

MUARC

2021 Annual Report

“MUARC has continued to excel in meeting its core objectives of providing high quality, impactful research evidence to inform injury prevention, a testament to the skill, dedication, adaptability and continued hard work of all its staff.”

Associate Professor Stuart Newstead
Acting Director, MUARC

YEAR IN REVIEW

I am pleased to present the 2021 Annual Report for the Monash University Accident Research Centre, which outlines the broad and extensive achievement of the Centre over the year. For MUARC, 2021 was a year of changes and challenges. Despite these, the Centre has continued to deliver on its core mission of excellence and impact in injury prevention research.

For our Director, Professor Judith Charlton, 2021 was truly a landmark year. After an extensive period of well-earned leave, from May until the end of the year, Professor Charlton announced she would step down as MUARC Director and as an employee of the University. Professor Charlton joined MUARC as a Senior Research Fellow in 2000 and served as MUARC Director from 2015. Her contribution to her field of research is immense with over 200 publications with a particular focus on safe mobility of older drivers and child passengers including the international Ozcandrive Older Driver Cohort Study. She has also supervised over 20 PhD, Masters and honours graduates in road safety research. As Director of MUARC since 2015, Professor Charlton's leadership has positioned the Centre to continue to uphold its reputation as a leader in injury prevention research. In particular, she played a major role in strengthening MUARC's integration within the broader University and fostered many fruitful collaborations. In recognition of Professor Charlton's many fine career achievements, she was awarded an AM in the General Division of the Order of Australia in the 2021 Queen's Birthday honours. On behalf of all in MUARC who have benefited from Professor Charlton's leadership, we offer our heartfelt thanks and gratitude. We are pleased to announce that Professor Charlton will continue to be involved in the work of MUARC through her new role as Emeritus Professor.

There were some other notable staff movements in 2021. After nearly 15 years of service as MUARC's Chief Operating Officer, Mr Ron Smith announced his retirement. Mr Dudley McArdle who for many years has played a pivotal role in the Monash Disaster Resilience Initiative proudly hosted by MUARC also retired. We wish them both the best for the next stage of their lives and thank them for their significant contribution to MUARC. We also celebrated the milestone achieved by Ms Voula Stathakis of reaching 25 years of service at MUARC.

An exciting change to the structure of MUARC was the formalisation of the Centre's professional education activities into a defined portfolio and the creation of the position of Associate Director, Professional Education. Dr Carlyn Muir is the inaugural appointment to the new position. For many years, MUARC has delivered successful short courses in areas such as Road Safety Leadership. The creation of the new portfolio provides the resources to significantly expand MUARC's professional education activities in line with the increasing focus of the University in this area. In a close working partnership with the University's Centre for Professional Education, MUARC has transformed its professional education activities into certified offerings with rigorous pedagogical frameworks. Under this new portfolio, MUARC delivered the first iteration of its new Graduate Certificate of Road Safety to a group of 70 enthusiastic students supported by Commonwealth funded places. This was one of the highest subscribed courses of its type across the University. With the addition of professional education to its existing research and higher degree student portfolios, MUARC is now in a unique position to offer end to end service of research, to research translation to impact.

Although continuing to face difficulties in working conditions created by the global pandemic and Victoria's extensive lockdowns, MUARC has continued to excel in meeting its core objectives, a testament to the dedication, adaptability and continued hard work of all staff members.

Looking forward, MUARC is well placed to play a major role in contributing to the new Monash University strategy, *Impact 2030*. Injury prevention and disaster resilience are integral to the three key global challenges outlined in the strategy. MUARC's extensive experience in external engagement and research translation for impact will place it in a strong position to contribute to achieving the University's key goals over the next decade.

Associate Professor Stuart Newstead
Acting Director,
Monash University Accident Research Centre

2021 HIGHLIGHTS



BEHAVIOURAL SAFETY SCIENCE

Completed comprehensive review of scientific evidence on selected medical conditions and motor vehicle crash risk. Commissioned by Road Safety Victoria, the results have informed the update of the Australian Fitness-to-Drive guidelines

Commissioned by Australian Automobile Association (AAA) to develop a research protocol to reduce inattentive and distracted driving for workplace drivers

Completed research on a new off-road motorcyclist study, funded by the Department of Health and Human Services. The results from hospital data analyses, review of coroner's report and a survey of off-road motorcyclists provided the evidence that has informed public awareness campaigns to increase off-road rider safety

Completed research addressing controlled environment driver training (CEDT), commissioned by Transport & Main Roads, Queensland

