

Accident investigation



by Annie Rushton

Accident investigator, Mike Davis, has come a long way since he began his working life as a postie in Tasmania's Fingal Valley.

With little opportunity likely in what was then the Post Master's General department (PMG), Mike joined the police force 30 years ago in June 1972.

He was initiated into policing as a junior constable in the Fingal Valley, a protege of Inspector Otley Carr, and later graduated from formal training in Hobart in August 1973.

"My first appointment was to Traffic in Launceston as a motor cycle officer. Never having been on a motor bike before, I got my licence and some of the old hands instructed me and the other new blokes for two days before letting us loose on the streets on our Honda 450ccs.

"In those days we were allowed to pursue vehicles, and I rode hard and fast and had more than my fair share of spills. In fact I was always falling off and got the nickname of 'Autumn Leaf!' I rode the bikes

till 1980, when I finally had one spill too many and broke my collar bone, which meant 9 weeks off. The boss decided it was time for a change and I was transferred into CIB."

Mike trained as a detective and in time was promoted to sergeant. He remained in CIB until he returned to the Launceston Watch in 1988, in charge of a shift on the city beat and general duties. In 1993 he took over the duties of Officer in Charge of Accident Investigation for the Northern police district.

"I had always been interested in this area of work since my motorbike days, when I had attended three or four hundred crashes, an interest accentuated by working in CIB.

"For the first four years I was the only officer and I was on call 24 hours a day 7 days a week. In the northern district we average about 15 fatalities a

year, although in 1996 I attended 22 fatalities, and as many serious injury crashes.”

Davis admits it was not easy going because only rudimentary training was available in Hobart, a one week course on basic investigation and reconstruction. Since then he has attended two courses on the mainland run by American universities on crash investigation and reconstruction. The first, on advanced accident reconstruction in 1997, was by the Texas Engineering Extension Service, and the



Mike Davis

second, two years later, was facilitated by the Institute of Police Technology and Management (North Florida) in Newcastle. This two week course drew 23 students from all over Australia, including three Tasmanians. A five hour exam with a 75 per cent pass mark saw the three Tasmanians, who had paid all their own expenses, pass with flying colours. Now qualified Collision Reconstructionists, they could give expert evidence in court on such matters as vehicle speed and pre and post impact dynamics. Up to this point, case law restricted accident investigators to evidence based on eye witness accounts, which greatly lessened chances of conviction.

Davis’ skills now enable him to go to a crash scene and gather all the evidence required without the need to initially speak to anyone. “If we do our groundwork and investigation properly at the time, every road scene will tell the story, the evidence cannot be hidden. Using Newton’s laws of motion, we can say how the crash occurred, calculate the speed and what happened at each instant to the cars.”

Rural crashes comprise a significant proportion of the crashes Davis and his partner of three years, Constable Peter McCarron, attend. A typical scenario involves the car taking a bend in the road at high speed, the wheels leave the bitumen and hit the gravel. The driver panics, over steers and the vehicle loses traction. It rotates and spins out of control, and either hits an oncoming car or manages to find the largest tree in the vicinity and impacts.

What physical evidence is important? The tyre

scuff marks, known as ‘yaw’ marks, show the side slip of the vehicle. The point from which the first mark starts are used to measure and calculate the speed of the vehicle at the time it lost control. In fact, says Davis, this is all that is needed to determine the speed.

Intersection crashes are a little different. Here ‘George’, the Geodimeter 500 Survey Total Station, is invaluable. Davis and George have worked together to determine the cause and dynamics of collisions since completing a course of instruction at Microstation Graphics course in 1994.

“Using George I can survey the entire crash scene and discover the horizontal and vertical distances involved in the crash, and download data to a computer to provide us with a detailed plan of the crash scene.

“With the surveyed plan available, and with the aid of the computer drafting program, I can prepare a collision diagram. A model of the vehicles is drawn to scale from the manufacturer’s specifications. I can overlay those models on the plan to determine all aspects of the impact, the vehicle positions at impact, and obtain details for a speed calculation.

