Australasian Transport Research Forum
ATRF Conference 2023

Program

29 November - 1 December 2023
The University of Western Australia
Perth, Australia

WEDNESDAY 29 NOVEMBER (version: 20 November 2023, subject to change)

TIME	TITLE/SPEAKER	LOCATION
8.00 am – 5.00 pm	**Registration desk open**	Uniclub foyer
8.00 am – 9.00 am	**Arrival tea/coffee**	Uniclub foyer
9.00 am – 9.15 am	**Opening plenary** Sharon Biermann (PATREC Director) Conference opening and Welcome to Country	Auditorium
9.15 am – 10.15 am	**Keynote presentation Chair: Prof Peter Klinken AC** Dr Alan Finkel AC *Speculations on the net-zero future of transport*	Auditorium
10.15 am – 10.45 am	Morning tea	Uniclub foyer
10.45 am – 12.05 pm	**1A Towards Decarbonisation** Chair: Steve Beyer **Ying Lu** GreenAVO: Tracking Australia's progress towards transport decarbonisation (94) **James Brooks** Evaluating transport greenhouse gas emissions: Aligning transport appraisals to help shape a net zero future (87) **Peter Tisato** Transport decarbonisation – a 'base case' carbon framework in project business case and economic evaluation (97) **Matthew Burke** Sustainable Transport Policy Transfer to Australasian Cities: why are key innovations stymied? (109)	Auditorium
	1B Advances in Transport Technology Chair: Thomas Braunl **Kieran Quirke-Brown** Developing an Autonomous Shuttle Service (28) **Sapan Tiwari** Testing request prioritization strategies to improve the quality of a shared autonomous vehicles service: a Melbourne case study (10) **Ronny Kutadinata** Delaunay-triangulation-based algorithm for demand-responsive transport services (93) **Ben Kaufman** Simulations guiding on demand services: The use of digital twins to shape service optimisation (49)	Seminar Room 1

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10.45 am – 12.05 pm	**1C Public Transport** Chair: Graham Currie **Wei-Ting Hong** A conceptual framework for the automated analysis of railway accident reports (19) **David Levinson** Vulnerability of the Sydney Train network using access, graph centrality, and spectral-graph centrality measures (99) **Graham Currie** A Comparative International Review of Suburban Ring/Loop Metros to Inform the Melbourne Suburban Rail Loop Project (42) **Deborah Paul** Evaluating the pedestrian level of service of sidewalks using a machine learning model (79)	Seminar Room 2
	1D Travel Safety Chair: Brett Smith **Zeke Ahern** Improving Crash Frequency Model Estimation through Multi-Objective Extensive Hypothesis Testing (37) **Paula Macias** Driver fatigue in taxi, ride-hailing, and ridesharing services: A review of literature (23) **Mohsen Ramezani** A Safety-oriented microscopic traffic model (75)	Seminar Room 3
	1E New Technologies Chair: Alexa Delbosc **John Nelson** Drivers and barriers towards Mobility-as-a-Service (MaaS) in Regional and Rural areas: insights from service providers and end users (27) **Alexa Delbosc** Who uses subsidised micromobility? A survey of Lime Access customers (73) **Abraham Leung** Exploring regional Queensland MaaS stakeholder perspectives and underlying metadata through structural topic modelling (128)	TBA
12.05 pm – 1.05 pm	Lunch	Uniclub foyer

12.35 pm – 2.35 pm	**Site visit #1** (*please note that the RNOC participants will have 30 minute lunch) RNOC visit	Outside of Uniclub entrance
1.05 pm – 2.35 pm	**Site visit #2** Electric bus tour	Auditorium
	Site visit #3 Walk along Swan River	Outside of Uniclub entrance
2.45 pm – 4.05 pm	**2A Traffic Modelling** Chair: Yuchao Sun **Thanh Tran** Area-wide Traffic Incident Duration Prediction: A Multi-task Learning Approach (104) **Robert Lee** Development of IoT based bridge health monitoring system: A work in progress (88) **Sam Mazzer** Exploring the spatial-temporal influence of the COVID-19 pandemic on road crashes in Greater Perth (61) **Paula Macias** Crash costs involving articulated trucks and multi-combination vehicles (131)	Auditorium
	2B Transport Modelling Chair: Claire Thompson **SeyedHossein Hosseini** Simulating Transport Mode Evolution: A System Dynamic Analysis of Future Trends and Policy Implications in NSW (102) **Yuchao Sun** Multi-objective optimisation for simultaneous scheduling of multiple roadwork programs (137) **Victor Lam** Estimating resilience benefits: A case study on Sydney's road network (130) **Tristan Reed** Adapting ADAPT: a service-based accessibility toolkit (121)	Seminar Room 1

