

MUARC

2022 Annual Report

“ MUARC will build and expand towards a new phase of success and growth in partnership with MUARC’s pool of talented staff, the Monash University community more broadly and our key stakeholders.”

Professor Stuart Newstead
Director, MUARC

YEAR IN REVIEW

I am pleased to present the 2022 Annual Report for the Monash University Accident Research Centre. It outlines the role MUARC continues to play in helping deliver the objectives of the broader Monash University Impact 2030 strategy through excellence in injury prevention and safety science research. Achieving Research Impact is embedded in the MUARC approach.

For 35 years MUARC’s primary aim has been to work closely with our stakeholders to both formulate research based on real world problems and to assist with translation of research outcomes to effectively inform policy and practice.

Transition has been a key theme within MUARC during 2022. One of the most notable transitions, particularly for me personally, has been my appointment as Director of MUARC from August 2022. Prior to my appointment, I have acted as MUARC Director since May 2021, served as Deputy Director under the capable leadership of Professor Judith Charlton since 2017 and progressed through the research ranks as a MUARC researcher since 1993. This experience has provided me with an excellent understanding of the unique strengths that have underpinned MUARC’s sustained success since its formation in 1987. I hope to be able to build and expand on those strengths to lead MUARC through a new phase of success and growth in partnership with MUARC’s pool of talented staff, the Monash University community more broadly and our key stakeholders.

A number of other notable transitions in MUARC staffing occurred during 2022. After many years of excellent service to MUARC as Operations Manager, Lesley Rees left to take up a new role at the Monash Sustainable Development Institute. Following 20 years as a Research Fellow in the Injury Analysis and Data Team, Linda Watson transitioned to retirement. Linda made an outstanding contribution to the development of MUARC’s vehicle safety research program. Sharon Newnam also left to take up a position as Head of the School of Psychology and Counselling at Queensland University of Technology whilst Sujanie Peiris took up a role within Road Safety Victoria after successful completion of her PhD. We wish all these staff well in their future endeavours and thank them for their contribution to MUARC.

We were pleased to welcome Jonathan Abrahams to MUARC in 2022 as the new Director of the Monash University Disaster Resilience Initiative, which is hosted by MUARC, and as Associate Professor of Practice. Jonathan brings many years of international, regional and national experience and extensive connections across the world to MUDRI having come to us directly from the World Health Organization. At WHO he played a leading role for 14 years in advancing global policy and action on reducing health risks and impacts of all types of emergencies and disasters. Jonathan’s focus will be to build the MUDRI research program and its impact taking over the legacy built by Emeritus Professor Frank Archer over the last decade. The process of transition of MUARC has been further boosted by the promotion of David Logan to Associate Professor and Amanda Stephens to

Senior Research Fellow. David will continue to focus on building MUARC’s capacity and profile as leader of the Traffic Engineering and Vehicle Safety team whilst Amanda will play a leading role in MUARC’s new Human Factors and Sustainable Safety team.

External reviews of key MUARC systems and programs were also a feature of 2022. Such reviews are useful for focusing on areas of improvement as well as reaffirming the things MUARC does well. A review of MUARC’s Project Quality Management Systems confirmed the high quality of MUARC’s research management systems and highlighted potential improvements for the presentation standards of our reports and papers. MUARC’s commitment to ensuring the safety and wellbeing of our staff was soundly endorsed by a review of OHSE systems and practices. The importance of MUARC’s PhD and M.Phil. program and our contribution to research training at Monash was highlighted in our graduate research training review. Opportunities to further enhance the experience and outcomes for our students were identified.

Outcomes from these reviews as well as consultation with our key stakeholders will form vital inputs to the development of a new MUARC strategy, work on which commenced late in 2022. A key learning from our consultation is that MUARC remains highly respected for its quality, leading-edge research as well as the role it plays in capacity building in the safety science fields through research training and professional education. Areas for future focus identified through stakeholder consultation include continuing to improve the accessibility of our research findings for use in policy and practice through innovative translation methods as well as end-to-end integration of our training offerings to meet the full spectrum of stakeholder needs. Both of these will be a focus of our strategy development along with building MUARC’s strength across all domains of injury prevention and safety science.