Began a cross-team project addressing safety at complex urban intersections in Victoria



VICTORIAN INJURY SURVEILLANCE UNIT

Published Hazard 89, a double-edition focussed on unintentional home injuries during lockdown months of 2020, with a special focus on injury in children, older adults, and people working from home

Published results of the second phase of the suicide data linkage study in Plos One: Sociodemographic characteristics associated with hospital contact in the year prior to suicide

The Victorian Injury Atlas was expanded to include a Falls Injury Atlas

Completed the Victorian Emergency Minimum Dataset (VEMD) injury surveillance data quality study, which involved engaging with all hospitals that report to the VEMD



SYSTEMS SAFETY

Conducted trial and evaluation of the Patient Handling Incident: Review of Systems (PHIRES) tool in NSW. SafeWork NSW subsequently identified use of the PHIRES tool in their '2017 – 2022 Musculoskeletal disorder strategy'

Developed, implemented and evaluated a training program designed to improve the safety of emergency service workers and incident responders operating on high-speed roads. A significant outcome was development of Crown copyright curriculum that now sits within the national training framework "22584VIC: Course in Inter-agency Response to Safety on High-Speed Roads"

Developed, implemented and evaluated a behaviour change program designed to reduce aggression, known as the Reducing Aggressive Driving (RAD) program. Evaluation data showed significant success in helping drivers to reduce anger and aggression



MONASH UNIVERSITY DISASTER RESILIENCE INITIATIVE

Participated in MSDI-based 'Fire to Flourish' program through membership of its Transdisciplinary Research Network and as co-authors of the program's Agenda Setting Document

Taught graduate units *Guiding Principles for Professionals Engaged in Disasters and Humanitarian Crises*, and, *Community Resilience and Disaster Risk Reduction* delivered through Faculty of Arts

Successfully completed a community-led grant with the Department of Environment Land & Water to determine community priorities for bushfire mitigation and biodiversity protection in the Beaconsfield Upper area, highlighted by a public launch of the Story Map community tool

Delivered two successful and well-attended online Community Resilience Forums each featuring the Professor Frederick 'Skip' Burkle Annual Keynote Lecture, the November Forum co-hosted with the Fire to Flourish program



REGULATION AND IN-DEPTH CRASH INVESTIGATION

Examined ways to improve mental health in the workplace by evaluating the Applied Mentally Healthy Leadership (AMHL) Program, funded by WorkWell and run by AP Psychology at five Victorian Universities

Continued to inform the understanding of serious injury crashes through the ongoing TAC ECIS program, with a focus on speed, crash risk and injury. The second ECIS Report was completed

Undertook commissioned analysis of the safety of Transurban's road assets in Australia, extending over the 2012 to 2020 period in QLD, Victoria and NSW

Explored impacts of medicinal cannabis on driving performance and road safety, as well as provision of advice to the Victorian Government Medicinal Cannabis and Safe Driving Working Group (MCSDWG)



INJURY ANALYSIS AND DATA

Continued a strong program of research on the safety of the Australasian vehicle fleet including papers on road safety priorities for light vehicles, major deficiencies in the heavy vehicle fleet, anti-whiplash seats in light vehicles, and the long-term benefits on electronic stability control in reducing light vehicle rollovers

Published a world first research paper on the effectiveness of roadside drug testing on the rates of drug involvement in killed and seriously injured crash involved drivers

Established a system of data linkage between CFA-attended fire incidents and Ambulance Victoria call out records to facilitate the ongoing measurement and reporting of trends in injuries sustained in CFA-attended incidents

Published a report on a large study identifying high road crash risks in outer urban areas of Melbourne

Initiated a large study for the New South Wales Rural Fire Service to identify ways to improve emergency vehicle fleet safety



TRAFFIC ENGINEERING AND VEHICLE SAFETY

Modelled the potential benefits of road strategy scenarios for the Australian National Road Safety Strategy 2021-2030

Took part in World Bank project with PwC Private (India) to advise the Accident Research Institute Bangladesh on transforming into a Centre of Excellence

Reviewed crash reduction factors for the Victorian Department of Transport

Evaluated raised safety platforms for Victorian Department of Transport in conjunction with the Australian Road Research Board

Contributed to the National Road Safety Partnership Program (NRSPP) High Occupancy Vehicle policy, to be trialled across local government in Western Australia



STUDENTS

Eight students successfully completed milestones

Five contributed to publications, including three as first author

Eight PhD candidates were conferred, one Masters conferred

21 hours of MUARC professional development offered



PROFESSIONAL EDUCATION

Appointed Carlyn Muir as the new Associate Director responsible for delivery of MUARC's Professional Education program

