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15th Annual Awards

13 February 2025 | Westin Hotel, Perth / Boorloo



Celebrating excellence in the Australian ITS industry





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ACKNOWLEDGEMENT

ITS Australia thanks entrants for their participation in the ITS Australia Awards program and acknowledge their contribution of project descriptions and images for this Awards Book.

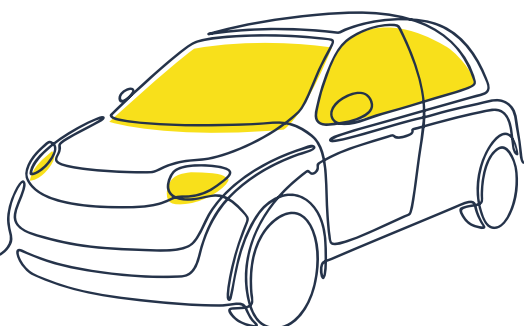
This book contains a selection of submissions received.

Contents

- 06 Welcome from the Awards Committee Chair
- 07 Judging Panel
- 10 Award Categories
- 12 Max Lay Lifetime Achievement Award 2025
- 13 ITS Australia Woman of the Year Award 2025
- 14 Young Professional Award Nominees 2025

CONNECTED AND AUTOMATED VEHICLE AWARD

- 16 Safer Urban Mobility for Vulnerable Road Users Through Cooperative Awareness and Shared Perception
Lexus Australia
- 17 C-ITS Trial – Safety for Vulnerable Road Users Around School Zones
Tasmanian Government, Department of State Growth
- 18 Main Roads Cooperative ITS Roadmap
Main Roads Western Australia



EXCELLENCE IN RESEARCH AND DEVELOPMENT AWARD

Sponsored by iMove

- 20 Real-Time Analytics for Road Traffic Management
The University of Queensland
- 21 Virtual Reality (VR) Cycling Simulator for Interactive Visualisation of Proposed Street Design Scenarios
UNSW Sydney
- 22 Smart Freeway Live Decision Support Tool
Main Roads Western Australia
- 23 FleetWEIGH Smart On-Board Mass Technology (FleetWEIGH Smart OBM)
FleetWeigh
- 24 Load Monitoring in Post-Tension Strands for Bridge Structural Health Monitoring
Structural Health Monitoring
- 25 Development of Impactable Smart Lane™ Merge Gate (SLMG)
Traffic Tech

EXCELLENCE IN TRANSPORT DATA AWARD

- 27 Optimise Replacement Bus Services During Network Disruptions – A Data Driven Approach
Transport for NSW
- 28 Transport Asset Custodian Platform (TACP)
Deloitte
- 29 From Smog to Smarts: Metlink’s Bus Data Fuels Cleaner Air and Smarter Decisions
netBI

30 SMART Operations: Real-Time Analytics for Safe and Efficient Transport Networks
Advanced Mobility Analytics Group

31 Reducing the Impact of Major Projects Via the Use of Virtual Variable Messages and Real Time Messaging Via Dedicated Mobile Application
Main Roads Western Australia

32 AI-Assisted Mapping of Pedestrian Infrastructure for Enhanced Urban Mobility
footpath.ai

33 Road Safety Analytics (RSA) Platform
Transurban

34 Integrated Connected Data for Safer, More Efficient Transport Operations
University of Melbourne

INTELLIGENT MOBILITY AWARD

37 Revolutionising Traffic Incident Detection with Video Analytics and Deep Learning
Transurban and Citilog (joint venture)

38 Reimagining Transport: A Vision Setting Paradigm with Strategy to Street
GHD

39 See Me: Bus Signalling App
SAGE Automation

40 Empowering Communities: SkedGo's Catch-a-Ride – Accessible Mobility for Underserved Areas
SkedGo

41 Safer Public Transportation in Melbourne with "Push to Communicate"
Consat Telematics

42 Customised Traveller Information Interactive Voice Recording and Telephony System Uplift
Queensland Government, Department of Transport and Main Roads

SMART TRANSPORT INFRASTRUCTURE AWARD

44 Transport for NSW Level Crossing Technology Trial
Transport for NSW

45 WestConnex Integrated OMCS at Australia's Most Advanced Road Motorway Control Centre
SICE, Transurban

46 Australian-First Tech Gives Overheight Trucks a Real-Time Reality Check
Transport for NSW

47 Dynamic Directional Signage (DDS) Technology
CPB Contractors & DT Infrastructure Joint Venture

48 Main Roads Regional Flood Monitoring System
Main Roads Western Australia

50 Policy, Advocacy and Research

51 Index

Welcome from the Awards Committee Chair



Welcome to the ITS Australia Awards!

This year marks the 15th anniversary of the Awards – an incredible achievement. From humble beginnings in 2010, the event has grown into the most prestigious industry-wide celebration of excellence in intelligent transport systems and it is the premier annual social activity for our sector.

I am also very excited to welcome you to Perth – the first time the Awards are being held in Western Australia. It is fitting to see several West Australian finalists this year – a testament to the significant ITS innovation happening across the State.

I was privileged to chair the Awards Committee for the second straight year and it was a pleasure to work with my fellow judges to review the outstanding calibre of submissions. Across the 32 finalists in our six general award categories, you will see outstanding innovation, collaboration and imagination being applied across Australia's transport systems to deliver a transport future that is safe, sustainable, productive and accessible through the application of technology.

This year, we will also celebrate the inaugural winner in our newest category – the ITS Australia Woman of the Year. The introduction of this award complements the prestigious Max Lay Lifetime Achievement Award and reflects that women have historically and continue to be underrepresented in the ITS industry, meaning it will take some time before we can fully celebrate diversity through the Max Lay Lifetime Achievement Award. This award aims to celebrate and elevate the increasing impact of women in our sector, ensuring their remarkable achievements receive the visibility they rightfully deserve.

I want to thank my 21 fellow judges – ITS leaders from the commercial, government and academic sectors – who volunteered their time to judge this year's submissions. The support of our judges is integral to ensuring the fair and meaningful evaluation of all submissions.

A sincere thank you also goes out to our major sponsors for their generous support of the ITS Australia Awards – Main Roads Western Australia as our Host State Partner and our Award Category sponsors Transurban, iMOVE Australia and Q-Free Australia.

With the Awards kicking off another engaging program of activity for ITS Australia in 2025, I look forward to connecting with all of you at various events nationwide, as we collectively contribute to Australia's vibrant, innovative and collaborative ITS community.

Dean Zabrieszach

Chair – ITS Australia Awards Committee /
ITS Australia International Ambassador
CEO – HMI Technologies / Ohmio Automation

Judging Panel

Scott Aitken

Managing Director
Aimsun

Emilie Alexandre

Business Development Manager
iMOVE Australia

Richard Delplace

Director Emerging Technologies
Federal Chamber of Automotive Industries

Lachlan Faulkner

Program Manager (Transformation Services
and Projects – Technical Services)
Queensland Department of Transport and
Main Roads

Dr. Yandong Fan

Head of ITS Strategy and Planning
Transurban

Scott Fennelly

Acting Director Realtime and ITS Operations
Main Roads Western Australia

Inger Gartner

Senior Business Development Manager
Cubic Transportation Systems

Trevor Hockridge

Partner AI and Data
Deloitte Australia

Daniel Hoyne

Head of Solution Consulting | Asia-Pacific
Kapsch TrafficCom Australia

Graham Lawrence

Transport Lead, Queensland Public Sector
Amazon Web Services

Dr. Simona Mihaita

Leader of the Future Mobility Lab
University of Technology Sydney

Mark Messenger

Head – Global Smart Ticketing and MaaS Solutions
NEC

Nigel Nielsen

Director – Safety Technology Systems
Queensland Department of Transport and
Main Roads

Jason Owusu

Manager Transport Strategy Mobility and Insights
Victorian Department of Transport and Planning

Andrew Paynter

Chief Technology Officer
Transmax

Dr. Iain Russell

Industry CTO Enterprise and Government
Telstra

Professor Russell Thompson

Program Director, Transport Technologies
AIMES, The University of Melbourne

Claire Thurston

Director Strategic Product
Transport for NSW

Shawn Ticehust

Director of Value Chain Enrichment,
Firemark Future
IAG

Felicity Williams-Lovegrove

APAC Head of Precontracts and Bids
Yunex Traffic

Dean Zabrieszach

CEO
HMI Technologies / Ohmio Automotion

MANAGING CONFLICT OF INTEREST

ITS Australia thanks the Judging Panel for their time and review of submissions. The Judging Panel is comprised of leaders across government, industry and academia. ITS Australia recognise that conflicts of interest may occur, so to protect the integrity and independence of the review process, any judge who has a conflict with a particular entry is excused from reviewing that entire Award category to which the entry/conflict pertains.

