

Project Report

Braking Habits

Capturing the process, outputs, lessons learnt and potential future opportunities from the Braking Habits project

The Australian Livestock and Rural Transporters Association would like to thank everyone who contributed to this project, it takes a community to drive industry safety.

In particular, we would like to thank:

- Our case study businesses, Betts Transport, Frasers Livestock Transport, Hawkins Transport and Edmonds Transport for providing fantastic access to the leadership teams, drivers and workshops.
- Air Brake Systems for their generous support across nearly every facet of the project. The ABS team was tremendously generous with their contributions of brake system knowledge and troubleshooting

- The National Heavy Vehicle Regulator and the Commonwealth Government, without their support via the Heavy Vehicle Safety Initiative, this project would not have been possible
- The National Truck Accident Research Centre for its data insights and technical support across the project
- The National Road Safety Partnership Project for their graphic design, communications and marketing contributions

Finally, we would like to thank our member associations, their members and the entire Australian livestock and rural transport industry for their support, passion and work ethic.

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Foreword

From the desk of the Executive Director

The braking habits project was conceived in December 2021 during the tenure of Mathew Munro as ALRTA Executive Director, despite the passage of three and a half years the project is perhaps more relevant and valuable today than it was when commenced.

The project's ultimate objective, to reduce rollover crashes, aligns strongly to the livestock industry's commitment to get both it's people and it's living cargo to their respective destinations with the highest levels of safety.



It is fair to say that the livestock transport industry has had a complex and at times challenging relationship with smart braking technology. Rather than shy away from these issues, this project chose to acknowledge and embrace those difficulties.

This approach, combined with a focus on grass roots, industry-led resources delivered by and for the people with dirt and grease under their fingernails has delivered a package of resources which are an asset to the entire industry and speak volumes about the passion and commitment of everyone involved in the project.

Already we have seen industry grab these resources, utilise them and critically to continue to develop the conversation above and beyond this project's resources. This living and breathing industry-wide discussion around how to get the best from smart braking systems is simultaneously delivering on the project team's objectives while exceeding even their most optimistic hopes for the project's reach and impact.

Through and beyond this project, together we can deliver on our shared mission to make every trip a safe one.

-Anthony Boyle

Project Summary

The braking habits project was initially conceived as a project to extract data from Electronic Braking Systems (EBS) to determine a baseline level of Electronic Stability Control (ESC) events for drivers. A program of training would be run and then the level of events would be monitored to identify any change in ESC events. In parallel, that process would be used to create guidance for other livestock fleets looking to extract and utilise the data.

In practice, low levels of in-service EBS reliability made the original project concept unviable, the project instead pivoted to supporting the participating fleets to improve the reliability of EBS. This approach utilised contemporary change management practices and focussed most heavily on the early stages of change, being awareness and desire.

Working from the lived experiences and challenges of drivers, workshop staff and operations managers, the project built resources to support each groups specific needs and delivered them in the voice of their target audience.

The final project package included technical guides, case studies, a toolbox talk kit, multiple conference presentations, a webinar, driver coaching guides, posters and social media tiles. This comprehensive approach ensures that the message is taken to its target stakeholders and when it reaches them, that there is depth their to meet their expectations.

The project resources are freely available via the ALRTA website at:

<https://alrta.org.au/braking-habits/>





Project Methodology

Original Concept

As originally conceived, the project methodology was the engage with two to three livestock transport fleets which already had some portion of their equipment fitted with EBS. The project team would support the fleets' workshop personnel to connect to the EBS and download the data logs.

The fleets' operations staff would then be supported to interrogate the EBS data and this data would be used to develop a baseline level of ESC interventions. The project team would then support the fleet to deliver driver training around reducing ESC interventions and in turn, reducing rollover risk.

Following a sufficient window of time, further EBS downloads would be undertaken to assess the effectiveness of the training in reducing ESC interventions. All of this process would be documented, providing resources to support broader uptake of this approach across the livestock transport industry.

