

The background of the entire page is a photograph of a modern, open-plan industrial or laboratory space. In the foreground, a long stainless steel counter holds several small, dark, rectangular samples. A woman in a blue lab coat is leaning over the counter on the right. In the middle ground, several other people in blue lab coats are engaged in conversation or working. The background features a high ceiling with exposed metal ductwork and large windows. A large white circle is overlaid on the left side of the image, containing the text 'ANNUAL REPORT 2018/19'. The 'orb' logo is in the top left corner.

orb

ANNUAL REPORT 2018/19

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CHAIRMAN'S REPORT

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Members have responded very positively to the changes and have enthusiastically embraced ARRB's new vision and direction.

As a business ARRB has now transitioned from being the trusted advisor to members across Australia and New Zealand to the trusted partner. New relationships leading to new partnerships has been the outcome of a lot of work undertaken by all the staff in ARRB over this transformative journey.

ARRB, your National Transport Research Organisation, is focussed on great outcomes for Members operating in the not-for-profit, public good, space and the journey over the past three years has been focussed on transforming the way in which ARRB is seen by its Members. Members have responded very positively to these changes and have enthusiastically embraced the new vision and direction.

The 2018/2019 financial year saw ARRB receive the first ever Commonwealth announced funding through the budget process to deliver four Best Practice guides particularly focussed on Local Government Road Asset Management. These guides are to be written and produced to deliver a new harmonised approach to the standards and practices employed by Local Government across Australia.

Another first for the past twelve months has been the concerted effort to reconnect ARRB to its global partner organisations and undertake joint venture research works with RIOH in China, BAST in Germany and TRL in the UK.

The new office and working environments in VIC, NSW, QLD and SA have led to great productivity and satisfaction from staff. It is also important to note that the National Transport Research Centre in Port Melbourne has been a major improvement and produced a focus on ARRB's national identity and capability.

The ARRB Board has, during the course of the year, had Board meetings across Australia and met with both elected Members and senior industry representatives (CEO's & Chairs) in a formal and informative environment. These sessions have enabled the Board to engage and understand our clients' needs and articulate to them, ARRB's extensive capabilities.

I wish to thank ARRB staff for their energy and effort throughout 2018/19. We have completed the first part of the transformation journey in the way we think about our infrastructure and research needs, the impact and the reshaping of our organisation to respond and complete the agenda for the future.



Peter Duncan AM

Board Chairman
Australian Road Research Board

CHIEF EXECUTIVE OFFICER REPORT



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With a world that is changing ever more rapidly, particularly in the transport space, ARRB must ensure that the disruptions of the future are embraced and used as positive levers for change and not seen as threats that can't be dealt with.



In the past three years ARRB has been transformed into a forward looking and highly effective organisation that is focussed on transport outcomes. Our mission is to create knowledge for tomorrow's transport challenges and solutions for today.

The 2018/19 year has been the third and last year of the current strategic planning cycle. When the Strategic plan was released in 2017, we set out to achieve the goals of having multi disciplinary highly evolved teams harnessing transformative technology. To develop adaptive and affordable infrastructure and derive a better understanding of future transport to support future generations.

With the development over the last three years of new facilities for ARRB in Brisbane, Sydney, Melbourne and Adelaide, (Perth to be completed in early 2020), ARRB has provided its staff and clients the physical spaces and technology uplift to "do work differently".

We have used the technology available in the workplace to challenge ourselves and our clients to think and act in a new connected way. We have built in Melbourne a state of the art, world leading laboratory facility, with equipment and staff that are the new benchmark for Australia and New Zealand.

Our people have changed on this journey. ARRB staff are collaborating in new ways across the teams within the business and more importantly working in a new partnership with Transport agency staff. There is a much more diverse workforce within the organisation and the median age has reduced to reflect the new challenges we are seeking to develop knowledge to overcome.

We are committed to presenting opportunities for member organisations to enhance their value offering for the communities they serve and are determined to enhance the resilience of the transport system across Australia and New Zealand.

With a world that is changing ever more rapidly, particularly in the transport space, ARRB must ensure that the disruptions of the future are embraced and used as positive levers for change and not seen as threats that can't be dealt with.

The support of the ARRB Board during this journey has been magnificent and the embracing of the "new" ARRB by member organisations has reinforced the determination of the organisation to strive to deliver even greater levels of service. We embrace the future with renewed vigour and a determination to not only solve problems but add value to the questions that are being asked.

The future for ARRB, as the source of independent expert advice and trusted partner for the shareholding member organisations, is before us to seize and deliver our vision of "Shaping our Transport Future".

Michael Caltabiano

Chief Executive Officer
Australian Road Research Board



ABOUT ARRB

CULTURE & VALUES

ARRB MILESTONES

COMMUNITY VALUE

FUTURE FOCUS

FINANCIAL STATEMENTS

GLOSSARY & ACRONYMS

OUR JOURNEY SO FAR

ARRB has over 60 years of continuous service to the road and transport sectors of Australia and New Zealand as the sole source of independent, reliable and robust guidance on the delivery of next generation infrastructure.

The way Australians access the transport network is facing the most significant change since the horse and cart gave way to the motor car. We are on the cusp of an evolution with Australia and New Zealand transitioning from a road focused community to a mobility-enabled society. The nature of supporting transport infrastructure must change together with our attitudes to using this resource and the purpose for which it is used. Enabling the transport system to function in a different way with people at the centre requires a new set of tools to solve the mobility challenges of the future.

Over the past 60 years that ARRB has been the central National entity and repository of higher order skills and knowledge in road infrastructure and asset management engineering and now extensive expertise in transport safety, transport technology systems, human behaviours, connected and automated futures, materials engineering and transport system performance. There are enduring traits that have been captured in the ARRB Values that define the way in which our organisation performs.

With global connections that link the UK, Europe, USA and China; ARRB has the reach to ensure that as a nation we are on the right pathway for success.

As we transition from a road trip-based community to a mobility-based society undertaking journeys, the nature of supporting transport infrastructure must change together with the attitudes to using this resource and the purpose for which it is used. As this whole of society change in mobility occurs over the next decade ARRB has a clear role of partnering with its shareholders at Local, State and Federal Government levels to provide trusted and rigorous advice.

In an ever-changing world with technology reshaping the transport system every day and an external natural environment posing new challenges, it is the great depth and breadth of skills that the ARRB staff bring that will help to make safe mobility a reality. ARRB as the National Transport Research Organisation exists to be the trusted partner for Government and Industry alike on the journey to a mobility enabled future.

Our vision is to help make the world's cities smarter, cleaner, greener, safer, more efficient and productive through intelligent transport solutions.



OUR EXPERTISE

Population growth and a growing economy translates to even greater transport challenges. In response to these challenges, ARRB is involved in a range of local road technology and infrastructure development and testing programs to develop solutions for today and create the knowledge for tomorrow.

FUTURE TRANSPORT INFRASTRUCTURE

Facing the challenges of new materials and infrastructure performance in a cleaner, greener world.

ARRB sees great value in developing adaptive and affordable infrastructure for future generations. In particular, we deliver:

- Improved resilience
- Better access and journey experiences
- The right infrastructure choices for the community at the right price

In achieving these objectives, ARRB is organised in six key work group areas:

SUSTAINABILITY AND RESILIENCE

Ensuring that our transport systems can adapt to change and cause minimal environmental damage. Optimising the level of investment to achieve a resilient system.

TRANSPORT SAFETY

User safety and security on our transport network through understanding the interaction between human decision makers, vehicles, infrastructure, and the broader environment through a systems approach.

FUTURE TRANSPORT SYSTEMS

Improving customer experience with the rapid advances in technology on offer. Enhancing the functioning of mobility corridors by embracing technological change.

ARRB is harnessing transformative technology to:

- Predict future disruptive opportunities and challenges
- Meet growing community needs and aspirations

Simplify complex decision making

DATA COLLECTION & ANALYSIS

ARRB has collaborated with local and state road agencies to assess the condition of both sealed and unsealed road throughout the Australasian networks for over 25 years.

ASSET MANAGEMENT

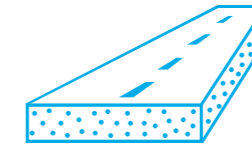
Reconfiguring asset management to allow skilled decision makers to focus on informed decision-making, rather than routine and repetitive tasks. Delivering a step change in data analytics to better manage the transport system.



FUTURE TRANSPORT INFRASTRUCTURE



Research Labs



Pavement & Materials

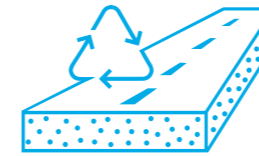


Specifications



Guidelines

SUSTAINABILITY & RESILIENCE



Recycled Alternative Materials



Economic Evaluation



Climate Change Adaptation



Sustainable Future Mobility

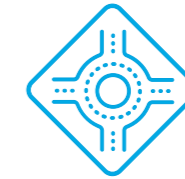
TRANSPORT SAFETY



Transport Safety Policy



Transport User Behaviour



Safe Road Infrastructure



Safe Mobility

FUTURE TRANSPORT SYSTEMS



Smart Traffic Management



Network Operations Planning



Intelligent Transport Systems Assets



Advanced Mobility Technologies

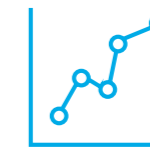
DATA COLLECTION & ANALYSIS



Infrastructure Assessment



Data Collection



Analysis & Visualisation

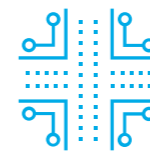


Modelling

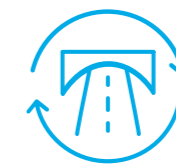
ASSET MANAGEMENT



Asset Utilisation



Infrastructure Performance



Intelligent Asset Management



Transport Economics

THE BOARD

ARRB is governed by a board of directors, all of whom bring years of industry and government experience to the transport sector and who have contributed significantly to the advancement of the sector within Australia and New Zealand.

We are proud to have on our board:



PETER DUNCAN AM
BOARD CHAIRMAN

Peter is an experienced non-executive director and has an advisory business dealing in management, leadership, strategic advice and infrastructure delivery. He is the chair of the Infrastol group and a director of the Westpac Rescue Helicopter Service.

In August 2017 Peter was appointed as a Commissioner on the NSW Independent Planning Commission. He has also been a member of the Advisory Board of the Office of Projects Victoria since 2016.

Prior to moving from his 40-year public service career in 2016, he was Chief Executive of Roads and Maritime Services in NSW and deputy Director General of the NSW Department of Premier and Cabinet.



NEIL SCALES OBE
DEPUTY CHAIRMAN

Neil Scales OBE is currently the Director-General for the Department of Transport and Main Roads, Queensland. He was previously the Chief Executive and Director-General of Merseytravel, the transport authority for Merseyside in the north of England. Mr Scales has held executive roles with transport and engineering companies and has consultancy experience with several agencies, including the World Bank and the European Commission. Mr Scales is the current Chairman of Austroads, serves as a commissioner of the National Transport Commission and many other roles across the transport sector.



KEVIN REID
BOARD MEMBER

Kevin Reid is currently the National Manager Network Outcomes at the New Zealand Transport Agency (NZTA). He has over 25 years of experience in the planning, design, construction, maintenance and operation of highway networks in New Zealand, the United Kingdom and the Caribbean.



STEPHEN TROUGHTON
BOARD MEMBER

Stephen has experience managing businesses in Australia, the United Kingdom (UK) and the Middle East with extensive technical expertise in major infrastructure and property. He is a Fellow of Engineers Australia and a Graduate of the Australian Institute of Company Directors (AICD).



LOUISE McCORMICK
BOARD MEMBER

Louise is an Executive Engineer, Chartered Fellow and Senior Civil / Structural Engineer with 20 years' experience in the public and private sectors. Louise is the General Manager for Transport and Civil Services Division within the Department of Infrastructure, Planning and Logistics NT as part of the Machinery Change of Government in the Northern Territory.



PETER WORONZOW
BOARD MEMBER

Peter Woronzow is currently the Managing Director of Main Roads Western Australia, having previously been the Executive Director, Financial and Commercial Services for the organisation. He has over 35 years in the transport industry. As Chair of the Budget Committee and Chief Finance Officer, Peter oversees the sustained financial prosperity of the Main Roads Western Australia. He is a member of CPA Australia and is also a board member of the Gateway WA Alliance.



DR VICKI-ANNE GARDINER
BOARD MEMBER

Dr Vicki-Anne Gardiner has managerial and board leadership experience across many industry sectors, including academia, government, private industry and not-for-profit. She has influenced government policy in areas including innovation, energy, infrastructure planning, diversity and workforce development, having being a public commentator and through submissions to government policy and legislation reviews.



SANDRA DODDS
BOARD MEMBER

Sandra was previously the Chief Executive Urban Infrastructure for Broadspectrum Ltd and was responsible for the power, water and telecommunications businesses in Australia and New Zealand. Prior to working at Broadspectrum, Sandra was Chief Executive Officer for Downer EDI Asia. Sandra has diverse extensive global executive experience in operations, finance, mergers and acquisitions and corporate services.

LEADERSHIP TEAM

ARRB has restructured in the past three years and is lead by a team of four highly regarded industry veterans who have steered the change management within the company to deliver a more efficient, focussed and financially sustainable business



CHIEFS GROUP



MICHAEL CALTABIANO
CHIEF EXECUTIVE OFFICER

Michael has over 25 years' experience in the transport industry with previous positions placing him in charge of the Australian Asphalt Pavement Association (AAPA) and as the director-general of the Queensland Department of Transport and Main Roads. He has extensive knowledge not only from an engineer's viewpoint but from a change management perspective too and is leading the charge in shaping our transport future.



DR RICHARD YEO
CHIEF OPERATIONS OFFICER

Richard has a long and prestigious history both in the transport sector and within ARRB. He is very capable technically and in management having demonstrated leadership in previous roles at ARRB, VicRoads and most recently whilst on secondment to Austroads as Program Manager, Assets.



MS KATE THOMSON
CHIEF FINANCIAL OFFICER &
COMPANY SECRETARY

Kate is responsible for driving the strategy of financial sustainability, ensuring that all future capital requirements can be met and operating expenditure is sustainable. Kate is also responsible for setting the Business Enablers strategy and delivering business solutions. With over 15 years' experience in Finance across New Zealand and Australia, Kate is well equipped to assist in leading ARRB into shaping the transport future across all sectors.



DR MICHAEL SHACKLETON
CHIEF RESEARCH OFFICER

Mike has a long and successful history in the transport sector from across South Africa and Australia. He has held positions with ARRB from Research Operations Manager to Executive Manager of the ARRB Academy. Together with the Research Leaders and technical leadership of the organisation, Mike will act as custodian of the National Transport Research Plan and our research quality standards.



RITA EXCELL
STATE TECHNICAL LEADER (SA) & EXECUTIVE
DIRECTOR ADVI

Rita is a qualified Civil Engineer with over 15 years experience in strategic transport planning and road safety. Skilled in management, transportation planning, rail transport, traffic engineering, and strategy. Executive Director of the Australia and New Zealand Driverless Vehicle Initiative (ADVI) representing almost 60 partners and contributing to the safe and successful introduction of automated vehicle technologies into Australia.



DAVID McTIERNAN
STATE TECHNICAL LEADER (NSW) & NATIONAL
LEADER TRANSPORT SAFETY

David is a civil engineer with over 27 years experience working for local government and ARRB in road design/traffic/road safety. He holds a Bachelors Degree in Civil Engineering (Hons), Grad. Dip Technology Management, and Grad. Dip. In Transport and Traffic. He led ARRB's NSW Transport Safety Team for over 12 years delivering projects for state and local road agencies, as well as private motorway operators and Australian and Overseas clients operating in the mining sector.

