

Results from Navigatus Workshop at 2016 FRONZ Conference

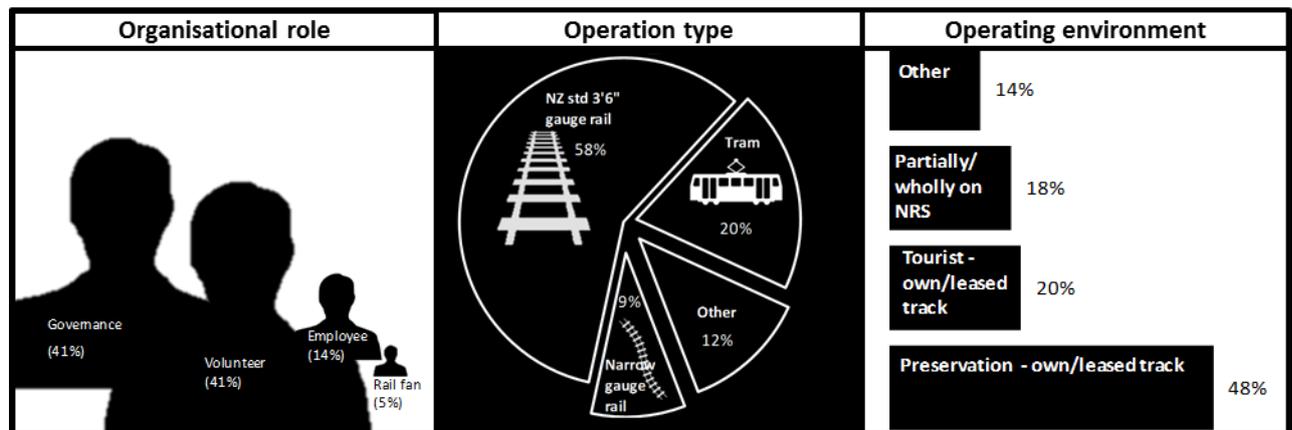
Introduction

Navigatus held a workshop at the 2016 FRONZ conference to get a better understanding of the risk capabilities and attitudes of the tourist and heritage rail sector. Results from the workshop are reported here anonymously. There were a total of 70 responses, although not all questions were answered by all respondents.

Navigatus is currently undertaking a research project for the New Zealand Transport Agency on rail safety risks and as part of this research had already visited a number of tourist and heritage operators. The results from this workshop will help inform this research.

Demographics of workshop participants

The majority of participants identified most closely as having a governance or volunteer role. Compared to the sector as a whole, there were likely a higher number of people in governance roles attending the conference. Over half of participants were associated with an operation on New Zealand standard gauge rail, and around one fifth were associated with tram operations. The majority were tourist or heritage operators using their own (or leased track), while a minority operated partially or wholly on the national rail system.



Risk management: safety objectives

The survey referenced the ISO31000:2009 definition of risk (*the effect of uncertainty on objectives*) and asked participants what they thought could be appropriate safety objectives for tourist and heritage rail operations.

