watching the truck and it struck me as strange that I didn't see the cab of the truck again, and then I saw the truck as it started to skate on the road. It was strange the way it travelled, it was as though the trailer was pushing the cab but the whole rig wasn't jack-knifing severely*."?

"?*The simulation model showed that, when the inner-lane tyre-road friction co-efficient is reduced to a sufficiently low value, directional control is lost and the vehicle yaws to the right. This behaviour matches the apparent circumstances of the subject crash.*

The model shows that the precipitating event is loss of traction at the drive wheels, which causes the drive wheels to move outwards and the prime mover therefore to yaw to the right. The vehicle then moves rapidly into the outer lane and the prime mover crosses over the road centre-line. From the initiation of drive wheel traction loss, it takes 1.8 seconds for the prime mover to cross the centre-line, providing insufficient time for the driver to regain control?...

We are advised that the engine brake was engaged and this raises the question of the additional friction demands imposed by the engine brake. The test results show significant deceleration – a good proportion of which is generated by the engine and transmission – when the accelerator is released even without the engine brake being engaged.

Although the drive axle tractive forces generated by the engine brake are relatively modest, they are sufficient to cause traction loss under a combination of conditions present in the subject crash:

- *Smooth pavement surface lacking microtexture (reducing the base friction level)*
- *Pavement surface lacking macrotexture (to allow water to escape) and covered with ?deep? water (15-20mm); this promotes the critical condition of hydroplaning where friction reduces to near-zero levels*
- *Lightly loaded drive axle tyres*
- *Sufficient speed to accentuate traction loss on a smooth pavement with deep water (although there is no evidence of excessive speed in relation to speed limits).*

The friction demand created by engine deceleration without the engine brake engaged is significant and may, by itself, be sufficient to cause traction loss of an unladen vehicle on a slippery wet surface.?"

VicRoads submitted that:

"?... Dr Sweatman, like Mr Axup, asserts that the cause of the accident was a loss of traction at the drive wheels of the prime mover. No analysis is performed to determine what events may have led to this. A bland assertion that "?when the inner-lane tyre-road friction co-efficient is reduced to a sufficiently low value, directional control is lost and the vehicle yaws to the right"? is self-evident and unhelpful. The key fact for the Court to bear in mind when assessing this assertion, is Sergeant Bellion's evidence that the surface friction in lane one was such that a normal lane change would not have caused wheel slip in the absence of steering and/or braking. The four to five degree driver steering-input is completely overlooked by Dr Sweatman's report."

And:

"Dr Sweatman asserts that a covering of ?"deep"? water (15-20mm) promoted "?the critical condition of hydroplaning where friction reduces to near-zero levels"?. It is submitted that the Court ought to discount this evidence completely. Mr Axup, Dr Sweatman's co-author, admitted that the wheel ruts in which any water might have collected, could not be described as "?deep?" (T. p. 870). Sergeant Bellion dismissed the ?"hydroplaning"? theory out of hand (T. p. 787):

?"Did aquaplaning have anything to do at all with what occurred? ... Aquaplaning is basically all the wheels sliding on a complete wedge of water here. In that situation there would be absolutely no [tyre marks] whatsoever, you would require a decent depth of water on the pavement for that to occur; and secondly, aquaplaning, you actually require a fair bit of speed to aquaplane. Now, if you look at the tyre pressures from the mechanic's report for that particular truck and look at Horn's theory on aquaplaning, if we look at the minimum tyre pressure was 600 kilopascals, the minimum aquaplaning speed with – if you had the depth of water, like a considerable depth of water, will be 94 kilometres per hour. If we go to the maximum tyre pressure in the tyres, which was 800 kilopascal, that would require 109 kilometres per hour of speed to cause it to aquaplane, that's if you had the considerable depth of water there to start with.

So we can forget about aquaplaning, you say? ... Correct."?
...
?"Did the presence of water in the wheel ruts in any way promote the phenomenon of hydroplaning in this particular collision? ... There's no doubt that there was water in pooled areas on that road surface but not over any significant length?...? (T. pp 791-792)

Mr Keramidas agreed with Sergeant Bellion's conclusions in this respect and noted that the maximum depth of water was only one mm (T. p. 1140)."

Finally VicRoads submitted that:

"... with the exception of taking into account Dr Sweatman's measurements of the retardation forces generated by releasing the accelerator with and without the application of the engine brake (which tests, it is conceded, appear to have been conducted thoroughly, in controlled circumstances and to the satisfaction of both Sergeant Bellion and Mr Axup), Dr Sweatman's report as to the circumstances of this collision ought to be disregarded."

Ultimately, there is no convincing evidence that the engine brakes were on at the time of the incident and thus had any effect on the events. As Counsel for the tanker driver, Mr. Naranpanawa, argued:

"?It is not known whether the engine brakes were operating at the time of collision. It is known that the use of conventional braking overrides any engine brake and Sgt Bellion properly analysed the position at pages 820-821 when he conceded that it is impossible to say that engine braking contributed in any way to these collisions."

The engine brake may or may not have been operating.

The role of *`oversteer'* in the collision - was it a benign lane change?

Cootes say that *"?...Sgt. Bellion postulates that oversteer was a factor in the collision?..."* But it notes that this factor must be put in its context. Cootes points to the interchange between the Coroner and Bellion:

*?"**Q:** Mr Bellion, if this had occurred and the road surface was then fine?*
***A:** ??... Dry?*

Q: *Dry or the road surface had been wet but was in fact to standard, the road surface..?.?*
A: *?... In other words if we had had the frictional properties of the right hand lane?*
Q: *Yes*
A:*?? ... It wouldn't have happened.*
Q: *It wouldn't have happened?*
A: *Not without – mind you, bear in mind we've got an excessive steer angle component here, an oversteer situation as well, and we've got a ...*
Q: *But would the oversteer situation have occurred had the road surface not had the problems it had?*
A: *??... depends on how you look at the other evidence of the witnesses beforehand. If you take into consideration there was a problem with the trailer prior to it, well then there is obviously something gone on prior to this which we ...??*
Q: *So lets say one puts that aside and says that didn't happen, it didn't happen that way?*
A: *It's a combination of the factors of the slippery left lane compared to the friction properties on the right lane being OK, a steering component which was more than that required and associated with the speed of travel of the vehicle at that particular point in time.*
Q: *And the operation of the engine brake?*
A: *??... Yes, but even with backing off on the throttle without the engine brake on, if we look at the peak deceleration that was obtained when those tests were done and apply that to the simulator you could still get slip in that situation."?*

And later:

?"Just what caused the oversteering your unable to determine? ??... Correct."?

Cootes submitted that the *"effect of rutting in the pavement was not able to be factored into the modelling – nor, we submit, was the amount of surface water on this particularly slippery surface."*

And that "*no amount of 2 dimensional modelling is able to reproduce the danger of this road surface described by the most credible of witnesses – Mr Miller and Mr Donoghue."*

Cootes also submitted that the *"question of oversteer depends upon the marks on the roadway from which the expert work backwards in an attempt to draw conclusions."* The Company stated that *"Mr Axup gives an explanation which is consistent with the state of the roadway being the cause."* By way of example :

*?"****Q:*** *What are possible causes of the slippage?*
A: *?? ... Possible causes are, firstly, a wheel spin breakaway at a constant throttle pressure, with the near side drive axels encountering a friction value lower that the friction demand, and the wheels spinning. The vehicle then encountering a surface with a higher friction value, so we, in fact, get a scuff mark as the wheels once again adjust themselves to rotating, and not leaving a mark. So that's – that's one possibility. The other possibility is that we could have had a retardation of the prime mover, by virtue of an engine brake or a foot brake. But most likely an engine brake."?*

And Cootes argued that *"an engine brake is not only supposition but most unlikely in the circumstances. And Mr Axup agrees with this proposition."* He said in evidence:

*?"**Q:** The other alternative you put in your evidence was that maybe the engine brake kicked in at that point in time and left a retardation or left a mark, I think you said something to that effect?*
***A:** I did*
***Q:** But in any event if that's occurred with the engine brake, that's after the vehicle has already lost control?*
***A:** it is.*
***Q;** The important thing here, Mr Axup, is from a drivers point of view, once that vehicle has lost control in the left lane, there is absolutely nothing you can do to get it back into control, its gone across the road in one and a half seconds and the accident's occurred?*
***A:** Depending on his speed of travel of course would depend upon the time, but from where that mark is on the roadway to where the other marks indicate that the vehicle has crossed the double barrier line is a matter of 16 metres."?*

Cootes submitted that *"Sgt. Bellion puts this issue in context"* that:

*"**Q:** And, of course, that could relate, or could result in an oversteer if, for example, at the same time you're left hand drive wheel has lost traction?*
***A:** Well once the left hand drive wheel loses traction it's starting to slide and essentially, the rear of your prime mover is trying to start to catch up with your front. Once that occurs you're in trouble.*
***Q:** Can I just ask you a couple of questions in respect to the dual tyre marks that you noted in the line two of the west bound lane?*
***A:** Yes.*
***Q:** Are they caused by the tyres not having contact with the road surface, or are they caused by a tyre that hasn't had contact with the road surface, for example, that there's water under the tyres, so It's not gripping, do you understand, and they're getting into another lane where there's more friction and all of a sudden bitting?*
***A:** Those tyre marks are in the form of a - they were in the form of a scuff mark where the tyre was sliding out towards the side.*
***Q:** Meaning?*
***A:** Meaning that at that particular location we actually had a transfer of material there, because that particular area was probably drier than the other area of the road surface.*
***Q:** Or had more friction?*
***A:** Enough friction to generate a transfer of material on the road surface.*
***Q:** So prior to that, that tyre that left those marks, or those tyres that left that mark, may not have been - made contact with the road surface?*
***A:** There was probably more lubricant, in terms of water, between the tyre contact, perhaps, in the road surface there, and that's why there hasn't been a transfer of material.*
***Q:** You have told us, I think to Mr Priest, that you have worked all this out as a circle, you know, the arc and what have you?-*
***A:** Yes. That was the preliminary estimate and from there I went through to computer simulation work.*
***Q:** But it's more like an eclipse, isn't it?*
***A:** Yes, ellipse.*
***Q:** I'm sorry, an ellipse, that is, it has a straight sub or straight sides and a rounded end, rather than being a complete circle, a true circle?*
***A:** What you normally find in these situations is that it follows what's called a spiral curve, but in this instance, as we get more and more into the jack-knife situation, the vehicle starts to almost follow a straight line path, particularly in post impact movement gear. They've got curved*

motion, leading into the impact and then you've got almost straight line motion leading across towards the ultimate rest position.
Q: *Clearly, the road surface, and I will do this very quickly, in lane one was in any language, very poor and hazardous to vehicles travelling along it?*
A: *Slippery and defective.*
Q: *Very poor and hazardous, same words, yes?*
A: *I suppose they're interchangeable but my terminology from my learning is "slippery and defective."*
Q: *Clearly, the road surface paid a part- - - ?*
A: *Quite a factor in this collision, yes.*
Q: *And, clearly, what also played a part in this collision was the absence of any signs, warning of a potential danger or reducing of the sped limit?*
A: *There were no warning signs with respects to a slippery road surface which you would normally see, the picture of the tyre marks crossing over with the vehicle there.*
Q: *And what we have here is, on any view of it, is the result of a momentary loss of traction of the drive wheels of the prime mover, resulting in a partial clockwise rotation of the prime mover?-*
A: *Yes, and ultimately leading to a collision with a jack-knife situation.*
Q: *I think there were some comments made about jack-knife made by Mr Axup and Mr Sweatman, but the effect is the vehicles that struck the ...??*
A: *Would have exacerbated the problem.*
Q: *Would have exacerbated, or aggravated the position of the trailer and the tanker to each other. Would you agree that the main causal factor in this track was low tyre road friction available in the inner lane, caused by the flushing of the pavement surface and the presence of water in the wheel ruts?*
A: *It's a causal factor. I wouldn't say it is the main causal factor. There is a number of factors that lead to it which I've discussed and we've discussed in depth...?"*

Conversely, VicRoads asked the question - Could the movement of the tanker into the left lane fairly be described as *"a benign lane change"*? It submitted:

"Much is made in the submissions for the TAC and Mr Naranpanawa of the fact that on their account of events, there was no abnormal movement of the tanker prior to the five degree steer input while in lane one. It is said that this steer input must have been in response to something unexpected which occurred, the implication being that without more, the condition of the road surface in lane one caused the driver of the tanker to lose control of the truck."

And that:

"Mr Axup's conclusion in relation to the role of the road surface as the sole factor contributing to the collision, depends entirely upon assumptions that:

(a) there was no destabilization of the tanker prior to its movement to the left;

(b) the surface friction value in lane one was lower than the friction demand on the tyres of a tanker performing a ?benign? lane change?..."

That:

"Both Sergeant Bellion and Mr Keramidas made it clear that a vehicle travelling into the left hand lane from the right, at a steer angle of one or two degrees, should not have encountered any difficulties (eg. Bellion)... ?:

*?"**Coroner:** Let's say hypothetically that the truck moves sufficiently into the left lane to encounter the slippery conditions on the left side of the truck, what is the consequence of that and the truck going at around 97 kilometres an hour? ... If it is maintaining that speed and there is only the required steering amount to get it into that lane, say about one or two degrees, from the simulations that I've done, it should have been all right. If there is a deceleration applied through the drive wheels, whether it be from backing off on the throttle or an engine braking deceleration coming on from the engine brake being one, which puts a higher level of deceleration at the drive wheels and there is a little bit too much steering input at that point in time, that leads to the loss of control event which matches the physical evidence.?"*

VicRoads is of the view that:

"Sergeant Bellion's overall conclusion in relation to the cause of the collision was that the four to five degree steer angle to the right, in combination with the speed of travel being approximately 100 km/h and deceleration through the drive wheels at that time (as well as the fact that the left lane surface friction was lower than the right lane), together, were the causes of this collision."

That under cross examination by counsel for Mr Naranpanawa:

"Sergeant Bellion states that ?`it appears to move into the left hand lane all right, it's when the counter steering...'? occurs that the tanker loses control?".

And that this statement and the answers which followed shortly thereafter, have been:

"seized upon by counsel for the TAC and Mr Naranpanawa as evidence that Sergeant Bellion accepted that the tanker's movement toward the left was ?a `benign lane change'."

However, VicRoads submitted that a full reading of Sergeant Bellion's evidence demonstrates that he was at pains to state that he could not say what led to the four to five degree steer angle, due to a lack of physical evidence on the road:

?"*What you can't say is whether that four or five degree steer angle caused the loss of control or occurred as a result of the loss of control? --- It is that amount of steering combined with the factors that you have talked about that led the vehicle to lead into the type of evidence he had to physically match it up. What went on prior to that I can't tell you.*?"

VicRoads submitted:

"There are a number of pieces of evidence that led to the conclusion that the movement to the left by the tanker, was not ?a "benign lane change" :

- *No witnesses report seeing the tanker's left hand indicator flashing prior to the lane change. While this is not put as being conclusive of the matter, nevertheless, one*

would expect that a responsible tanker driver (as Mr Naranpanawa was said to be), moving his rig left in adverse weather conditions in circumstances where there was quite a lot of other traffic on the road, would indicate his intention to do so prior to making a normal, unhurried or ?benign? lane change.

- *The evidence indicates that just prior to and during the ?lane change?, the tanker's trailer was swinging from side to side and that the driver appeared to be trying to regain control of his vehicle. The tanker's movements were so alarming to Mr Emilio Sorrentino, that he began to think of an escape plan.*

- *The evidence indicates that the tanker's foot brake may have been engaged by the driver as it moved left – it is most unusual for a vehicle travelling at approximately 100km/h, otherwise unhindered by other traffic, to brake while changing lanes, unless in reaction to some perceived problem with the vehicle, such as trailer swing-out.*

- *At a time when the tanker was only partially into lane one (less than one metre on Mr Axup's estimation – T. p. 868), there was a massive steering input to the right – it should not be forgotten that the four to five degree road to tyre interface described by the expert witnesses, translates into a 180 degree rotation of the steering wheel by the driver. On any view, this was not a normal steering action. Such steering could not be explained by the driver ?straightening up? the rig as it moved into the left lane (Keramidas T. p. 974), nor by the longitudinal depressions in the road surface, referred to during the inquest as wheel "?ruts"? (Bellion).*[9]

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[9] Much was made during the course of the inquest and in the submissions of the TAC and Mr Naranpanawa, of the effect which ?rutting? had on the driver's ability to control the tanker. Cross-examination (together with the subsequent submissions) proceeded on the basis that "rutting" on the road way could explain the massive steering input which the evidence reveals occurred just prior to the loss of control. No doubt the relevant parties were cognisant of the fact that if the four to five degree steer angle could not be explained by physical factors, then the only remaining conclusion is driver error. A review of the transcript reveals that all of the expert witnesses agreed that rutting would only affect a vehicle to any substantial degree, if the wheels of the vehicle were travelling wholly within the ruts and were therefore "?caught?" by them. Even Mr Axup, on the basis of whose evidence the assertion that rutting would necessarily require a larger than normal steering input was made, was quite clear that this would only occur "?*When a set of wheels, or a wheel, moves into a rut...*"?? (T. p. 865) He went on: "?[The rut] *tends to guide the – the wheels of the vehicle to exit the rut, depending on the depth of the rut and the type of tyres being on the vehicle, requires more input into steering than is normal with a road without such a depression*.?" He was not prepared to make an estimate of how much the depressions on the subject road may have affected a vehicle ?"caught?" in them. During cross-examination, Mr Keramidas said in response to a question from the Coroner in relation to the likelihood that rutting has caused the excessive steering input from the driver (T. p. 974):

> ?"*THE CORONER: Well has it got something to do with the rutting, that he's actually further into lane 1 than you're suggesting? --- If he – he would need to be effectively correctly within lane 1 for the rutting to take effect because if he's in the process of lane changing into lane 1 he would be coming into the rutting but he's not going to be coming into it in such a fashion that the rutting would catch the wheels. The rutting will catch your wheels when you're actually tracking with it, and your vehicle is likely to settle within that rutting. It's when you try and move out of it that you can create – you require a greater steer manoeuvre. If you consider the rutting is running longitudinally across the road and the truck is actually coming in at an angle to it it's wheels aren't actually going to get caught in the rutting. At most you will get a bump effectively. If he's moved all the way across into lane 1 that's when the rutting can have an effect in terms of his steering*.?"

Similarly, at T. pp 1139 -1140, Mr Keramidas said:

> *?"Having given the rutting a fair bit more thought, primarily based on his Worship's concern that he wasn't able to understand why it wouldn't have an effect at shallow angle, I again revisited the material of Mr Axup....taking into account the camber, the 12 millimetre rut over what appears to be about 80 centimetres to a metre... ?is too broad and too shallow in effect to catch a wheel coming in?... On my calculations* [a 12mm rut] *could only possibly hold one millimeter depth of water. So there's nothing that I can see that would have caused a – for example, a jarring action on the steering wheel or even a significant bump*.?"

Mr Keramidas' evidence in this respect was not challenged by any party. (There is, of course, no evidence to suggest that the tanker ever was ?"caught?" in the ruts.)

- *The evidence indicates that a factor in the slip by the rear drive wheels of the prime mover which resulted from the four to five degree steer angle, was that the drive wheels of the prime mover simultaneously experienced a deceleration, either from lifting the foot off the accelerator alone or the action of the engine brake. Both would have led to deceleration applied directly to the drive wheels of the prime mover and both are the result of the driver lifting his foot off the accelerator. Unless there was some problem being experienced by the driver just prior to the massive steer input (such as trailer swing out), it is difficult to explain why he would have taken his foot off the accelerator at a time when he was partially between lanes and unhindered by other vehicles."*

And VicRoads submitted that:

> *"what some witnesses have described as the tanker changing lanes to the left, was in fact an observation of the tanker as it became more and more out of control. The movement of the truck, first left, then right, was a result of the driver attempting to regain control of the swinging trailer. Sergeant Bellion agreed that one explanation for the four to five degree steer angle and deceleration was that they were ?an over-reaction to something that had occurred earlier, yes.?*

However, the evidence of the Colemans and Mr. Gardiner still throws considerable doubt on this theory (see discussion and conclusions under the sub-heading **`Driver behaviour - a general overview'** below). In order to accept VicRoads argument it is necessary to discount the view of a number of witnesses of driving behaviour and completely accept others in the setting of a dangerous stretch of road where a number of other vehicles have recently lost control. Also there is some doubt on the effect of the "*rutting*" on the loss of control.