SENIOR LEADERS



LUKE WARREN
STATE TECHNICAL LEADER (VIC)

Luke is a resource and operations management professional with over 10 years of experience in the project management, road research and service delivery sectors. Luke and has a passion for connecting people within the broader business and the industry to optimise team performance and is currently the Chair of the Melbourne Chapter of the Swedish Australian Chamber of Commerce. He holds a Bachelor of Business (Economics) and a Diploma of Project Management from Swinburne University.



NATALIE LOCKWOOD
STATE TECHNICAL LEADER (WA) &
NATIONAL PROGRAM MANAGER

Natalie is passionate about collaborative working relationships with stakeholders and the broader consulting community across Australia and New Zealand. Natalie has broad management experience with Austroads and Main Roads Western Australia (on secondment to Austroads). She holds a Bachelor of Civil and Construction Engineering (Hons) from Curtin University and a Diploma of Project Management from Engineering Education Australia.



MATTHEW BERENI
STATE TECHNICAL LEADER (QLD) & NATIONAL
LEADER FUTURE TRANSPORT INFRASTRUCTURE

Matthew is a recognised transport industry leader with more than 15 years of engineering and leadership experience in both the private and public sector through Civil Engineering, Economics, Regulatory and Policy Reform roles. Matthew has a solid track record of hands-on experience in strategic planning, business development, project and product management while maintaining strong technical engineering skill and aptitude.



RICHARD WIX
NATIONAL LEADER DATA COLLECTION & ANALYSIS

Richard joined ARRB in 1990 and has built a reputation as a leader in pavement condition monitoring having had almost 30 years' experience helping road agencies in Australia and overseas manage their pavements and roadside assets. He holds a Bachelor Degree in Chemical Engineering from Monash University and he and his team are focussed on developing strong collaborative working relationships with road agencies and private industry by delivering high quality data using new and innovative technologies.



DR CLARISSA HAN

NATIONAL LEADER SUSTAINABILITY & RESILIENCE

Dr Clarissa Han is the National Leader for Sustainability and Resilience Division and leading the team in delivering high profile research on climate change adaptation, life cycle evaluation of transport options, recycled materials for road infrastructures and sustainable future mobility solutions. She also continues to be part of our Future Transport Systems Division in her capacity as Principal Professional Leader with 20+ years' engineering and research experience in traffic management and ITS.



DICKSON LEOW

NATIONAL LEADER FUTURE TRANSPORT TECHNOLOGY

Dickson is a recognised mobility and technology leader with more than 22 years of experience in ITS / CAV, Regulatory Affairs, Compliance, Certification, Vehicle Engineering & Design, Vehicle Safety and Intellectual Property Law, in both private and government sectors. Dickson holds a Bachelor of Science, Bachelor of Engineering, Certificate in IP Law and an MBA. His focus at ARRB will be facilitating the integration of smart technologies with infrastructure and enhancing the community's understanding of the available technologies.



DR MICHAEL MOFFATT

NATIONAL LEADER ASSET MANAGEMENT

Dr Michael Moffatt joined ARRB in 1991 after graduating from the University of Melbourne with a Bachelor of (Civil) Engineering with Honours Degree. He also holds both a Master of Technology (Pavements) Degree and a PhD. He has worked in a variety of areas dealing with both the design and analysis of pavement structures, including the effects of water movements through pavements, the mechanistic design of new and rehabilitated pavements, and the characterisation of pavement materials, including the conduct of various trials using the Accelerated Loading Facility (ALF).





ABOUT ARRB

CULTURE & VALUES

ARRB MILESTONES

COMMUNITY VALUE

FUTURE FOCUS

FINANCIAL STATEMENTS

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Our mission is creating
knowledge for tomorrow's
transport challenges and
solutions for today.

OUR VALUES

ARRB's corporate values sit at the heart of everything we do. This year we decided to highlight and recognise employees who embrace and show commitment to these values with a new series of awards.

OUR VALUES

Transformative, Collaborative, Energy and Passion, Integrity

Transformative

We are continuously looking to improve the world around us, moving forward and innovating. The mobility solutions of the future will require adaptable skills, technologies and ideas.

Collaborative

We communicate openly and constructively to deliver world-class research because our people work together and with partnering organisations and clients.

Energy and Passion

We have a passion for good ideas (big and small), for expertise and for helping each other out. Positive energy is created by loving what we do, creating fun and having a 'can and will do' attitude.

Integrity

We offer independent, impartial research, and communicate clearly, honestly and respectfully with each other and we do what is right for our clients, our staff, our industry and our community.

MONTHLY AWARDS IN EACH STATE

Each month staff are recognised with awards for those who best epitomise each of our values

ANNUAL AWARDS

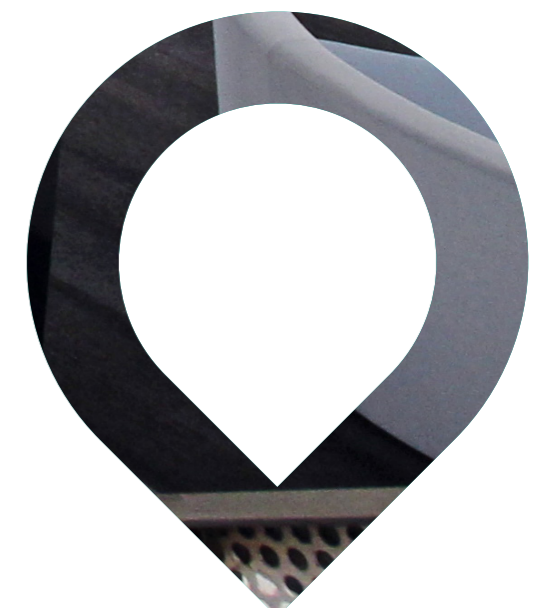
A national winner for each of our four values is chosen. They are recognised and awarded at a special ceremony held at our Port Melbourne headquarters

INSIGHT NEWSLETTER

Monthly internal newsletter for all staff highlighting achievements of both the company and individual staff members

NTRONET

This year ARRB completely revamped its staff intranet - called NTRONET - to provide more easily accessible information for all employees



COMPLIANCE & CERTIFICATION

ARRB has a comprehensive compliance management plan and part of that is ensuring that all aspects of our business meet and exceed the certification required in their area.

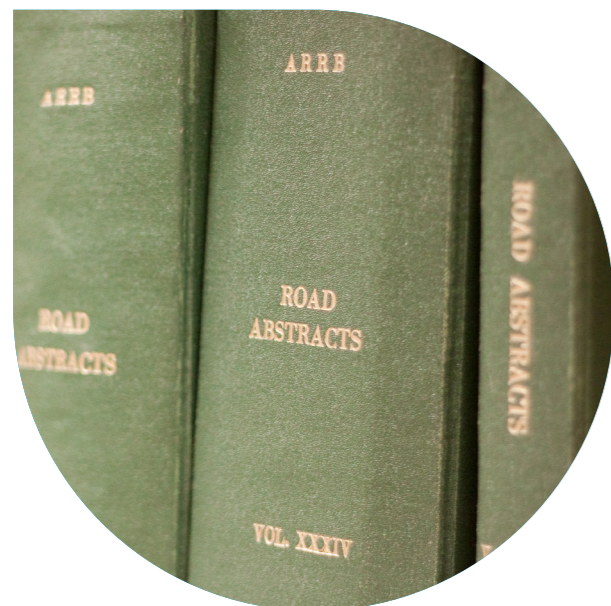
This is achieved through our integrated management system having certifications within:

Quality Management System, which ARRB achieved accreditation to in 2008 originally and continues to have received the latest ISO 9001:2015 Quality Management System.

Our state-of-the-art **Laboratory** achieved accreditation to ISO/IEC 17025:2005, which ensures that all research, tests and successes coming from the labs are marked with a global recognition.

ARRB also has a strong regard for **Occupational Health and Safety** given the myriad of duties our staff fulfils within any given work day. We achieved accreditation to AS/NZS 4801:2001 Occupational Health and Safety Management Systems and continue to ensure our staff's safety and well-being is at the forefront.

We also have Environmental Management Documentation that is specific to ARRB and our needs as an organisation to ensure we continue to set the pace in helping the transport sector to be cleaner, greener and more efficient, but using ourselves as the test-bed for these goals. The NTRC is self-sustaining with its solar powered roof and has already seen it returning power to the grid.



LEARNING & DEVELOPMENT

ARRB has a policy of ensuring its staff are well-informed, well-equipped and well-trained to help lead the challenges we face for the future.

INFORMATION AND TECHNOLOGY INTEGRATION

Moving to the new NTRC in Port Melbourne, staff were opened up to the many benefits of a modern workplace. All staff have been provided with laptops and mobile phones, which allows for a more fluid work environment. Staff are now able to pick up their IT tools and work wherever best fits their needs. Collaboration between various divisions and teams is now done seamlessly. The introduction of a new Client Relations Management (CRM) software system and its integration into numerous other divisions such as Finance and Marketing has seen greater transparency for all. These change management initiatives have been part of the reset of ARRB, bringing together the values of transformation and collaboration.

FUTURE THINKING

Staff are also encouraged to continue their formal studies to achieve their Master's or complete their Doctorates. This opportunity is available to all staff members as each employee has a career path they are looking to achieve and ARRB is here to support them. With access to courses by the Australian Institute of Management, staff are also provided the opportunity to grow their soft-skills in order to create a cohesive working environment for all as we are aware that the management of people and their skills is just as important in ensuring success for the task at hand.

STAFF RECOGNITION

We are proud that our staff are often recognised within the transport sector, not only in Australia and New Zealand, but across the globe. Their dedication to their discipline is commended by such peer recognition. We would like to congratulate the following ARRB colleagues for their noted success in 2019.



DR BLAIR TURNER

Dr Blair started a year-long secondment at the World Bank in Washington. Blair is our National Technical Leader in Safe Road Infrastructure. Having worked in the UK and originally from New Zealand, Blair has a definite international view on road safety.



DR NEGIN ZHALEHJOO

Dr Negin earned her PhD from Federation University Australia. Negin conducted her PhD research project on the characterisation of the resilient and permanent deformation behaviour of unbound granular materials in addition to pavement response to load and performance modelling and prediction.



MELISSA LYONS

Melissa from our Sustainability and Resilience Team, took out a prestigious Victorian AAPA Award for Emerging Young Leader.



DR CLARISSA HAN

Dr Clarissa participated in the 26th ITS World Congress in Singapore in October 2019. The ITS World Congress is considered the world's leading summit for transport technology, featuring around 10,000 participants. Charles and Clarissa have presented, organised and chaired sessions at the world's leading congress for transport technology.



MICHAEL TZIOTIS

Michel has been recognised for his and Ulysses Ai's outstanding work with Austroads and for his contribution to Austroads activities over a number of years.



DR CHARLES KARL

Dr Charles participated in the 26th ITS World Congress in Singapore in October 2019. The ITS World Congress is considered the world's leading summit for transport technology, featuring around 10,000 participants. Charles and Clarissa have presented, organised and chaired sessions at the world's leading congress for transport technology.



ULYSSES AI

Ulysses has been recognised for his and Michael Tziotis' outstanding work with Austroads and for his exceptional work as a consultant on an Austroads project.



ABOUT ARRB

CULTURE & VALUES

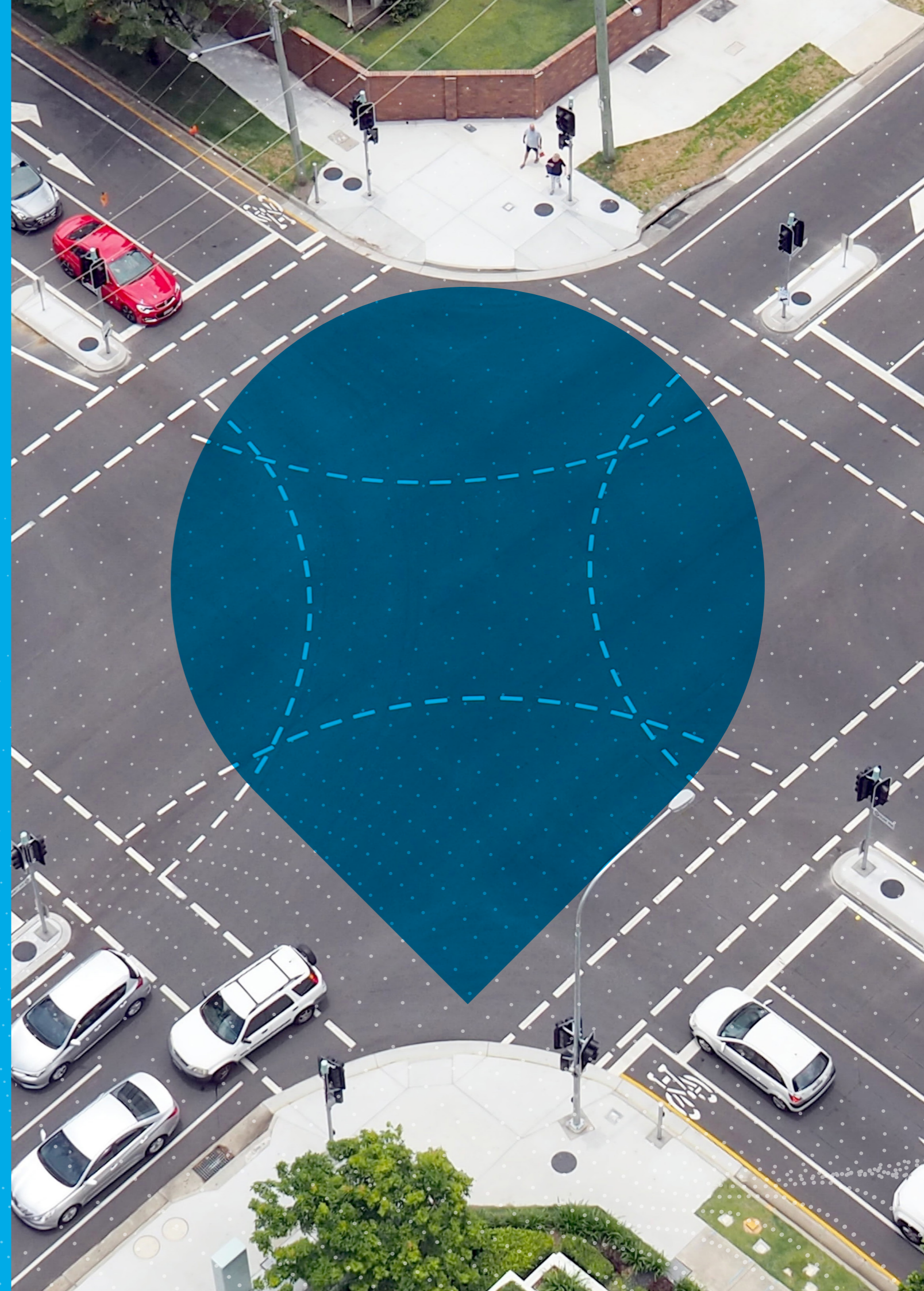
ARRB MILESTONES

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SMART PAVEMENTS NOW

More than 60 delegates attended each of the three days of ARRB's 2019 Smart Pavements Now Masterclass Event held in Melbourne in September.

Smart Pavements Now featured more than 40 presentations on all aspects of pavements over the three days – from recycled and reclaimed material use in asphalt, to road safety and asset management.

The event also featured a hands-on exhibition of measurement devices used in the pavement and data collection space, as well as a field trip to ARRB's Accelerated Loading Facility (ALF) in outer Melbourne and evening networking functions.

Delegates included representatives from local government, consultants, road agencies and universities. All States and territories in Australia were represented, as well as delegates who travelled from overseas.

It is the first medium-sized paying delegate event that ARRB has held within its new headquarters in Port Melbourne.

All speakers and presenters were from ARRB, sharing their knowledge and latest trends on all things pavements with delegates in a nimble, interactive learning environment.



Presentations included a plenary session with ARRB's Future Transport Infrastructure Leader Matt Bereni, guided tours of ARRB's research labs, a discussion on increasing the use of reclaimed asphalt pavement by Elsabe van Aswegen and a workshop on the FTIR characterisation of bitumen with ARRB labs manager Shannon Malone.

