

Railway Group Standard

G/RT7016

Issue Five

Date March 2014

Interface between Station Platforms, Track and Trains

Synopsis

This document mandates requirements for the design and maintenance of station platforms for their safe interface with trains.

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Published by:

**RSSB
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Railway Group Standard**GI/RT7016****Issue** Five**Date** March 2014**Interface between Station
Platforms, Track and Trains****Issue record**

Issue	Date	Comments
One	February 2004	Original document.
Two	December 2007	Replaces issue 1, and incorporates some requirements from GI/RT7014, issue 1, Infrastructure Requirements at Stations, GI/RT7010, issue 1, Lighting of Railway Premises and GE/RT8060, issue 1, Technical Requirements for Dispatch of Trains from Platforms.
Three	December 2009	Small scale changes replaces issue 2 The requirement in respect to platform cross fall in section 11.1.3 has been replaced with the text based on the previous standard GI/RT7014. Other parts of GI/RT7016 issue 2, are unchanged from the previous issue.
Four	September 2010	Small scale change replaces issue 3 Section 2.2 Vertical track alignment through station platforms deleted (requirement withdrawn).
Five	March 2014	Replaces issue 4, the requirements for platform extensions on curves, platform width, and cross fall have been revised. Requirements for extending the length of existing platforms have been deleted. Requirement for height of platform recess included. Appendices A, B, C and D have been moved to GI/GN7616 and Appendix E to RIS-7702-INS

Amended or additional parts and / or sections of revised pages have been marked by a vertical black line in the adjacent margin.

Superseded documents

The following Railway Group documents are superseded, either in whole or in part as indicated:

Superseded documents	Sections superseded	Date when sections are superseded
GI/RT7016, issue 4, Interface between Station Platforms, Track and Trains	All	07 June 2014

GI/RT7016 issue 4 ceases to be in force and is withdrawn as of 07 June 2014.

Railway Group Standard

GI/RT7016

Issue Five

Date March 2014

Interface between Station Platforms, Track and Trains

Supply

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Railway Group Standard**GI/RT7016****Issue** Five**Date** March 2014**Interface between Station
Platforms, Track and Trains****Contents**

Section	Description	Page
Part 1	Purpose and Introduction	6
1.1	Purpose	6
1.2	Introduction	6
1.3	Approval and authorisation of this document	7
Part 2	Location of new platforms	8
2.1	Horizontal track alignment through station platforms	8
2.2	Vertical track alignment through station platforms	8
Part 3	Standard platform position relative to adjacent track	9
3.1	Platform height	9
3.2	Platform offset	9
3.3	Footsteps of new trains relative to standard platform position	9
3.4	Increased stepping distances associated with achieving the standard platform position	9
3.5	S&C adjacent to a platform	10
Part 4	Altering the position of platforms relative to adjacent track	11
4.1	Maintaining the position of existing platforms complying with the standard platform position	11
4.2	Alterations to existing platforms not complying with the standard platform position	11
Part 5	Usable length of platforms	12
5.1	General requirement for usable length of platforms	12
5.2	Exemption where operational procedures apply	12
5.3	Signs for stopping position of trains	12
Part 6	Location of buildings, structures and other items on platforms	13
6.1	Determining the minimum usable platform width	13
6.2	Location of buildings and structures on platforms	13
6.3	Location of structures at terminal stations	13
6.4	Location of platform furniture	14
6.5	Location of isolated columns supporting lighting, signs and other equipment	14
6.6	Location of driver only operation equipment	14
Part 7	Usable width of platforms	15
7.1	Requirements for all new platforms	15
7.2	New single face platforms	15
7.3	New double face platforms	15
7.4	Lengthening of existing platforms	15
Part 8	Headroom on Platforms	16
8.1	Minimum headroom on platforms	16
Part 9	Protection of people from aerodynamic effects of passing trains	17
9.1	Aerodynamic effects of passenger trains passing at speeds greater than 125 mph	17
9.2	Aerodynamic effects of passenger trains passing at speeds greater than 100 mph but not exceeding 125 mph	17
9.3	Aerodynamic effects of freight trains passing at speeds greater than 60 mph	18

Interface between Station Platforms, Track and Trains

Part 10	Lighting of platforms	19
10.1	Requirement to provide lighting	19
10.2	Horizontal illuminance	19
10.3	Vertical plane illuminance towards an observer viewing parallel to the platform edge	19
10.4	Lighting installations at DOO stations	21
Part 11	Other requirements for safety of passengers boarding or alighting from trains	22
11.1	Platforms	22
11.2	Signs and markings	22
Part 12	Transition between sunlit areas and artificially illuminated areas at stations	24
12.1	Requirement to minimise the creation of sharp transitions of light	24
Part 13	Application of this document	25
13.1	Application - infrastructure managers	25
13.2	Application – railway undertakings	26
13.3	Health and safety responsibilities	26
Definitions		27
References		30
Figures		
Figure 1	Measurement of Vertical Plane Illuminance	20

Railway Group Standard**GI/RT7016****Issue** Five**Date** March 2014**Interface between Station
Platforms, Track and Trains**

Part 1 Purpose and Introduction**1.1 Purpose**

- 1.1.1 This document mandates requirements for the design and maintenance of station platforms for their safe interface with track and trains.

1.2 Introduction**1.2.1 Background**

- 1.2.1.1 This section (1.2) is a descriptive introduction to this document. It does not contain mandatory requirements, but draws attention to an important point about alterations (as defined).