VicRoads also submitted:

> *"The evidence makes it clear that the loss of control of the prime mover did not occur until <u>after</u> the four to five degree steer input and simultaneous deceleration of the drive wheels. The experts all agree that once control over the prime mover was lost, it would have been impossible for the driver to regain it and avoid the collision. To the extent that the drive wheels slid out while in the left lane, it is accepted that the low surface friction of that lane exacerbated the driver's difficulty.*
>
> *However, what is clear, is that the loss of control of the <u>trailer</u> occurred at a time when the tanker was travelling in lane two. There is no dispute that lane two was in an acceptable condition. The likely cause of the trailer swing-out was wheel bounce. The wheel bounce occurred because the tanker was travelling with an unladen trailer, at a speed that was too fast for the prevailing conditions."*

It is still hard, with the evidence of Mr. Miller, to discount the obvious - that the road surface was involved to a significant extent. The loss of control at the approximate point of where Miller and his drivers had recently lost control is a coincidence too hard to discount.

Driver behaviour - a general overview

Shortly before the incident the speed of the tanker was probably about 95 to 97 kph in a 100 kph speed zone. Whilst it could be argued that a driver is required to modify driving behaviour to

prevailing conditions, once one is aware of the **actual** speed the criticism of the driver must, on one level, start to diminish. However, the issue is not that simple - it is also necessary to balance the driving conditions that actually faced the tanker driver. Here the effect of the squall and the wet road comes into play. Whilst it is not possible to determine whether driver was actually faced with the severe squall, there probably was some drizzle and the road was wet (see the evidence of the Colemans).

Apart from Mr. Gassman there is minimal criticism of the driving. For example, Mr. Gassman commented that he walked:

> *"... ?to the driver of the 4 x 4 utility and he saying to me that the tanker was hiking. I think there was a policeman nearby when this was said. I recall seeing the trailer of the tanker bouncing on the road in the undivided section after he had passed me. I thought then that the tanker must have been unloaded."*

Mr. Gassman noted that he *"was so mad"* as he *"believed the tanker was going too fast for the conditions. He may not have been going too fast on a dry road but he certainly was for a wet road?..."*

To the contrary, the Colemans had a different view. Mr. Coleman considered that he was driving safely and carefully, appropriate to the circumstances and conditions that he was confronted with. He did not consider the tanker driver was speeding. He acknowledge that he was not looking when other witnesses said the truck moved partially or to some extent into the left lane.

After the incident Mrs. Carolyn Coleman stated, after observing the tanker for many kilometres :

> *"... the truck seemed to be going with the flow of the traffic and only overtaking slower moving vehicles."*

And another driver, Mr. Gardiner commented:

> *"?I watched the truck pull into the left lane and then start to correct to pull the trailer back into line back behind the cab. It wasn't out of the ordinary what he was doing, it was what I see trucks do all the time to get the trailer behind the cab and travelling in a straight line again?..."*

Mr. Gardiner put the cause of the incident *"down to rain"*. Gardiner did not consider that the truck was *"doing excessive speeds?"* and did not think the tanker driver was speeding.

Cootes submitted, in effect that the road surface was the cause and that that it was a ***"hidden danger"*** (citing the evidence of Donahue, Miller and Webb) and that:

> *"by the time that the tanker and other traffic travelling towards Melbourne had come around the curve and straightened up as they went past Sybella Ave., the squall had passed and left pools of water in the rutted pavement – leaving the hidden trap for the tanker driver."*

Effectively, Cootes say that the driving had little to do with the incident. On the issue of the ***"driving of the tanker prior to the collision"*** Cootes submitted it is clear that:

"... immediately prior to the collision that Mr NARANPANAWA was driving in a responsible fashion. Again, for example see the evidence of Michael MONTI, Michael and Carolyn COLEMAN and Paul GARDNER."

And:

"It is apparent that shortly prior to the accident, he overtook a slower moving vehicle necessitating his vehicle travelling in lane 2.

Those in the best position to observe the movements of the tanker (i.e. the motorists behind his vehicle and travelling in the same direction) were Gassman, Monti, Coleman, Gardner and Town (but the distances they estimate from the tanker are not consistent with each other nor are their observations of the exact movements of the tanker). However, each states that the tanker was within lane 2. A short distance before the accident, the tanker started to diverge from lane 2 to lane 1. Such a movement in the circumstances was appropriate for a driver of a heavy vehicle to move to the slower lane. The witnesses did not remark otherwise.

The evidence is that the prime mover in this diverging manoeuvre went at least partially into lane 1. In our submission, it is at this time that the vehicle lost traction, causing the driver to lose control, manifesting in a partial jack knife with the vehicle heading across the east bound lanes (lanes 3 and 4) into the path of on-coming vehicles."

Conversely, VicRoads' Counsel submitted that there:

"... is sufficient evidence to support a finding that the actions of Mr Naranpanawa, the driver of the tanker, were a cause of the accident. In particular, excessive speed for the prevailing road conditions was a factor in causing ?wheel bounce? in the unladen trailer, which led to trailer swing-out and destabilization of the tanker as Mr Naranpanawa fought to regain control of his rig."

And while:

"?... it is indisputable that the stretch of road at the accident site needed to be resurfaced, the accident would not have occurred had Mr Naranpanawa been driving the tanker appropriately for the prevailing conditions. This conclusion is supported by the following objective pieces of evidence:

(i) eye-witness accounts of the movement of the tanker just prior to the collision;

(ii) expert opinion about the likelihood of losing control of a vehicle, even if the surface friction was only marginally better than ice (which, it is not disputed, this was not), if the vehicle was travelling in a straight line or performing a ?normal? lane change manoeuvre, and not subjected to the additional friction demands placed on a vehicle by reason of steering and/or braking;

(iii) expert opinion about the most likely cause of the scuff marks left by the tanker on the road surface, namely, drive-wheel slip;

(iv) the undisputed evidence of a four to five degree steering input (which translates to a 180 degree steering wheel rotation), made by the driver just prior to the collision."

VicRoads also commented on the following evidence:

"While there is no dispute that the tanker was not being driven in excess of the speed limit, it has always been Sergeant Bellion's and Mr Keramidas' position that the speed of the tanker was too fast for the conditions present on the day of the collision (Bellion: Report p. 16 (p. 195 of Coroner's brief); T. pp 808, 837, 854, 860; Keramidas: Report p28; T. pp 965, 966, 1109-1110, 1096).

Sergeant Bellion gave a graphic account of how the prevailing weather conditions affected his driving on the way out to the collision scene (at T. p. 730):

?"I encountered a couple of rain squalls, very heavy rain squalls coming out to there and at times on the Monash Freeway heading out towards that job, operating as an emergency vehicle, there were times when I was down to about 40 kilometres per hour, due to weather conditions. Now, I don't know how severe the squall was at the particular time when this occurred, we have had various accounts on it, but if it was anything like what I encountered on the way out there, that is what speed I reduced the police vehicle down, acting as a police vehicle attending to an emergency at that situation."?

Mr Keramidas explained in detail the reasons why he did not accept 95, 96 or 97 km/h was an appropriate speed for the tanker to be travelling, at the time of the collision (at T. pp 1109-1110; see also T. pp 965-966):

?"I believe that the speed of travel of the vehicle on approach to the site, given the conditions of the roadway and the atmospheric conditions was too high. There was an indication by witnesses to say that there was wheel bouncing in the trailer and that is an indication that the trailer is not sitting stable... It is my view that if speed played a part, it played a part through the bend and whether it was an intentional or reactive movement into the left lane? ... If I were to have seen this truck travelling at 95 kilometres per hour along that section of roadway?... Given the wet conditions, if I'd seen the trailer wheels bouncing, which indicates that it's got no load, in those circumstances... I would suggest that that should be evidence to the driver... for whatever reason, be it the roughness of the road or the wetness of the surface, that he is travelling too fast."?

Sergeant Bellion also agreed that if the tanker was experiencing trailer swing, it would be consistent with the tanker travelling too fast through the bend ...

Mr Town stated that he had been doing about 100km/h, but that as soon as the rain hit, ?"I would have backed off, because it was dangerous?... It was much worse than just a rain storm."?

Mr Axup agreed that if the microburst ?"occurred at a time sufficient for the driver to become aware of the change in the road condition, I'd say that probably a prudent driver would reduce speed?... "?

Conversely, on the issue of Mr. Town's evidence on the tanker swaying before entering the left hand lane Cootes submitted that the two relevant questions are:

- *did the tanker commence to sway some distance before the collision (eg the observations of Mr Town); and*
- *did the tanker move from lane 2 to lane 1 – voluntarily – at a 5 degree angle rather than a 1 to 2 degree angle?*

And that:

> *"The preponderance of evidence is against the observations of Mr Town being accurate at the point in time that he assumes he saw the tanker swaying. (Compare the evidence of the other drivers following the tanker – e.g. Gardner at T 39). Further, the exaggerated angle at which he described the sway (75 degrees) is impossible and the experts all agree on that issue. Therefore, the warning contained in the introduction to this submission is appropriate to Mr Town's evidence on this point."*

Many of the drivers proceeding in the same direction as the tanker considered they were doing 100 kmh (at least before the squall hit). In some cases, driving behaviour was not modified to the conditions. Critically, a sound conclusion on this issue depends on the particular driver's view and experience of the squall. That is not known. There is considerable doubt as to whether the tanker driver's vehicle was effected.

VicRoads also submitted:

> *"?... It is not to the point to assert that the tanker was travelling below the speed limit set for this stretch of road. At no stage did any party assert that it is incorrect to say that despite any speed limit, a driver must adjust his or her behaviour, according to the conditions which prevail from time to time. Such conditions will include the state of the vehicle being driven (eg. an unladen tanker), the weather conditions (eg. heavy rain, driving into the sun) and state of the road (eg. pot holes, uneven roadway, flushing*[10]*). Sergeant Bellion summed up the situation at (T. p. 824): ?"As a driver you should be looking ahead of you at all times and reading the conditions of the road and weather conditions at that particular time. You should be taking all that in.?"*

And that eye-witness accounts (about wheel bounce and loss of control earlier than the time the tanker moved into the left lane):

> *"... are given further veracity by two further, separately obtained, pieces of evidence – that from Sergeant Bellion whose evidence indicates that trailer sway may have been precipitated by wheel bounce (T. p. 800), and that from Mr Gassman, who independently observed that the trailer's*

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[10] As to road condition, the Court is referred to the observations made by Mr Rodda, sitting as Coroner in Benalla in the matter of *De Winne*, who observed:

> *"(1) The Holden SS Commodore PEK 710 was a safe vehicle to drive, and like any other vehicle, must be driven in accordance with the vehicle and driver limitations and capabilities, and the prevailing road, weather and traffic conditions;*
> *(2) The flushing or bleeding of the bitumen on the Midland Highway in the vicinity and point where the deceased lost control of vehicle PEK 710 is a condition which occurs with some frequency on sealed bitumen road surfaces, and due to the difficulty of predicting, monitoring and addressing it, it is a road condition which drivers of motor vehicles in the normal course of driving, would and should expect to encounter, and adjust the method and manner of their driving control accordingly."*

The fact that flushing can develop in the hotter months, especially in locations which experience a high volume of heavy traffic (which may be overloaded), was acknowledged by Sergeant Bellion at T. p. 827 in this case.

wheels were bouncing, indicating to him that the trailer was unladen (Statement p. 4). Neither of these pieces of evidence was challenged under cross examination.

It is submitted that there is no cogent reason for the Court to discard these valuable accounts of the movement of the tanker in the moments leading up to the loss of control by the prime mover and the eventual collision."

It is noted that there is the evidence of the Colemans and Mr. Gardiner which is suggestive of a contrary view. Gardiner's opinion lends weight to the view that the tanker entered the left lane under control. This throws some doubt on the version that there was wheel bounce and earlier loss of control. There is also some doubt on Town's view of the movements of the tanker before it entered into the left hand lane.

In conclusion, viewing the overall evidence of the eye witnesses, in the light of the likely actual speed, doubt over issues associated with the squall and when the loss of control did appear to have occurred (before moving into the left hand lane) there is insufficient evidence to conclude that driving behaviour was a contributing factor. The evidence of *"wheel bounce"*, in the light of the evidence of actual speed and some witnesses view of a *"benign lane change"* is not convincing.

VicRoads' knowledge about the state of the road surface

THE *`MILLER WARNING'*

VicRoads was first warned about a problem with the road surface (near to the point of the incident on 26th January) in November 2000 by the owner of a trucking company, Mr. Allan Miller. Miller was concerned about the unsafe nature of the road and contacted VicRoads by telephone. He spoke with Andrew Wall (Manager, Program Development, VicRoads). Wall had noted, following Miller's call:

?"Road surface is rutted and flush. There have been 5 instances of trucks aquaplaning in the last two weeks."?

Mr. Wall did not view the various *"surface inspection reports"* that were in VicRoads records. These surface inspection reports went back as far as 1996 and indicated problems with the road surface (where the incident actually occurred). On this issue it is noted that Counsel for the tanker driver submitted:

"Had Mr Wall viewed the surface inspection reports he would not have been surprised that such dangerous events were occurring. Mr Miller reports that Mr Wall rang him subsequently and said –

(i) he had sent engineers out to look at the road;
(ii) the road was an extremely bad section of road;
(iii) it was so bad that a quick fix would not suffice and that the road would need to be rebuilt;

(iv) there are insufficient funds to do so."

And that:

"Prior to 26th January 2001 VicRoads was in possession of sufficient information that ought to have prompted action that would have averted this tragedy. For several years surface inspections had revealed the deteriorating nature of the left hand lane in the vicinity of Sybella Avenue, Ex NN, the Bitumen Surface Reports reveal the area to be a category 1 area with indications of loss of surface texture at level 5. Simply put this section of road for at least 3 years had been known to be in urgent need of remedial action. The indication of level 5 surface texture loss is a severe as classification allows and level 1 categorization places the area in a priority situation. This information simply rested in the morass of VicRoads documentation."

As to the reason for contacting VicRoads, Mr. Miller gave evidence that:

?"Because of my experience, I felt that – that it was just too dangerous because I'd lost control through no fault of my own and it was something that was very deceiving because you could drive over your – in the dry and nothing would happen, it would seem fine but when it had rained or maybe even light drizzle and mist was enough that you could actually slide on the – the way I see it, there's a big square patch of smooth bitumen which you have absolutely no traction at all and then you would – once you start to slide on that you would fall into the rut in the road so people would be led into a false sense of security, they'd drive over it 100 times when it was dry but as soon as it was wet ... it was an accident waiting to happen."?

Mr. Michael Potesta, Civil Engineer, Team Leader Maintenance Projects, stated:

?"On the 1st of November, 2000, I received a C.A.R.E. request from Andrew WALL (Manager Program Development) in regards to a complaint from Alan MILLER relating to rutting and flushing of the South Gippsland Highway, Kooweerup turn-off, eastern entrance, in west bound lane - Melway Reference 95 J5. Andrew had put a due date of 3/11/00.

On the 2nd of November, 2000, I requested Luis or Henk to investigate and action MILLER's complaint and to notes limits of routine/rehab activities."?

Mr. Potesta noted that the limits of resources would depend on whether the work was to be of a routine nature or would require rehabilitation. If the work required rehabilitation then it would need more work to access funding. Apparently there is no *?"weighting"?* for risk in within the maintenance system.

In evidence Mr. Potesta indicated that he did not request *"?notes"?* to be made. However, Potesta also stated:

??"... Henk replied to Luis and Andrew WALL regarding the Healesville-Kooweerup Road. It appears Henk may have got the wrong location, and Andrew has requested to Luis to re-check the South Gippsland Highway.

Luis has then referred action to Henk and Peter VELCEK, or maybe it could have been Peter RITCHIE.

Subsequently, Luis has received advice from either Henk or Peter actioning temporary skidding car signs to be installed by R.P.C. and has notified Andrew WALL of that action.

From my enquiries these signs were erected on the South Gippsland Highway near the intersection of Rossiter Road. According to a Diary Entry from R.P.C., these signs were present on the 10th of November, 2000.?"

The signs then disappeared. No-one knows when.

It is interesting to consider the actual notes in the CARE database. The detail is as follows (excluding some information):

"Customer Action Request Form

Received by Andrew Wall?...

Road Name: South Gippsland Highway
Location: Kooweerup turnoff, eastern entrance, west-bound left lane
Details of the problem: Road surface is rutted and flush. There have been 5 instances of trucks aquaplaning in the last two weeks
I advised Alan that we would have a look at the site and get back to him with our proposed action

Actioned by Andrew Wall

Action undertaken?...due date 03/11/2000

Please investigate and action as appropriate. Note limits within Routine/rehab?
Investigated by Henk and response given to Andrew Wall

Lotus Note from Henk van Deuren;

Luis, this section of road was identified during my recent pavement surfacing survey of Cardinia roads for resurfacing next financial year. The section of road is cracked and requires some patching however texture is still smooth. I'm going to apply for funds for next year to treat this section of Healsville-KooWeeRup Road on the approach to SGH. There are no funds available this financial year.

Luis, the problem is actually on the SGH and there is clearly rutting and texture problem. Can you please check this one. [AW]

Peter/Henk

Do you have any information on this??

Andrew

Temporary "skidding car" sign will be installed by RPC prior to the weekend. I will refer this to safety to look at a permanent sign until funds can be obtained for further works. A copy of this has been forwarded to Peter Velcek.

Peter
Could you please investigate whether permanent slippery when wet signs are required on SGH before the Koo Wee Rup Road turnoff for the reasons stated in this request?

Advised Alan Miller of situation on 3/11/00 [AW] "

VicRoads explained the position in information provided to the Coroner, which sets out, in summary, what occurred in relation to `Miller warning':

"Mr Wall took a call from Mr Miller on 1 November 2000 concerning vehicles losing traction on the South Gippsland Highway at the Koo Wee Rup turnoff, described as the eastern entrance, west-bound left lane.

It should be noted that at Koo Wee Rup Road, also known as Rossiter Road, there is a divided entrance one of the arms of which can be described as the eastern entrance. It appears however that Mr Miller intended to refer to the entrance to Sybella Avenue which is 2 kilometres further to the east. Sybella Avenue is not known as Koo Wee Rup Road.

Mr Wall entered the information in the CARE database and forwarded it to Mr Potesta (Metro South East Maintenance Team Leader) for action as the matter appeared to be a road maintenance issue.

Mr Wall is not responsible for maintenance activities within the region and would not be expected to follow the matter any further. His actions in this matter were appropriate for a person in his position.

Mr Potesta requested two of his staff to investigate the matter and to determine whether it was a routine maintenance (e.g. oil spill) or a periodic maintenance (e.g. resurfacing) matter. It was decided that it was most likely a resurfacing issue and Mr van Deuren the Senior Bituminous Engineer inspected the site and advised that skidding signs should be put up on the Healesville Koo Wee Rup Road. This information was relayed to Mr Wall who advised that the problem was on the South Gippsland Highway not the Koo Wee Rup Road. Temporary signing was subsequently put in place on the South Gippsland Highway in the vicinity of the Healesville Koo Wee Rup Road turnoff."

As indicated it is noted that, even though the temporary signs were in wrong place they went missing. There is no explanation for this fact. There was no adequate monitoring system for the monitoring or auditing of temporary signing. However, the contractor was required to maintain existing signing.

Mr. Wall took Miller's call and passed the information on to others in the maintenance area. He did not know how to access the information on texture loss (VicRoads pointed to the fact that it was not his responsibility). The following exchange is important to note for future use by those who are in receipt of information from the public on safety problems relating to road maintenance. Wall was shown a number of VicRoads' maintenance testing on texture loss:

*"**Q:** What happens with these things? They're obviously put on a computer, are they?*
***A:** I believe that this is in a spreadsheet. I've no direct knowledge of how they're entered at the time. They would've been handled **within the maintenance area**.*
***Q:** So are they accessible to you?*
***A:** I believe that I could access them. I probably need to ask someone where they were.*
***Q:** But they'd be on the computer and you could find them and look at them if you wanted to?*
***A:** They would be accessible within our systems.*
***Q:** So let's assume - they're done for a reason, aren't they? They're done every year, as you understand it, to give some sort of overview of the state of the road at various locations along the South Gippsland Highway?*
***A:** Yes, that's correct."*

This shows a potential problem with the system as the receipt of such information should prompt, not only referral (as Mr. Wall did) but also the ability of the initial recipient to follow the complaint through the processes as an extra check on the systems. Individuals in Wall's position should become part of the risk management chain and act as an extra audit protection.