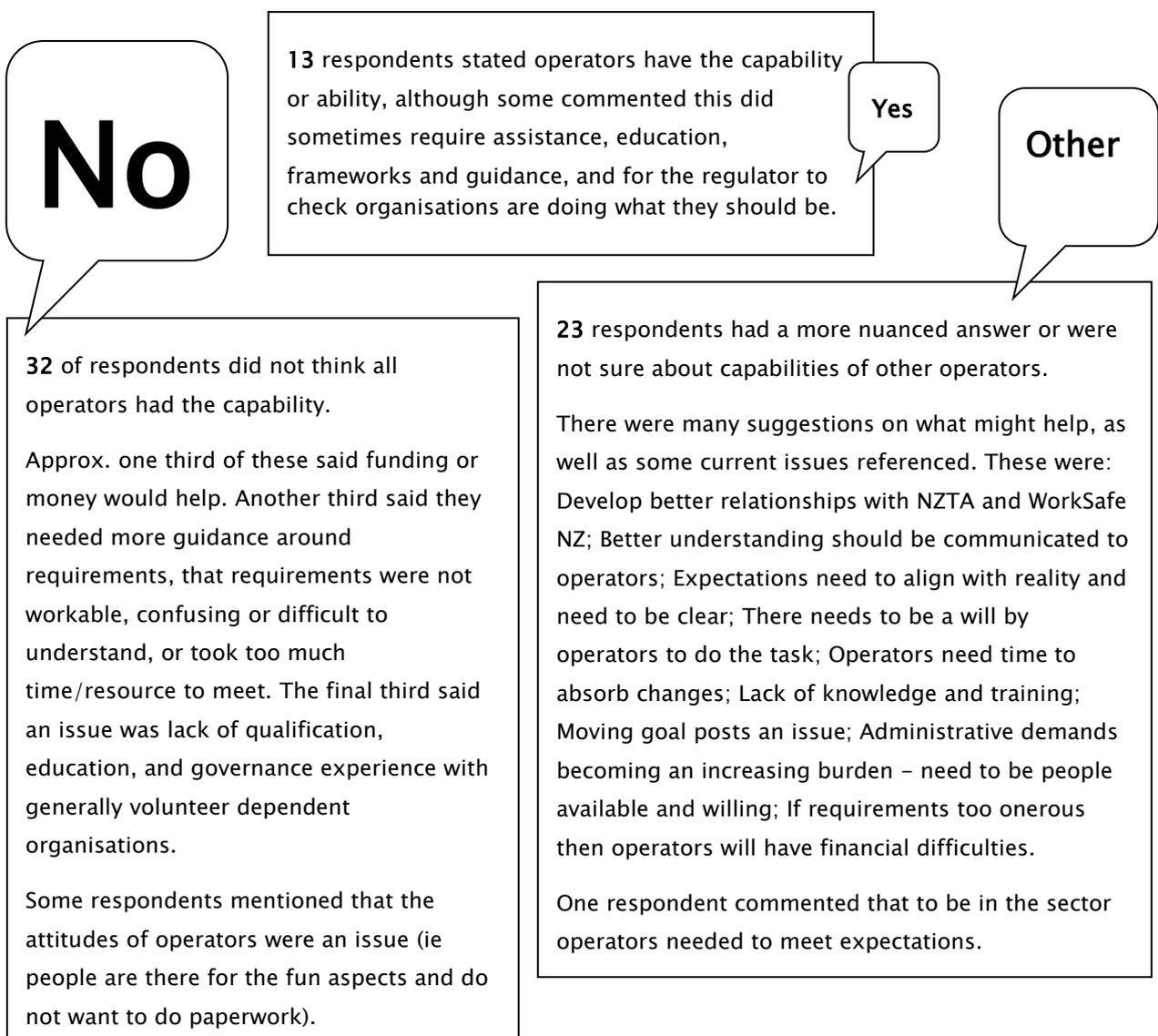
The vast majority of participants talked about keeping people safe (eg zero harm, minimise risk of injury or death, minimising incidents, or producing a safe environment). Many related these safety objectives to both passengers and staff/crew.

While a few participants did not state a safety-related objective or were not sure of the question, in general there seemed to be a decent understanding of risk at this level and many suggestions of appropriate safety objectives.

Capabilities

We asked participants if they thought all operators have the capability to meet current (and increasing) expectations in terms of risk and quality management; and if they did not think so, what they thought would help operators.