itsaustralia <> Summit 2025

19–21 November 2025
Convention & Exhibition Centre
Gold Coast



The Next Generation of ITS: Building Safer More Sustainable Communities

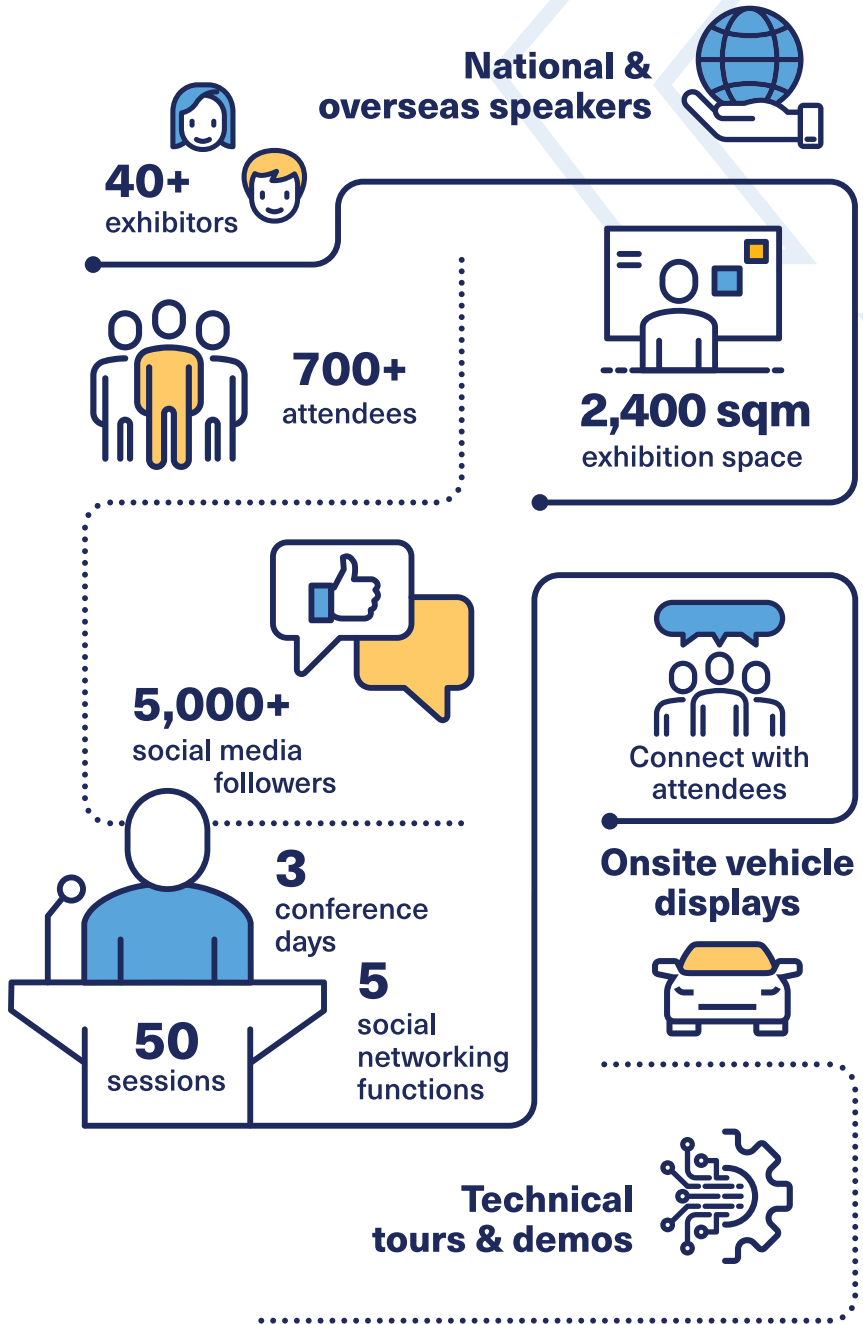
The ITS Australia Summit 2025 will explore approaches to accelerating smarter, safer, sustainable transport by leveraging the ever-expanding capabilities of technology.

Summit 2025 is where industry leaders come together to discuss cutting-edge themes and innovations driving transportation progress. Tackle the critical issues and help shape the future of transportation alongside government, industry and academic experts from around the world. Don't miss your chance to be part of these important conversations.



Program Topics

- Smart Infrastructure and Data Ecosystems
- Sustainable and Inclusive Transport
- Electric, Connected, Automated Transport
- Future Mobility
- Governance Frameworks
- Freight and Services



Contact ITS Australia for information on abstract submission, sponsorship and exhibition opportunities.

Website: its-australia.com.au | Email: admin@its-australia.com.au

Award Categories

CONNECTED AND AUTOMATED VEHICLE AWARD

Awarded to an organisation that has made outstanding contributions towards the deployment of connected and automated vehicles in Australia.

EXCELLENCE IN RESEARCH AND DEVELOPMENT AWARD

Acknowledges and congratulates R&D activity undertaken solely or in collaborative research programs that recognises an organisation for its groundbreaking transport technology, research, development or innovation.

EXCELLENCE IN TRANSPORT DATA AWARD

Awarded to an organisation to recognise its outstanding contribution in the use of transport data delivering outstanding outcomes for the community.

INTELLIGENT MOBILITY AWARD

Recognises an organisation or project that delivers innovative transport solutions offering outstanding mobility services for people and their communities.

SMART TRANSPORT INFRASTRUCTURE AWARD

Recognises an organisation for its technology innovation delivering excellence in transport infrastructure and network management.

YOUNG PROFESSIONAL AWARD

This award recognises an individual's passion and contribution to the Australian transport technology industry early in their career. It includes sponsorship to attend this year's ITS Australia Summit, the leading transport and technology event in Australia. This Award is open to members only.

MAX LAY LIFETIME ACHIEVEMENT AWARD

This award honors a leader who exemplifies the highest standards in the ITS field and the organisations they have led. It celebrates champions of ITS's vision and its impact on the community. Named after Dr Maxwell Lay (AM), an ITS pioneer and advocate, the award recognises his significant contributions to road infrastructure, contract management and education.

ITS Australia congratulates John Venables from Main Roads Western Australia as the recipient of the 2025 Max Lay Lifetime Achievement Award.

ANNOUNCING NEW AWARD – WOMAN OF THE YEAR AWARD

ITS Australia introduces the inaugural 'Woman of the Year Award' to recognise a woman's significant contributions to the ITS industry. This award acknowledges the historical underrepresentation of women in ITS and aims to highlight their growing impact. It complements the Max Lay Lifetime Achievement Award and celebrates women's achievements.

ITS Australia congratulates Dr. Miranda Blogg from the Department of Transport and Main Roads Queensland as the recipient of the 2025 Woman of the Year Award.



Max Lay Lifetime Achievement Award 2025



John Venables, a key architect of Western Australia's traffic management system, is the recipient of the Max Lay Lifetime Achievement Award, ITS Australia's highest honor. Over his 44-year career at Main Roads WA, he advanced the state's transport network, contributing to projects like the Road Network Operations Centre and Perth's first Smart Freeway.

"It's an honor to receive this award. I'm proud of the team we've built at Main Roads WA, who manage one of Australia's leading traffic control rooms," said Mr. Venables.

John's career in ITS was sparked through an early interest in electronics, when he undertook an electrical apprenticeship at the age of 16, whilst studying Electronic Engineering at night school. Recognised for his talent, he received the Apprentice Award from the Western Australia Industrial Advisory Council.

In his early years at Main Roads WA, John had several hands-on roles as a traffic signal technician and traffic engineering officer, before rising up the ranks into traffic operations management.

John was integral to evolution of ITS in Western Australia, including leading the design and requirements for the new state-of-the-art Road Network Operations Centre Control Room, and overseeing the operational readiness for Perth's first Smart Freeway – the Kwinana Freeway Northbound, essentially defining how ITS devices would be used to operate the freeway and manage the traffic.

After a 2003 power outage led to a fatal crash, John helped pioneer Uninterruptible Power Supply (UPS) systems for traffic signals, improving reliability and ensuring traffic signals worked during blackouts. He also collaborated on traffic management for high-profile events, including the 2011 Commonwealth Heads of Government Meeting (CHOGM), where he ensured smooth security coordination.

John served on national committees like the Austroads Road Tunnels Task Force and the Australian Standards Road Traffic Signals Committee. In 2022, he received the Austroads Outstanding Service Award.

The Max Lay Lifetime Achievement Award honors Dr. Maxwell Lay, a pioneer and passionate advocate for ITS.

ITS Australia Woman of the Year Award 2025

This award is proudly sponsored by Q-Free Australia



Dr. Miranda Blogg, a senior transport leader with the Queensland Department of Transport and Main Roads, is the inaugural recipient of the ITS Australia Woman of the Year Award. With over 20 years of experience in both the private and public sectors, Dr. Blogg has led transformative initiatives, including the Queensland Government's Cooperative and Automated Vehicle Initiative.

"It's a tremendous honor to receive this award. I'm passionate about collaboration and delivering impactful transport solutions with my dedicated colleagues," said Dr. Blogg.

Miranda began her career as a Traffic Engineer and Transport Planner at Kittleson & Associates, where she contributed to major projects in Florida. She also worked on the National Cooperative Highways Research Program and Transit Cooperative Research Program in the US.

In 2008, she returned to Australia to establish Kittleson & Associates' first international office, leading transport projects for the NSW and Queensland Governments. She joined TMR in 2013 and became Director of the Cooperative and Automated Vehicle Initiative (CAVI) in 2015, positioning Queensland at the forefront of vehicle technology adoption.

Miranda oversaw the Ipswich Connected Vehicle Pilot, Australia's largest cooperative ITS trial, and the Cooperative and Highly Automated Driving Pilot. She serves on various boards, including iMOVE Australia and was a former board member of Transport Certification Australia.

Currently, as Director of Safer Roads Infrastructure at TMR, Miranda leads innovation in road safety and program development.

The Woman of the Year Award celebrates the growing impact of women in Australia's ITS sector.



Young Professional Award Nominees 2025

Brittany Croft – Kapsch

Brittany, a mechanical engineer, has contributed to the transport field through roles at Tesla, NTRI, WSP, and Kapsch. She is an active committee member for ITS Australia NextGens, organising events to connect young professionals. She also mentors young women in engineering, encouraging STEM participation.

Timothy Hudson – Transurban

Timothy is passionate about CAVs, smart infrastructure, and AI in ITS. He advocates for R&D investments at Transurban and aims to advance emerging technologies in transportation. He joined the NextGens committee to connect with like-minded ITS professionals.

Kalan Ralph – Main Roads Western Australia

Kalan is focused on improving road safety in Western Australia, especially in regional resilience. He leads initiatives like the “Outback ITS” webinar and organises a WA Road Network Operations Centre tour for students. He also works on ramp signalling and ITS device monitoring.

