

## RESEARCH REPORT

### Trespass/“Self-Harm”

Current international practices in prevention of trespass and suicide / “self-harm” incidents on urban rail systems: Summary Report from Presentation Roadshow

Draft 1.6 (07/02/2019)



## Document Control Sheet

111 Alinga Street, Canberra City ACT 2601  PO Box 238 Civic Square ACT 2608 Australia  Phone: 02 6274 7525  www.acri.net.au	<b>Document Title:</b>	Summary Report – <i>PF14 – Trespass/“Self-Harm”</i>
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## Definitions and Acronyms

ACRI	Australasian Centre for Rail Innovation
CCTV	Closed-circuit Television
DHB	District Health Board
ONRSR	Office of the National Rail Safety Regulator

## Disclosure Restrictions

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## Executive Summary

This summary report is the second and final report from an ACRI research project examining current practices in the prevention of trespass and suicide on urban rail systems. The implications of train-pedestrian fatalities on railways is apparent. Beyond the tragic loss of human life, they impact the health and wellness of those affected, causing trauma and work-related stress to rail and recovery staff, as well as vicarious trauma to others. For the rail drivers, such events almost always necessitate sick leave and risk of acute and chronic health and wellness issues that affect return to work. In Australia and New Zealand, these experiences have been well-documented, and trauma resulting from the work environment is a known risk to the rail industry and needs to be managed effectively.

The key deliverables of the project comprised:

- 1) A report reviewing current international practices in the prevention of trespass and suicide / “self-harm” incidents on urban rail systems;
- 2) A presentation roadshow to disseminate literature findings to ACRI participants and create a forum for discussion; and
- 3) A brief report summarising discussions associated with participant presentations.

Having completed the literature review, which identified eleven core categories of control measure over a 10-year period (2008-2018), this final deliverable presents a summarised account of key topics discussed during audience feedback. A total of seven presentations were made as part of the roadshow from October to December in 2018. Six of these were delivered to audiences within host organisations (one in New Zealand and five in different Australian states). One presentation did not include audience feedback, but was instead presented during the AusRAIL 2018 conference in Canberra with the aim to share findings to a broader industry forum. Audience feedback was collected in a focus group design and included a total of 85 participants (55 males, 28 females; age range 24 to 66;  $M_{age} = 48.8y$ ).

Three preliminary themes emerged from thematic analysis, identifying practical and operational challenges in the prevention of trespass and suicide in the rail corridor. These themes (including their percentage of occurrence across the data) were: (1) Communication and Sharing of Information [59%]; (2) Cultural Considerations [27%]; and (3) Incident Response, Mitigation and Prevention (15%). Areas of insight for communications and sharing of information focussed on data collection practices, ‘hotspot’ recognition and response, and stakeholder collaboration, communication and support. Particular insights for culture considerations were associated with cultural change over time, differences between countries, organisational and driver culture, and public perceptions. Finally, core topics for incident response, mitigation and prevention included considerations for physical / built environmental design, monitoring and detection, operational staff recruitment, and strategic approaches to prevention.

A clear message to emerge from this research is that there is no simple fix to resolve the issue of railway trespass and suicide but rather, a combination of control measures yield the best results. The feedback from audiences in this summary report provides the first real tangible indication from an organisation managerial perspective of what a collective Australian and New Zealand rail industry perceives as the most substantive issues for rail-related trespass and suicide. The three themes and topic areas shed a spotlight on future directions.

## 1 Introduction

Train-pedestrian collisions have always been a critical issue for safe rail operations, but the risk has invariably grown in concert with the intensification of services and network traffic. Train-pedestrian collisions are now the leading cause of fatalities in rail accidents. In the EU, ~3,800 trespassing-related fatalities occur annually, ~3,000 of which are suspected suicide incidents representing 88% of all fatalities in the system (European Railway European Railway Agency, 2014). In Australia there have been estimates of ~200 trespassing-related fatalities occurring annually, ~150 of which are suspected suicide incidents (Jackson et al., 2017) whilst the Office of the National Rail Safety Regulator officially reported 87 incidents involving suspected suicide in 2017/18.

Train-pedestrian collision leading to fatalities carry significant implications. Beyond the human loss, they can cause trauma and work-related stress to the rail and recovery staff directly involved with such events almost always necessitating sick leave and additional health risks and wellness issues. The potential impact to the train driver and importance of providing psychological support post-incident has been acknowledged and well-documented in Europe and Australia (Cothereau et al., 2004, French, 2016). While pedestrian collision-risk represents just one of many contributing factors to work-related mental health disorders in train drivers, Safe Work Australia (Safe Work Australia, 2015) have now grouped train drivers with the likes of 1st responders, police services, paramedics, and fire-fighters, as one of the most at-risk occupations for work-related mental health disorders. Incidents of trespass and suicide may also cause trauma and discomfort vicariously to those who do not have to deal with it directly, for example passengers and eye witnesses. Trauma resulting from the work environment is a known risk of the rail industry and therefore needs to be managed effectively.

The act of trespassing can be understood based on the intention to suicide or to pursue nonfatal self-harm, but also applies to those who have no desire to harm themselves. Trespassing is therefore also characterised by illegally crossing the track (Silla and Luoma, 2011), and by walking or loitering along the tracks (Lobb et al., 2001) predominantly for the sake of taking shorter routes. Distinguishing the intent of the trespasser is important for advancing and developing preventative measures with research exploring the socio-environmental determinants of railway suicide (Too et al., 2014), and seeking to understand the behaviours of those involved in order to develop frameworks and inform pathways for mitigation (Ryan, 2017).

In Australia, the size of the country and federated states has engendered a highly bespoke and diverse rail industry, and train-pedestrian collision prevention practices may vary enormously. Thus, learnings may not be effectively shared between states and organisations, and operators may not be readily aware of international best practice.

### 1.1 Literature Review: Summary of Findings

A review of current international practices in the prevention of trespass and suicide / “self-harm” incidents on urban rail systems was undertaken and completed as part of the first phase in this project (Australasian Centre for Rail Innovation, 2019). Documents published in the ten-year period (2008-2018) were reviewed ( $n = 42$ ), from which 54% were found to deal with suicide, 14% with trespass, and 32% with both suicide and trespass. The review was framed using the Hierarchy of Risk Controls (Safe Work Australia, 2017) and considered both the individual and communities involved in terms of prevention, intervention and recovery post-incident. The documents were grouped into categories according to type of recommended control measure with a total of eleven identified. As shown in Figure 1, these control measures comprised: physical design; media guidelines; general education programs; identification of hotspots; framework for organisational management; signage; collaboration with other stakeholders and entities; education programs for rail staff; monitoring and detection systems; engaging with lived experience individuals and community surveys. Management of trespass and suicide in rail was an ostensibly complex issue and a multifaceted approach was deemed the most effective i.e. a “one size fits all” approach was unsuited for dealing with the issue.

