

Network Statement 2016.

For ordering and execution of time-
table transport operations from
13 December 2015 to 10 December
2016.

November 2014



Overview of changes

Sections in the Network Statement 2016 (Version 1.0) which have been changed from the Network Statement 2015.

Chapter	Section
Throughout the whole Network Statement	<ul style="list-style-type: none"> Addresses, telephone numbers and e-mails updated.
1 General information	<ul style="list-style-type: none"> 1.8 Addresses, telephone numbers and e-mails updated. 1.11.1 New abbreviations EVN, NAeP.
2 Track access conditions	<ul style="list-style-type: none"> 2.3.2.2 New point: Third parties ordering train paths. 2.3.2.3 New section: Regulating responsibilities in operational transfer stations. 2.7.1.1 ETCS: conditions updated. 2.7.2 Wheel/track: conditions updated. 2.7.2.2 Load limits of vehicles: conditions supplemented and updated. 2.7.2.3 Pantographs/overhead lines: reference to R I-50088 added. 2.7.2.6 GSM-R: rollout plan updated. 2.7.2.11 Intervention: reference to I-50131 added. 2.9 ff.: Recording voice communications: retention periods as per I-50094 added.
3 Infrastructure	<ul style="list-style-type: none"> 3.2.1.1 Change request process: supplemented and updated. 3.3.1.2 Track gauge: worded more precisely. 3.3.3.1 Signalling systems: worded more precisely. 3.3.3.2 Train control systems: worded more precisely. 3.5.2 Fixed maintenance windows: updated for the 2016 timetable year. 3.8.5 Train monitoring facilities: reference to handbook ZKE I-50099 added. 3.9 Future upgrades: updated. 3.9.1 New point: trial operation of the Gotthard Base Tunnel from June to December 2016.
4 Capacity allocation	<ul style="list-style-type: none"> Request and ordering deadlines revised for the 2016 timetable year. Entire section: process of awarding train paths worded more precisely. 4.4.3 Removal of explanation of Brig-Iselle congested route. 4.8 New regulation in the event of major disruptions to operations due to the revised Art. 14 NZV.
5 Services	<ul style="list-style-type: none"> 5.3 Structured based on new RNE template.
6 Prices and invoicing	<ul style="list-style-type: none"> 6.2.2.1 Provision of P data: change to the reporting format interface. 6.2.2.2 Provision of G data: worded more precisely. 6.2.2.3 New point: LoPPIS application. 6.2.3 Ex-catenary energy consumption (measured on the locomotive): updated. 6.2.3.1 New point "Transitional regulation for energy measurement systems". 6.2.3.2 New point "Handling incorrectly transmitted data". 6.2.3.3 New point "Submitting energy measurements". 6.2.3.7 New point "Requirements of energy measurement systems".
7 Links to further information	<ul style="list-style-type: none"> Specific track access conditions integrated as appendices.

Network Statement 2016: overview of changes

List of the most important changes in updated (amended) versions of the Network Statement 2016.

Version	Change no.	Date	New (section, content)	Comments

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1 General information.

1.1 Introduction

This Network Statement is published by the Infrastructure division of Swiss Federal Railways (SBB), hereinafter referred to as “IM” (infrastructure manager). It is an integrated contractual component of the track access agreement, and regulates the terms and conditions for using the SBB, Sensetalbahn AG (STB), Turbo, Hafenbahn Schweiz AG (Port railways of Switzerland Ltd.) and Vevey-Chexbres networks (hereinafter referred to as the “SBB network”) within the meaning of Art. 10 para. 1d of the Track Access Ordinance (NZV) and of EU Directive 2012/34¹. It is intended to enable applicants (railway companies [RUs] and third parties) to find the information they require in order to apply for access to the SBB network and carry out their operations on the network.

The independent train path allocation body Swiss Train Paths Ltd (hereinafter referred to as “trasse.ch”) is responsible for allocating train paths (basic and ancillary services) on all standard gauge networks of Swiss Federal Railways SBB (including the SBB-operated Port railways of Switzerland Ltd, Sensetalbahn AG (STB) and Turbo), BLS Netz AG and Schweizerische Südostbahn AG (SOB). trasse.ch is also responsible for ensuring that the timetable is structured in a non-discriminatory fashion. Chapter 4 explains the processes for ordering and allocating timetabled train paths (basic and ancillary services), as well as for the upstream and downstream steps associated with the allocation procedure, and highlights the relevant binding specifications.