1.2.2 Alterations to station platforms

- 1.2.2.1 It is the intention of this document that alterations (as defined) to stations contribute to improving safety, and that alterations (as defined) to platforms contribute to improving safety by the eventual achievement of 'standard' platforms throughout Network Rail managed infrastructure (that is, platforms meeting the requirements of this document). However, this improvement in safety should be achieved without imposing unreasonable costs on the industry.
- 1.2.2.2 'Alteration' is therefore defined as 'the substantial lengthening or rebuilding of all or part of an existing platform and / or an associated structure, or renewal of station equipment or platform furniture, which provides a reasonable opportunity to bring the items concerned into conformity with the requirements of this document'.

1.2.3 Related requirements in other documents

- 1.2.3.1 The following Railway Group Standards contain requirements that are relevant to the scope of this document:
- a) GC/RT5033 sets out the requirements for arrangements to be provided on terminal tracks to arrest a train and protect people, stations and structures from the effects of an overrun.
 - b) GC/RT5021 sets out the requirements for the track system, including the limitations on track cant at stations.
 - c) GC/RT5212 sets out requirements for defining and maintaining clearances to trains.
 - d) GE/RT8270 sets out requirements and responsibilities for the assessment of compatibility of infrastructure and rolling stock. In the context of this document it applies when assessing compatibility between infrastructure and rolling stock, and between infrastructure and infrastructure where the assets concerned are the responsibility of different infrastructure managers. It is therefore relevant when alterations (as defined) to station platforms are proposed, or when an increase in the speed of trains passing on the line adjacent to a station platform is proposed.
 - e) GM/RT2149 sets out requirements for maintaining the operational envelope of rail vehicles. It specifies requirements for rolling stock passenger footstep position and stepping distances.

Interface between Station Platforms, Track and Trains

1.2.4 Supporting documents

- 1.2.4.1 GI/GN7616 Guidance on Interface between Station Platforms, Track and Trains gives guidance on interpreting the requirements of GI/RT7016, relating to platform geometry and specifically supports Parts 2, 3, 4, 5, 6, 7, 8, 9 and 11.
- 1.2.4.2 RIS-7702-INS Rail Industry Standard for Lighting at Stations provides a standard on lighting at stations, for the infrastructure managers responsible for managing and operating stations, to use if they so choose.

1.3 Approval and authorisation of this document

- 1.3.1 The content of this document was approved by Infrastructure Standards Committee on 13 November 2013.
- 1.3.2 This document was authorised by RSSB on 18 December 2013.

Railway Group Standard

GI/RT7016

Issue Five

Date March 2014

Interface between Station Platforms, Track and Trains

Part 2 Location of new platforms

2.1 Horizontal track alignment through station platforms

- 2.1.1 Station platforms shall be located on straight track unless the particular geographical characteristics of the potential sites and the characteristics of the railway infrastructure at the proposed location of the platform do not provide a reasonable opportunity for achieving this.
- 2.1.2 Station platforms shall not be located on horizontal curves with radii less than 1000 m.
- 2.1.3 It is permitted for platform extensions to be located on horizontal curves with radii less than 1000 m but not less than 500 m.
- 2.1.4 Before station platforms are located on curved track, consideration shall be given to the following:
 - a) Train to platform stepping distances, taking the types of train likely to call at the platform into account.
 - b) Visibility (either direct, by means of CCTV screens, or by mirrors) along the length of trains for train crew and station staff responsible for dispatching trains.
- 2.1.5 GC/RT5021 requires that the normal limiting design value for cant adjacent to a station platform is 110 mm, with an exceptional limiting design value of 130 mm.

2.2 Vertical track alignment through station platforms

- 2.2.1 GI/GN7616 Guidance on Interface between Station Platforms, Track and Trains gives guidance on vertical track alignment through station platforms.

Interface between Station Platforms, Track and Trains

Part 3 Standard platform position relative to adjacent track

3.1 Platform height

- 3.1.1 For new platforms and alterations (as defined) to existing platforms, the height at the edge of the platform shall be 915 mm (within a tolerance of +0 mm, -25 mm).
- 3.1.2 Where a new platform or an alteration (as defined) to an existing platform abuts an existing platform, any discrepancy in height of the platform shall be gradually tapered into the existing platform. The transition gradient shall not exceed 1:20.

3.2 Platform offset

- 3.2.1 For new platforms and alterations (as defined) to existing platforms, the platform edge shall be the minimum distance from the adjacent track (within a tolerance of +15 mm, -0 mm) consistent with the lower sector structure gauge set out in GC/RT5212 Appendix 1.
- 3.2.2 For most platforms, curves with radii greater than or equal to 360 m require a platform offset of nominally 730 mm (within a tolerance of +15 mm, -0 mm). GC/RT5212 sets out exceptions where Class 373 trains or 2.6 m wide containers are required to pass the platform. GC/RT5212 also sets out requirements where the curve radius is less than 360 m.
- 3.2.3 Where a new platform or an alteration (as defined) to an existing platform abuts an existing platform, any discrepancy in alignment of the platform shall be removed over a length commensurate with complete platform coper unit lengths, but at a rate not steeper than 1:80.

3.3 Footsteps of new trains relative to standard platform position

- 3.3.1 GM/RT2149 sets out the requirements for footsteps for passenger use on new trains relative to a platform positioned in accordance with sections 3.1 and 3.2.

3.4 Increased stepping distances associated with achieving the standard platform position

- 3.4.1 Not all footsteps of existing trains are compliant with the nominal footstep height set out in GM/RT2149.
- 3.4.2 Not all existing platforms are compliant with this document.
- 3.4.3 Setting the position of a platform edge to meet the requirements of sections 3.1 and 3.2 could therefore result in the stepping distances quoted in section 3.3 being exceeded in the case of some trains that do not meet the current requirements of GM/RT2149.
- 3.4.4 Where this is the case, measures to protect the safety of passengers when boarding or alighting from trains scheduled to call at the particular platform (or section of platform) shall be put in place before the usable platform length is brought into use.