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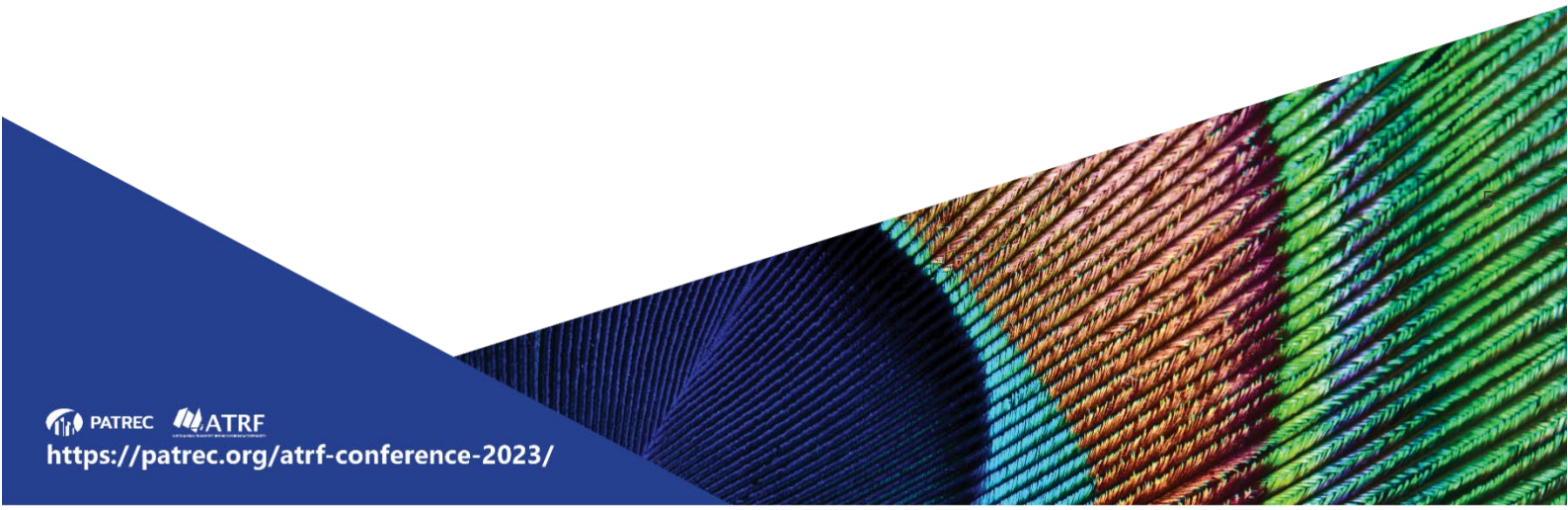
2.45 pm – 4.05 pm	**2C Public Transport** Chair: Ryan Falconer **Ronny Kutadinata** Impact of using hybrid data on travel time reliability reporting (76) **Tingsen (Tim) Xian** The Role of Right Turns in Bus Operation (126) **Bruce James** Land Use Transport Integration: Gold Coast Light Rail and Maroochydore City Centre (31) **Raghav Malhotra** Improving efficiency of OD estimation problem through Keyframe Interpolation (133)	Seminar Room 2
	2D Freight and Logistics Chair: Taha Rashidi **Veronica Schulz** Developing a sustainable ship recycling facility to diversify coal port operations (15) **Benjamin Price** Supply chain impacts during the January 2023 Kimberley, Western Australia, floods (24) **Fanny Boulaire** Opportunities for backloading as a logistics measure to improve freight sustainability (26) **Elnaz Irannezhad** A strategic assessment model for heavy vehicle fleet transition in Australia (122)	Seminar Room 3
	2E Advances in Transport Technology Chair: Nicholas Holyoak **Jade Sams** Step by Step: Artificially intelligent models for predicting the footpath network using semantic segmentation (16) **Nicholas Holyoak** Developing a data-processing method to estimate the travel time based on Bluetooth detections (136) **Sae Chi** Options assessment of smart transport technology options for Perth (34)	TBA