It is also noted that, in spite of the confusion as to where the problem Mr. Miller warned about was, there was no careful checking with Miller of the exact area where the loss of control occurred. None of his drivers were interviewed. This would not have been difficult to do, and in view of the serious nature of the problem, from a risk management perspective no doubt it should have been undertaken. However, as discussed below, a proper check of the previous test data at VicRoads would have identified the problem.

VICROADS OWN TEST RESULTS AND THE PRE-EXISITNG CONDITION OF THE ROAD SURFACE

- **Texture loss recording and testing results**

The condition of the road surface was recorded on VicRoads maintenance database. The following exchange with VicRoads witnesses, engineers Messrs Wall and Potesta is illustrative of what VicRoads knew about the road surface condition.

The evidence of Mr. Wall (initially describing the priority in the maintenance database and then to the meaning of priority 5 and how long the Corporation has known of the problem):

*"**Coroner:** It has got "priority lists", what does that mean? Priority 1, priority 5?*
***A:** I'm not directly aware of that priority. That's not formally part of the system. I believe that was a priority put on by the person who was responsible for entering that data or who did the inspections.*
***Q:** And then it's got "cost"?*
***A:** Cost would be the estimated cost of the proposed treatment for that section of road.*
***Q:** So far as the efficacy of the systems then in place are concerned which may be of interest to His Worship's concern for improvement in those systems, for example if one noticed the December 1996 report, opposite Sybella Avenue one can see the location marked at 70.82 kilometres to 72.29 kilometres, is that correct?*
***A:** Yes.*
***Q:** And those distances are taken from - - -?*

A: *They are from kilometre posts that are physically out on the road network.*
Q: *You will see December 96 Sybella Avenue, there is no reference to bleeding in that area, is there?---In the December 96?*
A: *Yes?*
Q: *There - in terms of in the location?*
A: *Yes?*
A: *No, it just mentions Sybella Avenue.*
Q: *If we went through these reports right through to the year 2000, we wouldn't find any reference to bleeding in the area of this accident, would we?*
A: *I don't believe so.*
Q: *The documents will speak for themselves but if in fact they record no sign of bleeding in the area of this accident year after year, if in fact for the last year or two there had been patent signs of bleeding, you would expect it to be recorded, would you not?*
A: *Correct. Yes.*
Q: *Would you understand flushing in the same term as bleeding?*
A: *Yes.*
Q: *So that one reading those reports back at the office as you would do would assume that there's no flushing or bleeding in the area of Sybella Avenue?*
A: *No.*
Q: *Is that what you would take from this?*
A: *No. There - there is another - I'd probably say texture loss would be the variable that would be used to identify that form of defect.*
Q: *Texture loss? So we look through these reports for the area of Sybella Avenue to find some reference to texture loss, do we?*
A: *Yes, they're in the - it's the fourth column of ratings.*
Q: *Is there reference to texture loss there, opposite Sybella Avenue?*
A: *According to these ratings there is.*
Q: *Where would I find that, could you demonstrate to His Worship?: I believe in the location?*
A: *Which year?*
Q: *Say October 2000, location 71.14 to 72.08.*
Q: *Is that the area where this accident occurred?*
A: *I believe it is just - my reading of this it would be just to the west of Sybella Avenue. Sybella Avenue is at 72.12, that section of road is from 71.14 to 72.08 so it is about 40 metres to the west of Sybella Avenue.*
Q: *Where do we find - - -?*
A: *You will find the rating - you have got sealed packing 3, stone loss 1, maintenance patching 3 and texture loss 5 and then it?*
Q: *On what scale is that rated?*
A: *From zero to 5.*
Q: *So this is the worst level of texture loss**?***
A: *It is a measure of the extent of texture loss, not necessarily of severity.*
Q: *Well, it couldn't be measured at any more severe, can His Worship - - -?*
A: *No more extensive. 5 is determined - 5 is general occurrence of that defect and 3 would be frequent occurrence. A 1 would be an isolated occurrence and a zero would be no occurrence.*
Q: *And if we go back to October 1999 the same entry, No.5, all right?*
A: *Correct.*
Q: *1998 the same entry?*
A: *Correct."*

And in the evidence of Mr. Potesta:

*"**Q:** And certainly there were records for that site showing that it had a severe case of texture loss?*
***A:** Yes, texture loss.*
***Q:** And what's that, that includes bleeding, doesn't it? We went through that yesterday?*
***A:** My definition of texture loss is a bit different to saying its bleeding. If you like I can give you my definition of what texture loss is.*
***Q:** What is it, in your definition, Mr Potesta?*
***A:** Well my definition, it's taken to mean a reduction in surface texture and is the relativity between the stone and the bitumen binder. A score of 5 is taken as high texture loss, ie a flush surface.*
***Q:** A flush surface is an indication of texture loss?*
***A:** That's right.*
***Q:** That's what you've got?*
***A:** Yes.*
***Q:** And a flush surface is another name for bleeding, isn't it?*
***A:** I know - that's not to register as my interpretation.*
***Q:** Mr Potesta, isn't bleeding another name for flush surface?*
***A:** Well in the context of the way of interpreting that, is there any notation of bleeding - there was no notation of bleeding at this site.*
***Q:** There was a notation of severe texture loss over a number of years at that site, wasn't there, specifically?*
***A:** Yes, there was a record of 5 over so many years.*
***Q:** And you had those at the time you completed your answer to the question of Mr Bellion, didn't you?*
***A:** I, as I say, I was interpreting it on the basis of the comments that are usually put in the - - -*
***Q:** Mr Potesta, it's an easy question. You add these bituminous reports, surfacing reports at the time you completed this E-mail?*
***A:** Yes, I would have had.*
***Q:** And you knew that there had been an obvious sign of a severe problem at this intersection at the time you completed this E-mail, didn't you?*
***A:** Well, that interpretation could be made, I didn't intend it**.**"*

"*Rutting*" was not included as one of the defects in VicRoads' maintenance database.

- **Conclusions**

Conclusions on the condition of the road surface are reached from previous surface inspections by VicRoads, the evidence of Mr. Miller (and his drivers), other incidents and the inspection of the roadway after the event.

TAC submitted that the conditions of the road surface was obvious to all those *"who wished to see"*. As indicated, Mr. Miller gave evidence that:

?"Because of my experience, I felt that – that it was just too dangerous because I'd lost control."

And TAC said that the road surface was *"?slippery and defective"? as recited by investigating Sergeant Bellion."* Bellion gave evidence as follows:

*"**Q:** There is no controversy in your mind, having heard what you've heard that the condition of lane one was sub-standard?*
***A:** Slippery and defective?."*

Further, Mr Axup concurred with Bellion's view:

"**Q:** *Slippery and defective is the way you would describe the left-hand lane?*
***A:** Yes.*
***Q:** It's another way of saying treacherous and dangerous, isn't it?*
***A:** I think I even said it was hazardous or dangerous in my report, I think."?*

TAC pointed out that:

"Mr Keramidas described the road as ?"very slippery" ... ??and in need of urgent remedial attention ... ?and had been that way for some time. This description has been accepted by all those with expertise and has been accepted on behalf of Vic Roads by its chief executive officer."

TAC says that the empirical evidence also comes from other drivers:

"This evidence verifies the theories based on post-accident reconstructions and investigations. That empirical evidence comes from Mr Miller? ... who found the roadway very slippery in the wet, even at 95-100 kph. He spoke with drivers he employed such as Murphy, Scott and Hedley, all of whom reported the same conditions ... Miller was convinced that he and his employees were all talking of exactly the same position on the roadway. There is the evidence of Mr Adshead and Mr Lightowler to be found in the report by Ed Caulfield. Mr Adshead was driving a Scania vehicle with 32' trailer at 6.30 am in the city bound left lane when he experienced loss of control. Mr Lightowler was driving at Mack truck with dog trailer on 10 October 2000 at 90 kph in the wet when he experienced loss of control. The truck driver Mr Donohue sets out his observations ... "??you could bank on a lot of work there in wet weather"?, (statement by Donohue). Mr Donohue himself lost control while driving his tow truck at 80 kph in a straight line in the wet weather ... "You've lost it yourself?---I've had it go sideways and at 80 kilometres an hour just not accelerating and not de-accelerating, it would just start to wheel spin for a section of road and then grip again..." ? His evidence was he had observed eight to 10 similar accidents in a three year period... He described this area as ?"a disaster waiting to happen?" and that such was ?"common knowledge?" (refer statement). He had rescued Mr Matthews in December 2000 and while doing so was threatened by the arrival of another car out of control... There is also the evidence of Glen Everett who was driving in an easterly direction when he lost control on a surface described as being in better condition than that of the subject lane?... The evidence of Mrs Coleman was that she slipped over on the road surface when she alighted from her husband's vehicle. The evidence of Mr Gardiner was of "?wear lines"? holding water?..."

TAC points to the fact that while:

"Sergeant Bellion made the point that thousands of non-accident uses occur on this road, his evidence omits the fact that there is a litany of near misses."

And that, significantly, the:

"...slippery nature of the road surface is observable from exhibit NN being the bitumen seal reports grading the texture loss for the relevant road at level 5 being the highest level, for at least three years prior to the accident. Exhibit EE represents a spike in the scrim test for eastbound vehicles taken in 1996. However, the evidence from Mr Wall was that such testing was applicable to all four lanes at the time when it was undertaken in April 1996?..."

According to TAC, Mr. Wall (VicRoads), answered that following question:

"***Q**: So the title at the top saying "outbound" is perhaps a little bit misleading in this section of carriageway because it's not divided?*
***A:** In terms of the direction of travel, yes.*
***Q:** Would there be any information contained in those tables that identifies the assessments of the city bound lanes along this section of the road?*
***A:** I can only - I would say that the assessment that's shown there, with the 14.8 metres, is a general assessment of the full 14.8 metre width, would be my understanding of that record.*
***Q:** Okay?*
***A:** There wouldn't be a separate record for inbound - for that section?."*

And TAC submitted that as *"such it was plain warning that the surface of the westbound lanes as at April 1996 was highly unsatisfactory."*

TAC submitted that, according to Sgt Bellion, the bleeding was obvious to all with any expertise. Bellion answered the following question:

"**Q:** *Bleeding was obvious to you when you were at the scene, wasn't it?*
***A:** Yes."*
***Q:** And anyone who went to the scene would have seen that, there was severe bleeding?*
***A:** Anybody with any sort of experience in this area would have known that."?*

TAC submitted that:

"Sgt Bellion offered the view that travel in lane 1 without deceleration or steering input should not lead to loss of control?yet such a conclusion is outweighed by the experiences of the likes of Miller and Donahue."

TAC noted that the:

"Corridor Strategy of Vic Roads for the region sets forth crash statistics recited by Senior Sergeant Bellion at CB 188. The statistics are in graphical form in the Vic Roads response document (?"the response"?) at p13. It can there be seen in relation to the white dotted line that accidents in the relevant area are twice the State average for a four lane divided rural highway."

Significantly, TAC submitted that the:

"... state of the roadway was plainly the primary and indeed only cause of the accident."

THE RELEVANCE OF OTHER INCIDENTS DISCOVERED AFTER 26TH JANUARY

There were a number of other incidents discovered after the collision on 26th January as a result of the investigation. Also coincidentally, during the running of the inquest, an additional incident was discovered.

Apart from a confirmatory pointer to the already existing dangerous nature of the road surface, as illustrations of what can go wrong, as to what happened to other drivers in not dissimilar positions, and how the road may have been previously viewed by drivers these incidents are not relevant to VicRoads **actual** knowledge. As can be seen by the all of the documentation (tests and the `Miller warning'), VicRoads had sufficient **prior knowledge** about the problems with the roadway, but (as can be seen) did not effectively manage this information.

The other instances, whilst not examined in any depth, serve as examples of vehicle reaction in not dissimilar circumstances. One witness, Mr. Gregory Donoghue, considered that the road was deceptive. He said that *?"you don't know until you actually hit it"?* and agreed:

> *?"... this road is extremely deceptive. If you're travelling along, you suddenly come on to this section of road when you come around the bend without any warning and unless you know the road very well ... you've got no idea that this is an ice-skating rink waiting to happen."?*

And in Mr. Donoghue's statement he describes the road as being:

> *?"... extremely dangerous and a disaster waiting to happen. Speed has got nothing to do with the problem, the problem is the surface of the road, lack of grip and it tendency to hold water."?*

The tanker driver's Counsel set out the other incidents in the following submission. That:

> *"... the road surface had deteriorated to a point that at the time of the accident it was a danger to prudent road users. The number and frequency of vehicles losing traction and sliding or going out of control is such that it makes the conclusion that the road surface was the sole operating cause of the accident simply irresistible."*

And:

> *"The unearthing during the course of the Inquest of Glenn Everitt, the witness who was initially engaged to perform the calibration on the Coleman and Gassman vehicles was uncanny. His evidence concerning the loss of traction in lane one when he was test driving a truck, following repairs, mirrored the evidence of many others. However, that his story would have remained unknown but for the fortuitous request that he do the calibration tests is telling. It supports the conclusion that the road surface was a danger to road users and any inquiry of road users would result in many more stories of the loss of control and near misses along this stretch of road.*
>
> *It also gives support to the figures of Mr. Donoghue, the local truck driver, who said he had seen*
>
> > *?"probably six to ten vehicles?" lose traction ?"in as many months?" [Transcript p. 374]. He also stated ?"Another thing to consider is that I haven't attended all the accidents in this area. There would be a lot of other tow truck drivers who've been to a similar number of occasions as I have.??.."*

It should be remembered that the VicRoads own information set out in the email from Wall [Ex. KK] said that ?"five trucks have aquaplaned in the last 2 weeks."?

Donoghue's evidence was that when it rained he sat off the location by the Caltex Service Station at Sybella Avenue waiting for the inevitable loss of traction and accident. He himself was not immune having lost traction in the rain for no reason he could explain apart from the poor road surface. [Transcript p.373]? ..."

That:

"Given what occurred to so many others prior to the accident and continued to happen until the road surface was improved after the tourist bus accident, Mr. Donoghue's evidence that the problem was the surface of the road ought to be considered absolutely accurate.

The evidence available as to other incidents of loss of traction is merely indicative and cannot be considered a complete record of all incidents of loss of traction. The incidents that can be put ... can be summarized as follows: What was gathered was 16 incidents of loss of traction in the Melbourne bound carriageway, and most in the left hand lane [lane one] in the vicinity of Sybella Avenue. The reports are from August 1998 to February 2001, when the resealing occurred. One incident was reported of loss of traction on the opposite or lanes 3 and 4 carriage way.

Of the 16 incidents, 2 drivers reported they had lost traction on 2 separate occasions. [Adsherd and Farrell]. There was evidence of multiple incidents occurring at around the same time. That is, Donoghue spoke of attending one incident only to see and be endangered by another. He also spoke of seeing another accident at the very time he was attending the scene on 26 January 2001. The vehicles involved covered the broad range of road users and included prime movers, tip trucks with trailers, rigid heavy vehicles, a tow truck, a minibus and a twin cab Hilux. The minibus driven by Webb and the twin cab driven by Matthews both lost control and rolled over. Most of the drivers who have provided reports were professional drivers with excellent driving records and long experience.

In describing the road these drivers used terms as, "?dangerous?" [Logan], ?"slippery"? [Everitt], "?one of the worst stretches of road I have ever driven on" [Adsherd], "?suddenly it felt like I drove onto a sheet of ice?" [Matthews], "the left lane along that section is like glass, especially after it had been raining"? [Moat], "?the major reason I had these problems was the road surface. It was very shiny and slippery?" [Farrell], ?"on the left hand lane it was very, very shiny"? [Nugent], "?like a billiard table when it's wet ? a black spot or a very dangerous stretch of road"? [Donoghue], ?"the surface was just like a sheet of glass. It was obvious to me that section of the road was extremely unsafe?" [Logan p.256]. Others such as Webb, Miller, Gardiner, Donoghue, and Everitt expanded upon these matters in evidence...

The statements and the evidence of each of the witnesses indicates that the common and indeed sole cause of the loss of traction was the road surface."

THE *`WEBB'* INCIDENT

It is interesting to note that on 12th February 2001 late in the evening, Ms Louise Webb was driving a Toyota Bus (licensed to seat 22) with 18 international tourist passengers on board along the same

stretch of road when she lost control in the wet. The new 80 kmh speed restriction and *"slippery when wet"* signs were in place following the incident on 26th January. Webb was aware of these signs before the incident involving her vehicle.

Some of the passengers were injured.

It was raining heavily and the windscreen wipers were operating. After the incident Ms. Webb noticed water in groves along the road. Webb stated that she had the exhaust brake on and she was travelling at 80 kmh when she suddenly lost control (although there was some dispute as to the speed - Webb's version is accepted). Webb felt she hit something, the back of the bus slid to the right and she took her foot off the accelerator. . The bus rolled and was on its side facing in the opposite direction after the incident. Webb said she was in the left lane on a straight stretch of road and remembered the Caltex Service Station (corner of Sybella Avenue). Webb thought that she must have hit oil. It was considered that Webb *"aquaplaned"* when she hit the water. Some of the experts considered that the *"exhaust brakes"* contributed to the incident (as distinct from *"engine brakes"* allegedly used by the tanker driver).

Ms. Webb described the water on the road. He shoes were wet after walking back for about 100 meters. The following questions and answers are interesting:

> *"**Q:** When you describe the water in a wheel rut you're not like describing a swimming pool with sharp edges. The water is flowing over the edge of these ruts?*
> ***A:** Absolutely.*
> ***Q:** Merging from, you said, both wheel ruts - one or the other - but also out towards the middle of the - out towards the other lane slightly as well?*
> ***A:** That's correct.*
> ***Q:** You say you felt like you hit something, was that the sensation of the vehicle losing traction? Is that what you're describing?*
> ***A:** That's exactly what I'm describing.*
> ***Q:** All these things happened very quickly but something that is absolutely crystal clear in your mind is that your vehicle lost traction and moved and spun in the way you described it?---*
> ***A:** Absolutely.*
> ***Coroner**: She didn't describe spinning.*
> ***Q:** Do you have any difficulty with the concept that your car actually, when it aquaplaned, turned around and was facing the other direction?*
> ***A:** That's exactly what happened, yes."*

MAIN SUBMISSIONS ON THE ROAD SURFACE

Counsel for the tanker driver submitted that:

> *"Mr Miller alerted VicRoads to the real and existing danger of this area. Mr Miller informed Mr Wall of the specific problems with the left hand lane and the problems he and his drivers had encountered?..."*

And that Mr. Wall had noted, following Miller's call:

> *?"Road surface is rutted and flush. There have been 5 instances of trucks aquaplaning in the last two weeks."?*

Mr. Wall did not view the various *"surface inspection reports"* that were in VicRoads records. Counsel submitted:

> *"Had Mr Wall viewed the surface inspection reports he would not have been surprised that such dangerous events were occurring. Mr Miller reports that Mr Wall rang him subsequently and said –*
>
> *(i) he had sent engineers out to look at the road;*
> *(ii) the road was an extremely bad section of road;*
> *(iii) it was so bad that a quick fix would not suffice and that the road would need to be rebuilt;*
> *(iv) there are insufficient funds to do so."*

And that:

> *"Prior to 26th January 2001 VicRoads was in possession of sufficient information that ought to have prompted action that would have averted this tragedy. For several years surface inspections had revealed the deteriorating nature of the left hand lane in the vicinity of Sybella Avenue, Ex NN, the Bitumen Surface Reports reveal the area to be a category 1 area with indications of loss of surface texture at level 5. Simply put this section of road for at least 3 years had been known to be in urgent need of remedial action. The indication of level 5 surface texture loss is a severe as classification allows and level 1 categorization places the area in a priority situation. This information simply rested in the morass of VicRoads documentation."*

Counsel for the tanker driver was critical of the VicRoads' witnesses:

> *"It is submitted that, although an honest witness, Mr Potesta presented as a public servant more concerned with policy and procedure than broader issues such as public safety. He placed trust in a system that was clearly flawed and appeared not to comprehend the obvious risks this section of roadway presented. He was aware of Mr Miller's information, including the fact that five trucks had lost traction in a two weeks period, yet took totally inadequate steps to ensure the risk was appropriately managed. The same can be said of Mr Wall. Having passed the problem to Mr Potesta he too failed to make follow up checks to make sure that the problem was properly dealt with.*
>
> *The band-aid solution of temporary signs was totally mishandled. The wrong section of road was inspected and warning signs set up at the wrong location. Mr Potesta was unable to explain why these things occurred and continued to maintain that nothing went wrong [see page 580 and further at page 592].*
>
> *Mr Potesta's evidence demonstrates the clear need for VicRoads to revise such systems as exist for the proper management of potential fatal accident sites. Ex NN, the Bitumen Surfacing Reports –*
>
> > *?"plainly indicating that for some years, whoever cared to observe them, would see that there was a severe texture loss of the area we're concerned with? – Yes." [See page 5867].*

The need for a system to properly review these reports, identifying problem areas and take appropriate remedial action is obvious. It does not exist at present. Such a system should allow reference to these surface reports whenever someone like Mr Miller contacts VicRoads. Perhaps a special public safety officer or department within VicRoads needs to be established to deal with these issues. As Mr Anderson conceded, areas such as those identified in Ex NN should be scrim tested. Had the scrim testing that was carried out subsequently to this tragedy been conducted in November, after Mr Miller's call, then hopefully the results would have prompted more than an addition to the existing paper work. The most recent scrim tests confirmed the indications given by the bitumen surface reports – this section of road was a disaster waiting to happen. The added information from Mr Miller simply highlighted what VicRoads should already have appreciated."

