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Membership of the Association is available to all who have been members of VicRoads or forerunner organisations or the spouse of deceased members and bestows on them all the rights of the Rules of Association. Cost of membership is a once only fee of \$50. Enquiries about membership or receipt of the Newsletter by e-mail should be directed to the Secretary, VicRoads Association, by phone or e-mail as shown above. Visit our website at <https://vicroadsassociation.org>

Dear Members

Autumn is definitely my favourite time of the year. Its golden afternoon sunlight transforms the countryside and our beautiful old buildings into fine art.

One of our favourite autumn sights is the glorious claret display of ornamental grape on the one of the high walls of the old Castlemaine Gaol overlooking the town.



In this edition we are pleased to present the first instalment of Lance Midgley's fine article highlighting the notable achievements of the Materials Research Division.

David Jellie farewells Bill Brake who served as Chief Engineer in the 1970's and later became a Board Member. Bill passed away in May just short of his 102nd birthday.

David also reviews our recent visit to the NBN Headquarters at Melbourne's Docklands, and I revisit my time in the VicRoads Registration & Licensing Department during the introduction of national transport law reforms between 1994 and 1998.

WHAT'S COMING UP?

Our 2025 event calendar

Date	Event	Contact Person
Monday 2 June	From 12 noon. Occasional Lunch, Doncaster Shoppingtown Hotel	Just turn up
Wednesday 11 June	Gathering at 9.30 am at Manningham Hotel for a short bus ride to the Koonung Project Office site for a 10.00 am start. Presentations by Sebastian Motta - Director, Delivery NorthEast Link Program, Major Roads Projects Victoria and others at followed by lunch at 1.00 pm back at the Manningham Hotel. A small number of spots are still available	Jill Earnshaw jillmearnshaw@gmail.com
Monday 30 June	From 12 noon. Mid-year lunch at Waverley RSL	Ken Vickery kenvickery@tpg.com.au
Monday 14 July	10 am TAC presentation on road behaviour and tour of Road to Zero Education Centre at Melbourne Museum followed by lunch at La Spaghetтата restaurant in Lygon Street	Jill Earnshaw jillmearnshaw@gmail.com
Monday 4 August	From 12 noon. Occasional Lunch, Doncaster Shoppingtown Hotel	Just turn up
Monday 25 August	Guided tour of the Hellenic Museum at 280 William Street in the city followed by lunch at the Mint Hotel	Patsy Kennedy Kennedp54@hotmail.com
September	French Impressionists Exhibition at NGV, 180 St Kilda Road, Melbourne, followed by lunch at Young and Jacksons. Date and time to be confirmed.	Jim Webber jameswebber1717@gmail.com
Monday 6 October	12 noon. Occasional Lunch, Doncaster Shoppingtown Hotel	Just turn up
Thursday 9 October - Friday 10 October	Regional Visit to Ballarat with a roads presentation on Thursday afternoon followed by dinner at the Ballarat Leagues Club. Friday presentation and tour of Alstom Train factory in Ballarat followed by dinner at the Ballarat Golf Club.	Jill Earnshaw jillmearnshaw@gmail.com
Friday October 31	Annual Golf Day Green Acres Golf Club, East Kew	Jim Webber
Monday 3 November	From 12 noon. Occasional Lunch, Doncaster Shoppingtown Hotel	Just turn up
Thursday 11 December	From 12 noon. Christmas lunch at Waverley RSL	Ken Vickery kenvickery@tpg.com.au

MEMBER COMMENTS AND NEWS

From Ken Sinclair

[Our Secretary Jill Earnshaw received this message from Ken Sinclair, describing some of the interesting characters involved in the often difficult job of protecting our road infrastructure from overloaded trucks.]

Dear Jill

Just a thought about Anzac Day.

Three of my Traffic Section Colleagues served in the armed forces. Don Payne (Metro & Bendigo Traffic Section) served on the naval/police patrol on the Thames River. Lindsay Sibbett (Horsham Traffic) served in North Africa and Bill Miles Bairnsdale Traffic, served in New Guinea. Bill was taken prisoner by the Japanese and incarcerated in Changi Prison.

Bill related some of his experiences under the Japs which were horrific and to add to his woes Bill enlisted with a wooden leg. How he passed the medical was always a mystery, but knowing Bill, nothing would have stopped him from going. Harry Everard, Bendigo Traffic served in the Military Police. I don't have any detail on other Traffic Section Officers. My father Charles was in the Victoria Police checking on fuel distribution and rationing.



Ken Sinclair – April 2025

In the Cann River Hotel where Bill Miles spent time checking/weighing heavy log traffic on portable scales, there is a mural on the wall, with a caption that reads "Overweight by Miles". Those portable scales weighed 35 kgs each plus ramped boards to enable the tires to drive up onto the scales.

Don Sharkie and I spent ten days weighing all truck traffic round the clock when the concrete bridge in Cann River was severely damaged and collapsed by a huge red gum butt log striking a bridge support when the river was in flood. The transport industry was advised that no overloaded vehicle would be allowed to cross the temporary Army Bailey Bridge installed to keep the highway open.

Ten days of lifting and installing portable scales for 14 hours was a mammoth task. We were assisted by a CRB worker from Traralgon. All heavy transport vehicles were required to produce a weighbridge docket detailing gross vehicle mass and individual axle masses. A CRB weighbridge has been installed at this location.

Regards, Ken Sinclair

From Tom Glazebrook and Laurie Jones

[Tom Glazebrook rang David Jellie to enquire about Laurie Jones – especially his date of birth and his involvement in Warrnambool Division. David sent an email to Laurie and Laurie's response is quoted below.]

Hello David,

Thanks for your e-mail, and more particularly for including the stories about Bill Brake. Bill was in my year at University – I don't think year 1, but certainly in my later years. I was born in 1927 and completed my High School and University education without any disruption by war service, etc. However, my father got involved. He'd been an officer in the Militia pre-war and was away most of the war years including about four years in the 9th Division in the Middle East and PNG.

But to go back to Tom Glazebrook's questions - I was born on 19/10/27 and went to the local State School in West Preston, and then did years 7 and 8 at North Fitzroy Central School in the hope of going to Melbourne High School - which I managed to do. There were several three-year Technical Schools, and Northcote and Coburg High Schools were nearer to home but they only went to year 10. Melbourne and University High were the only High Schools which went to pre-Uni level - plus of course a number of Private Schools.

But to finish the story - I went to Melbourne High School from 1941 to 1944, and then to the University of Melbourne from 1945 to 1948.

Then, at the start of 1949, I got a job with the Irrigation Department in Queensland. At the time they had great plans for the Irrigation Department and about five or six from my university year went there, but the Premier Edward Hanlon got tossed out late that year - and their big plans for the Irrigation Department evaporated. So, after nearly two years, I left and went back to Victoria, where I got a job with the CRB and started with Divisional Engineer Bill Pascoe in Warrnambool Division - in, I think, early December 1950.

You said Tom Glazebrook asked about my status in Warrnambool Division and the simple answer to that is that I was put in immediate charge of the Division's road construction program, excluding the Bituminous Surfacing (B.S.) work (which was managed by the Assistant Divisional Engineer (ADE), and later by a dedicated Engineer or Engineering Assistant), and also excluding all significant bridgework.

After Warrnambool I transferred to be ADE in Ballarat Division, and then to other jobs as detailed in earlier correspondence.

