



PARIS  
2 ▶ 7  
OCTOBER  
2016 ▶ Pullman Bercy Hotel

INTERNATIONAL  
RAILWAY SAFETY COUNCIL

# The role of human factors in optimising the operation, management and design of the PTI

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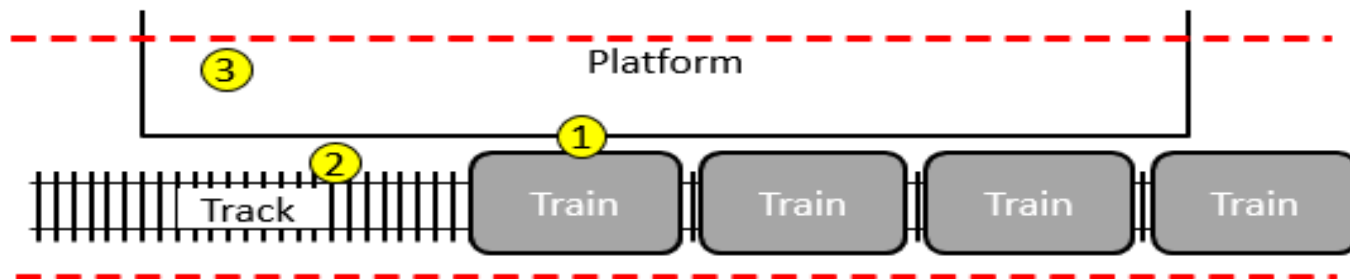


# Road Map

- ▶ Scope
- ▶ Rationale
- ▶ Challenges
- ▶ Research Programme
- ▶ Findings
- ▶ PTI Strategy
- ▶ Next Steps



# Scope



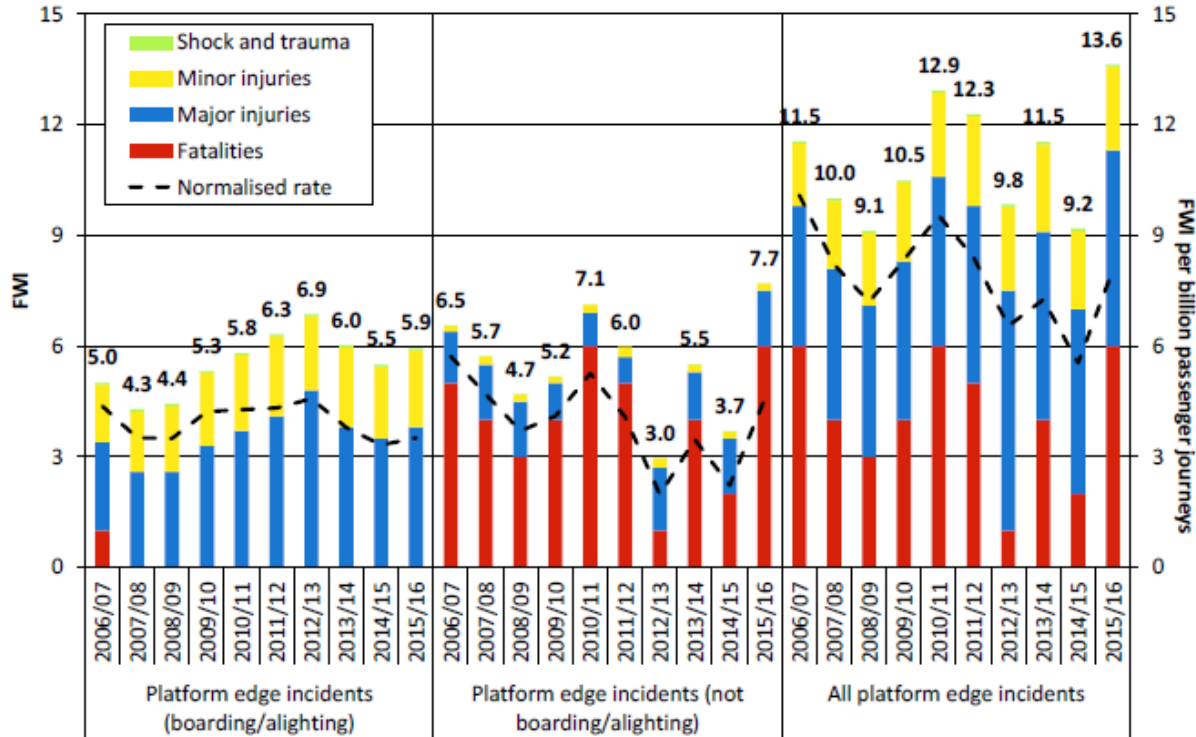
Area of platform-train corridor	Type of event
①	Person trapped in train doors
	Contact with train exterior while on platform
	Person falling between train and platform
	Slip, trip or fall across the platform-train interface
②	Fall from platform onto track
③	Wheeled transport rolling off platform (crossfall)