1.1.1 Organisation of SBB Infrastructure

The current [SBB Infrastructure organisation chart](#) is available at www.sbb.ch (Corporation, The Company, Organisation, Infrastructure, About us).

1.2 Objective (why issue a Network Statement?)

The Network Statement sets out in detail the general rules, deadlines, procedures and criteria concerning track access and charging and capacity allocation schemes. It also contains the information required to submit requests for infrastructure capacity. The Statement is fully up to date at the time of publication and contains details of the routes available to applicants and information setting out the conditions for access to these routes.

1.3 Legal framework

This Network Statement complies with the current legal framework in accordance with Railway Reform 2.2. Legislative changes will be added to the Network Statement as updates (cf. section 1.4.2). Changes will also be listed in the overview of changes. The EU rail transport directives already adopted by Switzerland are listed in [Annex 1](#) to the overland transport agreement between the Swiss Confederation and the European Union. COTIF and CUI apply in Switzerland.

The applicable Swiss laws and ordinances are published in the Swiss Certified Compilation of Federal Legislation (SR), and are also available online at www.admin.ch.

¹ Switzerland has not adopted EU Directive 2012/34 into national law. It is not binding on SBB's track network in Switzerland. However, this does not therefore preclude an application of EU Directive 2012/34 as an aid to interpretation in respect of content not adopted into national law.

Below is a list of the most important international and national legislation.

1.3.1 Excerpts from international legislation (as an aid to interpretation)

Code	Full title
Council Directive 91/440/EEC	Council Directive 91/440/EEC of 29 July 1991 on the development of the Community's railways.
Council Directive 95/18/EC	Council Directive 95/18/EC of 19 June 1995 on the licensing of railway undertakings.
Council Directive 95/19/EC	Council Directive 95/19/EC of 19 June 1995 on the allocation of railway infrastructure capacity and the charging of infrastructure fees.
Council Directive 96/48/EC	Council Directive 96/48/EC of 23 July 1996 on the interoperability of the trans-European high-speed rail system.
Directive 2001/16/EC	Directive 2001/16/EC of the European Parliament and of the Council of 19 March 2001 on the interoperability of the trans-European conventional rail system.
Directive 2004/49/EC	Directive 2004/49/EC of the European Parliament and of the Council of 29 April 2004 on safety on the Community's railways and amending Council Directive 95/18/EC on the licensing of railway undertakings and Directive 2001/14/EC on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification ("Railway Safety Directive").
Directive 2008/57/EC	Directive 2008/57/EC of the European Parliament and of the Council of 17 June 2008 on the interoperability of the rail system within the Community (Recast).
Commission Regulation 2009/352/EC	Commission Regulation (EC) No 352/2009 of 24 April 2009 on the adoption of a common safety method on risk evaluation and assessment as referred to in Article 6(3)(a) of Directive 2004/49/EC of the European Parliament and of the Council.
Regulation (EU) 913/2010	Regulation (EU) No 913/2010 of the European Parliament and of the Council of 22 September 2010 concerning a European rail network for competitive freight.
Directive 2012/34/EU	Directive 2012/34/EU of the European Parliament and of the Council of 21 November 2012 establishing a single European railway area (new version).

Table 1 – International legislation.

1.3.2 National legislation (excerpt)

Code	Abbr.	Full title
SR 0.742.403.1	COTIF	Convention concerning International Carriage by Rail (COTIF).
SR 0.742.403.1 – Appendix E	CUI	Uniform Rules concerning the Contract of Use of Infrastructure in International Rail Traffic (CUI – Appendix E to the Convention concerning International Carriage by Rail) (COTIF; SR, 0.742.403.1).
SR 0.740.72	LVA	Agreement of 21 June 1999 between the Swiss Confederation and the European Community regarding the transport of goods and passengers by rail and road (including Annexes and Final Act).
SR 742.101	EBG	Railways Act.
SR 742.122	NZV	Track Access Ordinance.
SR 742.122.4	NZV-BAV	BAV Ordinance on the Track Access Ordinance.
SR 742.101.4	–	Conduct of business regulation of the Railways Arbitration Commission.
SR 742.141.1	EBV	Railways Ordinance.
SR 742.141.11	AB-EBV	Implementing Provisions for the Railways Ordinance.
SR 742.144	–	Federal Law on Railway Noise Abatement.
SR 742.144.1	VLE	Ordinance on Railway Noise Abatement.
SR 742.170	VEFB	Federal Office of Transport (BAV) Regulations on the Issuing of Rules for Rail Services and Operations.
SR 742.173.001	FDV	Swiss Train Loading and Running Regulations (R 300.1–15).
SR 742.412	RSD	Ordinance on the Carriage of Dangerous Goods by Rail.
SR 742.411	GüTV	Ordinance on the Carriage of Goods.
SR 745.11	VPB	Ordinance on Passenger Transport.
SR 745.13	FPV	Timetables Ordinance.
SR 151.3	BehiG	Federal Act on the Elimination of Discrimination against People with Disabilities.
SR 151.31	BehiV	Federal Ordinance on the Elimination of Discrimination against People with Disabilities.