4.05 pm – 4.30 pm	Afternoon tea	Uniclub foyer
4.30 pm – 5.30 pm	**Keynote presentation Chair: Reece Waldock AM (PATREC Board Chair)** Peter Woronzow *Transport Portfolio non-build outcomes*	Auditorium
5.30 pm – 7.30 pm	**Welcome reception** Adrian Warner (Road Safety Commissioner) *Welcome from Road Safety Commissioner of WA*	Uniclub foyer



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THURSDAY 30 NOVEMBER

TIME	TITLE/SPEAKER	LOCATION
8.00 am – 5.00 pm	**Registration desk open**	Uniclub foyer
8.00 am – 9.00 am	**Arrival tea/coffee**	Uniclub foyer
9.00 am – 10.00 am	**Keynote presentation Chair: Dr Doina Olaru** Prof Julie Lee *Who is comfortable with their head in an oven and their feet in a bucket of ice?: A focus on individual differences*	Auditorium
10.10 am – 11.30 am	**3A Traffic Modelling** Chair: Pedro Camargo **Zay Maung Maung Aye** Lightweight traffic anomaly detection: A case study with SCATS volume data of Melbourne (47) **Haoran Wang** A real-time optimisation-based bus priority control for isolated intersections (54) **Delilah Gloria Slack-Smith** Enhancing the modelling of shared spaces: Evolution of the Social Force Model (80)	Auditorium
	3B Autonomous Vehicles Chair: Nicholas Holyoak **Xiaolin Tang** Consumers' behavioural intention to adopt AV technology: China and Australia studies (138) **Mostafa Khatami** Designing Autonomous Vehicles for People with Disabilities: Surveying User Needs and Preferences (92) **Ning Liu** Examining Older Drivers' Acceptance of Fully Automated Vehicles by Considering their Health and Driving Ability Conditions (116) **Nicholas Holyoak** Learning from the autonomous experience (132)	Seminar Room 1

PATREC ATRF
https://patrec.org/atrf-conference-2023/

Western Australian Planning Commission
SHAPING THE FUTURE OF WESTERN AUSTRALIA

Australian Government
Department of Infrastructure, Transport, Regional Development, Communications and the Arts
Bureau of Infrastructure and Transport Research Economics

MOTT MACDONALD

10.10 am – 11.30 am	**3C User Perceptions of Public Transport** Chair: Mark Hickman **Graham Currie** Satisfaction with Authority and 3rd party provided Smartphone public transport information apps (3) **Mark Hickman** Understanding Travelers' Satisfaction in Ferry Services: Evidence from Brisbane, Australia (46) **Amir Mortazavi** Assessing impact of replacing public transport with demand-responsive transport in Canberra (50) **Rumana Sarker** Transit user perceptions and reactions to unplanned disruptions (57)	Seminar Room 2
	3D Transport Economics Chair: Lindsay Oxlad **David Gargett** Petrol prices in Australia (1) **Joshua Adams** Active Travel Economic Appraisal Tool: Rapid cost-benefit analysis for active travel and micromobility (96) **Vartguess Markarian** Transport Cost Benefit Analysis: Are the Criticisms Valid in Practice? (40) **Callum Morgan** Construction disruption impacts: A preliminary guide (134)	Seminar Room 3
	3E Transport and Land-Use Chair: Steven Piotrowski **Joemier Pontawe** Assessing the potential contribution of cities in improving the planning and delivery of transport NDCs (18) **Eric Keys** Packed like sardines – Urban consolidation and transport planning practice (20) **Christopher Johnson** Fauna-Sensitive Road Design: Transitioning from Best Practice to Standard Practice (91)	Seminar Room 4
11.30 am – 12.00 pm	Morning tea	Uniclub foyer

