



Arvo Tinni; industry tributes 2023

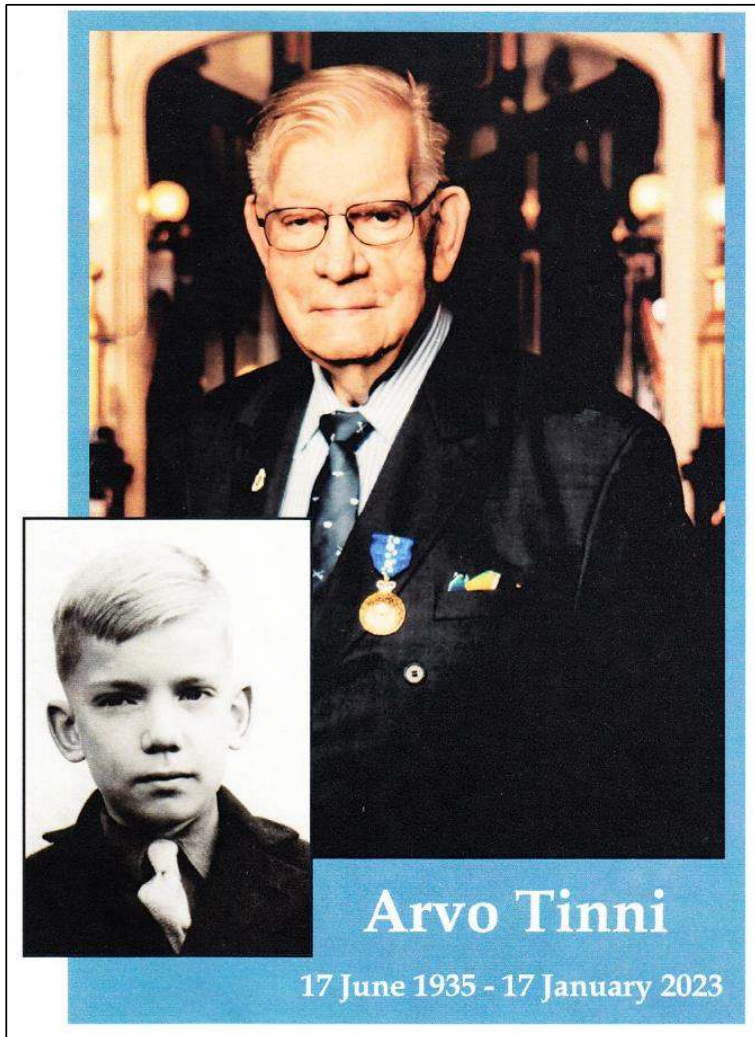
The celebration of an outstanding career

A very professional Civil Engineer who had a passion for excellence, for learning all his life and the joy of imparting up-to-date knowledge to his colleagues.



Tallinn, Estonia





Arvo Tinni AM

RFD, BE, FIEAust, AIArBA, CPEng

Member, Order of Australia (AM) 2015

"For significant service to engineering through contributions to the road construction sector, as an industry leader, innovator and mentor".

Order of the White Star from the President of the Republic of Estonia 2011

As a distinguished Engineer for services to the Estonian Community and engineering technology

Reserve Forces Decoration (RFD) 1986

Fifteen years continuous service as a Commissioned Officer in the Army Reserve (RAE Royal Australian Engineers)

John Shaw Medal, Roads Australia (RA) 2010

RA's most prestigious Award. For outstanding service to road transport in Australia.

Honorary (Life) Member, Australian Society for Concrete Pavements (ASCP) 2011

The first to receive this honour

From Arvo:

The gems of wisdom which have formed the principles by which I have lived:

"What you start, make sure you finish.

If somebody else can do it, you can do it, even if it takes much longer.

If something is worth doing, it is worth doing well.

If you can finish an action in one day, do not postpone it for the next.

Never give up"

The following is a collection of tributes to Arvo gathered from various industry groups with which he was associated.

Arvo Tinni AM 1935 — 2023

24 January 2023

RA is saddened by the passing of Arvo Tinni AM, a previous winner of the John Shaw Medal and a true pioneer of modern road construction technique.

Arvo Tinni spent his working life in the pursuit of excellence. His body of work covered not only the practical side of construction, but also embraced leading edge design and research. Arvo had a legendary ability to unravel complex problems and come up with innovative solutions

Many of the ideas developed by Arvo Tinni, such as road maintenance policies, model specifications and quality assurance in road contracts, went on to become industry performance standards which exemplify engineering excellence.



Arvo Tinni AM with his wife Malle (Photo courtesy of John Hodgkinson)



Arvo Tinni AM is presented with the John Shaw Medal by RA President Ray Fisher in 2010

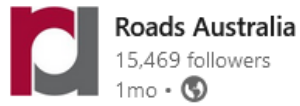
Some of the “firsts” which attest to Arvo’s creativity include:

- Wrote the first DMR Model Specifications for Roadworks (1980)
- Documented the first Department of Main Roads NSW’s Regional Maintenance Policy (1983)
- Managed the introduction of computer technology into RTA offices in NSW (1985)
- Established the first DMR pavement management system (1987)
- Compiled and wrote the Roads and Traffic Authority, NSW’s (‘RTA’) “Contract Administration Manual” (1992)
- Documented the contract road maintenance policy for the SA Department of Transport, which is still in use today (1994)
- Implemented the first Electronic Toll Collection system in Australia (M2 Motorway) (1998)
- Assisted Abigroup / RTA team to develop the design of Seamless Reinforced Concrete Paving for the M7 Motorway. Continuous over 40kms, this was a world first and recognised in major international awards.

Arvo Tinni also gave generously of his time and expertise to educate others. He was an enthusiastic mentor to many young engineers and was always willing to share his vast experience and knowledge through the regular technical papers he produced over many years.

It was this dedicated service to our industry which saw Arvo awarded the John Shaw Medal in 2010. In the 2015 Queen’s Birthday Honours, he was also made a Member (AM) in the General Division of the Order of Australia, for significant service to engineering through contributions to the road construction sector, as an industry leader, innovator and mentor.

RA extends its deepest condolences to Arvo’s wife Malle, son Alar and all Arvo’s family and friends.