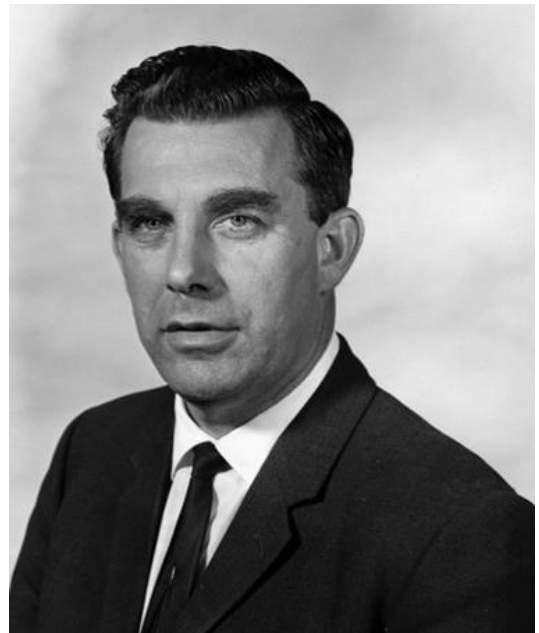
Regards, Laurie Jones

[David passed this information on to Tom and they both agreed that Tom was probably the Association's oldest member at 99 years of age.]

Tom was born on 7 May 1926 in Rockhampton, Queensland. His father worked with the Commonwealth Bank and he was transferred to a position in Melbourne in 1940 - just before Tom's 14th birthday.

His family lived in Auburn Road Hawthorn and Tom went to school at Scotch College. He used to walk with two of the Murray brothers who were neighbours and one of them is the oldest living Scotch old boy - at a mere 109 years of age. He makes Tom look like a chicken!

Other nonagenarians in our membership (in no particular order) are Stan Hodgson, John Clark, Jim Winnett, Peter Hosking, Geoff Allen, Vic Asher, Reg Marslen, Ian Goldie, Bill Thomas, Mervyn Williams, John Waddell and Jack Waters. Are there any others? If so, please let David Jellie know on pdjellie@hotmail.com David spoke to most of them and extended the Association's best wishes.



Laurie Jones - circa 1970



Tom Glazebrook - 2025

From Lance Midgley

[Lance sent us this picture of his recent catchup with his Bendigo colleagues.]



Back row L to R: John Esnouf, Brian Hogan, John Baldock, Lindsay Clay.
Front row: Bob Adams, Lance, Mal Kersting.

WHAT'S BEEN HAPPENING?

National Broadband presentation. Docklands, 15 April 2025. By David Jellie

This was one of the most interesting visits our Association has ever experienced and my description of it won't really do it justice. We received a most friendly welcome and enjoyed a delicious lunch after the session. One of our group, who arrived late, said the visit was worthwhile for the lunch alone!

The visit was initiated by Mark Trajcevski, Chief Audit Executive of NBN and son of Dana and Jim. Jim and I were close colleagues for many years culminating in the construction of the elevated section of the West Gate Freeway over South Melbourne. Jim was the project's Construction Engineer overseeing the very rigorous procedures for erection of the pre-cast bridge segments that were manufactured in the on-site pre-casting factory. For the record, Graeme Nelson was the engineer supervising the manufacture of the bridge segments. The erection of the segments using specialist launching girders required attention to exacting construction procedures involving the operation of the girders as well as extensive traffic management. Jim and Graeme played pivotal roles in the success of the project which, at the time, was the largest project ever undertaken by VicRoads.

From time to time, we had open days on the project - especially for family members - and I can remember Mark and his family visiting the site. That would have been nearly 40 years ago so it was great to see Mark after all these years – and this time our roles were reversed.

Our visit to NBN was split into two parts. The first was a slide presentation given by Cushla and Helmuth. However, due to the high-level security protocols in the Network Operating

Centre, unfortunately NBN were unable to share the slides presented on the day. So, I will describe just one of the issues that she presented – emergency response.



Cushla managing the slide presentation.



Cushla's presentation covered a description of the physical assets of NBN and its responsibility in providing connection across Australia – not only to households, businesses, communities and institutions but also to other government departments and the defence forces.

NBN places great importance in planning for disasters such as flood and fire. NBN has installed more than 1000 NBN Disaster Satellite Services across Australia in emergency management sites and evacuation centres. It works closely with emergency services and power companies to prepare for potential disasters to ensure that connectivity can be restored safely and as soon as possible.

The locations for the installation of emergency satellite infrastructure have been nominated by state and territory governments and relevant emergency service agencies, ensuring they exist where they are needed most.

They also complement a suite of existing NBN connectivity solutions in place to support communities in the event of an emergency. These include transportable assets, such as broadband-enabled Muster Trucks, Network on Wheels, Multi Tech Trailers, Portable Satellite Kits and Hybrid Power Cubes, that can be deployed as needed to provide temporary internet for impacted communities.



An NBN multi-technology trailer (MTT)

The custom designed MTT is a piece of mobile equipment that works a bit like a heart bypass machine, allowing NBN to reconnect customers to services over the network while it rebuilds or repairs a damaged node.

The MTT is designed to be highly flexible, a concept most recently on show when it was deployed to help with the recovery efforts of communities impacted by fierce winds that tore through Melbourne's Dandenong Ranges in June 2021 as shown in the photograph below.



NBN has developed a whole range of mobile units such as the MTT which can be quickly deployed to plug a gap in a section of the network.

Following Cushla's presentation, we were taken to the NBN control room which is the nerve centre of the operation of the NBN. This is a high security area and we were not allowed to take photographs there. All incident reporting and management was controlled from there as well as continuous monitoring of all systems.

One aspect that was apparent was the team approach which demonstrated the pride of the staff in delivering a vital service to all Australians. The NBN is owned by the Australian Government but provides its services to the telcos and other entities – both government and private.

Cushla, Helmuth and Mark did a fantastic job and fielded all our questions so well. In fact, it made me proud that we have such dedicated people managing this crucial infrastructure for Australia.



David Jellie with Jim, Mark and Dana Trajcevski.

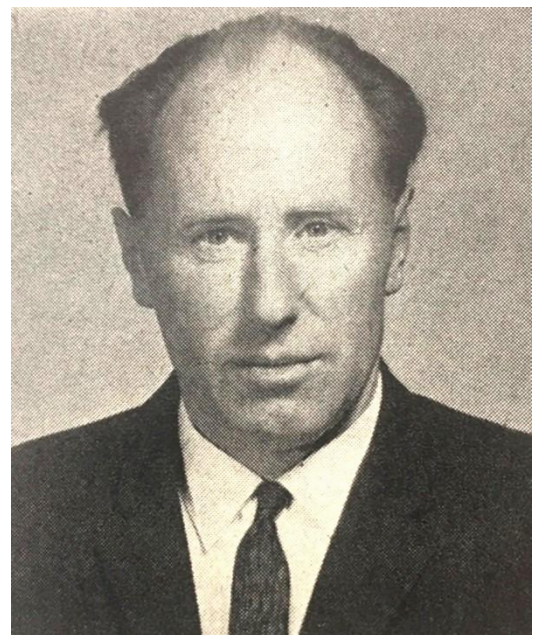
Vale William (Bill) Brake

[David Jellie has written this tribute to one of the most highly esteemed officers of the Country Roads Board, Bill Brake, who died just a few days short of his 102nd birthday on 24 April 2025.]

David writes:

I doubt if anyone knew more about the roads and places in Victoria than Bill Brake. He was a walking atlas of Victoria, and his memory was incisive right up to his death. He remembered people and people remembered him.

Bill recalled that as a young engineer, his first posting in 1949 was to Bairnsdale where he supervised road construction and maintenance way out in Woop Woop. Bill would remember the name, but I can't. He remembered that one of the men was a chap called Silver, built like an ox and really good with a jack hammer.



Bill Brake – circa 1960s

Many years later, after he had transferred to Benalla Division, he was standing at the site of the upgrade of the Midland Highway between Shepparton and Mooroopna talking to the works engineer when a man came up and said 'G'day Mr. Brake' and a brief conversation was held.

When it was finished, the site engineer asked Bill 'Do you know that fellow?', to which Bill replied that he did. It was Silver from the road gang in Bairnsdale. The site engineer then commented that Silver was living in a tent on the banks of the Goulburn River with a couple of ladies.