Selected sessions of Smart Pavements Now were also recorded, so delegates can watch at their leisure after the event. Elected presentations are available for purchase via our secure Smart Pavements Now video-on-demand page.



ADVI SUMMIT IN SYDNEY

Autonomous vehicles of all shapes, sizes and types showcased the latest technology to delegates attending the 4th International Driverless Vehicle Summit (IDVS4) at Sydney's Olympic Park Stadium.

More than 250 delegates attended the 4th International Driverless Vehicle Summit in Sydney. With the theme of Forging the Future, IDVS4 brought together leading minds from across the nation and around the globe to showcase best-practice and unpack what needs to be done for Australia to transition from a focus on testing to widespread commercialisation of this exciting technology.

It is the first time the event, run by the Australia and New Zealand Driverless Vehicle Initiative (ADVI) has been held in Sydney following three years in Adelaide. The event saw a series of presentations, demonstrations, masterclasses and workshops featuring world class specialists, top International and local industry players.

Deputy Prime Minister Michael McCormack and NSW Transport Minister Andrew Constance were among the special guests. Minister Constance opened the Summit, and also launched the Sydney Olympic Park driverless Smart Shuttle service – the first vehicle in the country to interact autonomously with live traffic conditions.



Run in partnership with Transport for NSW, the International Driverless Vehicle Summit at Sydney Olympic Park featured a wide variety of speakers and presenters covering all aspects of the autonomous vehicle landscape.

While a great deal still must be done across insurance, liability, infrastructure readiness, import approvals and community acceptance, as we see driverless technology move from concept to commercialisation, the thoughts and insights offered by IDVS4 speakers and delegates alike has put the nation another step forward on that exciting journey.



ARRB GALA DINNER

On the evening of Friday November 15 2019, the National Transport Research Awards and ARRB Gala Dinner took place at the beautiful Cargo Hall in Melbourne. The event celebrated innovation and future thinking in the road research sector.

The National Transport Research Organisation's inaugural awards night and gala dinner celebrated innovation and future thinking in the road research sector. Winning a National Transport Research (NTR) Award reflects talent across the transport industry and leadership in shaping our transport future.

The successful event was held on 15 November and saw almost 200 guests from industry, academia, media and VIP guests - all eager to find out who would be the winners of the NTR Awards 2019.

The evening's formalities were presented by Luke Warren, Victorian State Technical Leader and Brittany Croft, Senior Professional Engineer, both also representing Data Collection & Analysis.

The guest speaker for the evening was the Dr Elizabeth Finkel AM, co-founder and Editor-at-large of Cosmos Magazine. Elizabeth resonated with ARRB's experimentation, boundary pushing and systems thinking. Her fascinating talk weaved in much ranging from road research to Einstein's theory of General Relativity.





ARRB AND ADVI OPEN BRAND NEW OFFICE IN SYDNEY

ARRB has opened a brand new office in Sydney, complete with a National Centre of Excellence for Driverless Vehicles and a unique collaboration space with Transport for New South Wales.

NSW Minister for Transport and Roads, the Hon. Andrew Constance MP, opened the new Sydney office and the National Centre of Excellence for Driverless Vehicles.

The state-of-the-art research and innovation facility will become the nerve-centre for Australia's driverless vehicle agenda and represents the culmination of a strong collaboration forged between ADVI, ARRB and Transport for New South Wales.

The Centre of Excellence also hosts guest lectures on self-driving technology, with a focus on helping the community understand, experience and accept the role that automated vehicles will play as part of a more modern transport system. The Centre ensures that there is a focal point in Australia for global companies wanting to do business in Australia.

The new office in 36-42 Chippen St, Chippendale replaces the former ARRB office in Ultimo. ARRB has been upgrading its offices around Australia, rolling out new offices in Brisbane and Adelaide, as well as its new headquarters in Fishermans Bend, Melbourne over the past two years.

ARRB LABS FEATURUED IN LEADING INDUSTRY PUBLICATION

ARRB's investment in materials laboratories over 60 years fulfils a commitment to research, innovation and pioneering experimentation in bituminous binders, stabilised materials, asphalt and granular pavements.

Our new state of the art laboratories are equipped with a wide range of equipment that is capable of providing comprehensive testing of all these materials. The laboratories, located at our national headquarters in Port Melbourne, provide an excellent platform to perform applied research with a focus on finding new and innovative solutions to the challenges facing the Australian and New Zealand road construction industry. The design of the laboratories, including the extensive bench space, integrated offices and flexible work areas has resulted in improved work flows and a higher capacity for testing.

ARRB laboratories have been instrumental in the development of test methods such as – Characterisation of the Viscosity of Reclaimed Asphalt Pavement (RAP) Binder Using the Dynamic Shear Rheometer (DSR), Characterisation of Flexural Stiffness and Fatigue Performance of Bituminous Mixes, Permanent Deformation Characteristics of Unbound Granular Materials by the Wheel-tracking test – and have provided researchers with the facilities to undertake fundamental assessments of new and innovative technologies (EME2, crumb rubber asphalt).

With a stringent quality assurance program and ISO/IEC 17025 NATA accreditation, the ARRB laboratories are highly specialised independent facilities producing accurate and precise results. Our laboratories also offer: hands-on training for students, technology transfer programs to state road agencies and industry, advanced pavement research techniques and a national reference resource.



ARRB COLLABORATES ACROSS AUSTRALIA

ARRB collaborates regularly with all levels of government, road agencies, private sector roads and transport companies, academia, and other organisations.

Queensland's Department of Transport and Main Roads (TMR), Transport for NSW, the Department of Transport in Victoria (formerly VicRoads), Tyre Stewardship Australia, Boral, Main Roads Western Australia (MRWA), Northern Territory's Department of Infrastructure, Planning and Logistics (DIPL) and Sustainability Victoria are among the many Australian collaborators ARRB has worked with in 2019.

ARRB senior leaders also regularly meet with those at all levels of government. Senior Ministers have been guests at ARRB's Port Melbourne headquarters during 2019, getting a clearer picture of what we do.

Among ARRB's key involvements and collaborations are:

ARRB is working with Tyre Stewardship Australia (TSA) and Victoria's Department of Transport on an important crumb rubber project involving laying asphalt made from old tyres on a busy road in suburban Melbourne. The aim of this project is to increase the opportunity to use crumb rubber in metropolitan roads;



The iPAVe vehicle has been involved in surveying roads in the Northern Territory for the Department of Infrastructure, Planning and Logistics;

Roads and Maritime Services (now Transport for NSW) have used ARRB's iSSAVe vehicle for skid resistance data collection in NSW;

ARRB has received a grant for Sustainability Victoria to work with Brimbank City Council to trial recycled crushed glass in a road in western Melbourne;

ARRB is managing a new trial of traffic light technology involving to help Melbourne's trams and traffic run smoother, working with Yarra Trams and La Trobe University;

Boral's revolutionary Forward Moving Aggregate Spreader (FMAS) was launched at ARRB's headquarters in Port Melbourne;

Major Road Projects Victoria (MRPV) engaged ARRB to undertake Safe System Assessments of reference designs for projects in the Northern and South-Eastern Suburban Roads Upgrade packages;

ARRB is an industry partner in the Smart Pavements Australia Research Collaboration (SPARC) Hub, working closely with Monash University and other academic institutions and the private sector to create smarter, long lasting, environmentally friendly pavements;

Several ARRB staff, including Geoff Jameson, Young Choi, Didier Bodin, Robert Urquhart, Clarissa Han, Ian Espada and David Green, have had significant reports published by Austroads in 2019.

OUR GLOBAL LINKAGES ARE OUR STRENGTH

ARRB links with our global research partners also allows the sharing of resources and brings into the Australian environment some the brightest thinkers from across the globe to our shore to explore new concepts like the sustainable urban mobility planning framework.

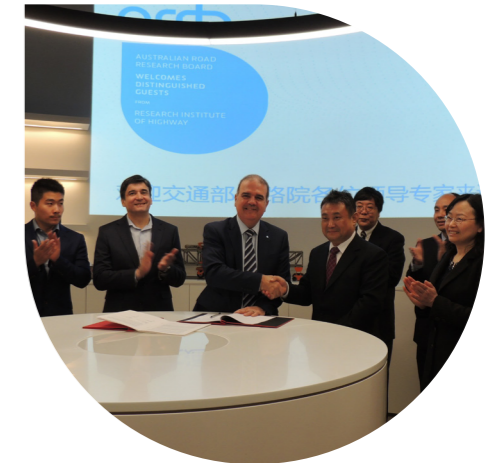
ARRB staff participated in PIARC world road group committees and are also standing members of ISO world standards committees. The activities of these groups ensures that ARRB is present on the global stage bringing to Australia the very latest global trends and discoveries.

Members of PIARC - the World Road Association - were also special guests at ARRB's Melbourne headquarters for a week in April 2019.

ARRB is proud to be involved doing business in India on a daily basis. ARRB's Chief Financial Officer Kate Thomson was among the speakers at a Doing Business In India roundtable session in Melbourne – featuring Australia's Trade and Investment Commissioner to India, Munish Sharma.

ARRB Group has been a significant long-term shareholder and technical partner in IRSM, which provides data coding and data collection services internationally and locally.

ARRB will also help train India's bridge inspectors under a new agreement between the National Transport Research Organisation and a leading Indian engineering consultancy.



IDDC Engineers Pvt. Ltd and the various Indian Bridge Management Systems (IBMS) will use ARRB's asset management experts to help bridge inspectors understand the correct procedure of inspection (What, When and How to Inspect).

ARRB is set to work alongside the Research Institute of Highway (RIOH), Ministry of Transportation, China. ARRB and RIOH have signed a Memorandum of Understanding to work together on next generation smart materials for a connected and automated future.

A delegation from RIOH, led by RIOH President Jinquan Zhang, spent a week in Melbourne in March – most of it visiting ARRB's Port Melbourne headquarters as well as a trip to Victoria's state road agency VicRoads.

The Australian and New Zealand Driverless Vehicle Initiative was provided unprecedented access to policy and law makers in the United States, providing insights into the progress of Driverless Technology regulations and policies across America.

ADVI delegates were granted access to discuss issues around the global trends in CAV and how Australia and the US were responding and in some cases leading, the adoption of new standards. The tour began mid July in Orlando, moved to New York and finally to New York.

High level meetings were arranged to discuss the progress of legislation and the direction that the US has taken at a Federal level to facilitate the safe introduction of automated vehicles.



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THE NATIONAL INTEREST SERVICES KNOWLEDGE CONNECTION

The National Interest Services (NIS) program funds the provision of land transport information services in the national interest. NIS works with, and through, road agency libraries to deliver national land transport outcomes which would not be possible on an individual basis.

The program provides structured and systematic access to authoritative land transport knowledge, including the Australian Transport Index (ATRI), the only national land transport publications database and a major contributor to TRID, the free international transport database managed by the US Transportation Research Board. Additional curated resources supporting the decision-making needs of the Australian land transport sector include, the ARRB Knowledge Base, the Rail Knowledge Bank, Making News, Transport and Road Update and the Rail Knowledge Bank alert.

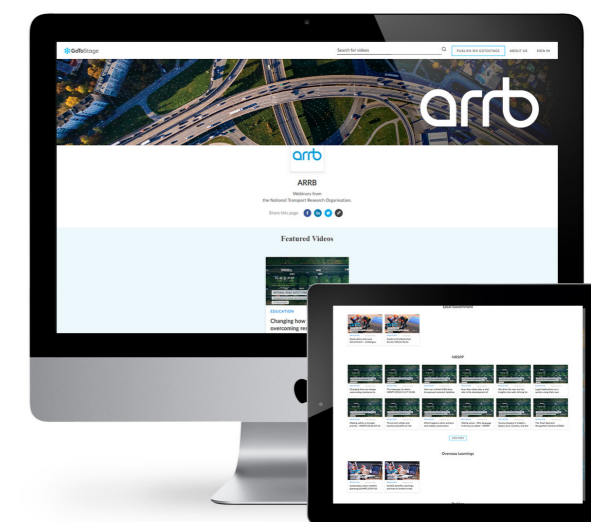
In cooperation with ARRB marketing, NIS is now making available a range of free webinars from ARRB, the National Road Safety Partnership Program (NRSP) and the Australian Driverless Vehicle Initiative (ADVI). There are currently over 40 webinars ranging from local government guides to autonomous vehicles changing revenue streams.

NIS fosters networks of information professionals through chairing the Tranzinfo network of Australian and New Zealand transport-related libraries including academia, government and the private sector. It is also a part of the network of international libraries which collaborate under the International Transport Forum/OECD's International Transport Research Documentation (ITRD) program. These networks provide contact points to transport-related libraries across Australasia and internationally. NIS is funded by the federal, state and territory road and transport agencies.

NIS 2018-2019 indicators:

- Coverage: Over 186,000 ATRI records
- Currency: 8000 records added across all databases
- Usage: 1500,000 documents viewed and/or downloaded
- Authoritative: 4900 selected articles, 15 conferences, 524 research reports, 59 theses
- Awareness: monthly and weekly alerts

ARRB webinar library



WORKING WITH LOCAL GOVERNMENT TO CREATE BEST PRACTICE GUIDES

The Australian Road Research Board is working with local government to help manage their road assets more effectively and improve the mobility and safety of our communities.

In the 2019 federal budget, the Australian Road Research Board (ARRB) was granted \$2.6m to help local governments assess their road asset management and maintenance needs, with a focus on regional areas and heavy vehicle access.

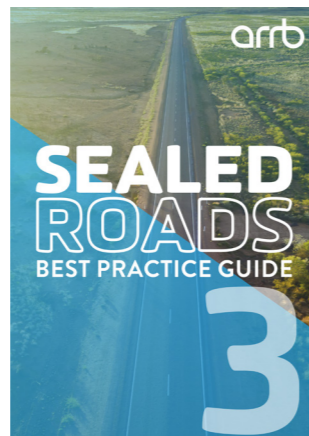
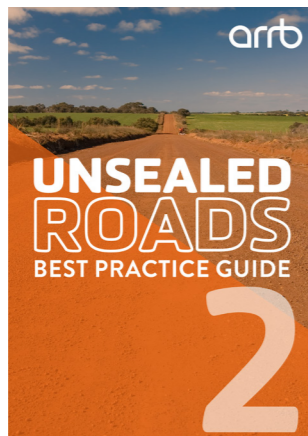
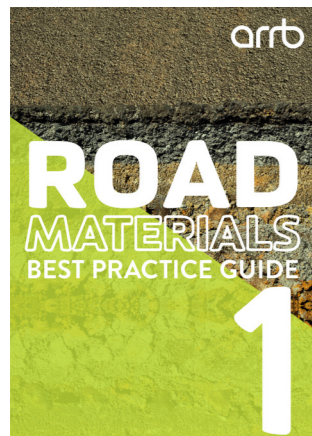
ARRB has a strong reputation supporting and delivering high quality applied research to local councils to save time, money and improve the quality of roads for the local community.

Current global best practice and information is provided about:

- Sealed local roads
- Unsealed roads
- Bridge management
- Materials for pavement construction

The focus of these guides is to expand local government's understanding and capacity to manage their road infrastructure, particularly where the network is regional and heavy vehicles usage is prominent.

As part of the preparation of the guides, ARRB hosted workshops across Australia to ensure that we focus our energies in the areas that Local Government needs the guides to address. The workshop sessions provided a platform to document and prioritise concerns and challenges that are not being addressed by the current guides.



NACOE AND WARRIP COLLABORATIONS PAVING THE WAY TO BETTER ROADS IN QUEENSLAND AND WESTERN AUSTRALIA

NACoE

Both ARRB's joint initiatives with state road agencies - the National Asset Centre of Excellence (NACoE) and the Western Australian Road Research Innovation Program (WARRIP) - had strong years.