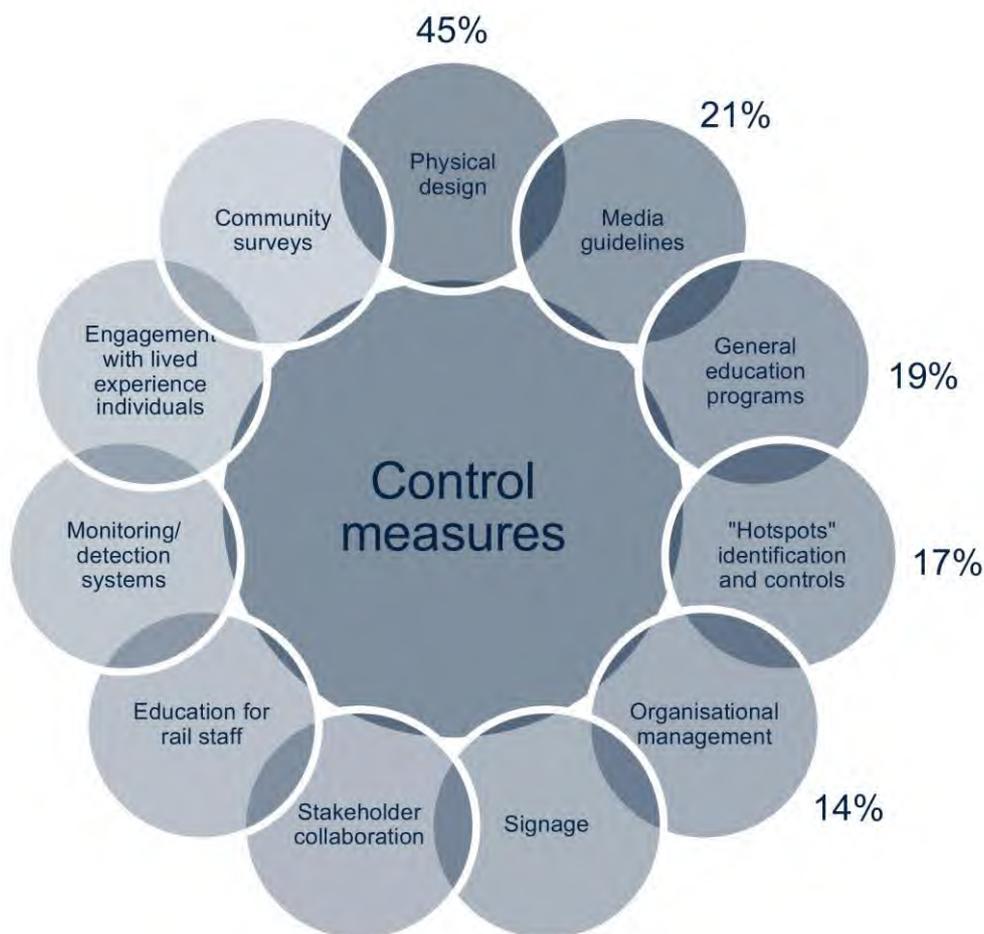


Figure 1: Categories of control measure from literature review findings. Top-5 categories identified using percentages to reflect prevalence in literature

## 1.2 Project Objectives

The objective of this research project was to: (1) undertake a review of current international practices in the prevention of trespass and suicide / “self-harm” incidents on urban rail systems; and then to (2) disseminate the findings to ACRI participants through a presentation “roadshow”. The review and audience feedback from the presentation series may then help narrow a scope for further research in this area. This summary report contains the key themes from audience feedback at the discussions.

## 1.3 Project Scope

### 1.3.1 In Scope

This research, endorsed by rail organisations throughout Australia and New Zealand, first undertook a review of international literature—consolidating international practices in trespass and suicide / “self-harm” prevention on urban rail systems—and then followed it with presentations seeking audience feedback. These were carried out with representative organisations in conjunction with presentations. As well as providing clear opportunities to broach distances within / between organisations, this form of audience engagement went some way towards gauging the applicability of the reviewed preventative practices to the local rail

system, and helped derive key themes for defining and narrowing the scope for further research. ACRI Participants included in the research were:

- Queensland Transport & Main Roads, Queensland
- Queensland Rail, Queensland
- KiwiRail, New Zealand
- PTV, Victoria
- Transport for NSW, New South Wales
- PTA-WA, Western Australia
- DPTI-SA, South Australia

### 1.3.2 Out of Scope

Extensive review of practices that seek to manage incidence of non-fatal self-harm (i.e. someone deliberately hurting themselves without wanting to die) were not covered, though it was acknowledged from review of selected rail industry risk registers, that there was a tendency to use the terms suicide and “self-harm” interchangeably in the Australian rail industry. This is also acknowledged by inverted commas around the words “self-harm” in the project title.

Specific recommendations or assessment of best “fit” for Australia and New Zealand was not included in this research, though the topic did arise during presentations.

Finally, the presentation series included a scientific and ethically approved process for obtaining participant perspectives on trespass and suicide in their rail settings. As a comprehensive analysis was out of scope of the current project, this report only presents a preliminary account of key themes from discussions. However, a subsequent and more detailed analysis of these data is intended to be undertaken by researchers at the conclusion of this project and published in scientific journal articles to further research, and to contribute to the development of better human factors solutions and knowledge in the Australasian rail industry, but also to promote and foster collaboration on the issue with other countries with whom ACRI has strategic partnerships.

## 2 Methodology

### 2.1 Participants and Recruitment

A presentation “roadshow” comprising direct dissemination of literature review findings from the first phase of the project was considered the most effective means of transmitting project findings to industry, both to maximise engagement and, given the federated states in Australia, foster cross-industry-organisational learning. Given both the number of ACRI Participants involved in the project, and the number of local stakeholders involved in the topic, a flexible approach that recognised individual organisational parameters and interests was required. As shown in Figure 2, a concept map was developed using CMapTools (ver. 6.01.01) to outline the presentation strategy and share key points with contacts at each hosting organisation. Based on this, each contact identified and invited individuals with substantive roles to the presentations. An information sheet (see Appendix A) was designed and disseminated for contacts in order to facilitate recruitment.