Roads Australia

15,469 followers

1 mo •

The Roads Australia tribute on LinkedIn was endorsed by the following people:



Paul Morassut · 1st

Technical and Innovation Manager at Fulton Hogan Industries Pty Ltd



Sam Henwood · 1st

Director Ground Engineering at Transport for NSW



Peter Knee · 1st

Technical Director - Highways at Rendel Limited



Michael van Koeverden · 1st

Past National President - Concrete Institute of Australia at Concrete Institute of Australia



Jason Chandler · 1st

Head of Innovation Research & Development



Mike Ford GAICD

Leadership Professional and Facilitator of Change



Paul Gelston

Ex DIT now retired



Geoff Ayton

Consulting Engineer at Bayside Personnel



Jon Lee · 1st

Principal Pavement Engineer, NSW Lead at WSP in Australia



Zaf Pavlic-Sahin · 1st

Retired



Ben Murray · 1st

Project Manager PreContracts Seymour Whyte, Owner at BKM Consulting



Steve Kiddle · 1st

Construction Director at John Holland



Adam Mularczyk · 1st

Team Coordinator at Central Coast Council



Kirk Vessalas · 1st

Head of Discipline, Structural and Materials Engineering



Ian Hampton · 1st

Head of Technical, Antoun



Craig Hodder · 1st

Principal Engineer - Pavements - Arcadis



Tim Buckingham-Jones · 1st

Technical Director, Pavements Team Leader at Aurecon



Harry Batt · 2nd

Civil Infrastructure Delivery at Self - Employed (Special Projects)



Craig Gordon · 2nd

Consultant Engineer



Mark Vella · 2nd

Operations Manager ACCIONA



Graeme Chambers · 2nd

Delivery Director, MRPA



Steve Latham · 2nd

Technical Manager at Evenrange Concrete Solutions



Mike Cush · 2nd

Project Director, Program Enabling



Colin Hirst · 2nd

Commercial Manager at Seymour Whyte Group



Mike Ford GAICD · 2nd

Leadership Professional and Facilitator of Change



John Galvin · 2nd

Executive Vice President- APAC at Clough.



Robert Bolton · 2nd

PROJECT EXECUTIVE | ENGINEER | COMMERCIAL TRANSFORMATION | SYSTEMS | CHANGE AGENT | AUTHOR | BE (civil) MBA MAICD CDDP



Bob Wildermuth OAM · 2nd

FAIB FAIQS CQS ICECA - Certified Quantity Surveyor & Commercial Consultant to the construction industry



Hamish Beynon · 2nd

Project Manager at John Holland



John Scevola · 2nd

Safety@Seymour Whyte



Lauren Streifer · 2nd


CEO & Founder - Skillsy, Streifer&Co and One in a Million Publishing



Albert Sultana · 2nd

Civil Engineer at Jacobs

 **Lynette Wright** · 2nd
Office Manager - McConnell Dowell Group

 **Henry Tsoi** · 2nd
Senior Associate Civil Engineer at Jacobs

 **Steven Ryan** · 2nd
John Holland Gateway

 **Nicholas Wall** · 2nd
Infrastructure and Development Executive

 **Graham Wirth** · 2nd
Product Manager at 12d Solutions Pty Ltd

 **David Wilks** · 2nd
Pre-Contracts Manager at Transport for NSW

 **Golab Arian** · 2nd
Corporate Legal Counsel

 **Ester Tseng** · 2nd
Senior Engineer at TEST, Inc

 **Travis Hede** · 2nd
Talent Acquisition Specialist

 **Peter Hodge** · 2nd
Senior Business Development Manager - APAC at Clough


 **Graeme Silvester** · 2nd
General Manager Safety, Health, Environment, Quality, Sustainability and Rail Safety

 **Bogdan Gregory** · 2nd
Precast Concrete Professional

 **Nicole Walsh** · 3rd+
Executive Manager, Industry Capability & Engagement


 **Abbas Abbas** · 2nd
Construction Manager (BE.Civil) at Gamuda Australia

 **Geoffrey Cahill** · 2nd
Estimating | Business Development | Bid Management | Contract Negotiation | Civil | Utilities | Spatial

 **Darron Hughes** · 2nd
Digital Engineering and Design Integration Manager

 **Stuart Mackell** · 2nd
Civil Supervisor / Civil Foreman / Civil Quality Inspector / Quality Engineer Civil

 **Paul Dalziel** · 2nd
Snr Project Manager at John Holland


 **Paul McGilvray** · 2nd
Director at PM Commercial Services

 **Courtney Hoops** · 2nd
General Manager - Southern Region

 **Ian Driscoll** · 2nd
Bid Director - Construction Methodology at John Holland Infrastructure

 **Aneetha de Silva GAICD** · 2nd
Infrastructure Executive | Managing Director | Non Executive Director

 **Julina T.** · 2nd
Senior Project Manager (Sydney Project Delivery) for Transport for NSW

 **Geoff Jameson** · 2nd
Chief Technology Leader at Australian Roads Research Board


 **Ahmad Hosseini** · 3rd+
Director & Designer at Consulting Engineers

 **Greg Essex** · 2nd


 **Murray Coleman** · 2nd
Head of Development Projects at Macquarie Group

 **Kathy Jones** · 2nd
Senior Advisor and Director

 **Elena Potenza** · 2nd
Infrastructure and Construction Executive and Board Adviser

 **Celine Willy Lun** · 3rd+
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 **Janette O'Brien FAIHS** · 2nd
HSEQ Leader | Change Agent | Connector | Putting People First

 **Johan Swanepoel** · 3rd+
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 **Barry Pike** · 2nd
Senior Consultant at CaSE International

 **Mark Curzon** · 2nd
Business Development Manager, Australia - Samsung C&T Corporation Engineering and Construction Group

 **Allen Macourt** · 2nd
Director Transport Sector Leader

 **Nicki Lever** · 3rd+
Programs & Events Executive at Roads Australia


 **Shalendra Ranasinghe** · 2nd
Chief Commercial Officer APAC Middle East | Webuild

 **Christine Lithgow** · 2nd
Infrastructure, Construction and Projects Partner at Holding Redlich

 **chris hopkin** · 2nd
Road designer at Aurecon (casual)

 **David Francis** · 2nd
Business Management & Change Implementation Executive

 **Stuart Manley** · 2nd
Company Director - GAICD - Governance and Risk - Executive Leadership

 **John Figueroa** · 2nd
Technical Director and Subject Matter Expert - Pavements

 **Simon Cusack** · 2nd
Engineering Manager at CCHD Pty Ltd

 **Rob Ferguson** · 2nd
Technical Director - Project Services

 **Cuetella Peppin** · 2nd
Business & Project Professional

 **Craig Hugo** · 2nd
Design Manager Tonkin Gap Alliance / RM - WA Contractors

 **Dylan Fernandes** · 3rd+
Solution Consultant | Software Developer | Presales Engineer | Trusted Advisor | Technical Architect

 **Mark Fairweather** · 2nd
Managing Director

 **Royce Christie** · 2nd
Director - Policy at Roads Australia

 **Michael Kilgariff** · 2nd
Policy and industry lex

 **Alicia Ison** · 2nd
Senior Community Relations Manager



It is with great sadness The Australian Society for Concrete Pavements announces the passing of Arvo Tinni.