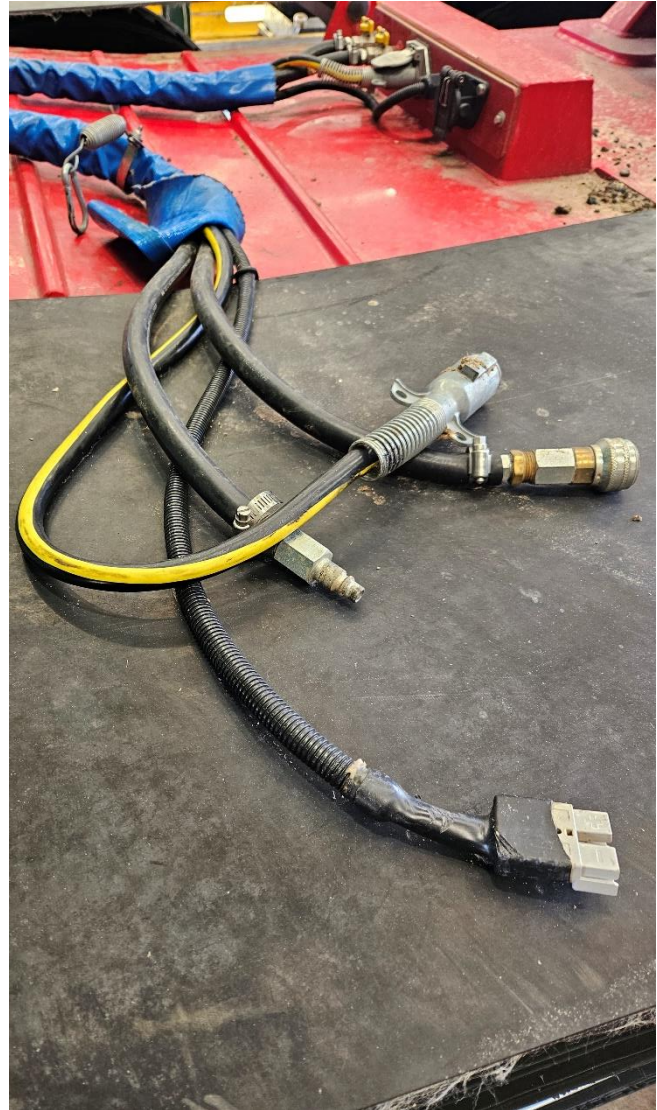
Practical Challenges

Recruitment of fleets proved to be more difficult than anticipated, with Frasers Livestock Transport signing on early however a number of other fleets indicated some interest however engagement with the project took a back seat to day-to-day operational demands.

While efforts toward the recruitment of additional fleets continued, initial project activities were commenced with Frasers. They demonstrated the highest levels of commitment to the project, bringing all of the workshop staff from across their three workshop locations to Warwick for training around EBS systems delivered by Air Brake System's technical expert Shane Pendergast.

Through this training and follow-up sessions, it was discovered that the frequency of EBS-system issues meant that there was not a sufficiently large pool of pre-existing data off which to baseline driver ESC intervention frequency.

Discussions with prospective project participant fleets revealed low levels of understanding of 'smart' braking systems among senior managers within livestock transport businesses. Many potential participants did not have a clear understanding of the different functions and features and almost all were previously unaware that the systems created data around their status and interventions.