The highlights presented in this annual report demonstrate the breadth and quality of research and expertise at MUARC from which we will build our future.

Professor Stuart Newstead
Director,
Monash University Accident Research Centre

ACHIEVEMENTS



EXCELLENT

74 Major publications and research reports, including **68** which were peer reviewed

22 research contracts, grants and consultancy contracts with a total value over \$3.8 million



Carlyn Muir awarded Senior Fellowship of the Higher Education Academy (SFHEA) through Advance AE



Celebrated the inaugural class of graduates from the Graduate Certificate of Road Safety



MUDRI Adjunct Debra Parkinson inducted into Victorian Honour Roll of Women

Aleksandra Natora and Le Pham co-winners of Best Student Paper

Amanda Stephens invited as an **advisory board member** for **Road Safety Education** who conduct the RYDA program

Michael Fitzharris featured in TAC’s Road Safety Reports which aired during 7News



INTERNATIONAL

24 research outputs had one or more external authors from an overseas organisation



Co-hosted Step Safely Webinar Series with World Health Organization

Judith Charlton presented keynote address and **participated as an expert advisor** at final meeting of EU Horizon 2020 project ‘Drive2theFuture’ in Barcelona, Spain

Michael Fitzharris and Sara Liu presented at the International Council on Alcohol, Drugs and Traffic Safety Conference in Rotterdam **on the topics of alcohol and drug-related crashes** and the nexus between mental health, impaired driving and crash involvement respectively

Sjaan Koppel invited to participate in the sixth biennial **‘Setting the Future Agenda for Child Occupant Protection’ workshop** in Hallo, Sweden

Amanda Stephens and Kristie Young won funds from the France Australian Science Innovation scheme to **support a research visit** from the University of Gustave Eiffel’s Dr Christophe Jallais as part of a **collaboration on driver emotions** when in autonomous vehicles

Jennie Oxley led an interactive session at the 66th AAAM Conference in Portland, Oregon, **addressing motorcyclist safety** in Low & Middle Income Countries



ENTERPRISING



Continued collaboration with the National Road Safety Partnership Program (NRSP)

Judith Charlton and Sjaan Koppel co-hosted symposium on older drivers with TAC, Department of Transport and specialist Ageing stakeholders at the Australasian Road Safety Conference



INCLUSIVE

Highlighted falls prevention strategies for three population groups (children, workers, and older people) as part of Step Safely Webinar Series

MUARC’s Monash University Disaster Resilience Initiative (MUDRI) was a **key partner in the university-facilitated Fire to Flourish program**, which **supports communities to co-design foundations** for resilience in order to disrupt cycles of disadvantage and other forms of vulnerability

Three international students were enrolled and two were co-supervised

“MUARC will continue to improve the accessibility of our research findings for use in policy and practice through innovative translation methods as well as end-to-end integration of our training offerings to meet the full spectrum of stakeholder needs.”

Professor Stuart Newstead
Director, MUARC

2022 HIGHLIGHTS



MONASH UNIVERSITY DISASTER RESILIENCE INITIATIVE

Completed an extensive review on policies, practices and reports on support for Internally Displaced People from bushfires in high-income countries, funded by National Recovery and Resilience Agency

Delivered consultative webinars with representatives of States, Territories and Local Governments to collect information on their experiences and the needs of those impacted from displacement

Delivered graduate units ‘Guiding Principles for Professionals Engaged in Disasters and Humanitarian Crises’, and, ‘Community Resilience and Disaster Risk Reduction’ within the Master of International Development Practice, Faculty of Arts

Increased participation in MSDI-based ‘Fire to Flourish’ programs

Launched the Upper Beaconsfield Bushfire & Biodiversity Tool that helps residents who live in an extreme Bushfire zone make informed decisions and take evidence-based action