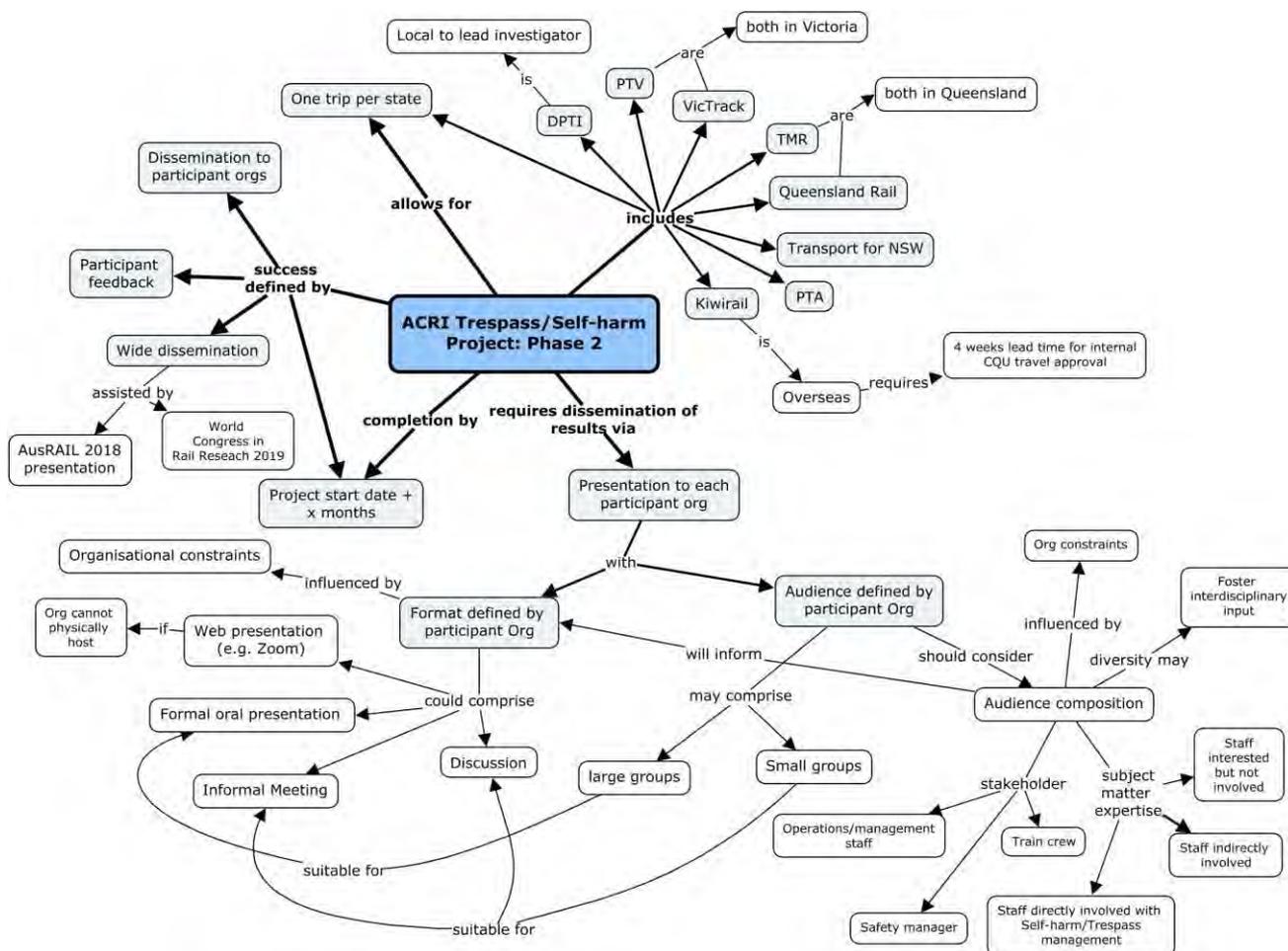


Figure 2: Concept Map Illustrating key points for presentation and participant recruitment strategy

A PowerPoint presentation was developed and delivered for the roadshow by the lead investigator (A/Prof Anjum Naweed). The presentation was tailored to each state / jurisdiction by incorporating pictures of control/counter measures specific to each state to serve as exemplars. The presentation was also iteratively modified following each one. A total of 6 presentations were delivered from October-December 2018. Figure 3 superimposes the sequence, date, and host organisation for each presentation on a map of Australia and New Zealand.

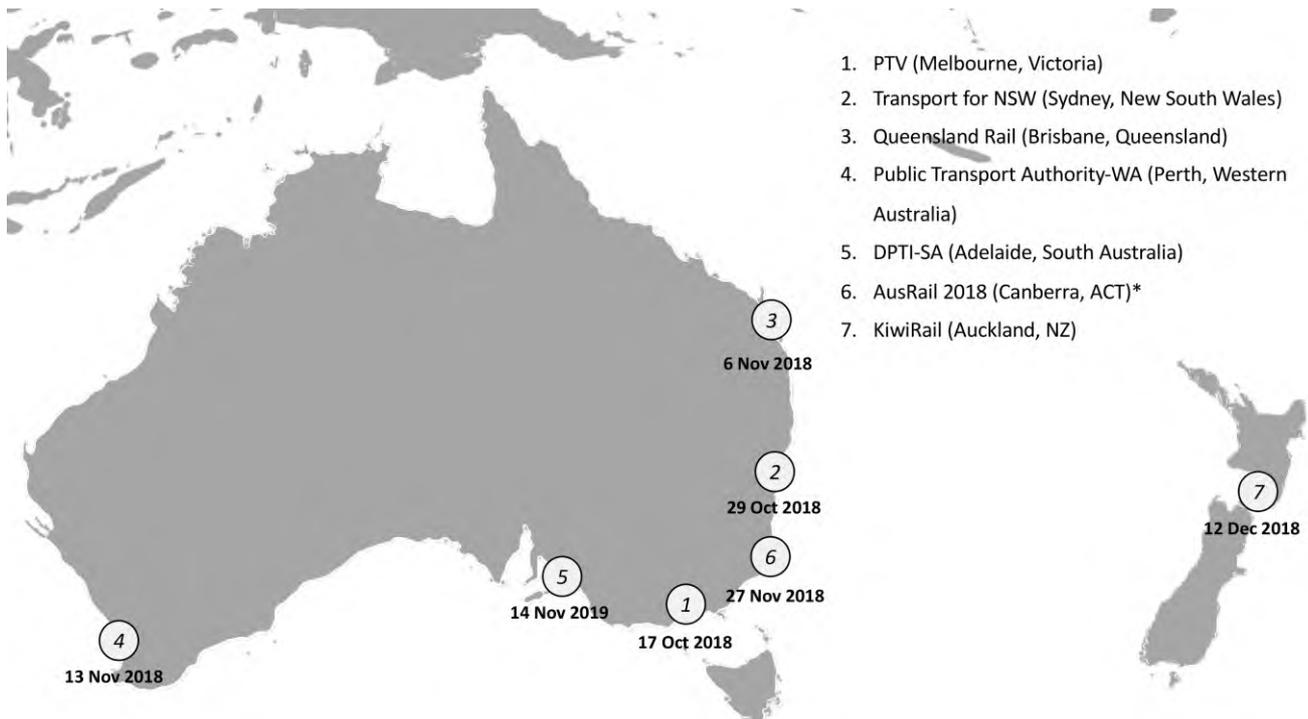


Figure 3: Overview of sequence, dates, and host location of presentation roadshow

\*Note: the presentation delivered at Canberra, ACT did not include a data collection component, but was made to an industry-wide forum and hosted within the Office of the National Rail Safety Regulator stream.