One of his first responsibilities when he was sent to Benalla Division was to identify which roads would be impacted by the raising of the weir wall at Eildon and then visit all the affected properties to consult the landowners about the road deviations and their particular needs. One landowner took some time to agree to the location of the new road because he did not want his natural spring to be covered over. Bill arranged for an embankment to be put around the spring and the farmer was happy.

I include below an extract about Bill that is included in my book, *Roads to War*. It includes further information regarding Bill's contribution to roads in Victoria.

Sapper William (Bill) Simpson Brake, VX96311 (V158054)

According to his Attestation Form, Bill was born in Camberwell in 1923 and enlisted in the Australian Army in February 1945. Bill's parents, John and Grace Brake, were dairy farmers on the banks of the Yarra River at Tarrawarra in the Yarra Valley. After experiencing a third flood of their farm, in December 1923, they sold up and shifted to Mont Albert and John took up a job with the Victorian Department of Agriculture. Bill was seven months old when this shift took place leading me to think that probably, he was not born in Camberwell.

Bill attended Mont Albert Central School until 1936 after which he attended Scotch College until the end of 1941. At Scotch College, Bill was appointed House Captain of Monash House and Hockey Captain. He commenced studying civil engineering at the University of Melbourne in 1942 and continued playing hockey for which he received a University Blue. At the end of his first year, he decided to join the Royal Australian Navy.

He enlisted in December 1942, completed his medical and was awaiting call up when, on Boxing Day 1942, someone from the Manpower Directorate rang him to say that his enlistment was voided and that he had to continue his engineering studies.

Labour controls were introduced in 1942 to deal with the needs of the armed services and industry. Manpower regulations affected individual liberties and touched the day-to-day activities of Australians perhaps more than any other executive operations of government throughout this period. Obviously, the Manpower Directorate had decided that Australia needed more engineers than servicemen.

Such is the necessity of war, and young Bill Brake's destiny was set in history by these regulations. Likewise, at the end of 1944, Bill's engineering studies were interrupted by the Directorate yet again, when he was ordered to enlist in the Army – which he did in February 1945.

He joined the Royal Australian Engineers and trained in Cowra for three months and then he was sent to Kapooka, near Wagga Wagga, in NSW to do combat training and a course on emergency bridging. He was there in May 1945 at the time of what has now become known as the Kapooka Tragedy. It is etched deep in his memory.

Twenty-six recruits lost their lives in a bunker where they were being trained in the use of explosives. The cause of the explosion is not known. The tragedy of the loss is compounded by the fact that the war was drawing to a close - the Germans had surrendered and momentum was with the Allies in the Pacific.



Thousands of people lined the streets of Wagga Wagga to watch the funeral procession.

At the war's end, Bill had nearly completed his training while working on the construction of an emergency bridge over the Murrumbidgee River in Wagga Wagga. It was a Bailey Bridge supported on pontoons. He lived in a tent by the river, and he recalled that in the winter, the still water in the river used to freeze over.

After his discharge in January 1946, Bill went back to university to complete his degree. In his cohort were other CRB stalwarts such as Tom Russell, Keith Moody, Laurie Jones and Max McPherson. He completed his studies at the end of 1948, and in 1949, he married Mona (Noni) Lesley McDonald.

Bill had a stellar career at the CRB. In 1949, the newlyweds went to Bairnsdale Division where Bill Dolamore was the Divisional Engineer. Bill was given responsibility for all the roads west of Nowa Nowa while Les Starling looked after those to the east. At that time, most of the roads were unsealed and they passed through some of the remotest parts in the State of Victoria. Bill had to travel up into the mountains and often had to stay out of the office for days on end. He recalled once staying at a remote hotel in the high country where the hotelkeeper opened a tin of Irish Stew for his dinner. He didn't return.

In the entry for Frank Jackson in Chapter 9 (of *Roads to War*), I mentioned how Frank and Les Starling carried the cash wages – and a pistol – to the remote camps in their area of responsibility. Bill also did this for his area. He said he often carried up to £2,000 in a dilly bag on the seat of the car with the pistol in it. He would often have a line of detonators in the car to give to the road gangs he was visiting. At the hotel where he was staying, he would place the bag in the bottom of the wardrobe and go down for dinner with never a worry about it. In winter, he drained the radiator of his car as there was no anti-freeze available in those days.

After Bairnsdale Division Bill spent five years at Benalla Division looking after the Hume Highway, the Murray Valley Highway, and the Midland Highway. His last Divisional appointment was to Dandenong Division as Assistant Divisional Engineer to Frank Docking.

When Bill finished his career working in the Divisions, he was transferred back to Head Office as Deputy Chief Engineer Road Design. He served as Chief Engineer between 1972 and 1974 after which he was appointed as a member of the Board under the Chairmanship of Tom Russell.

In his final 10 years with the CRB, he was appointed to the Grain Elevators Board which oversaw the loading of grain onto ships for export. He was also a member of the Transport Regulation Board with other representatives from the Police, Motor Registration Branch and Treasury - to ensure that all monies received from vehicle registration was allocated to the CRB for future road construction and maintenance.

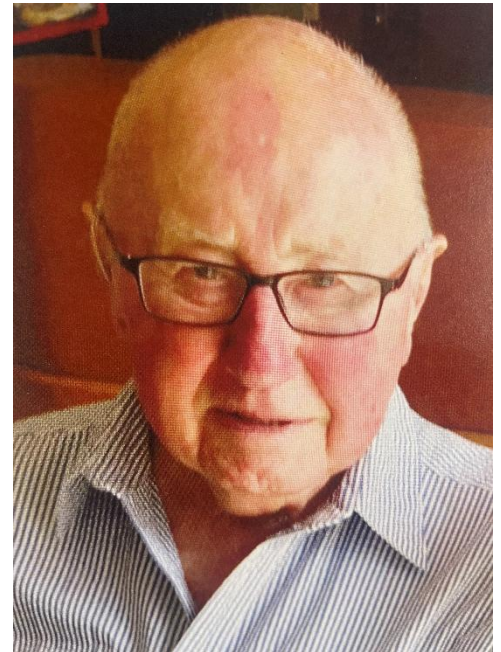
Bill retired in 1983 after 34 years of service with the CRB. There were only a handful of people who contributed so much to the welfare of the road users of Victoria.

Much of this information was gleaned from an interview with Bill in October 2022 when Bill was 99 years old. Although he had become very deaf, his memory was razor sharp – as ever. His fellow Board member, Tom Russell, once said to me that if ever I needed to know where a place in Victoria was – provided it was connected to a road – just ask Bill Brake. It was most appropriate then that the song of farewell at his funeral was *'I've been everywhere'* sung by the Sunny Cowgirls.

Bill refused to let old age get in the way of a busy and eventful life.

He learned the art of cooking when Noni became ill and when she passed away in May 1995, he then looked after himself with all the daily household chores, preparing meals, washing, ironing, and cleaning.

He was also a long-standing committee member of the VicRoads Association and he organised many trips for members, often to interstate destinations. He organised these through a travel agency called Young at Heart. A few that come to mind consisted of a flight and bus tour – to the Flinders Ranges and Central Australia. Bill made all the arrangements himself.



Bill Brake at 100 years.

He re-visited Cape York and walked to the tip of Australia, when he was 90. He drove to Toowoomba to visit his cousins and on another occasion to Sydney to watch the Davis Cup.

He drove until he was 99 at which time he started getting Council assistance to clean his unit one day a fortnight because that was all he needed. He continued to prepare his own meals and his son reported that he called to see Bill one night about dinner time, to find that he had soup in the microwave, steak on the grill and his vegies boiling on the hot plate while he was enjoying a glass of red while waiting for his meal to cook.

He was a loyal and loving grandparent. He attended Kilvington concerts at Monash University to watch Lisa playing in the orchestra, followed Sophie playing netball and rowing and stood on the beach at Parkdale to watch Robert sail his catamaran and watched him play T-ball at Kingston Heath.