Table 2 – National legislation.

1.3.3 Joint provisions/regulations of SBB Infrastructure, BLS Netz AG and SOB Infrastructure (excerpt)

Full title
Infrastructure Implementing Provisions for the FDV and associated provisions (AB FDV), R 30111
Local Train and Shunting Movement Regulations, R 30121
RADN block tables, R I-30131
List of Infrastructure Services of Swiss Federal Railways (SBB) and BLS AG and the accompanying Implementing Provisions

Table 3 – Provisions/regulations held jointly by SBB Infrastructure, BLS Netz AG and SOB Infrastructure.

1.3.4 SBB Infrastructure provisions/regulations (excerpt)

Full title
General Terms and Conditions for the Use of Railway Infrastructure (AGB-ISB)
Network Statement
Necessary regulations for the RU

Table 4 – SBB Infrastructure provisions/regulations.

1.3.5 BLS Netz AG provisions/regulations (excerpt)

Full title
General Terms and Conditions for the Use of Railway Infrastructure (AGB-ISB)
BLS Operating Provisions and Regulations
Network Statement

Table 5 – BLS Netz AG provisions/regulations.

1.3.6 SOB Infrastructure provisions/regulations (excerpt)

Full title
General Terms and Conditions for the Use of Railway Infrastructure (AGB-ISB)
SOB Operating Provisions and Regulations
Network Statement

Table 6 – SOB Infrastructure provisions/regulations.

1.3.7 Federal Office of Transport (BAV) provisions/regulations (excerpt)

Full title
Guideline – Track Access Permits, Safety Certification, valid from 1.7.2013
Application forms for safety certification, Parts A and B, track section module map
Guideline – Acceptance of Railway Vehicles
Guideline – Acceptance of Historic Railway Vehicles
Guideline – Line closures in accordance with Art. 11b NZV
Guideline – Train Path Allocation and Bidding Procedure

Table 7 – Federal Office of Transport (BAV) provisions/regulations.

1.4 Legal status

1.4.1 General remarks

The model of a Network Statement is based on Directive 2012/34/EU. This publication thus follows the Network Statement model, which has developed into a standard within the European region.

The Swiss Federal Track Access Ordinance (NZV) also obliges the infrastructure manager to publish its track access conditions (Art. 10 NZV):

Art. 10 The infrastructure manager's obligations

¹ *The infrastructure manager is to ensure non-discriminatory access to its network, by:*

- a. applying the same rules both to itself and to third parties when allocating train paths and setting train path prices;*
- b. treating third parties equally under the same conditions when allocating train paths and setting train path prices;*
- c. not applying technical conditions which have no basis in current legislation or regulations;*
- d. publishing the basic conditions for network access, where not detailed in this regulation, and by publishing the most important technical features of the track section, such as profile (gradient), curve radii, length of the passing tracks, platform lengths, route class and safety equipment;*
- e. offering additional services (Art. 22) where this is possible with the existing infrastructure and available staff.*

² *The BAV will specify the type and nature of the publications.*

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1.4.2 Liability

All the conditions governing the use of railway infrastructures that are published in this Network Statement are subject to subsequent legislative changes. Insofar as additional requirements are introduced after publication of the Network Statement within the context of amendments to Swiss laws and ordinances, compliance with these requirements is mandatory. If these additional requirements come into effect during the period of validity of this Network Statement, they will be incorporated as editorial changes and listed in the overview of changes. SBB Infrastructure accepts no liability for the consequences of subsequent amendments to legislation.

SBB Infrastructure has made every effort to ensure that the information in the Network Statement 2016 is correct. It accepts no liability for direct or indirect damages suffered as a result of obvious defects and misprints in the Network Statement 2016 or other documents. Moreover, all responsibility for the contents of any external sites referred to by this publication (Links) is declined. Insofar as content on linked external sites contradicts the content of this Network Statement, the Network Statement shall take precedence. This condition does not apply to links to the official collection of Swiss laws and ordinances.