NACoE, a joint initiative between ARRB and Queensland's Department of Transport and Main Roads (TMR), won a prestigious Australian Asphalt Pavement Association (AAPA) national award for innovation.

NACoE helps deliver engineering excellence through cutting edge road research and innovation in four key disciplines, including pavements and asset management. It saves lives, reduces our carbon footprint, and delivers millions of dollars in savings for the people of Queensland.



WARRIP

The WARRIP agreement has been extended until 2023 under a new deal between ARRB and Main Roads Western Australia (MRWA).

ARRB CEO Michael Caltabiano and Peter Woronzow, Managing Director of MRWA, signed off on the agreement, which aligns with the strategic goals of both organisations and recognises MRWA's desire to focus on road infrastructure-related research.

It will enable MRWA to significantly increase the capability and effectiveness of its specialist technical areas and deliver excellence and better value from every dollar spent.

WARRIP's focus is on research in the pavements, bituminous surfacings, asset management and structures areas.

ARRB'S FLEET OF SURVEY VEHICLES INCLUDES EQUIPMENT CAPABLE OF ASSESSING THE CONDITION OF THE PAVEMENT, EITHER ABOVE OR BELOW THE ROAD SURFACE, AND COLLECTING DIGITAL VIDEO OF THE ROAD NETWORK

iSSAVe

The iSSAVe is ARRB's Intelligent Safe Surface Assessment Vehicle, and whilst it was designed to primarily collect skid resistance data, it also has the ability to assess road roughness, rutting, texture, imagery, rutting, GPS and geometry.

2019 was the first year the iSSAVe completed a string of major projects, with clients including industry leaders and State Road Authorities. Some of this work included:

- 2/3rds of the road network in ACT (Zones A and B) for Transport Canberra and City Services (TCCS). The final 3rd will be completed in 2020.
- 1,500km of urban roads in Northern Territory for Department of Infrastructure, Planning and Logistics (DIPL)
- the entirety of the new Toowoomba Second Range Crossing in QLD for Nexus Delivery.

This year also saw the iSSAVe nominated for both the AAPA Innovation Award and the ARRB Research Impact Award for its inventive design and mission to capture and assess every safety-related aspect of our roads.

Regular validation testing is a priority for our survey vehicle fleet so our customers know they can trust our data and reports. With the increase in project work, the iSSAVe completed multiple benchmarking trials at various locations across the country including:

- Darwin, NT
- Alice Springs, NT
- Canberra, ACT
- Gosford, NSW.

iPAVe

ARRB's Intelligent Pavement Evaluation vehicle (iPAVe) is unique and innovative survey vehicle with its ability to monitor both the structural (below surface) and functional (above surface) capacity of the road network in a single pass using a suite of fully integrated pavement monitoring systems. It does so at highway speed in a safe and economical manner allowing road agencies to monitor their entire road network and make informed management decisions based on whole of pavement performance.

In 2019, ARRB's 2 iPAVs continued to be utilised by long term users TMR, RTT NSW and NZTA across their rural road networks and for the first time ARRB was engaged to undertake several project level surveys. For the first time ARRB also surveyed the NT road network for DIPL and also undertook a large-scale survey of the road network in the Western Australian wheat belt area at the request of MRWA.

Next year is already looking like another busy year for the iPAVe, with network surveys already scheduled for NSW, QLD and NZ as well as the full WA road network (>30,000 km).



ARRB RESEARCH REPORT COMPLETION AFTER A GREAT 24 YEARS

For nearly a quarter of a century, ARRB's Dr Tim Martin and Lith Choummanivong have had their eyes on the road - literally.

Studying how roads perform in Australia's unique combination of extreme weather, heavy vehicle traffic conditions where the gross vehicle mass can be more than 150 tonnes, and sheer size of the road network, has been the focus of their research since 1994.

Now, after annual reports on their findings every year since they started, their overall long-term pavement performance study was published in 2019.

It will leave a legacy of better understanding how to prolong the life and durability of our roads, reducing the whole of life-cycle cost, and finding ways Australia could appropriately and fairly charge all road users for their road use should the current road funding model require change.

The aim was to understand and predict how roads behaved and deteriorated with various surface maintenance strategies under the stress of heavy vehicle traffic loads and Australian weather conditions which can range from blazing heat to below zero.

They studied 79 individual sections of road throughout Queensland, NSW, the ACT, Victoria, Tasmania and South Australia as part of their long-term pavement performance study.

"Previous work in this area had been done in Brazil, Kenya and South Africa, but not for our road conditions," Dr Martin says.

"Now we've built road deterioration models and models for the impact of maintenance for arterial roads in Australia, and they are uniquely Australian."

Their work has won two Best Paper Awards at North America's world-renowned International Conference for Managing Pavement Assets, and contemporaries say it may be the most accurate and reliable study of its kind ever produced.





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1. TRANSPORT SAFETY

ARRB's safety team has a focus on user safety and security on our transport network through understanding the interaction between human decision makers, vehicles, infrastructure, and the broader environment through a safe system approach. The Safety team was very active in the 2018-19 and will continue to be an ARRB focus in the 2019-20 financial year.

VicRoads Towards Zero project

ARRB was engaged to identify existing and emerging vehicle safety features that have the potential for introduction into regulation for passenger vehicles, trucks and buses. As part of the task the timeline to implement regulations and potential safety impact of the technologies are assessed. ARRB has proposed to VicRoads "Towards Zero", Victoria's Road Safety Strategy & Action Plan. With the specialist team assembled, consisting of CASR (partner) and industry key stakeholders specifically relevant to this project (OEMs, FCAI, ANCAP, AAA, ASEAN NCAP, Transport Canada), the final delivery of the project will be both comprehensive and vigorous. Moreover, with ARRB/CASR in-depth knowledge of over 15 years of both international regulations such as UNECE, EEC Directive, FMVSS, KMVSS, GSO, gtr and NCAP test and protocol, the aim of this project can be actualised. VicRoads' aim of reducing road deaths to less than 200 by 2020 is possible, just as seatbelts did in 1970's and airbag in 1990's.

ARRB Safety Experts well represented at local and international safety conferences

ARRB experts recently presented at Roads Australia's Spotlight on Safety event as a part of Road Safety Week. Over 250 industry professionals listened to ARRB's own Dr Blair Turner present on Road Infrastructure and Jerome Carslake speak about Vehicle Safety.

Roads Australia has identified Road and Road Worker Safety as the transport industry's number one priority. Implicit with that recognition is the understanding that safety is everyone's business, and that we have a responsibility to share good practice and successful outcomes for the benefit

of not just the industry but the community as a whole.

ARRB's Dr Blair Turner was a guest of the Federal Highway Agency (FHWA) where he was the keynote presenter at the National Safety Engineer Peer Exchange.

The event was focused on safe road infrastructure, and included new and innovative approaches to improving road safety. There were 180 representatives from nearly every state, comprising senior Department of Transport officials and their FHWA state and federal counterparts.

Driver Distraction Challenge

ARRB supported the National Transport Commission's (NTC) efforts in stimulating discussions about driver distraction research, policy and legislative reform options.

ARRB's National Transport Research Centre hosted NTC's driver distraction workshops in November 2018.

One of the primary goals of the workshop was to establish a common understanding of what 'driver tasks' and 'driver distraction' are. This will help with the development of a new set of technology neutral road rules.

ARRB's Dr Anna Chevalier, Rachel Goodsell and Mitch Cunningham reviewed internationally published, peer-reviewed research available to date on the risks associated with driver distraction.



MAKING OUR RURAL AND REGIONAL ROADS SAFER



BEFORE
1 Star iRAP



AFTER
3 Star iRAP



BEFORE
1 Star iRAP



AFTER
3 Star iRAP

2. SUSTAINABILITY & RESILIENCE

Sustainability is the ability to meet our needs without compromising the ability of next generations to meet theirs. The road construction sector needs to face the challenge of sustainability.

Using recycled and reclaimed products in roads is an important area in which the ARRB is helping with a significant issue for the nation.

ARRB has met with two Federal Government Ministers Sussan Ley MP, Minister for the Environment and Trevor Evans MP, Australia's first Assistant Minister for Waste Reduction and Environmental Management to discuss how ARRB can address the use of recycled and reclaimed products in roads.

Crumb Rubber Research

Victoria's Department of Transport (DoT, formerly VicRoads) engaged ARRB to undertake a literature review on the use of passenger vehicle tyres in bitumen. With the Victorian Government's focus on increasing the use of recycled materials in road construction, this literature review will help inform all stakeholders on the issues associated with the use of passenger vehicle tyres in bitumen.

Crumb Rubber Trials

A trial will soon begin using rubber from old tyres in the asphalt of a busy Melbourne road.

A contract has recently been signed between Tyre Stewardship Australia (TSA), and the Australian Road Research Board (ARRB) which marks the beginning of this vital research. The project will be co-funded by TSA, the Victorian Department of Transport and ARRB.



Recycled Crushed Glass in asphalt on local roads

The Australian Road Research Board has been awarded a significant grant from the Victorian Government through Sustainability Victoria to trial recycled crushed glass in asphalt on local roads.

The grant has been issued to ARRB in collaboration with Brimbank City Council in western Melbourne, and VicRoads (Department of Transport). The collaboration with local government will help local government use the waste stream for their road rehabilitation schemes.



3. NATIONAL TRANSPORT PERFORMANCE CENTRE

ARRB is focussed on creating knowledge for tomorrow's transport challenges and solutions for today. The National Transport Performance Centre (NTPC) in Port Melbourne was officially opened on the 15 August by the Honourable Alan Tudge, Federal Minister for Population, Cities and Urban Infrastructure.

The Centre's purpose is to cut through the complexity of transportation and infrastructure and drive the improvements in every Australian's travel experience. It does this through use of the latest data sources, combined with ARRB's expertise to provide guidance to government on busting congestion, saving lives and improving condition of infrastructure cost-effectively. The Centre provides a unique national, independent and government owned source of transport experts, data and knowledge.

Through a process of benchmarking, measuring and forecasting, the centre is able to provide decision-makers with the evidence they need to support policy and expenditure which delivers best return on investment. The Centre's range of datasets which it collects or has access to gives insights on complex matters in a simply, easily understood and monitored way.

ARRB has embarked on a mission to standardise and harmonise the data and metrics which describe our road networks and how they are operating. In doing so, it became clear that a National Transport Performance Centre was needed to provide immediate support to get the best value out of new and emerging data and technologies.

With the complement of ARRB's world-class transportation experts on hand, Australia's decision-makers have access to an unprecedented understanding of the problems and access to the solutions of tomorrow as well.

Driver Frustration Index

The NTPC has developed a multi-factor measure index of measuring driver frustration on Australia's road network.

Data collected from multiple sources gives an accurate representation of Australian road conditions, giving a glimpse into future trouble spots on our roads.

The frustration Index takes into account actual speed, posted speed limits, road space available and the overall physical condition of the road surface itself. Other factors may play a part, and future feedback from road users will identify those for inclusion in improving the Index

CAV Readiness Survey

ARRB undertakes CAV readiness audits to help road managers understand the condition of their road network and assess requirements for future CAV deployment. It also simultaneously rates the condition of road attributes critical to the safe operation of all vehicles including CAVs.

The audit results include the key attributes for determining CAV readiness: line type, width, quality, lane departure warning availability, speed limits, speed sign types and location.

The outputs also apply to today's modern vehicles equipped with Advanced Driver Assistance System (ADAS) safety features, creating safer roads for all drivers.



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ARRB is governed by a
Board of Directors
who all have vast experience
in the transport industry

DIRECTORS

The following persons were Directors of ARRB Group Limited (ARRB) during the whole or part of the financial year and up to the date of this report unless otherwise stated:

P DUNCAN AM - CHAIRMAN

Chair of Governance and Remuneration Committee
Ex - Officio Member of Audit, Risk and Finance Committee
Cert L&ESD, Grad. Cert Traffic Eng, A.Dip Land. Studies, G.Dip. Mgt., MAICD, FIPAA
Chair and Non-Executive Director of the InfraSol Group
Non-Executive Director Westpac Rescue Helicopter Service
Commissioner Independent Planning Commission NSW
Member of the Office of Projects Victoria Advisory Board

N SCALES OBE - DEPUTY CHAIRMAN

Member of Audit, Risk and Finance Committee
Member of Governance and Remuneration Committee
MBA, DMS with Distinction, MSc. Control Engineering & Computer Systems, BSc. Engineering, Vincent Fairfax Fellow (VFF)
Current Employer: Director-General Department of Transport and Main Roads, Queensland
NTC Commissioner
Director - Roads Australia
Chairman - Austroads

S DODDS (COMMENCED 1 JANUARY 2019)

Member of Audit, Risk and Finance Committee
B. Comm, FCA, GAICD
Non-Executive Director Snowy Hydro Limited
Non-Executive Director Infrastructure Partnerships Australia

K REID

Member of Audit, Risk and Finance Committee
BSc (Hons), Civil Engineering, Chartered Engineer, CEng (UK)
Member of the Institution of Civil Engineers, (UK) MICE,
Member of the Institution of Professional Engineers NZ (MIPENZ), Member of the Institute of Directors NZ (MID),
Company Directors Course
Current Employer: NZ Transport Agency (NZTA) - Chief Advisor

P WORONZOW

Chair of the Audit Risk and Finance Committee
CPA, MIPAA, Bachelor of Arts (Economics), Graduate Diploma in Public Sector Management
Current Employer: Managing Director of MRWA
Director - Austroads

DR. A TURNER (RESIGNED 5 SEPTEMBER 2018)

Member of Governance and Remuneration Committee
PhD, BEc (Hons), MA (Economic Geography)
CEO and Director, Ann Turner Consultants Pty Ltd
Graduate Diploma in Population Studies
Chair, 10000 Friends of Greater Sydney

S TROUGHTON

Member of Governance and Remuneration Committee
Fellow of Engineers Australia, GAICD
Chartered Professional Engineer, Chartered Engineer (UK),
Member of the Institution of Civil Engineers (UK)

DR. V GARDINER (COMMENCED 5 SEPTEMBER 2018)

Member Governance and Remuneration Committee
FRACI CChem, ComplEAust, EngExec MAICD
Current Employer: Executive Director Policy and Research Medicines Australia.

L MCCORMICK (COMMENCED 5 SEPTEMBER 2018)

Member of the Audit Risk and Finance Committee
B. Eng (Civil), Dip Project Management
Fellow of Engineers Australia, Chartered Prof. Engineer (Civil and Structural) Registered Prof Engineer of Queensland
Current Employer: General Manager Transport and Civil Services, Northern Territory
Director - Austroads

DIRECTORS INTEREST

No Directors hold shares in the company.

MEETINGS OF DIRECTORS

The number of meetings of the company’s Board of Directors held and attended by each Director during the year ended June 2019 was:

NAME OF DIRECTOR	BOARD OF DIRECTORS		AUDIT & RISK MANAGEMENT COMMITTEE	
	ATTENDED	MAXIMUM POSSIBLE	ATTENDED	MAXIMUM POSSIBLE
P DUNCAN	6	8	2	2
N SCALES*	7	8	1	2
S DODDS	3	3	1	1
V GARDINER	4	6		
L MCCORMICK	6	6	2	2
K REID	8	8	1	1
S TROUGHTON	3	8		
A TURNER	0	2		
P WORONZOW	8	8	2	2

* Julie Mitchell attended as a substitute director for one meeting

PRINCIPAL ACTIVITIES

During the year the principal activities of the company consisted of:

- a. road transport research on a fee-for-service basis including a set of projects through a number of collaborative programs (NACOE and WARRIP) to deliver superior technology and new transport solutions. The work delivered yielded significant improvements in practices and cost-benefit ratios.
- b. providing information on road and transport matters considered to be in the national interest
- c. delivering approximately 400 pieces of research and consulting services to the road and transport industry across Australia and New Zealand on time and on budget standard, and
- d. researching, developing and the supply of new emerging and technical services.