A shift in focus

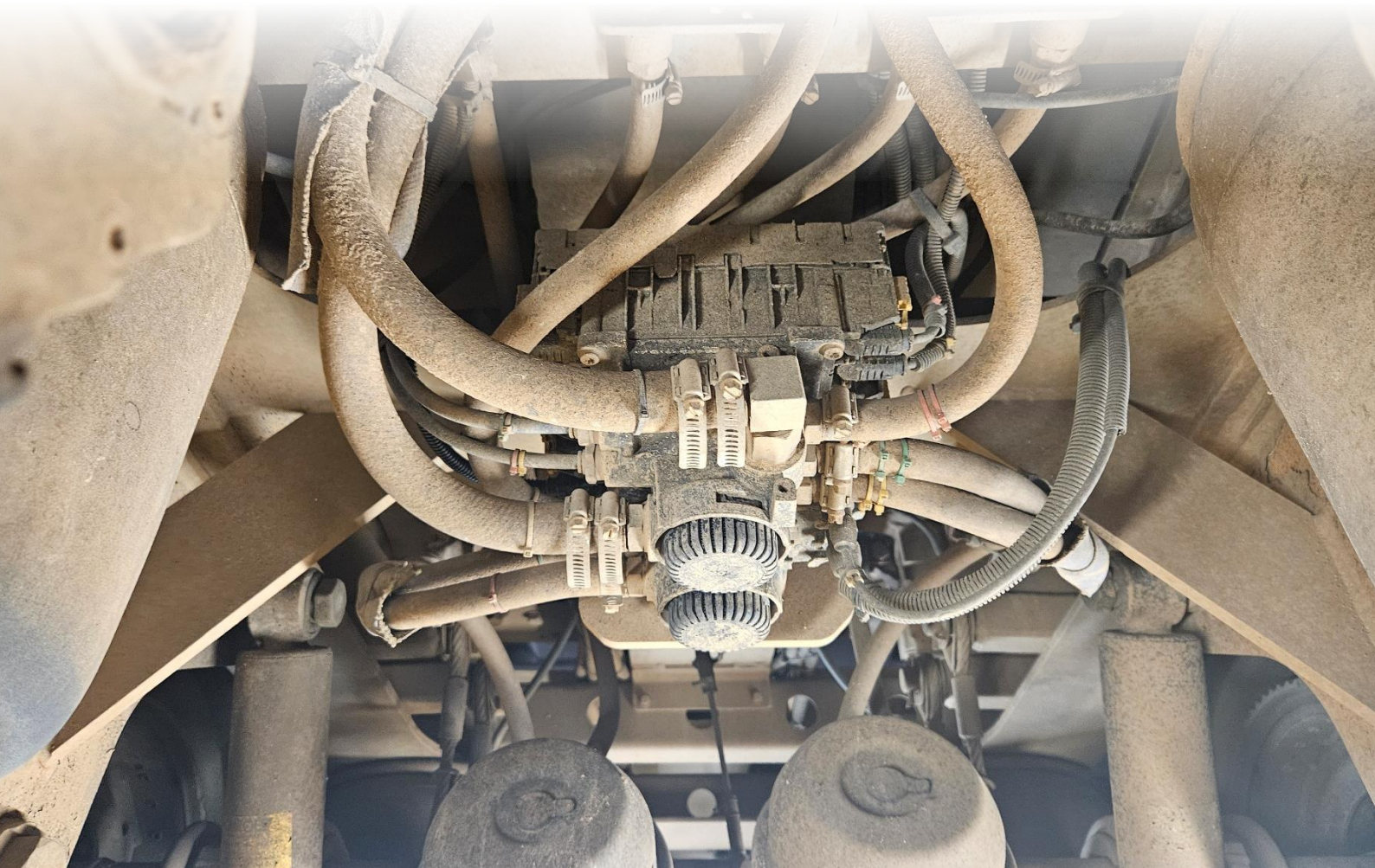
Taking those learnings on board, rather than force the world to adapt to the intended methodology, instead the project team regrouped and elected to shift the focus on the project. If the industry had not yet been provided with information around the operation of smart braking systems, then the logical approach was to make that the focus on the project.

The new approach included a strong emphasis on listening, both to what the various stakeholder groups had to say, but also looking out for what was missing. Those things which you would expect to hear from a stakeholder who had a given level of knowledge but which was absent in discussion with the particular stakeholder.

This process informed the project team on what the project's target audiences understood, what was typical of the prior experiences with EBS and what issues were seen supported and which were putting stakeholders offside.

Once this stakeholder research was completed, the project team identified key themes, issues and opportunities. Among these were a lack of understanding of the core technologies, a frustration with the seemingly unlimited range of acronyms and a lack of desire, nobody had communicated to them why they should want these technologies.

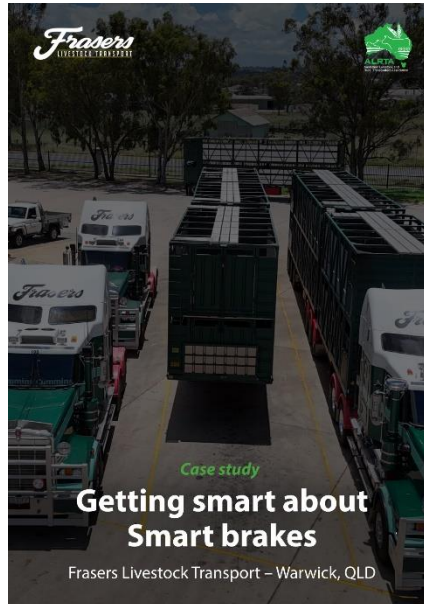
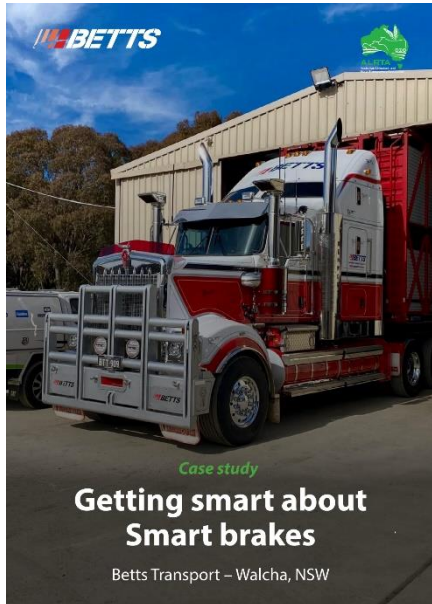
These themes were then used to develop a content plan for the content development phase of the project.