Arvo was the first Honorary Member of the Australian Society for Concrete Pavements. He was an epic man, a giant in physique, personality and achievement. Known to many as the “big fella”. One of the foremost road engineers in Australia in the second half of the 20th century. He achieved excellence at both strategic and detail levels.



Transport
for NSW



Rob Sharp

1h ago

Seen by 53 ...

It is with sadness that TfNSW acknowledges the recent passing of Arvo Tinni.

Transport has a deep history and lasting legacy and it is people like Arvo who make this happen.

Arvo commenced his career as an engineer with the then DMR and spent his formative years at regional works and divisional offices across NSW. This was a time when our road network was in a significant build phase as part of the post WW2 development of the state, and Arvo's technical and organisational skills saw him rise quickly into senior roles within the organisation.

Arvo was both a technical and organisational leader who pioneered the development of concrete pavement technologies as well as the rapid expansion of our freeway network during the 1960s and 70s – with much of this network still serving the community today.

As the organisation evolved in the 1980s and 90s, Arvo led parts of the DMR's transition into the RTA before joining industry partners that allowed him to apply his extensive knowledge to the expanding private road construction industry.

Arvo continued to lead peak industry bodies in the pavement and road construction sector and share his knowledge through teaching and mentoring. He will be fondly remembered for his significant presence in the road industry and his support for Estonia.

Transport acknowledges the importance of Arvo's considerable legacy to our organisation and we offer our condolences to his family, friends and colleagues.

Vale Arvo Tinni (1935 – 2023)



Clem Cawley

Unquestionably, during my 33 years with the DMR/RTA, the most memorable, personable and efficient engineer with whom I ever worked (and there were a few) was Arvo.

We shared time together at Ballina WO in the early 60s and we were delighted when he and Viva accepted the invitation to attend Maureen's and my wedding in May 1962 at Mullumbimby. Some time later in the 70s when I was Stock Control Officer at Granville, we met up again at a couple of social functions at Metrop Constructions. And finally, in HO when as Principal Correspondence Officer I would seek out his sound advice on engineering matters in Ministerial Correspondence.

After the formation of the RTA, and in the lead-up to my "accepting" a redundancy package, I was given the task of coming up with a common uniform for Toll Collectors/Weight-of-Loads Inspectors/ex-DMT traffic Inspectors. There may have been other positions. Here's where my memory fails me. I cannot be certain, but I think it was via Arvo that I reported on this project to Bernard Fisk. Not sure if it was ever completed.

The reason for the blurb above is that I will always hold the great man in high esteem (and) ... I would be most appreciative if my recollections of, and my admiration for, Arvo could be passed on to his family.

John Hodgkinson

An epic man. A giant in physique, personality and achievement.

Doug Salkeld

Arvo was a Great Man in many ways. A Great Engineer and a Great Military Person. I spoke to him on many occasions with the construction of the F5 through Campbelltown and South. Commiserations to a Great Leader in his field.

John Cruickshank

The Big Fella made a big impact.



80010023 ex Blacktown. Pix S.Gilmour. SUN SPECIAL. Story P.Molnerney. The last links to a freeway...Flan Cleary, resident engineer (left), Lew Laing, works engineer, and Arvo Tinni, Regional engineer, look at the finishing touches to Pheasants Nest Bridge, whose road level from the ground is higher than the Sydney Harbour Bridge. It is the last link on the largest section of the F5 freeway.

Mal Bilaniwskyj

He was a giant in the true sense of the word. So much respect for him. RIP

Ed Sancbergs

It is with much sadness I read your message on the passing of Arvo, a great man, a leader, a visionary, a family man and good human being.

I was lucky to have worked with him in Goulburn as his assistant and experience first hand his management skills in charting the National Highways upgrade program in the Division. His untiring approach to all the aspects of managing the various tasks was inspiring, done with the minimum of fuss.

The DMR was lucky to have him on board.

Vale Arvo.

John Booth

A pre-eminent professional engineer both from a technical and managerial perspective. An inspirational leader, mentor and friend to many. Thank you Arvo for your part in my professional development, both in the DMR/RTA and the road construction and maintenance industry in general. Vale Arvo Tinni

Daniel Everett

RIP Arvo, big loss, great man.

Jon Lee

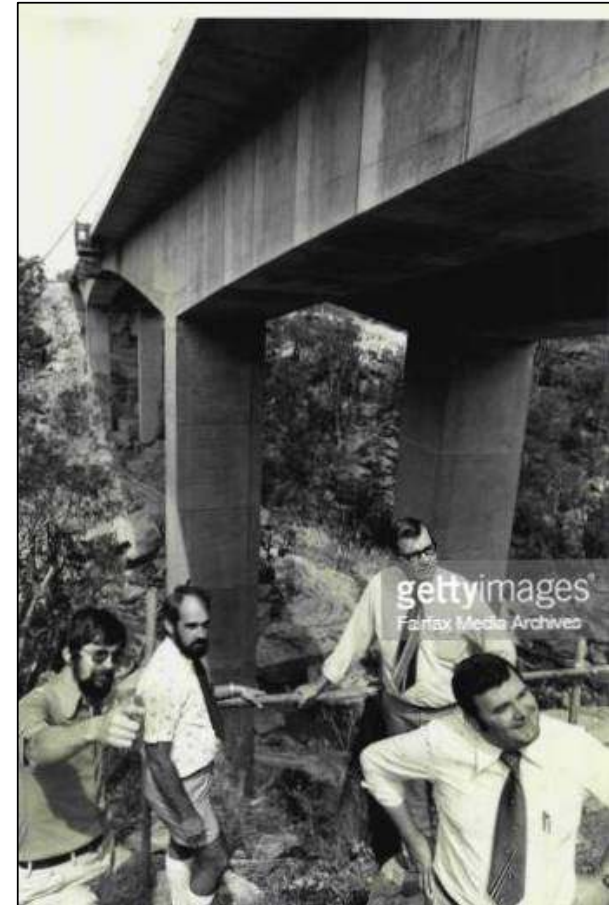
Arvo is great teacher to us. My prayers to him and his family.