DIVIDENDS

The company Constitution prohibits the declaration or payment of any dividends.

OPERATIONS FOR THE YEAR

The concentration of the year to 30 June 2019 remained on the implementation of the strategic direction for the Australian Road Research Board (ARRB) set for 2017-2020. ARRB is now 2 years through the 3-year strategic plan. The plan is designed to enable the reshaping and reinvigoration of the organisation standing as the national Transport Research Organisation.

In early 2017 an extensive and consultative review of the ARRB business model was undertaken by ARRB’s Members. The review provided a platform for the future direction of ARRB. The review concluded that the original Objects of ARRB remain important and relevant, these should underpin the future ARRB. Further Members unanimously decided that the ARRB of today and the future is that of a ‘National Interest and public good’ agency meeting the future research needs of Members’ whilst creating the knowledge to solve tomorrow’s transport challenges.

The above provided a non-financial foundation for the input to the development of the strategic direction for next generation ARRB.

Aligning with the above findings the strategic plan for 2017-2020 articulates ARRB’s new mission as ‘creating knowledge for tomorrow’s transport challenges and solutions today’. And ARRB’s vision: ‘driving innovation to deliver an adaptable connected future.’

Outlined below are the four strategic goals developed to enable the achievement of outcomes through planned action:

- 1. Technology: *Harnessing the value of transformative*

- technology.
- 2. Collaboration and People: *Building multi-disciplinary teams with highly evolved skills.*
- 3. Infrastructure: *Adaptive and affordable infrastructure for future generations.*
- 4. Resilience and Security: *Derive a new understanding of the future transport challenges in a changing world.*

The financial result for the year reflected the continuing reset of ARRB. The net surplus represented an improved performance and a significant gain from the successful conclusion of the sale of the Vermont South property. A positive operating cash performance demonstrates the ‘green shoots’ of ARRBs financial, operating transformation.

The move from Vermont South to the new premises in Port Melbourne was a significant moment of the 2018-19 year. For staff and customers, the new location has been one of the most significant moments of ARRBs recent history. A contemporary, collaborative and spacious working environment which has been unanimously embraced. The new premises at Port Melbourne include laboratories which, will become the national reference laboratories for flexible pavement in Australia. The move was delivered on time and within budget.

During the year to June 2019 ARRB completed iPAVe survey works across Queensland, New South Wales, New Zealand, Northern Territory and Western Australia. The addition of an iSSAve to the fleet gives a depth of data collection offerings not previously seen, the iSSAve successfully completed collection work in New South Wales and ACT during 2018-19.

Finally, we thank the leadership team and all the staff at ARRB for their excellent work, energy and commitment to ARRB in what has been a year of transformation. ARRB staff are proud of their work and have a passion for applying their skills to be part of an adaptable and connected future. We look forward to developing the next generation solutions for Australia’s infrastructure needs with and for you.

SIGNIFICANT CHANGES IN THE STATE OF AFFAIRS

There were no significant changes in the state of affairs of the company that occurred during the year not otherwise disclosed in this report or the Consolidated Financial statements.

MATTERS SUBSEQUENT TO THE END OF THE FINANCIAL YEAR

There were no significant events which occurred after the financial year end.

LIKELY DEVELOPMENTS AND EXPECTED RESULTS OF OPERATIONS

At the date of this report, we are not aware of any likely developments in the operations of the company, other than business as usual.

ENVIRONMENTAL REGULATION

The company is not subject to any significant environmental regulation in respect of its activities

OPTIONS

No options in the entity were granted during or since the end of the period.

DIRECTORS' BENEFITS

During the year no Director has received or become entitled to receive a benefit (other than a remuneration benefit included in note 23 to the Consolidated Financial statements) because of a contract that:

- a. the Director; or
- b. a firm of which the Director is a member; or
- c. an entity in which the Director has a substantial financial interest; has made (during the year ended 30 June 2019 or at any other time with:
 - 1. the company; or
 - 2. an entity that the company controlled; or
 - 3. a body corporate that was related to the company when the contract was made or when the Director received, or became entitled to receive the benefit (if any).

INSURANCE OF OFFICERS

During the year, ARRB Group Ltd paid a premium of \$15,000 (incl. GST) to insure the Directors, Company Secretaries and the Senior Managers.

The potential liabilities insured are legal' costs that may

be incurred in defending civil or criminal proceedings that may be brought against the officers in their capacity as officers of the company, and any other payments arising from liabilities incurred by the officers in connection with such proceedings, other than where such liabilities arise out of conduct involving a wilful breach of duty by the officers or the improper use by the officers of their position or of information to gain advantage for themselves or someone else or to cause detriment to the company. It is not possible to apportion the premium between amounts relating to the insurance against legal costs and those relating to other liabilities.

PROCEEDINGS ON BEHALF OF THE COMPANY

No person has applied to the Court for leave to bring proceedings on behalf of the company, or to intervene in any proceedings to which the company is a party, for the purpose of taking responsibility on behalf of the company for all or part of those proceedings.

No proceedings have been brought or intervened in on behalf of the company with leave of the Court.

ROUNDING OF AMOUNTS TO NEAREST THOUSAND DOLLARS

The Group is an entity to which ASIC Instrument 2016/91 applies and, accordingly, amounts in the financial statements and Directors' report have been rounded to the nearest thousand dollars.

AUDITOR INDEPENDENCE DECLARATION

A copy of the auditor independence declaration is set out on page 8 of this Financial Report.

AUDITOR

RSM Australia continues in office.

This report has been made in accordance with a resolution of Directors.



RSM Australia Partners

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AUDITOR'S INDEPENDENCE DECLARATION

As lead auditor for the audit of the financial report of ARRB Group Limited for the year ended 30 June 2019, I declare that, to the best of my knowledge and belief, there have been no contraventions of:

- (i) the auditor independence requirements of the Australian professional accounting bodies in relation to the audit; and
- (ii) any applicable code of professional conduct in relation to the audit.

RSM

RSM AUSTRALIA PARTNERS

P A Ransom

P A RANSOM
Partner

Dated: 26 November 2019
Melbourne, Victoria

THE POWER OF BEING UNDERSTOOD
AUDIT | TAX | CONSULTING

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Liability limited by a scheme approved under Professional Standards Legislation



P. Duncan

P. Duncan
Chairman

P. Woronzow

P. Woronzow
Chair of Audit & Risk
Management Committee

Dated: 26 November 2018

STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME

For the year ended 30 June 2019

	NOTES	2019 \$'000	2018 \$'000
REVENUE	2	54,510	35,417
EXPENSES			
Employee benefits	3	20,428	22,086
Depreciation and amortisation	3	3,017	2,242
Borrowing	3	130	125
Direct materials	3	810	1,725
Direct other	3	7,254	4,761
Rental (relating to operating lease)	3	1,385	942
Loss on deconsolidation	3	-	335
Other	3	4,685	5,107
Total expenses		37,709	37,323
OPERATING SURPLUS/ (DEFICIT) BEFORE TAX		16,801	(1,906)
Income tax	4	-	-
SURPLUS / (DEFICIT) FOR THE YEAR FROM CONTINUING OPERATION		16,801	(1,906)
DEFICIT FOR THE YEAR FROM DISCONTINUING OPERATION		-	(73)
SURPLUS / (DEFICIT) FOR THE YEAR		16,801	(1,979)
OTHER COMPREHENSIVE INCOME			
Items that will not be reclassified to the profit and loss			
- Defined Benefit Superannuation Plan actuarial loss		(850)	(113)
Items reclassified subsequently to the profit and loss			
Foreign Currency Fluctuation Reserve			
- Exchange loss on consolidation		-	(8)
- Share of gain of joint venture	12	17	(28)
OTHER COMPREHENSIVE INCOME FOR THE YEAR		(833)	(149)
Total comprehensive income for the year		15,968	(2,128)

The above Consolidated Statement of Profit or Loss and Comprehensive Income be read in conjunction with the accompanying notes

STATEMENT OF FINANCIAL POSITION

As at 30 June 2019

	NOTES	2019 \$'000	2018 \$'000
CURRENT ASSETS			
Cash and cash equivalents	5	7,742	986
Receivables	6	9,421	7,004
Inventories	7	4,180	2,709
Prepayments	8	428	431
Assets classified as held for sale	9	3,206	12,026
Total Current Assets		24,977	23,156
NON-CURRENT ASSETS			
Property, plant and equipment	10	18,183	16,399
Intangible assets	11	172	190
Financial assets	12	666	432
Receivable	13	302	889
Retirement benefits assets	18	-	530
Total Non-Current Assets		19,323	18,440
Total Assets		44,300	41,596
CURRENT LIABILITIES			
Interest bearing liabilities	14	330	10,309
Trade and other payables	15	5,874	11,054
Employee entitlements	17	4,180	4,331
Other liabilities	16	5,335	3,161
Total Current Liabilities		15,719	28,855
NON-CURRENT LIABILITIES			
Employee entitlements	17	467	335
Other payables	19	622	889
Total Non-Current Liabilities		1,089	1,224
TOTAL LIABILITIES		16,808	30,079
Net Assets		27,492	11,517
EQUITY			
Reserves	22	39	6,538
Retained earnings		27,453	4,979
Total Equity		27,492	11,517

The above Consolidated Statement of Financial Position be read in conjunction with the accompanying notes

STATEMENT OF CHANGES IN EQUITY

For the year ended 30 June 2019

	ASSET REVALUATION RESERVE \$'000	FOREIGN CURRENCY FLUCTUATION RESERVE \$'000	RETAINED EARNINGS \$'000	TOTAL EQUITY \$'000
Balance at 1 July 2017	6,515	58	7,071	13,644
Deficit for the year	-	-	(1,979)	(1,979)
Other comprehensive income				
- share of loss of IRSM associate entity	-	(28)	-	(28)
- exchange loss on consolidation	-	(8)	-	(8)
- actuarial loss on Defined Benefit Superannuation Plan	-	-	(113)	(113)
Balance at 30 June 2018	6,515	22	4,979	11,516
Balance at 1 July 2018	6,515	22	4,979	11,516
Surplus for the year	-	-	16,801	16,801
Other comprehensive income				
- share of profit of IRSM associate entity	-	17	-	17
- adjustment on the depreciation on sale of NSV IRSM	-	-	8	8
- actuarial loss on Defined Benefit Superannuation Plan	-	-	(850)	(850)
- transfer to retained earnings	(6,515)	-	6,515	-
Balance at 30 June 2019	-	39	27,453	27,492

STATEMENT OF CASH FLOWS

For the year ended 30 June 2019

	NOTES	2019 \$'000	2018 \$'000
CASH FLOWS FROM OPERATING ACTIVITIES			
Cash was provided from:			
Receipts from customers		40,895	39,057
Interest received	2	703	11
		41,598	39,068
Cash was provided to:			
Payments to suppliers and employees		(36,209)	(38,127)
Interest paid	3	(130)	(125)
Net GST payment to ATO		(4,514)	(896)
Net cash inflow/ (outflow) from operating activities	27	745	(80)
Cash flow from investing activities			
Proceeds from sale of property, plant and equipment		20,713	5,632
Payment for property, plant and equipment		(4,697)	(13,011)
Payment for intangible asset		(25)	(190)
Net cash inflow/ (outflow) from investing activities		15,991	(7,569)
CASH FLOW FROM FINANCING ACTIVITIES			
(Repayment) / proceeds from borrowings		(9,979)	7,213
Net cash (outflow) / inflow from financing activities		(9,979)	7,213
NET INCREASE/ (DECREASE) IN CASH HELD		6,757	(436)
CASH AT THE BEGINNING OF THE FINANCIAL YEAR		985	1,421
Cash at the end of the financial year	5	7,742	985

The above Consolidated Statement of Changes in Equity be read in conjunction with the accompanying notes

The above Consolidated Statement of Cash Flows be read in conjunction with the accompanying notes

NOTES TO THE FINANCIAL STATEMENTS

For The Year Ended 30 June 2019

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

This special purpose financial report has been prepared in accordance with Australian equivalents to International Financial Reporting Standards (IFRS), other authoritative pronouncements of the Australian Accounting Standards Board and the Australian Charities and Not-for-profits Commission Act 2012.

(A) BASIS OF PREPARATION OF FINANCIAL REPORT

ARRB Group Limited is not a reporting entity because in the directors' opinion, it is unlikely that users exist who are unable to command the preparation of reports tailored so as to satisfy, specifically, all their information needs.

This is a special purpose financial report that has been prepared for the sole purpose of complying with the Australian Charities and Not-for-profits Commission Act 2012 requirements to prepare and distribute a financial report to the members and must not be used for any other purpose. The directors have determined that the accounting policies adopted are appropriate to meet the needs of the members.

The measurement basis adopted in preparing this financial report is historical cost, except for certain assets which, as noted, are at valuation. Unless otherwise stated, the accounting policies adopted are consistent with those of the prior year.

The Group has applied Accounting Standard AASB 101 Presentation of Consolidated Financial statements and other applicable Australian Accounting Standards with the exception of the disclosure requirements in the following:

AASB 7	Financial Instruments Disclosures
AASB 124	Related Party Disclosures
AASB 13	Fair Value Measurement

While not fully complying with the disclosure requirements of AASB 124, the Group discloses remuneration to directors (Note 22). The reader should also be aware of the relationship between ARRB Group Limited and its members, who are generally the government organisations which manage roads in Australia and New Zealand. ARRB Group Limited is a public company limited by guarantee and its members cannot benefit financially from its performance. The ARRB Group Limited operates as a not-for-profit entity and, in commercial transactions, on an arm's length basis

from its members. Equally, members are also often clients and competitors. At the annual meeting, members may be entitled to elect some of their representatives as directors.

(B) PRINCIPLES OF CONSOLIDATION

Relating to 2018, the Consolidated Financial Statements incorporate the assets, liabilities and results of entities controlled by ARRB Group Ltd during the reporting period. A controlled entity (subsidiary) is any entity over which ARRB Group Ltd has the power to govern the financial and operating policies so as to obtain benefits from the entity's activities. Control will general exist when the parent own, directly or indirectly through subsidiaries, more than half of the voting power of an entity. In assessing the power to govern, the existence and effect of holdings of actual and potential voting rights are also considered.

Where controlled entities have entered or left the Group during the year, the financial performance of those entities are included only for the period of the year that they are controlled.

In preparing the Consolidated Financial Statements, all inter-group balances and transaction, income and expenses, and profit and losses resulting from intra-group transactions have been eliminated on consolidation. Accounting policies of subsidiaries have been changed where necessary to ensure consistency with those adopted by the parent entity. Non-controlling interests, being the equity in a subsidiary not attributable, directly or indirectly, to a parent, are shown separately within the Equity section of the Consolidated Financial Statements and Consolidated Statement of Profit or Loss and Other Comprehensive Income. The non-controlling interests in the net assets comprise their interests at the date of the original business combination and their share of changes in equity since that date.

(C) FOREIGN CURRENCY TRANSLATION

(i) Functional and presentation currency

The functional currency of each group entity is measured using the currency of the primary economic environment in which that entity operates. The Consolidated Financial Statements are presented in Australian dollars which is the parent entity's functional and presentation currency.

(ii) Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of transactions. Foreign currency monetary items are translated at the year-end exchange rate. Non-monetary items measured at historical cost continue to be carried at the exchange rate at the date of the transaction. Non-monetary items measured at fair value are reported at the

exchange rate at the date when fair values were determined. Exchange differences arising on the translation of monetary items are recognised in profit or loss, except where deferred in equity as a qualifying cash flow or net investment hedge.

Exchange differences arising on the translation of non-monetary items are recognised directly in other comprehensive income to the extent that the underlying gain or loss is directly recognised in other comprehensive income, otherwise the exchange difference is recognised in the profit or loss.