He was a truly remarkable man – a mentor, a patriarch and a bon-vivant with a generous spirit. We extend our sincere sympathies to his family.

Notable Achievements in the Materials Research Division as compiled by Lance Midgley

Introduction by David Jellie

As part of the celebration on 8 May 2024 marking the end of the Head Office and the adjacent laboratory building, I invited staff who worked in these premises to submit their memories of their time working there.

Lance Midgley rose to this challenge and produced the history of notable achievements described below. During his career, Lance worked in the materials area for over 21 years including 3 years as the manager of the department. A significant memory he has of the Materials Research Division (MRD) and its successor named departments is of the technological achievements made by staff in the materials area which addressed problems being experienced by the organisation at that time. In the main, these achievements were made possible through a well-funded Research & Development program.

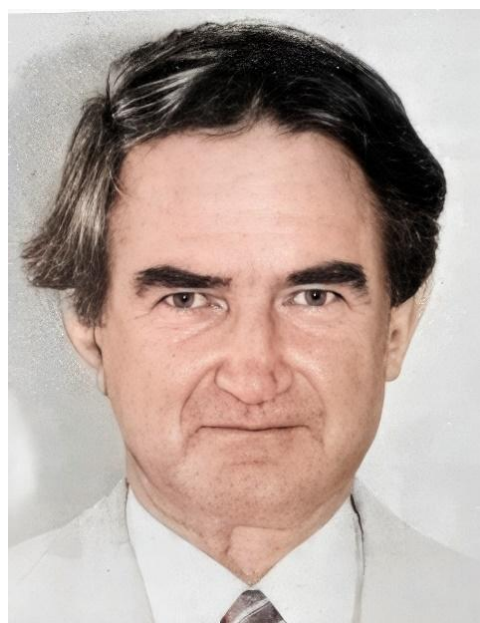
He has listed the following 47 notable achievements in the MRD since its inception. He is conscious of the likelihood that some achievements, worthy of listing, may have been overlooked and he apologizes for any oversight. I suggest if there are any others, or any corrections to the current list, please contact me and, with Lance's assistance, I can update the list.

We have tried to include photographs of the people involved at the time of their achievement, but this has been difficult, so some of them are contemporary. Some of the photos were also of poor quality but with the help of Phil Symons, they have been enhanced using several Apps. Further, a photo of Bill Sherwin was taken at a revelry of some type and is not really appropriate for the gravitas of the list. However, I asked Lance to include it in recognition of his contribution. After all, he is entitled to a bit of fun.

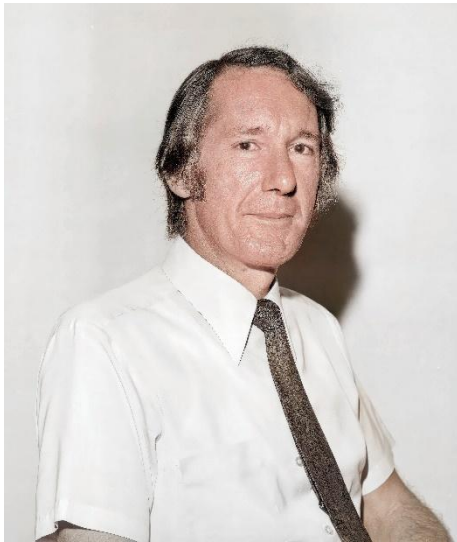
Before I get to Lance's list and in keeping with the farewell celebration theme, I thought it worthwhile to include a list of the ten Materials Research Engineers (MRE's) who led the Division/Department since its establishment in 1948 to its current resting place within the Department of Transport and Planning.



Alf Gawith 1948- 1970



Dr David Currie 1970 - 1976



Peter Lowe: 1976 - 1982



John Bethune: 1983 - 1988



Colin Roy - 1988 - 1990



Bob Meggs: 1990 - 1997



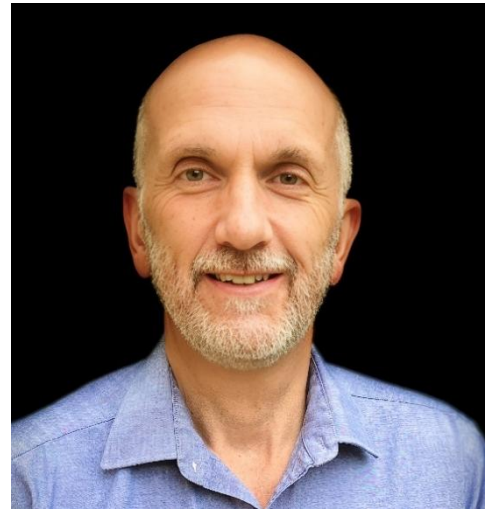
Lance Midgley: 1997 - 2000



Steve Brown: 2001 - 2004



Praveen Reddy: 2005 – 2013



Andrew Papacostas: 2013 – 2022

A separate story on the “History of the Materials Research Division” summarised in chronological order from its inception to its final resting place, is being prepared for a future edition of the Newsletter and/or for inclusion in the VicRoads Association website.

Lance has listed the following notable achievements:

Alf Gawith and **Clem Perrin**, in 1945, developed a California Bearing Ratio (CBR) design chart for thin bituminous-surfaced granular pavements building on the pioneering design charts of the California State Highway Department.

This was a major advance in Australian pavement engineering and was in common use until the 1960s. At that time, the chart was amended to include the effect of traffic loading and rainfall – refer to Technical Bulletin No. 21. The CBR test which is a measure of the strength of subgrade support is still used today in the design of pavements.

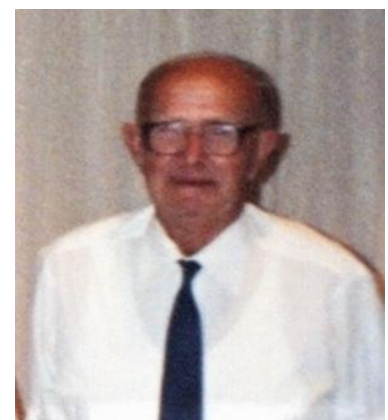


Clem Perrin – 1969.

John Scala in the mid-1950s designed and developed the Dynamic Cone Penetrometer Test (DCP) used to assess the consistency and strength of subgrade soils. The DCP consists of a 16 mm steel rod, to which a steel cone with a 20 mm base diameter and 60° cone tip is attached.

The DCP is driven into the soil by a 9 kg hammer with a falling height of 510 mm. In testing, the DCP is held vertically to the surface of the soil to be tested, and two operators are required.

One person holds the device, lifts the hammer to the stop and drops the hammer freely onto the anvil to drive the DCP into the soil and another person is required to record the readings.



John Scala - 1991

The accumulative number of blows and penetration depth is recorded during the operation. The relationship between the penetration depth and number of blows is correlated to an estimate of the insitu CBR of the soil, an important factor in pavement design and construction. A few years later, John developed a Static Cone Penetrometer Test. Both tests are now described in VicRoads Technical Bulletin No.40.

Alf Gawith designed the new Head Office laboratory building and **Keith Moody**, Alf's deputy (Assistant MRE), oversaw the construction of the building. The new premises were completed in 1963 and most of the 49 staff operating out of the laboratory in Drummond Street, Carlton moved into the new premises at Kew.



Dr Keith Moody – Circa 1960s

John Bethune introduced Full Depth and Deep Strength Asphalt pavements into VicRoads' practice in the early 1970s. A Full Depth Asphalt Pavement is constructed directly over the subgrade and a Deep Strength Asphalt Pavement is constructed over a stabilised subbase. The major advantages of these types of pavements are:

- (a) they require a much shorter construction period than a conventional pavement,
- (b) they are about half the depth of a conventional pavement, thus sometimes reducing the cost of services relocation,
- (c) for urban roads, they require less maintenance and lasts longer than a conventional pavement of similar cost.

