

# BANBURY

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## ACCIDENT REPORT

### PASSENGER VEHICLE

COMPILED BY:

Peter Banbury

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<b>INCIDENT DATE:</b>	16 <sup>th</sup> June 2010	<b>LOCATION:</b>	Setters way / R300
<b>VEHICLE 1:</b>	Mercedes Benz C180K	<b>REG. No:</b>	XXXXXX
<b>VEHICLE 2:</b>	Toyota Yaris 1.3	<b>REG. No:</b>	XXXXXX
<b>DRIVER 1:</b>	XXXXXX	<b>DRIVER 2:</b>	XXXXXX

#### GENERAL DESCRIPTION:

The accident occurred at approximately 12.30am on the 16<sup>th</sup> June 2011 when the Mercedes C180k being driven by Mr. XXXXXX collided with the Toyota Yaris being driven by Mrs. XXXXXX on the N2 towards Somerset West near the off ramp of the R300.

**ROAD CONDITIONS:**

The road is a general motorway in very good condition which at the time of the accident was wet due to continuous rainfall. The estimated level of adhesion on such a road in these conditions would be approximately .45mu ( $\mu$ ), effectively extending any emergency braking stop by approximately 35%.

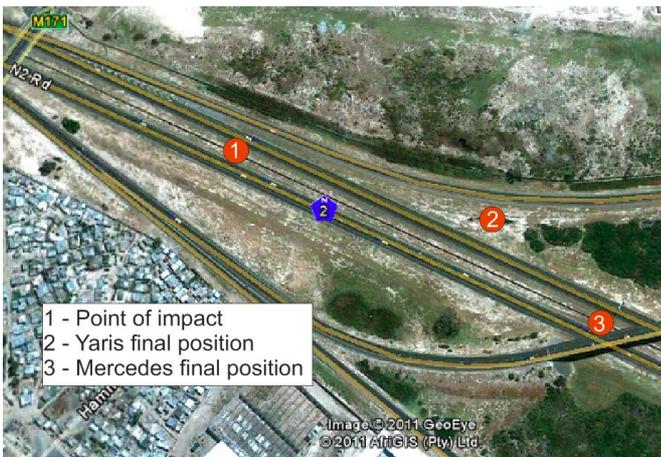
**VISIBILITY:**

Being the early hours of the morning, it was dark, visibility was poor due to the rain and the fact that the road lighting was not on at the time of the accident.

XXXXXX had the headlights of the Mercedes Benz switched on with low beam selected, this would have illuminated approximately 75 metres directly in front of the vehicle.

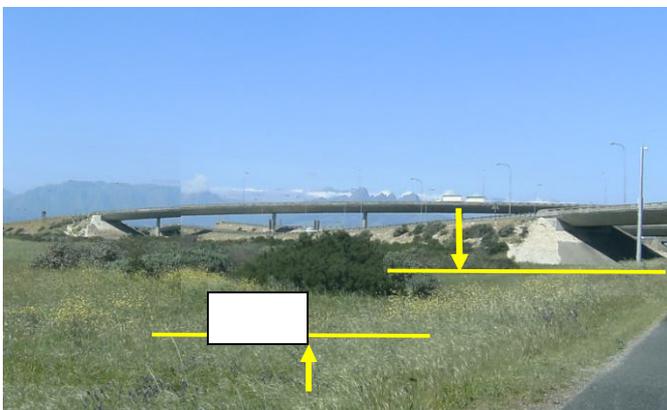
As far as I am aware, there were no tests carried out on the Toyota Yaris driven by XXXXXX to ascertain whether or not the rear lights on her vehicle were on or in an operative condition at the time of the accident.

**ACCIDENT SCENE:**



The Mercedes collided with the Toyota at point 1.

The impact caused the Toyota to leave the road and travel down the small embankment where it is spun in the wet grass and rolled at least once ending up on its wheels behind some bushes.



The height from the road surface to the bottom of the small embankment is approximately 2.5 metres.

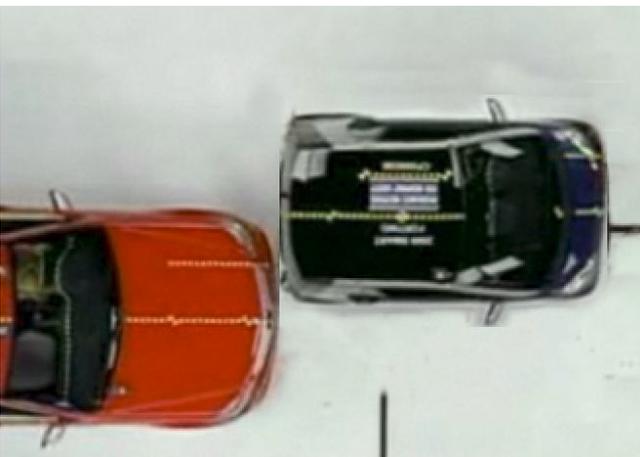
The final position of the Toyota, shown here as the white rectangle is below the road surface and behind the large bush if viewed from the final position of the Mercedes.