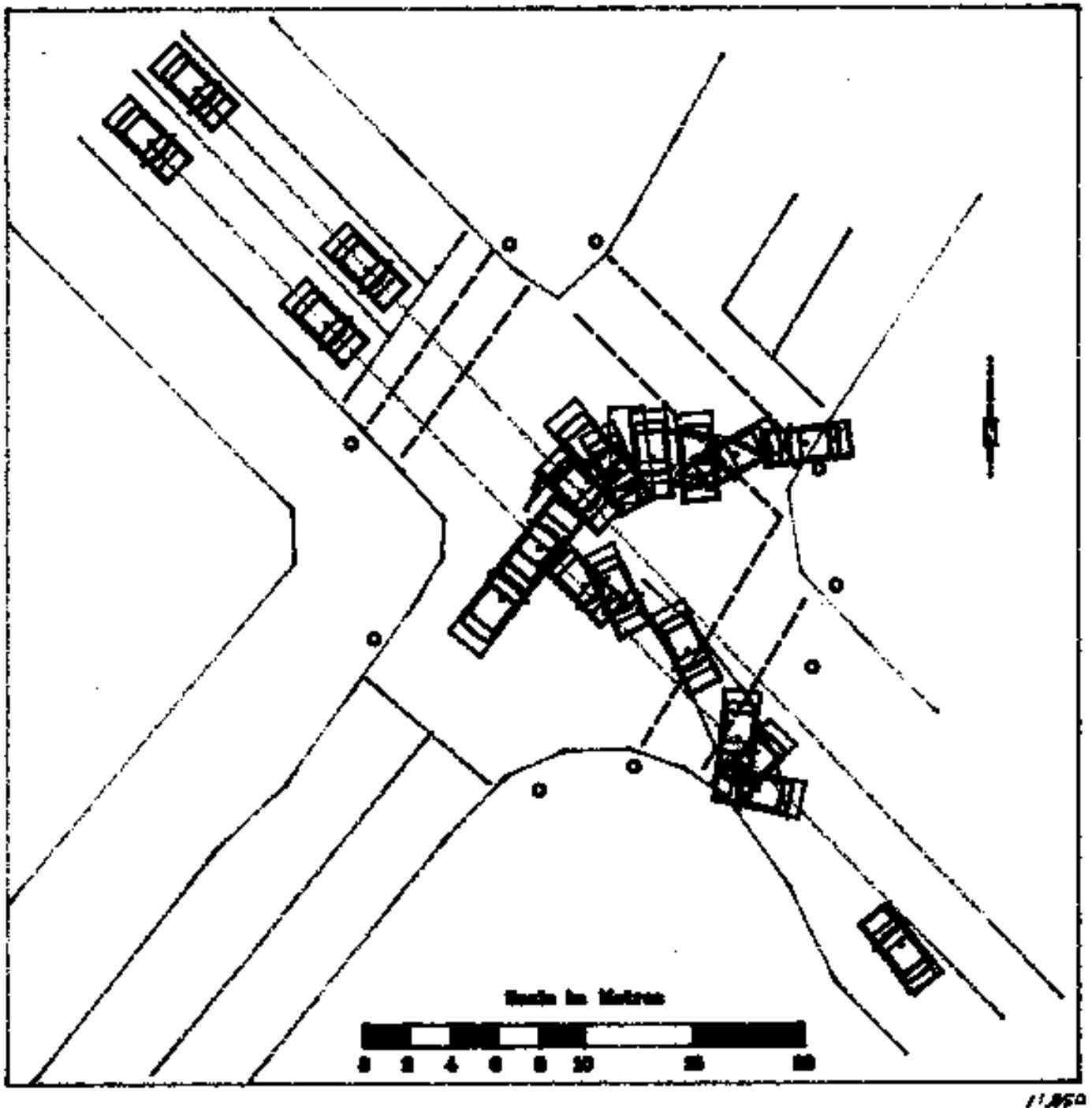
“This is a highly scientific process which provides hard core factual evidence for use in court. As a result, many defendants have changed pleas to guilty and we have obtained convictions for negligent driving and manslaughter that we would not otherwise have been able to prove.