John also in the 1970s, imported from the USA the concept of adding crumbed rubber to bitumen used in bituminous spray sealing and asphalt pavement construction. Crumbed rubber is produced from recycled car and truck tyres which have been shredded to produce small particles free from cord, wire, fluff and other deleterious material.

Crumbed Rubber Seals are designed to produce elastic membranes for the reduction and control of cracking particularly in an existing pavement from reflecting through the resealed surface. By adding crumbed rubber to conventional asphalt improve the properties of durability, temperature resistance, fatigue cracking and rutting resistance.

In the early 1970s, following the collapse of the King Street Bridge in 1962, **Roy Gilmour**, **Jim Webber**, **Peter Balfe** (see photos below) and **Bill Pinches** carried out dynamic load testing of large, welded, high-strength steel beams at temperatures as low as minus 20°C. The purpose of the testing was to provide confidence in the brittle fracture resistance of the steel being used to construct the West Gate Bridge.

The testing successfully demonstrated that the welded steel would have satisfactory toughness to resist brittle fracture at temperatures that could be reasonably anticipated in Melbourne.



Roy Gilmour – 1983



Jim Webber – circa 1970s



Peter Balfe - 1990

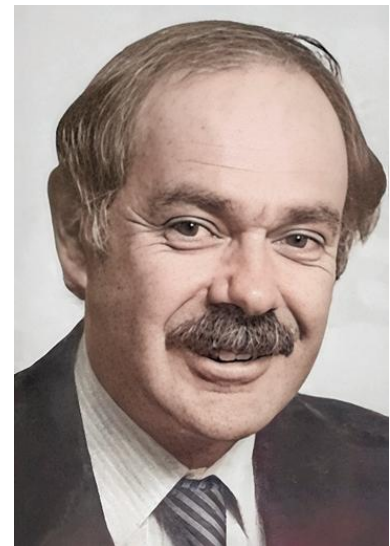
Roy Gilmour developed a process of friction welding large sized stud shear-connectors to steel beams to replace the block and loop type of connectors in use at that time. While this development was adopted for a period, manufacturers of the alternative (problematic) arc stud welding connectors increased the size of the studs that could be attached to steel beams, and the friction welding process was phased out for economic and practical reasons.

Roy also conducted tests on slip base light poles using a remotely driven passenger-less car to validate the torque force required to tighten the hold down bolts. The tests validated American standards regarding the levels of tightening required to ensure that poles disengaged when a collision occurred.

Roy also developed a consumable guide for the electroslog welding process to weld thick tension and compression flanges of bridge girders

Bruce Phillips was assigned (in 1973) to research and propose a surfacing system for the redesigned structure of the West Gate Bridge following its collapse in 1970. The new bridge design required the application of a 50 mm layer of asphalt applied directly to the top of the steel box girder section of the bridge. Such a pavement structure (asphalt on steel) had not been constructed before in Australia.

The principal issues were the difference in the flexibility of steel and normal asphalt layers. In cooler climates (such as in Europe and U.S.A) a mastic asphalt worked well, but at higher temperatures (such as in Australia and New Zealand), the asphalt became fluid and distorted. Bruce undertook a literature search, and a worldwide study tour of bridges seeking a solution which was found in San Francisco, where a new development (epoxy/bitumen asphalt) was found.



Bruce Phillips – 1976

The system was tested locally and adopted for surfacing of West Gate Bridge in 1978 - with an expected life of 20 years. The pavement has been repaved twice subsequently.

Bruce Phillips won the inaugural Australian Road Research Board (ARRB) Director's prize in 1976 for developing an artificial aggregate from crushed bricks which produced high skid resistance properties. Such aggregates were applicable at locations such as approaches to pedestrian crossings and intersections, where conventional aggregates did not have sufficient skid resistance for use to address concerns.

Harold Taskis and **David Ford** in the early 1970s, identified crop/tree dieback from unwashed plant (graders, dozers, etc.) carrying soil contaminated with a fungus known as *Phytophthora Cinnamomi* when being transported between road construction jobs.

Once infected soil is introduced into new locations, it can rapidly spread throughout the environment. A VicRoads instruction was subsequently issued that plant must be washed before transportation.



Harold Taskis – Circa 1970s

Alan Griffiths, David Veith and **Mechanical Branch**, in the 1970s, developed and built the Pavement Strength Evaluator (PaSE) (see below) based on the French Lacroix Deflectograph.

The vehicle was purposely built with a standard dual tyred rear axle legal load of 8.2 tonnes to accurately measure the downward movement of the pavement between the rear wheels by a sophisticated electro-mechanical system.

The vehicle travels at a speed of 2-4km/h and takes readings at intervals of 4-7 metres in both wheel paths giving a continuous strength profile of the pavement. Electronic sensors attached to the measuring beams measure deflections to the nearest 0.01mm and are recorded in digital format on and on-board computer. The information obtained from these readings is an important input used by engineers in the design of pavement treatments.



Alan Griffiths - 1982



David Veith – 1990



Pavement Strength Evaluator (PaSE) Cone Penetrometer Testing Vehicle

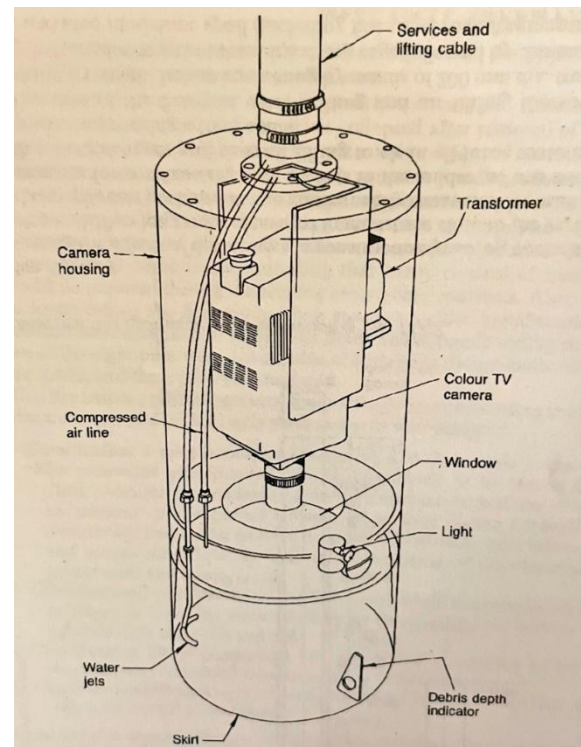
Jim Holden in the 1970s led a team of **Alan Griffiths**, **David Veith**, **Ron Lilly** and **Mechanical Sub-branch** in developing the **Cone Penetrometer Testing (CPT) vehicle**, which was used to identify soil characteristics in foundation investigations. Alan and Ron designed the mechanical and hydraulic drive which was built in the MRD workshop. David designed and built the control and data gathering electronics and Mechanical Sub-Branch designed and built the body.



Dr Jim Holden - 1990

Jim and **David Veith** developed the Socket Inspection Device (SID) utilising remote video technology, to verify the cleanliness of the bases of the 60+ metre deep bored and rock socketed piles for the West Gate Freeway through South Melbourne. The piles were constructed using bentonite to maximize the stability of the sockets before casting concrete.

The design assumptions relied on end bearing at the base of the piles as well as friction between the piles and the rock over the depth of the sockets. It therefore became necessary to inspect the cleanliness of the bases before casting concrete. SID enabled this inspection and with its amenity, procedures were developed to assist in the cleaning of the bases by air lifting.