Railway Group Standard

GI/RT7016

Issue Five
Date March 2014

Interface between Station Platforms, Track and Trains

- 3.4.5 The measures considered shall include the following:
- a) Provision of warning signs and platform markings.
 - b) Provision of announcements.
 - c) Staff attendance.

3.5 S&C adjacent to a platform

- 3.5.1 Where switches and crossings (S&C) are located adjacent to the platform, the effects of vehicle end throw shall be taken into account.

Interface between Station Platforms, Track and Trains

Part 4 Altering the position of platforms relative to adjacent track

4.1 Maintaining the position of existing platforms complying with the standard platform position

- 4.1.1 At existing platforms that conform to the requirements of Part 3, the standard platform position shall be maintained when track or structural maintenance, renewal or alteration (as defined) is carried out.

4.2 Alterations to existing platforms not complying with the standard platform position

- 4.2.1 At platforms where the existing platform height or the existing platform offset does not meet the requirements set out in sections 3.1 and 3.2, the requirements of sections 3.1 and 3.2 shall be applied when an alteration (as defined) to a platform (including extending the usable length of a platform) or an alteration (as defined) to the track adjacent to the platform is undertaken, unless the particular site constraints or rolling stock using the route prevent this.
- 4.2.2 Alterations (as defined) shall be designed so as not to increase the platform stepping distances unless they are associated with achieving the standard platform height set out in section 3.1 or the platform offset requirements set out in GC/RT5212.
- 4.2.3 For the situation where the existing platform height is higher than 915 mm and site constraints prevent the full achievement of the height and offset in accordance with clause 3.1 and clause 3.2 at the time of the alteration (as defined), it is permissible to increase the platform stepping distances where the platform height is lowered so that it is closer to meeting the requirement of section 3.1, provided that a suitable risk assessment is undertaken and the resulting increased stepping distances remain within the requirements of GM/RT2149 Appendix A.

Railway Group Standard**GI/RT7016****Issue** Five**Date** March 2014**Interface between Station
Platforms, Track and Trains**

Part 5 Usable length of platforms**5.1 General requirement for usable length of platforms**

- 5.1.1 Except as identified in section 5.2, the usable length of platforms shall be long enough to accommodate the longest train formation regularly booked to stop at a platform, with allowances for inaccurate stopping and operational (including train control) requirements.
- 5.1.2 The usable length of terminal platforms shall include an allowance both for the train to stop before it reaches the buffer stops and for the length taken up by the buffer stop equipment.

5.2 Exemption where operational procedures apply

- 5.2.1 It is permissible for the usable length of a platform to be shorter than is sufficient to accommodate the longest train formation booked to stop at the platform, provided that the platform is long enough to accommodate the majority of the trains and procedures are in place to protect the safety of passengers and train crew boarding and alighting. The procedures put in place shall be recorded and supported by a documented safety justification.
- 5.2.2 GE/RT8000 contains instructions to the guard when a multiple-unit train is to stop at a platform shorter than the train. GE/RT8000 contains corresponding instructions for locomotive-hauled trains (including HSTs, push-pull, postal and parcels trains).
- 5.2.3 GM/RT2473 requires a system of selective door opening (SDO) to be adopted for new trains where there are no alternative means to accommodate all doors on a train within the usable length of a passenger platform.

5.3 Signs for stopping position of trains

- 5.3.1 On all through platforms, information or signage shall be provided to drivers to enable them to stop their trains at the correct point. Among the arrangements in use are stop markers, mandated distances from starting signals and contrasting painted platform copers.
- 5.3.2 GI/RT7033 sets out requirements for the design of platform stop markers used for this purpose.

Interface between Station Platforms, Track and Trains

Part 6 Location of buildings, structures and other items on platforms

6.1 Determining the minimum usable platform width

- 6.1.1 This section sets out requirements for the minimum distance between items on platforms (including buildings, structures, platform furniture, isolated columns supporting lighting and signs, and driver only operation (DOO) equipment) and the platform edge.
- 6.1.2 Compliance with these requirements usually sets a limit on the minimum usable width of new platforms (subject to also meeting the requirements of section 7.1). In cases where these requirements do not determine the minimum usable width, the requirements of sections 7.2 and 7.3 apply (again, subject to also meeting the requirements of section 7.1).
- 6.1.3 GI/GN7616 Appendix C gives an example of the determination of the minimum usable platform width for a double face platform.

6.2 Location of buildings and structures on platforms

- 6.2.1 Buildings and structures, including supports to station roofs, platform canopies and any associated barriers that protect structures from impact, shall not unduly restrict the movement of passengers.
- 6.2.2 New buildings and structures, and alterations (as defined) to existing buildings and structures, shall be located to provide the following minimum distances to the platform edge:
 - a) 3000 mm where the permissible or enhanced permissible speed on the line adjacent to the platform exceeds 100 mph (160 km/h).
 - b) 2500 mm at other platforms.
- 6.2.3 Particular requirements for the location of platform furniture and isolated columns supporting lighting, signs and DOO equipment are set out in sections 6.4, 6.5 and 6.6.

6.3 Location of structures at terminal stations

6.3.1 Location of new structures in relation to terminal tracks

- 6.3.1.1 New structures, including buildings and columns supporting canopies shall not be located within the overrun risk zone extending 20 m behind the face of the buffer stop and 5 m either side of the projected centre line of the track approaching the buffer stop. This is referred to in clause 6.3.2 and clause 6.3.3 as the 'overrun risk zone'.

6.3.2 Alterations to existing structures or track layouts

- 6.3.2.1 Alterations (as defined) to an existing structure or track layout shall not:
 - a) Cause a structure that is outside the overrun risk zone to come within the overrun risk zone.
 - b) Cause a structure that is within the overrun risk zone to become closer to the centre line of the track and / or closer to the face of the buffer stop.