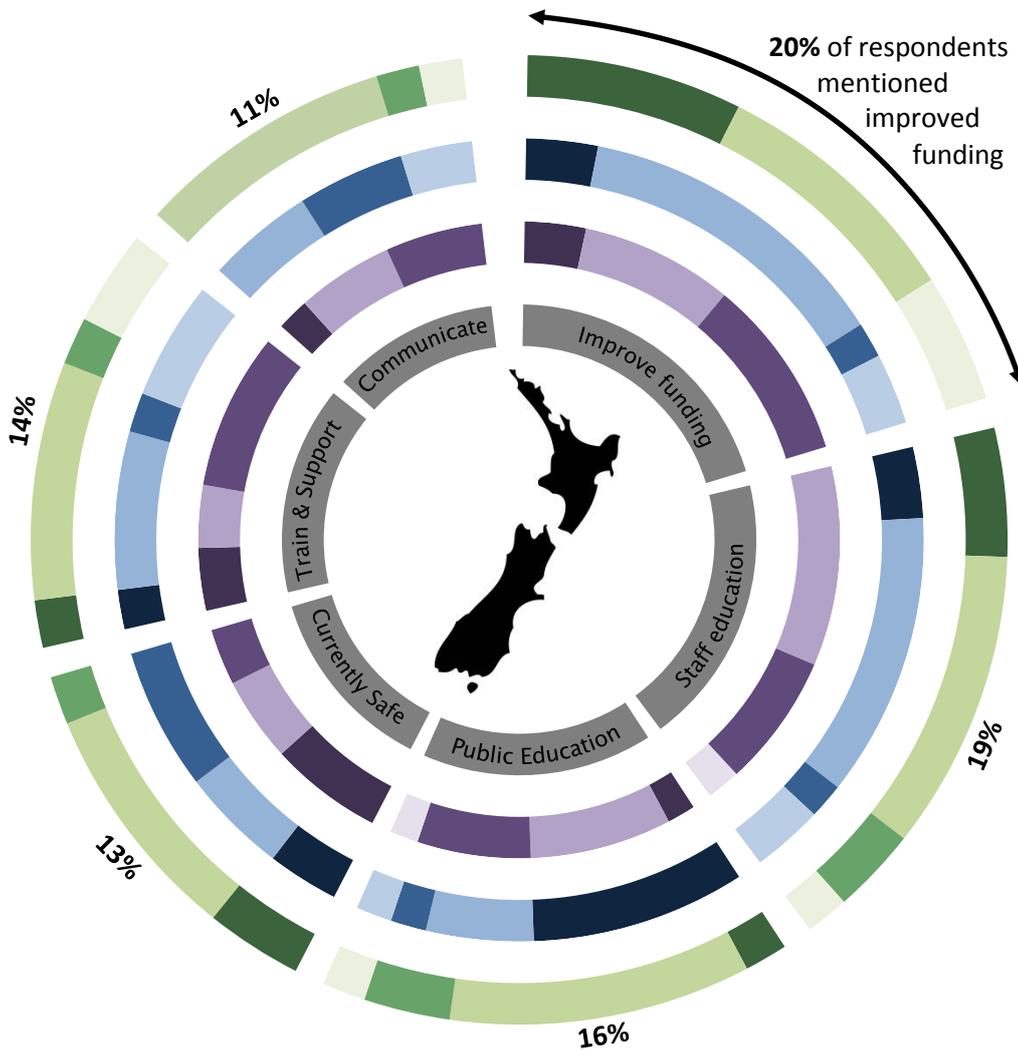
Based on the responses, we categorised answers as 'yes', 'no' or 'other'. The suggestions for what might help are summarised in the boxes below. Of the participants, 32 did not think all operators had the capability, 23 were not sure (or had a more nuanced answer), and 13 participants did think operators had the capability.



Making it safer

Participants were asked what they would do to make tourist and heritage operations safer if they were in charge of the New Zealand railway industry. The answers to this question had a number of common themes, these included; **funding, education, support, communication, and no changes (currently safe)**.

The following graph shows the proportion of total respondents whose answers identified each of the actions below. This is then shown by demographic, noting that there were a larger number of participants in some categories. The proportion of participants in each of the categories is also show below for comparison.