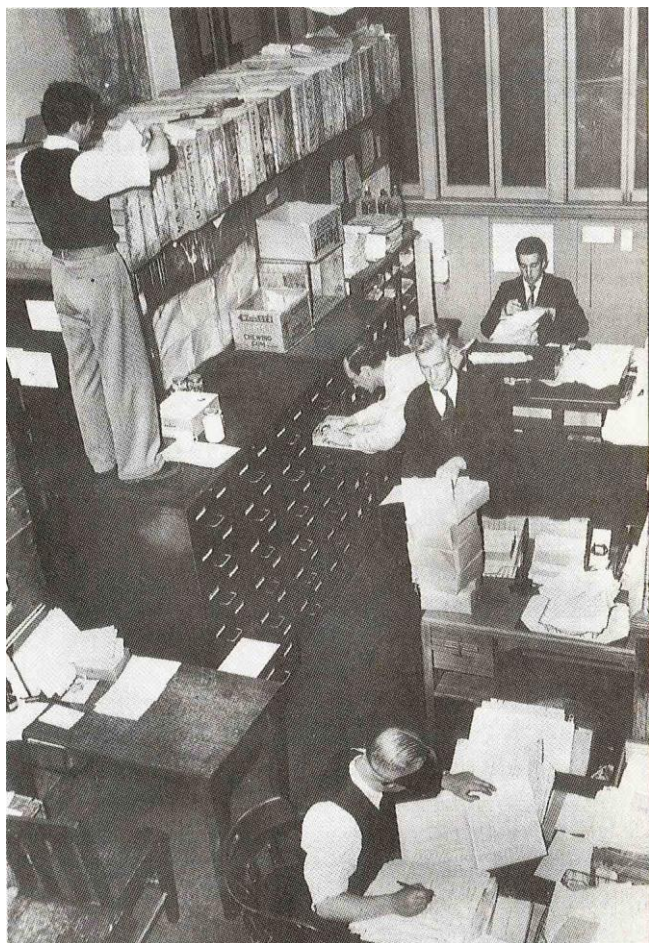
Socket Inspection Device

Jim, **David Veith** and **Ron Lilly** developed the Electrical Skin Friction Cone Penetrometer used to evaluate and classify sub-surface materials particularly in soft silty-sandy materials which exist in the South Melbourne/Port Melbourne area. The information gained is an important input into the design of roads and bridges in such difficult locations – refer to VicRoads Technical Note No. 24.

To be continued...

My Days with Vehicle Registration by John Wright

In 1994, after spending most of my working life in road-related areas, I joined Registration and Licensing (R&L) at Kew as the senior policy analyst for vehicle registration. It was to be a fascinating and challenging experience.



I remembered Motor Registration Branch (MRB) from 1958 when it shared its Exhibition Building premises with the CRB. There was a door in the CRB Accounts area that connected to the MRB, and I sometimes used it as a shortcut to Rathdowne Street.

Beyond that door was a maze of cubicles filled with staff, desks and tall filing cabinets topped by even more cabinets and folders. I admired the dedication of the staff, working under such cramped conditions.

Bill Anderson's wonderful book *Roads for the People*¹ describes the MRB's origin in 1921 at the Royal Court Building in Russell Street with just two officers. As vehicle and staff numbers grew, the MRB was rehoused in the Russell St Police headquarters, then in an old factory on the corner of Exhibition and Little Lonsdale Streets, and in 1932, in the Western Annexe of the Exhibition Buildings, where it became a neighbour to the CRB.

Staffing and document storage needs quickly outgrew the available space and by the early 1950's, overcrowding was so bad that some staff were working in the dank basement of

the Exhibition Building while a mezzanine floor was being added to the Western Annexe. Conditions improved in 1967 when the MRB moved into more commodious and purpose-built accommodation in Carlton at the corner of Lygon and Princes Streets.

The MRB experienced name changes. In 1981, control was passed from the Police to the Transport Regulation Board (TRB). Barely two years later, both the MRB and the TRB were merged into the newly created Road Transport Authority (RTA). Then, in 1989 the RTA and the RCA were merged into VicRoads, and R&L staff started moving into its Kew Head Office.

Joining R&L at Kew Head Office in 1994, my brief was to prepare our vehicle registration system for the introduction of nationally consistent heavy vehicle² charges and laws. These changes were an outcome of the 1991 Special Premiers' Conference, which sought to improve national efficiency by harmonising conflicting laws between States and Territories. Initially, Western Australia was not prepared to change its laws but underwent a dramatic change of heart when the Commonwealth introduced large Competition Policy payments for complying jurisdictions.

The push for consistent heavy vehicle registration charges probably originated in NSW, which then had the highest truck registration fees in Australia, causing a major flight of its registration revenue to other States. Major NSW road transport companies deliberately registered their fleets in a remote South Australian township (that never saw any of the

¹ By William Keys Anderson. Published by Hyland House Pty Ltd in 1994.

² Motor vehicles and trailers with a Gross Vehicle Mass (GVM) greater than 4.5 tonnes

vehicles) to enjoy much lower registration fees while still operating out of NSW regional bases – and mainly on NSW roads.

The new heavy vehicle charges were developed by the newly created National Road Transport Commission (NRTC) and had two components: A registration fee collected by each State or Territory and a diesel fuel surcharge collected by the Commonwealth Government. Also, new nationally consistent legal axle masses would now apply, removing what had previously been an enormous bugbear for cross-border transport operators.



Warwick Bull – circa 2015



Norm Smith - circa 2010



John Lewis – circa 1994

Arriving in R&L after three years in Austroads, I was familiar with the national transport reforms but knew very little about Victoria's complex registration system. I was fortunate to have the strong support of Warwick Bull, Manager Vehicle Registration and the invaluable assistance of Norm Smith from the Carlton office and John Lewis who had served in the Ferntree Gully R&L office.

At the other end of my floor was the Driver Licensing Section where another engineer, newly appointed Richard Murphy, was the Senior Policy Analyst facilitating the introduction of the National Driver Licensing Scheme under Geoff Shanks, Manager Driver Licensing. Overseeing both departments was Peter Balfe, who had recently overseen an entire suite of national registration and licensing projects for the development of the NRTC's new road transport laws. Peter was later followed by John Nation³ and Susan Allen.

In 1994, Victoria's truck registration fees often had more to do with who was using the vehicles, rather than what they were used for. All sorts of obscure privileged groups and individuals could register a heavy vehicle for next to nothing. This was the detritus of decades of political 'rewarding' of religious and other 'charitable' groups who donated to or otherwise supported successive governments. It would all disappear under the new charging regime.

During my first few months in R&L, I regularly joined John O'Regan and Tracee Piper from Vehicle Regulation on the 2nd floor in visits to our regional business offices to explain the impacts of the forthcoming changes. I also regularly met with David O'Sullivan (ex-RTA and Regional Manager Southeastern) and Geoff Hughes (ex-R&L Kew) from the NRTC to fine-tune the new regulations and business rules.

We had an early win when Oliver Portelli, my assistant, devised a simple alpha-numeric charging code for all heavy vehicles, which was immediately adopted nationally.

The new laws would stop vehicle owners from registering vehicles in the names of their children or pets by requiring them to be 'registered operators' who had to be real, adult persons or valid corporate bodies. Vehicle operators would now be required to specify a 'garaged

³ Not to be confused with the John Nation who worked in Road Safety.

address' which had to be in the state of registration. This was primarily aimed at dodgy transport companies that deliberately located their registered offices in other jurisdictions to circumvent home state authority searches of their premises.

The national heavy vehicle registration laws would also apply to light⁴ vehicles because no jurisdiction wanted to administer two separate sets of vehicle laws. However, with the notable exception of Victoria, all the other States and Territories continued using their existing registration fees for light vehicles, which led to some interesting issues.

In 1994 Victoria decided to apply a single fee of \$140 for all light motor vehicles – regardless of whether they were tiny Smart Cars or huge Humvees. Similarly, all light trailers would now be subject to a single fee of \$36. Because NSW light trailer operators continued to pay fees of up to \$1,200, some of them allegedly purchased small land holdings in Victoria to use as a garaged address for Victorian registration. National hire car companies openly chose to register their fleets in rural Victoria⁵ and were mainly able to circumvent the garaged address laws in other jurisdictions because of the unique nature of the car hire business.