Railway Group Standard

GI/RT7016

Issue Five

Date March 2014

Interface between Station Platforms, Track and Trains

6.4 Location of platform furniture

- 6.4.1 Platform furniture shall not unduly restrict the movement of station users.
- 6.4.2 New platform furniture, and alterations (as defined) to existing platform furniture, shall be located to provide the following minimum distances to the platform edge:
 - a) 3000 mm where the permissible or enhanced permissible speed on the line adjacent to the platform exceeds 100 mph (160 km/h).
 - b) 2500 mm at other platforms.

6.5 Location of isolated columns supporting lighting, signs and other equipment

- 6.5.1 Isolated columns supporting lighting, signs or other equipment (for example, stop markers) shall be positioned to avoid creating obstructions to the movement of station users.
- 6.5.2 Isolated columns for new lighting, signs or other equipment (for example, stop markers) or alterations (as defined) to such items shall be located to provide the following minimum distances to the platform edge:
 - a) 3000 mm where the permissible or enhanced permissible speed on the line adjacent to the platform exceeds 100 mph (160 km/h).
 - b) 2500 mm at other platforms.
- 6.5.3 Where particular site constraints prevent compliance with clause 6.5.2 of this document, isolated columns for new lighting, signs or other equipment (for example, stop markers) or alterations (as defined) to such items shall be located not less than 2000 mm from the platform edge.

6.6 Location of driver only operation equipment

- 6.6.1 The position of supports for new driver only operated (DOO) closed circuit television (CCTV) and other DOO equipment (for example, stop markers) on platforms and alterations (as defined) to existing DOO CCTV and other DOO equipment on platforms shall take into account both:
 - a) The need to provide clear area between the support and the platform edge.
 - b) The need for the driver of the train to be able to see the DOO CCTV screen or other DOO equipment.
- 6.6.2 If the distances to the platform edge provided meet the requirement of section 6.5, no further justification is required.
- 6.6.3 In all cases, the DOO equipment shall be at least 450 mm clear of the swept envelope (as defined in GC/RT5212) of trains using or passing through the station, and shall be positioned so as not to restrict the movement of people (see also GE/RT8060).

Interface between Station Platforms, Track and Trains

Part 7 Usable width of platforms

7.1 Requirements for all new platforms

- 7.1.1 The minimum usable width of a platform shall:
- Prevent overcrowding with the maximum anticipated usage of the platform.
 - Accommodate the unscheduled detraining of passengers from a fully occupied train, and any passengers occupying the platform when the train arrives, without risk of injury to passengers.
- 7.1.2 GI/GN7616 Appendix D gives advice on selecting a method to establish the maximum number of people to allow for, in the event of unscheduled detraining of passengers.

7.2 New single face platforms

- 7.2.1 The usable width of a new single face platform shall be nowhere less than:
- 3000 mm where the permissible or enhanced permissible speed on the line adjacent to the platform exceeds 100 mph (160 km/h).
 - 2500 mm at other platforms.
- 7.2.2 Where the characteristics of the railway infrastructure do not provide a reasonable opportunity to achieve the requirement of 7.2.1 b), it is permitted that the minimum useable width of a single face platform extension can be reduced to 2000 mm over the last 20 m where:
- The permissible or enhanced speed on the line adjacent to the platform does not exceed 100 mph (160 km/h).
 - The last 20 m does not constitute a normal access to or egress from the platform.
 - The last 20 m is not a location where passengers congregate, for example commuters positioning themselves to be nearest the exit when arriving at a terminal station.
 - Agreement has been reached with affected parties.

7.3 New double face platforms

- 7.3.1 The usable width of a new double face platform shall be nowhere less than:
- 6000 mm where the permissible or enhanced permissible speed on both lines adjacent to the platform exceeds 100 mph (160 km/h).
 - 5500 mm where the permissible or enhanced permissible speed on one line adjacent to the platform exceeds 100 mph (160 km/h) and the other does not exceed 100 mph (160 km/h).
 - 4000 mm at other platforms.

7.4 Lengthening of existing platforms

- 7.4.1 When existing platforms are lengthened, the width of the new part of the platform shall comply with the requirements for new platforms set out in sections 7.1 to 7.3.

Railway Group Standard

GI/RT7016

Issue Five

Date March 2014

Interface between Station Platforms, Track and Trains

Part 8 Headroom on Platforms

8.1 Minimum headroom on platforms

- 8.1.1 The minimum headroom to new station roofs and platform canopies or alterations (as defined) to station roofs and platform canopies, suspended equipment, signs and lighting shall be 2500 mm for the following distances from the platform edge:
- a) 3000 mm where the permissible or enhanced permissible speed on the line adjacent to the platform exceeds 100 mph (160 km/h).
 - b) 2500 mm at other platforms.
- 8.1.2 GI/GN7616 Appendix E contains a diagram illustrating the headroom requirements.
- 8.1.3 GC/RT5212 sets out requirements for defining and maintaining clearances to trains.

Interface between Station Platforms, Track and Trains

Part 9 Protection of people from aerodynamic effects of passing trains

9.1 Aerodynamic effects of passenger trains passing at speeds greater than 125 mph

9.1.1 At station platforms where the permissible or enhanced permissible speed on the adjacent line is greater than 125 mph (200 km/h), people shall be prevented from gaining access to the parts of the platform exposed to the aerodynamic effects of trains passing at speeds exceeding 125 mph (200 km/h).