Gloria Tan – Service Stream

Gloria is an emerging leader in ITS asset management at Service Stream, improving operational performance through digitisation. She has streamlined asset management software and enhanced maintenance delivery to ensure effective use by technicians.

Nithin Venkat – GHD

Nithin advocates for data-driven solutions in transport, focusing on network safety and community benefit. He uses evidence-based insights to develop solutions and actively contributes to the ITS community through networking and research.

Nikhil Subramanya Sharma – Transurban

Nikhil is passionate about integrating new technologies in ITS, specialising in Operations Management Control Systems. He promotes knowledge sharing and advocates for incorporating ITS topics into university curricula to bridge the gap between academia and industry.

Mehdi Shah – Transurban

Mehdi is interested in automation and technology to improve road safety, envisioning a future with C-ITS vehicles. Outside of work, he applies automation in gardening, optimising resource use, and aligning this with his interest in efficient technology adoption.

Sujan Kandel – SICE

Sujan, a junior software engineer, is passionate about using ITS to create safer and more sustainable transportation networks. He aims to explore how AI, machine learning, and edge computing can revolutionise ITS, improving both urban and rural mobility.



Design and build your career

As the operator of some of the world's most sophisticated roads, everything we do works to get people where they want to go, as quickly and safely as possible – from installing and supporting advanced control systems, working on major projects and developing future tolling solutions to researching autonomous vehicles and road safety technology.

A career at Transurban means helping create city-shaping solutions, working with leading professionals across several fields including ITS engineering, maintenance and support, project management, innovation, technology and strategy.

To learn more about a career at Transurban, visit us today at careers.transurban.com

Safer Urban Mobility for Vulnerable Road Users Through Cooperative Awareness and Shared Perception

Category

Connected and Automated Vehicle Award

Submitting Organisation

Lexus Australia

Collaborating Partners

Commsignia, Bosch Security Systems, Queensland Department of Transport and Main Roads, HMI Technologies

In the heart of Sydney's Darling Harbour, Lexus Australia is leading an innovative project that offers a glimpse into the future of urban mobility. The project integrates Cooperative Intelligent Transport Systems (C-ITS) to create a safer urban environment, focusing on Vulnerable Road Users (VRUs) safety. VRUs include pedestrians, motorcycle riders, cyclists, children under 7, the elderly and users of mobility devices. These individuals lack protection in crashes and are disproportionately represented in trauma statistics. In Australia, of the 1,106 road fatalities in 2020, 12% were pedestrians, 17% were motorcycle riders and 4% were cyclists.

The project demonstrates how C-ITS Cooperative Awareness and Collective Perception Services can enable real-time information sharing between both "connected" and "non-connected" road users, enhancing awareness in dense urban environments. This demonstration highlights vehicle-to-vehicle intersection movement assistance connected cycling with OBU Lite and Image Detection Based Traffic Analytics for pedestrian collision notifications.



The C-ITS ecosystem requires cooperation between multiple levels of government, manufacturers and technology providers. This project exemplifies how synergies can be found between totally different areas of the ITS industry. This demonstration is the result of a partnership between Lexus Australia and Commsignia, Bosch, Aptella, HMI Technologies and Queensland Government to deliver the future of ITS, right here in Australia. Lexus Australia and its partners are advancing urban mobility by prioritising safety and inclusivity, aiming to create a safer, more efficient, productive, sustainable and accessible transport system for all Australians.

This initiative aligns with Australia's National Road Transport Technology Strategy and sets a global benchmark, demonstrating how cooperative and automated transport technologies can enhance social, environmental and economic well-being.

C-ITS Trial – Safety for Vulnerable Road Users Around School Zones

Category

Connected and Automated Vehicle Award

Submitting Organisation

Tasmanian Government, Department of State Growth

Collaborating Partners

SAGE Automation, Cohda Wireless

To understand and demonstrate the benefits of C-ITS to stakeholders, the Tasmanian Government Department of State Growth, opted to undertake a proof-of-concept trial to promote the enhancement of driver safety awareness around school zones using the new technology. The Department through the Traffic Operations ITS Team engaged SAGE Automation and their technology partners to work collaboratively with the Department commencing the trial project in May 2023. The final proof of concept at 4 sites acceptance testing was completed successfully and passed on 20 May 2024 and thereafter decommissioned until further stakeholder communication occurs.

The outcome of the project aimed to provide enhancement to the existing highly conspicuous electronic speed limit signs at school zones by additionally providing advance notification of the dynamically changing speed limit and school zone area warning information sent into an approaching vehicle's dashboard display, making the driver more aware to proactively change behavior. The trial successfully tested C-ITS technologies relating to V2I, I2V and I2X as well the future technology readiness capability of the recently deployed electronic school zone signs across the state.

To support the delivery of the C-ITS project a wide range of hardware and software technologies were deployed. A radar system consisting of a radar mounted inside the ESLS integrated into the central monitoring and management system provided additional functionality for interaction with driver by enabling the sign to display a “sad face” and “slow down” message when exceeding and should the driver correct behavior display positive “thank you” and “smiley”.

C-ITS enabled vehicles will in future be able to receive notifications when entering a “school zone” and “speed” information from the infrastructure directly into their vehicle. This advisory service alerts the driver to be attentive and proactively make adjustments with vehicle speeds prior to entering the school zone caring for vulnerable pedestrians.



Main Roads Cooperative ITS Roadmap

Category

Connected and Automated Vehicle Award

Submitting Organisation

Main Roads Western Australia

Collaborating Partners

WSP

C-ITS has the potential to accelerate the realisation of our goals to improve safety, productivity, mobility and sustainability for Western Australians. The purpose of our C-ITS Roadmap is to establish our C-ITS Vision, C-ITS Deployment Strategy and a short- to medium term roadmap with actionable steps to realise the benefits of C-ITS in WA. The Main Roads C-ITS Roadmap will support the implementation of a nationally harmonised C-ITS ecosystem across the Western Australian Road network to enhance safety, movement, regional resilience and enable future vehicle technology.



Over the next 3 – 4 years we will be concentrating on:

- **Collaboration and Research** – Collaborate with research bodies and industry to understand gaps and perform research and capture feedback to further national understanding.
- **National Harmonisation** – Participate in national efforts to develop a C-ITS implementation plan, monitor radiofrequency spectrum arrangements, develop a common Security Credential Management System (SCMS), C-ITS Central Station(s) and data framework.
- **“Future Proofing”** – Prepare for future vehicle technologies and set up foundational infrastructure for C-ITS deployment across WA over time.
- **Proofs of Concept** – Run a local testbed and/or test corridor(s) to develop readiness of C-ITS applications and identify any WA-specific needs.
- **Capability Uplift** – Provide opportunities for staff, working in conjunction with industry, to develop capabilities in systems engineering, data engineering, cloud systems and ITS architecture to support business change required for C-ITS in WA.
- **Systems Uplift** – Identify and implement the changes required to the ITS environment to support C-ITS use case deployment.
- **Data Quality and Management** – Improve Road agency data to facilitate emerging C-ITS applications and in turn, improve availability and quality of ITS data.

A tolling and traffic portfolio like no other

Orchestrated Connected Corridors leverage advanced data platforms at the edge and in the cloud to provide real-time traffic management and support innovative safety and mobility use cases.



find out more

Real-Time Analytics for Road Traffic Management

Category

Excellence in Research and Development Award

Submitting Organisation

The University of Queensland

Collaborating Partners

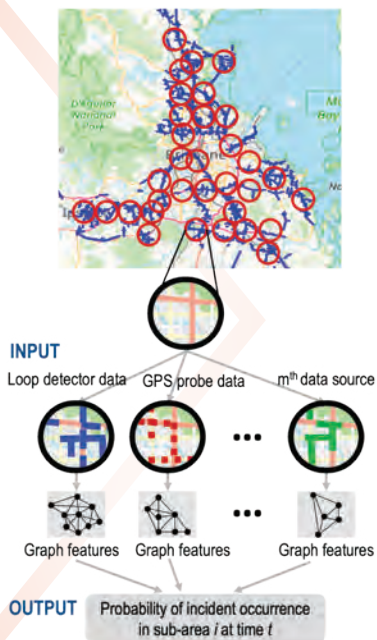
Queensland Department of Transport and Main Roads, Transmax

The University of Queensland (UQ), Queensland Department of Transport and Main Roads (TMR) and Transmax have developed three key real-time analytics technologies to innovate road traffic management as outputs of an Australian Research Council's Linkage project. These include novel methods for incident prediction in large-scale urban networks, anomaly detection in traffic sensor data and queue estimation at signalised intersections.

Incident prediction, anomaly detection and queue estimation are crucial for enhancing situational awareness in real-time traffic management. Traditional methods rely on manual monitoring and are largely reactive in responding to incidents, anomalies and queues, compromising traffic control effectiveness. The proposed methods automate these critical tasks while achieving higher accuracy and reliability than the existing methods, as evidenced by three publications in Transportation Research Part C: Emerging Technologies, a top transport journal.

The key innovations lie in the technologies' strong focus on real-world applicability. The incident prediction model employs a novel Deep Learning technique with high generalisability, enabling it to predict incidents within 'any' sub-area using a 'single' model for the entire city, drastically reducing the costs of model development and deployment. The anomaly detection model features a unique Reinforcement Learning agent that autonomously learns anomaly patterns without requiring human-labelled data or manual threshold settings. Additionally, the queue estimation model introduces a practical Kalman filter approach, providing real-time intersection queue length estimates using only readily available loop detector and signal timing data.

These technologies improve traffic efficiency and safety by enabling proactive responses, reducing manual monitoring, and supporting critical decision-making. Their scalable design integrates seamlessly with advanced systems like C-ITS, ensuring adaptability and broad applicability across regions.