(D) REVENUE RECOGNITION

Amounts disclosed as revenue are net of returns, trade allowances and duties and taxes paid. Revenue is recognised for the major business activities as follows:

(i) Contract jobs and work in progress

Contract jobs and work in progress are valued at cost, plus profit recognised to date less any provision for anticipated future losses. Cost includes both variable and fixed costs relating to specific contracts, and those costs that are attributable to the contract activity and that can be allocated on a reasonable basis.

Profits from contract jobs are recognised on the stage of completion basis and measured using the proportion of cost incurred to date as compared to expected actual cost. Where losses are anticipated they are provided for in full.

Revenue from contract jobs is recognised on the basis of the terms of the contract adjusted for any variations or claims allowable under the contract.

(ii) Expense jobs

Revenue from expense jobs is recognised on the basis of the net amounts invoiced to customers.

(iii) Other goods/services

A sale is recorded when goods/services have been dispatched/provided to a customer pursuant to a sales order and the associated risks have passed to the carrier or customer.

(E) GOVERNMENT GRANTS

Grants revenue is recognised in the Consolidated Statement of Profit or Loss and Other Comprehensive Income when the Group obtains control of the grant and it is probable that the economic benefits gained from the grant will flow to the Group and the net amount of the grant can be measured reliably.

If conditions are attached to the grant which must be satisfied before it is eligible to receive the contribution, the recognition of the grant as revenue will be deferred until those conditions are satisfied. When the grant revenue is received whereby the Group incurs an obligation to deliver economic value directly back to the contributor, this is considered a reciprocal transaction and the grant revenue is recognised in the Consolidated Financial Statements as a liability until the service has been delivered to the

contributor, otherwise the grant is recognised as income on receipt.

(F) INCOME TAX

The parent entity, ARRB Group Ltd, was granted income tax exempt status under section 508 of the **Income Tax Assessment Act 1997**, GST concessions under Division 176 of **A New Tax System (Goods and Service Tax) Act 1999** and FBT rebate under 123E of the **Fringe Benefits Tax Assessment 1986**. The subsidiary entity ARRB Group Inc. did not have any assessable income for the year.

(G) LEASES

Payments made under operating leases are charged to the Consolidated Statement of Profit or Loss and Comprehensive Income on a straight-line basis over the lease term.

(H) PURCHASE METHOD OF ACCOUNTING

The purchase method of accounting is used to account for all acquisitions of assets (including business combinations) regardless of whether equity instruments or other assets are acquired. Cost is measured as the fair value of the assets given, shares issued or liabilities incurred or assumed at the date of exchange plus costs directly attributable to the acquisition.

Identifiable assets and liabilities acquired and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date, irrespective of the extent of any minority interest. The excess of the cost of acquisition over the fair value of the company's share of the identifiable net assets acquired is recorded as goodwill. If the cost of acquisition is less than the fair value of the net assets of the subsidiary acquired, the difference is recognised directly in the Consolidated Statement of Profit or Loss and Comprehensive Income, but only after a reassessment of the identification and measurement of the net assets acquired.

(I) ACCOUNTING FOR ASSOCIATE ENTITY

The interest in the associate entity is accounted for using the equity method. Under the equity method, the share of the profits or losses of the entity is recognised in the income statement, and the share of movements in reserves is recognised in the balance sheet.

NOTE 1 CONTINUED

(J) IMPAIRMENT OF ASSETS

Assets that have an indefinite useful life are not subject to amortisation but are tested annually for impairment. Assets that are subject to amortisation/depreciation are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognised for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use. For the purpose of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (cash generating units).

(K) CASH AND CASH EQUIVALENTS

Cash and cash equivalents include cash on hand, deposits held at call with financial institutions, other short-term, highly liquid investments with original maturities of three months or less that are readily convertible to known amounts of cash and which are subject to an insignificant risk of change in value, and bank loans. Bank loans are shown within interest-bearing liabilities in the current liabilities on the Consolidated Financial Statements.

(L) TRADE RECEIVABLES

All trade debtors are recognised at the net amounts receivable as they are due for settlement. The ability to collect trade debtors is reviewed on an ongoing basis. A provision for doubtful debts is established when there is objective evidence that the Group will not be able to collect all amounts due according to the original terms of the receivable.

(M) INVENTORIES

Raw materials, manufacturing work in progress and finished goods
Raw materials and stores, manufacturing work in progress and finished goods are stated at the lower of average cost and net realisable value. For finished goods, cost comprises direct materials, direct labour and an appropriate proportion of variable and fixed overhead expenditure, the latter being allocated on the basis of normal operating capacity. Manufacturing work in progress comprises direct materials only.

Contract work in progress

Contract work in progress is stated at the aggregate of contract costs incurred to date plus recognised profits less recognised losses and progress billings. If there are contracts where progress billings exceed aggregate costs incurred plus recognised profits less losses, the net amounts are presented under other liabilities as revenue in advance. Where contract costs incurred to date and recognised profits exceed progress billings, the amount is presented under current assets as contract works in progress.

(N) FAIR VALUE ESTIMATION

The fair value of financial assets and financial liabilities must be estimated for recognition and measurement or for disclosure purposes. The nominal value less estimated credit adjustments of trade receivables, contract works in progress and payables are assumed to approximate their fair values.

(O) PROPERTY, PLANT AND EQUIPMENT

Relating to 2018, land and buildings are shown at fair value. The directors provide the valuation which is based on triennial valuations by external independent valuers, less subsequent depreciation for buildings. Any accumulated depreciation at the date of revaluation is eliminated against the carrying amount of the asset and the net amount is restated to the re-valued amount of the asset. All other property, plant and equipment is stated at historical cost less depreciation. Historical cost also includes expenditure that is directly attributable to acquisition of the item. Subsequent costs are included in the asset's carrying amount or recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to the company and the cost of the item can be measured reliably. All other repairs and maintenance are charged to the Consolidated Statement of Profit or Loss and Other Comprehensive Income during the financial period in which they are incurred.

Increases in the carrying amounts arising on revaluation of land and buildings are credited to the asset revaluation reserve. To the extent that the increase reverses a decrease previously recognised in the Consolidated Statement of Profit or Loss and Other Comprehensive Income, the increase is recognised in the Consolidated Statement of Profit or Loss and Other Comprehensive Income. To the extent that the decrease reverses previous increases of the same asset, the decrease is recognised directly in the revaluation reserve through the Consolidated Statement of Changes in Equity. All other decreases are charged to the Consolidated Statement of Profit or Loss and Other Comprehensive Income.

Depreciation on other assets is calculated using the straight-line method to allocate their cost or re-valued amounts, net

of their residual values, over their estimated useful lives, as follows:

Buildings	10 - 40 years
Leasehold improvement	Estimated useful life or unexpired period of the lease
Furniture, fittings & equipment	2 - 10 years
Plant and equipment	3 - 10 years
Motor vehicles	5 years

Assets residual values and useful lives are reviewed, and adjusted if appropriate, at each reporting date and no changes have been made.

(P) TRADE AND OTHER PAYABLES

These amounts represent liabilities for goods and services provided to the Group prior to the end of the financial year which are unpaid. The amounts are unsecured and are paid within the agreed terms of trade.

(Q) BORROWINGS

Borrowings are initially recognised at fair value, net of transaction costs incurred. Borrowings are subsequently measured at amortised cost. Any difference between the proceeds (net of transaction costs) and the redemption amount is recognised in the Consolidated Statement of Profit or Loss and Other Comprehensive Income over the period of the borrowings using the effective interest method.

(R) REVENUE IN ADVANCE

This represents the invoices raised or monies received but goods and services not yet provided to the customers at the end of the financial year.

(S) BORROWING COSTS

Borrowing costs incurred for the construction of any qualifying asset are capitalised using the period of time that is required to complete and prepare the asset for its intended use or sale. Other borrowing costs are expensed.

(T) PROVISIONS

Provisions for service warranties are recognised when the Group has a present legal or constructive obligation as a result of past events, it is more likely than not that an outflow of resources will be required to settle the obligation, and the amount has been reliably estimated. Provisions are not recognised for unknown operating losses.

(U) EMPLOYEE BENEFITS

(i) Wages and salaries, annual leave and sick leave

Liabilities for wages and salaries, including annual leave expected to be settled within 12 months of the reporting

date are recognised in other payables in respect of employees' services up to the reporting date and are measured at the amounts expected to be paid when the liabilities are settled, at their nominal values.

The portion of annual leave expected to be settled more than 12 months are classified as non-current liability. It is based on the experience of employee annual leave taken pattern. It is measured as the present value of the estimated cash outflows to be made by the entity. Consideration is given to expected future wage and salary levels. Expected future payments are discounted using market yields at the reporting date on national government guaranteed bonds with terms to maturity and currency that match, as closely as possible, the estimated future cash outflows.

Provisions made in respect of employee benefits which are not expected to be settled within 12 months are measured at their present value of the estimated future cash outflows to be made by the entity in respect of services provided by employees up to the reporting date. Regardless of the expected timing of settlements, provisions made in respect of employee benefits are classified as a current liability, unless there is an unconditional right to defer the settlement of the liability for at least 12 months after the reporting date, in which case it would be classified as a non-current liability.

(ii) Long service leave

The liability for long service leave is recognised in the provision for employee benefits and measured as the present value of expected future payments to be made in respect of services provided by employees up to the reporting date. Consideration is given to expected future wage and salary levels, experience of employee departures and periods of service. Expected future payments are discounted using market yields at the reporting date on national government guaranteed bonds with terms to maturity and currency that match, as closely as possible, the estimated future cash outflows. Provisions made for unconditional long service leave would be classified as a current liability, where the employee has a present entitlement to the benefit. A non-current liability includes long service leave entitlements accrued for employees with less than seven years of continuous service.

(iii) Employee benefit on-costs

Employee benefit on-costs are recognised in employee benefit liabilities and costs when the employee benefits to which they relate are recognised as liabilities.

(iv) Employee incentives

The Group recognises a liability and an expense for bonuses based on the employee's performance against criteria of their employment contract. The Group recognises a provision where contractually obliged or where there is a past practice that has created a constructive obligation.

NOTE 1 CONTINUED

(v) Retirement benefit obligations

The Group, operates both defined benefit superannuation plan and defined contribution superannuation plan for the employees’ retirement, disability or death.

The defined benefit plan provides defined lump sum benefits based on years of service and final average salary. The defined contribution plan receives fixed contributions from the Group and the Group’s legal or constructive obligation is limited to these contributions.

A liability or asset in respect of defined benefit superannuation plan is recognised on the face of the Consolidated Financial Statements, and is measured at the present value of the defined benefit obligation at the reporting date plus unrecognised actuarial gains (less unrecognised actuarial losses) less the fair value of the superannuation fund’s assets at that date and any unrecognised past service cost. The present value of the defined benefit obligation is based on expected future payments which arise from membership of the fund to the reporting date, calculated annually by independent actuaries using the projected unit credit method. Consideration is given to expected future wages and salary levels, experience of employee departures and periods of service.

Expected future payments are discounted using market yields on national government bonds at the reporting date with terms to maturity and currency that match, as closely as possible, the future cash outflows.

Actuarial gains and losses arising from experience, adjustments and changes in actuarial assumptions are charged or credited to the Consolidated Statement of Profit or Loss and Other Comprehensive Income over the employees’ average remaining working lives.

Past service costs are recognised immediately in income, unless the changes to the superannuation fund are conditional on the employees remaining in service for a specified period of time (the vesting periods). In this case, the past service costs are amortised on a straight-line basis over the vesting period.

Future taxes that are funded by the entity and are part of the provision of the existing benefit obligation are taken into account in measuring the net liability or asset.

Contributions to the defined contribution fund are recognised as an expense as they become payable. Prepaid contributions are recognised as an asset to the extent that a cash refund or a reduction in the future payments is available.

(V) INTANGIBLES

Development cost

Expenditure during the research phase of a project is recognised as an expense when incurred. Development costs are capitalised only when technical feasibility studies identify that the project will deliver future economic benefits and these benefits can be measured

reliably. Development costs have a finite life and are amortised on a systematic basis matched to the future economic benefits over the useful life of the project. Development costs are amortised over three years.

(W) ROUNDING OF AMOUNTS TO NEAREST THOUSANDS DOLLARS

The Group is an entity to which ASIC Instrument 2016/91 applies and, accordingly, amounts in the financial statements and Directors’ report have been rounded to the nearest thousand dollars.

(X) COMPARATIVE FIGURES

Where required by Accounting Standards, comparative figures have been adjusted to conform with changes in presentation for the current financial year.

When the Group applies an accounting policy retrospectively, makes a retrospective restatement or reclassification in its financial statements, a Consolidated Financial Statements as at the beginning of the earliest comparative period is disclosed.

(Y) CRITICAL ACCOUNTING ESTIMATES

The Directors evaluate estimates and judgements incorporated into the financial report based on historical knowledge and best available current information. Estimates assume a reasonable expectation of future events and are based on current trends and economic data, obtained externally and within the company.

Debtors and contract works in progress

Significant judgements are made with respect to the recoverable amounts of trade debtors and contract works in progress. Invoices not yet raised are the recoverable amounts of contract works in progress.

In making their judgement, management considered:

- whether the total contract revenue could be measured reliably
- whether the contract costs to complete the contract and the stage of contract completion at balance date could be reliably measured, and
- whether the contract costs attributable to the contract can be clearly identified and measured reliably so that the actual contract costs incurred can be compared with prior estimates.

After reviewing contract transactions management are satisfied that the above criteria have been met and the recognition of the revenue in the current year is appropriate, in conjunction with the recognition of the appropriate contract works in progress/revenue in advance amounts.

NOTE 2 - REVENUE

	2019 \$'000	2018 \$'000
Contract Income	36,434	35,619
Gain / (loss) on sale of fixed assets (a)	17,133	(278)
Exchange gain / (loss)	2	(21)
Interest (b)	703	11
Share of profit of IRSM associate entity	209	86
Rental income	29	-
Total revenue	54,510	35,417

- (a) Gain on sale of fixed assets includes gain on sale of Vermont South office of \$17.068m (2018: NIL)
- (b) Interest includes \$596K penalty charges to buyer of Vermont South office for late settlement (2018: NIL)



NOTE 3 - EXPENSES

	2019 \$'000	2018 \$'000
EMPLOYEE BENEFITS		
Salaries, wages and on-costs	16,722	17,853
Termination benefits	180	550
At risk and share of net surplus	25	35
Employer superannuation contribution - normal	1,746	1,768
Long service leave and annual leave	1,755	1,880
	20,428	22,086
DEPRECIATION AND AMORTISATION		
Amortisation - intangibles	43	-
Depreciation - buildings	155	-
- plant and equipment	2,819	2,242
	3,017	2,242
BORROWING - INTEREST AND FINANCE	130	125
DIRECT MATERIALS	810	1,725
DIRECT OTHER		
Contractors	5,560	3,040
Travel and entertainment	1,108	1,181
Others	586	540
	7,254	4,761
RENTAL (RELATING TO OPERATING LEASE)	1,385	942
OTHER		
Professional and consulting fees	2,197	2,314
Administrative	1,149	1,240
Travel and entertainment	555	612
Impairment of debtors	-	60
Loss on consolidation	-	335
Other	784	881
	4,685	5,442
Total expenses	37,709	37,323

FINANCIAL STATEMENTS

NOTE 4 - INCOME TAX

The parent entity, ARRB Group Ltd, was granted income tax exempt status under section 50B of the **Income Tax Assessment Act 1997**, GST concessions under Division 176 of A New Tax System (Goods and Service Tax) Act 1999 and FBT rebate under 123E of the **Fringe Benefits Tax Assessment 1986**. The subsidiary entity ARRB Group Inc. did not have any assessable income up to the date of sale.