## 2.2 Design and Procedure

As shown in Figure 4, each presentation within the roadshow was undertaken in two parts: the presentation of literature review findings (Part 1), and a follow-up audience feedback session (Part 2).

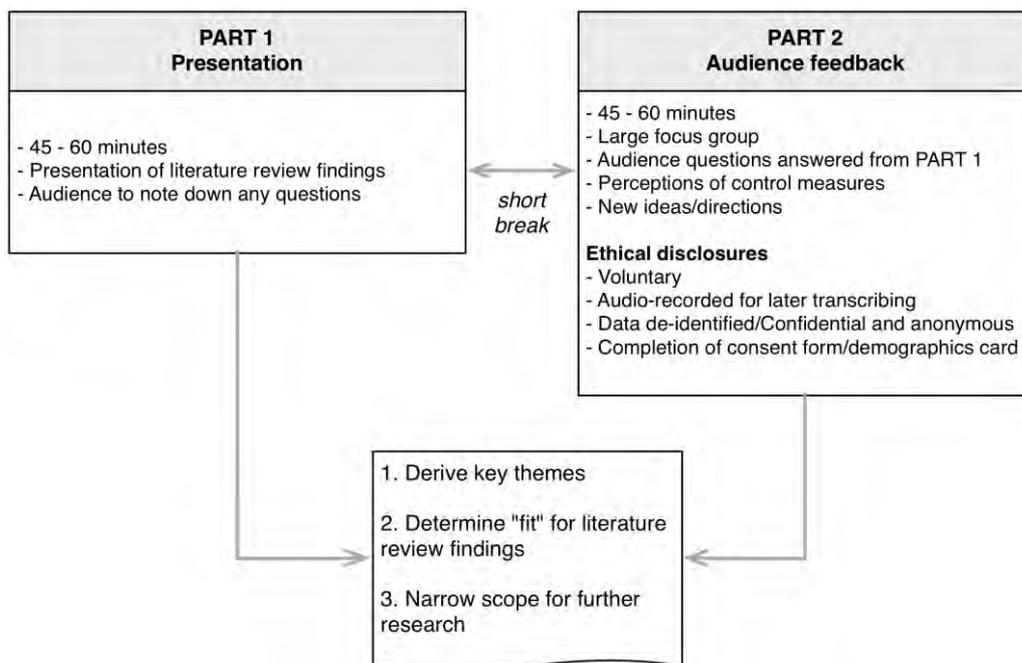


Figure 4: Two-part approach designed for each presentation in the roadshow.

A multi-part approach such as this was designed to both to maximise engagement with those present, foster cross-industry-organisational learning, and elicit data to help (1) derive key themes, (2) determine the local “fit” for the international practices in the literature review, and (3) go some way towards narrowing the scope for further research. For this reason, each presentation was designed to attract a wide range of stakeholders involved in the area. Thus, while the ACRI participants listed in Section 1.3.1 hosted the presentations in their respective jurisdiction, many audiences were comprised of additional entities above and beyond the rail operations sector (e.g. mental health, emergency services).

Informed consent sheets and a demographics data card (Appendix B) were completed prior to commencement of Part 2. The collection and analysis of audience feedback from roadshows was approved by the Human Research Ethics Committee of Central Queensland University (*Approval No: 0000021364*).

### 2.3 Data Analysis

The data collection during part two of the presentations were transcribed and analysed thematically to describe manifest content and interpret latent meanings of texts (Graneheim and Lundman, 2004, Saldaña, 2012). This was undertaken inductively (i.e. without pre-formulating categories) using CMapTools (ver. 6.01.01) in three stages consistent with the In Vivo coding process (Saldaña, 2012): (1) initial open coding to identify central codes and preserve and respect participants’ expression; (2) axial coding to reconstruct the data and determine connections between abstracted categories and subcategories; (3) selective coding to identify themes, linking all of the codes and categories found in earlier stages. However, given the nature and scope of this summary report, initial open and axial coding were expedited and minimally refined. The key themes derived are therefore very preliminary and a more complete analysis and scientific account of findings is intended to be available in subsequent journal articles.

### 2.4 Strengths and Limitations of Approach

A key objective of the methodology and approach taken was to engage with the audiences present and foster cross-industry-organisational learning. A key strength of the approach was therefore the roadshow itself. Transmitting information to ACRI Participants and stakeholders in this way maximised engagement and the “lecture / seminar” style of delivery promoted learning. However, noting that the audience members also represented considerable subject matter expertise on the issue, a second objective was to elicit data to obtain perspectives of the railway suicide and trespass in each jurisdiction. A focus group approach was therefore appropriate to achieve this though given the size of some audiences (~20 participants), facilitation and management of dominant voices was more challenging and is likely to have impacted data. The approach did not include end-users of the railway in the form of general public (who may or may not trespass), or those with lived experience who have contemplated suicide on the railway.