Virtual Reality (VR) Cycling Simulator for Interactive Visualisation of Proposed Street Design Scenarios

Category

Excellence in Research and Development Award

Submitting Organisation

UNSW Sydney (City Futures, TRACSLab@UNSW and rCITI research groups)

Collaborating Partners

Transport for NSW, iMove Australia



Stakeholder consultation process is critical in street redevelopment projects to ensure that the development can meet the needs of communities. However, traditional methods of conveying the proposed designs through conventional mediums (e.g. images and video), followed by self-reported surveys have limited validity as the methods are not able to present the proposed designs in more details and the collected responses are highly subjective.

The project offers a solution by deploying a Virtual Reality (VR) Cycling Simulator for enhancing community consultation. This approach aimed to provide a more detailed and objective method for presenting street designs and collecting community feedback. This collaborative effort involved UNSW Sydney teams (City Futures, TRACSLab@UNSW and rCITI) and Transport for New South Wales through iMove Australia, with support from the Wollongong and Penrith City Councils.

The simulator, operated on in-house, adaptable software by TRACSLab@UNSW, featured modular designs and physiological sensors such as heart rate and eye gaze trackers, providing an objective dataset of user responses. The simulator platform was tested in a project that targets “Interested but Concerned” cyclists—potential cyclists deterred by safety concerns (48% of NSW adult population)—the simulator allowed users to experience proposed bicycle facility designs in a controlled, immersive environment. The designs were tested on simulated versions of Smith Street in Wollongong and Derby Street in Penrith, developed from video footage, satellite imagery and technical drawings. Participants navigated scenarios like two-way and one-way bicycle paths with varying barriers and a “Quietway” designed to reduce traffic speeds. Ninety-eight volunteers from the target cohort participated, offering insights into user preferences and perceptions across different design proposals.

The success of the VR Cycling Simulator in this study demonstrates its potential as a powerful tool for urban design and transport planning, significantly enhancing community engagement and supporting data-driven decision-making in city planning processes.

Smart Freeway Live Decision Support Tool

Category

Excellence in Research and Development Award

Submitting Organisation

Main Roads Western Australia

Collaborating Partners

Aimsun, iMove Australia



The Mitchell Freeway Live Decision Support Tool is an advanced simulation and operational testbed designed to enhance managed motorway operations, specifically along the Mitchell Smart Freeway corridor. This iMOVE proof-of-concept tool demonstrates the feasibility of faster-than-real-time traffic management by integrating intelligent transport systems. Unlike current simulation tools, which fall short of real-time requirements for network operations, this cutting-edge tool replicates the complex dynamics of smart freeway traffic and its interaction with Intelligent Transport Systems (ITS) in a true digital twin environment, where live information is received from the field, processed in a simulation and AI environment to provide metrics and then links to actionable responses that can be implemented by operators. If successful, this tool will serve as a virtual environment to evaluate and optimize response plans, assess different scenarios and identify potential bottlenecks.

The project aims to thoroughly test response plans for both typical and atypical network events—such as accidents, congestion, adverse weather and unexpected incidents—refining them to ensure rapid and well-informed decision-making by control room operators. The initiative maximizes existing Main Roads Western Australia (MRWA) infrastructure and research investments through iMOVE, establishing a robust decision support system for the Mitchell Smart Freeway. This includes leveraging investments in smart sensors and ramp metering technology as part of the Smart Freeway project. By immersing control room operators in real-time traffic scenarios, this tool will significantly enhance their situational awareness. This exposure will cultivate swift, accurate response capabilities, enabling operators to effectively manage emergent situations and optimise freeway operations and ITS.

FleetWEIGH Smart On-Board Mass Technology (FleetWEIGH Smart OBM)

Category

Excellence in Research and Development Award

Submitting Organisation

FleetWeigh

Collaborating Partners

WHG Telematics, Trail Link, SKT Technologies

FleetWEIGH Smart OBM is Australia's first all in one, Bluetooth weigh scale and complete telematics solution for air suspension truck and trailers. FleetWEIGH displays your live truck weight straight to your smart device to help you load safely and legally. FleetWEIGH is the newest and most comprehensive offering to the On-Board Mass management market, type approved by Transport Certification Australia as a Smart OBM (Category B) system for use on high productivity vehicles. Combining the latest in Bluetooth and sensor technology, FleetWEIGH is road-ready for even the harshest Australian road conditions. FleetWEIGH offers the fastest return on investment (ROI) of any Smart Scale, meaning you will see the benefit to your bottom line even faster. FleetWEIGH is the most competitive solution on the market. Fully connected, to make it simple, your entire fleet is online, making it easy to access all fleet equipment that has FleetWEIGH fitted. Simply set up, select and go.

OBM Requirements Across Australian States:

Victoria: Smart OBM required for specific High Productivity Freight Vehicles (HPFVs) by 30 June 2023.

Tasmania: Certain Performance-Based Standards (PBS) vehicles need Smart OBM for designated road access.

Queensland: Specific Class 2 and Class 3 vehicles must adopt Smart OBM systems by 1 June 2024.

New South Wales: Eligible PBS vehicles should enrol in TMA PBS Level 1-4 Vehicle Monitoring scheme by 1 June 2024.

The FleetWEIGH App allows you to select your vehicle combination from the calibrated vehicles available, after which the driver (and authorised admin) is able to view a clearly displayed weight of each vehicle within the line-of-sight range of the sensor - 30-50 metres range expected. TCA type-approved (Category B) Smart OBM system, FleetWEIGH can save your equipment profiles, pairing and calibration data on the Cloud for easy access across devices.



Load Monitoring in Post-Tension Strands for Bridge Structural Health Monitoring

Category

Excellence in Research and Development Award

Submitting Organisation

Structural Health Monitoring

SHM's research and development activities have focused on innovating the field of structural health monitoring by developing and implementing an advanced load monitoring system for post-tensioned bridges. The SHM system leverages cutting-edge Internet of Things (IoT) technology and the concept of digital twins to ensure the structural integrity and safety of bridges, contributing to the overall reliability and efficiency of transport infrastructure. This innovation is highly relevant to Intelligent Transport Systems (ITS) as it enhances the ability to monitor and manage critical infrastructure in real-time, supporting safer, more efficient transport networks. By integrating SHM systems into ITS, transport operators and regulatory bodies can proactively address potential structural issues, optimize maintenance schedules and improve overall transport safety and sustainability.

SHM's project has focused on real-time monitoring and data collection, utilizing high-frequency data acquisition and high-resolution data capture to provide continuous insights into the structural health of post-tensioned bridges. SHM has also developed innovative applications and methods for quick calibration and load testing, including using Bluetooth Low Energy (BLE) technology and user-friendly mobile apps for calibration that can be easily retrofitted to existing infrastructure assets or integrated into the engineering design and construction. In addition, the SHM system emphasizes real-time monitoring and connectivity, utilizing cellular LTE monitoring and integration with digital twins for enhanced visualization and communication.

SHM's predictive maintenance approach and automated alerts ensure timely intervention and maintenance, while SHM's dynamic digital twin visualization allows for effective communication and decision-making. SHM's pre-deployment stage activities included prototype development, design and fabrication, lab testing and simulation and demonstration to ensure the accuracy and reliability of our load monitoring system. The key outcomes of SHM's research project have demonstrated successful development and validation, accuracy and reliability of load measurements, seamless data transmission and dynamic visualization capabilities.



Development of Impactable Smart Lane™ Merge Gate (SLMG)

Category

Excellence in Research and Development Award

Submitting Organisation

Traffic Tech

The (SLMG) has been successfully deployed and is operational in projects from Melbourne's Westgate Tunnel to the famous Pennsylvania Turnpike in the USA. Its strategic implementation ensures a more efficient traffic flow and bolsters security at tunnel access points. This proactive approach highlights a strong commitment to safety and excellence in infrastructure management.

The SLMG carbon fiber Truss-boom has been crash tested at Texas A&M University, the world's preeminent MASH test facilities, to Test Level "TL3". It is the only approved TL3 certified boom, able to be deployed into live traffic lanes. There is no need for a TC crew to be on-site prior to the SLMG being deployed, or for an attenuator vehicle to be installed on the site. This enables prompt responses to disruptions or incidents and enhances the overall resilience of transportation networks, reducing interruptions and promoting smoother operations. Available in both barrier and pillar-mounted configurations, the SLMG provides a reliable and repeatable approach to dynamic traffic management, making it an ideal choice for varied and evolving traffic control needs.

The Smart Lane™ Merge Gate (SLMG) is a cutting-edge Intelligent Traffic Systems (ITS) device designed to enhance the management of:

- Road and Tunnel Ramp Closures
- Tunnel portal closure
- Emergency Contra-flow Systems
- Deployment of Revers Flow traffic control
- Runaway Truck Ramp Closures
- Maintenance and Construction Access

The SLMG is a lane closure gate system designed to be deployed into live traffic. The SLMG improves safety and traffic flow, whilst significantly reducing time and direct costs associated with roadway closures.



NEC

Moving people with **Smarter** Transport

NEC partners with PTAs and PTOs to deliver scalable, smart transport solutions, enhancing passenger experiences and network performance. By transforming how we plan and undertake journeys, we're getting people where they want to go while orchestrating a brighter, connected future.



Mobility Platform

Modular, cloud-based solution for transport management, offering seamless operations, data insights, and driver-friendly controls.



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Smart Ticketing

Future-proof, AI-driven transport ticketing for operators and authorities, enhancing networks with easy apps, integrated services, and secure finances.



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Enhance operations and passenger experience with real-time data, ETA accuracy, and business intelligence for a complete view of your network.