9.2 Aerodynamic effects of passenger trains passing at speeds greater than 100 mph but not exceeding 125 mph

9.2.1 New station platforms

9.2.1.1 At new station platforms, where the permissible or enhanced permissible speed on the adjacent line is greater than 100 mph (160 km/h), a yellow line shall be provided on the platform, together with warning signs. The yellow line shall be positioned so that people standing immediately behind the line are at least 1500 mm away from the platform edge.

9.2.2 Existing station platforms or station platforms subject to alteration

9.2.2.1 At existing station platforms and station platforms subject to alteration (as defined), where passenger trains pass or are proposed to pass on the line adjacent to a platform at speeds greater than 100 mph (160 km/h), a yellow line shall be provided on the platform, together with warning signs. The yellow line shall be positioned in accordance with clause 9.2.1.1, unless this position of the yellow line is likely to lead to overcrowding.

9.2.2.2 Where the position of a yellow line in accordance with clause 9.2.1.1 is likely to lead to overcrowding, it is permissible to reduce the distance between the yellow line and the platform edge. In this case, action shall be taken to mitigate the risk from the aerodynamic effects of passing trains to lightweight objects and vulnerable passengers on the station platform (for example, pushchairs, the elderly or frail).

9.2.2.3 GI/RT7033 sets out requirements for the design of a warning sign for aerodynamic effects on station platforms.

9.2.2.4 GI/GN7616 Appendix G provides a risk assessment methodology for assessment of the aerodynamic risk from passing trains. It also gives advice on the factors that should be taken into account in a risk assessment to determine the action required to mitigate the risk from the aerodynamic effects of passing trains, and the mitigation measures that should be considered.

9.2.2.5 GI/GN7616 Part 11 gives advice on the notification of proposed increases in the speed of trains passing on the line adjacent to a station platform, to enable the actions required by section 9.2.2 to be carried out.

Railway Group Standard

GI/RT7016

Issue Five

Date March 2014

Interface between Station Platforms, Track and Trains

9.3 Aerodynamic effects of freight trains passing at speeds greater than 60 mph

9.3.1 Reducing the risk from the aerodynamic effects of freight trains passing at speeds greater than 60 mph

- 9.3.1.1 At station platforms where freight trains (including container traffic but excluding those trains with the same aerodynamic profile as passenger trains, such as mail trains) pass, or are proposed to pass, on the adjacent line at speeds greater than 60 mph (100 km/h), action shall be taken to reduce the risk from the aerodynamic effects of passing trains to lightweight objects and vulnerable passengers on station platforms (for example, pushchairs, the elderly or frail).
- 9.3.1.2 GI/GN7616 provides a risk assessment methodology for assessment of the aerodynamic risk from passing trains. It also gives advice on the factors that should be taken into account in a risk assessment to determine the action required to mitigate the risk from the aerodynamic effects of passing trains, and the mitigation measures that should be considered.
- 9.3.1.3 GI/GN7616 Part 11 gives advice on the notification of proposed introductions of new freight train services, to enable the actions required by section 9.3.1 to be carried out.

Interface between Station Platforms, Track and Trains

Part 10 Lighting of platforms

10.1 Requirement to provide lighting

- 10.1.1 All platforms shall be provided with lighting to enable safe use by passengers and staff in the hours of darkness or low light conditions.
- 10.1.2 Requirements for location of isolated columns for new lighting or alterations (as defined) to lighting are set out in section 6.5. Requirements for the headroom to suspended lighting are set out in section 8.1.
- 10.1.3 Guidance on the lighting of stations is provided in RIS-7702-INS.

10.2 Horizontal illuminance

- 10.2.1 The illuminance over the usable platform edge area shall not be less than 10 lux at platform level.
- 10.2.2 At DOO stations using mirrors and driver line of sight only, the illuminance over the usable platform edge area shall not be less than 20 lux at platform level, along the extent of the platform length to which DOO applies.
- 10.2.3 The horizontal uniformity over the usable platform edge area on an open platform shall be equal to or greater than 0.4 for all stations.
- 10.2.4 The horizontal uniformity over the usable platform edge area under covered areas shall be equal to or greater than:
 - a) 0.5 for station categories A, B and C.
 - b) 0.4 for station categories D, E and F.
- 10.2.5 RIS-7702-INS recommends that the lighting specification be based on requirements for the performance of particular visual tasks at stations rather than solely according to the station category.
- 10.2.6 The diversity over the usable platform edge area shall be equal to or greater than 0.1.
- 10.2.7 All design figures for illuminance quoted are based on the maintained illuminance levels. All maintained illuminance levels shall be determined without the presence of trains in platforms.

10.3 Vertical plane illuminance towards an observer viewing parallel to the platform edge

- 10.3.1 There shall be a minimum illuminance of 2 lux measured vertically at a point 1.0 m above the platform surface and perpendicular to the platform edge along the useable platform length.
- 10.3.2 At DOO stations using mirrors and driver line of sight only, there shall be a minimum illuminance of 6 lux measured vertically at a point 1.0 m above the platform surface and perpendicular to the platform edge area, along the extent of the platform length to which DOO applies.
- 10.3.3 The required value shall be measured at a point 0.3 m back from the platform edge and opposite the first luminaire on the platform at the departure end(s). The measurement point shall be directed toward the driver or DOO observation equipment (see Figure 1).