Delivered, in collaboration with Fire to Flourish, the community-based Forum on Hearing Unheard Voices, Learning Unlearned Lessons: Growing Community-led Disaster Resilience with diverse community speakers, a record number of participants, and the 17th Professor Frederick ‘Skip’ Burkle Jnr Keynote Lecture

Increased transdisciplinary collaboration with partners including Gender and Disaster Australia (GADAus), World Health Organization, MSDI and the School of Public Health and Preventive Medicine

Marked the 10th Doctorate or Masters completion co-supervised by MUDRI



REGULATION AND IN-DEPTH CRASH INVESTIGATION

Undertook an evaluation of the Applied Mentally Healthy Leadership (AMHL) Program developed and delivered by AP Psychology at five Victorian Universities. The AMHL initiative was funded by WorkWell with the goal of improving mental health leadership

With a focus on determining how serious injury crashes occur, the TAC-funded Enhanced Crash Investigation Study (ECIS) was completed. The ECIS Reports 2 (speed), 3 (risk factors), and 4 (safety countermeasures) were released following a Symposium held at the TAC Complex at Melbourne Museum

Completed a comprehensive analysis of the road safety performance of Transurban’s Australian road assets, from the period 2012 to 2020

Continued to examine best practice approaches to the management of drug-driving offenders, through a therapeutic justice framework

Examined the likely road safety benefits and impacts of the Infringement at the Roadside initiative in addressing drug-driving, in particular, first-time drug-driving offenders



INJURY ANALYSIS AND DATA

Provided evidence-based advice to support the implementation of automated enforcement cameras to detect mobile phone use and seatbelt non-compliance

Completed the three-yearly evaluation of the impact of the Road Safety Camera Program in the ACT on crashes, speeding and community attitudes

Produced the annual update of the Australasian Used Car Safety Ratings and assisted the New Zealand Transport Agency in developing its new RightCar vehicle safety web portal

Completed an extended evaluation of the effectiveness of Autonomous Emergency Braking in light vehicles

Quantified the additional potential crash reduction benefits of advanced driver assistance systems in vehicles driven by novice drivers

Evaluated the road safety benefits of a pedestrian safety countermeasure at signalised intersections based on modified traffic signal phasing

Reviewed the existing evidence, and established the gaps in knowledge, about the effect of prescription medicines on driving behaviour and crash risk

Conducted a project for NSW Rural Fire Service to help understand aspects of fleet safety related to their emergency vehicles



VICTORIAN INJURY SURVEILLANCE UNIT

Ongoing provision of injury data upon request to Government, media, academic researchers and other injury stakeholders. Injury data reports in 2022 ranged from hospital treated falls injuries to self-harm admissions and from e-scooter injuries to admissions for assault injury

Completed the Suicide Linkage Study, with publications resulting from each of the three study phases. Results of the final study phase will be published in Frontiers in Psychiatry

Production of Hazard 91 on hospital-treated and fatal adverse food reactions in Victoria and completion of Hazard 90 on hospital-treated injury resulting from occupational violence and aggression in healthcare settings in Victoria

Strong contribution to the 2022 World Conference on Injury Prevention and Safety Promotion, with nine presentations by VISU team members as well as involvement in the conference organising and scientific committees



HUMAN FACTORS AND SUSTAINABLE SAFETY

Conducted Australian-first diary study to examine driver engagement with technology and if and how drivers self-regulate their behaviour when engaged

Completed first phase of MUARC-AAA project to develop programs to manage fatigue in the workplace. This phase involved monitoring shift workers’ sleep and conducting simulator and virtual reality test sessions on site before and after their shifts

Set up MUARC’s static and portable StiSim driving simulators after establishing an ongoing collaboration with the Monash Virtual and Augmented Reality Services (VARS) team. These simulators are equipped with automated vehicle capability and will complement MUARC’s existing suite of driving and riding simulators

Completed evaluation of the SSRIP Pedestrian Infrastructure Program, in partnership with ARRB

Provided evidence-base for a new off-road motorcyclist safety campaign launched by Victoria’s Department of Health