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12.00 pm – 1.20 pm	**4A Traffic Modelling** Chair: Mark Raadsen **Pedro Camargo** Performance effects of heap structure choice for Path Finding – A Traffic Modelling Perspective (32) **Sapan Tiwari** Modeling multiclass and no-lane-disciplined traffic streams using class-wise fundamental diagrams (35) **Zay Maung Maung Aye** Warm-starting the rolling horizon-based traffic volume prediction using neural networks (63) **Mark Raadsen** Transport planning network and services extraction: PLANit open-source toolkit (6)	Auditorium
	4B New Modelling Techniques for New Technologies Chair: Liz Ampt **Taha Rashidi** Complex network-enabled time series analysis of nightlight data (21) **Rumana Sarker** "Green is the new black": the motives and barriers of adopting electric cars in an alpine European city (65) **Xiongfeng Deng** Designing trust in Shared Autonomous Vehicles - trusting the vehicle and fellow passengers: A exploratory review (2) **Doina Olaru** Prototyping trust in autonomous vehicles (AV) (33)	Seminar Room 1
	4C Public Transport Chair: Jennifer Kent **Milad Haghani** Impact of off-peak fares on train patronage: a case study from DoT Victoria, pre and post COVID-19 (64) **Sekhar Somenahalli** Using census data to predict commuter bus usage in Adelaide's bus catchment areas (115) **Zahra Nourmohammadi** A data-driven approach to analysing the impact of COVID-19 on pedestrian traffic in Sydney (22)	Seminar Room 2

12.00 pm – 1.20 pm	**4D Cycling** Chair: Courtney Babb **Alexa Delbosc** The medium shapes the message: Can advertising campaigns rehumanise cyclists? (29) **Amelia Thorpe** "You exercise and you get paid for it": insights from bicycle delivery riders (139) **James Reynolds** Cyclist safety around trams: Melbourne case study (67) **Courtney Babb** Urban cycling plans: the state of play in local governments across Australian cities and regions (98)	Seminar Room 3
	4E Modelling Traffic Flow Chair: Pedro Camargo **Thanh Tran** Trajectory-user linking with a deep neural network (43) **Niousha Bagheri Khoulenjani** Evaluating deep neural networks using post-hoc analysis in discrete choice modelling (52) **Mohammadreza Ghanbari** Evaluation of Incremental Deep Learning Approach on Real-time Traffic Prediction (36)	Seminar Room 4
1.20 pm – 2.20 pm	Lunch	Uniclub foyer
2.20 pm – 3.20 pm	**5A Traffic Modelling** Chair: Pedro Camargo **Mostafa Khatyami** A systematic data-driven framework for evaluating changes on traffic corridors (68) **Yang Gao** How lane changing affects urban congestion (Abridged Version) (74) **Pedro Camargo** AequilibraE and Tradesman: current state of affairs of modelling with open-source software (117)	Auditorium

2.20 pm – 3.20 pm	**5B Transport Demand Modelling** Chair: Brett Smith **Paul Scott** A metaheuristic-based extensive hypothesis testing for specification of latent class models (58) **Hamish Thomas** Applying the radiation model to long-distance trip patterns in Western Australia (84) **Alan Kleidon** Reducing Strategic Transport Model Run Time Using Integer Demand in Assignment (90)	Seminar Room 1
	5C Transport and Land-Use Chair: Liton Kamruzzaman **Jennifer Kent** Kickbacks, drawbacks and complexity: the transport implications of parents working from home (8) **Danika Adams** Measuring amenity benefits of public realm in railway station precincts (55) **Liton Kamruzzaman** Theory of planned city size behaviour (120)	Seminar Room 2
	5D Freight Modelling Chair: Elnaz Irannezhad **Shanta Hallock** The impact of logistics cluster benefits on the firm's logistics performance (30) **Kesewa Agyemang** Uncovering the Determinants of Agri-food Shippers' Willingness to Shift from Road to Rail Freight Transport (107)	Seminar Room 3
	5E Video Analytics Chair: Steve Atkinson **Zhen Peng** Computer vision-based in-situ bridge displacement measurement (60) **Yuchao Sun** Changing priority: the before-after evaluation of an active transport project using Video Analytics (135)	Seminar Room 4