Designed for the Bus Industry

Create and deliver tailored, impactful solutions for the industry.

www.nec.com.au/industries/transportation

Optimise Replacement Bus Services During Network Disruptions – A Data Driven Approach

Category

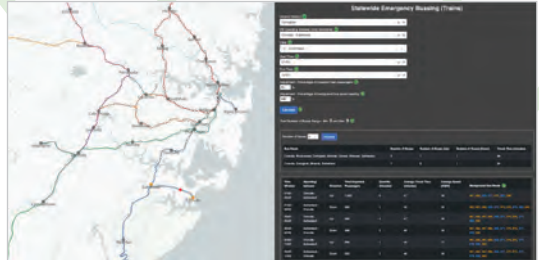
Excellence in Transport Data Award

Submitting Organisation

Transport for NSW

Collaborating Partners

University of Technology, Sydney



Transport for NSW has collaborated with the University of Technology Sydney to develop a data-driven solution for estimating emergency bus service demand and optimising bus routes and deployment during network disruptions. By leveraging data, AI and optimisation techniques, this innovative solution enables evidence-based decisions. The tool leverages historical and real-time data, with high processing speed for instant results. This systematic approach benefits staff by empowering them to make informed decisions in emergency situations.

Given the current bus driver shortage issue, the tool enables TfNSW to allocate resources effectively and efficiently to alleviate pressures on the transport network. Our metrics show up to 30% in cost savings from data-driven emergency bussing. The system continuously evolves by learning from up-to-date streaming data. Buses, due to their flexibility, often serve as the primary alternative mode during unplanned disruptions to the broader transport network. The tool's self-learning capability ensures its durability in providing reliable and timely responses. By constantly updating its knowledge base, the system adapts to maintain its effectiveness as conditions change over time. Preceding the tool's development, there were no evidence-based decision-making tools that presented the number of buses required during a disruption.

This project delivers a groundbreaking data-driven solution to bridge this gap by leveraging data, AI and optimisation techniques. The solution addresses complex challenges such as data heterogeneity, dynamics and inconsistencies, including multi-source and spatial-temporal data fusion. The system delivers measurable benefits. Socially, it improves the customer experience by reducing passenger waiting times through optimised use of available buses during network disruptions. Economically, it minimises operational costs and improves efficiency in train replacement bus services management. This results in reductions in unnecessary bus deployments and thus CO2 emissions, improvement in background bus utilisation rates, overall cost reductions for disruption management and more consistent commuter experience during unplanned disruptions.

Transport Asset Custodian Platform (TACP)

Category

Excellence in Transport Data Award

Submitting Organisation

Deloitte

Collaborating Partners

Transport for NSW, SAP Australia

The Transport Asset Custodian Platform (TACP) is a pioneering initiative within Transport for NSW's multi-year asset information transformation program. TACP seamlessly integrates over 750 asset registers, covering Transport for NSW's \$211 billion asset portfolio, into a single, unified platform. The platform ingests an impressive 2.7 million asset records from 32 different asset management systems from both internal and external asset stewards.

By digitising asset information standards, consolidating asset records and streamlining asset reporting processes, TACP provides asset owners and custodians with instant access to current and consistent critical asset information and meaningful insights on their portfolios. This enables effective management and whole-of-life decision making on the cost, risk and performance of Transport for NSW's asset portfolio. Moreover, it reduces reliance on third-party maintainers for asset reports, offering considerable time and cost savings to the state's largest transport agency.

TACP leverages cloud technology and the latest insight and reporting tools to ensure that the platform is secure, scalable, reliable and cost-effective. The modular architecture and customisable design ensure the platform is suitable for adoption by any asset-intensive organisation. Other NSW government and interstate agencies have started to explore an asset custodian platform solution, recognising the potential to enhance asset management and drive operational efficiencies across their organisations.

In summary, the Transport Asset Custodian Platform sets a new standard in asset information management, providing essential data foundations to optimise whole of life decision-making on Transport for NSW's extensive asset portfolio. Contributors: Transport for NSW partnered with SAP Australia and Deloitte Australia to develop and deploy the Transport Asset Custodian Platform.



From Smog to Smarts: Metlink's Bus Data Fuels Cleaner Air and Smarter Decisions

Category

Excellence in Transport Data Award

Submitting Organisation

netBI

Collaborating Partners

Metlink, part of Greater Wellington Regional Council

netBI launched in 2004 and has grown to become the leading data analytics and business intelligence solution for the Australian public transit sector. netBI specialises in working with transport organisations, offering unique technology that allows any organisation to collate and interpret large volumes of streaming and historical data to reveal insights and trends.

In 2023, Metlink requested netBI to develop an Emissions Reporting Tool with the key objectives of recording and reporting on their bus emissions data to overcome arduous and lengthy manual analytics processes, improve confidence and accuracy of results and enable smarter, real-time decisions to work towards the Net Zero targets. The tool automatically produces reports across 100+ different emissions measures covering numerous pollutant types and parameters, such as vehicle type and route, to deliver continuous granular data to a diverse stakeholder group.



The key outcomes of netBI and Metlink's collaboration have contributed to sustainability and the green economy as follows:

- **Efficient emissions management:** By accurately tracking and reporting emissions data, Metlink can now actively monitor its environmental impact and make data-driven decisions to reduce carbon emissions.
- **Strategic investment in decarbonisation and resource optimisation:** With insights from the tool, resources can be re-allocated to initiatives that offer the greatest carbon reductions, driving progress towards a greener economy and a more sustainable future.
- **Promotion of sustainable transportation:** The journey planner app plug-in empowers passengers to make environmentally conscious travel choices by providing information on emissions impacts.

The results are multi-faceted and the tool can be easily adapted for a range of industries to achieve more sustainable, green outcomes. These industries could include energy, construction/building, waste and water management, recycling and beyond. By leveraging technology and data, netBI is supporting organisations to drive positive, long-term environmental change and create a more sustainable and prosperous green economy.

SMART Operations: Real-Time Analytics for Safe and Efficient Transport Networks

Category

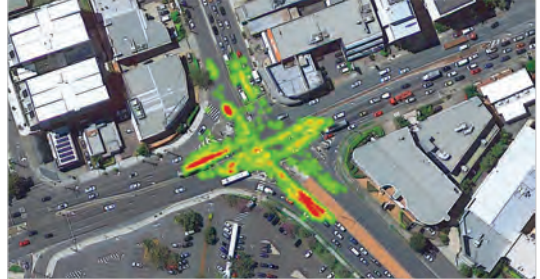
Excellence in Transport Data Award

Submitting Organisation

Advanced Mobility Analytics Group

Advanced Mobility Analytics Group (AMAG) is revolutionising road safety and traffic management through video analytics and AI technology. Founded in Brisbane, AMAG has developed the SMART (Safe Mobility Alert Real-Time) Digital Platform, which proactively identifies and diagnoses safety issues before crashes occur. This platform changes the current paradigm of traffic safety, offering authorities the tools to monitor, manage and mitigate risks across their transport networks.

AMAG's technology utilises video analytics, artificial intelligence, deep learning and advanced statistical techniques to continuously perfect the science of road safety and operational efficiency. This has led to a significant reduction in traffic collisions and improved traffic flow, making AMAG's solutions critical for safer and more efficient roads. The technology is highly adaptable and can be transferred to various global contexts, enhancing road safety and efficiency in diverse environments.



One of the key differentiators of AMAG's platform to what has been seen available to decision makers and operators in the road and transport industry is its integration with existing infrastructure, which reduces the need for costly overhauls. This compatibility, combined with the system's advanced AI model, which currently classifies over 22 types of road users, ensures that the technology remains effective and durable over time. Furthermore, AMAG's solutions contribute to sustainability by reducing traffic congestion and emissions, supporting the global goal of creating safer, more sustainable cities and roads. AMAG's innovative approach to traffic safety and management is setting a new standard in the industry, making it a vital tool for governments and transportation authorities worldwide.



Reducing the Impact of Major Projects Via the Use of Virtual Variable Messages and Real Time Messaging Via Dedicated Mobile Application

Category

Excellence in Transport Data Award

Submitting Organisation

Main Roads Western Australia

Collaborating Partners

SKEDGO

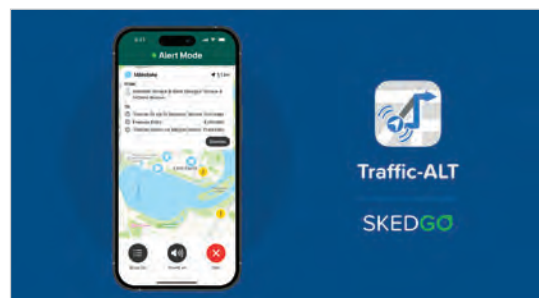
Traffic-ALT is a newly developed, free app designed to support individuals affected by major project disruptions, such as the Armadale Train Line shutdown that began in late November 2023 in Western Australia. The app leverages Main Roads' real-time data to deliver location-specific and direction-specific Real-Time Audio Traffic Alerts. Traffic-ALT is compatible with both iOS and Android devices and can be used through a phone or integrated with a car stereo via Bluetooth, ensuring a seamless and safe driving experience.

The app offers three primary functions:

- **Abnormal Live Congestion:** Provides instant alerts about unusual congestion levels, allowing drivers to make informed decisions and avoid delays.
- **Travel Time Alerts:** Notifies users of current travel times on their routes, helping them plan more efficient journeys.
- **Customized Virtual VMS Alerts/Messaging:** Delivers personalized virtual variable message signs, offering timely information relevant to the driver's specific location and route.

Traffic-ALT utilizes Main Roads' real-time data on travel times, congestion levels and road incidents to automatically generate these virtual messages, ensuring that drivers are always aware of the current road conditions.

The success of Traffic-ALT during the Armadale Train Line shutdown has led to plans for its broader application. The app will be made available for future major project works, extending its reach to regional road closures as well. In addition to real-time traffic updates, the app will provide heavy vehicle static safety messaging, alerting drivers on heavy vehicle routes to potential encounters with Traffic Escorts and Over Size Over Mass vehicles. It will also offer bridge clearance information, enabling heavy vehicle drivers to verify compliance with bridge traversal requirements. With these enhancements, Traffic-ALT is set to become an essential tool for managing road safety and efficiency during significant infrastructure projects and beyond.