Indeed, Counsel suggested that the problem was appropriately acknowledged in the evidence of Mr. David Anderson (Chief Executive, VicRoads) when he answered the following questions:

*"**Q:** I put you in the position of Mr Wall, Mr Anderson, and you get a call from Mr Miller who says that people are going to die unless you do something about this, five trucks have skidded and lost traction and you pull up that information on that area that he tells you about and you see that it is a No 5 on priority one, you at least, you say, would go and get some scrim tests done as a matter of urgency?*
***A:** I would.*
***Q:** Then may be if you found out they were bad and if you couldn't fix it, you would put up signs that either warned of the risk of lack of traction or do something about getting the speed limit reduced, if that was relevant?*
***A:** Yes you could do a number of those things.*
***Q:** They are what you consider should be done if you were confronted with just the scenario I have put to you?*
***A:** Yes."*

Cootes Holdings submitted that the:

"... documentation disgorged by VicRoads prior to and in the course of the hearing (and about which Messrs Wall and Potesta were cross examined at length) make it plain that VicRoads were warned of the extreme danger of this specific area in clear language by the witness Miller. His conversations, recorded on the VicRoads computer system by Mr Wall, were unambiguously explicit."

Cootes were critical of VicRoads approach to managing the information. One example of that criticism is that Cootes say that the systems:

"... were not responsive to the safety and needs of drivers. Their focus was on maintenance and on establishing systems of priorities geared to the financial constraints of the organisation."

And that there *"should be no necessary conflict between the two issues"* as the *"allocation of money to the repair of roads is one issue."* That identifying:

"the safety of drivers using those roads – with an eye to the reality that:

- *all vehicles are not the same*

- *nor are the capacities of drivers*
- *nor are general weather and geographical conditions.*

The control of roads and road users by VicRoads should not be treated according to a universal formula created for maintenance purposes."

Cootes say that its *"submission accords with the Transport Act creating VicRoads. It identifies that it must have regard to the achievement of certain objects in section 16(3) - particularly (c) to achieve the efficient and safe movement of road traffic."*

Cootes illustrate the submission by the following evidence of Mr. Wall:

*"**Q:** Yes. What happens with these things?..They're obviously put on a computer, are they?*
***A:** I believe that this is in a spreadsheet. I've no direct knowledge of how they're entered at the time. They would've been handled within the maintenance area.*
***Q:** So are they accessible to you?*
***A:** I believe that I could access them. I probably need to ask someone where they were.*
***Q:** But they'd be on the computer and you could find them and look at them if you wanted to?*
***A:** They would be accessible within our systems.*
***Q:** So let's assume - they're done for a reason, aren't they? They're done every year, as you understand it, to give some sort of overview of the state of the road at various locations along the South Gippsland Highway?*
***A:** Yes, that's correct.*
***Q:** And if somebody like Mr Miller rings up and says "I've got a problem, someone's going to die. There's this nasty stretch of road somewhere around about Sybilla Avenue near the service station", it would be quite possible for you to go to these records and see whether there's any anomaly there that stands out, wouldn't it?*
***A:** Yes, it would.*
***Q:** And if you had done it in this case, for October 2000, the most recent resurfacing program, you would've seen that at the very location we're talking about it's got the highest quality texture loss that you can register on the system?*
***A:** Yes, that's correct.*
***Q:** And you talked before about location, it wouldn't be hard, if these things are any good at all for any purpose, to use them and look and say "Well, is there a problem there? Gee whiz, yes, there is. Around about that location there's an area of severe texture loss"?*
***A:** That's correct.*
***Q:** And you might say "Well, is this a new problem?" and if you went back over the years you'd find that for the course of the preceding years an identical position had been revealed?*
***A:** Yes.*
***Q:** And this is as bad - I mean you can't record on your system anything worse than a five, that's as bad as you can put it, isn't it?*
***A:** That's correct.*
***Q:** So all that someone has to do, from a system point of view, is if you get a complaint about a particular stretch of road it is possible to check the surface report that you have within your own system?*
***A:** That's correct.*
***Q:** And you didn't do it here?*
***A:** That's right.*
***Q:** Because you hoped that someone else would do it or you would expect someone else to do it?*

A: *Probably at the time as the request came in I probably wouldn't have been aware of where this sat and it certainly is something done within the same area that I referred the matter to.*
Q: *One of the problems, Mr Wall - one of the problems with bureaucracy is that there's always multiple sections and different hands doing different things, correct?*
A: *Yes.*
Q: *When you've got a problem like this the public, as you know, do ring in and do make complaints about the state of the road, all over Victoria?*
A: *Yes.*
Q: *And some of those problems may in fact be minor, according to the classification from "catastrophic" to "minor". Some of them may be very very serious?*
A: *Yes.*
Q: *There needs to be a way in which they are addressed and dealt with, as a matter of principle?---*
A: *Yes.*
Q: *Is there such a person as a public safety officer or a public complaints officer or a public complaints section at VicRoads?*
A: *No specific section that I'm aware of, no.*
Q: *It's simply a matter of having someone who is able to coordinate and access the material in relation to a particular stretch of road, make a recommendation and make sure that something's done about it, assuming funding, all right?*
A: *Yes.*
Q: *That's from a logical point of view what's required, isn't it?*
A: *Yes.*
Q: *But there's nobody who actually - or no department or no person that actually does that roll at VicRoads?*
A: *Well, there are a number of people. The maintenance area generally takes queries from members of the public as the first interface.*
Q: *So if I ring Mr Potesta and say "This is a nightmare. Someone's going to die down there", Mr Potesta can pull out this and say "Well, gee, I know what you're talking about from our bitumen surface reports. There's a problem there at that area"?*
A: *That could be done, yes.*
Q: *And then you could send someone down and inspect it and have a look and confirm whether there is a problem?*
A: *Yes.*
Q: *And then you can do something about it?*
A: *Yes.*
Q: *And what you could do about it - and one of the options is you could say "This is so bad, particularly on wet days, that we should turn this into a 80 kilometre speed zone for a stretch of 2 kilometres that this is undivided road? "*
A: *That is an option, yes.*
Q: *And that could be done within a matter of days or hours, I think you said before?*
A: *Including inspection, it could be done in a matter of days, yes.*
Q: *You expect this would be inspected as a result of a complaint made by Mr Miller?*
A: *That would've been my expectation."*

Cootes concluded, under the heading ***"the state of the roadway"*** Cootes opined that as *"on the reliable evidence, there is no evidence of any inappropriate or violent steering manoeuvres by Mr NARANPANAWA"* and that the incident has:

"... been the result of a momentary loss of traction at the drive wheels of the prime mover as the tanker was commencing to manoeuvre gradually from lane 2 to lane 1. As it was in this procedure, its wheels went into the rutting. This, together with the loss of traction caused by the state of the pavement exacerbated by the rain, resulted in a reaction in the wheels leading to a partial clockwise rotation of the prime mover."

Cootes suggested that the *"time in which this occurred left Mr. NARANPANAWA no chance to react. Consequently, Mr NARANPANAWA would have had no opportunity of avoiding the subsequent collisions. From the time of loss of traction there was but just over one second until the first collision."*

The Company submitted the evidence determines that:

"... the road surface at the site of this incident was in very poor condition and hazardous to vehicles. As a result, the road surface must be regarded as the primary cause of the accident. A secondary cause of the accident was the lack of appropriate speed restriction signs and warning signs. There is no evidence that the driving of the tanker was in any way contributory – particularly when account is taken of the hidden trap (the state of the roadway) about which no drivers had any warning."

And, significantly:

"The pavement surface of the highway in the immediate vicinity of the place where the tanker lost traction and veered across onto the incorrect side of the roadway was in a dangerous state. And as the tests of VicRoads established, it had been in a deteriorating state for a number of years.

The roadway traction tests (Exhibit ?EE? and ?LL?) and other documents provided by VicRoads (for which there may not be an exhibit marking) identify that the state of the roadway in this area was at the highest level of recording of texture loss. (see T 408/409/410)."

Counsel for Mr. Naranpanawa, the tanker driver also said that:

"... Mr Miller went on to warn Mr Wall (and therefore VicRoads) that there would be a fatality on the road if something was not done. Thereafter what following was a bureaucratic bungle. The wrong section of road was examined and "?temporary"? warning signs were installed in the wrong location. To make matters worse Mr Wall received Ex GG – on internal email – but failed to read it. Had he done so, he conceded at Transcript pages 558-9, he would have discovered the error in relation to the warning signs. The signs remained at the incorrect location and Mr Miller's tragic prophecy eventuated on 26th January 2001. To further exacerbate the situation VicRoads were generally aware of the dangers exhibited on the South Gippsland Highway. The ?"Corridor Strategy"? for the South Gippsland Highway explicitly refers to a major safety concern relating to lack of traction along sections of the highway – especially in the first wet conditions following a dry spell [see page 12]. Although this does not refer specifically to the particular section of road near Sybella Avenue, it is an indication of an awareness of this sort of problem along the South Gippsland Highway generally. This background knowledge of real danger should have accelerated a response to Mr Miller's concerns."

And pointed out that:

"Despite the attempts at rationalisation by Mr Wall, it is an inevitable conclusion that the procedures and system in place at the time of this tragic accident were inadequate and not responsive to the danger facing all drivers in the conditions which prevailed.

- *The computer system did not categorise matters in a way which identified the need for immediate action;*
- *The inadequate instruction given to contractors whom VicRoads use to place signs on roadways;*
- *The failure to have a proper review system of the prioritisation of the need for road works; and*
- *The absence of a system or instructions to employees to enable high priority dangers to be identified and dealt with on a temporary basis;*

All have contributed to this fatal outcome."

On the issue of other incidents and how they should be viewed Counsel for the driver submitted *"on any analysis of that evidence what can be distilled is a crystal clear picture that the road, especially when wet, was treacherous."* That the evidence of those that lost traction establishes:

"(i) the road surface was the cause of the loss of traction in every case;
(ii) the drivers had little or in many instances absolutely no control over their vehicle once traction was lost;
(iii) the speed of the vehicle and whether there was acceleration or deceleration seem not to be a significant factor certainly not a causative factor;
(iv) wet weather was a very significant factor in whether there was a loss of traction and control;
(v) the road was not safe for road users;
(vi) the dangers for drivers brought about by the road surface were ?hidden?, came ?without any warning?, the road was "?extremely deceptive"?. These were the words used by Miller and Donoghue and it must be remembered they both were professional drivers familiar with the South Gippsland Highway, a route they both drove regularly."

And that:

"not even a prudent, experienced professional driver could anticipate the dangers of the road surface. To use the words of Mr. Donoghue who agreed that the road was dangerous and treacherous and then added: ?"But you don't know until you actually hit it." .??.."

Counsel for the tanker driver also commented:

"A deal of evidence was heard as to Mr. Miller's efforts to report the danger and have VicRoads rectify or at least reduce the risks to the public. His evidence as to what he did and what Mr. Wall said to him ought to be accepted and preferred to that of Wall. A more detailed analysis of that issue is set out below. At this point it should be noted that of the drivers who had incidents of loss of traction, Mr. Miller was not the only one to report the danger, although he clearly was the most persistent. Mr. Logan reported his mater to VicRoads [Inquest Brief p.257]. After his second incident Mr. Farrell telephoned VicRoads and was told to "?put it in writing"? [see evidence of Mr. Miller at Transcript p.336 as to the difficulties facing truck drivers when told to "?put it in writing?".

This analysis is as follows:

"Mr Miller alerted VicRoads to the real and existing danger of this area. Mr Miller informed Mr Wall of the specific problems with the left hand lane and the problems he and his drivers had encountered. Mr Wall noted in Ex KK –

?"Road surface is rutted and flush. There have been 5 instances of trucks aquaplaning in the last two weeks.?"

Had Mr Wall viewed the surface inspection reports he would not have been surprised that such dangerous events were occurring. Mr Miller reports that Mr Wall rang him subsequently and said:

(i) he had sent engineers out to look at the road;
(ii) the road was an extremely bad section of road;
(iii) it was so bad that a quick fix would not suffice and that the road would need to be rebuilt;
(iv) there are insufficient funds to do so.

Mr Wall does not recall saying these things to Mr Miller. In our submission the steps actually taken by Mr Wall and VicRoads confirm Mr Miller's version of this conversation.

- *An engineer was sent to inspect the area. (Henk);*
- *the road was extremely bad;*
- *issues of routine repairs and rehabilitation of the road <u>was</u> considered (see Ex JJ and p.545-7 Transcript];*
- *rehabilitation would require the provision of extra funding (see Transcript p. 623-4."*

And:

"In any event Mr Miller went on to warn Mr Wall (and therefore VicRoads) that there would be a fatality on the road if something was not done. Thereafter what following was a bureaucratic bungle. The wrong section of road was examined and ?temporary? warning signs were installed in the wrong location. To make matters worse Mr Wall received Ex GG – on internal email – but failed to read it. Had he done so, he conceded at Transcript pages 558-9, he would have discovered the error in relation to the warning signs. The signs remained at the incorrect location and Mr Miller's tragic prophecy eventuated on 26th January 2001. To further exacerbate the situation VicRoads were generally aware of the dangers exhibited on the South Gippsland Highway. The ?Corridor Strategy? for the South Gippsland Highway explicitly refers to a major safety concern relating to lack of traction along sections of the highway – especially in the first wet conditions following a dry spell [see page 12]. Although this does not refer specifically to the particular section of road near Sybella Avenue, it is an indication of an awareness of this sort of problem along the South Gippsland Highway generally. This background knowledge of real danger should have accelerated a response to Mr Miller's concerns."

Counsel noted:

"Mr. Craig Lightowter lost traction in October 2000. His father telephoned the local Shire who said they would go straight down to have a look. He, like Mr. Miller, was prompted to take further action after he heard of the Australia day tragedy. He telephoned the local police at Koo Wee Rup to tell them of his earlier complaint or notification to the Shire. He said the police told him ?"they had reported to VicRoads"?.

Critically, Counsel for Mr. Naranpanawa said:

"The VicRoads records only revealed Mr. Miller's complaint. The inefficient and ineffective way that complaint was dealt with is expanded upon below. There was no record of any of the other notifications made by those drivers who made statements to investigators, let alone any other complaints. These matters allow a number of conclusions to be drawn:

(i) that in addition to Mr. Miller's complaint and VicRoads own scientific data, there were others who sufficiently put VicRoads on notice that the road was unsafe and a danger to the public;
(ii) that the systems operating at VicRoads to take and act on complaints were so inefficient that no records appear to exist of complaints;
(iii) that the systems at VicRoads and the attitude of those taking the complaints [?Put it in writing?] were such as to remove any incentives to the public to report dangers in the road;
(iv) there was no system at VicRoads to report progress to those who contacted them or in any way to follow up complaints. As a matter going to public administration this must be seen as having the effect of acting as a disincentive to the public to complain. It creates an atmosphere of ?why bother to complain, nothing happens and no one tells you anything?."

TAC in its submission is also highly critical. It says, quite bluntly, that:

"Road Safety and the reduction of resulting injury requires appropriate initiatives. The statutory charter of the Corporation points to the following functions: "the development of road safety strategies" and to ?"specify road accident prevention practices?."

And that the *"legislation (Governing VicRoads) includes the following objectives"* vis:

?"... to facilitate accountability at all levels within the Corporation by maintaining suitable information and reporting systems"? see s16 of the ***Transport Act*** *1983."*

That it *"may seem to the Coroner that in order to achieve these objectives the systems at Vicroads for the collation of information and ensuring timely and appropriate action thereon may require improvement..."*

As to the driver and transport company involved, TAC makes a critical point:

"There was no warning of the danger that lay ahead. A very small percentage of the work of Cootes Transport lay in that area, less than .05% of all trips?... The poor condition of the road surface followed immediately upon the end of the division in the roadway and was no doubt induced by the great majority of heavy vehicles moving into lane one at that point and for that reason, according to the evidence of Sergeant Bellion. The poor condition of the road surface

and the lack of any warning of that condition were patently noticeable by visual inspection. Yet no signage was in place when Mr Miller contacted Mr Wall in November 2000 and initiated the saga of the wandering signs. Despite the efforts of Mr Miller, the signs were twice placed in the wrong locality. Mr Potesta visited the scene on the day of the tragedy and noticed no signs to be present. There is no record of his discussion at all with those responsible for ensuring that the contractors, Robert Podbury Constructions, installed such signage."

TAC noted (effectively as a side issue) but illustrative of an approach to management of safety, that in:

"November 2000, Mr Miller plainly notified Vic Roads of similar conditions existing at a nearby locality at the intersection of the Westernport Highway. That matter was revisited by the evidence offered to the Coroner in April 2000 in the presence of Mr.Wall... Upon the resumption of the Inquest in June 2002, the evidence was that no signage had yet been erected at that site. Mr Wall heard that evidence and yet has failed to pass it to Mr Potesta for action."

That:

"In the first of these examples, the information was received and recorded on the CARE database system. However the inadequacies in the system resulted in insufficient attention being given and a lack of follow up to the complaint. In the second of the examples, the systems at Vicroads apparently did not cater for the cataloguing of the information at all."

Critically, TAC argues:

"Had appropriate signage been erected at the relevant area at an appropriate time then there is a real probability that the truck would have been travelling at 80 kph. The evidence of Louise Webb is to the effect that she was travelling at that speed because of the posted signage and in that she is supported by the evidence of the driver following her, Mr Wain. Whether reduction of speed to 80 kph would have meant that the truck did not lose control is of some conjecture. However, it is probable that the consequences of the loss of control may have been much less severe at that reduced speed."

However, TAC takes the issue of the management responsibility of VicRoads a little further:

"The weight of the evidence supports the proposition that with Mr Miller's complaint and the bitumen reports, there should have been a visual inspection of the road surface and possibly a Scrim test done. Such information would have led to a resurfacing of the laneway. According to Sergeant Bellion and other evidence, with such a resurfacing there would have been no accident."

And, importantly, it was *"the systems at work failed to meet the statutory objectives of the agency and hence the promotion of road safety was materially hampered by such failures."* Clearly TAC is suggesting a grater level of pro-active and timely action than just the posting speed limits and warning signs.

However, it is noted that VicRoads sought to explain and limit the relevance of the incidents thus:

"Evidence was put before the Court that there were other "?unexplained?" incidents which had occurred on this stretch of road. The inference was that, being unexplained, the Court ought to find res ipsa loquitur, that the road surface was dangerous and was the sole factor contributing to this collision."