Paul Dalziel

RIP Arvo, thanks for sharing your wealth of knowledge with us.

Dean Yasseen

RIP Arvo, you were a true leader in the industry! Always generous with your time to explain the intricacies of what you love - pavements ! Thank you !



80010023 at Blacktown. SUN SPECIAL. Pix B. Gilgour.
Story P. McInerney. The DMR's (from back, left) Lew
Laird, works engineer, Arvo Tinni, regional engineer,
and (front from left), resident engineer Alan Cleary
(pointing) and asst PR officer Bob Dudley. They are
looking at a section of the Pheasants Nest Bridge,
the largest in the F5 freeway project and more than
77 metres above the Nepean River.

Peter Bruce

We met in 1958 when he and I had to establish the DMR Works Office at Tooraweenah, for the sealing of the Newell Highway from Gilgandra to Coonabarabran. We met again in 1963 when I joined the 21st Construction Regiment RAE as QM for 108 Plant Sqn. Arvo was then a Lt until he was appointed as OC 108 a few years later. I served under him as QM at many annual camps including DOCRA at Singleton, Barromee Point, Port Stephens, Darwin 1975, and for a short time as ADJT, 21 construction regiment SR, when he was appointed as CO. The final time of my service under him was at SME for the regimental construction of the Engineers' Bridge.

A truly great person; my best wishes to all his family at this time.

Mike Ford

An icon in the industry. Vale Arvo.

Paul Gelston

A truly great and inspirational engineer. Vale Arvo

Lloyd Newman

I had a bit to do with Arvo during my 35 years with DMR/RTA and the Army Reserve. His technical and management skills have been deservedly well covered.

But he had a very human and compassionate side. I well remember an after hours session at the Gundagai RSL Club one afternoon when there had been some sort of kerfuffle on the Hume Highway reconstruction job. There was a bit of 'duck-shoving' going on – whose fault etc – with some veiled suggestion as to who might/should get the blame. Arvo had done his homework on the issue and had a fair understanding of it. He brought the conversation to an abrupt conclusion with *"give him a break – he is just at the bottom of the learning curve"*. I have used the expression on a number of occasions since when the situation indicated an unreasonable accusation had been made.



60010023 ex Blacktown, SIM SPITAL, Pix B.Gilgour.
Story S.Moloney. The DMR's assistant PR officer, Bob
Dudley (left) looks over the new thermo-plastic road mark
markings on the new section of the F5 freeway with works
engineer Lew King and regional engineer Arvo Timm.

Bob Sharpe

My first recollection of Arvo was my posting to the Metropolitan Construction Office in Granville in 1970, where Arvo was the Works Engineer. My office was furthest from his and a summons was usually a bellow “.... *get in here*” or similar. However, the nature of the person meant that this summons was not taken as being derogatory. One of the things we quickly learnt from Arvo was to think outside the box and not be constrained by DMR practices in developing solutions. He was a gentle giant of a man and I can recall a meeting with a difficult property owner - Arvo used his size and conciliatory manner to turn the person into a happy camper.

Arvo was a progressive thinker and one thing he taught at Little Bay “Link bar Network Planning” which was a usable manual way of critical path planning and managing the progress of projects. This was before computers and provided an essential tool for project managers. This method was used as the key planning and management tool on the F4 Homebush to Mays Hill.

Arvo loved to get out onto the construction site, especially if there was machinery working nearby and diesel fumes were in the air. I can remember him visiting us on the second stage of the Berrima Bypass and taking him on a tour of the project, especially crossing the steep Bendooley Hill, which was interesting due to construction issues caused by significant water bearing layers.

With the requirement of contracting works on the National Highway network, Arvo was the one of the first to develop and train staff in contract management techniques. I valued this training immensely. Talking about contractors there was a story that on the initial Warringah Freeway works and in a dispute with a contractor Arvo’s daily diary was subpoenaed. He was asked to explain what the derogatory remarks meant that he had written in the margin during a phone call from the contractor.

Arvo’s early involvement with concrete paving included the Warringah Expressway project in the 1960s and then the modern era of concrete pavements from the 1970s. He remained actively involved throughout his life in subsequent developments of pavement design and construction technology. He was an enthusiastic industry advocate and educator in Australia and Estonia.



60010023 at Blacktown. SUN SPECIAL. Pix B.Gilsour. Story P.McInerney. The DMR's resident engineer, Flan Cleary shows regional engineer Arvo Tinnl data from a computer which is linked to the massive Phasants Nest bridge on a new section of the F5 Freeway. The computer checks heat and stress on the bridge.

Michael van Koeverden

This is very sad news. Arvo was a highly respected and experienced engineer and I feel very lucky to have known him. Arvo's knowledge of pavement concrete was extensive and whenever he spoke on a topic I always benefited from his wisdom and the insight he provided.

Arvo is a great man and will be surely missed by our profession.

Andrew Deck

RIP big fella and condolences to your family. Many fond memories of Arvo. His PIN's (Paving Information Notes) were a wealth of knowledge; it was always exciting to get a new or updated one at a Paving Conference and see what part of the spec Arvo was challenging or clarifying this time! Sub base cracking probably my favourite one. I also recall myself and a few other young engineers dragging / carrying him along the corridors to his hotel room at 2am after far too many reds. A true legend. What a legacy you have left on the industry.

Steve Kiddle

Legend of the Roads Industry and a teacher of many young engineers. Many of us learnt a heap from him. RIP Arvo, it was always a pleasure.

Geoff Ayton

Arvo's passing is a great loss to road engineering and to his many associates. NSW highway practices would have been markedly different without his long-term influence. He was a great DMR/RTA leader in a technical and managerial sense. He stood up for truth and integrity regardless of the personal consequences and was a towering example to his staff and associates. His enormous influence as an advocate and educator of concrete pavements is well documented. RIP Arvo.