Established strong working relationship with the Monash University Centre for Professional Development to assist in building MUARC's profile in professional education

Established MUARC's Graduate Certificate of Road Safety and successfully delivered the program to around 70 students enrolled in Commonwealth Supported Places

Developed and delivered a range of custom programs for industry and government, including road safety leadership programs

Delivered teaching units for faculties, including a unit on Using Data to Understand Family Violence, delivered as part of the Graduate Certificate/Graduate Diploma in Family Violence Prevention offered through the Faculty of Arts

“MUARC has transformed its professional education activities into certified offerings with rigorous pedagogical frameworks and innovative new delivery formats. Its new Graduate Certificate of Road Safety is a centrepiece of the transformation.”

Associate Professor Stuart Newstead
Acting Director, MUARC

ACHIEVEMENTS



EXCELLENT

64 Major research reports, projects, publications

22 publications in Q1 journals

10 Major grants and tenders each valued at more than \$100,000



Judith Charlton honoured with an AM in the General Division of the Order of Australia for significant service to road safety and injury prevention research



Max Cameron awarded Peter Vulcan Award for best research paper at Australasian Road Safety Conference



INTERNATIONAL

Commenced review of implementation of 4th Road Safety Master Plan for Thailand, funded by the World Health Organisation (WHO), Thailand

MUARC is the lead international consultant assisting the development of the review framework and tools, and development of recommendations for the 5th Master Plan

Expertscape's PubMed-based algorithms placed **MUARC in the top 0.1% of institutions** who have published on the topic of Traffic Accidents over the last 10 years. Additionally, Sjaan Koppel, Judith Charlton and Mike Lenné ranked within the top 0.1% of scholars.

Sjaan Koppel, Judith Charlton and Amanda Stephens were also identified as **leading experts in their respective fields** in a paper that analysed 50 years of road safety literature

Sjaan Koppel admitted to the Association for the Advancement of Automotive Medicine's (AAAM) Fellowship



ENTERPRISING



Launched the Graduate Certificate of Road Safety, the only certificate of its kind from a Go8 University

Contributed to Joint Select Committee on Road Safety, with Jerome Carslake and Sharon Newnam providing evidence related to workplace road safety in Australia



Collaborated with the Burnet Institute for the development of an integrated sanctions treatment and support pathways model of care to prevent drug-driving recidivism

Presented research to ComfortDelGro Australia as part of personalised webinars delivered by National Road Safety Partnership Program



INCLUSIVE

Feedback from the MUARC consultative Forum was collated and an action plan to address staff concerns and ideas for improvement of the Centre was formulated for action

Implemented a staff wellbeing program to keep staff engaged and supported during extensive work at home orders

Continued provision of a **supportive and stimulating** academic and work environment for research and professional staff and Graduate Research students including additional check-in strategy to enhance graduate student wellbeing

MUARC

STATEMENT OF INCOME AND EXPENDITURE FOR THE YEAR ENDED 31ST DECEMBER 2021

	Notes	\$000's	\$000's
INCOME			
Research			
Australian Research Council		27	
Commonwealth Government - Others		225	
State and Local Government		2,355	
Industry Australia		1,227	
Industry International		17	
Total Research			3,881
Commonwealth Government Research Support Program			1,349
Commercial			642
Other income			785
Monash contribution	1		2,646
Total Income			9,303
EXPENDITURE			
Salaries and Related Expenditure		4,890	
Financial and Administration	2	23	
Student Related		149	
Infrastructure Related		169	
Central Support Services – Overhead Costs	1	2,595	
Other Operating Expenditure		685	
Total Expenditure			8,512
NET BALANCE FOR THE YEAR			791
OPENING BALANCE AS AT 01 JANUARY 2021			6,253
CLOSING BALANCE AS AT 31 DECEMBER 2021			7,045

Notes:

1. The University has provided a transfer of funds to cover the Central Support Services - Overhead Costs
2. Includes payments to consultants

The Institute's Statement of Income and Expenditure has been certified to be in accordance with the University's Accounting and Financial Reporting System by the Office of the Chief Financial Officer and Senior Vice-President. Where required as a condition of funding grants, accounts will be audited by independent external auditors. The Institute's accounts have been subjected to Government audit as part of the University's annual accounts for the calendar year 2021.

Robertus Halim
Manager, Research and Revenue Accounting Services
Office of the Chief Financial Officer and Senior Vice-President

FURTHER INFORMATION

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