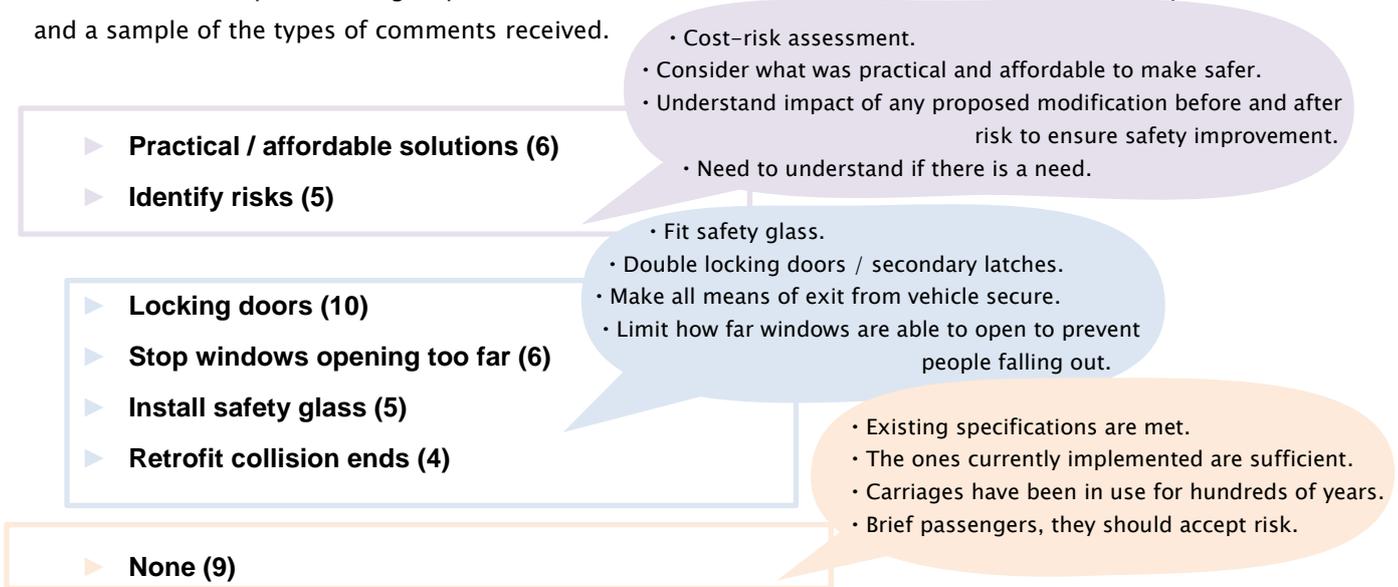
Proportion of participants from each demographic:



Safety modifications

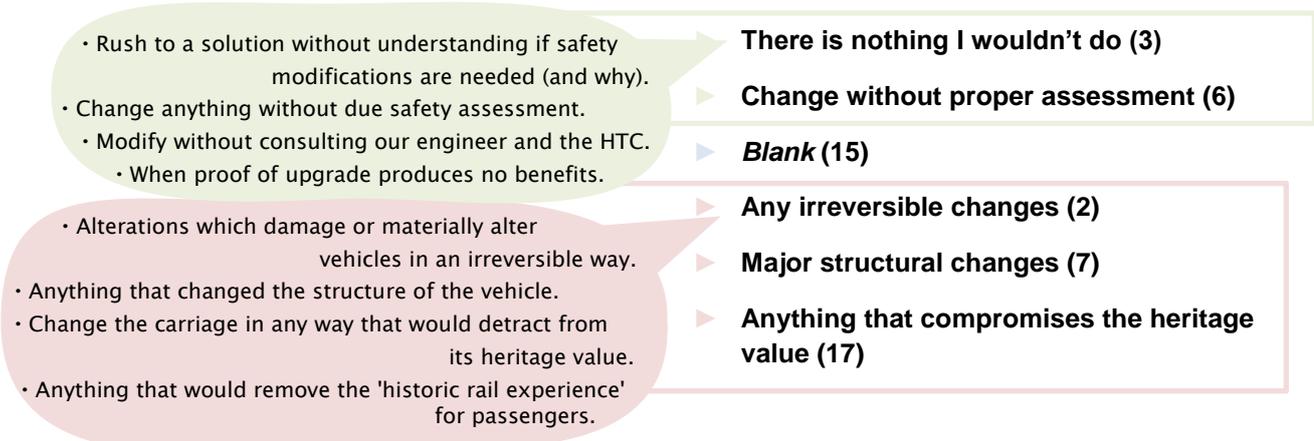
Participants were asked to imagine they are responsible for rolling stock at the tourist and heritage operation they are most closely associated with. They were then asked what types of safety modifications they would be willing to make to heritage carriages which carry members of public.