Matthew Bailey-Lawrence

The Great Arvo Tinni, Rest In Peace

Soheil Jahandari

Sorry to hear about your loss



000902.Blacktown ex J.Hobley/R.Macey.S.M.S. NEM.Pic shows Project supervising Eng. Mr Arvo Tinni at the controls of the computer installed in the Pheasants Nest Bridge. The computer measures stresses, temperatures, loads and movement of the bridge and will remain installed after the bridge is opened.

John Booth

I joined the Department of Main Roads in 1970 to undertake a Traineeship in Civil Engineering at the University of NSW. During my periods of summer employment at various offices around the State, I realized that the DMR, like the University was very multicultural. The organization had greatly benefitted from many professional people in Engineering and Science, educated at top European universities such as Prague, Budapest and Krakow, who fled to Australia after World War II and the DMR gave opportunities to them and their children. Arvo Tinni had left Estonia as a child with little or no English and had completed his formal education in Australia.

I first met Arvo Tinni at the 1975 "Roadworks for Engineers" course at Little Bay. Arvo was then the Resident Engineer supervising construction of the Warringah Expressway. He exemplified the expertise and experience of the engineers and other departmental officers who lectured at these courses. Arvo's session was on earthworks. He also gave up his own time to attend and join in the later discussions over a drink. Over the years I attended many other training courses where Arvo gave presentations on critical path programming techniques, pavement construction, project management, cost estimation and contract administration. As well as passing on his expertise and experience, Arvo also demonstrated his unerring accuracy at chalk throwing to wake up any recalcitrant failing to pay attention.

Arvo was a great supporter of the ability of the DMR then RTA to compete with private contractors on cost and quality. Arvo had undertaken a study on completed projects, which showed that the prime reasons for cost overruns were the failure to update estimates prior to construction commencing and the non-application of variations, due to changes in quantities and scope of work.

Once Arvo had met young engineers, he followed their careers and took an interest, whether you worked for him or not. He was always someone you could approach for technical and other advice. Arvo always remembered you. I have heard many personal stories of Arvo going out of his way to help his staff with career or personal problems.

When Arvo left the RTA to join Tinni Management/Abigroup, it was a great loss to the authority and a major gain for private industry. Many of us reassessed our career aspirations and some also left for better or worse. At social get-togethers of ex DMR/RTA/RMS/TfNSW personnel, Arvo was always excellent company over a red wine or coffee; our conversations ranging from engineering, organizational restructures, international events, sport and current affairs. He was a leader of men, who got respect, and he still had great respect for many people he had worked with over the years. I asked him at one lunch how much private enterprise would have to pay for the expertise within the room; to which he replied *"John, they wouldn't have a chequebook large enough"*.

Arvo Tinni was a great example of the immigrant success story, a great man in stature, intellect and ethics, a soldier, a professional engineer, leader, educator and mentor. My sincere sympathies to Arvo's wife Malle and son Alar and their families, relatives and friends. Vale Arvo Tinni.

Arvo inspecting paving work on the Tumblong Deviation, 1983.
Supplied by Bob McKay with the comment *"Not hard to pick him out, even at that distance"*.

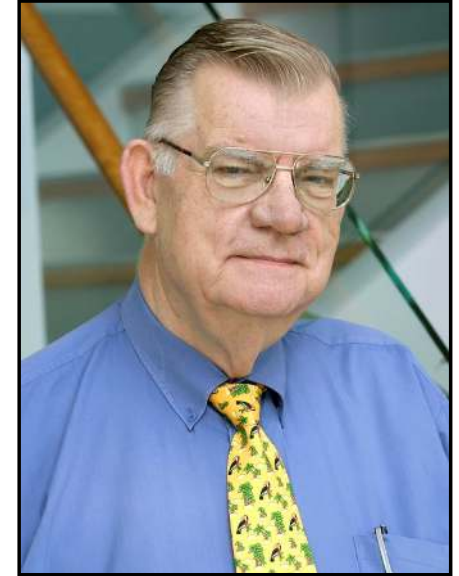




Honorary Membership of ASCP

was awarded to Arvo in 2012; the first ever recipient. The award is assessed on the following criteria:

- for outstanding contributions to the concrete pavement industry in Australia.
- nominations to be invited annually from members
- appropriate criteria might include:
 - design contributions
 - construction achievements
 - research
 - leadership



The following is a brief background to Arvo's contribution at that time:

ACPave – Australian Concrete Pavement Association
Founding member and Director (10 years)

ASCP – Australian Society for Concrete Pavements
Founding Director (to 2011)

ISCP – International Society for Concrete Pavements
4 years' membership

The following pages show highlights from the presentation award held on 26 March 2012.

Arvo Tinni RFD, BE, FIEAust, AIAArbA, CPEng

Qualifications

- Bachelor of Engineering (Civil) - University of NSW, 1959
- Arbitrator - Institute of Arbitrators, Aust, 1990
- CPEng - NPER 3

Employment Summary

1960 – 1989: Department of Main Roads, NSW

1989 – 1990: Roads and Traffic Authority NSW

1990 – 1995: Statewide Roads, Sydney

1995 – 1997: Tollaustr Pty Ltd, Sydney

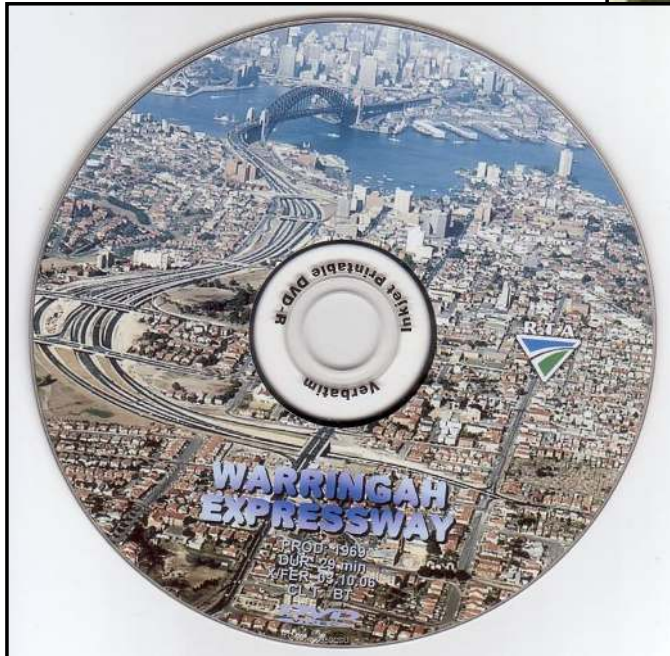
1997 – 2011: Abigroup Contractors Pty Limited