And that, one of the experts, Sergeant Bellion commented:

?*"**Coroner:** :How do you explain the other incidents?that led up to the reporting by Mr Miller?*
***A:** As to an exact insight as to actually what he's done at that particular incident, I'm not prepared to answer that without actually looking at the full history of what went on, I don't know what speed he was travelling at....*
***Q:** Why does the bus lose control?*
***A:** All right?...we'd know from...?listening to her, that the exhaust brake was on...?Now what I'd say?...is that it's probably a combination of having the exhaust brake on and also maybe a little bit to much steering input in that particular incident also*."?

VicRoads also submitted that Mr Keramidas gave the following evidence:

*?**Q:** Are all of the vehicles, do you suppose, having this problem because of oversteer?*
***A:** Well, it's difficult to identify specifically in many of those cases what the mode of loss of control was.*
***Q:** Can I assist you, that Mr Donoghue has said that he lost control when he was travelling at 80 kph in a straight line, not doing anything, just driving. Now if that's to be accepted?...?*
***A:** If that's to be accepted, then there's an unexplained reason for it. An unexplained reason for the loss of control. If, for example, we look at it and say, this road is marginally above ice level in terms of its slipperiness, if he's travelling in a straight line, there should be no loss of control. There is no force being generated of sufficient traction requirement*?...."?

And when asked about their response to the number of people who had come forward with anecdotes of incidents on this stretch of road, both Mr. Keramidas and Sergeant Bellion gave similar evidence, *viz*:

"Mr Keramidas –

Do we have – have you heard of this type of information coming forward in relation to any other section of road? In other words, is it something you'd find not unusual in relation to basically a straight section of road of this nature? Would you find that you'd expect to hear from a number of drivers who'd lost control? I'm talking about the coincidence. It's sort of a bit unusual, isn't it? --- It is, and it's very much akin?...to a country fatality. There might be a complaint that's raised at some point in time in relation to the roadway. After the tragic occurrence of the fatality, it automatically in everyone's mind jumps to the fore, and it's the worst section of road they've ever seen.

Sergeant Bellion –

You don't say for a moment, do you, that it's a coincidence that all these vehicles that we've heard about slipping off the road at this particular area, is just coincidental with what occurred on this particular day? --- Well, something like this probably brings more reporting or finding of

people that have lost control in similar situations at that location, simply because of the nature of the investigation. Now, you might have other roads where similar things are occurring but you are not really hearing about it.?"

That *"in giving evidence on this point, Sergeant Bellion made the following, important observation"* vis:

?"*I know for a fact that when you look at the traffic volumes of travel on that road, there's thousands and thousands of vehicles that go through there each day, and a large percentage of them would be trucks. And we know now from the surface inspection reports, that this condition has been present for quite a number of years. Why does one particular truck go out of control at this location, and maybe hundreds or even thousands of others that pass through under same conditions doesn't?"* ?[11]

Finally, VicRoads submitted that:

"...evidence of a number of other incidents ought not lead the Court to conclude that the road surface was the sole or even the main factor in the occurrence of this collision. Such evidence is unhelpful for two reasons:

(a) no proper analysis (in the way of accident reconstruction) has been performed for any of the incidents. Presently (with the exception of the evidence of Ms Webb) all the Court has before it is the untested evidence of the drivers involved as to their actions and speed prior to losing control. The Court should note that both Sergeant Bellion and Mr Keramidas were reluctant to attempt ?"mini-reconstructions"? without being fully informed of the circumstances of the accidents;

(b) the evidence from the experts, such as it is on this issue, clearly indicates that even had the co-efficient of friction been only marginally better than ice (which it was not), a vehicle travelling in a straight line along this stretch of road, should not have lost control. Thus, there must have been some other factor present in each case. With the exception of Ms Webb's accident (where the experts agreed that the operation of the exhaust brake and possibly steering, were factors), the Court will never know what those other factors were."

It is interesting to note that the tanker was not *"travelling in a straight line"* at the point where control appears to have been lost. The vehicle was moving into the left lane. That was when control was lost.

Also the argument that the driver was managing a "*fish tail*" with the trailer section swaying in the lead up to the loss of control (with the tanker in the right hand lane) does not appear to follow a controlled movement into the left lane.

COMMENTS ON RESPONSIBILITY FOR MANAGEMENT OF THE PROBLEM WITH THE ROAD SURFACE

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[11] The VicRoads submission observed in a *"footnote": "This statement formed part of a large slab of evidence from Sergeant Bellion that in his opinion a vehicle would not lose control on this stretch of road, without the presence of some other factor, such as braking or steering (see T. pp 733-4). The evidence of Mr Monti in relation to this issue is also relevant. Mr Monti stated that all year round, he travels up and down this piece of road in his 14 tonne delivery truck, ?four days a week up and back?. He said that he had driven the stretch of road where the collision occurred in the wet and that he had never had any difficulty negotiating that piece of road?..."*

VicRoads Counsel also submitted that it *"should also be noted that with the exception of Mr Miller's report, there is no evidence that any of the other incidents were ever brought to the attention of VicRoads."* That is correct. However, the comments by Mr. Miller combined with VicRoads own prior testing should have been enough for an organisation with a statutory responsibility for safety. In fact VicRoads' own Chief Executive Officer, Mr. Anderson, quite appropriately, says as much.

Family submissions

The Pettet family made a number of submissions. Principally one of the submissions related to the history of driving offences (speeding on four occasions) by Mr Naranpanawa and the fact that, as a result he should not have employed by Cootes. The family submitted that the ultimate responsibility for the deaths *"rests with the truck driver for not reducing speed to meet prevailing weather and road conditions."*

The family submitted that the example of Mr. Miller should have been followed. Miller answered to the question *"Would you employ - or have you employed drivers knowing the've* (sic) *lost their licence speeding ..."* that he probably would not have.

The Pettet family also submitted that:

> *"After fitting the tanker with a Fleetcom Computer as a Management tool allowed the vehicle involved to leave Cootes yard with its Fleetcom Trip computer capacity full resulting in vehicle trip statistics not being recorded. This would have provided vital evidence for this inquest."*

This is agreed.

The Pettet family submitted, in some detail that the tanker driver showed:

> *"... blatant disregard for traffic regulations resulting in six fines and disqualification of driver's licence for one month.*
>
> *Continuing to demonstrate lack of professionalism and disregard to the Law by driving a Cootes petrol tanker in a 100 kph area without reducing speed during adverse weather conditions on a road known to be in a state of disrepair. He would have had prior knowledge of the road condition having previously driven the road about 10 times (Mr Cootes statement to the Coroner Page 221 Line 31).*
>
> *In moving his vehicle from lane 2 to lane 1 travelling at approximately 100 kph, caused an oversteer of 4° resulting in loss of control. Computer simulations have shown that this situation would not have occurred if the speed had been reduced to account for adverse weather conditions and complied with the standard accepted practice of changing lanes with a 1 ° - 2° steer movement. Although wheel ruts cannot be incorporated into the computer simulation model as explained by Sgt. Bellion, they played no relevance in the turn from lane 2 to lane 1 as the centrifugal force during the turn forced the weight on to the driver's side wheels. Traction on passenger side wheels would not be lost.*
>
> *Failing to comply with clause 2.6.13 of Cootes Manual - "Speeds Do not travel at speeds that will draw unfavourable comment from either police or the general public. When travelling over a*

strange roads speed is to be such that you will not be caught unaware by deviations, culverts and other such hazards --- "

These matters have been dealt with throughout the discussion of the eye witnesses' evidence and that of the experts.

As to VicRoads role in the matter, the Pettet family submitted:

"This tragic accident at Koo Wee Rup could have been averted had follow up action been taken to ensure road traffic signs were erected in the correct location to reduce the speed limit from 100 kph to 80 kph and 'Slippery When Wet', as decided upon by VicRoads. This interim action was to have been taken due to lack of funding to undertake necessary repairs to the road surface.

Poor communication between inter-departmental and intra-departmental staff resulted in important tasks being overlooked.

Inability of staff to read, understand and follow up programs to ensure action items were undertaken and completed as required within time constraints:

Not actioning numerous complaints and accidents and find funding to repair the South Gippsland Highway at Koo Wee Rup. It took five fatalities in this area before such funding was found and repair work carried out."

The role of VicRoads is discussed throughout the Finding, and in the Recommendations and Comments.

GENERAL CONCLUDING REMARKS AND SOME OF THE RELEVANT SUBMISSIONS

VicRoads argued that there was:

"(a) evidence to support a finding that the actions of Mr Naranpanawa, the driver of the tanker, were a cause of the accident.

(b) While it is indisputable that the stretch of road at the accident site needed to be resurfaced, the accident would not have occurred had Mr Naranpanawa been driving the tanker appropriately for the prevailing conditions.

(c) There is a striking lack of evidence to support any assertion that the road surface was the sole factor which caused this accident. Rather, there is substantial evidence which detracts from such a position. This evidence includes:

(i) eye-witness accounts of the movement of the tanker just prior to the collision;

(ii) expert opinion about the most likely cause of the scuff marks left by the tanker on the road surface, namely, drive-wheel slip;

(iii) the undisputed evidence of a four to five degree steering input (which translates to a 180-degree steering wheel rotation (Keramidas T. pp1139-40) made by the driver just prior to the collision.

(d) In the result, the evidence before the Court strongly supports the following factual findings:

> *(i) Shortly prior to the collision, the tanker was being driven at greater than 97 km/h but no more than 100 km/h.*
>
> *(ii) Just prior to the collision, there had been approximately 10 seconds of extremely heavy rain, referred to by locals as a "?micro-burst?". This event caused the road to become extremely wet in a very short period of time and decreased visibility.*
>
> *(iii) As the tanker was exiting the sweeping left hand bend in the vicinity of Sybella Avenue, the trailer, which was then unladen, was destabilised by wheel bounce. At this point, the tanker was being driven in lane two.*
>
> *(iv) As a result of the destabilization of the trailer, the trailer began to sway.*
>
> *(v) Probably as a result of driver attempts to correct the trailer sway, the tanker was steered to the left, and the truck was simultaneously subjected to retarding forces, either in the form of the driver lifting his foot off the accelerator (probably causing the engine brake to engage), or as a result of the foot brake being applied.*
>
> *(vi) Almost immediately, the tanker was subjected to a four to five degree steering input and simultaneous deceleration was applied to the drive wheels of the prime mover, either from the engine brake engaging or merely by reason of the driver taking his foot off the accelerator.*
>
> *(vii) The steering input caused the near side drive wheels of the prime mover to slip and the tanker to begin to jack-knife. It speared across lanes three and four, into the path of the two sedans which were also involved in the collision."*

It is noted that the Cootes' submission summarises the position thus - *"there has been an exhaustive examination of many possibilities – most of which are no more than postulations."* And as to what are the probabilities? It effectively says that an examination of the evidence:

- *Does not support that there was any mismanagement of the vehicle on the part of the driver,*
- *Shows that there is no evidence of any voluntary oversteering of the vehicle,*
- *Reveals no evidence to support the involvement of an operative engine brake leading up to or being implicated in the loss of control of the vehicle,*
- *Reveals no evidence of any inappropriate speed in the circumstances nor any other inappropriate behaviour on the roadway by Mr. NARANPANAWA.*

And that:

> *"In stark contrast is the abundant, credible and objective evidence of the long standing deteriorated pavement with substantial rutting made lethal by rain and exacerbated in the circumstances by the extremely heavy downpour which took place very shortly before the occurrence of the accident. All these factors combined to leave the roadway in an extremely dangerous situation, unable to be seen by the ordinary diligent observant driver – particularly*

one who had traversed this roadway with care and courtesy over many kilometres leading up to the scene of the accident."

However, the issue is not quite as clear as Cootes suggest. While there is some evidence on all of the bullet points mentioned by Cootes (above) the evidence does not reach the required standard to enable a conclusion to be drawn. One, some or all of those points ***might*** have been a factor or combined as factors (with the road surface) to cause the incident. However, *`might'* is not sufficient to find that the tanker driver was causally involved. It is also noted that there is some evidence to support the fact that driver behaviour was not a cause. But there were clear test results and evidence of a long-standing and identified problem with the road surface particularly in the wet. It is impossible to ignore this issue as a principal factor, and it was avoidable.

Counsel for Mr. Naranpanawa made the point that:

"VicRoads was in possession of sufficient information that ought to have prompted action that would have averted this tragedy. For several years surface inspections had revealed the deteriorating nature of the left hand lane in the vicinity of Sybella Avenue, Ex NN, the Bitumen Surface Reports reveal the area to be a category 1 area with indications of loss of surface texture at level 5. Simply put this section of road for at least 3 years had been known to be in urgent need of remedial action. The indication of level 5 surface texture loss is a severe as classification allows and level 1 categorization places the area in a priority situation. This information simply rested in the morass of VicRoads documentation."

Cootes submitted that the road surface created a ***"hidden danger"*** and that:

"...by the time that the tanker and other traffic travelling towards Melbourne had come around the curve and straightened up as they went past Sybella Ave., the squall had passed and left pools of water in the rutted pavement – leaving the hidden trap for the tanker driver."

That:

"?... neither the driver of the tanker nor any of the other drivers involved could have anticipated the state of the roadway. All were driving in a safe manner at an appropriate speed for the circumstances which they were entitled to believe would prevail. They were wrong. The lethal state of the road pavement – about which they had no warning – intervened."

Cootes also submitted that the VicRoads *"assessment of the state of the pavement is for maintenance purposes - not for the purposes of the safety of drivers. There may be an area of co-incidence but* ***VicRoads criteria do not have adequate factors directed to assessing the relationship between driving of a vehicle (and different types of vehicles) and the state of the road surface."*** (Cootes' emphasis)

That, according to Cootes, *"common experience says"* the following:

- *ridges from rutting*
- *skid resistance (?slipperiness?)*
- *?bleeding? and ?flushing? (T 352)*

- *appearance in different conditions (so that a driver might be better able to appreciate the state of the roadway)*
- *adequate warnings*

These are *"vital to safe driving."* Cootes was at pains to emphasis the point that *"in questioning witnesses, an assumption has been made that safety from a driver's perspective was a consideration?..."* but in fact *"those matters are not part of the focus of VicRoads' systems."* Cootes also noted that *"a reference to ?excess rutting? in the VicRoads office memo of 29th November 1995 is ignored because it is not part of the road management criteria?..."*

Cootes say that when:

> *"... the evidence of Alan Miller...?Glenn Everitt?...and Gregory Donoghue...?is taken into account, together with the description of the sudden movement of the tanker immediately before the accident – unexpected by all witnesses and uncharacteristic of the steady driving of the tanker for many kilometres before hand – there is only one conclusion that could be reached.* ***A combination of factors all connected with the state of this pavement created a trap that not even the most diligent driving could have avoided.*** *The combination of factors were:*
>
> - *the deteriorated state of the pavement;*
> - *the rutting of the roadway in lane 1; and*
> - *the extremely heavy rainsquall which had left the rutted pavement covered in water.*
>
> *These factors were exacerbated by the absence of any warning signs which may have enabled drivers to reduce their speed, maintain a steady path through the danger or taken other precautions as were necessary in the circumstances. But such warning signs were not in place."*

That accordingly:

> *"... the tanker driver as with other drivers, was proceeding at a steady pace several kilometres per hour underneath the speed limit in conditions where there was at worst, a light sprinkle of rain on a roadway that for some distance before the accident area, was in reasonably good condition and gave no indication of the potential for loss of traction or control."*

Cootes also examined the expert reports. In this context it relied on the fact that the *"overwhelming body of evidence establishes that shortly prior to the accident, the tanker was commencing a slow diverging move from lane 2 to lane 1."* And that shortly *"after the commencement of that manoeuvre, the driver of the tanker lost control."*

Cootes submitted that in this scenario, *"the expert reports reach common ground. To quote Professor Peter Sweatman (in his report - tendered but with no Exhibit number - at section 6.1 `Accident Reconstruction')"* wrote that:

> *?"The simulation model showed that, when the inner lane tyre road friction coefficient is reduced to a sufficiently low value, directional control is lost and the vehicle yaws to the right. This behaviour matches the apparent circumstances of the subject crash.*
>
> *The model shows that the precipitating event is loss of traction at the drive wheels, which causes the drive wheels to move outwards and the prime mover therefore to yaw to the right. The*

vehicle then moves rapidly into the outer lane and the prime mover crosses the road centre line. From the initiation of the drive wheel traction loss, it takes 1.8 seconds for the prime mover to cross the centre line, providing insufficient time for the driver to regain control."?

Cootes noted that the *"unequivocal evidence of Mr Bellion and Mr Axup was that the accident would not have occurred if the road had been resurfaced before the accident."* Cootes examine the evidence of Mr Keramidas and noted that he *"was reluctant to concede that the state of the road was the factor which was the precipitating event and real cause of the accident."* It noted that Keramidas written report on the Collision (25th March 2002) stated:

?"On balance however, it is considered likely that the vehicle has marginally encroached/entered the left-hand lane immediately prior to the loss of control."?

And, in this context submitted that *"the scrim testing done shortly after the accident revealed very low skid resistance – 0.12."*

Cootes commented that the:

"assumption that the marks on the roadway are indicative that the driver of the tanker ***voluntarily*** *steered the tanker from lane 2 into lane 1 at a 5 degree angle is not consistent with:*

- *the observed driving of the tanker over many kilometres by various witnesses who were following the tanker;*
- *the circumstances prevailing – there was no apparent emergency that would indicate the need for such a steep angle;*
- *ignores the effect which rutting together with the water that must necessarily have been within the ruts and on the roadway generally had on the path of the tanker."*

It is still hard, with the evidence of Mr. Miller and of the other material on vehicle loss of control, to discount the obvious - that the road surface was involved to a significant extent. The loss of control of the tanker at the approximate point of where Miller and his drivers had recently lost control is a coincidence too hard to discount.

Simply put, the state of the road surface and a failure of VicRoads to manage this issue were the principal factors that resulted in the deaths. There may have been a range of other factors involved closer to the actual event which could have included travelling at speed that was marginally too fast for the obvious conditions (wet road); or the engine brake was operating with an unladen trailer; or the driver over-steered when commencing to enter the left hand lane; or the driver over-corrected when first encountering the difficulties; etc. However, each of these issues cannot be determined in accordance with the required standard, as each factor requires a level of exact proof to establish, not a myriad of in-exact proofs and a range of assumptions. In summary, however, one thing is certain - the incident was preventable by improved road safety management.

By way of conclusion it should be said that had VicRoads correctly identified the area, and managed the safety issue in accordance with the nature and severity of the hazard and factored in the severe consequences of an incident, combined with the previously known condition of the road surface (Miller advised that a significant number of trucks had lost control in the relevant area; VicRoads had previously undertaken tests to indicate the surface was dangerous) the incident on 26th January would have been avoided.

A professional inspection (and referral to existing records), scrim testing and balancing risk factors would have dictated the need for **immediate controls over and above warning signs and speed restrictions.** It is worth remembering that Mr. Wall (VicRoads) had noted after Miller's call:

> *?"Road surface is rutted and flush. There have been 5 instances of trucks aquaplaning in the last two weeks."?*

Whether or not these earlier reported incidents were as a result of *"aquaplaning"* on a wet road surface (which would require considerable speed), related directly to the condition of the road or other factors - at the time there was no apparent consideration of **an actual investigation** of the factors involved in these serious incidents by VicRoads (it is highly likely these incidents were related to the condition of the road surface in the wet). This is in spite of the fact that serious allegations had been made about events, which if true, put other motorists at considerable risk of death or serious injury when a truck lost control on this section of road. Those involved were known and were experienced truck drivers. For an organisation concerned with road safety to not immediately send out a team to interview Mr. Miller and his drivers is hard to understand. Also, unfortunately, as we now know, although some action was taken and engineers went to look at the site, the correct area was not inspected. The restriction and warning signs were placed in the wrong area.

There was no process to check and confirm precisely where and how the incidents occurred. There was no *"completion of the circle"* to satisfy the person who warned of the problem that appropriate action had been taken. There was no process to check VicRoads' data and record systems to identify other directly related areas of maintenance concern to help identify the extent and serious nature of the potential problem.

Arguably at the minimum, had VicRoads instituted a speed limit of 80 kph with warning signs, it is likely that the tanker driver would have travelled at the posted speed limit and the incident would either not have occurred or, if it occurred, the severity may well have been reduced.