# Rationale

- ▶ High Profile accidents
- ▶ Passenger exposure to risk

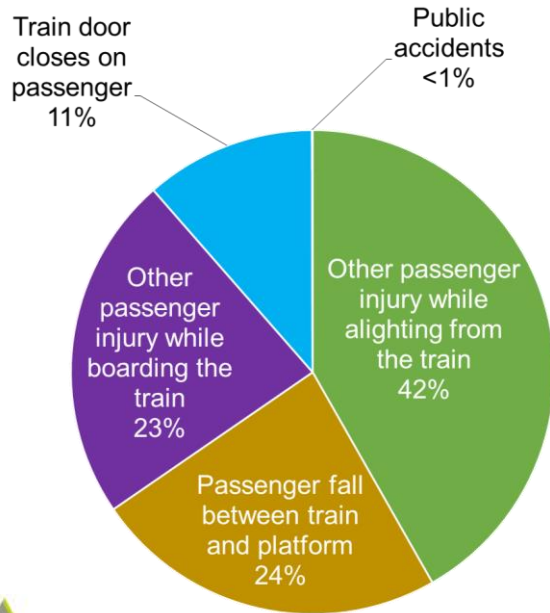


# Rationale

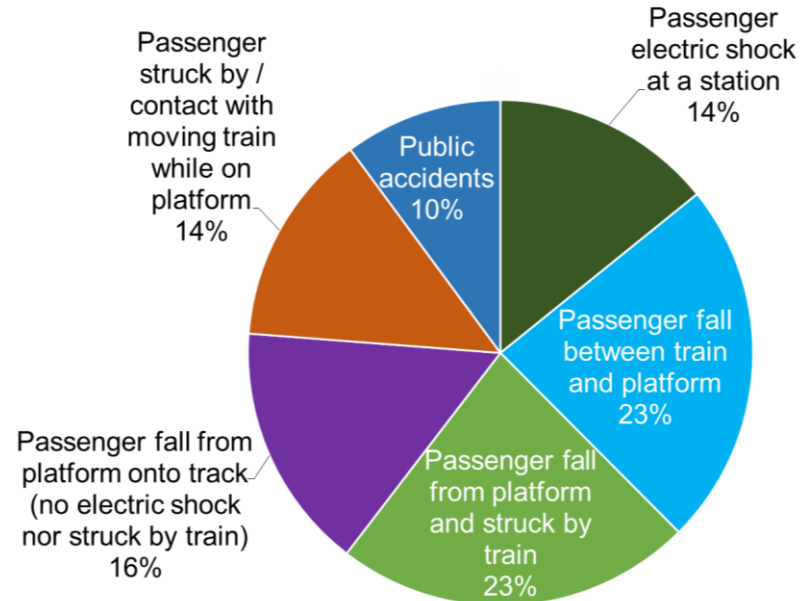


# Rationale

## PTI risk due to boarding/alighting



## PTI risk not due to boarding/alighting



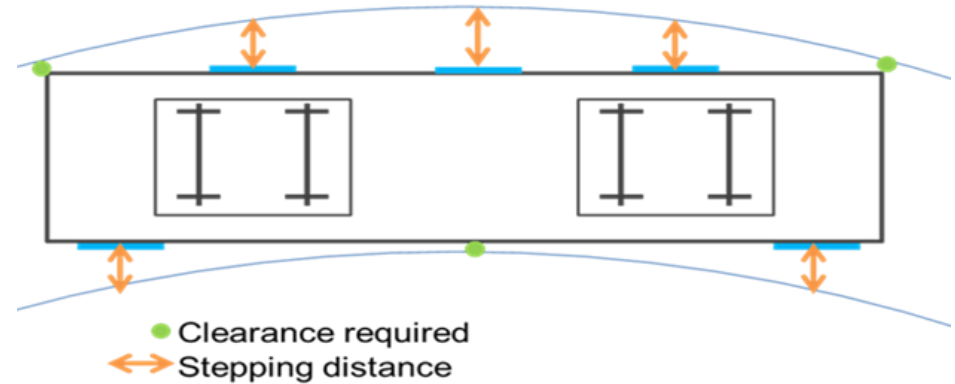
# Rationale

- ▶ High Profile accidents
- ▶ Passenger exposure to risk
- ▶ Need for capacity, accessibility and performance



# Challenges

- ▶ Significant variation in station, platform and train design
- ▶ Passenger attitudes and behaviours
- ▶ Differing dispatch methods and staffing requirements for platforms
- ▶ Maintaining access for mixed traffic operations





# Research programme

## ▶ SMIS narrative analysis and PTI special topic report

62%

of all incidents included  
mention of a slip/trip/fall

15%

of all incidents involved  
passengers carrying  
suitcases, pushchairs, bikes,  
or other baggage