This question saw a wide range of answers, from no changes to all practical changes needed. The freeform answers were interpreted into groups of similar answers. Shown below are the most common responses and a sample of the types of comments received.



The prevalence of respondents' answers regarding locking doors and stopping windows opening too far is likely influenced by recent events. This illustrates the importance of sharing learnings.

Following this, the respondents were asked what they would not do (and why). Again, the answers were interpreted into groups of similar answers. The most common responses and a sample of the types of comments are shown below.



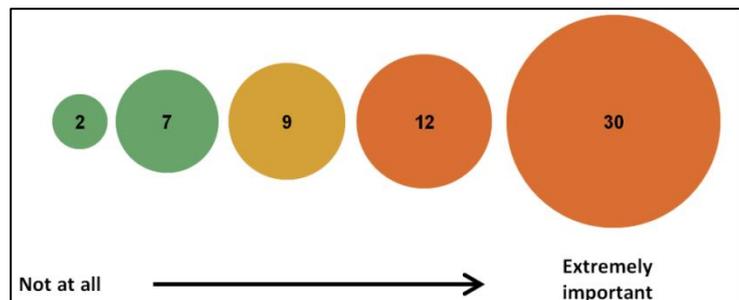
Overall, 25 individual respondents showed a reluctance for changes, valuing the protection of the heritage value of the carriages. Some believing the carriages were currently safe, or that safety talks were adequate, others citing the increased risk on the road or the fact heritage cars are able to operate without modification. However, the majority of the respondents made no mention of safety or assessment only citing the 'heritage experience' or 'purpose' of the operation.

High rate of derailments

Importance

The survey stated that the rate of derailments was high in the tourist and heritage sector and asked how important this rate was. The figure shows the response – the majority of respondents thought the high rate of derailments was very important or extremely important.

Respondents showed they understood there's potential for serious consequences (injuries, deaths, equipment damage) to occur and that the rate indicates failings in how the railway operation is maintained (track, rolling stock, training etc).



Respondents also showed concerns about reputation and ability to continue operating, as well as incidents detracting from the passenger experience. Respondents stated that understanding the cause was important in terms of rectifying issues and that those issues needed attention.

Those who responded that derailment rates were not at all important, of minor importance or were somewhat important generally did not believe that the rate was that high or thought that consequences of derailments were minor.

As a whole, the response showed there was a good understanding of potential consequences (even if they had not occurred previously), but not all individual responses necessarily had this understanding (eg mentioning time to re-rail but not potential of injuries).

Underlying, systemic reasons

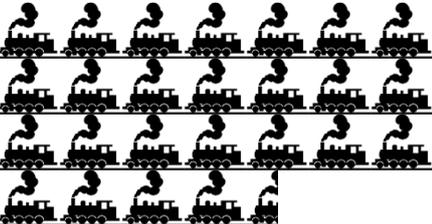
Respondents gave the following answers for the underlying, systemic reasons for the rate of derailments in the tourist and heritage sector:

- Not sure/don't know/many reasons
- Track faults or defects / poor track condition / track out of gauge / bad sleepers / spreading / lack of fastenings
- Lack of finance / track maintenance expensive (eg sleepers) / rolling stock maintenance expensive
- Lack of resources for maintenance / lack of knowledge / lack of skill / lack of experience or expertise / substandard maintenance / track maintenance not desirable task for volunteers (particularly for older volunteers)
- Old equipment /standard of infrastructure / condition of rolling stock / worn tyres / wheel wear
- Driver inattention / human error / speed
- Lack of good governance / inspections insufficient (track, rolling stock) / deficient safety checks / lack of standardised track standards for heritage groups
- Natural disasters / sabotage of track / vehicle collision / foreign objects on track / objects falling off vehicles onto tracks
- More likely to have volunteer non-adherence and lack of understanding of rules and regulations / different attitudes than in fully commercial operations

Attitude to safety

Respondents were asked which of the statements in the following table best described the attitude to safety at their railway operation.