### 3 Results

#### 3.1 Summary of Participant Demographics

Table 1: Characteristics of Focus Group Audience

Jurisdiction	New Zealand	New South Wales	Queensland	South Australia	Victoria	Western Australia	Total
Male	14 (66.7%)	7 (41.2%)	14 (82.4%)	12 (66.7%)	4 (80%)	4 (57.1%)	55 (64.7%)
Female	6 (28.6%)	10 (58.8%)	3 (17.6%)	5 (27.8%)	1 (20%)	3 (42.9%)	28 (32.9%)
Total	21*	17	17	18*	5	7	85*
Age (years)							
Average	46.8**	47.5**	46.1**	50.6**	39.6	43.4	46.8**
Min	29	34	24	37	32	34	24
Max	66	65	58	57	47	58	66
Years in current role							
Average	3.6	3	4.3	3	2	2.8	3.3
Min	4 months	6 weeks	3 months	2 months	2 months	7 months	6 weeks
Max	23	11	10.5	7	6	7	23
Years of rail experience							
Average	9.8***	10.4***	17.7	10.8	7.7	8.2	11.5***
Min	0	0	3 months	2 months	8 months	8 months	0
Max	28	34	40	36	15	16	40
Highest education qualification							
Year 10	0	0	1 (5.9%)	0	0	0	1 (1.2%)
Year 11	1 (4.8%)	0	0	1 (5.6%)	0	0	2 (2.4%)
Year 12	1 (4.8%)	1 (5.9%)	3 (17.6%)	2 (11.1%)	0	0	7 (8.2%)
Certificate III/IV	0	0	0	1 (5.6%)	0	0	1 (1.2%)
Diploma	0	1 (5.9%)	2 (11.8%)	2 (11.1%)	1 (20%)	0	6 (7.1%)
University Degree	12(57.1%)	6(35.3%)	7 (41.2%)	8 (44.4%)	2 (40%)	5 (71.4%)	40 (47.1%)
Grad. Cert. /Dip.	1 (4.8%)	3 (17.6%)	1 (5.9%)	1 (5.6%)	1 (20%)	0	7 (8.2%)
Post Grad. Degree	6 (28.6%)	6 (35.3%)	3 (17.6%)	3 (16.7%)	1 (20%)	2 (28.6%)	21 (24.7%)

\*Some participants that prefer not to say \*\* Includes missing data \*\*\*some not employed in the rail industry

Demographic variables are shown in Table 1. Of the 85 audience members across all jurisdictions, most were male (64.7%), with the exception of New South Wales who had a higher number of female (58.8%) participation. With an average age of 46.8 years (range 24 - 66 years) across all groups, South Australia had the oldest (average age 50.6 years), and Victoria the youngest (average age 39.6 years). The average number of years that audience members had been employed in their current job role was 3.3 years (across all jurisdictions) and on average participants had 11.5 years of rail experience. Most participants had a university level of education or higher (80%). The various job roles of the participants follow.

### 3.1.1 Current Roles

Half of the audience members identified as a “Manager” (43, 51%) with many in senior safety roles within the rail industry. A small number of participants (4, 5%) were not employed in the rail industry but instead represented staff involved in mental health and road, security and emergency management. Figure 5 illustrates the varied job roles of audience members. Many identified themselves with a “safety” and/or “advisory” role.



## 3.2 Key Themes

The three key themes identified from preliminary analysis of the feedback received from focus group audiences are shown in Table 2. They were (1) Communication and Sharing of Information; (2) Cultural Considerations; and (3) Incident Response, Mitigation and Prevention. A number of major categories and subthemes relating to each of these themes were reconstructed and are discussed in more detail in the sections that follow. Excerpts have been taken from the data to support and illustrate points where relevant, with ID-tags randomly assigned to the six jurisdictions.

Table 2: Summary of Preliminary Thematic Analysis

Themes	Major Categories	N*	Frequency of Statements	Theme Totals
Communication and Sharing of Information	Data collection practices	6	180 (24%)	450 (59%)
	‘Hotspot’ recognition and response	6	65 (8%)	
	Stakeholder collaboration, communication and support	6	205 (27%)	
Cultural Considerations	Cultural change over time	3	79 (10%)	203 (27%)
	Cultural differences between countries	4	13 (2%)	
	Organisational and Driver Culture	3	32 (4%)	
	Public perceptions	6	79 (10%)	
Incident Response, Mitigation and Prevention	Physical design / Built environment	6	59 (8%)	111 (15%)
	Monitoring and detection	6	30 (4%)	
	Operational staff recruitment	3	10 (1%)	
	Strategic approach to prevention	5	12 (2%)	

\*Note: N indicates the number of focus groups across which each category was mentioned (total = 6)

### 3.2.1 Communication and Sharing Information

The importance of communication and the sharing of information was emphasised strongly in all focus groups (6, 100%). For this theme, major categories were divided into data collection, recognition, and sharing of information.

#### 3.2.1.1 Data collection practices

Every focus group mentioned data collection practices as a key area of concern, for example:

“...at our level we know the data, you share the data, everyone shares the data and we see it. But up here, do they see everything? Do they see all the data? Do they look at all the data that we have? Are we capturing it correctly, or effectively...” [Jur\_1]

Within this theme, consistency of reporting was mentioned by 4 (67%) of the groups as a factor that should be considered when evaluating data collection practices.

“Yeah, I just know that some of the train crew that I’ve actually spoken to have said that sometimes they don’t report [trespass incidents] because they feel that nothing’s done – it’s only because they don’t see anything’s being done.” [Jur\_2]

An important topic related to data collection was the lack of consistency across jurisdictions in the definitions of suicide, attempted suicide, “self-harm”, and trespass.

“Well, we do use the term ‘self-harm’ but that’s more for not people who throw themselves in front of the train, people would be on a platform that have cut themselves and that’s what we regard as self-harm. Someone actually trespassing and trying to throw themselves in front of a train, that’s attempted suicide.’ [Jur\_3]

“No. Self-harm’s not a category.” [Jur\_6]

“Our reporting sometimes will say ‘self-harm incident’ and it’s a suicide.” [Jur\_1]

Participants also expressed that the intention of the pedestrian involved in the incident was an important factor to consider when evaluating key definitions. The following quote illustrates perceptions of how the term “trespass” is imbued with features that are more reflective of criminal intent, as opposed to any form of non-authorised entry into the rail corridor:

“So, trespass is obviously taken as someone who has criminal intent but obviously not the intent to take their own life.” [Jur\_5]

### **3.2.1.2 ‘Hotspot’ recognition and response**

All groups discussed and recognised ‘hotspots’ as a way of identifying high risk areas, and targeting a response, for example with level crossings-related trespass, and general fencing:

“I can tell you that the hot spot approach has been very effective on the level crossing trespass point of view.” [Jur\_1]

“Everyone acknowledges the cost of fencing the network is extreme but there must be hotspots on the network where we can say as a group, this is now where we get a lot of trespass or attempted trespass, can we fence that, can we move it somewhere else onto designated crossings, for example.” [Jur\_4]

However, some focus groups also highlighted that by targeting ‘hotspots’, there was an ostensible risk of displacing the issue somewhere else, for example:

“We’ve targeted the hot spots, put fencing up, so yeah, trespass in that location’s reduced but if we just shifted the problem elsewhere...” [Jur\_6]

“So, putting a fence up is more of a deterrent or to try and think sometimes when you do that you just drive that behaviour somewhere else. So, because you’re not dealing with what’s causing that in the first place, putting deterrents in place sometimes moves that around.” [Jur\_4].