10%

of all incidents involved  
running or rushing on  
a platform or train

9%

of all incidents involved  
intoxication

# Findings – Prioritised behaviours

- ▶ Accidental slip, trips and falls
- ▶ Rushing
- ▶ Too near to the edge
- ▶ Lack of awareness
- ▶ Crowding
- ▶ Intoxication
- ▶ Encumbered travel
- ▶ Sensory impairment
- ▶ Technology use

# Other contributory factors

Infrastructure	Operational	Rolling stock
Platform (slippery, uneven, obstructions)	Service issues (delays, frequency, cancellations, staff error, inaccurate customer info)	Hustle alarms Exits
Height and width of the gap between platform and train	Maintenance on the platform	Train fittings and on board space
Wayfinding and signage	Presence of staff and dwell time	Footsteps and plates

# Prioritised mitigations

- ▶ Raising awareness of PTI risks and facilitating behavioural change, through education, communication and staff interactions
- ▶ Supporting and empowering vulnerable passengers or those requiring assistance
- ▶ Providing staff with the skills, time, and equipment to better engage with passengers and support reductions in PTI
- ▶ Enhancing management of intoxicated passengers
- ▶ Improving platform management
- ▶ Improving the provision, location and content of information for customer service

# Prioritised mitigations continued

- ▶ Rolling stock design to support vulnerable passengers or those requiring assistance
- ▶ Optimising infrastructure and design of the physical environment
- ▶ Enhancements to train dispatch and utilisation of technologies to support the safe arrival, departure and dispatch of trains
- ▶ Demarcating the position of platform markings
- ▶ Provision of standardised train stop markings
- ▶ Provision of adequate and flexible dwell times and increased capacity

# Strategic workstreams



Data intelligence and gathering



Passenger movement



Train stopping positions, dispatch



Accessibility



Engineering



Performance

# Deliverables to date

- ▶ National media campaign



**LEND A HELPING HAND**

**Getting on? Getting off?**  
Please relax and take it slow  
Everyone here has somewhere to go.

Last year 1,432 incidents occurred at platform edges. By holding onto handrails and each other we can help to reduce that number.

To find out more, visit [www.rail-safety.gov.uk](http://www.rail-safety.gov.uk)

**RSSB**

**LEND A HELPING HAND**

Sometimes older people, and those who are small, need help crossing the gap, to avoid a fall.

Last year 1,432 incidents occurred at platform edges. By holding onto handrails and each other we can help to reduce that number.

To find out more, visit [www.rail-safety.gov.uk](http://www.rail-safety.gov.uk)

**RSSB**

**LEND A HELPING HAND**

To a buggy struggling to safely cross a helping hand means an awful lot.

Last year 1,432 incidents occurred at platform edges. By holding onto handrails and each other we can help to reduce that number.

To find out more, visit [www.rail-safety.gov.uk](http://www.rail-safety.gov.uk)

**RSSB**

**LEND A HELPING HAND**

Glued to your phone, in your own little bubble... No paying attention can cause all kinds of trouble.

Last year 1,432 incidents occurred at platform edges. By holding onto handrails and each other we can help to reduce that number.

To find out more, visit [www.rail-safety.gov.uk](http://www.rail-safety.gov.uk)

**RSSB**

**LEND A HELPING HAND**

Friend's had a tippie? Big night out? Stayed up late? You'll see them home safely, if you're a proper mate.

Last year 1,432 incidents occurred at platform edges. By holding onto handrails and each other we can help to reduce that number.

To find out more, visit [www.rail-safety.gov.uk](http://www.rail-safety.gov.uk)

**RSSB**

**LEND A HELPING HAND**

Prams and cases have a mind of their own. Left unattended, they can speed off alone.

Last year 1,432 incidents occurred at platform edges. By holding onto handrails and each other we can help to reduce that number.

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**RSSB**

**LEND A HELPING HAND**

Mind the doors  
No ifs, no buts:  
once train doors close,  
train doors stay shut.

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**RSSB**



# Deliverables to date

- ▶ National media campaign
- ▶ On line PTI good practice guide
- ▶ Staff communication on PTI risks
- ▶ Industry training resource
- ▶ Management of intoxicated passengers
- ▶ Managing luggage guidance
- ▶ PTI Risk assessment tool
- ▶ Evaluation of platform gap fillers
- ▶ Investigation of platform edge positions
- ▶ Research to improve access to and from trains



# On going work

- ▶ RBTNA and NTS training for staff responsible for dispatch
- ▶ Research into platform markings, stop car markers and step/gap arrangements
- ▶ Adaptation of fair culture good practice guide for dispatch staff
- ▶ Development of a guide on RTC for dispatch staff
- ▶ Update to standard on Passenger train dispatch and platform safety

# PTI strategy

- ▶ Developed by cross-industry group, chaired by Network Rail with strong TOC involvement
- ▶ Account for both the short term and long term needs of the industry
- ▶ Defines future research needs
- ▶ Obtain industry buy-in for implementation