NOTE 5 - CURRENT ASSETS –
CASH & CASH EQUIVALENTS

	2019 \$'000	2018 \$'000
Cash at bank and on hand	45	39
Short-term deposits and deposits at call	7,697	947
	7,742	986
<i>Reconciliation of cash</i>		
Cash at the end of the financial year is reconciled to the Statement of Cash Flows as follows		
Cash and cash equivalents	7,742	986

There is no material difference between the fair value and the carrying amount of cash and cash equivalent.

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NOTE 6 - CURRENT ASSETS – RECEIVABLES

	2019 \$'000	2018 \$'000
Trade debtors	8,720	6,693
Less allowance for impairment loss	(4)	(45)
	8,716	6,648
Other receivables	705	356
Total receivables	9,421	7,004

The other receivable includes an amount of \$617K (2018: \$304K) to be recovered from VNA in respect of the outstanding installments of iPAVe ARRB continues to pay following the sale of System Equipment and AGI

(a) Fair value

The amounts are stated at fair values as they are expected to be settled, in the short term, less allowance for impairment loss.

(b) Interest rate risk

Trade and other receivables are non-interest bearing therefore not exposed to interest rate risk.

(c) Credit rate risk

The company has a large number of customers. The majority are the federal government, state and local authorities and as a result the risk of default is limited.

NOTE 7 - CURRENT ASSETS – INVENTORIES

	2019 \$'000	2018 \$'000
Raw materials	53	32
Inventories at net realisable value	53	32
Stores at net realisable value	-	1
Contract works in progress Note 1(l)	4,127	2,676
Work in progress at cost	4,127	2,676
Total inventories	4,180	2,709

NOTE 8 - PREPAYMENT

	2019 \$'000	2018 \$'000
Prepayments	428	431

There is no material difference between the fair value and the carrying amount of prepayments.

NOTE 9 - ASSETS HELD FOR SALE & DISCONTINUED BUSINESS

(a) Sale of Land and Building

On the 17th May 2017, the Group signed a contract of sale for the land and building at Vermont South, Victoria. The carrying value of the asset as at 31st Dec 2016 is \$8.823m. Contract settlement was on 18th August 2018 and subsequently deferred to 14th December 2018 at which date the significant risks and rewards of ownership of the property was transferred to the buyer. Gain on sale of the land and building was \$17.068m (note 2)

(b) Sale of Equipment Business

On the 1st June 2017, the Board of Directors decided to exit from the Equipment Sales and US subsidiary businesses. Under the terms of share sale agreement sub agreement, the USA based iPAVe will only be transferred when the debt pertaining to it is paid in full by the purchaser. As at 30 June 2019, three instalments of six months apart over the next two years remain payable. The final instalment is due on the 15th September 2020. Once the debt has been paid by the purchaser the USA based iPAVe will be transferred to their ownership. Until this has occurred ARRB Group retains ownership of the asset.

Results of Discontinued operation

The carrying amounts of assets and liabilities were:

	2019 \$'000			2018 \$'000		
	ARRB	System	Total	ARRB	System	Total
Asset classified as held for sale						
Property, plant and equipment	0	3,206	3,206	8,820	3,206	12,026
Inventories	0	0	0	0	0	0
Other receivables	0	0	0	0	0	0
Total	0	3,206	3,206	8,820	3,206	12,026
Liabilities directly associated with asset classified as held for sale						
Employee benefit obligations	0	0	0	0	0	0
Interest bearing liabilities	0	0	0	0	0	0
Total	0	0	0	0	0	0

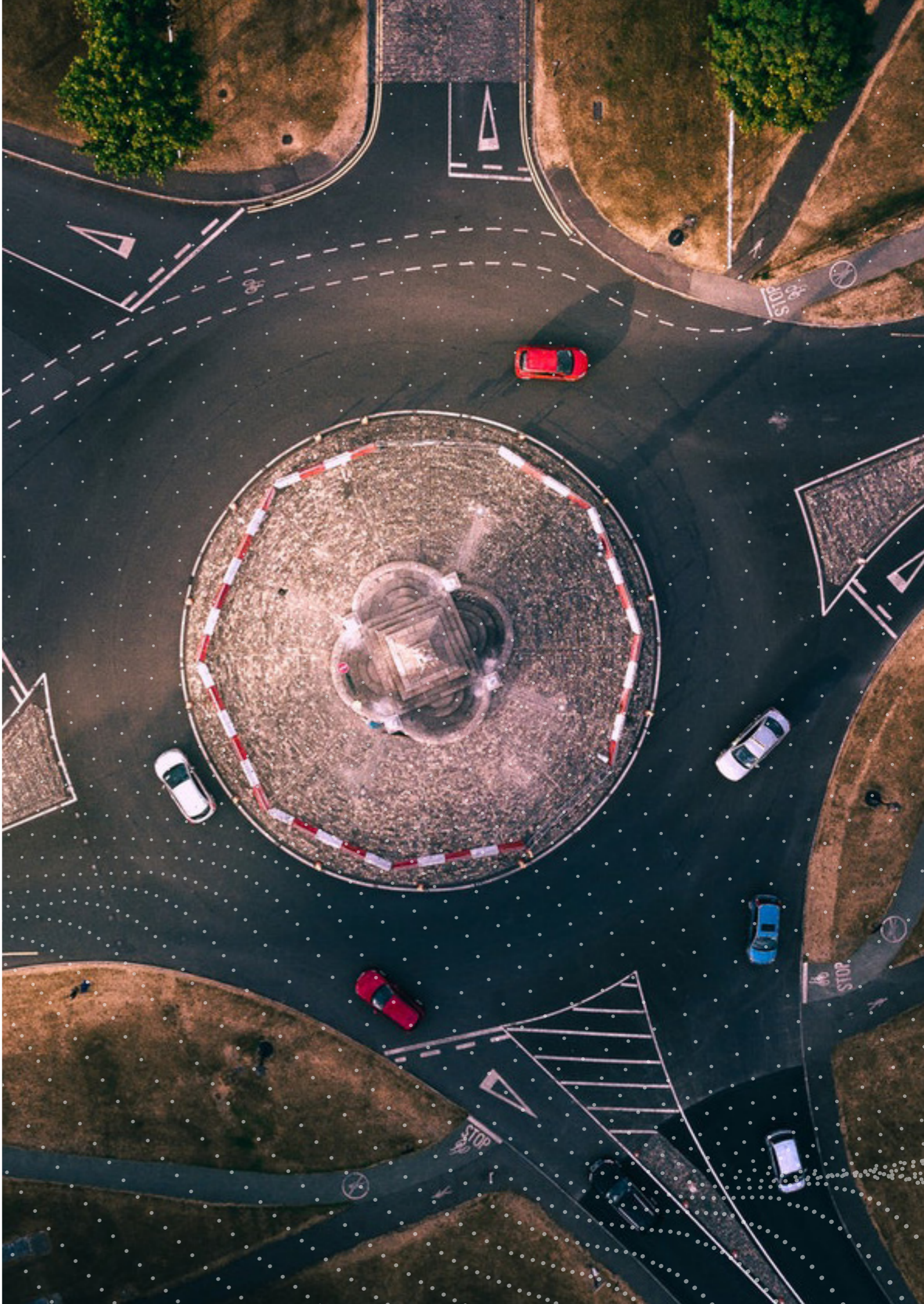
NOTE 10 - NON-CURRENT ASSETS –
PROPERTY, PLANT & EQUIPMENT

(a) Valuations of land building
Total amount of \$8.820m classified as assets held for sale last year was sold during the year.

(b) Movements in the carrying amounts of each class of property, plant and equipment between the beginning and the end of the reporting period:

\$'000	FREEHOLD LAND	BUILDINGS	LEASEHOLD IMPROVEMENTS	FURNITURE, FITTINGS & EQUIPMENT	RESEARCH & SURVEY EQUIPMENT	PLANT & EQUIPMENT	MOTOR VEHICLES	CAPITAL WORK IN PROGRESS	TOTAL
	At Valuation	At Valuation	At Cost	At Cost	At Cost	At Cost	At Cost	At Cost	
COST / REVALUATION				5,171					
Balance at 1 July 2018	-	-	371	4,923	14,772	2,611	41	9,023	31,989
Addition	-	5,537	178	(756)	2,174	324	-	-	13,136
Disposal	-	-	-	9,338	(124)	(412)	-	(8,157)	(9,449)
Balance at 30 June 2019	-	5,537	549		16,822	2,523	41	866	35,676
ACCUMULATED DEPRECIATION									
Balance at 1 July 2018	-	-	118	3,632	9,343	2,455	41	-	15,589
Addition	-	108	47	822	1,944	53	-	-	2,974
Disposal	-	-	-	(579)	(123)	(369)	-	-	(1,071)
Balance at 30 June 2019	-	108	165	3,875	11,164	2,139	41	-	17,492
NET BOOK VALUE									
1 July 2018	-	-	253	1,539	5,429	156	-	9,022	16,399
30 Jun 2019	-	5,429	384	5,463	5,658	384	-	865	18,183

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NOTE 11 - NON-CURRENT ASSETS – INTANGIBLE ASSETS

	2019 \$'000	2018 \$'000
Opening balance	190	-
Addition	25	190
Amortisation expense	(43)	-
Balance at the end of the year	172	190

The intangible assets represent the purchase of Big Cloud business specialising in software development and software hosting business.

NOTE 12 - NON-CURRENT ASSETS – FINANCIAL ASSETS

	2019 \$'000	2018 \$'000
Investment in Indian Road and Survey Management Private Limited	666	432

Investment in Indian Road and Survey Management Private Limited (IRSM) is accounted for using the equity method of accounting. ARRB's share in IRSM is currently 50%. ARRB is considered to have 'significant influence' in IRSM, as outlined in AASB 128 *Accounting for Associates*, paragraph 7. The share of profit is shown in Note 2, Revenue.

The summarised presentation of aggregate assets, liabilities and performance of IRSM is as follows, based on the percentage of ARRB's share:

	2019 \$'000	2018 \$'000
Current assets	1,084	582
Non-current assets	298	481
Total assets	1,382	1,063
Current liabilities	479	529
Non-current liabilities	237	102
Total liabilities	716	631
Net Assets	666	432

Share of revenue, expense and results

	2019 \$'000	2018 \$'000
Revenue	1,347	629
Profit before tax	427	86

NOTE 13 - NON-CURRENT RECEIVABLE

	2019 \$'000	2018 \$'000
Other receivable	302	889

NOTE 14 - CURRENT LIABILITIES – INTEREST BEARING LIABILITIES

	2019 \$'000	2018 \$'000
Bank loans - secured	-	10,309
Bank - trade finance loan	330	-
330	10,309	

The weighted average interest rate of bank loans is 4.03% (2018: 4.47%).

NOTE 15 - CURRENT LIABILITIES – TRADE AND OTHER PAYABLES

	2019 \$'000	2018 \$'000
Trade payables	578	1,464
Deposit received (a)	-	5,177
Other payables	5,296	4,413
Total payables	5,874	11,054

(a) Deposit in 2018 represents the amount paid by the buyer of the Vermont South office

There is no material difference between the fair value and the carrying amount of trade payables and other payables.

NOTE 16 - CURRENT LIABILITIES – OTHER

	2019 \$'000	2018 \$'000
Income received in advance	1,518	509
Contract work in progress - revenue received in advance	3,816	2,652
Total current other liabilities	5,334	3,161

There is no material difference between the fair value and the carrying amount of other current liabilities.



NOTE 17 - EMPLOYEE ENTITLEMENTS

	2019 \$'000	2018 \$'000
Provision for employee entitlement		
Annual leave - short term	1,382	1,348
Annual leave - long term	304	225
Long service leave	2,494	2,758
4,180	4,331	

Non-current provision for employee entitlement

Long service leave	467	335
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NOTE 18 - RETIREMENT BENEFITS

Retirement plan

The Group operates both defined benefit superannuation plan and defined contribution superannuation plan for the employees' retirement, disability or death.

The parent entity, ARRB Group Ltd, has a defined benefit plan and a defined contribution plan. The defined benefit plan provides lump sum benefits based on years of service and final average salary. The defined contribution plan receives fixed contributions from the company and the company's legal or constructive obligation is limited to these contributions.

The following sets out details in respect of the defined benefit plan only.

	2019 \$'000	2018 \$'000
Non-current assets	-	530
Non-current liabilities	320	-

(a) Consolidated Financial Position amounts

The amounts recognised in the Consolidated Financial Statements are determined as follows:

	2019 \$'000	2018 \$'000
Present value of the defined benefit obligation	(9,800)	(10,337)
Fair value of defined benefit plan assets	9,480	10,867
Net asset (liability) in the Statement of financial Position	(320)	530

(b) Categories of plan assets

The break-down of assets for disclosure purposes is as follows:

Asset Type	2019	2018
Australian equities	17%	18%
International equities	20%	18%
Australian fixed interest	17%	17%
International fixed interest	14%	16%
Property	8%	7%
Alternative assets (growth)	9%	9%
Alternative assets (defensive)	5%	5%
Cash	10%	10%
Total	100%	100%

(c) Reconciliation

Reconciliation of the present value of the defined benefit obligation which is partly funded:

	2019 \$'000	2018 \$'000
Balance at the beginning of the year	10,337	10,316
Current service cost	163	185
Net interest expense	237	336
Member contribution	-	-
Actuarial gains arising from changes in financial assumptions	460	77
Actuarial losses arising from changes in experience assumptions	535	183
Benefits paid	(1,932)	(760)
Balance at the end of the year	9,800	10,337

Reconciliation of the fair value of plan assets:

	2019 \$'000	2018 \$'000
Balance at the beginning of the year	10,867	10,896
Interest income	254	357
Return on plan assets (excluding interest income)	252	334
Employer contributions	39	40
Member contribution	-	-
Benefits paid	(1,932)	(760)
Balance at the end of the year	9,480	10,867

(d) Amounts recognised in Consolidated Statement of Profit or Loss and Other Comprehensive Income

	2019 \$'000	2018 \$'000
Current service cost	163	185
Net interest on the net defined benefit liability	(16)	(21)
Defined benefit cost recognised in the Income Statement	147	164
Remeasurement of the net defined benefit liability	741	(74)
Total included in employee benefits expense	741	(74)
Total defined benefit cost	888	90
Actual return on plan assets	506	692

The best estimate of contributions expected to be paid to the plan during 2019 was \$38,749.

(e) Principal actuarial assumptions

	2019	2018
Sensitivity of the defined obligations	0.50%	0.50%
to changes in the significant assumption	Increase	Decrease
Discount rate	-2.30%	2.40%
Salary and price inflation	1.60%	-1.40%
Salary and price inflation	0.70%	-0.70%

(f) Projected defined benefit cost for 2020

The following table sets out the estimated defined benefit cost recognised in the Income Statement for the year ending 30 June 2020:

	2020 \$'000	2019 \$'000
Current service cost	189	163
Net interest	5	(16)
Defined benefit cost	194	147

(g) Employer contributions

Employer contributions to the defined benefit section of the plan are based on recommendations by the plan's actuary. Actuarial assessments are made at no more than three-yearly intervals, and the last such assessment was made on 30 June 2018.

The objective of funding is to ensure that the benefit entitlements of members and other beneficiaries are fully funded by the time they become payable. To achieve this objective, the actuary adopted a method of funding benefits known as the aggregate funding method; this funding method seeks to have benefits funded by means of a total contribution which is expected to be a constant percentage of members' salaries over their working lifetimes.

The economic assumptions used by the actuary to make the funding recommendations were a long-term investment earning rate of 5% pa, a salary increase rate of 3% pa.

On 8 May 2019, the Superannuation Committee agreed the recommendation from the actuary to maintain the employer contribution rate of 0%.

(h) Net financial position of plan

In accordance with AAS 25 Financial Reporting by Superannuation Plans, the plan's net financial position is determined as the difference between the present value of the accrued benefits and the net market value of plan assets. This has been determined as at the date of the most recent financial report of the superannuation fund (30 June 2018), and a surplus of \$839K was reported.