This Network Statement is published in German, French, Italian and English language versions. In the event of differences between language versions, the German version shall be legally binding.

1.4.3 Complaints procedure

1.4.3.1 SBB Infrastructure (with the exception of chapter 4)

Complaints relating to the content of this Network Statement should be directed to the following contact point:

SBB AG
 Infrastruktur Fahrplan und Netzdesign
 Verträge und Trassenverkauf
 Hilferkerstrasse 3
 CH-3000 Bern 65
 Telephone: +41 79 894 90 15
 E-mail: info.nzvp@sbb.ch

1.4.3.2 Swiss Train Paths Ltd. (chapter 4)

Complaints relating to the content of chapter 4 should be directed to the following contact point:

Swiss Train Paths Ltd.
 Schwarztorstrasse 31
 Postfach 8521
 CH-3001 Bern
 Telephone: +41 31 384 20 40
 Fax: +41 31 384 20 41
 E-mail: info@trasse.ch
www.trasse.ch

1.4.3.3 Railways Arbitration Commission SKE

Disputes relating to the granting of track access and the associated conditions are subject to claims to the Railways Arbitration Commission (SKE). The Commission's decisions are subject to judicial review (Art. 29 LVA, Art. 40a^{bis} EBG, Art. 25 NZV). For contact details, see section 1.8.4 [Link](#).

Art. 40a^{bis} Tasks

¹ The SKE will settle disputes about the granting of track access, about track access agreements and about how the charges for use of the infrastructure are calculated.

² It has the authority to initiate investigations if there is any suspicion either that track access is being prevented or that it is not being granted in a non-discriminatory manner.

³ It determines the action to be taken and has powers to enforce such action.

⁴ Infrastructure managers, rail companies with track access and third parties involved in track access must provide the SKE with all the information required for its investigations and must submit the necessary documents. The right to refuse to provide information is governed by Article 16 of the Administrative Procedure Act dated 20 December 1968/12

According to [Art. 33f](#) of the Administrative Court Act (VGG) decisions by the SKE can be referred to the Federal Administrative Court in St. Gallen.

1.5 Network Statement structure

The structure of this Network Statement corresponds for the most part to that agreed upon by the RailNetEurope (RNE) Network Statement working group on 12 March 2014 in Vienna, Austria ([RNE-WG Network Statement 2011-03-30](#)).

The goal of a uniform structure is to enable readers across Europe to find the information they require for track access more easily in a uniform format.

1.6 Validity period and updates

1.6.1 Validity period

This Network Statement is valid for the ordering and execution of timetabled transport operations from 13 December 2015 to 10 December 2016.

1.6.2 Updates

The Network Statement will not be changed until the end of the relevant timetable year. This does not apply to future amendments to legislation or to purely editorial amendments listed in the overview of changes.

1.7 Publication

This Network Statement 2016 is available as a .pdf file² on the [SBB](#) website free of charge. Copies of regulations and more detailed SBB documentation can be obtained for a fee.

²All Portable Document Format (PDF) files can be viewed and printed using Acrobat®Reader®. The program Acrobat®Reader® can be downloaded free of charge at www.adobe.com.

1.8 Contact addresses

The section below lists contacts from whom further information can be obtained.