Project Outputs

Case Studies

The project case studies were developed to share the experiences of recognised industry players, sharing their challenges, learning and leaning on their credibility to encourage other industry players



to engage with the materials.

The project content plan originally called for two case studies, featuring Betts Transport from Walcha, NSW and Frasers Livestock Transport from Warwick, Qld.

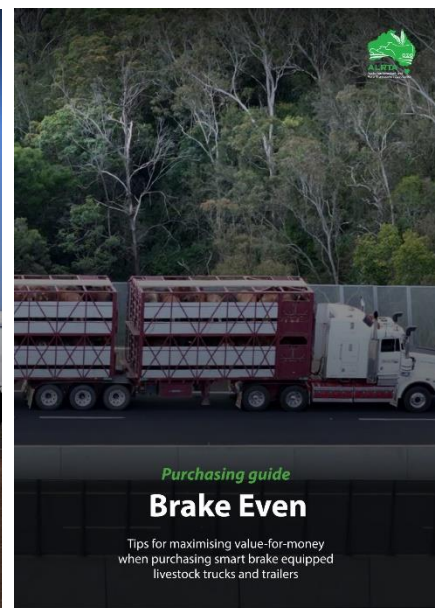
During the initial roll-out of the project materials to industry, further opportunities for case studies were identified and additional case

studies are currently under development featuring Hawkins Livestock Transport from Moama, NSW and Edmonds Livestock Transport from Naracoorte, SA.

Technical guides

Unquestionably the foundation underpinning the project outputs is the braking habits guide, it provides an introduction to the technologies, outlines the benefits, challenges and the strategies needed to address them.

It is supported by a purchasing guide to support livestock carriers when they're acquiring fleet equipment.

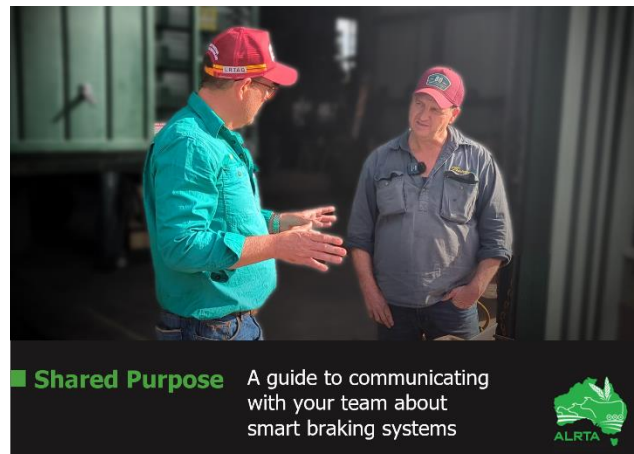


Driver Coaching Guide

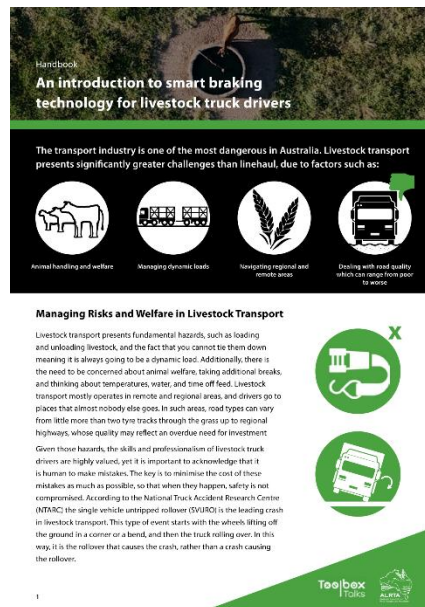
Through the consultation phase, drivers identified that management were often not effective at communicating why decisions were made, including but not limited to decisions around technology.

