# Ratesetter: Improving passenger boarding rate and reducing risk at the PTI

## Background

This project aimed to identify the factors affecting the rate at which passengers are able to board and alight trains, considering both passenger behaviour and also PTI design on the platform and in carriage.

Computer modelling techniques were used to assess different PTI design options and make recommendations on modifications for retrofit cases, and optimum combinations for future PTI design.

## Findings

Passenger behaviour was successfully captured using CCTV footage (of both the train and platform) at a range of locations.

By using footage and behaviours in conjunction with an improved version of the existing passenger movement model, an 'ideal' PTI has been found through optimisation.

## Next steps

The PTI flow objective alone was deemed to be too narrow so train capacity and other factors need to be considered as a next step.

Additional testing is required to calibrate the tool which has now been developed. and validate its predictions against 'real-world' examples.

## BENEFITS

**Safety, Customer & Capacity.**
Any improvement of the passenger flow rate, through redesign or modification of the PTI environment, could potentially help to increase capacity, and reduce safety incidents occurring as passengers move on and off the train. This would improve the platform experience for customers as well as benefit the dispatch process.

The University Of Sheffield

RSSB

# Background

In support of the rail industry vision set out in the cross-industry Platform Train Interface (PTI) Strategy, RSSB invited the academic community to develop novel ideas and innovative solutions in relation to 3 areas of activity identified in the strategy: Passenger movements through the station and across the PTI, optimising the step and gap, and performance and capacity.

This call for research specifically sought ideas which could help the rail industry reduce dwell time, cater for increasing capacity and reduce safety risk at the PTI.

Proposals were invited to address one of **two main challenge areas:**

| **Influencing and improving passenger behaviour at the PTI** | **Future PTI design for faster and safer boarding and alighting** |
|---|---|
| How can we influence passenger behaviour at or around the PTI to encourage speedier and safer boarding and alighting of trains (with minimal or no changes to current infrastructure and rolling stock)? | How would changes to the design of the physical elements that shape the PTI enable speedier and safer boarding and alighting in the context of increased demand over the next 30 years? |

This project was led by University of Sheffield as part of an RSSB funded programme of work on "Faster, Safer, Better: Boarding and Alighting Trains".

The technical report and Research in Brief are available at www.sparkrail.org

#rrukaPTI