1.8.1 SBB Infrastructure/BLS Netz AG/SOB Infrastructure

1.8.1.1 Questions regarding basic, ancillary and miscellaneous services

Topic	SBB Infrastructure	BLS Netz AG	SOB Infrastructure
Price information and questions regarding invoicing	One Stop Shop SBB/BLS/SOB Hilfikerstrasse 3 CH-3000 Bern 65 E-mail: onestopshop@sbb.ch www.onestopshop.ch	One Stop Shop SBB/BLS/SOB Hilfikerstrasse 3 CH-3000 Bern 65 E-mail: onestopshop@bls.ch www.onestopshop.ch Ancillary and miscellaneous services: BLS Netz AG Betrieb Trassen Verkauf Bahnhofstrasse 12 CH-3700 Spiez Telephone: +41 58 327 33 10 E-mail: werner.kunz@bls.ch	One Stop Shop SBB/BLS/SOB Hilfikerstrasse 3 CH-3000 Bern 65 E-mail: onestopshop@bls.ch www.onestopshop.ch Ancillary and miscellaneous services: SOB Infrastruktur Betrieb – Trassenmanagement Bahnhofplatz 7 CH-9100 Herisau Telephone: +41 71 353 36 15 E-mail: planung@sob.ch
Ordering regulations For applicants	SBB AG Infrastruktur Fahrplan und Netzdesign Trassenverkauf Hilfikerstrasse 3 CH-3000 Bern 65 Telephone: +41 79 894 90 15 E-mail: info.nzvp@sbb.ch	BLS Netz AG Betrieb Planung Bahnhofstrasse 12 CH-3700 Spiez Telephone: +41 58 327 35 78 E-mail: vorschriften.betrieb@bls.ch	SOB Infrastruktur Betrieb – Trassenmanagement Bahnhofplatz 7 CH-9100 Herisau Telephone: +41 71 353 36 15 E-mail: planung@sob.ch
Ordering regulations governing the carriage of dangerous goods Official source of information on the regulations concerning the international carriage of dangerous goods by rail	SBB AG Infrastruktur Einkauf, Supply Chain und Produktion Wylersstrasse 125 CH-3000 Bern 65	SBB AG Infrastruktur Einkauf, Supply Chain und Produktion Wylersstrasse 125 CH-3000 Bern 65	SOB Infrastruktur Betrieb – Trassenmanagement Bahnhofplatz 7 CH-9100 Herisau Telephone: +41 71 353 36 15 E-mail: planung@sob.ch

Table 8 – SBB/BLS/SOB contact addresses – Questions regarding basic, ancillary and miscellaneous services.

1.8.1.2 Questions regarding train path studies, engineering possessions and NeTS-AVIS

Topic	SBB Infrastructure	BLS Netz AG	SOB Infrastructure
Train path studies	SBB AG Infrastruktur Fahrplan und Netzdesign Fahrplan und Angebot Hilfikerstrasse 3 CH-3000 Bern 65 Telephone: +41 79 396 61 14	SBB AG Infrastruktur Fahrplan und Netzdesign Fahrplan und Angebot Hilfikerstrasse 3 CH-3000 Bern 65 Telephone: +41 79 396 61 14	SBB AG Infrastruktur Fahrplan und Netzdesign Fahrplan und Angebot Hilfikerstrasse 3 CH-3000 Bern 65 Telephone: +41 79 396 61 14
Accompanied on request by:	Swiss Train Paths Ltd. Hermann Presoli Schwarztorstrasse 31 Postfach 8521 CH-3001 Bern Telephone: +41 31 384 20 52 Fax: +41 31 384 20 41 E-mail: h.presoli@trasse.ch www.trasse.ch	Swiss Train Paths Ltd. Hermann Presoli Schwarztorstrasse 31 Postfach 8521 CH-3001 Bern Telephone: +41 31 384 20 52 Fax: +41 31 384 20 41 E-mail: h.presoli@trasse.ch www.trasse.ch	Swiss Train Paths Ltd. Hermann Presoli Schwarztorstrasse 31 Postfach 8521 CH-3001 Bern Telephone: +41 31 384 20 52 Fax: +41 31 384 20 41 E-mail: h.presoli@trasse.ch www.trasse.ch
Questions regarding infrastructure engineering possessions	SBB AG Infrastruktur Fahrplan und Netzdesign Intervalle Hilfikerstrasse 3 CH-3000 Bern 65 Telephone: +41 79 865 75 83 E-mail: roger.bollhalder@sbb.ch	BLS Netz AG Betrieb Planung Bahnhofstrasse 12 CH-3700 Spiez Telephone: +41 58 327 35 53 E-mail: michael.rohr@bls.ch	SOB Infrastruktur Betrieb – Trassenmanagement Bahnhofplatz 7 CH-9100 Herisau Telephone: +41 71 353 36 15 E-mail: planung@sob.ch
NeTS-AVIS access rights For the allocation of access rights, please contact:	SBB AG Infrastruktur Fahrplan und Netzdesign Fahrplan und Angebot Hilfikerstrasse 3 CH-3000 Bern 65 For passenger RUs E-mail: ernst.winkler@sbb.ch For freight RUs E-mail: lorenz.stoeckli@sbb.ch	SBB AG Infrastruktur Fahrplan und Netzdesign Fahrplan und Angebot Hilfikerstrasse 3 CH-3000 Bern 65 For passenger RUs E-mail: ernst.winkler@sbb.ch For freight RUs E-mail: lorenz.stoeckli@sbb.ch	SBB AG Infrastruktur Fahrplan und Netzdesign Fahrplan und Angebot Hilfikerstrasse 3 CH-3000 Bern 65 For passenger RUs E-mail: ernst.winkler@sbb.ch For freight RUs E-mail: lorenz.stoeckli@sbb.ch
For modifications (changes of user), the RU in question (the RU's super-user) should apply to:	Fachbus NeTS Telephone: +41 51 220 11 23 E-mail: fachbus.nets@sbb.ch	Fachbus NeTS Telephone: +41 51 220 11 23 E-mail: fachbus.nets@sbb.ch	Fachbus NeTS Telephone: +41 51 220 11 23 E-mail: fachbus.nets@sbb.ch