AI-Assisted Mapping of Pedestrian Infrastructure for Enhanced Urban Mobility

Category

Excellence in Transport Data Award

Submitting Organisation

footpath.ai

Collaborating Partners

Waverly Council

footpath.ai, in collaboration with Waverley Council, has deployed an innovative AI-assisted mapping system for pedestrian infrastructure. This project leverages advanced computer vision and geoAI algorithms to create a detailed, routable footpath network. The system accurately maps footpaths, amenities and accessibility features, ensuring high data quality through human verification. Covering nearly 70 km of footpaths in the Bondi, Bondi Junction and Waverley areas in NSW, the initiative promotes safer and more accessible urban environments.

The AI technology used in this project includes the DeepWalk™ AI stack, which offers a cloud-based, scalable and versatile footpath mapping pipeline. This technology enables detailed urban feature extraction with a focus on walkability and wayfinding for both humans and robots.

By integrating vision-based data updates, the system supports efficient urban planning and infrastructure improvements, minimising resource wastage and maintenance costs.

footpath.ai's mission is to build next-generation, inclusive maps designed for people, not just cars. The project exemplifies the synergy between technology and human input, setting a new standard for transport technology in Australia. It enhances urban mobility by providing accurate, updated data on pedestrian infrastructure, leading to improved route planning and better accessibility for individuals with disabilities. This initiative is not only innovative but also sustainable. By optimising pedestrian infrastructure, it reduces reliance on vehicles, lowers carbon emissions and improves air quality. The system's adaptability to future technological advancements ensures its long-term durability and relevance, making cities more walkable and inclusive for years to come. footpath.ai's technology is a significant step towards smarter, more sustainable urban planning, benefiting walkable communities worldwide.



Road Safety Analytics (RSA) Platform

Category

Excellence in Transport Data Award

Submitting Organisation

Transurban

The Road Safety Analytics Platform is a cutting-edge tool developed by Transurban to enhance road safety and efficiency across its global network. By integrating diverse data sources such as crash incidents, vehicle telemetry, weather conditions, roadside sensors and infrastructure information, the platform is used to identify collision hotspots and leading crash indicators. This enables road safety experts to take informed actions, improving safety and potentially saving lives.

The platform's geospatial model maps road assets, enhancing collision analysis and understanding of leading indicators. This accelerates the implementation of safety measures, showcasing the significant impact of Intelligent Transport Systems (ITS) in achieving unprecedented levels of safety and efficiency. Designed with a scalable and expandable architecture, the platform seamlessly integrates new data sources and system changes, ensuring its continued relevance and effectiveness. Its flexible data model supports advanced analytics, including predictive modelling and generative AI, making it suitable for various applications such as road safety, traffic and customer revenue analysis. Innovative in its use of advanced analytics, the platform harmonizes and integrates diverse transport technology data sources. This enhances data usage, analysis, integration and visualization, revolutionizing road safety by improving collision analysis and understanding of leading indicators.

By uniting various initiatives and technologies, it serves as a pioneering tool in developing transport technology in Australia, enhancing safety and potentially saving lives. Additionally, the platform facilitates informed decisions to improve motorway and tunnel efficiency, reducing travel times and minimizing environmental impact. This leads to a higher quality of life for motorists and reinforces Transurban's commitment to sustainable transport. The platform offers measurable, lasting benefits to society, ensuring long-term positive impacts on both safety and the environment.



Integrated Connected Data for Safer, More Efficient Transport Operations

Category

Excellence in Transport Data Award

Submitting Organisation

University of Melbourne

Collaborating Partners

iMOVE, ITS Australia, Victoria Department of Transport and Planning, Queensland Department of Transport and Main Roads, Transport for NSW, Main Roads Western Australia, Compass IoT, See.Sense, Transport Accident Commission of Victoria (TAC)

This groundbreaking project represents a significant leap forward in urban traffic management through the innovative use of big data and emerging technologies. By integrating real-time data from connected vehicles and bicycles with traditional traffic systems, the project has set a new standard in enhancing traffic efficiency, safety and sustainability.

At the heart of this project is its pioneering approach to harnessing real-time GPS and telematics data, which surpasses conventional traffic management methods reliant on fixed-location sensors. The project's integration of connected vehicle and bicycle data with advanced analytics techniques, such as deep reinforcement learning and data fusion, offers unprecedented insights into traffic dynamics. This innovative framework not only optimises signal control and improves intersection efficiency but also enhances safety for vulnerable road users and reduces emissions.

The project has demonstrated measurable benefits, including a 10-15% reduction in travel times and queue lengths and a 5-10% increase in throughput for pedestrians and public transport. It has also significantly improved conflict prediction accuracy, identified high-risk locations and provided detailed emission estimates, contributing to a cleaner, greener urban environment. The methodologies developed are highly transferable, adaptable to various urban settings globally and poised to influence future advancements in Intelligent Transportation Systems. The project's focus on real-time, big data and its application to both traditional and emerging transport technologies exemplify a forward-thinking approach that will continue to benefit society by setting new standards for traffic management and sustainability. This project's innovative use of big data and emerging technologies makes it a standout candidate for the ITS Australia Award for Excellence in Data, reflecting its potential to shape the future of urban mobility and transport technology.





itsaustralia Mobility 2025

15–16 May 2025
Swissotel Hotel
Sydney/Warrane



ITS Australia's Mobility 2025 conference is the leading forum for experts and innovators from Australia's growing mobility sector to engage on the critical issues that will shape our transport landscape in the years to come.

Over two days, the conference will examine a range of fascinating topics including sustainable transport, on-demand and active transport, smart payments and seamless ticketing, energy transition and grid management, accessible and inclusive transport, and more.

PROGRAM TOPICS

- Payments and Ticketing
- Sustainable Transport
- Mobility Pilots, Trials, Early Deployments
- Active Transport and Micro Mobility
- Seamless Journeys
- Customer Insights
- Data Enhancing Mobility
- OnDemand Mobility
- Regional and Outer Urban Transport
- International Case Studies
- Inclusive Transport
- Parking Technology
- Platforms, Policies, Governance



Revolutionising Traffic Incident Detection with Video Analytics and Deep Learning

Category

Intelligent Mobility Award

Submitting Organisation

Transurban and Citilog (joint venture)

Transurban's Automatic Incident Detection (AID) system provides technology-based situational awareness for our Traffic Control Room Operators (TCROs), that supplements more traditional 'eyes on the road' video surveillance method and optimises road user safety. However, as is typical of video-based analytics, the impact of extreme environmental conditions (e.g. heavy rain or fog.) in open road applications can significantly impact performance.

In 2023, TCROs in Transurban's CityLink traffic control room diligently responded to nearly half a million AID alarms, including many false alarms. Aware of the material increase in telemetry devices when onboarding the West Gate Tunnel (WGT) in 2025, a business case was raised to pursue performance optimisation through application of Citilog's deep learning capability. Deep learning is a type of machine learning and acts as an additional software layer between the AID camera and the TCRO Control System Interface that analyses each alarm raised and filters out false alarms, allowing true alarms to pass through to TCROs. The initiative was meticulously planned and implemented quickly.



The outcome has exceeded expectations and resulted in a step change to TCRO workload and efficiency, including:

- 65% reduction in the total number of AID alarms; and
- 98% of false AID alarms (more than 8,000 per week) are now correctly filtered out.

This initiative has demonstrated the effectiveness of state-of-the-art neural networks and deep learning capabilities, which can be utilised by other open road assets as traffic and subsequent alarm volumes continue to increase.

In anticipation of the increased operator workload required when the West Gate Tunnel is onboarded in 2025, performance optimisation was achieved through innovative application of deep learning capability in the Citilog AID System.

Reimagining Transport: A Vision Setting Paradigm with Strategy to Street

Category

Intelligent Mobility Award

Submitting Organisation

GHD

Enabling mode-shift is a fundamental requirement of our future transport networks. More of the same is not a feasible solution. Yet, many of our existing modelling and prediction methods start from our current state and extrapolate forward. By doing so, we are unintentionally ignoring the populations that matter the most. As we strive for sustainable transport, our current methods are simply insufficient. To achieve meaningful progress, we must rethink our approach to planning and designing transport systems.

The most fundamental part of any transformative journey is a strong, clear, collective vision. We have designed a process which enables us to set that vision. GHD have been learning from global case studies as well as listening to our clients to revolutionise traditional process and to develop a tool to support the necessary paradigm shift. The result being our Strategy to Street modelling methodology; an innovative approach to urban transport planning that focuses on achieving a strategic vision for transport systems. Unlike traditional methods, S2S asks, "If we want to achieve our vision, what must we change?" rather than "If we make a change, what might we achieve?"

Key components of the methodology include:

1. Identifying desired behaviours and the supporting network configuration.
2. Combining human needs and place characteristics with existing networks.
3. Creating a cohesive vision that integrates all transport modes for a sustainable future.

By using readily available data and focusing on a people-centric model, Strategy to Street minimises the reliance on extensive data collection while delivering valuable insights. This innovative approach accelerates the development of a more inclusive, efficient and sustainable transport system. GHD's Strategy to Street exemplifies a commitment to reimagining transport planning, paving the way for a future that balances innovation with sustainability and inclusivity.



See Me: Bus Signalling App

Category

Intelligent Mobility Award

Submitting Organisation

SAGE Automation

The See Me: Bus Signalling app is revolutionising public transport by enhancing accessibility for the vision impaired and disabled community. Developed by SAGE Automation Programmer Cassie Hames, who is legally blind, the app reflects a deep understanding of the challenges faced by passengers with a disability.