These particular quotes illustrate different perspectives existing within the same group (i.e. Jur\_4). They also indicate that the sort of strategies used in some rail contexts, such as level crossings, may not necessarily be generalisable to others.

### **3.2.1.3 Stakeholder collaboration, communication and support**

All of the focus groups noted the importance of collaboration and communication with key stakeholders. Collaboration was considered to have successful outcomes, particularly when it involved community engagement, for example:

“... [we] got on the band with local community groups and mental health charities, local hospitals, DHBs - it definitely pays dividends.” [Jur\_4]

Of particular note were feelings of frustration associated with a lack of regular communication between stakeholders and how this impacted the effectiveness of prevention strategies:

“...I think we’ve also been trying to get traction at a State level [for suicide intervention and awareness training for frontline staff]. This isn’t [about the] transport industry, this is [about] society and while TrackSAFE managed to get one mental health round table going, it’s stopped. So [Organisation] put in a business case for a suicide prevention initiative which didn’t get funded last year, so again, at lower levels we’re all interested in doing it but we’re not getting that buy-in at the top to really push it through and have it in multi-agencies.” [Jur\_1]

The reference being made here is to Rail Suicide Prevention Roundtables facilitated by the TrackSAFE Foundation, where key stakeholders (rail, government, police, roads, unions, regulator, academics, the mental health/suicide prevention sector) are invited to discuss the issue under the aim to consolidate support and profile the issue at a State level (N Frauenfelder 2019, pers. comm. 6 Feb). The view given here reflects the perception that while there is clear stakeholder support and the impetus to gain traction from middle-management, support is being lost at the executive level of an organisation and general proactiveness for a wider prevention strategy is being held back by opaque barriers.

Five of the six focus groups recognised limitations due to responsibilities around the reporting of suicide. For example, while a lot of progress was perceived to have been made with level crossing safety strategies, the same was not perceived for other areas:

“Suicide prevention [strategies/campaigns] is just non-existent. You don’t see anything. And as you say, it’s not even mentioned as suicide. So how do you prevent something when you’re not even labelling it?” [Jur\_1]

There were also widely varied perceptions of media engagement and support across the focus groups:

“[The media] are not allowed to report on any suicide on the rail network.” [Jur\_3]

“The media...are absolutely terrible and sensationalise anything” [Jur\_4]

## **3.2.2 Cultural Considerations**

All of the groups acknowledged a cultural dimension to suicide, “self-harm.” and trespass. Major categories included cultural change and differences, and how public perception is influenced by these changes and differences.

### **3.2.2.1 Cultural change over time**

Three groups identified the changing culture as impactful, specifically, a positive change toward a collaborative approach to prevention:

“I’ve been around for ten years, and from where we were ten years ago to where we are now, [collaboration is] just worlds apart. There’s so many people doing different things and for some of the people it’s not even part of their roles and they’re bringing their expertise or their experiences into it and I think now more than ever we’re taking a collaborative approach because we just don’t want to see anyone get hurt.” [Jur\_1]

Interestingly, a disturbing cultural change in regards to the approach for suicide was also recognised, for example:

“I think the most concerning thing for me is a trend towards things that we haven’t seen before, so individuals running directly at the train. We’ve had a couple of those, we’ve had two of those now where that’s harrowing for the person involved, for the driver.” [Jur\_3]

### **3.2.2.2 Cultural differences between countries**

Four groups (67%) mentioned cultural differences between countries. Of note is the differences recognised between Australia and New Zealand in terms of trespassing infringements:

“Having worked in both [Country A] and [Country B] I think probably [Country B], it’s very succinct – an infringement notice for failing to comply, infringement notice for trespassing the corridor – all those sort of things. It’s quite structured.” [Jur\_4]

Participants also noted prevention strategy differed internationally:

“Then you look at your other control things like platform screens that you have in some certain stations like in Singapore.” [Jur\_3]

### **3.2.2.3 Organisational and driver culture**

The organisational culture and the culture of drivers was mentioned by half of the groups (3, 50%). The drivers’ individual response to an incident was particularly salient during preliminary analysis, suggesting that assessments are required at different periods and not just initially:

“Yeah, that’s the thing when we talk about drivers, drivers are like – yeah, I’m fine. But it’s not until a day, a week or even a fortnight after [that it affects them]...” [Jur\_6]

“Some drivers after a suicide just want to get back on the horse too. Some people are like get back on, so it’s a different...” [Jur\_3]

### **3.2.2.4 Public perceptions**

Public perception was an important category raised by all of the focus groups. Of specific interest was the public perception of risk when it came to trespassing on the network:

“Okay, so that is another issue because [another participant] was talking about the fencing [in urban areas] and I was wondering if the [public] perception of risk is also lower because there’s fewer trains in these spaces?” [Jur\_2]

The notion of a “quick death” on the railway was discussed, reflecting on a potential myth surrounding suicide by train-pedestrian collision:

“You talk about the quick death railway myth, it’s a painful death, it’s never really... people do suffer. This is the thing, people think a train’s quick – not so, because people being trapped under trains have had slow and agonising – it’s a painful way to die.” [Jur\_3]

### **3.2.3 Incident Response, Mitigation and Prevention**

The final theme relating to incident response, mitigation and prevention was discussed during every focus group (6, 100%). Subthemes not only reflected current approaches, but also future advances in the response, mitigation and prevention of trespass, “self-harm” and suicide.

#### **3.2.3.1 Physical design / Built environment**

The physical design and built environment of the network was seen to play an important role in the mitigation and prevention of incidents by all of the focus groups:

“The maintenance [department] have a fencing program which has gone through and put that tall fencing up and that funding has been cut back as well. From locals that’s been quite successful in stopping people trespassing and I guess it makes it more difficult for self-harm because you’ve got to do it in a more public place near a pedestrian or level crossing.” [Jur\_6]

This quote also illustrates the funding/budgetary constraints that organisations must work with. It was also noted that physical design, particularly around the design of stations should be considered in such a way that would make them look more appealing to the eye:

“We invest a lot of infrastructure to prevent [trespass], like we’ve got anti-climb screens and throw screens. We also sort of focus in durable products and hardwearing and so we get a lot of concrete, we get a lot of screening – it’s often a mesh, which results in this sort of caged environment and I just sort of think, just going back to the point about the lighting and things, the focus was more positive, these positive environments that perhaps we’d get a different outcome rather than this preventative environment all the time that’s hard and durable.” [Jur\_2]

#### **3.2.3.2 Monitoring and detection**

All groups discussed the effectiveness of surveillance, with the use of CCTV and the presence of monitoring staff:

“The other thing we’ve done in the last year, the department’s invested in the 24/7 security monitoring – so we now have our own contractor, additional eyes and ears on the big camera network predominantly around stations.” [Jur\_6]

Technological advances, specifically in behaviour detection and prediction, were recognised as an interesting way in which organisations can detect a possible suicide attempt before it happens:

“No, well, that’s actually driving the work we’re doing with Australia National University to look at it in what’s called a ‘risk detection system’. So, where the precursor behaviours that we could train a CCTV system to observe and watch.” [Jur\_2]

#### **3.2.3.3 Operational staff recruitment**

The process of staff recruitment, specifically the recruitment of drivers with higher levels of resilience was seen to play a key role in mitigating the traumatic impact associated with the experience of a train-pedestrian collision. Some focus groups (3, 50%) considered targeted recruitment as important:

“I know in [Organisation] basically in an intro session they expect everybody to turn up that they’re potentially recruiting and they have a good two- or three-hour session and there’s a video which includes some interviews of some of our drivers, which was quite surprising, a whole video session about the impact it’s had on them.” [Jur\_6].

However, it was also noted that there is a limit to the effectiveness of targeted recruitment when a driver is faced with an actual traumatic event:

“There is psychometric testing at the very onset of the recruitment process as well that tries to identify those people that might be more affected [...] still, detecting whether someone’s resilient and then [an incident] actually happening to them are two different things.” [Jur\_3]

#### **3.2.3.4 Strategic approach to prevention**

Most focus groups (5, 83%) recognised that a strategic approach to the prevention of incidents was the most effective approach. A holistic approach to prevention was considered key to suicide prevention specifically.

“So when we talk about suicide we’re looking at holistic management and partnerships. So by that, we’re talking about our partnerships with [police], our partnerships with [ambulance service], our partnerships with different research bodies to give us the best holistic and qualified information around suicide/self-harm. Intelligence in case management is a big one in terms of our proactive measures and implementation. So we look at each suicide case individually. We conduct our own investigations on that. We work closely with QPS and the coroners with preview to coroner’s reports and so we take, I guess, lesson learnt from those individual cases.” [Jur\_5]

## 4 Discussion

This report summarises the attendance and participation at the presentation roadshow designed to disseminate literature review findings from the first stage of the research. While the primary objective of the work was dissemination, the availability of staff who managed the issue provided a captive opportunity to collect perceptions through a structured focus group process. While the findings documented here are not exhaustive, and brief and preliminary by design, they do provide a good indication of the different perspectives on key issues. The most salient themes identified pertained to communicating and sharing information, various cultural considerations and important dimensions involved with responding to, mitigating and preventing rail incidents. Some key observations were made:

Most references in this analysis were associated with communication and sharing of information, specifically around data collection practices. Audiences recognised the existence of barriers for sharing of information, but also reflected that when campaigns and programs involved multiple stakeholders and engaged with the community they were the most effective.

Jurisdictions appeared to wield, operate with and report incidents using different understandings of suicide, self-harm and trespass. Suicide is typically defined as the intentional taking of one’s own life (Mendoza and Visser, N.D.) In the Australian rail context, suicide refers to *‘any suspected or attempted suicide that takes place on or from railway premises and is associated with railway operations’* (ONRSR, 2018, p. 133). The main determination here is when the person dies, such that if death occurs within 30-days of the incident, it is classed as a *‘suspected suicide,’* but if the person does not die within 30 days, then it is classed as *‘attempted suicide’* (ONRSR, 2018, p.135). Thus in rail, suicide currently appears to be understood not by the underlying intent to suicide but by the features of the attempt itself i.e. *‘the act’* (ONRSR, 2018, p. 135).

For the term “self-harm,” the Lifeline Foundation (2019) defines it as *‘someone deliberately hurting themselves without wanting to die. It is sometimes called deliberate self-injury or non-suicidal self-injury.* While no formal definition for “self-harm” is provided by ONRSR in their requirements for notifiable occurrences, *‘any person that verbally threatens to take their life or inflict injury or self-harm but has not attempted the act’* is used to refer explicitly to self-harm, with this type of incident itself considered non-notifiable (ONRSR, 2018, p. 135). Contrary to the Lifeline definition for self-harm, this implies that while a person has not followed through with the act, they may nevertheless have suicidal intent.

A “trespasser” is defined as *‘a person who is in a railway premise (including land and rolling stock) without the necessary permission or authority, whether intentionally or negligently’*, and this also includes *‘persons who commit suspected suicides’* (ONRSR, 2018, p.28). Of interest here is use of the word “commit” to describe suicide, a union of words which subject matter experts now consider to evoke criminological intent and stigmatise the issue (Beyond Blue, 2019). Descriptions of suicide as *“successful”* or *“unsuccessful”* are also considered to be inappropriate (Beyond Blue, 2019) but are currently used in Australian rail reporting frameworks (ONRSR, 2018, p.134). This suggests that use of such language in rail may be culturally bound to a time when suicide was considered a crime. Consequently, the way suicide is talked about does not appear to have evolved in a way that considers it with compassion, thoughtfulness, and sensitivity, or in a manner where the discourse is likely to be healthy and helpful.

In the study, the terms “suicide” and “self-harm” were observed being used interchangeably, and perceived by audiences to be used both formally and informally. While the treatment of the terms in overarching reporting frameworks may be potentially clouding the issue, a key piece of insight from audiences was the suggestion that “self-harm” is euphemistic or a form of strategic ambiguity that may be softening or sanitising the confronting nature of the word “suicide.” This topic may merit further investigation to understand the

variability across jurisdictions; one focus group mentioned that the self-harm was not utilised in their organisation at all.

Effective media communication was found to be a significant enabler of suicide prevention in the review of literature undertaken in the earlier stage of research, and this was reinforced by perspectives of positive relationships. New Zealand appeared to have communication barriers with media agencies that obstructed progress on the issue in a way that was not mentioned in Australia. However, audience members in some groups felt that a “media-blackout” around railway suicide may necessarily not be the best approach on the basis that it was also obscuring a true recognition of a seriousness of suicide as a societal issue as well as hindering a flow of information around the organisation.

Trespasser intent was discussed prevalently, with views reinforcing suicide as a very different type of trespass issue than those with unauthorised entry who had no intent to suicide. The consensus here was that despite best efforts, if a person wanted to take their own life, they would find a way. It was very clear that the participants felt that trespass and suicide should be treated differently; these points echoed those made within the literature review about the “one size fits all” approach to both trespass and suicide being ineffective.

Points about the modifying or designing the rail environment in a way that made them more engaging and proved the state of mind echoed the notion of crime prevention through environmental design and “green infrastructure.” Views were that such targeted approaches may set the foundation for a long-term holistic approach in the prevention of suicides specifically.

