

# Auditory Announcements and Warnings at UK Train Stations: Do They Work?

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## SUMMARY

Auditory safety and security announcements in UK rail stations are regularly broadcast to dissuade passengers from actions that compromise personal and collective safety, yet passengers continue with risky behaviours. The effectiveness of these interventions is minimally evaluated. A survey of passengers ( $n = 37$ ) at two UK mainline rail stations, semi-structured interviews of station management and customer service experts ( $n = 9$ ) and a focus group of rail human factors and operations experts ( $n = 7$ ) were conducted; the study had a total of 53 participants. Uses of SAs and passenger behaviours at the two stations were observed. We found that most passengers found a safety or security SA helpful if it gave or inspired them to take an action or was memorable. Only 16% of passengers ignore SAs. Sixty-two percent of passengers found at least one SA helpful; ‘See it Say it Sorted’ (22%) and ‘Keep your luggage on you at all times’ (11%) were most popular in this group. Passengers find security SAs more useful than safety SAs, though most do not recognise they are also responsible for station security. Passengers and experts agree specific, timely announcements get more attention, which is why manual SAs are preferable to automated safety and security SAs that can fail to be contextually congruent and cause habituation as a result.

## KEYWORDS

Rail safety, Passenger safety and security, Verbal warnings

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## Introduction and study aim

Spoken announcements (SAs) in UK rail stations provide passengers with service updates, and try to dissuade passengers from unsafe behaviours, these are safety SAs, or actions that compromise the security of the station, security SAs. Network Rail (NR) automated safety, security and service SAs are scheduled while manual announcements are made ad hoc by station staff. SAs are important for making stations accessible to sight-impaired users but there is also a need to design spaces better suited for people sensitive to sounds. Terrorism on UK public transport and the governments’ goal of reducing crime on the railway have influenced recent security SAs (Department for Transport and Maynard, 2016; Hazebrouck, 2020). Despite the high frequency of safety and security SAs, passengers persist with risky behaviours. Previous work on the effect of station SAs in shaping passenger behaviour is scarce. Five studies on the popular ‘See it, Say it, Sorted’ (SiSiS) announcement were found, only two measured responses to the campaign. Jefferis, Tzani and Williams (2022) and Pearce et al., (2020) found the definition of suspicious activity differed between police and the public, though the campaign increased intention to report suspicious activity (Pearce et al., 2020). Therefore, literature on the effectiveness of PSAs from various industries and written warnings was consulted to explore the factors influencing compliance to safety messages. Actual effectiveness and perceived effectiveness of PSAs are difficult to measure empirically. It is assumed audiences must perceive PSAs as effective to change their behaviour, yet an empirical relationship between perceived effectiveness and actual effectiveness is contested (Dillard, Weber

and Vail, 2007). Habituation to a warning is likely to reduce attention to, thus memory of the warning and a belief that the warning is unnecessary or irrelevant to the recipient prevents it from eliciting the desired behaviour (Wogalter, 2019). Familiarity with warnings can make people ignore them (Wu et al., 2020), and repeated messages can breed contempt or cause frequent travellers to filter them out (Mooney, 2014; Hancock et al., 2020). Optimising the length of an announcement or warning sign so it contains enough details without taking too much time to attend to and comprehend is key. How environmental factors contribute to cognitive load and effect compliance to SAs has not been considered in the literature. The aim of this study is to understand passengers' and industry experts' attitudes to safety and security SAs as a means of identifying features that make effective SAs. The research questions were: 1. What SAs do passengers find useful? 2. What SAs do passengers comply with and why? 3. What announcement styles do experts and rail staff find effective and why?

### **Methods of study**

A survey of passengers (n = 37) at two UK mainline rail stations, semi-structured interviews of station management and customer service experts (n = 9) and a focus group of rail human factors and operations experts (n = 7) were conducted; the study had a total of 53 participants. Uses of SAs and passenger behaviours at the two stations were observed (Nottingham and London Paddington). Survey, interview and focus group transcripts were thematically analysed.

### **Findings and conclusions**

Most found a safety or security SA helpful if it gave or inspired them to take an action or was memorable. Only 16% of passengers ignore SAs. Sixty-two percent of passengers found at least one SA helpful; 'See it Say it Sorted' (22%) and 'Keep your luggage on you at all times' (11%) were most popular in this group. Twenty-seven percent of passengers recounted complying with an SA, 19% complied with 'Stand behind the yellow line.' Passengers and staff agree specific and timely SAs are more effective for gaining passengers' attention. Passengers find security SAs more useful than safety SAs, though most do not recognise they are also responsible for station security. Passengers and experts agree specific, timely announcements get more attention, which is why manual SAs are preferable to automated safety and security SAs that can fail to be contextually congruent and cause habituation as a result. Passengers are more likely to engage with specific, novel and timely SAs they know apply to them. SAs should start by saying who the information applies to and perhaps use a bell to prime passengers to receive information as passengers complained of missing important information because SA start without warning. Manual announcements should be used more than auto-SAs for this reason; this means standardised criteria for SAs may have limited use but effective techniques for sharing safety information should be shared between stations. More stations should consider adopting roving microphones for platform specific announcements. Operators and the government should be aware that passengers do not always understand how their actions can affect the whole network and should consider highlighting the consequences of not following safety and security advice, for example that objects falling onto tracks and false security alarms can disrupt services and impact overall journey times for passengers.