The view from the final position of the Mercedes shows that even in daylight the final position of the Toyota is out of the line of sight due to the drop in elevation and the bushes.

At night, the Toyota would have been totally obscured to XXXXXX as would the view of the Mercedes from the final position of the Toyota.

### IMPACT DAMAGE:



The picture on the left illustrates approximately the type of partial impact that the two vehicles endured.

The impact zone covers approximately 30% of the front of the Mercedes on the left side.

The impact zone on the rear of the Yaris also covers approximately 30% of the width of the vehicle but obviously is on the rear right hand side.

### Mercedes Benz C180K



The Mercedes has acquired moderate superficial damage to crumple zone components such as bumper, bonnet, headlamp and inner mudguard.

The right hand side of the vehicle shows little signs of the impact, notable is that the windscreen is in place and that there is no distortion of the windscreen aperture.



The left side impact absorber, bumper support and front chassis leg extension are in place and intact.

### Toyota Yaris



The initial impact damage caused to the Toyota was limited to the right hand side of the bumper, lower right hand side of the rear hatchback, right rear fender and possibly the right left tyre and wheel.

### IMPACT SPEED:

We can deduce from the relatively light impact damage caused to the two vehicles and the fact that the rear seat passengers in the Toyota passengers that the impact speed was not high.



The physical evidence shows that difference in speed between the two vehicles was considerably less than 50 km/h, the impact speed was most probably closer to 30 km/h.

The clip on the right shows the severity of the damage caused to the same type of Mercedes vehicle as being driven by XXXXXX 100 milliseconds after the 30 mph (50 km/h) partial impact as shown in the earlier picture.

Note the windscreen separating and the complete destruction of the front of the vehicle.

The yellow arrow shows the direction of travel of the Mercedes prior to impact. The red is that of the smaller car

The drivers' airbag on the Mercedes deployed, this would have been expected as the accelerometer trigger for the SRS system as fitted to the Mercedes will deploy the device upon detecting a deceleration of the vehicle above approximately 1.4g, which is the equivalent of crashing into a collapsible barrier at around 25 km/h.

The sensationalism that surrounded the incident in the press and one official statement that the Mercedes smashed into the rear of the Toyota "at high speed" is entirely subjective and in this case misleading as it is reported the occupants of the Toyota stated they were traveling slowly in the left lane and the physical evidence is there to show a low difference in vehicle speeds at the point of impact.

### **CONSEQUENTIAL DAMAGE / INJURIES:**

After the collision, the Mercedes left the road to the right hand side coming to a halt without making any further contact with neither vehicle nor roadside object.



The right side of the Mercedes remained unscathed with the only sign of damage being the bumper which due to its left side impact, dislodged from its clips.

It is clear that the Toyota left the road and entered the central reservation between the off ramp to the R300 and the N2, which as shown earlier is considerably lower than the surface of the road. In doing so, the tragedy is that it rolled over at least once.



When considering the relatively light damage to the Mercedes Benz as well as the matching initial impact damage to the rear of the Toyota Yaris, it is clear that the consequential damages to the passenger cell in the ensuing roll over were the only reasons for the casualties that its occupants received.

## **DETERMINING OF SPEEDS**

Following the impact between the two vehicles, the Mercedes of XXXXXXXXX came to a halt approximately 130 metres further along the road. It is Mr. XXXXXXXXX testimony that although he was not speeding and although initially shocked by the unexpected impact and subsequent deployment of the airbag, his natural reaction was to stop his vehicle as soon as possible.

Given the road conditions and the fact that during his attempt to stop Mr. XXXXXXXXX Mercedes was traveling along a stretch of wet grass having just had an airbag deploy in his face, if we assume his initial speed was 120 km/h, the distance within which he came to a halt gives a mean deceleration of around 4 metres per second per second which is in line with the expected performance of an ABS equipped vehicle such as the Mercedes on a surface with limited adhesion as was the case.

## **CONCLUSION:**

It is my opinion that had this accident happened on any stretch of the same road where there were either barriers on both sides or a greater space around the vehicles, the Toyota would not have rolled over and the tragedy of the fatalities would not have occurred and the matter would have been treated like any other road incident.

I trust this satisfies your requirements, please feel free to call me for any further assistance.

Kind regards,



Peter Banbury  
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