Railway Group Standard

GI/RT7016

Issue Five

Date March 2014

Interface between Station Platforms, Track and Trains

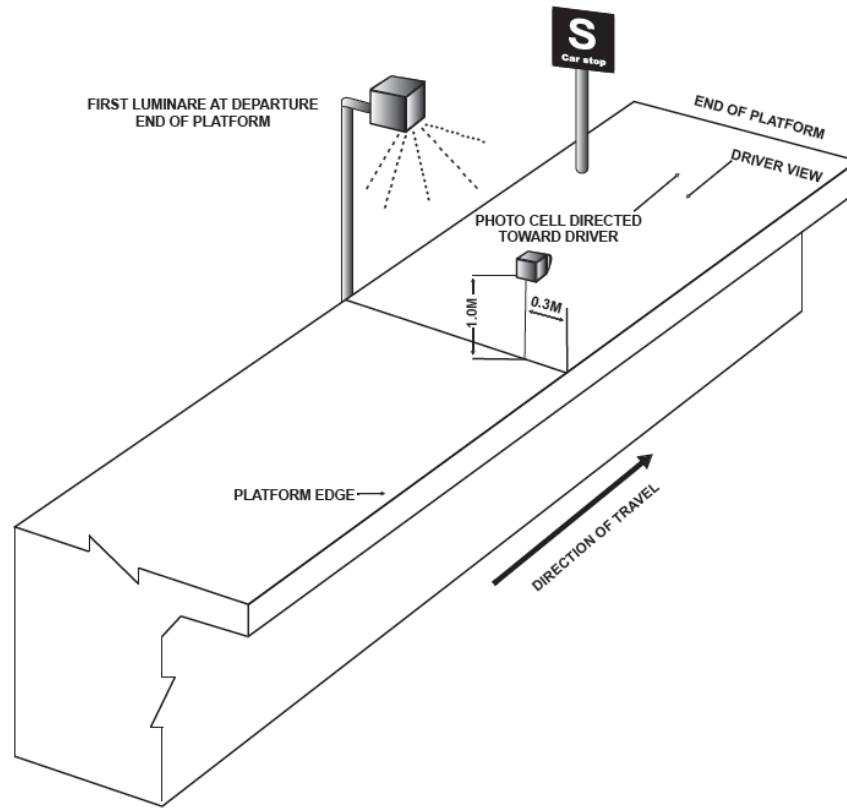


Figure 1 Measurement of Vertical Plane Illuminance

- 10.3.4 Where CCTV cameras and monitors are used, the equipment is required to be suitable for operation at the lower illuminance values (see clause 10.3.1 and 10.3.2), and the cameras will be aimed such that screen contrast is not impaired by glare from luminaires.
- 10.3.5 The diversity along the usable platform edge area shall be greater than or equal to 0.125.
- 10.3.6 All design figures for illuminance quoted are based on the maintained illuminance levels. All maintained illuminance levels shall be determined without the presence of trains in platforms.

Interface between Station Platforms, Track and Trains

10.4 Lighting installations at DOO stations

- 10.4.1 The colour of light emitted from lighting installations shall be suitable in terms of spectral composition for the human visual system and the video cameras.
- 10.4.2 Luminaires, video cameras and monitors shall be located to ensure the view of driver or staff involved in train working is not impaired by:
- a) Glare created by luminaires in the same field of view as DOO monitors and mirrors.
 - b) Reflection of the light emitted from luminaires off DOO monitors and mirrors.
 - c) Light from luminaires falling onto DOO camera lenses.

Railway Group Standard**GI/RT7016****Issue** Five**Date** March 2014**Interface between Station
Platforms, Track and Trains**

**Part 11 Other requirements for safety of passengers
boarding or alighting from trains****11.1 Platforms****11.1.1 Minimum design live load for platforms (crowd loading)**

11.1.1.1 New platforms and alterations (as defined) to platforms shall be designed to carry a nominal (unfactored) live load of at least 5 kN/m^2 , representing crowd loading. This requirement does not include any allowance for other loads that could be applied to platforms, for example from vehicles.

11.1.2 Platform and coper surfaces

11.1.2.1 Surfaces of platforms and copers shall be firm, even and anti-slip and shall not provide tripping hazards.

11.1.3 Platform cross fall

11.1.3.1 For new platforms and alterations (as defined) to platforms, the surfacing shall be constructed to provide a fall away from the rear edge of the platform coper or platform edge if there is no separate platform coper.

11.1.3.2 If provided, copers for new or altered platforms shall be nominally level from the platform edge to the rear of the coper.

11.1.3.3 The fall shall be at a nominal gradient of 1:50 (within the limits 1:80 to 1:40).

11.1.4 Provision of recess beneath platform edge

11.1.4.1 For new platforms or a platform subject to alteration (as defined), a recess with a minimum width of 300 mm and a minimum height of 480 mm measured from rail level, shall be formed beneath the platform edge. The recess shall be kept clear of cables and other obstructions.

11.1.4.2 Consideration shall be given to the provision of a wider recess where there is a platform or other obstruction on both sides of the track.

11.2 Signs and markings**11.2.1 Passenger information signs**

11.2.1.1 At all stations, passenger information signs shall be provided to clearly indicate the station name to passengers on board trains standing at, or passing through, the station.

11.2.1.2 Sufficient illumination shall be provided for these signs to be visible in the hours of darkness or low light conditions when the station is open to station users (see also Part 10).

11.2.2 Passenger and staff warning signs

11.2.2.1 Warning signs and platform markings shall be provided where wide gaps and stepping distances between train and the platform edge are unavoidable (see section 3.4).

11.2.2.2 Part 9 sets out particular requirements for signage to warn passengers about the aerodynamic effects of trains passing at speeds exceeding 100 mph (160 km/h).

Interface between Station Platforms, Track and Trains

11.2.3 Marking platform edges

- 11.2.3.1 Platform edges shall be clearly identified by visible marking and provision of a tactile surface. Such marking shall not be provided to the edge of platform ramps except where ramps are used for access under normal operating conditions.
- 11.2.3.2 The Department for Transport document 'Department for Transport / Transport Scotland Accessible Train Station Design for Disabled People: A Code of Practice' sets out requirements for the tactile surface.
- 11.2.3.3 Part 9 sets out particular requirements for yellow lines on platforms to warn passengers about the aerodynamic effects of trains passing at speeds exceeding 100 mph (160 km/h).
- 11.2.3.4 GI/GN7616 Appendix H sets out guidance on the requirements of various documents for platform markings.