NOTE 19 - NON-CURRENT OTHER PAYABLE

	2019 \$'000	2018 \$'000
Retirement Benefits Liability	320	-
Other payable	302	889
	622	889

NOTE 20 - FINANCING ARRANGEMENT

Unrestricted access was available at balance date to the following lines of credit:

	2019 \$'000	2018 \$'000
Total facilities		
Bank loan facilities	3,253	18,110
Other credit facilities	1,150	1,050
	4,403	19,160
Used at balance date		
Bank loan facilities	330	10,310
Other credit facilities	695	498
	1,025	10,808
Unused at balance date		
Bank loan facilities	2,923	7,800
Other credit facilities	455	552
	3,378	8,352

The bank holds a fixed charge over the assets and undertakings of the company.

NOTE 21 - MEMBERS' GUARANTEE

The company is a company limited by guarantee. The liability of each of its members is limited to \$20.

NOTE 22 - RESERVES

	2019 \$'000	2018 \$'000
Asset Revaluation Reserve		
Balance at beginning of year	6,515	6,515
Movement during the year	(6,515)	-
Balance at the end of the year	-	6,515
Foreign Currency Translation Reserve		
Balance at beginning of year	22	58
Movement during the year	17	(36)
Balance at the end of year	39	22
Total	39	6,537

The asset revaluation reserve is used to record increments and decrements on the revaluation of non-current assets, as described in accounting policy Note 1(o).

NOTE 23 - REMUNERATION OF DIRECTORS

	2019 \$'000	2018 \$'000
Income received, or due and receivable by the directors	151	139

The names of persons who were directors of ARRB Group Limited at any time for the year are as follows:

P Duncan	K Reid
N Scales	S Troughton
S Dodds	Dr. A Turner
Dr. V Gardiner	P Woronzow
L McCormick	

The following table shows the schedule of fees available to the independent non-executive directors:

	BASE FEES	COMMITTEE	TOTAL
	one	two	
Chairman	\$60,000	\$7,500	\$75,000
Deputy Chairman	\$42,500	\$7,500	\$57,500
Non-Executive Directors	\$25,000	\$7,500	\$32,500

Non-executive directors are encouraged to be a member on one committee only. If a non-executive director is a member on two committees, they will be remunerated accordingly.

NOTE 24 - REMUNERATION OF AUDITORS

During the year the auditor of the company and its related practices earned the following remuneration:

	2019 \$'000	2018 \$'000
Audit or review of financial reports of the company	57	46
Other services	11	16
Total remuneration	68	62

NOTE 25 - CONTINGENT LIABILITIES & CONTINGENT ASSETS

Contingent Assets

There are no contingent assets at balance date.

Contingent Liabilities

There are no contingent liabilities at balance date.

NOTE 26 - COMMITMENTS FOR EXPENDITURE

Capital commitments

Capital commitments as at 30 June 2019 were \$68k (2018: \$3,496k). They are all due for payment within one year.

Lease commitments

Commitments in relation to operating leases contracted for at the reporting date but not recognised as liabilities payable:

	2019 \$'000	2018 \$'000
Not later than one year	1,690	1,700
Later than one year but not later than 5 years	5,948	5,075
More than 5 years	16,742	-
Total	24,380	6,775

NOTE 27 - RECONCILIATION OF PROFIT FROM ORDINARY ACTIVITIES AFTER INCOME TAX TO NET CASH INFLOW / (OUTFLOW) FROM OPERATING ACTIVITIES

	2019 \$'000	2018 \$'000
Operating profit / (loss) after income tax	16,802	(1,979)
Adjustment for non-cashflow items		
Depreciation and amortisation	3,017	2,242
Impairment of contract works in progress	23	-
Net (profit) / loss on sale of non-current assets	(17,133)	278
(Written back) / provision for doubtful debt	(41)	58
Decrease in provision for obsolete stock	-	(3)
Change in operating assets and liabilities		
Decrease in receivable	(1,875)	(186)
(Decrease) / increase in inventory	(1,152)	194
Increase / (decrease) in payables	1,104	(684)
Net cash inflow / (outflow) from operating activities	745	(80)

NOTE 28 - SUBSIDIARIES

The subsidiary company, ARRB Group Inc., a company incorporated in the USA was sold during the year ended 30 June 2018.

NOTE 29 - PARENT INFORMATION

	2019 \$'000	2018 \$'000
Current assets	-	23,157
Non-current assets	-	24,262
Total assets	-	47,419
Current liabilities	-	28,856
Non-current liabilities	-	1,224
Total liabilities	-	30,080
Net assets	-	17,339
REVENUE, EXPENSE AND RESULTS		
Revenues	-	37,227
Net loss before tax	-	(1,223)
Other comprehensive income		
Items that will not be reclassified to the profit and loss	-	(113)
Items reclassified subsequently to the profit and loss	-	(28)
	-	(141)
Total comprehensive income	-	(1,364)

Contingent Assets

There are no contingent assets at balance date.

Contingent Liabilities

There are no contingent liabilities at balance date.

Capital commitments

Capital commitments as at 30 June 2019 were \$68k (2018: \$3,496k). They are all due for payment within one year.

Lease commitments

Commitments in relation to operating leases contracted for at the reporting date but not recognised as liabilities payable:

	2019 \$'000	2018 \$'000
Not later than one year	1,690	1,700
Later than one year but not later than 5 years	5,948	5,075
More than 5 years	16,742	-
Total	24,380	6,775



NOTE 30 - NEW STANDARDS & INTERPRETATIONS ISSUED BUT NOT EFFECTIVE

At the date of this financial report the following standards and interpretations, which may impact the entity in the period of initial application, have been issued but are not yet effective:

REFERENCE	TITLE	SUMMARY	APPLICATION DATE (FINANCIAL YEARS BEGINNING)	EXPECTED IMPACT
AASB 15	Revenue from Contracts with Customers	This Standard establishes principles (including disclosure requirements) for reporting useful information about the nature, amount, timing and uncertainty of revenue and cash flows arising from an entity's contracts with customers	1 January 2019	Management has assessed the impact AASB 15 and AASB 1058 and conclude there will be no material change to revenue recognition
AASB 16	Leases	The key changes introduced by AASB 16 include the recognition of most operating leases (which are current not recognised) on balance sheet	1 January 2019	Management has assessed the impact of AASB 16 ad estimate the Right of Use Asset and corresponding Lease Liability value to be recognised will approximate \$12m
AASB 1058	Income of not-for-Profit Entities	This standard replaces AASB 1004 Contributions and establishes principles for transactions that are not within the scope of AASB 15 where the consideration to acquire an asset is significantly less than the fair value to enable not-for-profit entities to further their objectives	1 January 2019	Management has assessed the impact of AASB 15 and AASB 1058 and conclue there will be no material change to revenue recognition

NOTE 31 - EVENTS AFTER BALANCE SHEET DATE

There are no material events after balance sheet date.

DIRECTORS' DECLARATION

The directors have determined that the Group is not a reporting entity, and that this special purpose financial report should be prepared in accordance with the accounting policies outlined in Note 1 to the Consolidated Financial statements.

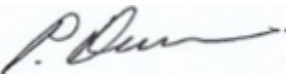
The directors declare that the financial reports and notes set out on pages 70 to 88.

- a. comply with Australian Accounting Standards as detailed in Note 1 to the Consolidated Financial statements
- b. give a true and fair view of the company's financial position as at 30 June 2019 and of its performance for the financial year ended on that date in accordance with the accounting policies described in Note 1 to the Consolidated Financial statements.

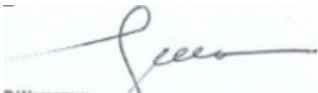
In the directors' opinion:

- a. the Consolidated Financial statements and notes are in accordance with the Australian Charities and Not-for-profits Commission Act 2012
- b. there are reasonable grounds to believe that the company will be able to pay its debts as and when they become due and payable.

This declaration is made in accordance with a resolution of the directors.



P. Duncan
Chairman



P. Woronzow
Chair of Audit & Risk
Management Committee

Melbourne
Date: Tuesday 26 November 2019



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INDEPENDENT AUDITOR'S REPORT
To the Members of ARRB Group Limited

Opinion

We have audited the financial report of ARRB Group Limited ("the Company") and its subsidiary (together referred to as "the Group"), which comprises the consolidated statement of financial position as at 30 June 2019, the consolidated statement of profit or loss and other comprehensive income, the consolidated statement of changes in equity and the consolidated statement of cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies, and the directors' declaration.

In our opinion, the financial report of the Group has been prepared in accordance with Division 60 of the *Australian Charities and Not-for-profits Commission Act 2012*, including:

- (a) giving a true and fair view of the Group's financial position as at 30 June 2019 and of its financial performance and cash flows for the year ended on that date; and
- (b) complying with Australian Accounting Standards to the extent described in Note 1 and Division 60 of the *Australian Charities and Not-for-profits Commission Regulation 2013*.

Basis for Opinion

We conducted our audit in accordance with Australian Auditing Standards. Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Report* section of our report. We are independent of the Group in accordance with the ethical requirements of the Accounting Professional and Ethical Standards Board's APES 110 *Code of Ethics for Professional Accountants* (the Code) that are relevant to our audit of the financial report in Australia. We have also fulfilled our other ethical responsibilities in accordance with the Code.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Emphasis of Matter – Basis of Accounting

We draw attention to Note 1 to the financial report, which describes the basis of accounting. The financial report has been prepared to assist the Group to meet the requirements of Division 60 of the *Australian Charities and Not-for-profits Commission Act 2012*. As a result, the financial report may not be suitable for another purpose. Our opinion is not modified in respect of this matter.

THE POWER OF BEING UNDERSTOOD
AUDIT | TAX | CONSULTING

RSM Australia Partners is a member of the RSM network and trades as RSM. RSM is the trading name used by the members of the RSM network. Each member of the RSM network is an independent accounting and consulting firm which practices in its own right. The RSM network is not itself a separate legal entity in any jurisdiction.
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Responsibilities of Management and Those Charged with Governance for the Financial Report

The directors of the Company are responsible for the preparation of the financial report that gives a true and fair view in accordance with Australian Accounting Standards and the *Australian Charities and Not-for-profits Commission Act 2012* (ACNC Act) and for such internal control as the directors determine is necessary to enable the preparation of the financial report that gives a true and fair view and is free from material misstatement, whether due to fraud or error.

In preparing the financial report, directors are responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Financial Report

Our objectives are to obtain reasonable assurance about whether the financial report as a whole is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Australian Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of this financial report.

A further description of our responsibilities for the audit of the financial report is located at the Auditing and Assurance Standards Board website at: http://www.auasb.gov.au/auditors_responsibilities/ar4.pdf. This description forms part of our auditor's report.

RSM AUSTRALIA PARTNERS

P A RANSOM
Partner

Dated: 26 November 2019
Melbourne, Victoria





ABOUT ARRB

CULTURE & VALUES

ARRB MILESTONES

COMMUNITY VALUE

FUTURE FOCUS

FINANCIAL STATEMENTS

GLOSSARY & ACRONYMS

GLOSSARY

ARRB MEMBERS

Australian and New Zealand state road agencies

AUSTRALIAN LOCAL GOVERNMENT ASSOCIATION (ALGA)

The Australian Local Government Association is the principal organisation representing Local Government bodies in Australia, and acts as the independent interest body for Australian local mayors, councillors and local government employees.

AUTONOMOUS VEHICLES

A vehicle that is partially automated, meaning some or all of the driving task can be handled by the vehicle and not a human driver.

AUSTROADS

AustRoads is the association of Australasian road transport and traffic agencies. It publishes guidelines, codes of practice and research reports that promote best practice for road management organisations in Australasia.

COOPERATIVE INTELLIGENT TRANSPORT SYSTEMS (C-ITS)

Connected vehicle technologies allow vehicles to communicate with each other and the world around them. A connected vehicle ecosystem is emerging in which vehicles will share data wirelessly with other vehicles, with infrastructure, with transport management systems, and with mobile devices.

DEPARTMENT OF INFRASTRUCTURE, REGIONAL DEVELOPMENT AND CITIES

The Department is responsible for the design and implementation of the Australian Government's infrastructure, transport, local government and regional development policies and programs.

DEPARTMENT OF TRANSPORT AND MAIN ROADS (TMR)

The Department of Transport and Main Roads is a department of the Queensland Government, formed in April 2009 with the merger of the Queensland Transport and the Department of Main Roads.

DEPARTMENT OF PLANNING, TRANSPORT AND INFRASTRUCTURE SA (DPTI)

The Department of Planning, Transport and Infrastructure works as part of the South Australia community to deliver effective planning policy, efficient transport, and valuable social and economic infrastructure

HAWKEYE

The Hawkeye software suite for both the 1000 and 2000 Series of products offer a fully integrated solution for data viewing and analysis.

MAIN ROADS WESTERN AUSTRALIA (MRWA)

Main Roads Western Australia is an agency of the Government of Western Australia that is responsible for implementing the state's policies on road access and main roads.

SAFE SYSTEM PRINCIPLES

A holistic view of the road transport system and the interactions among roads and roadsides, travel speeds, vehicles and road users. It is an inclusive approach that caters for all groups using the road system, including drivers, motorcyclists, passengers, pedestrians, cyclists, and commercial and heavy vehicle drivers.

ROADS AND MARITIME SERVICES (RMS)

Roads and Maritime Services is an agency of the New South Wales Government responsible for building and maintaining road infrastructure and managing the day-to-day compliance and safety for roads and waterways. The Agency was created on 1 November 2011 from a merger of the Roads & Traffic Authority and NSW Maritime.

TRANSPORT AND INFRASTRUCTURE SENIOR OFFICIALS' COMMITTEE (TISOC)

The Transport and Infrastructure Senior Officials' Committee (TISOC) consists of heads of transport and infrastructure departments, and road authorities from each state and territory as well as New Zealand. A representative from local government, as well as the NTC Chief Executive are also members of this group. The key function is to develop, coordinate and progress the strategic agenda of the Transport and Infrastructure Council.

VICROADS

VicRoads is the road and traffic authority in the state of Victoria, Australia. It is responsible for maintenance and construction of the arterial road network, as well as driver licensing and vehicle registration.

ACRONYMS

AAPA

Australian Asphalt Pavement Association

ADVI

Australian and New Zealand Driverless Vehicle Initiative

ANRAM

Australian National Risk Assessment Model

ARRB

Australian Road Research Board

ASIC

Australian Securities and Investments Commission

ATF

Austroroads Asset Task Force

ATLABS

Advanced Technology Lab

AV

Autonomous Vehicles

CAV

Connected Automated Vehicle

CPA AUSTRALIA

Certified Practising Accountant Australia

CRM

Client Relations Management

DC

Data Collection

DPTI

Department of Planning, Transport and Infrastructure SA

EME2

French Term for a new bitumen formula intended for Europe (EME) and then perfected for Australian conditions (EME2)

IFRS

International Financial Reporting Standards

IPAVE

Intelligent Pavement Assessment Vehicle

IPWEA

Institute of Public Works Engineering Australasia

IRSM

Indian Road Survey Management Ltd

ISSAVE

Intelligent Safe Surface Assessment Vehicle

MRWA

Main Roads Australia

NACOE

National Centre of Excellence

NHVR

National Heavy Vehicles Regulator

NRSP

National Road Safety Partnership Program

NTC

National Transport Commission

NTRC

National Transport Research Centre

NZTA

New Zealand Transport Agency

PIARC

World Road Association (?)

QDTMR

Queensland Department of Transport and Main Roads

RAVRAT

Restricted Access Vehicle Route Assessment Tool

RMS

Roads and Maritime Services

RPUG

Road Profile User's Group

SCRIM

Sideway-force Coefficient Routine Investigation Machine

TFNSW

Transport for New South Wales

TIPES

Transport Infrastructure Product Evaluation Scheme

TMR

Queensland Department of Transport and Main Roads

UNECE

United Nations Economic Commission of Europe

WARRIP

WA Road Research & Innovation Program



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