DMR/RTA 1960 - 1990

- Works Engineer, Ballina
- Works Engineer, Yass
- Resident Engineer, Warringah Expressway
- Works Engineer, Metropolitan Construction Works Office, Granville
- Construction Engineer, Metropolitan Division, Sydney
- First Assistant, Outer Freeways Construction Division
- Divisional Engineer, Newcastle
- Divisional Engineer, Goulburn *
- Chief Engineer, Services
- Chief Engineer, Roadworks
- Chief Engineer, Operations
- Director – Priority Projects



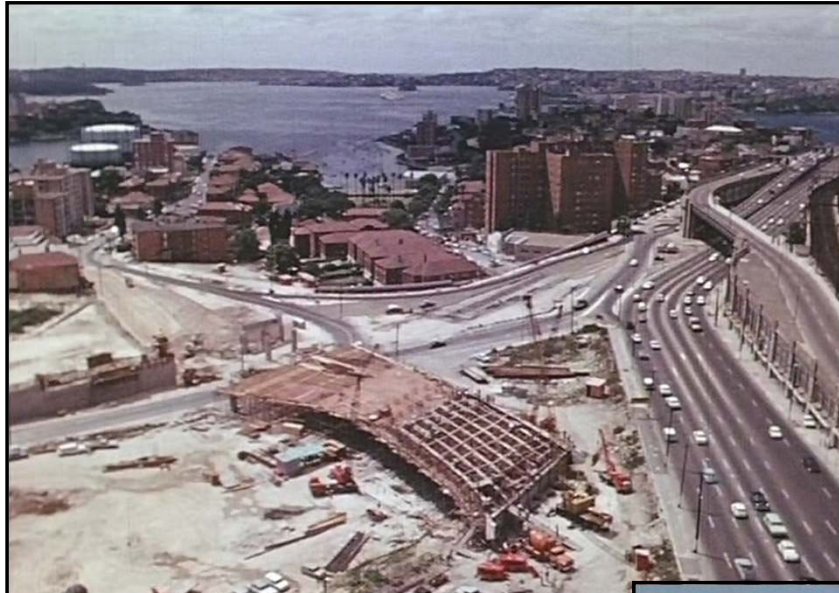
* Superintendent: 18 concurrent major contracts

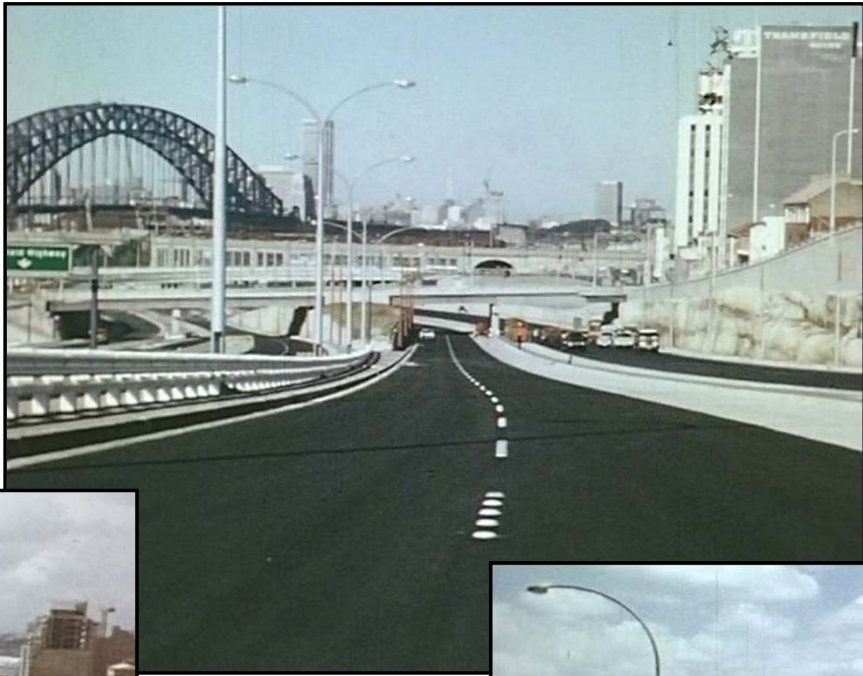


THE DEPARTMENT OF MAIN ROADS,
NEW SOUTH WALES,
presents
**WARRINGAH
EXPRESSWAY**



THE DEPARTMENT OF MAIN ROADS
NEW SOUTH WALES
presents
**WARRINGAH
EXPRESSWAY**





ATTACHMENT B

ARVO TINNI Papers, Instructional Writings, Presentations Overseas Conferences and Study Tours Since 1994



Date	Topic	Paper	Presentation
Papers, Instructional Writings and Presentations			
September 1994	Use of Pavement Anchors in Concrete Pavements. (Tinni & Stubbs) For RTA NSW	X	
September 1994	Writing and Compilation of "Contracts Management Manual" for RTA NSW	X	
May 1995	Report on Quality of Embankment Construction and Structural Stability of Ben Lamond Road Extension, Minto (Expert Opinion for Arbitration)	X	
October 1995	World's Best Traffic Control Centres The Board, M2 - Hills Motorway		X
August 1996	Major Advances in Long Life Pavement Technology Abigroup	X	
August 1996	Advanced Electronic Traffic Management and Control Centre for Sydney. For RTA NSW.	X	
August 1996	The Theory of Variable Speed Limits For M2 – Hills Motorway	X	
October 1996	Report on Double Layer Concrete Paving in Europe The Board, Abigroup Ltd	X	X
June 1997	Electronic Toll Collection and Electronic Traffic Management Ministry of Transport, Estonia		X
October 1997	Report on Selected Electronic Toll Collection Operations in North America. For the Board M2 – Hills Motorway.	X	X
January 1998	O & M Manual, including ETC and ETM for M2 - Hills Motorway, Sydney	X	
August 1998	Electronic Toll Collection in Trondheim, Norway The Board, M2 - Hills Motorway	X	X
April 1999	Why Concrete Roads? Pavements Forum, Queensland		X
April 1999	Hot Weather Concreting (Discussion Paper) For RTA and Abigroup	X	