“For example, two years ago there was a crash at Perth when a car sped through a Give Way sign colliding with another vehicle and killing a four-year-old passenger. We surveyed the scene, generated the plan and using the mathematical process of Conservation of Linear Momentum, calculated that the driver was travelling at 106 km per hour in a 60 km per hour zone. On the strength of our evidence, he was charged and convicted with manslaughter and sentenced to twelve months. If we had not had this expertise, we would have been reliant on eye-witness accounts which could not have reliably provided the actual speed.”

The scientific aspects of accident investigation continue to advance. An American device called a Vericom VC 200 brake test computer was recently purchased which enables skid tests to be carried out at the crash scene. “Plugging into a cigarette lighter, a skid test is conducted (non ABS), then it provides us with the data of the time over the skid, the distance skidded, the speed of the vehicle at the time of the skid test, and the drag factor or co-efficient of friction of that particular road surface.”

Tasmania is ahead of NSW and Western Australia in the use of technology. NSW still uses stereometric units which can delay the reconstruction plan by up to a month. Other states have dedicated reconstructionists with separate investigators, but here in Tasmania it’s ‘a one man band’. The accident investigation team conducts the interviews, carries out the investigations, reconstructs the scene, writes the reports, and follows up in court.

Despite modern technology, there is still a role for eyewitnesses. Direct evidence from witnesses pro-



vides corroborative evidence of what occurred at the time of the crash, details of the driving of the vehicles prior to impact, and events occurring after impact.

Unlike criminal cases, people are only too keen to be involved as most will not tolerate dangerous driving. A strong element of 'it could have been me' motivates many to come forward, and go through the heat of cross examination in court. An integral part of Davis' job is to maintain contact with all his witnesses and the families involved, providing comfort and support wherever possible.

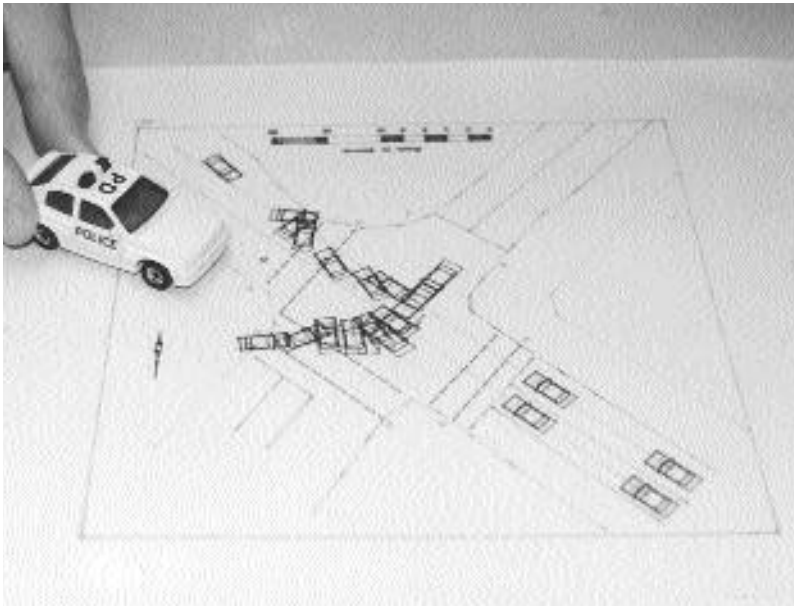
Davis believes it is essential that high ethical standards and work practices are maintained. "We can-

not just guesstimate, we have to back figures with fact. We make a practice of always outlaying all our figures and calculations and providing them to the lawyers involved – and this often results in a change of plea to guilty. We have had six of our cases go to the Supreme Court on charges of manslaughter or death by dangerous driving and all obtained convictions.