Additionally, they flagged concerns over how feedback from technology was provided by managers.

This guide aims to support managers to more effectively engage with their team when talking about smart braking systems.



Toolbox Talk Kit



Building on the widely-recognised Toolbox Talk kit format developed by the National Road Safety Partnership Program, this kit aims to support managers of drivers to run engaging and effective toolbox talks for their team.

The material includes a facilitators guide, a presentation deck and a guide for participants.


Topics covered include the context and causes of rollover crashes in livestock transport, explanations of the various technologies and their benefits and a discussion of the data the systems create.



Social Tiles

A social media promotional campaign deck was generated consisting of six tile pairs, each introducing and then explaining a key topic from the project and driving stakeholders to the project website landing page.






What's stopping you?

(ABS) **Anti-Lock Braking Systems**


Keep your tyres turning, not smoking.




(ABS) **Anti-Lock Braking Systems**

- Eliminate wheel lock-up.
- Maintain directional control under braking.
- Avoid trailer swing.
- Reduce tyre flat spot damage.


Visit alrta.org.au for more information.

What's stopping you?

(EBS) **Electronic Braking Systems**

Brake at the speed of light.




(EBS) **Electronic Braking Systems**

- Reduce brake delay
- More equal braking across multiple trailers.
- Enable electronic load sensing and brake proportioning

Visit alrta.org.au for more information.




What's stopping you?

(ESC) **Electronic Stability Control**

Keeping you shiny side up.




(ESC) **Electronic Stability Control**

- Detect imminent risk of a rollover event
- Apply brakes on outside wheels to stabilise your vehicle / combination
- Reduce rollover crashes

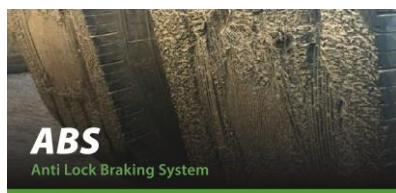
Visit alrta.org.au for more information.



Posters

Intending to support the 'reinforcement' stage in the change journey and in particular intended to work hand-in-glove with the toolbox talk kit, six posters were developed explaining the key technologies and giving simple, actionable tips for various classes of stakeholders.

These are available digitally via the project website and a print run of hardcopy posters was undertaken for distribution via the ALRTA's member associations.



Function of ABS
Anti-lock braking systems (ABS) are designed to prevent wheels from locking up during braking. This helps maintain vehicle control and stability, especially in emergency situations or slippery surfaces.

When it matters most:

- Emergency braking
- Braking in low grip conditions such as rain or ice

How ABS works
By utilizing wheel speed sensors, these systems can detect when one or more wheels have stopped rotating. In such cases, ABS reduces the braking force momentarily, allowing the tyres to regain traction and resume rotating before reapplying the brakes.

Why should I want it?

- Directional stability during braking
- Prevention of flat-spotted tyres
- Reduced stopping distances

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Function of EBS
Electronic braking systems (EBS) improve braking by reducing response time, leading to shorter stopping distances and better stability. It also supports features like roll stability control and electronic load sensing.

When it matters most:

- Emergency braking
- With uneven axle loads

How EBS works
EBS uses an electronic signal alongside pneumatic controls to activate brakes simultaneously. Onboard processing and sensors ensure faster, more precise braking.

Why should I want it?

- Faster brake response
- All brakes apply at once
- Shorter stopping distances
- Support further smart braking

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Function of ESC
Electronic Stability Control (ESC) reduces the risk of losing control or rollover crashes. In trailers, it's known as Roll Stability Control, which stabilises the vehicle during instability.

When it matters most:

- On winding roads
- When your Centre-of-Gravity is high

How ESC works
ESC uses sensors like wheel speed and accelerometers to detect roll risks. For trailers, it applies brakes to maintain stability. In trucks and prime movers, additional inputs like steering angle and engine data allow throttle reduction to prevent rollovers without braking.

Why should I want it?

- Save truck drivers' lives
- Reduce road wear to rear-view mirrors

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- Make sure that the trailer ABS/EBS connecting cables are plugged in and latched into place on all connected units.
- Switch on the ignition and observe the ABS/EBS warning lamps. The trailer warning lamps should light up for approximately 2 seconds and then go out.
- If the trailer warning lamp does not switch on, perform a cycle test by turning the ignition key to the 'on' position and listening for the trailer ABS valves.
- They will audibly click in sequence if the power supply is present then the fault warning lamp or fuse needs to be reported. If there are no audible clicks, then the trailer ABS/EBS power supply must be checked and repaired.