3.20 pm – 3.50 pm	Afternoon tea	Uniclub foyer
3.50 pm – 4.50 pm	**Keynote presentation Chair: Johann Brits** Glenn Lyons *We all need to be climate activists now*	Auditorium
6.30 pm – 10.00 pm	**Conference dinner** Speaker: Prof Graham Currie FTSE *ATRF Past, Present and Future* Pre-dinner drinks (6.30 pm – 7.00 pm) Dinner (7.00 pm – 10.00 pm)	Matilda Bay Restaurant

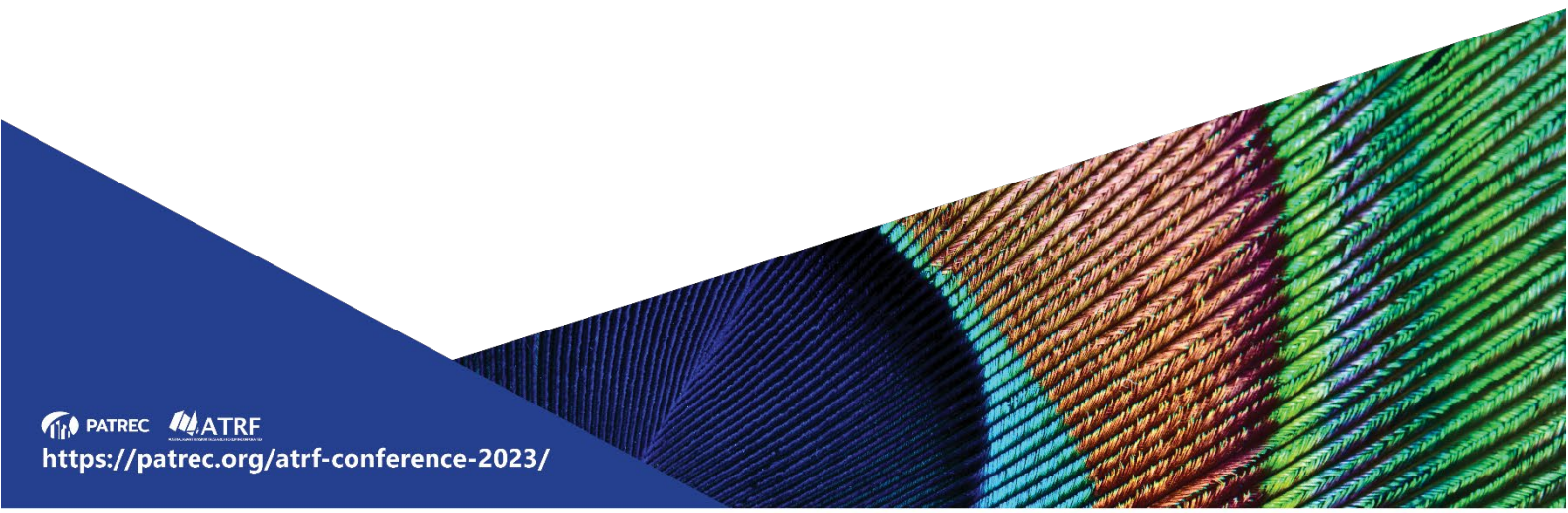
FRIDAY 1 DECEMBER

TIME	TITLE/SPEAKER	LOCATION
7.00 am – 9.00 am	**Site visit #4** Bicycle field trip	Outside of Uniclub entrance
8.30 am – 1.00 pm	**Registration desk open**	Uniclub foyer
8.30 am – 9.30 am	**Arrival tea/coffee**	Uniclub foyer
9.30 am – 10.50 am	**6A Autonomous Vehicles** Chair: David Levinson **Allan Ribeiro Pimenta** Autonomous vehicles and residential location choice: a scoping review and analytical framework (53) **Shenura Jayatilleke** Autonomous bus adoption in public transport networks: A systematic literature review on potential and prospects (12) **Fuad Huda** A meta-regression of autonomous vehicle value of time estimates (38) **Andres Fielbaum** Quantifying the benefits of short-term reservations in on-demand ridepooling (7)	Auditorium
	6B Air Travel Chair: Maria Attard **Nicholas Bardell** Some noise considerations for eVTOL traffic in Auckland City, New Zealand (4) **Priya Verma** Identifying, measuring and minimising the hazards of frequent business air travel (17) **Andrew R. Goetz** Air travel and tourism in Malta: Impacts of low-cost airline introduction (44) **Fahimeh Golbabaei** Potentials for circular economy in marine transport: early findings in sustainable disposal of derelict recreational vessels (100)	Seminar Room 1