"It's also really important for us to be able to tell the families of the victims what has happened. We always give the families a couple of days space before we contact them. In a way our role here is often that of a counsellor, as families want to know exactly what happened, and it is important that we

can tell them. Sometimes it can be traumatic for us as well. I remember speaking to the father of a deceased boy a few years ago. He asked for details, and I was not aware that he did not know all the facts. He thought his son had been killed outright, when in fact he had died on the way to the hospital, and I had to tell him. Counselling families can be really draining."

Nowadays Davis always refers witnesses, family and defendants to the Road Trauma Support Group. A volunteer service, the group was initiated as a self-help group in Tasmania by two women whose children had been killed. It began in Launceston in 1992, and has since has spread nationally.



"A prerequisite of the accident investigation is the ability to work quickly. This applies at the crash scene, to minimise road closures, and also back at the office, writing reports for the coroner, media releases etc. and figuring out our calculations, because you never know when you will get another call. At one stage in 1996, we had a fatal every week for 10 weeks, and one of them involved four deaths! The pressure can really be quite great.

"The collision site is not like a murder scene, which can be closed off for days to revisit the evidence. We work backwards from the impact to the start of the crash. We have to be able to relate every mark on the road to the collision. And we only have the one opportunity to gather all the data."

Although fatals and serious injury crashes comprise the bulk of the work of the Accident Investigation unit, Davis now has the task of investigating all police car crashes, not as in internal investigation process, but as a completely independent inquiry.

In April last year, he was called out to a collision in Elizabeth Town which involved a police vehicle carrying three officers. A young man lost control and side swiped a caravan, tearing the side off it. He spun up the road and collided head-on with the

police car, which was then struck by another car behind. A fully laden petrol tanker then came to a stop just 15 metres short of the police car. Evidence collected from the scene resulted in a the conviction of the driver for a crash which could have been far more serious than it was.

Dealing so frequently with death and carnage is not everyone's ideal job, so how does Davis deal with it?

"I've been policing for 30 years, and always wanted to work in this area. So far I have never had a problem with it – it's a job that has to be done and someone has to do it. During my time in CIB we dealt with a lot of murders and suicides, and I think that helped me. I recall very clearly one incident when we were called to a body that had lain beside a road for over three months. I had to stand over it for an hour while the pathologist was taking notes. We even had our lunch on the side of the road – you just did it! Over time you get hardened to it. But you do have to have compassion, it's not all 'hard and tough copper' stuff. There is another side to it. Every fatality is different, they can be very emotional and all are tragic.

"I was called out to a collision in the Fingal Valley just before Christmas. A 70-year-old woman had fallen asleep at the wheel at 10am and hit the biggest tree on the wrong side of the road. The officer in attendance discovered that her husband had died of cancer the day before, she had obviously not slept that night, and was on her way to collect her son from the airport.

"One of the saddest cases I have had to deal with was not long after I started in the job, a head-on collision one evening near Mathinna. One car was speeding at 130km per hour and hit another travelling at 120km per hour. Both young drivers were killed, as was a five-year-old passenger. The first on the scene was the father of one of the drivers – on the back seat his five-year-old grandson was dead, his son was dead in the front, and on the road was the body of his nephew. It was a major- local tragedy, and the whole town received counselling. This could probably only happen in Tasmania, where everyone in a town knows everyone else."

Despite the emotional toll at times, Davis loves his work.

"Not a day goes past when I am not thinking about accident investigation. It is a field that is always posing challenges, and it's a job I really enjoy. Over my eight years in the job I have investigated 150 fatalities and 150 serious crashes, and there are no unsolved cases!

"It's not really all blood and guts as people might think, it's really about telling a story, and I never tire of it. And I certainly have no plans to leave. I thrive on stress, and the trauma has not had a negative effect on me. I concentrate on all the positives, and the job satisfaction after 30 years all up in the force, is still as strong as ever.

"The field of accident investigation is an expert area, and unfortunately the only way to build your reputation as an expert, along with your credentials from training, is the attendance at crash scenes."