Thus the conclusion should be obvious to VicRoads. The suggestion by VicRoads that the *"evidence of a number of other incidents ought not lead the Court to conclude that the road surface was the sole or even the main factor in the occurrence of this collision?"* is rejected. In reality, and quite simply put, the previously known poor condition of the road surface (**actually known to VicRoads**) combined with the relative risk (information on specific separate incidents over the period of a fortnight with a number of trucks obtained from Mr. Miller) required **a far greater level of timely, urgent action over and above marginal speed reduction and warning signs** - any such action, examining the relevant stretch of road, would have avoided the incident. Clearly, VicRoads own systems of work failed to properly manage the known risk. On any assessment, the five deaths were preventable.

There is some evidence of eye-witnesses and experts that tends to lead towards a conclusion that it was driver behaviour rather than the road that caused the incident. There is also a considerable amount of evidence which leads the other way and points to the poor condition of the road surface in the wet at this particular spot as being the principal factor. Ultimately, the latter argument is preferred in view of the history of previous incidents and the records of VicRoads own tests prior to the incident.

COMMENTS AND RECOMMENDATIONS

The findings, comments and recommendations will be sent to the:

- Attorney General,
- Minister for Transport,
- Minister for WorkCover,
- Minister for Transport Accident Commission,
- Chief Executive Officer, VicRoads,
- Chief Executive Officer, Transport Accident Commission,
- Chief Executive Officer, WorkCover,
- Managing Director, Cootes Holdings,
- Chief Executive Officer, Austroads,
- Secretary, Transport Industry Safety Group, and
- The Director, Monash University Accident Research Centre.

THE PERSPECTIVE OF THE FAMILIES

Both the Pettet and the Guajardo families explained some of the effects of the loss of their respective loved ones. A detailed history of each of the individuals who lost their lives on the 26th January 2001 was supplied to the court and briefly explained the effect of the loss.

The Pettet family made the pertinent comment in their submission to the Coroner that they *"hope that the outcome will not only bring some conclusion to the cause of the accident but will also prevent further tragedies in the future."*

INTRODUCTION - THE NEED FOR SYSTEM CHANGE

The comments under the sub- headings **`INTRODUCTION - THE NEED FOR SYSTEM CHANGE'** and the **`NEED FOR A REVIEW OF RISK ANALYSIS AND WEIGHTING PROCESS FOR MAINTENANCE'** should be considered as general recommendations on the need for improvement in the method of managing safety and the road infrastructure.

VicRoads has long been one of the leading agencies in this State's road safety programs. Recently, many of these programs have been arguably instrumental in significantly reducing the State's road toll from a high in the early to mid 1990s. It must be remembered that, including the role of contributing to policies and actions on road safety the Corporation has to manage and prioritise a somewhat limited road maintenance budget (in view of its overall responsibilities). Therefore it is necessary to place problematic road maintenance sites into an overall context of resources and prioritisation. However, that is not to say there is no room for significant improvement within the Corporation's own systems of work. As with most large and small government agencies there is always a need to learn from events and continually work on improving processes. The deaths examined in this inquest have tested VicRoads own systems and identified significant areas for improvement. In summary, VicRoads systems for identifying and dealing with significant maintenance problems that had potential to adversely effect safety have failed.

The deaths of the Pettet family and of Rosa Guajardo were preventable. Clear warnings about near-miss incidents had been given by a pro-active and concerned member of the public to one of the principal road safety organisations in this state (VicRoads) about the potentially dangerous condition of the relevant section of the road surface and yet, for a number of reasons, inadequate action was taken. VicRoads also had its own information on the unsatisfactory nature of this particular section of the road surface and the two sets of information were not married.

Although engineers were sent to inspect the road and undertake countermeasures, they went to the wrong place and eventually installed warning and speed restriction signs. A cursory check of an email by the relevant VicRoads' Officer would have identified that the remedial work had been undertaken in the wrong area. This also was not done. Even at the wrong place, the temporary signs went missing and there was no system to monitor the condition or continuing presence of these signs.

As TAC submitted the *"legislation (Governing VicRoads) includes the following objectives"* vis:

> *?"to facilitate accountability at all levels within the Corporation by maintaining suitable information and reporting systems? see s16 of the* ***Transport Act*** *1983."*

That it *"may seem to the Coroner that in order to achieve these objectives the systems at Vicroads for the collation of information and ensuring timely and appropriate action thereon may require improvement..."*

Accordingly, systems need to be in place at VicRoads to ensure that this type of tragedy is not repeated. With modern computer systems data collected in one section of the Corporation should be able to be flagged and cross-referenced in a timely manner with data collected at another point in the organisation. Whether that data be from complaints of motorists, testing results or reports on problems with sections of road rapid and automated cross-referencing should be achievable. Automated system checking should be able **to flag potential problem areas** and provide that files cannot be closed without full checks being undertaken.

When a problem area is identified and work is being undertaken, the system should be able to identify as to whether the work is being undertaken in the correct area. Also those who make a complaint or draw attention to a problem need to be advised of the remedial work being undertaken as an additional check on the accuracy of the process. The complainant's identification of the area of concern needs to be carefully confirmed (see comments under sub-heading - **`IMPROVEMENTS IN VICROADS DATA COLLECTION AND EXCHANGE SYSTEMS**')

It is noted that VicRoads in its submission, appropriately commented under the heading **"VicRoads' Internal Systems and Audit Procedures"** that:

> *"A detailed review of VicRoads internal systems and auditing procedures has been submitted to the Court separately. These materials deal with the issues that arise out of Mr Miller's notification concerning the road surface at the site of the subject accident, VicRoads' response to that notification and modifications that have been made and/or are proposed to ensure that the confusion which occurred in response thereto, will not occur again."*

The coronial comments and recommendations in this case are designed to enhance this process.

There is also a need to change the way the VicRoads maintenance section identify potential problems and manage risk (see the sub-headings **`NEED FOR A REVIEW OF RISK ANALYSIS AND WEIGHTING PROCESS FOR PRIORITISING MAINTENANCE'** and **`RAPID RESPONSE TEAM TO MANAGE AND SOLVE HAZARD AND RISK PROBLEMS RELATING TO THE ROAD INFRASTRUCTURE AND ITS MAINTENANCE SYSTEM'**).

The suggestions developed by the experts and contained in VicRoads' submission (**Appendices A and B** - attached to this finding[12]) should be adopted by the Corporation and, where relevant, the Transport Industry. Whilst there has been some criticism of VicRoads' approach to the investigation and, also amongst some of the parties to it robustly arguing that a range of other causative factors were at play, this Court does not necessarily fully share that view (with the exception of the comments in relation to Exhibit 00, etc). In spite of the ultimate conclusion that the road surface was the principal cause the alternative factors raised by VicRoads have also raised some serious safety concerns. VicRoads has helpfully taken a broad and modern approach to the Coroner's jurisdiction on public health and safety on the issue of recommendations and raised these issues as well as improvements in systems within its own sphere of operation and these matters are referred to in **Appendices A and B**.

It is also noted that all of the works (shoulder sealing) on the relevant section of the South Gippsland Highway (from the 1999 South Gippsland Highway Strategy), which were scheduled for 2000-2003 have now been completed. An upgrade to a divided highway is scheduled for 2011-2013.

VicRoads have provided the Court with a considerable amount of information across a wide range of issues on its funding processes and priorities, investigation and data collection systems, maintenance and audit processes, etc (see Response to Issues Raised by Coroner June 2002). For the purpose of these comments it is not necessary to cite all of the issues, only to remark that VicRoads is, to its credit, undertaking a wide range of work innovative work on road safety related matters.

NEED FOR REVIEW OF RISK ANALYSIS AND THE WEIGHTING PROCESS FOR PRIORITISING MAINTENANCE

The deaths on 26th January on the South Gippsland Highway, Koo Wee Rup may necessitate a review of VicRoads system of risk analysis and management as it applies to maintenance. Reliance on collision rates in the VicRoads database to determine priorities for road works may not be adequate. Here the surface condition was the lowest rating and yet the priority did not prompt identification and documentation of relative risk and the possibility of alternative intervention (by way of temporary road works, signage, speed restrictions, etc) far earlier than the `Miller warning'.

Simply put "*safety*" should be at the centre of all road maintenance decisions and when a problem is identified as a result of regular audit (or other means) the management of the risk to the road user should be at the core of the assessments made. Alternatives should be considered. Prompt action should not depend on an actual *"accident history"* as a key for change (through the use of the Road Crash Information System (RCIS) but should be **primarily** focussed on a process of identifying and managing risk. A road surface condition or design that has potential to compromise safety may be obvious (to the trained auditor, maintenance supervisor, risk manager or engineer) well before the site has any *"accident history."* It is understood that this type of pro-active approach is being taken

[12] See Appendix 1 (to this finding)

by the Victorian Department of Infrastructure in relation to the identification of risk on railway level crossings (and pedestrian rail crossings) and that the Department is considering a risk management tool that has been developed by Queensland Rail and also being used by New South Wales Rail. Accident history through a program like RCIS should be but one of the tools in assessing and managing risk. However, it may not be necessary to have an accident history to be able to prioritise urgent and necessary work to prevent future tragedies. It should be noted that RCIS does not identify *"near miss"* incidents or collisions where no injury occurs and thus, as with all systems has its limits for risk assessment.

There is no system to utilise material from tow trucks or insurance companies on the many collisions that occur on our roads that are not recorded on the RCIS. These collisions, if captured, would provide the potential for an additional early warning on *"hot spots"* and help to better manage the risk, hopefully before catastrophic events (see the ***Jankovic Inquest*** and the ***Morris Inquest*** findings and recommendations - attached)[13].

Also the data entered into RCIS depends upon information as to cause which is of variable quality of as there is no minimum standard for road collision related investigation (this also applies in Coronial cases). In many cases, the focus and skill of the police investigator, understandably, may be on identifying road traffic offences rather than finding all of the factors leading to the event.

However, it is noted that, as a consequence of the 26th January incident, VicRoads maintenance priorities seem still to be reliant (and focussed) on *"accident data."* For example it says:

> *"Skid resistance testing was carried out shortly after resurfacing works on the relevant section of the South Gippsland Highway in 1996. This information shows that the coefficient of friction was generally higher than the investigatory level in the eastbound lane and similarly for the west bound lane except for a 500 m section west of Sybella Avenue. Following the accident in January 2001, skid resistance was carried out again and showed the eastbound lanes having coefficients of friction still generally above the investigatory level. The west bound centre lane also had a coefficient of friction above the investigatory level while the outer lane had a coefficient of friction generally below the investigatory level. An assessment of alternative resurfacing treatments was carried out and Government approval was given to resurface the road with open graded friction course asphalt. This work was done in February 2001.* ***The accident data had changed dramatically because of this accident and accordingly changes were made to funding priorities to enable the work to proceed immediately.****"* (emphasis added by Coroner)

Also VicRoads has recently introduced a *"Skid Resistance Interim Policy"* in the introduction to its new policy the Corporation notes:

> *"The aim of this policy is to reduce the incidence and severity of crashes due to poor skid resistance in a cost-effective manner.*
>
> *The identification and treatment of sites where poor skid resistance performance has contributed to Wet Weather Road Crashes. be undertaken in a systematic manner, that is by monitoring wet weather crashes and responding to comments from the community."*

And under the heading ***"Proactive Policy"*** VicRoads says:

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[13] Appendix 2

"Where a member of the public or municipality or VicRoads expresses a concern that a road surface is contributing to crashes and/or where the existing crash record does not meet blackspot criteria, the following steps will be undertaken:

- *Site inspection to determine surface conditions or other problems; and*
- *Analysis of existing and predicted traffic volumes, and any special traffic characteristics."*

The allocation for funding is to be determined *"using the Statewide Blackspot Program Guidelines for Potential Blackspots."* There is a structured program and management responsibility to monitor Wet Weather Road Crashes (WWRCs).

Whilst this is a positive step and significant improvement for which VicRoads must be commended, again it still relies on traditional crash data and a number of WWRCs to result in action. Risk analysis using more sophisticated methods is not used and crash data (for reasons already explained) may not necessarily be adequate as data from insurance and towing companies is not used.

Conversely, it is noted that VicRoads, to its credit, is already using the Queensland Rail type of approach in the State Wide Black Spot Program which provides up to 20% of its funding for *"treatment of locations where crashes may not yet have occurred, but which have crash risk characteristics similar to other locations where crashes have occurred."* That:

*"These sites are known as **potential** blackspots. Prototype treatment categories were developed for bridge end post protection and rural Y junction intersection improvements and extensive numbers of these sites have been funded and treated. More recently a general model has been developed to address candidate potential blackspot sites with a range of crash risks nominated through the program. This model assesses risk on the basis of likelihood and consequence of crashes occurring at a site. Sites are then ranked on the basis of the risk assessment and submitted for consideration by the Blackspot Program Advisory Committee."*

And:

"This program has been successful in providing a means of addressing treatment of high risk locations where crashes have not yet occurred. However, the scale of works which could be undertaken across Victoria exceeds available funds by many orders of magnitude. In addition, the overall priority for funding (80%) is given to projects at locations where crashes have already occurred i.e. blackspot treatments."

Whilst this type of early risk identification and management program is obviously, as a matter of good, sound community safety management, requiring of significant government support and resources, it is also an obvious pointer to a new way of broadly identifying risk and managing safety on our road infrastructure. To manage risk by having protective systems aimed at identifying potential problems and providing countermeasures to avoid an incident (or minimise the consequences) makes sense.

This case may also be a pointer to the need to for a change in how the maintenance section of VicRoads identifies and, ultimately, prioritises and manages risk. Where the appropriate solution to a maintenance problem is resurfacing or re-design of the roadway, and the work has been, of necessity placed in a que (because of funding or other issues), safety may well dictate that alternative, timely but temporary measure (s) be used. Safety and risk management from the perspective of the motorist should be at the core of all of the work of the maintenance section, its engineers, managers, supervisors and staff (or sub-contractors). The use of professional risk managers may be required for this process.

Essentially the "*weighing*" of risk may be a way of improving the targeting of problem areas and managing funding and priorities. In **Appendix B** the experts (by Mr. Keramidas) suggest one possible method. Currently sites are routinely audited for pavement and general safety. Keramidas writes:

> *"What is clear, is that once the audits are completed and roads reach a priority ranking of "l", due to the fact that funding does not permit all such sites to be treated [in fact only about 20%], that there is still a need for further ranking and prioritisation required beyond that numeric ranking. The question becomes how the ranking of such sites should be further refined.*
>
> *The inclusion of additional data may go some way to assisting in this regard. One such method suggested by the Coroner was the introducing of a "risk" based system. I concur with that suggestion, but raise the difficulties in amassing "good" data unaffected by localised "vocal" minorities, persons or groups.*
>
> *This issue therefore requires considerable discussion before any sound recommendations can be made. There is however one "object" source of information available which could be "tapped", being the ratio of heavy vehicles using the location in question. As we have seen, Vic Roads, as part of their traffic counts, will often provide a heavy vehicle count or estimate. That is, the percentage of heavy vehicles using that part of the road system.*
>
> *Clearly, heavy vehicle accidents have the potential for significantly more catastrophic outcomes, which leads me to the thought that a "weighting system" could be applied to sections of roadway being considered for funding, essentially considering at least in part, risk minimisation together with the current process of demonstrated crash history. As to what that weighting system would be, I feel unable to suggest at this time."*

IMPROVEMENTS IN VICROADS INTERNAL INVESTIGATION, DATA COLLECTION AND INFORMATION EXCHANGE SYSTEMS

Once Mr. Miller delivered his warning to VicRoads there was no cross-checking work undertaken on other data and information systems held by the Corporation in the maintenance section and in other reports. Information existed for a number of years that would have been confirmatory of Miller's report and highlighted the increased level of risk to the public. Proper risk management would have dictated a far more careful and timely approach to the action needed.

Clearly, the already existing information served but to emphasis the urgency and heightened risk as a result of Mr. Miller's warning. The hidden hazard was already there and known to VicRoads (it was in its records) and Miller's information only served to emphasis, by graphic illustration, the worst case scenario.

Clearly, when a concerned member of the public notifies VicRoads of a potential safety problem on the roads, the issue needs to be thoroughly investigated. This may mean further discussions with the person reporting the problem. It may require a detailed and timely investigation before action is taken. Practical and simple investigation methodology and procedures may need to be developed to ensure that the type of problems reported by Mr. Miller are not repeated. The questioning of Miller and his drivers would have been an obvious thing to do, in view of the seriousness of the incidents he described (involving trucks) and the potential hidden nature of the hazard.

Transport Accident Commission (TAC) has made the following comments and recommendations, in an endeavour to help in the solving of some of the problems:

> *"**42.** The evidence indicates that Road safety and related initiatives would be aided by improvements to the data recording at Vicroads so that reference to any one road location will coordinate all recorded information pertinent to that location, whether from the Care database, on-site bitumen reports or otherwise. In this instance, the incoming report from Mr Miller may have been more effectively dealt with had the computer system automatically called up all recorded information on the area of road in question including such things as crash stats, bituminous seal reports, scrim testing etc. With an adequate range of inputs, such a programme may also sort the areas requiring funding into areas of priority based on all available information. In a more limited way such a sorting is effected in relation to the bitumen seal reports. While the creation of a new database is said to be very costly, the question of linking existing data bases as a LAN might be explored with benefit.*

In addition systems that are easy to use and encourage the public reporting of potential problems on the road system should be introduced. TAC suggests:

> *"**43.** The evidence supports the proposition that members of the public should be able to make reports to Vicroads informally and without the need for a written report. Indeed that is the intended function of the CARE database. However road safety initiatives and the statutory objectives of Vicroads would be better served if the system required a written response by the Agency so that there be confirmation of the detail of the matter and the reduction of the risk of misunderstandings. In this instance the wrong location of the signage would have been speedily apparent had a written record of action taken on the complaint by Mr Miller been faxed to him for confirmation. Further, the control of incoming complaints and information via CARE must be controlled by one sector and that control should be made widely known throughout Vicroads. Division of responsibility as has occurred in this case only results in a dilution in the standard of response."*

It is noted that VicRoads reported that it:

> *"When a member of the public rings with a road safety concern that is considered urgent, the person taking the call will ensure the matter is accurately logged in the CARE database and provide written advice to the Manager Program Delivery within the Region of the proposed action. This must be done on the day the message is received. Once action has been taken, the responsible person will provide written advice to the Manager Program Delivery of the action taken and any follow up that may be required.*
>
> *An integrated customer response system is also being developed by VicRoads as part of its continuous improvement process."*

There may be potential for additional safeguards if employees like Mr. Wall, an engineer who first took Miller's call and passed the information on to others in the maintenance area also had a role to follow the progress of the complaint through to its management conclusion. Knowledge of the recording systems and type of data collected would be desirable, if not essential for such an additional protective audit process (see comments under the sub-heading **`THE MILLER WARNING'** in the finding discussion).

It is noted that VicRoads has recently introduced a new *"Accident Reporting"* procedure in its *"Asset Management System."* This Court has not reviewed this new procedure.

RECOMMENDATION 1

That VicRoads consider developing a practical internal investigation system to ensure that, where the public report a problem, it is properly investigated following a standard, to ensure that all relevant information is captured for safety management and entry into database systems for future reference.

RECOMMENDATION 2

That improvements need to be made to the data collection and computer software systems at VicRoads to ensure that all data collected whether from the public, internal reports on problems with maintenance or the state of the road, accident information, etc, be able to be automatically cross referenced to ensure that, as a minimum, the extent of the problem is recognised and the risk evaluated and managed (within the bounds of practicality and resources).

It is essential that the data systems actually work to pro-actively identify and manage the information in a timely way.

A RAPID RESPONSE TEAM TO MANAGE AND SOLVE HAZARD AND RISK PROBLEMS RELATING TO THE ROAD INFRASTRUCTURE AND ITS MAINTENANCE SYSTEM

As part of a multi level approach to managing the risk of untoward outcomes following identified problems with the road surface, etc. signage is but one method of warning and managing risk. The Transport Accident Commission (TAC) recognised this issue in its suggested list of recommendations. The Commission pointed out that:

> *"**44.** The issue of speedy and appropriate road signage is uppermost in the evidence in this inquest. Mr Keramedus accepts the necessity for same as does Sgt Bellion. The evidence supports the need for a recommendation that Vicroads establish a sector to deal only with signage. Ongoing regular and frequent inspections of all areas by the signage team in each of*

Vicroads areas should increase the prospect that this simple and economical aspect of road safety be adequately implemented. The available data, bituminous seal reports, crash stats., public input etc would all guide such teams as to areas of priority and nature of signage required."