11.2.4 Provision of colour contrasting markings on obstructions

- 11.2.4.1 Colour contrasting markings shall be provided on isolated columns or other obstructions, when new or subject to alteration (as defined), where these could interrupt the movement of visually impaired people.
- 11.2.4.2 Appropriate markings or other protection to vertical glazing and cladding shall be provided to prevent accidental collision by station users, including visually impaired people.

Railway Group Standard

GI/RT7016

Issue Five

Date March 2014

Interface between Station Platforms, Track and Trains

Part 12 Transition between sunlit areas and artificially illuminated areas at stations

12.1 Requirement to minimise the creation of sharp transitions of light

- 12.1.1 The design of new stations and alterations (as defined) to existing stations shall minimise the creation of sharp transitions of light by allowing natural light to enter the station area for a reasonable distance to maintain an acceptable level of visual performance by drivers during the adaptation process.
- 12.1.2 RIS-7702-INS gives guidance on risk assessments to consider transition from sunlit areas to artificially lit areas at stations and vice versa.

Interface between Station Platforms, Track and Trains

Part 13 Application of this document

13.1 Application - infrastructure managers

13.1.1 Scope of application to new stations and alterations to existing stations

13.1.1.1 The requirements of this document are mandatory for new stations and for alterations (as defined) to existing stations. Clause 1.2.2 provides guidance on the interpretation of the scope of this document as it applies to alterations (as defined) to existing stations.

13.1.1.2 It is permissible for the infrastructure manager to designate specific infrastructure projects, ongoing when this document comes into force, for which compliance with the requirements of this document applicable to the design, construction and commissioning of new or altered infrastructure is not mandatory. When designating such projects, the infrastructure manager shall consider:

- a) Its responsibilities under its current safety authorisation.
- b) The stage reached by the project at the time this document comes into force (for example, approval in principle).
- c) Whether compliance is necessary to ensure compatibility with other parts of the infrastructure.
- d) Whether compliance is necessary to facilitate safe interworking having regard to changes to related requirements mandated on another Infrastructure Manager or Railway Undertaking.
- e) The economic impact of compliance, but subject to its current safety authorisation in relation to the infrastructure in question.

13.1.1.3 Compliance with the requirements of this document relating to maintenance and in-service condition of infrastructure is mandatory, whether or not the infrastructure concerned is the subject of a designation, as set out above.

13.1.2 Scope of application to existing stations

13.1.2.1 Part 4 of this document (Maintaining the position of existing platforms complying with the standard platform position) applies to existing stations when track or structural maintenance, renewal or alteration (as defined) is carried out.

13.1.2.2 Part 5 of this document (Usable length of platforms) applies to existing platforms. Section 5.2 sets out an exemption where operational procedures apply.

13.1.2.3 The following sections apply to existing platforms when the line speed is raised on the adjacent track:

- a) Section 6.2 (Location of buildings and structures on platforms).
- b) Section 6.4 (Location of platform furniture).
- c) Section 6.5 (Location of isolated columns supporting lighting, signs and other equipment).
- d) Section 7.2 (New single face platforms).
- e) Section 7.3 (New double face platforms).
- f) Section 8.1 (Minimum headroom on platforms).

Railway Group Standard

GI/RT7016

Issue Five

Date March 2014

Interface between Station Platforms, Track and Trains

- g) Section 9.1 (Aerodynamic effects of passenger trains passing at speed greater than 125 mph).
- h) Section 9.2.1 (Aerodynamic effects of passenger trains passing at speed greater than 100 mph but not exceeding 125 mph).
- i) Section 9.3.1 (Aerodynamic effects of freight trains passing at speeds greater than 60 mph).

13.1.2.4 Part 9 of this document (Protection of people from aerodynamic effects of passing trains) applies to existing stations, except where otherwise indicated in the text. Where it is known, or becomes known, that existing stations do not comply with the requirements of Part 9 of this document, action to bring them into compliance is required.

13.1.2.5 Clauses 6.2.2 and 6.3.1 apply to structures that are temporary or permanent.

13.1.3 Exclusions from scope

13.1.3.1 There are no exclusions from the scope specified in clause 13.1.1 and clause 13.1.2 for infrastructure managers.

13.1.4 General compliance date for infrastructure managers

13.1.4.1 This Railway Group Standard comes into force and is to be complied with from 07 June 2014, except as specified in clause 13.1.5. Where the dates specified in clause 13.1.5 are later than the above date, this is to allow infrastructure managers sufficient time to achieve compliance with the specified exceptions.

13.1.4.2 After the compliance dates or the date by which compliance is achieved if earlier, infrastructure managers are to maintain compliance with the requirements set out in this Railway Group Standard. Where it is considered not reasonably practicable to comply with the requirements, authorisation not to comply should be sought in accordance with the Railway Group Standards Code.

13.1.5 Exceptions to general compliance date

13.1.5.1 There are no exceptions to the general compliance date specified in sub section 13.1.4 for infrastructure managers.

13.2 Application – railway undertakings

13.2.1 There are no requirements applicable to railway undertakings.

13.3 Health and safety responsibilities

13.3.1 Users of documents published by RSSB are reminded of the need to consider their own responsibilities to ensure health and safety at work and their own duties under health and safety legislation. RSSB does not warrant that compliance with all or any documents published by RSSB is sufficient in itself to ensure safe systems of work or operation or to satisfy such responsibilities or duties.