Jack Raleigh

NSW didn't help itself by becoming the only jurisdiction to require an annual roadworthiness test. To escape the costly predations of licensed NSW testers, who were also car repairers⁶, many people in the NSW Riverina registered their cars in Victoria, using the addresses of friends and family. A senior NSW RTA person once called me to demand VicRoads identify and stop these cross-border registrations. When I raised this with our CEO he understandably replied, 'Why would we want to do that?'

The national reforms would require major alterations to the RTA mainframe system, and a contract was subsequently awarded to a Victorian company headed by Margaret Jackson. A VicRoads working group formed to assist Margaret included seasoned R&L veteran Jack Raleigh, mainframe guru John Agnew, Norm Smith, Maria Farrugia and Nadia Ghali.



John Agnew

The new laws would need to be incorporated into Victoria's Road Safety legislation. I had to quickly become a 'lawyer' in the sense that I was drafting major amendments to the Acts, Regulations and Gazette Notices governing Victorian road use, and regularly consulting with the Parliamentary Counsel's office in Spring Street, Melbourne.

Privacy was another important issue. While acting as Manager Vehicle Registration, I received a call from the NSW Royal Commissioner into Police Corruption. He was seeking details of registered operators of suspicious vehicles seen near a site his people were monitoring. I was mortified in having to refuse him, because his Commission did not have a Privacy Agreement with VicRoads. Nevertheless, he said he was impressed with the integrity of our procedures.

⁴Light vehicles were all other vehicles having a GVM of 4.5 tonnes or less – mainly motor cars and vans

⁵ In 1998 I was in Port Douglas and saw a large convoy of Brits Australia camper vehicles entering the town from Cairns airport. All had Victorian registration plates. I later discovered they had all been registered in Shepparton.

⁶ The low fees the NSW RTA annually set for the tests barely recovered roadworthy testers' costs, incentivising some testers to 'find' unroadworthy conditions that would require costly repairs.

I was also involved in the ordinary day-to-day affairs of vehicle registration, ranging from people demanding to be allowed to drive golf carts and all-terrain vehicles on public roads, to complaints about inappropriate, personalised numberplates. I enjoyed working with many other experienced people in the section, like Tony Milne, Angelo Herft, Oliver Bubevich, Ross Green, Fergus McDonald and Ray Donnelly.

One day, I was deep in thought over a policy problem when I became aware of a short, older guy in shirtsleeves, hovering at my side. He said, “do you know who I am?” I very nearly said something rude but managed to reply, “I don’t think we have met”. He then introduced himself as Geoff Craige, our new Minister for Transport. He told me he was on a ‘get-to-know-you’ tour. After he left, all the other staff in the section completely cracked up. Fancy the Senior Policy Analyst not knowing who the Minister was!

We lost some good people while I was there. Nick Lucas, Jim Christopher and Brian Weinberg. Andrew Houghton, a lovely man who took over from Warwick Bull, was later diagnosed with Motor Neurone Disease and sadly died in 2008 after a long, brave struggle.

In December 1998, I retired from VicRoads.

SMART OPERATORS AND CROOKED CONTRACTORS

I am introducing a new feature that I hope will attract stories from members who have encountered memorable and dodgy contractors during their careers. To kick things off I would like to share a few stories from each category.

Joe’s contract-winning strategy

The first story concerns my paternal uncle Joe Wright, who in the early 1950’s put down a deposit on a remote property at Kangaroo Tops in northern New South Wales. Joe was too poor to improve his property and most of his loan repayments came from contracts to eradicate rabbits and the good money he earned from selling their skins⁷.

In the mid-1950’s Joe wanted to transform his scrubby land into a grazing property. His ancient tractor wasn’t up to the task, so he convinced his bank manager to finance the purchase of heavy road making equipment for use on municipal road contracts, intending to use the income and the equipment to develop his property. However, Joe’s initial attempts to win road contracts were unsuccessful and soon the bank was threatening foreclosure.

Hearing that council surveyors had just pegged out the alignment for a new road through the mountains, Joe followed the line of surveyor’s pegs and used an auger to drill into likely cutting sites. At that stage, Council staff were probably still preparing the plans.

After determining that most of the cuttings contained relatively soft material that his equipment could handle, Joe purchased a truckload of rock pieces from



Geoff Craige



Joe Wright – circa 1975

⁷ At that time, Australia’s major rabbit plague fortuitously coincided with a worldwide demand for men’s fedora hats that were made from the felted fur of rabbits. At one stage, the income from the sale of exported Australian rabbit skins eclipsed that of wool.

a local quarry and sprinkled them around each of his auger holes. Back then there were no geotechnical investigations. Road contractors were responsible for discovering what lay beneath the surface. When tenders were advertised, his competitors would have walked the route and seen the hard rock around Joe's auger holes. None of them bothered to make their own investigations.

Joe had learnt from his failures and while his winning tender was high, it was way below the bids submitted by his competitors. The money saved Joe's farm and equipment and financed many improvements to his property.

It wasn't the last of Joe's 'salting' strategies. When Dad and I visited Joe in 1958, he showed us an area where he had found fine alluvial gold. A few years later Joe told Dad that he and his brothers had loaded a shotgun with small gold nuggets and 'salted' a quartz outcrop near the alluvial area. He then sought expressions of interest from gold miners interested in leasing and mining the area.

Joe and his brothers went to great lengths to portray themselves as complete yokels and attracted a generous bid from a seedy mining company who thought they were getting the deal of the century and, like the road contractors, foolishly relied on the evidence of their eyes and didn't bother to properly assess the site.

Joe got a huge, upfront payout, which he shared with his brothers Bill and Sid. In the late 1930's, all three of them had held political beliefs that were probably somewhere to the left of Vladimir Lenin's. Overnight they had all become committed capitalists.

Sid bought a caravan park in Belmont followed several years later by a grazing property. Bill went off to explore Russia and was shocked to discover it wasn't the worker's paradise he'd always believed it was. Joe retired from farm work and was finally able to devote time to his passion – writing. Before long, he published stories in local papers, including the Newcastle Herald, and sold a number of stories overseas. He also had articles accepted by the prestigious London Argosy.

The miners brought in the wrong equipment and recovered very little of the fine gold that really was there. They eventually left without making a cent.

The lowest tenderer

I'm sure that many of our members who were involved in calling tenders for everything from office equipment to major road contracts will have encountered that one bid that was way below all of the competitors' bids and pondered whether or not to accept it.

Back in the 1980's the RCA called tenders for the construction of a duplicate carriageway on the Princes Highway at Doveton. The lowest bid was not only way below those of the other bidders, but it was also well below the engineer's estimate. Because the bid was from a new contractor and did not appear to be viable, the engineer recommended that the contract be awarded to the next highest bidder.

The recommendation was supported by senior management but because of the overall cost it had to be approved by the Minister – who insisted that the contract go to the lowest bidder. The works commenced and the contractor prepared a reasonable length of subgrade in readiness for the laying of the pavement.

At that time, I was supervising several small jobs on the Princes Highway and was in regular contact with Pakenham Blue Metal (PBM), one of our major suppliers of crushed rock. While in the office I answered a phone call from PBM. The caller, whom I knew well, said that the Doveton contractor had ordered a large quantity of crushed rock and told him that the RCA would be paying for it. He wanted an order number. As far as I knew, the RCA only paid for crushed rock on Direct Labour works – so I told him to hold fire while I searched for the engineer in charge.

The supervising engineer was just as surprised as I was. He gave PBM the bad news and, after what must have been a terse conversation with the contractor, who apparently admitted his company was strapped for cash, started action to terminate the works. A new contract was advertised shortly afterwards for the balance of the works.



I recall that the total cost of the finished job was way more than that tendered by the originally recommended contractor.

On the Pakenham Project there was one fencing contractor who consistently tendered prices that were 10% lower than his competitors.

He had already carried out much of the project fencing when we received a telephone call from a landowner, whose property he was fencing at the time.