Originally designed for the vision impaired, the app enhances the passenger experience for seniors, individuals with hearing impairments or mobility issues, those with invisible disabilities and wheelchair users. It is also beneficial for tourists and those who do not frequently use public transport. On submitting a request to hail a bus, "See Me" provides real-time alerts to both passengers and drivers, ensuring that no one is left behind. Passengers can also request assistance, prompting the driver to pull in closer to the curb providing for a safer boarding and alighting experience. The app provides spoken, visual and haptic notifications to inform passengers of their journey progress. This innovative solution not only bridges the gap between technology and user needs but also fosters a more inclusive society.

It has been successfully trialled on 18 routes in three Australian states, with the Department for Infrastructure and Transport in South Australia, Translink in Queensland and Transport for New South Wales in Port Macquarie. The results from these trials have clearly demonstrated its effectiveness and adaptability for wider use on trains, trams and ferries and the potential to be replicated worldwide. Feedback from trial participants shows that those who don't typically use public transport now feel comfortable doing so with the app's assistance. The app is available for Android and iOS users, meaning transport users can quickly download and begin using the application with no fee.



Empowering Communities: SkedGo's Catch-a-Ride – Accessible Mobility for Underserved Areas

Category

Intelligent Mobility Award

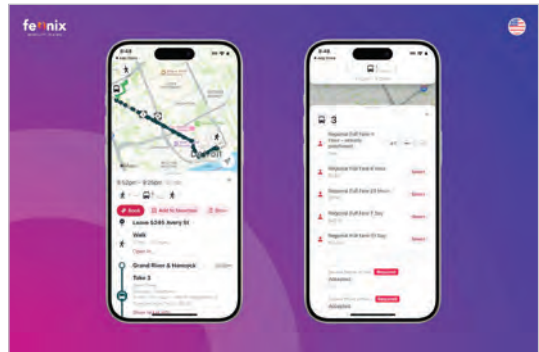
Submitting Organisation

SkedGo

SkedGo's Catch-a-Ride platform is an innovative mobility solution designed to address the transportation challenges faced by underserved rural and suburban communities. These areas often suffer from limited transport options, which can exacerbate poverty, restrict job access and lower the overall quality of life. Catch-a-Ride integrates various local transport modes into a single, user-friendly app, significantly improving access to essential services and employment opportunities.

By leveraging Australian technology, this project delivers a scalable, inclusive mobility solution that benefits communities worldwide. The platform not only enhances transport efficiency and safety but also reduces environmental impact. By optimising route planning and minimising wait times, Catch-a-Ride ensures safer and more reliable travel experiences, contributing to a healthier community environment. The app is designed with accessibility in mind, featuring tools that assist users with disabilities, ensuring that everyone can navigate it with ease.

By June 2024, it has facilitated over 10,000 trips, highlighting its effectiveness and impact. Catch-a-Ride's durability lies in its scalability and adaptability, allowing it to grow with the needs of the community. It can onboard both large transport service providers and small, local operators, including volunteer drivers and local bus services, ensuring long-term sustainability and continued relevance. The platform's modular design also allows for easy customisation, making it transferable to other regions and applications, from rural to urban settings. By integrating diverse transport modes into a single accessible interface, SkedGo's technology sets a new standard for inclusive, scalable and sustainable mobility solutions, making a lasting social, economic and environmental impact, which can be applied globally.



Safer Public Transportation in Melbourne with “Push to Communicate”

Category

Intelligent Mobility Award

Submitting Organisation

Consat Telematics

Collaborating Partners

Ventura Bus Lines



In early 2023, the “Push To Communicate” project, a partnership between Ventura and Consat Telematics, successfully transformed Melbourne’s public transport system. This project aimed to upgrade communication support for over 600 buses in Ventura’s fleet, addressing the urgent need to replace the outdated digital two-way radio system. The legacy system, which had reached the end of its lifecycle, required a modern solution to meet the growing demands of daily operations, live CCTV, fleet management, passenger information and electromobility support.

This all-in-one solution combines real-time vehicle tracking, traffic management, fleet management, electromobility and push-to-communicate features. It enables seamless operational communication, such as contacting drivers who are running late or early, while also enhancing safety. Remarkably, within three weeks of signing the contract, the first bus was installed and fully connected to the new system. The project provided Ventura with a comprehensive communication network that ensures fast, reliable and clear communication across its entire fleet. The benefits of this project are significant. The solution enables efficient operational management, whilst ensuring reliable services for passengers.

Safety improvements benefit not just passengers but also drivers. Ventura uses these enhancements to attract and retain bus drivers, offering a safer and easier-to-operate environment. This project has also elevated Ventura’s standing in the industry, positioning it as a leader in public transport technology in Australia. By delivering a safer, more efficient service, Ventura has strengthened its appeal as the operator of choice for bus drivers and passengers alike. The “Push To Communicate” project is a clear example of how innovation and collaboration can drive success in public transportation, setting a new standard for the industry.

Customised Traveller Information Interactive Voice Recording and Telephony System Uplift

Category

Intelligent Mobility Award

Submitting Organisation

Queensland Government, Department of Transport and Main Roads

Imagine. You've pulled off the road because something has fallen from the back of the truck in front of you. You could keep driving yourself, but you want to do the right thing. You know the number to call because it's on the signs along the road. Calling 13 19 40 gets you to the Department of Transport and Main Roads traffic management centre to report the problem. Or, let's say you just want to get an update on any events on the roads ahead of you before you set off on a long trip. But as you dial the number and the electronic voices begin, you're pessimistic of your chances of getting the information you need or getting to speak to anyone, let alone someone who can help you. Well, the 131940 service modernisation project had you in mind.

The project had two components. The Interactive Voice Recognition (IVR) system on our phone system effectively triages phone calls to our 13 19 40 traveller information phone service. You can get road event information tailored to your location. Or, if you need to speak to someone, recent work to upgrade the phone service used by the Traffic Management Centres (TMC) state-wide to Genesys in the cloud. This means TMCs around the state, including the Brisbane Metropolitan Traffic Management Centre are all on the same telephony system. This means that your call will get to the right place quickly and enables staff all over the state to talk to you, work the problem and find solutions to keep everyone moving. The programmed information on the IVR also means you can often get what you want without needing to talk to someone. This means the Department of Transport and Main Roads can make those people available to do other important tasks.



Department of Transport and Main Roads



Keen to be part of Queensland's transport future?

At the Department of Transport and Main Roads, we are dedicated to building a diverse, inclusive, and supported team that delivers great outcomes for the communities we serve. Our graduate program provides tailored professional development, with a technical program of work and exposure to a wide variety of projects across the Queensland landscape.

Discover the opportunities available through all our early career entry pathways at: www.tmr.qld.gov.au/about-us/employment-and-careers.

Intelligent Transport Systems (ITS) Australia Woman of the Year Dr Miranda Blogg

The department is thrilled to congratulate our very own Dr Miranda Blogg as the inaugural recipient of the ITS Australia Woman of the Year Award. This accolade is a testament to Miranda's expertise, dedication and leadership in delivering transformative technologies, including the Connected and Automated Vehicle Initiative.



**Queensland
Government**

Transport for NSW Level Crossing Technology Trial

Category

Smart Transport Infrastructure Award

Submitting Organisation

Transport for NSW

Collaborating Partners

ARTC, SAGE Automation, Narromine Shire Council, Weddin Shire Council

A trial of new radar-activated LED stop signs and advance warning signs, designed to increase motorist awareness of the level crossing and its risk, is underway in three regional NSW locations. Level crossing crashes between trains and road vehicles are a major safety risk. From 2001-2021, there were 164 crashes at level crossings between trains and road vehicles in NSW, 16 fatalities and 26 serious injuries. In NSW almost 860 public roads level crossings have a stop or give way sign control. A petition by Maddie Bott following the tragic deaths of her fiancé, Ethan Hunter, 27 and his friend Mark Fenton, 50, at a passively controlled level crossing gathered over 21,000 signatures. The petition to NSW Parliament in 2021, called for all level crossings to be made safer, including making warning lights mandatory.

The Level Crossing Technology Trial is designed to improve safety at railway level crossings by improving driver awareness of the level crossing and its stop sign, tackling a worldwide safety problem using cost-effective, off-grid technologies.



The trial radar-activated LED signs are designed to boost level crossing visibility for motorists:

- Advance Warning Sign – orange ‘wig wag’ lights flash if an approaching motorist is not slowing down to prepare to stop at the level crossing.
- Augmented Stop Sign – augmented stop signs have LED red lights constantly illuminated in daylight to increase driver awareness of the stop sign at the level crossing.

Lights flash during daylight if an approaching motorist is not slowing down to prepare to stop at the level crossing. The Augmented Stop Sign and Advance Warning Signs are solar and battery powered to provide resilience in regional conditions. Led by Transport for NSW, the project has been developed with ARTC, Narromine and Weddin Shire Council, SAGE Automation, ONRSR, RISSB and other stakeholders.

WestConnex Integrated OMCS at Australia's Most Advanced Road Motorway Control Centre

Category

Smart Transport Infrastructure Award

Submitting Organisation

SICE

Collaborating Partners

Transurban

The WestConnex Tunnels are one of Australia's most significant infrastructure achievements. They were designed to improve transport connectivity and reduce traffic congestion in Sydney. This ambitious project, delivered in four stages, involved constructing a network of tunnels and motorways that connect various parts of the city, providing faster and more efficient travel for commuters.

SICE played a pivotal role in the success of WestConnex, particularly in designing and integrating the Integrated Operations and Management Control System (IOMCS). This advanced control system manages each tunnel section's independent OMCSs from a centralised control room, making it the most sophisticated road control system in Australia. The IOMCS oversees the operation of over 36,000 devices across the tunnel network, including 1,914 Driver Advisory Signs, 511 jet fans and 2,227 emergency phones. Its scalable and expandable architecture can manage up to two additional road tunnels and support up to six OMCS (Tunnel) systems. At the heart of the IOMCS is a 15.5m x 5.2m video wall, which receives input from over 2,400 CCTV cameras and Automatic Vehicle Incident Detection systems along the motorway. This setup enables operators to monitor vehicle and system activities 24/7, ensuring smarter, safer and more reliable journeys for drivers.