Cootes appear to agree and say that, in its view, the *"most effective solution is road signage."* That:

"This signage should identify in sufficient time for a driver to adjust his or her driving to:

- *road conditions;*
- *appropriate speed for the conditions;*
- *hidden or unanticipated hazards (eg the slippery road);*
- *the effect of different atmospheric conditions on the safety of the area."*

There are some problems with this approach as signage should not be seen as the panacea for solving a problem, especially in areas of high risk where there may be a need for a combination of rapid solutions (i.e.: resurfacing, **significantly** reduced speed limits or complete redesign of the carriageway, etc).

A team (or if necessary, teams) stationed in each region purely focussed on signage may miss other critical issues in the safe management of the road system. Thus one solution may be to establish a centralised Unit (answerable only to the Chief Executive Officer) with rapid response, multidisciplinary teams in each Region with support of engineers, risk managers and other relevant experts and backed by an overarching information gathering, research and management component.

The team (s) would need to have special skills and expertise in identifying areas of risk (with the ability to have on-site access to relevant VicRoads data systems relating to road safety planning and maintenance) and be able to use a number of practical alternative (or, if necessary, innovative) countermeasures, signally or in combination in a timely manner (i.e.: temporary road signage, speed limit reduction, etc).

The centralised managing Unit could also assist with in the training of maintenance teams and surveillance officers (or auditors) to help them identify other potential areas of risk potentially encountered in the daily routine of maintenance work and thereby further assisting in better targeting areas of increased risk. Sub-contractors also need to be trained in any new procedures to help in the risk management process.

A key focus of any such Unit (and the operating teams) would be to identify how road surface maintenance and/or design affects safety **from the motorist's perspective.** It would have a risk management focus.

In the case under investigation the hidden and poor condition of the road surface does not appear to have factored in any interim preventative measures prior to the Miller warning. In VicRoads there appeared to be a limited level of thought about urgent nature of the safety problem from the unsuspecting motorist's point of view. The surface did not comply with VicRoads' own standards.[14]

[14] Although it is important to note that compliance with a particular standard may not be the only test - there are many examples of coronial cases where a standard did not adequately cover safety issues. Accordingly, the team (s) should have the skills to be able to provide to VicRoads a brief

RECOMMENDATION 3

That VicRoads examine the issue of establishing well resourced special rapid response team (s) in each Region supporting road maintenance teams and surveillance officers and helping to identify and dealing with managing identified areas of increased risk as a result of road surface maintenance problems.

The teams would be managed by a centralised Unit answerable to the Chief Executive Officer.

The teams in each Region would need to be multi-disciplinary (engineers, risk managers, analysts, etc), have special skills and expertise in identifying areas of risk (with the ability to have on-site access to relevant VicRoads data systems relating to road safety planning and maintenance) and be able to use a number of practical alternative (or, if necessary, innovative) countermeasures, signally or in combination in ***a timely*** *manner (i.e.: temporary road signage, speed limit reduction, etc).*

Such a Unit could also assist with in the training of maintenance teams and surveillance officers to help them identify other potential areas of risk potentially encountered in the daily routine of maintenance work and thereby further assisting in better targeting areas of increased risk. Sub-contractors also need to be trained in any new procedures to help in the risk management process.

Finally, ***safety needs to be the focus of the Unit's work*** *and any problems also need to be considered* ***from the motorist's perspective****.*

THE NEED FOR A CHANGE IN THE INVESTIGATION SYSTEM

There is a clear need for a change in the emphasis by VicRoads in its own investigation systems (and co-operation with investigatory agencies like the Coroner and Police). Accurate, open and timely information on how an incident occurred can but help in the identification of all of the factors and ultimately lead to improved countermeasures.

Sometimes that information needs to be provided at the scene of an incident and often ongoing enquiries will necessitate the information being requested for some considerable time after an event. Documents like those contained in Exhibit 00 (see sub-heading to this finding - **`VicRoads' information disclosure'**) are not of assistance in robustly identifying the factors involved in an incident. Future safety management may depend on robust timely gathering and exchange of information between agencies.

In addition to VicRoads own approach to investigations where it is involved, there may well need to be a wider review of investigation standards for road-related fatality collisions. Such a review should aim at identifying and categorising all of the factors involved in a collision (including

---

interim opinion of particular design and maintenance standards where, in the experience of the team, the standard or method of work may have shortcomings which could effect the safety of the motorist.

maintenance). The Victorian Coronial system and Victoria police may need to be involved in setting a minimum standard for investigation in order to improve the quality of material (on factors) inputted into VicRoads RCIS database and thereby helping to better identify how the road maintenance system interacts with the motorist and effects the collision rate.

RECOMMENDATION 4

That all of the agencies involved in the investigation of road related fatalities consider the practicality of developing a minimum investigation standard to ensure that all factors in road related fatalities (including maintenance issues) are identified and investigated. These agencies include the Police, VicRoads, WorkCover and the Coroner (other agencies may also need to be co-opted).

AN AID TO THE MANAGEMENT OF RISK - COMPUTER RECORDING SYSTEMS ON TRUCKS

The investigation into the incident on 26th January would have been considerably assisted if the onboard computer system had recorded at least the last two minutes of driving before the crash. Accurate recording of what happened to a vehicle leading up to an incident can have a role to play in preventing untoward events; as a result of certainty of detection and improved risk management and training at operator level and, by helping to accurately identify factors thereby leading to improved and better targeted countermeasures.

As the Transport Accident Commission (TAC) recommended:

> *"**40**.The evidence disclosed a need for improvement in the software in the computers on vehicles. The computer must by regulation, be required to isolate sufficient memory to record the last two minutes of an emergency event. Mr Cootes is seeking such software. It should be mandatory for it to be supplied."*

RECOMMENDATION 5

That improved computer software systems be investigated and a National standard developed to ensure that, as a minimum, the last 2 minutes of the transport vehicle's movements and operating systems prior to an incident be recorded and recoverable after the event.

THE USE OF ENGINE BRAKES BY TRUCK DRIVERS - A SAFETY ISSUE

Whilst the evidence does not necessarily support a finding that the engine brake was operating in the wet conditions with an unladen trailer and thus may have had some effect on the outcome, a range of experts raised questions about the safe operation of engine brakes. This should be considered by the relevant authorities and the Transport Industry as it may effect public and occupational health and safety (see also comments in the experts' **Appendix A**).

SURFACE FRICTION VALUES - A MINIMUM STANDARD?

An issue came to notice after close of the evidence and receipt of submissions. A document was received from Sergeant Bellion comparing Victoria's systems for measuring *"surface friction values"* and the relevant standards with those in Great Britain. The document indicates that Victoria's standards are less than the British equivalent. A response was received from VicRoads disputing the applicability of the British standard for Victoria. This has not been examined in detail in this finding, but may well need further review (the two documents are attached as a matter of information).[15]

SUGGESTIONS FOR SAFETY IMPROVEMENTS BY THE PARTIES

A number of the parties made helpful suggestions for improvements in systems. These are included as a matter of information. Even if not specifically adopted in this finding, each of the matters (which are quoted in this section of the finding) still require consideration by the relevant agency.

COOTES HOLDINGS

Cootes appropriately introduced this section in its submission under the heading ***"What can we do now to avoid a repeat of the tragedy in the future?"*** In this section of its submission Cootes is somewhat critical of the responsible authority and refers to previous coronial findings. Cootes summarised the central issues as:

- *Identifying unsafe sections of the highways;*
- *Informing the driving public of the nature and extent of the danger in adequate time for a driver to adjust the course, speed and path of his vehicle in time to avoid the otherwise unexpected trap.*

Cootes made the point that the problems were dealt with from *"different perspectives throughout the evidence."* Cootes stated that the Black Spot programs are an *?initiative?* but unless the recording and dissemination of information is effective, *"this inquest will go for nought."*

In a critical comment about the responsible road safety agency, VicRoads, Cootes stated:

> *"... ?that the central authority (here VicRoads) had a data base which was not oriented to driver safety."*

Cootes submitted that findings of two previous inquests, over 10 years ago were made available during the inquest, and that relevant *"observations were made in those findings."* Cootes asked a relevant question - *"How have those observations been addressed, if at all?"* In this regard Cootes pointed to the findings of the ***Jankovic Inquest***, which included the observation:

> *?"However, as this and other cases have shown, there may be room for improved procedures in the identification and management of hazards in local areas or where there is an increase in incidents involving motorists."?*

And further:

[15] See Appendix 3

?"The effectiveness of the council's road safety program starts with its ability to timely identify its road hazards and to ensure that, within its particular resources, regular audits of hazard identification procedures are undertaken."?

Cootes commented that these documents were forwarded to the chief executives of all relevant instrumentalities (including VicRoads) as well as the responsible Ministers. That:

"Notwithstanding, in our submission, it is still necessary to focus the accumulation of information on safety and not just on reactive maintenance and procedure.

In the findings in the inquests referred to, the observation is made that there has been a lack of internal coordination between government departments. That same problem happened within VicRoads in this instance.

*In the **Jankovic/Morris Inquests** the major recommendations centred upon the identification of high risk areas (by pooling of information) and creating preventative strategies. Regrettably, there is no evidence from VicRoads in this inquest that those issues have been addressed in any way."*

Cootes stressed that, in its view, the *"most effective solution is road signage"*. That:

"This signage should identify in sufficient time for a driver to adjust his or her driving to:

- *road conditions;*
- *appropriate speed for the conditions;*
- *hidden or unanticipated hazards (eg the slippery road);*
- *the effect of different atmospheric conditions on the safety of the area."*

TRANSPORT ACCIDENT COMMISSION

The Transport Accident Commission (TAC) also made a number of suggestions for improvement. These are:

*"**40**.The evidence disclosed a need for improvement in the software in the computers on vehicles. The computer must by regulation, be required to isolate sufficient memory to record the last two minutes of an emergency event. Mr Cootes is seeking such software. It should be mandatory for it to be supplied.*

***41**.Recommendations should be made for increased information sharing within the industry in relation to areas of dangerous and defective road surfaces.*

***42.** The evidence indicates that Road safety and related initiatives would be aided by improvements to the data recording at Vicroads so that reference to any one road location will coordinate all recorded information pertinent to that location, whether from the Care database, on-site bitumen reports or otherwise. In this instance, the incoming report from Mr Miller may have been more effectively dealt with had the computer system automatically called up all*

recorded information on the area of road in question including such things as crash stats, bituminous seal reports, scrim testing etc. With an adequate range of inputs, such a programme may also sort the areas requiring funding into areas of priority based on all available information. In a more limited way such a sorting is effected in relation to the bitumen seal reports. While the creation of a new database is said to be very costly, the question of linking existing data bases as a LAN might be explored with benefit.

43. *The evidence supports the proposition that members of the public should be able to make reports to Vicroads informally and without the need for a written report. Indeed that is the intended function of the CARE database. However road safety initiatives and the statutory objectives of Vicroads would be better served if the system required a written response by the Agency so that there be confirmation of the detail of the matter and the reduction of the risk of misunderstandings. In this instance the wrong location of the signage would have been speedily apparent had a written record of action taken on the complaint by Mr Miller been faxed to him for confirmation. Further, the control of incoming complaints and information via CARE must be controlled by one sector and that control should be made widely known throughout Vicroads. Division of responsibility as has occurred in this case only results in a dilution in the standard of response.*

44. *The issue of speedy and appropriate road signage is uppermost in the evidence in this inquest. Mr Keramedus accepts the necessity for same as does Sgt Bellion. The evidence supports the need for a recommendation that Vicroads establish a sector to deal only with signage. Ongoing regular and frequent inspections of all areas by the signage team in each of Vicroads areas should increase the prospect that this simple and economical aspect of road safety be adequately implemented. The available data, bituminous seal reports, crash stats., public input etc would all guide such teams as to areas of priority and nature of signage required."*

VICROADS - APPENDICES `A' AND `B'

VicRoads submitted that:

"...the circumstances of this collision raise a number of issues which might usefully become the subject of recommendations by the Court. Mr Keramidas addressed a number of these during the course of his evidence. In summary, they fall under two headings:

- *Vehicle Technology and Driver Training*
- *Road Maintenance and Surface Safety"*

And:

"Attached to these submissions as Appendices A and B, are Mr Keramidas' detailed notes in relation to these two broad issues. Under the heading of Vehicle Technology and Driver

Training, the subjects of ABS, Traction Control, Engine Braking, Fleetcom, Driver Information and Training (both in general and for heavy vehicles) and Reduced Speed limits, are addressed (Appendix A). Under the heading Road Maintenance and Surface Safety, the proposed recommendations cover such matters as the setting up of a VicRoads led task force on ?Road Surface Safety [For Trucks]? to investigate and develop policies on, inter alia, the proper and most efficient use of SCRIM data for testing road surface; the review of the CARE database; the dissemination of information from VicRoads to other agencies and the general public; Site Audit and Prioritisation; and Temporary Measures and Monitoring (Appendix B)."

That:

"The evidence before the Court supports a number of recommendations with respect to public health and safety. Broadly, these matters can be grouped under two headings: Vehicle Technology & Driver Training and Road Maintenance and Surface Safety. Material pertaining to the proposed recommendations appears in Appendices A and B to these submissions."

Each of the comments in **Appendices A and B** are fully supported, notwithstanding the fact that some of the recommendations relate to issues which the finding has not necessarily been able to confirm. They are sensible and forward thinking and, if adopted, will no doubt help in improving safety and reducing the death and injury rates on the roads. In many cases the comments in **Appendices A and B** are also highly relevant to the Coroner's Comments and Recommendations in this finding. Examples of issues raised in this inquest that may need further addressing are driver response to conditions (ie. appropriate speed for the weather conditions), the use of engine brakes and ABS braking systems.

These comments and recommendations were developed by Mr. Keramidas and reviewed by the other experts who gave evidence in the inquest. The experts are to be commended for their thoughtful approach and in contributing to improvements in public safety.

RECOMMENDATION 6

*That the Recommendations and Comments of the experts in **Appendices A and B** (attached) should be followed by VicRoads and the Transport Industry.*

VICROADS' INFORMATION DISCLOSURE

Introduction

During the running of the inquest an issue in relation to the completeness of VicRoads' information disclosure to police investigators for the Coroner was examined. Also an issue relating to the Corporation's investigation and documentation policy was inadvertently discovered - for the purpose of this inquest this latter issue is termed, for want of a more accurate and an apt description, the *"no documents"* policy. Both of these issues are **very serious for public accountability and, ultimately, safety** and thus require public ventilation.

The *`No Documents'* Policy for certain incidents - Exhibit 00

The Document referred to as ***`Exhibit 00'*** and called ***`The Business Management Systems Work Instruction'*** inadvertently came to light during Mr. Potesta's evidence. The document is dated

29/03/2001 and is marked *"Revision 1."* It was previously approved by the Corporation's BMS Council and was, in similar form, in operation at the time of the South Gippsland Highway incident. It provides (in full):

"Purpose:

The purpose of this Work Instruction is to meet VicRoads' need for appropriate investigation and information management in the case of serious incidents on the declared road network or other places or circumstances under VicRoads' control.

Scope:

For the purposes of this Work Instruction, "serious incident" means an accident involving a fatality or serious injury to a person or property damage, where the potential liability of VicRoads is likely to exceed $20,000 or there is a reasonable prospect of court or tribunal proceedings involving censure of VicRoads or its officers. Investigation of accidents and fatalities on VicRoads work sites and properties shall be undertaken in accordance with the Occupational Health and Safety Procedure and VicRoads' Specification requirements (eg. Clause 750.B02(g)).

Steps:

1. Information regarding fatalities is updated daily on the "Fatality Figures Database" by information Services based on information provided from the police. The Road Crash Information System provides data on all casualty crashes, however this data can take a number of months to be entered on to the system. The Regional Manager may also need to act on information from other sources.

2. The Regional Manager shall ensure that an officer is assigned:

- *to make a preliminary assessment of the incident at the earliest possible time;*
- *to take any necessary photographs and measurements of the scene before any repairs or other changes are made; and*
- *to provide an oral report to the Regional Manager to enable a decision to be made about the need for any further action.*

3. Apart from site photographs, ***a documented assessment of the accident should not be made without first seeking legal advice*** *in accordance with section 4. If no further action is necessary, the accident record shall be signed off as being reviewed and filed together with details of any site photographs and police reports.* ***No written assessment of the site or accident by VicRoads should be documented.***

4. Unless the Regional Manager is satisfied that there is no need for further VicRoads action, he or she ***must contact the Manager Legal Services or the external solicitors (currently Phillips Fox) to obtain legal advice about the further handling of the matter. Any written communication should indicate that it is prepared solely for the purposes of obtaining legal advice from the Corporation's legal advisers. Any other documents should be kept to a minimum.***

5. ***The legal adviser will ensure that the Corporation is placed in the best possible position to deal with any subsequent investigations, inquests, claims or court proceedings arising from the incident.***

6. ***Further communications between the legal adviser and the Region can be carried out freely in the knowledge that they will generally be protected by legal professional privilege and will not be made available to outside people or organisations.***

7. ***Any subsequent request to any staff member or contractor by an external person or body for information or advice concerning the incident should be referred to the legal adviser and should only be dealt with in accordance with the advice given."*** (the emphasis is by the Coroner)

In his evidence Mr Potesta said (when asked a question about whether there was *"a standard investigatory model or procedure you've got to undertake when something like this goes wrong?"*):

?"...the standard procedure is, basically, to report factual data and – that's basically it now. Our Legal Services section, if they feel that – they need more information, they'll ask for that information, the privilege..."

Counsel for Mr. Naranpanawa stated that this was the first time the issue was raised. That:

"This was the first indication that VicRoads response to, and documentation of, a serious incident was driven and controlled by the Legal Services section. Subsequently Mr Potesta produced Ex OO, the Work Instruction. Despite the explanations proffered by Mr Priest and Mr Anderson's evidence as to his understanding of the intent behind that document, it is clear that a policy, driven by a desire to limit VicRoads liability and avoidance of censure, was applied by VicRoads in this case. This Inquest did not hear from Mr Pollard, Mr Gidley or Mr Hooker. All these men represent senior management in VicRoads and all played a role in VicRoads response to this accident. The Court has not been informed as to how they understood Ex OO and how they sought to deal with the issues surrounding this accident. Whatever Mr Anderson may believe as to its purpose, Exhibit FI the report that lead to the creation of Ex OO, makes it clear that, the main purpose of the work instruction is an attempt to manage incident liability. Indeed the report, Ex FI, is headed "?Liability Incident Management".? The "?purpose"? reads:

?"To establish principles and a model Work Instruction to manage liability incidents which may expose VicRoads to liability for damages, prosecution of the Corporation or its employees or adverse findings by investigatory tribunals."?

The report demonstrates the implementation of a system designed to limit information provided to parties with opposing interests to VicRoads. Legal professional privilege was to be attached to any written material so as to avoid disclosure of that material."

The tanker driver's Counsel noted that Exhibit FI reads:

*?"**Applying the Principles***

The model Work Instruction assumes that the relevant Business Area Manager will be best placed to decide whether the Instruction applies in a given situation. This will require a judgment to be made based on:

- *the degree of probability of a VicRoads liability*
- *the size of any potential financial liability*
- *the likelihood of a prosecution of public censure of VicRoads or its officers.*

Mr. Naranpanawa's Counsel submitted that as *"Work Instructions are discoverable documents the model Work Instruction does not go into detail.?"* Also Counsel submitted that:

"It is clear from Mr Potesta's evidence that these principles were applied to this accident. Mr Potesta followed the instructions of his manager Mr Gidley. One can readily infer that Mr Gidley had in mind all three of the factors set out above. Mr Potesta reported to Mr Pollard in the manner directed by the Work Instruction [see Ex PP]. Mr Pollard was the author of Exhibit FI. At page A of that document, he wrote:

*?"**Proposed Work Instructions***
It is proposed that Attachment 1 be used as a model for Business Areas other than Regional Services. If the Instruction is followed, the initial report to the Manager Legal Services and subsequent communications will attract legal professional privilege and be exempt from disclosure to an adversary. If these steps are not taken the report will be available through FOI to virtually any person seeking documents about the incident."?