Date	Topic	Paper	Presentation
Papers, Instructional Writings and Presentations			
September 1999	Concepts for Event Parking Ticketing and Electronic Parking Management (for the Olympic Park in Homebush) For Abigroup Board & Olympic Co-ordinating Committee	X	X
January 2000	Concept Report for Viaduct above Lane Cove Road to Grade Separate Waterloo and Talavera Roads. For Abigroup.	X	
April 2000	Whisper Concrete in Australia International PAVEX Conference, Paris, France	X	X
April 2000	Evaluation and Performance of Heavy Duty Pavements International PAVEX Conference Paris, France	X	X
July 2000	Tunnel Air Cleaning - Overseas Practices and Current Technology. (A Major Report). For Abigroup Technical Services	X	
June 2001	Report on Affect of Voids Around Tiebars. For RTA NSW.	X	
January 2002	O & M Manual for Pacific Highway, Yelgun to Chinderah For RTA & Abigroup Maintenance	X	
February 2003	Analysis of Slab Stresses to Determine Locations for Induced Longitudinal Joints. For RTA NSW and Abigroup.	X	
April 2004	Maintenance Strategies and Whole-of-Life Analyses of Five Heavy Duty Pavements (Mitcham to Frankston Motorway) For Abigroup tender.	X	
June 2004	Design of CRCP Reinforcement to Eliminate Longitudinal Joint Tiebars. Abigroup / Leighton Joint Venture – M7 Sydney Western Orbital (Westlink M7 Motorway)	X	
August 2004	Notes on Issues with Types of Pavement Options for Roundabouts. For Abigroup.	X	
April 2006	Reasons and Effect of Cracking in Lean Mix Concrete Subbases. Abigroup Paving Conference.	X	X
June 2006	Presentation to Bilfinger Berger in Wroclaw, Poland on Evaluation of Options for heavy duty Pavements and principles of Concrete Pavement Design		X
August 2006	Evaluation and Comparison of Performance of Heavy Duty Road Pavements. XXVI International Baltic Road Conference, Kuressaare, Estonia	X	X



Date	Topic	Paper	Presentation
Papers, Instructional Writings and Presentations			
August 2006	Seamless Continuously Reinforced Concrete Pavement on M7 - Sydney Western Orbital. XXVI International Baltic Road Conference, Kuressaare, Estonia	X	X
December 2006	(Concrete Pavements) Explanatory Notes on the Purpose and Use of Subbases. Abigroup Paving Conference	X	X
March 2007	The Reasons and Effect of Cracking in Lean Mix Concrete Subbases. Abigroup Paving Conference	X	X
March 2007	Cracking in Concrete Pavements Abigroup Project Managers Conference	X	X
May 2007	(Concrete Pavements) Control of Thermal and Drying Shrinkage in Lean Concrete Subbases. For Abigroup Paving Workshop.	X	X
May 2007	Overview of Issues with Concrete Paving Abigroup Paving Workshop	X	X
June 2007	Report on Current Practices in Roadway Asset Management and Recommendations for Requirements Abu Dhabi, United Arab Emirates	X	X
September 2007	Explanatory Notes on the Use and Requirements of Pavement Anchors (Input data for the Seamless Pavement Design) Abigroup Leighton JV – M7 Motorway	X	
October 2007	Issues Relating to the Rehabilitation and Reconstruction of Eastern Service Road and Design of New Concrete Overlay (for Pacific Alliance - Tugun Bypass Queensland)	X	
November 2007	O & M Manual, including ETC, ETM and Asset Management for M7 - Western Orbital Motorway, Sydney (for Abigroup/Leighton Joint Venture)	X	
February 2008	Concrete Pavement Design - The Roles of Selected Subgrade Zone and Lean Mix Concrete. Abigroup Paving Conference.	X	X
June 2008	Summary of Blue Circle Cement Presentation on Flyash at AbiPave Conference	X	
August 2008	Lean Mix Concrete Subbase as Haul Road Abigroup Paving Conference, Wagga Wagga	X	X

Date	Topic	Paper	Presentation
Papers, Instructional Writings and Presentations			
September 2008	Effect of Cold Weather on Concrete Strength and Durability For Abigroup & RTA NSW	X	
September 2008	(Concrete Pavements) Effect of Subgrade Strength on Base Thickness. For Abigroup	X	
October 2008	Effect of Air Entrainment on Concrete. For Abigroup.	X	
November 2008	Importance of Factors Affecting Concrete Strength For Abigroup.	X	
January 2009	Report on Quality of Concrete Placed in Dec 2008 at RAAF Base Townsville. For Abigroup, Queensland	X	
March 2009	Effect of Pavement Roughness on Fuel Consumption ASCP Forum Sydney	X	X
March 2009	Concrete Roads Save Fuel. ASCP Forum Sydney		X
March 2009	Design and Construction Factors that Affect Initial Smoothness. ASCP Forum Sydney	X	X
June 2009	Evaluation of Pavement Distress and Proposals for Remedial Works on M7 Shared Path (for Abigroup/Leighton JV)	X	
August 2009	Heavy Duty Pavements. For Abigroup	X	
September 2009	Latest Theory and Guidelines for Curing of Concrete Pavements. For Abigroup.	X	
September 2009	Explanatory Notes on Design of Concrete Pavements For Abigroup & Main Roads, Western Australia	X	
October 2009	Sustainability in Concrete Pavements (B Murray & A Tinni) For Abigroup	X	
November 2009	Next Generation Low Maintenance Concrete Surfaces For Abigroup and RTA NSW.	X	
February 2010	Concrete Pavement Slab Replacement - Latest Technology For Abigroup.	X	



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PAVEMENT INFORMATION NOTE

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NEXT GENERATION LOW MAINTENANCE CONCRETE SURFACES

Development of the Next Generation Low Maintenance Concrete Surfaces has been a topic of research at ACPA. Various noise levels were compared. This testing



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Concrete Pavements – Problems in US

Ref. National
Pavement

Most concrete
year initial
maintenance



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Load Transfer Efficiency (LTE)

The LTE and deflection testing is used as a simple method to evaluate maintenance needs, eg stitching or even retrofitting. The Falling Weight Deflectometer (FWD) can evaluate the LTE as well as