There were some indications that successes with level crossing safety were eclipsing the same goals with suicide and trespass. The suggestion was that what worked for level crossings would not necessarily work for mainstream trespass issues in other parts of the network, but also that it was a different type of issue and that focus on level crossings, and development of level crossing specific trespassing countermeasures may be confusing the issue.

Lastly, physical barriers such as fences were perceived to be among the most frequently adopted interventions by the audience — a point that supported the findings of the literature review. The same was true of the organisational focus on locations of increased reported trespass and suicide (‘hotspots’). Perceptions of success for either approaches were however mixed, providing anecdotal reflection for the lack of evidence about whether controlling access to some parts of the railway mitigated the issue for suicide.

#### **4.1 Next Steps and Future Research Directions**

The feedback from audiences in this summary report provides the first real tangible indication of what a collective Australian and New Zealand rail industry perceives as the most substantive issues for rail-related trespass and suicide. The results suggest that more collaboration within and between jurisdictions is needed to progress the issue. Key consideration for research is to gain more insight into how information flows and is currently being shared in order to determine ways in which this can be done more effectively.

While participative, the approach did not include end-users of the railway in the form of general public (who may or may not trespass habitually), or those with lived experience of contemplating suicide on the railway. As a multifaceted issue, further research would benefit from use of approaches that better represent this demographic. A clear message to emerge from this research project is that there is no simple fix to resolve the issue of railway trespass and suicide and combining control measures yield the best results.

Having completed the project, further industry and academic presentations will help foster engagement in the issue domestically and abroad and research should seek to promote collaboration with other overseas countries (e.g. UK, Canada, U.S.A.) with whom ACRI has strategic partnerships. While preliminary, the three themes from the focus group analysis shed the spotlight on certain areas where research could proceed. A more thorough analysis of these data will assist in elucidating these directions.

## 5 Conclusions

This report illuminated the key themes derived from audience feedback following the presentation roadshow. Thematic analysis identified 3 key themes from this audience feedback: (1) Communication and Sharing of Information; (2) Cultural Considerations; and (3) Incident Response, Mitigation and Prevention. Though limited in its scope, this summary revealed contrasting perspectives and indications of variable working practices as barriers to proactively tackling the issue. The findings also demonstrate the broad practical and operational challenges to the prevention of trespass and suicide in the rail corridor, and characterise the specific challenges in Australia and New Zealand.

The findings from this research have highlighted that for Australia and New Zealand, rail trespass and suicide is a complex issue which needs a multi-layered approach for an effective, sustainable solution. The feedback in this summary report ultimately provides the first real tangible indication from the organisational perspective of what a collective Australian and New Zealand rail industry perceives as the most substantive issues for rail-related trespass and suicide. Further work and more detailed analysis of findings will help narrow the scope for further research in this area.

## 6 Acknowledgements

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## 8 Appendix A – Information Sheet



Research in association with



### **Determining the feasibility of current international practices in the management of train-pedestrian collisions for Australasian urban rail**

#### **Why are we doing the presentations and what is the role of the following discussion?**

CQUniversity, in collaboration with ACRI, has undertaken a review of current international practices being used to prevent train-pedestrian collisions associated with trespass and self-harm. We are presenting the results directly to organisations; given the highly bespoke nature of the Australasian rail industry, this will grant you easier access to such information. An open feedback discussion with the audience will follow the presentation designed to gather perspectives on issues substantive to the organisation.

#### **What are we doing?**

The presentations will happen in multiple organisations across Australia and New Zealand. During the open feedback session, the audience will be asked questions about some of the prevention measures to understand how some of the practices “fit” their system.

#### **How long will the feedback session take?**

We are asking your organisation to allow up to 45 minutes, though it may end earlier.

#### **When will this research take place?**

Between mid-October and February 2019.

#### **How will research information be recorded?**

The feedback session will be audio taped allowing the researcher to engage without being distracted by note taking. Audio files will be deleted after being professionally transcribed with all identifiers taken out. Hard copies and/or electronic copies of notes will be kept in a secure location at the Appleton Institute for Behavioural Science, CQUniversity Australia, for a period of 5 years as required by national research guidelines.

#### **Will you be identifiable in any published findings?**

The information we obtain from you will be completely anonymous and you will not be personally identifiable in published findings.

#### **What if you don't want your organisation to know something?**

We request that you refrain from sharing anything that you would not like your organisation to know due to the difficulty of excluding such information from the final data set.

#### **How can you be involved?**

Simply stay for the feedback session! You will be provided a consent form and a short demographics card to help us understand the composition of the audience.

#### **What if you decline or change your mind?**

Your participation is completely voluntary. If you decide to stay for the discussion but change your mind, you are free to leave, and at any time, without repercussion to yourself or others. However, any data you have provided prior to this will be recorded as part of the dataset due to the difficulty of excluding it during transcription.

#### **How can you find out the findings of this research?**

A plain statement of results will be emailed to you once they become available. We will require your email details to do this – please supply this in the consent form.

If you are interested in participating, or would like more information about the research, please contact:

**A/Prof Anjum Naweed**  
Theme Leader: Human Factors &  
Complex Systems  
CQUniversity Australia  
T 08 8378 4520  
E [anjum.naweed@cqu.edu.au](mailto:anjum.naweed@cqu.edu.au)

This project has been approved by the Human Research Ethics Committee of CQUniversity. If you have any ethical concerns about the project, or questions about your rights as a participant please contact:

**Ethics Officer**  
CQUniversity Australia  
T 07 4923 2603  
E [ethics@cqu.edu.au](mailto:ethics@cqu.edu.au)

## 9 Appendix B – Demographics Card



### PARTICIPANT DATA CARD: FEEDBACK SESSION

*This info will help us to contextualise the findings and understand the composition specified.*

1. My age: \_\_\_\_\_ Prefer not to disclose
  
2. My gender: Male  Female  Non-binary  Prefer not to say
  
3. My current role in organisation:  
\_\_\_\_\_
  
4. My length of time in current role: \_\_\_\_\_ years / months (*cross out as appropriate*)
  
5. Length of experience within the rail industry: \_\_\_\_\_ years / months (*cross out as appropriate*)
  
6. My highest level of education? (e.g. Year 12, College, University) \_\_\_\_\_



**E** [acri@infrastructure.gov.au](mailto:acri@infrastructure.gov.au)  
**T** +61 2 6274 7149   **W** [www.acri.net.au](http://www.acri.net.au)  
**A** 111 Alinga Street, Canberra City, ACT 2600  
**P** PO Box 238, Civic Square, ACT 2608, Australia

**CONTACT US**