BEHAVIOURAL SAFETY SCIENCE

Commissioned by TAC to review the literature and analyse the Ozcandrive older driver cohort study data to provide the behavioural reasoning and evidence for an online self-reflection tool for older drivers

Funded by the Baseline Road Safety Research Program to identify ‘best practice’ in workplace road safety for work-related drivers of light vehicles, as well as independent contractors who drive within the on-demand or gig-economy, and identify gaps in the current interventions and opportunities for developing new intervention(s)

Received ACT Road Safety Fund Grant to examine safety around Canberra’s light rail network. This project will identify areas of concern between the interactions of light rail vehicles and other vehicles, cyclists and pedestrians and propose strategies that may enhance safety

Graduate Research students Angela Batson and Inam Ahmed submitted thesis and first PhD manuscript respectively

“A key learning from our consultation is that MUARC remains highly respected for its quality, leading-edge research as well as the role it plays in capacity building in the safety science fields through research training and professional education.”

Professor Stuart Newstead
Director, MUARC

2022 HIGHLIGHTS



TRAFFIC ENGINEERING AND VEHICLE SAFETY

Comprehensive airbag defect analysis for the federal Department of Infrastructure, Transport, Regional Development and Communications

Co-project management of the Baseline Urban Intersection Study, with internal outputs relating to enhancing the understanding of human factors issues with signalised urban intersections and institutional capacity within intersection design and operation

Provided ongoing advice to Anglo American regarding safe light vehicle selection and driver monitoring systems across their global sites, including Latin and South America, North America, Africa and Australia

Assisted with a pedestrian safety assessment of a proposed inner suburban development site



STUDENTS

Three new student commencements

Ten successful milestones completed

Two Theses conferred

Fourteen contributions to publications, including eleven as first author

Review and accreditation of Graduate Research undertaken



PROFESSIONAL EDUCATION

Delivered another successful year of the Graduate Certificate of Road Safety

Partnered with the Australian College of Road Safety to establish a clear career pathway for women in road safety after receiving a National Careers Institute Partnerships (NCIP) Grant

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



NATIONAL ROAD SAFETY PARTNERSHIP PROGRAM

Delivered 10 webinars and participated in five workplace road safety-related conferences/forums

Released nine Heavy Vehicle Toolbox Talks (TBTs), funded by the Heavy Vehicle Safety Initiative through the National Heavy Vehicle Regulator and the Commonwealth Government. TBTs have been downloaded over 1,000 times and were developed through interviews with 60+ drivers and transport industry leaders

Developed two Light Vehicle TBTs, four case studies, four Q&As, nine Quick Facts, six thought leadership papers and 18 new videos

Held 6th Utilities Forum hosted by APA Group in Melbourne and sponsored by the TAC, as well as establishing new Forums with the gig economy and retail and grocery sectors

Released a draft standard as part of the Construction Logistics and Community Safety – Australia (CLOCS-A)

Collaborated with MUARC on a new workplace road safety research program funded by MUARC's Baseline Road Safety Research Program

MUARC ORGANISATION STRUCTURE

PROFESSOR MIKE RYAN

Pro Vice-Chancellor (Research)