9.30 am – 10.50 am	**6C Traffic Safety** Chair: John Nelson **Amin Shaer** Regression analysis of alcohol- and drug-related crashes in South Australia (71) **Ali Soltani** A Review of Police-Hospital Data Linkage for Traffic Injury Surveillance (105) **Betsabeh Tanoori** Predicting Crash Injury Risk Using Big Data, the Case Study of Melbourne, Australia (112) **Yuting Zhang** Evidence Review on Micromobility Safety (11)	Seminar Room 2
	6D Transport Modelling Chair: Milad Gasri **Ashim Debnath** Driver preference of merging locations at freeway exits (106) **Andrew Allan** Heatwaves and bus ridership: the case study of metropolitan Adelaide (59) **Mustafa Rezazada** What Influences Passenger's Arrival Rate at Stops in Melbourne: WASEA-LSTM, a Novel Deep Learning Model Leveraging Multi-Source Data Fusion (110) **Elnaz Irannezhad** How Our Decision-Making Process Impacts Our Street Crossing Habits: Exploring the Factors Behind use of desire lines (89)	Seminar Room 3
	6E Public Transport Chair: Ashim Debnath **Xiaomeng Li** Train horns use at level crossings: A driving simulation study to examine their effectiveness in alerting motorist drivers (39) **Ashim Debnath** Best practice exposure reduction measures for working in high-speed traffic environments (95) **Phil Potterton** What policy rationales can underpin high speed, fast and improved passenger rail in Australia? (125)	Seminar Room 4
10.50 am – 11.20 am	Morning tea	Uniclub foyer

11.20 am – 12.20 pm	**7A Traffic Modelling** Chair: Yuchao Sun **Mathew Hounsell** Case Study: Validating standard deviation as a reliability measure for high frequency buses (81) **Keyvan Pourhassan** Traffic assignment methodologies and the concept of multi-tiered traffic modelling framework: A case study from Adelaide (101) **Haotian Wang** Exploring the Effectiveness of Ensemble Models in Predicting Driver Route Selection (77)	Auditorium
	7B Transport and Land-Use Chair: Ryan Falconer **Lee Jollow** A supply-constrained approach to land use forecasting based on development feasibility modelling and land value uplift (103) **Maryam Bostanara** Towards a more realistic model of residential relocation: DDCM's dynamic, future-oriented approach (108) **Daniel Veryard** Land use and transport modelling: Recent developments and applications (78)	Seminar Room 1
	7C COVID-Induced Travel Changes Chair: Doina Olaru **Yuting Zhang** Active transport during and beyond the COVID-19 pandemic: lessons from international experience (5) **Azamsadat Hosseini Shoabjareh** The Effect of Children's Homeschooling During The Pandemic on Parents' Commuting Time (51) **David Levinson** The Node-Place model, accessibility, and station level transit ridership (45)	Seminar Room 2

11.20 am – 12.20 pm	**7D Traffic Modelling** Chair: David Haywood **Elnaz Emami** Integrated operator and user-based rebalancing in dockless shared e-micromobility systems (62) **Lewen Feng** Comparing major population synthesis techniques: a case study in Clayton, Victoria (114) **David Hayward** How the 'four types of commuters' are distributed spatially throughout Greater Brisbane (124)	Seminar Room 3
	7E Active Transport Chair: Teresa Senserrick **Anna Gannett** A review of the international scientific literature on active school transport interventions (25) **Belen Zapata-Diomedi** Cost benefit analysis of active modes of transport: review of international guidance (86) **Shafina Shafiq** A systematic review of barriers and facilitators to active school travel in Australasia: exploring built environment, road safety, and personal security (83)	Seminar Room 4
12.30 – 2.30 pm	**Closing ceremony and farewell lunch Chair: Dr Doina Olaru** Conference closing, award presentation, handover to ATRF2024 and farewell lunch	Banquet Hall



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