Interface between Station Platforms, Track and Trains

Definitions

Accident

An unplanned, uncontrolled or unintended event giving rise to death, ill-health, injury or other loss. For the purpose of this document this is restricted to death or injury as a result of contact with either trains or railway equipment and infrastructure.

Adaptation

The process that takes place as the eye adjusts to the brightness or the colour of the visual field.

Alteration [for example, of a platform or other equipment]

For the purpose of this document, the substantial lengthening or rebuilding of all or part of an existing platform and/or an associated structure, or renewal of station equipment or platform furniture, which provides a reasonable opportunity to bring the items concerned into conformity with the requirements of this document.

Colour contrasting marking

A marking on a structure which breaks up the surface of the structure, or part of the structure, so that it can be seen by visually impaired station users.

Coper [or platform coper]

That part of the platform surface adjacent to the track, when formed of a separate concrete or masonry slab. Also known as the 'platform coping' or 'coping stone'.

Disused platform

A platform that already exists but is not in operational use.

Diversity

The ratio of minimum illuminance to maximum illuminance over a specified area.

Double face platform (island platform)

A platform with operational track adjacent to both sides of the platform.

Glare

The discomfort or impairment of vision experienced when parts of the visual field are excessively bright in relation to the general surroundings.

Horizontal illuminance

The illuminance falling on a horizontal plane.

Illuminance

The luminous flux density at a surface in a defined plane. The SI unit of illuminance is the lux, which is equal to one lumen per square metre (lm/m^2).

Illuminance towards observer

The illuminance falling on a plane perpendicular to the observer.

Incident

An unplanned, uncontrolled or unintended event which under different circumstances could have resulted in an accident.

Railway Group Standard**GI/RT7016****Issue** Five**Date** March 2014**Interface between Station
Platforms, Track and Trains**

Luminaire

An apparatus which controls the distribution of light given by a lamp or lamps and which includes all the components necessary for fixing and protecting the lamps and connecting them to the supply circuit. 'Luminaire' has superseded the term 'lighting fitting'.

Luminous flux

The term used to describe the quantity of light emitted by a source, or received by a surface. The SI unit of luminous flux is the lumen (lm).

Maintained illuminance

The average illuminance over the reference surface at the worst condition of maintenance.

New platform

A platform other than a platform that already exists. The term excludes a disused platform that is brought back into use without alteration.

Overrun risk zone

A zone extending 20 m behind the face of the buffer stop and 5 m either side of the projected centre line of the track approaching the buffer stop.

Permissible or enhanced permissible speed

The maximum speed published in the Sectional Appendix at which traffic is allowed to run on a line.

Platform

The structure forming the part of a station that provides access for passengers to or from a train. Walkways used for staff only are not considered to be platforms.

Platform extension

Increasing the usable length of an existing platform.

Platform furniture

Permanent or semi-permanent equipment or apparatus, or seating placed upon a platform for station users.

Platform height

The height of the edge of the platform relative to the track, measured at right angles to the plane of the rails of the track adjacent to the platform.

Platform offset

The distance between the upper surface of the platform edge and the running edge of the nearest rail on the track adjacent to the platform, measured parallel to the plane of the rails.

Sign

Any surface (usually in one plane) which has a message to convey to the viewer.

Single face platform

A platform with operational track adjacent to one side of the platform only.

Interface between Station Platforms, Track and Trains

Station categories

Station Category	Examples
A - National hub	Birmingham New Street, Glasgow Central, London Waterloo
B - Regional hub	Brighton, Darlington, Watford Junction
C - Important feeder	Manchester Oxford Road, Motherwell, Southend Victoria
D - Medium, staffed	Caerphilly, Lichfield Trent Valley, Sydenham
E - Small, staffed	Gospel Oak, Llandudno Junction, Lockerbie
F - Small, unstaffed	Bishop Auckland, Cromer, Tywyn

For the purposes of Part 10 of this document, stations are categorised as follows:

Uniformity

The ratio of the minimum illuminance to the average illuminance over a specified surface.

Usable platform edge area

The area enclosed between the platform edge and a line 1.0 m back from the platform edge, over the usable platform length.

Usable platform length

The length of that part of the platform that can be used by passengers for egress from and access to trains, measured along the platform edge.

Usable platform width

The width of the platform that can be used by passengers for egress from and access to trains, or for waiting, taking into account the width of any items on the platform (for example, furniture, access or egress, or structures) and inclusive of edge effects to the platform edge, back wall, fence or obstruction.

Vertical Illuminance

The illuminance falling on a vertical plane.

Railway Group Standard**GI/RT7016****Issue** Five**Date** March 2014**Interface between Station
Platforms, Track and Trains**

References

The Catalogue of Railway Group Standards give the current issue number and status of documents published by RSSB. This information is also available from www.rgsonline.co.uk.

RGSC 01

Railway Group Standards Code

Documents referenced in the text**Railway Group Standards**

GC/RT5021	Track System Requirements
GC/RT5033	Terminal Tracks
GC/RT5212	Requirements for Defining and Maintaining Clearances
GE/RT8000	The Rule Book
GE/RT8060	Engineering Requirements for Dispatch of Trains from Platforms
GE/RT8270	Assessment of Compatibility of Rolling Stock and Infrastructure
GI/RT7033	Lineside Operational Safety Signs
GM/RT2149	Requirements for Defining and Maintaining the Size of Railway Vehicles
GM/RT2473	Power Operated External Doors on Passenger Carrying Rail Vehicles

RSSB documents

GI/GN7616	Guidance on Interface between Station Platforms, Track and Trains
RIS-7702-INS	Rail Industry Standard for Lighting at Stations

Other relevant documents

DfT document	Accessible Train and Station Design for Disabled People: A Code of Practice' sets out requirements for the tactile surface.
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