PROFESSOR STUART NEWSTEAD

Director - Monash University Accident Research Centre

ADVISORY COUNCIL

WHOC

FOR VIOLENCE, INJURY AND PREVENTION

Dr Carlyn Muir & Dr Sara Liu

PROFESSOR JENNIE OXLEY

Deputy Director

CENTRE PLATFORM MANAGEMENT COMMITTEE

CASEY RAMPOLLARD

Acting Operations Coordinator

PEGGY HUM-TEO

Senior Research Coordinator

PROFESSOR JENNIE OXLEY

Associate Director - Human Factors and Sustainable Safety

SIMULATOR COMMITTEE

JEROME CARSLAKE

Manager - National Road Safety Partnership Program

ASSOCIATE PROFESSOR JANNEKE BERECKI-GISOLF

Associate Director - Victorian Injury Surveillance Unit

ASSOCIATE PROFESSOR JONATHAN ABRAHAMS

Associate Director - Monash University Disaster Resilience Initiative

ASSOCIATE PROFESSOR SJAAN KOPPEL

Associate Director - Behavioural Safety Science

PROFESSOR STUART NEWSTEAD

Associate Director - Injury Analysis & Data

ASSOCIATE PROFESSOR MICHAEL FITZHARRIS

Associate Director - In-Depth Crash Investigations & Transport Regulation

ACADEMIC AFFAIRS COMMITTEE

PROFESSOR JENNIE OXLEY

Associate Director - Graduate Research

DR CARLYN MUIR

Associate Director - MUARC Academy: Professional Education and Enterprise

MONASH CENTRE FOR PROFESSIONAL DEVELOPMENT & MONASH ONLINE EDUCATION

2022 PARTNERS

MUARC acknowledges the support throughout the year of its partners:

- AP Psychology and Consulting Services
 - Ambulance Victoria
 - ANCAP Australasia Ltd
 - Anglo American
 - ARRB Group Ltd
 - Australasian College of Road Safety
 - Australasian Fire and Emergency Response College
 - Australian Automobile Association
 - Australian Competition And Consumer Commission
 - Austroads Ltd
 - Country Fire Authority
 - CRM Transport Pty Ltd
 - Curtin University
 - Department of Health
 - Department of Industry, Science and Resources
 - Department of Infrastructure, Transport, Regional Development, Communication and the Arts
 - Department of Justice And Community Safety
 - Department of Transport
 - Economic Connections Pty Ltd
 - International Power(Aust) Pty Ltd
- Iowa State University
 - Melbourne Water
 - Merri-Bek City Council
 - National Heavy Vehicle Regulator
 - National Transport Commision
 - NSW Rural Fire Service
 - Road Safety Commission
 - South Gippsland Region Water
 - State Insurance Regulatory Authority
 - Svitzer Australia Pty Ltd
 - Swinburne University of Technology
 - The Chartered Institute of Logistics and Transport
 - Transport Accident Commision
 - Transport Canberra and City Services
 - Transport for NSW
 - University Of Western Australia
 - Victoria Police
 - Waka Kotahi New Zealand
 - Worksafe Victoria
 - Zurich Australian Insurance Limited

NRSPP acknowledges its core funders who enable the program’s content to be open to everyone: National Heavy Vehicle Regulator, NSW State Insurance Regulatory Authority, Queensland Government, Transport for NSW, Transport Accident Commission and WA Road Safety Commission.

MUARC

STATEMENT OF INCOME AND EXPENDITURE FOR THE YEAR ENDED 31ST DECEMBER 2022

	Notes	\$000's	\$000's
INCOME			
Research			
Australian Research Council		(94)	
Commonwealth Government - Others		750	
State and Local Government		1,912	
Competitive Non Commonwealth		12	
Industry Australia		1,419	
Industry International		2	
Total Research			4,001
Commonwealth Government Research Support Program			1,264
Commercial			634
Other Income			508
Monash Contribution	1		2,876
Total Income			9,283
EXPENDITURE			
Salaries and Related Expenditure		4,909	
Financial and Administration	2	67	
Student Related		232	
Infrastructure Related		126	
Central Support Services – Overhead Costs	1	2,800	
Other Operating Expenditure		1,078	
Total Expenditure			9,212
NET BALANCE FOR THE YEAR			71
OPENING BALANCE AS AT 01 JANUARY 2022			7,045
CLOSING BALANCE AS AT 31 DECEMBER 2022			7,116


- Notes:
1.

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

Includes payments to consultants
3.

We have also received \$10,946.55 donations and \$176,875.04 interest income from MUARC-Donations Fund and MUARC-Research Fund respectively, invested in the Non-Capital protected Trust Account (Common Fund). This investment is reported as a non current asset in the Monash University's annual report.

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 2022.



Judy Chen
Director, Research and Revenue Accounting Services
Office of the Chief Financial Officer and Senior Vice-President



Professor Stuart Newstead
Director, Monash University Accident Research Centre

FURTHER INFORMATION

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