The vast majority thought the statement that best described the attitude was *'We have a duty to care so far as is reasonably practicable. We will make limited alterations if required to make the operation safe, while keeping a heritage look and feel.'*

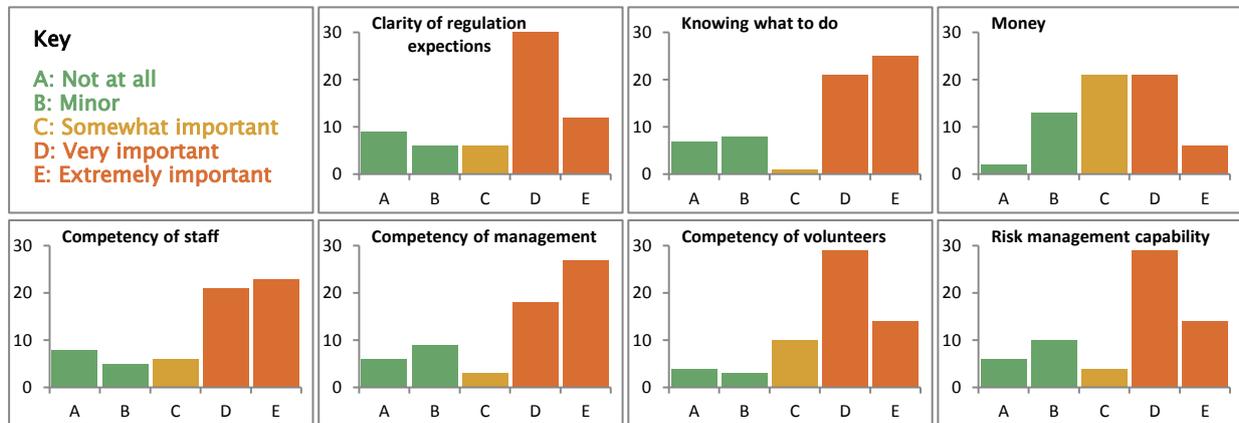
Statement	Key:
It's a heritage operation so it should be operated in the same way as at the time that the rolling stock was made.	 = 2 respondents
We run to slower speeds than back in the day. That addresses all the safety risks that matter.	
We don't have any money, so we rely on procedural controls.	
We recognise a duty to care, but we won't do anything that is inauthentic.	
These are inherently dangerous pieces of machinery. They should be locked away in sheds and brought out only for stationary start up days.	
None of the above – please specify:	

Most respondents who answered 'none of the above' felt the question did not apply to them as they were not a railway operator or did not yet have equipment.

Some respondents specified that while the 'so far as is reasonably practicable' answer was applicable, they felt the heritage look and feel was less important in this context. Others referenced their duty of care, benchmarks, and running to the highest practical safety standards possible

Limitations to safety performance

Respondents were asked to what extent they found the following aspects a limitation on the safety performance of their organisation.



The majority of respondents rated most aspects as very or extremely important. However, for money, most respondents rated money as between minor and very important. It is suspected that some respondents may have interpreted the question as the importance of the aspect generally, without respect to their own organisation.

Discussion and conclusions

In general there seemed to be a good overall understanding of safety risk and most participants identified a good attitude to safety at their organisation (eg ‘We have a duty to care so far as is reasonably practicable...’). This may have reflected to some extent the number of participants attending who had a governance role at their operation.

Despite this, many participants did not think all operators had the capability to meet current (and increasing) expectations in terms of risk and quality management. The issues raised with meeting expectations were not surprising for a sector that has many small organisations heavily reliant on volunteers (eg funding, guidance, training/experience, and administrative burden).

While participants were theoretically on board with reducing risks so far as is reasonably practicable, there also seemed to be reluctance to make any changes that could affect the heritage value of carriages. Given many participants’ passion for heritage carriages, this position could be anticipated, and this response appeared to be supported by the belief that carriages (and current standards) were safe enough.

Former approaches to safety in rail (ie prescriptive standards) seem to still be entrenched but are at odds with current health and safety legislation (ie flexible, performance based). Elements of heritage operations (eg preservation) may conflict with the intention of health and safety legislation (eg continuous improvement and progressively higher safety standards).

It can be inferred from this survey that the risk management capability of the tourist and heritage sector is generally lower and that some operators may struggle to meet rising health and safety expectations despite good intentions.