The landowner had measured the spacing of the posts and discovered they were all 5.5 metres apart instead of the specified 5 metres. Suddenly, the penny dropped, and it became clear why this contractor was able to consistently underquote his competitors. To my shame, this farmer had done what I had neglected to do – check the finished work.

I drove out to the job with Robert Kriek and found the fencing contractor working on a new fence on the widened highway at Garfield. He had just bored the holes and was starting to drop in the posts for about 800 metres of fencing.

Robert produced a tape measure and checked the spacing of perhaps a dozen posts. They were all 5.5 metres apart. We told the fencer his spacing was out of specification and that he would need to re-drill his holes at the correct spacing. He became angry, accused us of nit-picking and said that he wouldn't do this.

I told him that if he did not rectify his work, he would not be paid for it. Also, I mentioned that we currently owed him a significant sum for other completed fencing (which was probably also out of specification but the landowners hadn't noticed) and that if he did not rectify his work, we would pay another contractor with his money to do so. He rebored the holes and finished the fencing, and we never saw him again.

Have any of your details changed?

We never want to lose touch with our Members. Key details such as:

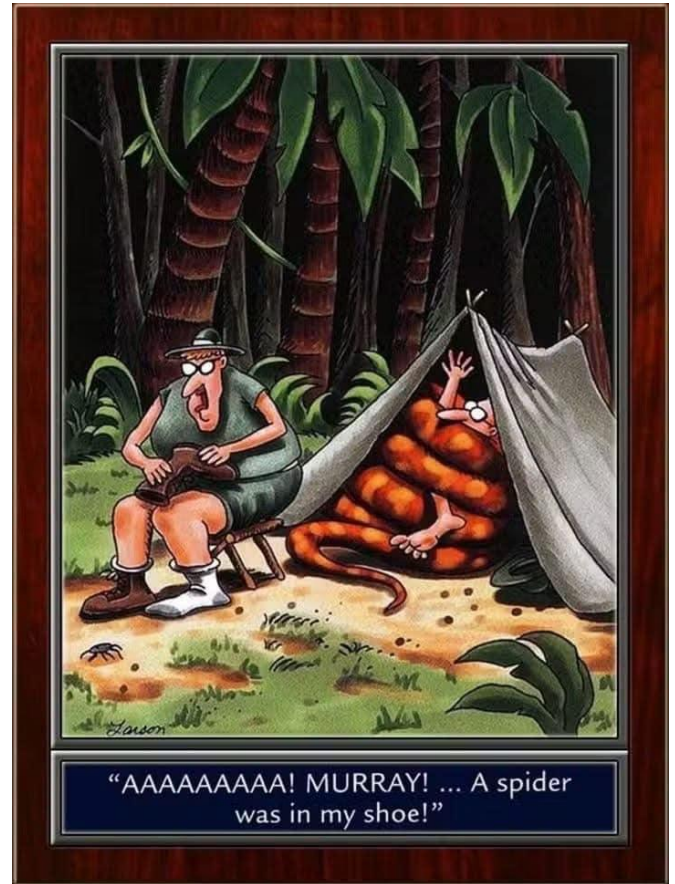
- address
- email address
- phone and/or mobile phone number
- key emergency contact person and their contact phone number (don't forget , this cannot be your number)

can change over time. If yours have and you don't think we have the latest details please advise either the Secretary, Jill Earnshaw (jillmearnshaw@gmail.com) or our Membership Secretary, Iris Whittaker (irisw25@bigpond.com) of your new details. Thank you.

Amusements

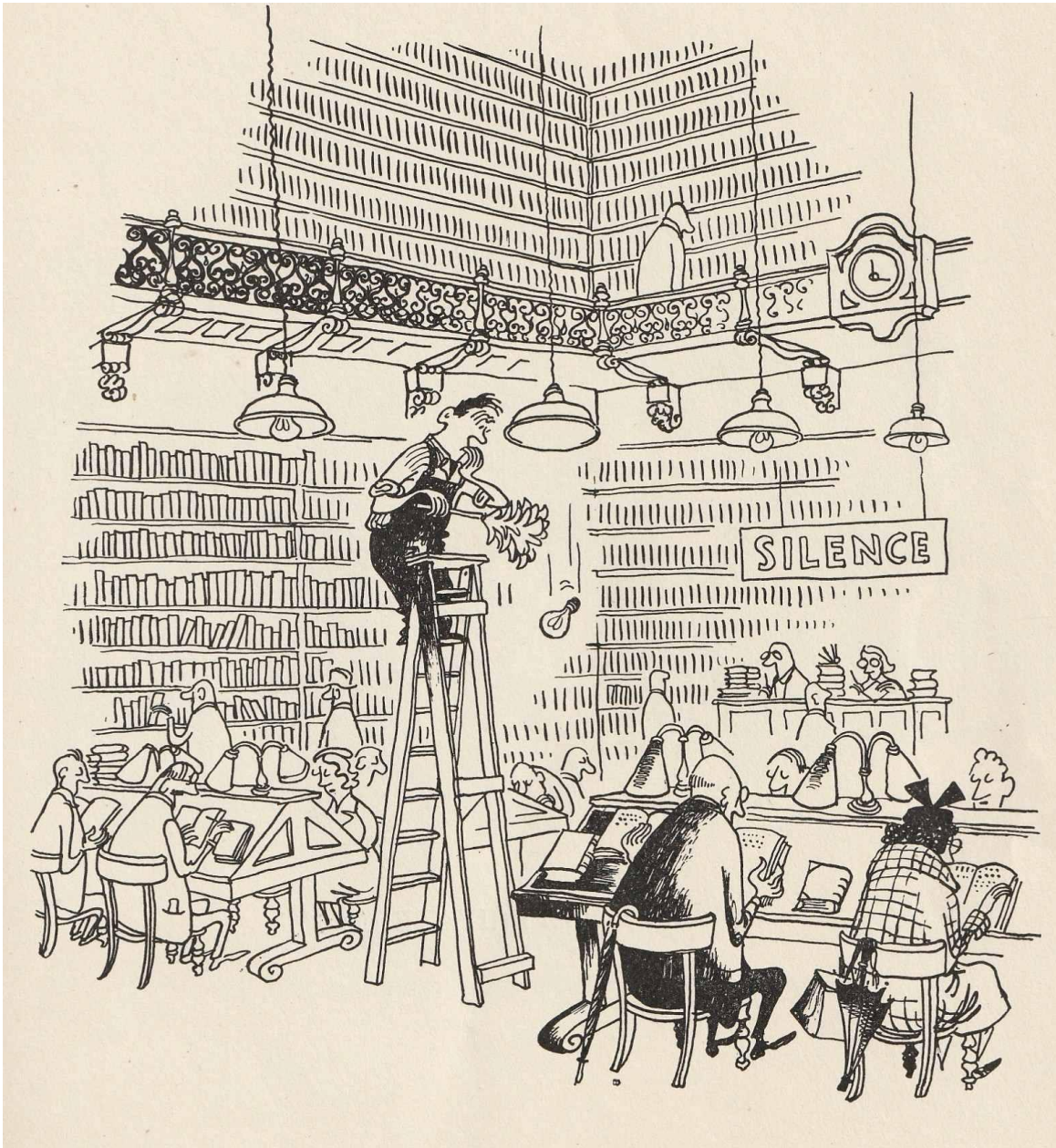


"Don't be alarmed, folks—he's completely harmless unless something startles him."



"How would you like to have your root canal done totally free of charge?"





Cartoon by Australian artist Sprodd. Published in *Punch* magazine in the mid 1950's



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Address	<input type="text"/>		
<input type="text"/>		Postcode	<input type="text"/>
Telephone Number	<input type="text"/>	Mobile Number	<input type="text"/>
E-mail address	<input type="text"/>		<i>Nominate an email address if you don't personally have your own</i>

Emergency Contact Name

Emergency Contact Number

Employment in VicRoads and antecedent\previous organisations:

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I agree to be bound by the Rules of the Association.

Signed

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