Powered by SIDERA, SICE's state-of-the-art SCADA solution, the system streamlines incident coordination and maintenance activities. As the first of its kind in Australia, the IOMCS provides a unified, efficient solution for managing all assets from a single location. Its architecture offers a unified Graphic User Interface (GUI) with fully integrated incident management, traffic management and ventilation and fire systems, setting new standards in tunnel operations. This project exemplifies the collaborative efforts of SICE and Transurban to advance transport technology in Australia.



Australian-First Tech Gives Overheight Trucks a Real-Time Reality Check

Category

Smart Transport Infrastructure Award

Submitting Organisation

Transport for NSW

State-of the art sensor technology is being trialled in Sydney that scans trucks in real time and use connected warning signage to divert drivers of overheight vehicles from their routes before causing traffic headaches for motorists. The trial is part of the NSW Government's ongoing crusade to reduce disruption from overheight incidents that has seen tunnel closure minutes in the Sydney Harbour Tunnel cut by 80 per cent. The automatic system will give drivers an accurate real-time height reading on their vehicle, giving heavy vehicle drivers time to change their route to avoid dangerous tunnel incidents that can cause system wide disruptions to Sydney's Road network and damage to critical infrastructure.



In an Australian first, Transport for NSW has combined the Light Detection and Ranging (LiDAR) scanning technology with Automatic Number Plate Recognition (ANPR) software. The six-month trial will see trucks taller than four meters scanned as they pass under the sensor and their height and number plate information will be gathered and instantaneously displayed to drivers on the overhead Variable Message Sign (VMS). The first site is now live on the southbound lanes of the M1 Pacific Motorway at the Mount White Heavy Vehicle Safety Station which is operated by the National Heavy Vehicle Regulator (NHVR).

This Australian-first scanning technology takes the guesswork out of load heights with real-time accurate calculations that allow drivers to act immediately and head off overheight incidents. Responding to overheight incidents comes at a huge resource and productivity cost – not to mention resulting delays and damage. Following the conclusion of the taskforce's successful approach, Transport is taking the learnings forward to ensure our road network is safe, efficient and reliable. We're starting at Mount White but aim to eventually roll out this new technology to all key heavy vehicle routes entering Sydney.

Dynamic Directional Signage (DDS) Technology

Category

Smart Transport Infrastructure Award

Submitting Organisation

CPB Contractors & DT Infrastructure
(Joint Venture)

The Dynamic Directional Signage (DDS) technology, implemented as part of the Warringah Freeway Upgrade Project in Sydney, represents a groundbreaking advancement in Australian transport infrastructure. This innovative system, never before used on state roads in Australia, has revolutionised traffic management on one of the country's busiest motorways, offering unique control and flexibility. Developed through a collaboration between DT Infrastructure, CPB Contractors and industry partners, the DDS technology provides intelligent traffic control and real-time driver communication. The system can direct up to 250,000 vehicles daily, offering interactive messaging for enhanced driver awareness and safety, while adapting to changing traffic conditions in real-time.

Key features of the DDS technology include:

- LED-based signage for reduced power consumption and greenhouse gas emissions, contributing to environmental sustainability
- Seamless integration with existing and future Transport systems, ensuring long-term viability
- Customisable technology platforms adaptable to other motorway systems, promoting scalability across diverse road networks
- Flexible traffic management capabilities surpassing traditional static signage, enabling dynamic responses to traffic incidents.



The implementation of DDS technology aims to improve the efficiency and safety of the Warringah Freeway. Its durability and adaptability ensure a lasting impact on Australian transport infrastructure, with the potential for widespread application across various road networks, from urban corridors to regional highways. This innovative solution demonstrates Australia's commitment to developing smart, sustainable and safe transportation systems for the future. The DDS technology sets a new standard in traffic management, paving the way for improved road safety and efficient traffic flow across the nation, while positioning Australia as a leader in intelligent transport solutions.

Main Roads Regional Flood Monitoring System

Category

Smart Transport Infrastructure Award

Submitting Organisation

Main Roads Western Australia

Collaborating Partners

Attentis, Telstra

Main Roads Western Australia in collaboration with Attentis and Telstra have installed an environment monitoring solution with flood monitoring functionality, live video streaming capability and diverse communications connectivity capabilities. The network uses Attentis Intelligent Multi-sensor devices which have integrated visual and infrared cameras, multiple floodway water level measurement capabilities and live weather compliant with the Bureau of Meteorology. The device ensures communication to the Network Operations Centre is reliable in remote areas using multiple communications protocols and services, including satellite communication and provides live image verification in remote areas of Western Australia. Telstra are the preferred delivery partner for the Attentis Intelligent Sensor product and have demonstrated experience and capability in deploying, maintaining and operating technology and infrastructure in regional WA.



This system provides the following key benefits:

- Faster more transparent decision making for road closures and opening.
- Reduced OSH risk to network inspectors.
- Collection of floodway depth (and potentially flow) data which over time will be a valuable resource to inform future asset upgrade decisions.
- Provide visual verification and real-time situational awareness at each site.
- Forms part of a future intelligent transport system to support all road users through access to live and real-time information to support improved decision making, reduced risk, greater understanding of access routes for transport and increased community and public safety.

The system's performance and operational capability will support regional operations and management of flood events impacting the road network. The Main Roads WA real-time flood monitoring network is a key element in the creation of future intelligent transport systems, providing localised information, prediction, 24-hour situational awareness and live visual access to multiple locations to view impacts and events supporting rapid, informed and critical decision making.

itsaustralia

Roads, Tolling & Tech 2025

10–11 April 2025

Rydges Hotel

Melbourne / Naarm

Australia leads in pioneering technologies across road operations. As the demand for infrastructure and software grows, ITS Australia's Roads, Tolling & Tech 2025 conference provides a hub for industry leaders to forge partnerships and gain insights. Explore themes like smart infrastructure, international perspectives, network optimisation, future tolling, and more. Join us for a conference that broadens horizons and connects you with the latest in road operations and technology.

PROGRAM TOPICS

- Major Project Updates
- Telematics
- Data Sharing
- Trusted Data, Security and Privacy
- Sustainable Smart Infrastructure
- Future Vehicles
- Charging Infrastructure
- Digital Transport
- Tolling and Transport Pricing
- Cooperative Networks and Communication
- Safety, Resilience and Sustainability
- Technology Innovations
- International Perspectives and Case Studies
- Curb Side Management, Payments and Parking
- Drones, Logistics and Freight
- Roadworks and Traffic Management
- Sustainable and Socially Responsible Procurement



Policy, Advocacy and Research

ITS Australia is currently involved in four concurrent research projects, collectively partnering with more than 20 state and federal government agencies across the country.

Two research projects are wrapping up with final reports to be released imminently:

Integrated Connected Data for Safer, More Efficient Traffic Management Operations

This world-leading project, led by a multi-party government examined untapped data sources with the potential to revolutionise transport management. The project has identified significant opportunities for traffic managers to use existing data to improve road networks including reducing traffic delay at intersections, public transport signal priority, better use of signal control and variable speed limit and many more. These are real world opportunities that can be used on our roads today to improve traffic flow and reduce congestion.



Guidance for Accessible EV Charging Infrastructure

Led by Austroads, iMOVE Australia and La Trobe University this project will deliver refreshed accessibility guidance for Low and Zero Emission Vehicle charging infrastructure to support people with disability. Under the guiding principle that EV charging should be a positive for all users, including people with disabilities and older people, the guidance is regularly updated to aid road managers, and to prompt consideration of issues relating to planning and design.



We were excited to join two new research project teams in 2024:

C-ITS National Harmonisation and Pre-Deployment

This groundbreaking new national research project involving the federal government, and our five largest states, aims to achieve a harmonised national approach to C-ITS deployment in Australia – crucial if the proven safety benefits of C-ITS technology are to be realised. The project centres around deploying C-ITS around 30 intersections across five key corridors in the inner suburbs of Melbourne. This rollout of C-ITS at scale in a real-world busy urban environment will allow assessment of benefits, deployment considerations and options, and provide recommendations that could support Australian road authorities' adoption of C-ITS in a nationally harmonised manner.



Behavioural Change for Sustainable Transport

This iMOVE project involves the University of Sydney and the Federal and Queensland Governments. This research aims to uncover attitudes and actions most likely to deliver actual change to a more sustainable transport system. It will make recommendations for policy-makers and operators to expedite those changes as well as investigating the economic impacts to deliver more sustainable transport initiatives.



INDEX

Advanced Mobility Analytics Group	30
Citilog	37
Consat Telematics	41
CPB Contractors	47
Deloitte	28
DT Infrastructure	47
Fleetweigh Pty Ltd	23
Footpath.ai	32
GHD	38
Lexus Australia	16
Main Roads Western Australia	18, 22, 31, 48
NetBI	29
Queensland Government, Department of Transport and Main Roads	42
SAGE Automation	39
SICE	45
SkedGo	40
Structural Health Monitoring Pty Ltd	24
Tasmanian Government of State Growth	17
The University of Queensland	20
Traffic Tech	25
Transport for NSW	27, 44, 46
Transurban	33, 45
University of Melbourne	34
UNSW Sydney	21



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ACKNOWLEDGEMENT OF COUNTRY

ITS Australia acknowledges the Whadjuk Nyoongar people as the Traditional Owners of the lands and waters where Perth city is situated today and where the 15th Annual ITS Australia Awards are being hosted in 2025 and pay our respect to Elders past and present.