And, significantly:

"...?the initial claims of legal professional privilege made in this case until Mr Priest released material that had been previously said to be privileged. Your Worship has also heard of problems associated with Freedom of Information claims. It is clear that Exhibit OO was applied by VicRoads as Mr Pollard intended from the date of the collision until the commencement of this Inquest. The philosophy and policy behind the work instruction has been carried through this Inquest by VicRoads. Rather than acknowledging the defective road surface and confronting the public safety issues involved, VicRoads has sought to deny any contribution by the road surface to the collision. In our attempt to "?manage?" its liability for these events an approach of denial together with false attribution of blame has been adopted.

Mr Potesta ultimately acknowledged that the section of roadway this Inquest is concerned with was so bad that it required major rehabilitation work. [Page 629]. The section of road immediately after Sybella Avenue required urgent attention [page 630]. VicRoads was aware prior to this collision that there was a major traction problem with this section of road [p. 639]. The VicRoads records disclosed a significant problem with traction on this roadway near Sybella Avenue [p.641]."

Counsel for Mr. Naranpanawa said of the Chief Executive Officer, Mr. Anderson:

"As chief executive officer Mr Anderson was called to address a number of issues that had arisen during the Inquest. He tendered a folder of documents in response to these issues. [Exhibit CI]. Mr Anderson was not chief executive officer at the time of the subject accident.

Mr Anderson did not write Part VII of Ex CI. ?Vic Roads response to the subject accident..." He did not know who did write it. [See page 1030]. Although Your Worship asked that the identity of the author be ascertained [page 1031] the Court has not been further informed. Paragraph 6 of that document reads –

> *?"Early in the week following the accident the Manager Legal Services spoke to Mr Potesta and asked him to provide specific information in relation to the accident site for the purposes of providing legal advice to VicRoads."?*

This statement is absurd. Mr Potesta was not providing legal advice. The statement demonstrates that even at this stage of the Inquest VicRoads was still acting in accordance with the philosophy set out in its work instruction [Ex OO] and draft protocols for inquests. [Ex DI]. Legal professional privilege was employed to manage liability incidents.

Mr Anderson did not know that Mr Potesta was going to provide Exhibit OO to the Inquest [see page 1031] and it is not a document that he had cause to look at very often. Mr Anderson gave what he said was his view as to the intent behind that document however it is clear that whatever Mr Anderson's view of that intent may be, others, including Mr Pollard have a different view. Mr Anderson conceded that the best way to ascertain actually what the work instruction was intended to do, is to look at the report that created the instruction. He did not have he benefit of reading that report [Ex FI] before he came to give his evidence [page 1037].

Mr Anderson acknowledged the need for full and frank disclosure of information in cases such as this [page 1039]. In circumstances such as these there is a need for precise and clear information. There should be no errors and no ambiguity as to the facts. Mr Anderson agreed that the best way to ensure accuracy is to make proper written records of events [see page 1039]. Oral communications can lead to error. The way Mr Gidley, Mr Pollard and Mr Potesta approached this accident investigation does not accord with what Mr Anderson describes as best practice."

Vic Roads explained that Mr. David Anderson, VicRoads, Chief Executive Officer:

> *"...was at pains to emphasise that the purpose of the work instruction was to facilitate efficient gathering of information after an incident, rather than to suppress or hide the facts. VicRoads reiterates the explanation given to the Court in relation to Exhibit OO, both through its counsel ... and through Mr Anderson.?"*

And that, despite this explanation, appropriately:

> *"VicRoads acknowledges the ongoing concerns expressed by the Court with respect to the content of the document. The work instruction is currently being re-drafted to take account of these concerns?..."*

In respect of the Exhibit 00 issue Cootes Holdings was also highly critical and submitted that:

> *"The documents which emerged through the evidence of Mr. Potesta (Exhibits ?"OO"?, ?"E1?" and ?"F1?") reveal a culture which is at best defensive and at worst, - sadly - mitigates against the full and frank disclosure to the Coroner who is authorised to act in the public interest. Further, these protocols appear to be contrary to the standards of accountability required of an*

organisation such as VicRoads by statute. The public is entitled to expect efficiency. Particularly, we should be entitled to assume that an organisation with the statutory charter of VicRoads would attend the scene and undertake a detailed audit to ensure immediate rectification of any deficiency in carrying out its specific responsibilities. This need not mean that there is culpabilility in any individual. Rather, the systems and practical short and long term remedies directed to the safety of the motorist should be paramount.

The public is entitled to know the full truth when they are paying for the instrumentality to do a specific function identified by our parliamentary representatives. However, the protocols created by VicRoads must lead to obfuscation and delay."

The analysis of Cootes and also that of Counsel for Mr. Naranpanawa is hard to argue against. Whether or not the real intention and design behind this policy by VicRoads managers was to restrict full and open disclosure of what is, in reality, public information in order to manage its legal liability or to insure that more accurate information about incidents is recorded can be answered quite simply. The fact is that any reasonable person would view the policy as giving the clear appearance that the former intention was the aim. VicRoads own documentation on the policy does nothing to dispel this impression. In fact it goes the other way - to confirm the impression.

The policy as described in Exhibit 00 is not appropriate - it hard not to view the policy as one which obviously designed to manage legal liability issues and not aimed at improving safety or providing the public with a clear and open explanation of an incident. For an organisation like VicRoads that has a **clear statutory responsibility for road safety**, this type of approach should **not** be permitted. With a policy like that introduced by the document called Exhibit 00 truth suffers and public safety has a potential to be seriously compromised.

This type of policy document and its resultant overly protective, legalistic approach by a government agency focused on safety, has potential to compromise an open coronial investigation, which is aimed at finding the truth and, hopefully, also aimed at helping to improve public safety on our roads.

RECOMMENDATION 7

That the Minister for Transport and the Attorney (as Attorney, Minister for both TAC and WorkCover) review the Work Instruction and actions of VicRoads with a view to insuring an appropriate level of openness occurs (from VicRoads perspective) in all investigations of incidents (or near misses) where there is or may be some potential for the Corporation to be criticised.

This comment also should apply to coronial investigations.

Information supplied to Police investigators for the Coroner

During the inquest there is a very clear example of how the *"no documents"* policy in Exhibit 00 operated. The VicRoads engineer and experienced Maintenance Team Leader, Mr. Potesta inspected the site and took photographs and measurements. Even though, eventually, he was concerned about the state of the roadway, and had the skills, position and experience to comment he provided no written report to his superiors. The process in Exhibit 00 was followed although Potesta did not clearly acknowledge that was what he was doing. He was clearly aware of the

policy as it had been used by the organisation for some time. It must be remembered that it was Potesta who inadvertently told the Court about the existence of the document.

It is hard to escape the view that this policy may well have had another consequence. Amongst other roles the police also act as investigators for the Coroner. In this capacity Sergeant Bellion requested certain information about the South Gippsland Highway collision from VicRoads (Peter Veleck, Manager, South Eastern Region). He did so in an email dated 1st February 2001. The email reads as follows:

> *"1 understand you are in charge of the area for Vic Roads for where this collision occurred. In the investigation of the circumstances of the above mentioned fatal collision we need answers to the following queries. The collision occurred about 150 metres west of Sybella Avenue, on the 2 kilometre stretch of 4 lane, undivided highway.*
>
> *1. When was the last time each traffic lane was resurfaced?*
> *2. What type of bituminous seal was used on each lane when last resurfaced?*
> *3 When and what levels of skid resistance were recorded on the traffic lanes when last checked?*
> *4. Has there been a problem with bitumen bleed or plastic flow of bitumen at the location?*
> *5. How often is the roadway checked for bitumen bleed?*
> *6. Have there been any complaints received from motorists or anybody regarding this section of the South Gippsland Hwy?*
> *7. Are there any plans to duplicate the 2 kilometre stretch of highway?*
> *8. If so when is this likely to occur?*
>
> *Given the levels of tyre sliding friction coefficient measured on the left Melbourne bound lane 1 would suggest that this lane should be resurfaced as soon as possible.*
>
> *Your speedy answers to these questions would assist greatly in the investigation of the collision. Alternatively a Coroner's Authority will be obtained and all records relevant to this location will be seized by police. Could you please reply via email and official letter..."*

The answers came by VicRoads letter dated 8th February 2001 (marked contact Bruce Gidley; Ref AM005 SGH). The letter (omitting formal references) states:

> *"I refer to your electronic correspondence sent to Peter Velcek of our office on 1 February 2001 and provide the following responses to your questions.*
>
> ***When was the last time each traffic lane was resurfaced?***
> *Resurfacing was previously undertaken on 21 January 1996.*
>
> ***What type of bituminous seal was used on each lane when last resurfaced?***
> *A 10 mm aggregate seal was applied at this time.*
>
> ***When and what levels of skid resistance were recorded on the traffic lanes when last checked?***
> *A SCRIM test was undertaken in November 1996 and did not show a significant problem.*
>
> ***Has there been a problem with bitumen bleed or plastic flow of bitumen at the location?***
> *Surface inspection reports do not show bleeding.*

How often is the roadway checked for bitumen bleed?
Surface inspections are carried out annually in about October or November. Localised areas are sometimes recorded under routine maintenance inspections but there is no record for this site.

Have there been any complaints received from motorists or anybody regarding this section of the South Gippsland Hwy?
Over the past year 158 reports have been received on various issues on the length of South Gippsland Highway within South East Metropolitan Region. Of these, one report relates to the specific section near the accident location.

Are there any plans to duplicate the 2 kilometre stretch of highway?
A South Gippsland Highway strategy report medicates that duplication should occur between the year 2009 and 2013.

If so when is this likely to occur?
At this stage this is unknown.

I trust that your questions have been adequately addressed." (the emphasis, in bold repeating Bellion's questions. was on the original letter)

The letter is signed Bruce Gidley, Regional Manager.

Sergeant Bellion also sent a follow up email on 17th February 2001 to Bruce Gidley:

"1 received your letter dated 8/2/2001. There are a few more queries that require clarification.

1. With respects to resurfacing on 21/1/96 was this on all four lanes at the location or only on the two centre lanes. Our inspections indicate that it appeared only to be on the centre two lanes. Please Clarify?

2. What were the levels of skid resistance recorded by the scrim test in November 1996?

3. When was the last surface inspection report and who by?

4. Please supply details regarding the nature of the 158 complaints received regarding the South Gippsland Highway. In particular the one relating to the specific section near the accident location?...?"

In response, Mr. Gidley wrote (on the 6th April 2001):

"I refer to your e-mail dated 17 February and provide the following clarification in respect to your queries:

Query 1:

Sealing work included the four lanes between chainage 70.82 km and 71.98 km.

Query 2:

The SCRIM test was carried out m April 1996 (23/4/96). Results are available for the `slow lane' (left lane) for both directions of travel included in a section length of approximately 2.7 km. The sealed section site showed a result in the range of 30 and 60 (inbound) and 55 to 75 outbound. (Note the November 1996 date was inadvertently transposed and should have read April 1996).

Query 3:

The last surface inspection report is dated October 2000, undertaken by Mr Henk van Deuren, an Engineer who has recently left VicRoads.

Query 4:

Of the complaints registered (from a list of 158), these can be categorised as:

General ... 70 No
Roadside ... 23 No
Traffic Management? ... 19 No
Pavement (potholes, etc.) ... 34 No
Projects (new work) ... ?5 No
Other Regions ... 7 No (not counted in this section)

In response to the one report relating to the specific section, VicRoads arranged for the installation of temporary "skidding" signs and permanent signs were to be considered. It appears that the signs were subsequently removed. How these signs were removed has not been established. Only the maintenance contractor would have been authorised to place or remove signs. The contractor has advised he did not remove the signs."

In view of the answers in VicRoads' letters to Sergeant Bellion's inquiries the following evidence of Potesta, (as indicated a Civil Engineer and Maintenance Team Leader from VicRoads, Maintenance Section) is of concern. Potesta did not advise his superiors to tell Bellion about the problems with the road surface as Bellion only asked about "*bleeding*." The following questions and answers in Potesta's evidence are illustrative (partly quoted above):

*"**Q:** And certainly there were records for that site showing that it had a severe case of texture loss?*
***A:** Yes, texture loss.*
***Q:** And what's that, that includes bleeding, doesn't it? We went through that yesterday?*
***A:** My definition of texture loss is a bit different to saying it's bleeding. If you like I can give you my definition of what texture loss is.*
***Q:** What is it, in your definition, Mr Potesta?*
***A:** Well my definition, it's taken to mean a reduction in surface texture and is the relativity between the stone and the bitumen binder. A score of 5 is taken as high texture loss, ie a flush surface.*
***Q:** A flush surface is an indication of texture loss?*
***A:** That's right.*
***Q:** That's what you've got?*
***A:** Yes.*
***Q:** And a flush surface is another name for bleeding, isn't it?*

A: *I know - that's not to register as my interpretation.*
Q: *Mr Potesta, isn't bleeding another name for flush surface?*
A: *Well in the context of the way of interpreting that, is there any notation of bleeding - there was no notation of bleeding at this site.*
Q: *There was a notation of severe texture loss over a number of years at that site, wasn't there, specifically?*
A: *Yes, there was a record of 5 over so many years.*
Q: *And you had those at the time you completed your answer to the question of Mr Bellion, didn't you?*
A: *I, as I say, I was interpreting it on the basis of the comments that are usually put in the - - -*
Q: *Mr Potesta, it's an easy question. You add these bituminous reports, surfacing reports at the time you completed this E-mail?*
A: *Yes, I would have had.*
Q: *And you knew that there had been an obvious sign of a severe problem at this intersection at the time you completed this E-mail, didn't you?*
A: *Well, that interpretation could be made, I didn't intend it."*

Apparently Mr. Potesta drafted the answers for Gidley. In this context Counsel for Mr. Naranpanawa noted:

"Mr Potesta obtained the evidence available to VicRoads immediately after this accident. He knew, or ought to have known of all the matters set out above. The draft answers given by Mr Potesta to Sgt Bellion's questions [see Exhibit PP] were ultimately incorporated in VicRoads formal response to Sgt Bellion. On any view these answers are untrue and misleading. VicRoads were well aware of the documented severe loss of surface texture and traction problem for this section of road. The answers to Sgt Bellion are another clear indication of VicRoads application of its policy of liability incident management. VicRoads did not want to admit that it had been aware of a significant problem with this section of roadway for years but had failed to address that clear danger."

Counsel for Mr. Naranpanawa noted that Mr Anderson agreed that:

"...VicRoads response to Sgt Bellion's questions was less than full and frank. He was unaware that this had occurred. It is respectfully submitted that Mr Anderson was unfortunately unaware of the policy and approach of others in VicRoads to the investigation of this accident."

There is another example of an "*inaccurate*" response found in the evidence of Mr. Potesta at T 638/9 where he confirms his email of 29 January 2001 (to Bill Hooker who was acting for a short time in Gidley's position at VicRoads) that:

*?"**Q:*** *Scrim data for each carriageway dated April 96; not show a significant problem? is that what it says?*
A: *Yes, just quickly glancing over it, I didn't see a significant problem overall; OK*
Q: *So you checked it, you say, the scrim data material for traffic going for both ways?0h, for the information available; I think it's for both carriageways.*
A: *It says "each carriageway", and what you reported it to the boss, isn't it?*
A: *Yes; I expect there would have been.*
Q: *(Witness shown Exhibit EE?) well, it was pointed out to me this morning that is for the traffic going away from Melbourne, but that's certainly for one of the bits that you are talking about in this document, isn't it?*

A: *That's right.*
Q: *There was a major spiking in relation to what your surface tension - what's the expression?*
A: *Here in this area adhesion.*
Q: *Traction?*
A: *Basically.*
Q: *There's a major strike for traction loss in the very area we are talking about, isn't there, Sybella Avenue?*
A: *I'm not - I can't say that's Sybella Avenue; there's no reference to Sybella - oh, yes, there is.*
Q: *Yes, there is; yes, there is, isn't there?*
A: *Yes, OK; yes,*
Q: *There*
A: *Right.*
Q: *In Sybella Avenue there is a major strike of a significant nature showing a major traction problem there?*
A: *Yes, in the intersection area.*
Q: *Yes?*
A: *Yes.*
Q: *At the very area we are talking about there's a spike that puts you into, I think, we have been told, well over the dotted line into the areas requiring investigation?*
A: *0h, no, not really; that's the intersection of Sybella ?*
Q: *Is there are spike there?*
A: *Yes, there is a spike there, yes.*
Q: *Is it a spike that goes well into the area that requires investigation?*
A: *0h, yes; this is on the - on the left of?:the line, that's right, yes.*
Q: *It's an abnormality, isn't it?*
A: *A local one, yes.*
Q: *Indicating a problem in that local area?*
A: *At that local point, yes.*
Q: *Yes, now, you've said there's no - what you say in your email to the boss - is that scrim data that you have in front of you?*
A: *Yes, that's right.*
Q: *Not showing any significant problem?*
A: *Yes, that's right.*
Q: *There's a significant problem displayed by that, is there?*
A: *Yes, but I was looking at aggregate, right.*
Q: *Not just locally?*
A: *No, I wasn't looking at specific - "*

It is noted that VicRoads, in the explanation on the information delivered to Sergeant Bellion, stated:

> *"Early in the week following the accident the Manager Legal Services spoke to Mr Potesta and asked him to provide specific information in relation to the accident site for the purpose of providing legal advice to VicRoads. Mr Potesta responded with the information on 2 February 2001..."*

Mr. Potesta had information that was highly relevant to the Coroner's investigation - yet it was not forthcoming from VicRoads. VicRoads did not supply the critical test data at this early stage of the investigation. Clearly it should have, but the information actually supplied was *"less than full and frank."*

There is another example of a failure to provide critical information to the Coroner at an early stage. Cootes submitted that:

> *"...a comparison of Exhibit L1 (dated 8th February 2001) and documents at C B 524/525 is instructive. Then, the information in these documents should be contrasted with the content of Mr. Miller's report to Mr. Wall which is not incorporated in the information supplied to the Police as they investigated for the purposes of this inquest?."*

THE `*MILLER* WARNING' - A POSITIVE EXAMPLE OF COMMUNITY RESPONSIBILITY IN THE TRANSPORT INDUSTRY

Cootes, a major transport company, submitted:

> *"...it is a sad fact of commercial life that trucking companies are also involved with vested interests. In the past and in previous inquests, Your Worship has been critical of the industry with good cause. But there are times when a point can be better made with praise."*

And submitted that:

> *"Mr. Miller acted with the interests of the driving community in mind* ***in an attempt to prevent this tragedy happening.*** *His conscience told him to do what he could to alert the proper responsible authority to the danger hidden from even the most diligent of motorists. He deserves public recognition for his highly principled actions. And by doing so, Your Worship will promote the public involvement in and success of a Black Spot program. The only way such an advance warning system will achieve its object is to have a public awareness and ownership of it."*

This is agreed. There is no doubt that Mr. Miller acted with an appropriate degree of public spirit and concern for the safety of his community. He did all he could to avoid the tragedy, and his actions are desirous of commendation. His actions are but one example of how those working in the Transport Industry can help to improve public safety. This Court is also aware of other areas in which the Industry is working in a pro-active way with regulators and others to improve public safety.[16]

THE TRANSPORT INDUSTRY'S POTENTIAL ROLE IN THE IDENTIFICATION OF ROAD HAZARDS

Mr. Miller's attempts at warning one of the States principal road safety organisations should be seen by responsible members of the Transport Industry as an indication of the potential that every transport operator and driver has to help identify problems, save lives and reduce injury on our roads.

The fact that tragically, Mr. Miller's warning was not adequately addressed, should prompt VicRoads (and TAC) towards a greater level of work with his industry to find ways of improving

[16] The Transport Industry Safety Group (VicRoads is also a member of this Group).

and simplifying the reporting system to help maximise the potential for reporting by the transport industry.

This case has demonstrated, in spite of the tragic outcome, that a pro-active Transport Industry assisted by VicRoads and TAC has potential to improve safety on our roads.

Graeme Johnstone
State Coroner
31st July 2003

Messrs Ian Hill QC and Michael Croyle for Cootes Holdings,
Mr. Phillip Priest QC and Ms. Sarah Hinchy for VicRoads,
Messrs. Geoff Chettle and Gerard Mulally for Mr. Ranjith Naranpanawa,
Ms. Anne Magee for the Guajardo family,
Mr. Gerald Lewis for the Transport Accident Commission, and
Senior Constable Wayne Kohlmann, Assisting the Coroner.