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- If a driver reports an active ABS/EBS red warning lamp in the cab diagnosis, using a laptop with software for the appropriate brand of EBS system is required.
- Connect the EBS system to the diagnostic software and identify active faults via diagnostic memory tabs. Save the active fault codes as a PDF before clearing for record keeping.
- Clear all memory faults and save fault free PDF for record keeping. Red Active faults need resolving and repairing, once repaired save fault free memory log as a PDF for record keeping.
- Incorporate regular EBS diagnostic health checks as part of your standard service regime. Change your service job cards to include EBS checks.
- Only use OE quality cables, sockets, plugs and valves. What goes on and comes off the same original part must go back on it.

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- Ensure your new trailers has an EBS Data Label affixed to the side of the chassis rail - preferably LHS of the trailer.
- Ensure all connecting EBS plugs and sockets are in good working order and connecting cables have been supplied.
- Ensure your trailers have had an EBS system end of line test completed - require the test report at hand over of all new trailers.
- Ensure the new trailers have no active faults at time of delivery.

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Video

During the project, an opportunity arose to film some video content during a technology demonstration day with brake technology vendor Knorr Bremse. This was turned into a video featuring well known transport industry identity, Paul Fellows.

The video explores some of the myths around rollover crashes and smart braking technology and encourages the transport industry to re-examine these technologies and to share their experiences through their association relationships.



Industry Engagement

The project material was launched in April 2025 to coincide with the combined Livestock and Bulk Rural Carriers Association (LBRCA) / ALRTA 2025 National Rural Carriers Convention in Canberra. Since then, industry engagement has been supported by a number of engagements.

Conference presentations

As part of the project launch, the project team presented to the delegates at the National Rural Carriers Convention around the project. This has been supported by subsequent presentations at the Livestock and Rural Transporters Association of South Australia (LRTASA) and this will be complemented by a presentation at the upcoming Livestock and Rural Transporters Association of Victoria (LRTAV) conference in Shepparton in August 2025.



The Braking Habits project was also featured as part of a presentation session by project participant Adam Gibson (NTI Transport Research Manager) at the Australian Trucking Association's (ATA) Trucking Australia 2025 conference in Adelaide.

Webinar

Delivered in collaboration with the NRSP, the webinar on 26 June 2025 provided an opportunity to share the project materials with industry stakeholders, primarily focussed on safety and compliance managers but open to all attendees, the webinar saw a lot of great discussions during the Q&A portion.

Project resources

Awareness	Knowledge	Reinforcement

Future Opportunities

While the formal HVSI-funded project has concluded, the ALRTA believes that this project only marks the beginning of a re-examination of smart braking technology in the livestock transport industry. There are a number of areas that could be considered in future.

Technician Capacity Building

One recurring issue identified throughout the braking habits project was the difficulty in accessing sufficient technical expertise to install, maintain, troubleshoot and repair the systems. In many instances, fleets had to resort to transporting technical staff from interstate to undertake maintenance activities, which has obvious cost and scalability limits.

There is potential to run a series of training workshops in key transport hubs, these could be designed to include a range of technical personnel:

- Equipment manufacturer personnel
- Dealership technicians
- Fleet workshop technicians
- Independent heavy vehicle service providers
- Roadside/breakdown/recovery staff
- Heavy vehicle repairers

Technology Validation / Demonstration

Building on the Knorr Bremse technology demonstration day, there is an opportunity to develop a dedicated livestock technology validation unit. This would involve developing an appropriate proxy for cattle, some form of ballast which has the mobility and centre of gravity of cattle with no animal welfare issues.

This could be used both to develop and validate livestock specific system settings and to provide users with a safe and compelling demonstration of the technology in action in a scenario as close as practicable to their real world transport task.

EBS data as a driver feedback tool

With no small degree of irony, one potential piece of work which could follow on from this project is to deliver a project the same as or similar to the originally conceived scope of work for this project.

The vision here to position having a low frequency of ESC interventions as a badge of honour amongst livestock drivers. Something that both rewards low risk driving behaviour and increases the probability that the EBS will be maintained.



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