- PIN 20 - Factors Affecting Shrinkage.doc
- PIN 22 - Roughness & Fuel Consumption.doc
- PIN 31 - Sustainability.doc
- PIN 33 - Next Generation Concrete Surfaces.doc
- PIN 34 - On-board Sound Intensity measurement.doc
- PIN 36 - Concrete Roads save fuel.doc
- PIN 37 - Retro-fitting Edge Drains in US.doc
- PIN 38 - Slab Replacement - opening strength.doc
- PIN 39 - Maturity Testing.doc
- PIN 40 - Road and Tyre Noise.doc
- PIN 41 - OGA vs SMA.doc
- PIN 42 - CRCP Terminal Anchors.doc
- PIN 44 - Self Healing Concrete.doc
- PIN 48 - Energetically Modified Cements.doc
- PIN 49 - Hiperpave III.doc
- PIN 50 - Concrete Cracking and Heat of Hydration.doc
- PIN 53 - Concrete Pavement maintenance - USA Problems.doc
- PIN 55 - Load Transfer Efficiency of Joints.doc
- PIN 59 - Conflict of PIN 57 with RTA Spec R44.doc
- PIN 60 - EUPAVE Snippets from ASCP Forum 02 May 11.doc
- PIN 62- Solar pavements.doc
- PIN 64 - Background to Pavement Stresses and Cracking.doc
- PIN 65 - RTA Pavements 2011 Conference.doc
- PIN 67 - Cracking due to Curling Stresses.doc
- PIN 68 - The Reasons and Effect of Cracking in LCS.doc



Abigroup's National Road Manager Arvo Tinni has been awarded the prestigious John Shaw Medal for 2010. He was presented with the Medal at a Gala Dinner at the Roads Australia Annual Summit in Sydney.

- Outstanding service to road transport in Australia
- Annually since 1978, *“only when the selection committee is satisfied that a candidate merits pre-eminent industry recognition”*.
- Arvo's award was only the 14th in 32 years.

Roads past catch up with Arvo Tinni, visionary engineer

Many exciting challenges face future generations of Australian engineers, from major key projects that will need to be built in Australia, according to the doyen of New South Wales road builders, Arvo Tinni. Bob Lawrence reports.

HIS LIST INCLUDES the Very Fast Train between Sydney and Melbourne, permanent water supplies for Perth and inland New South Wales, a new road traversing the Blue Mountains and a new Sydney International Airport.

The tall, 73 year old Estonian born engineer, believes in the inevitability of these projects because he knows that eventually Australia will need them.

He knows Australia has the engineering expertise. Arvo is a proud Australian who is pleased that his refugee toolmaker father, when tossing up whether to emigrate to Australia or Argentina as the place to raise his family, chose the destination furthest from the Russians who had earlier invaded Estonia.

When asked about project funding, this man who started work on fully government funded projects and has seen the rise of Public Private Partnerships (PPPs), expresses faith in the new concept of "alliance contracting" in civil construction.

Arvo says alliance contracting allows the client to be part of the control team. Arvo is involved in them now as national roads manager, Major Project and Technical Service Group with the Sydney-based, Australia-wide Abigroup.

"Abigroup has alliances with the NSW Roads and Traffic Authority and other nation-wide authorities, so decisions are made faster as the client has a representative on the team, and can either give a fast answer, or get one," Arvo explained.

"When an alliance is accepted between parties there is no cost nominated at the time. It's worked out during the process of negotiations. Total out-turn cost is calculated by an independent verifier and agreed by the parties."

He said one of the strengths in the "pain and gain" clause, is that the client shares any savings or cost blow outs.

Inescapable past

Arvo Tinni can not escape his own past. It is almost impossible for him to make a car trip in Sydney without using one of the roads whose construction he oversaw as he climbed the ladder at the Department of Main Roads from 1960 to 1988.

He had linked with the Department of Main Roads by accepting a paid cadetship in his fourth and final year studying engineering at the University of NSW.

After initially working at Ballina and Yass, Arvo was transferred to be the resident engineer for the Warringah Expressway that opened up northern access across the Sydney Harbour Bridge in the late 1960s. This massive project (although only 2½ km long, its concrete paving area was equivalent to 36km of a normal two lane concrete road) required the demolition of 505 houses, which meant diplomatic skills were taxed by DMR officials dealing with the residents. Among areas demolished was the North Sydney red light district, with the professional ladies involved seeking help from the young engineer when they wanted to relocate. He was unable to assist!

In the 1970s he was the Works Engineer for the Sydney Metropolitan area with often more than 20 projects in hand. In the 1980s, his major project was building the southern NSW section of the multi-lane Melbourne to Sydney highway. He smiles when referring to it as a Bi-centenary Project. Politicians announced the new dual carriageway road would be completed by 1988.

Political blinkers

"They didn't believe my 1984 estimate of the true cost of the job". In true Arvo Tinni style he told them, honestly, the unpalatable truths as to the cost, which did not fit their rhetoric. "At the time I was probably the biggest spender in the DMR. I said we'd need another \$X-hundred-million to get to



"I said we'd need another \$X-hundred-million to get to Albury. They didn't want to know that!"

Ironically, in 2009, as a consultant to contractor Abigroup, he is still involved with building a highway section near Albury that politicians claimed could be finished 20 years ago on that unrealistic budget.

Arvo only talks straight. He tells people what he thinks, not necessarily what they want to hear. If that does not suit political policy, Arvo leaves it to time to sort out the truth. As history shows, time has tended to be on his side.

In 1988 when the DMR was renamed the Roads and Traffic Authority an academic bureaucrat was engaged to virtually halve the 10,500 staff. Arvo suggested an alternative process: that they start by working out what

Concrete v asphalt

While he appreciates the advantages of both surfaces, his preference is concrete as it has a longer life without the potholes and ruts of asphalt.

"I'm a concrete man" he says, noting he was attracted to Abigroup as its core business was concrete pavement.

Arvo Tinni RFD, BE, FIEAust, AIAArbA, CPEng

..... and an Honorary Member of the ASCP



I would like to be remembered as:

*“A very professional Civil Engineer who had a passion for excellence, for learning all his life and the joy of imparting up-to-date knowledge to his colleagues.
In his management and leadership roles, he had a very simple philosophy – to be always fair, firm and friendly. Everybody knew where they stood”.*