Table 9 – SBB/BLS/SOB contact addresses – Questions regarding train path studies, engineering possessions and NeTS-AVIS.

1.8.1.3 Questions regarding track access

Topic	SBB Infrastructure	BLS Netz AG	SOB Infrastructure
Basic questions	SBB AG Infrastruktur Fahrplan und Netzdesign Trassenverkauf Hilfikerstrasse 3 CH-3000 Bern 65 Telephone: +41 79 894 90 15 E-mail: info.nzvp@sbb.ch	BLS Netz AG Betrieb Trassen Verkauf Bahnhofstrasse 12 Postfach 48 CH-3700 Spiez Telephone: +41 58 327 40 39 E-mail: netzzugang@bls.ch	SOB Infrastruktur Betrieb – Trassenmanagement Bahnhofplatz 7 CH-9100 Herisau Telephone: +41 71 353 36 15 E-mail: planung@sob.ch
Technical track access questions	SBB AG Infrastruktur Anlagen und Technologie Fahrbahn und Interaktion Technischer Netzzugang Hilfikerstrasse 3 CH-3000 Bern 65 Telephone: +41 79 668 79 52 E-mail: info.tnz@sbb.ch www.onestopshop.ch	Coordinated by: BLS Netz AG Betrieb Trassen Verkauf Bahnhofstrasse 12 Postfach 48 CH-3700 Spiez Telephone: +41 58 327 40 39 Fax: +41 58 327 35 50 E-mail: netzzugang@bls.ch	Coordinated by: SOB Infrastruktur Betrieb – Trassenmanagement Bahnhofplatz 7 CH-9100 Herisau Telephone: +41 71 353 36 15 E-mail: planung@sob.ch
Central point of contact for test runs For network users only	SBB AG Infrastruktur Anlagen und Technologie Fahrbahn und Interaktion Fahrdynamik Hilfikerstrasse 3 CH-3000 Bern 65 Telephone: +41 79 223 13 80	Coordinated by: BLS Netz AG Betrieb Trassen Verkauf Bahnhofstrasse 12 Postfach 48 CH-3700 Spiez Telephone: +41 58 327 40 39 E-mail: netzzugang@bls.ch	Coordinated by: SOB Infrastruktur Betrieb – Trassenmanagement Bahnhofplatz 7 CH-9100 Herisau Telephone: +41 71 353 36 15 E-mail: planung@sob.ch
Questions regarding exceptional loads/special consignments	SBB AG Infrastruktur Fahrplan und Netzdesign Fahrplan und Angebot Hilfikerstrasse 3 CH-3000 Bern 65 Telephone: +41 79 865 75 82 E-mail: aussergewoehnlichesendungen_ags@sbb.ch	Coordinated by: BLS Netz AG Betrieb Trassen Verkauf Bahnhofstrasse 12 Postfach 48 CH-3700 Spiez Telephone: +41 58 327 40 39 E-mail: netzzugang@bls.ch	Coordinated by: SOB Infrastruktur Betrieb – Trassenmanagement Bahnhofplatz 7 CH-9100 Herisau Telephone: +41 71 353 36 15 E-mail: planung@sob.ch
Questions regarding heavy loads	SBB AG Infrastruktur Anlagen und Technologie Ingenieurbau und Umwelt Hilfikerstrasse 3 CH-3000 Bern 65 Telephone: +41 79 515 69 65	Coordination: BLS Netz AG Betrieb Trassen Verkauf Bahnhofstrasse 12 Postfach 48 CH-3700 Spiez Telefon: +41 58 327 40 39 E-mail: netzzugang@bls.ch	Coordination: SOB Infrastruktur Betrieb – Trassenmanagement Bahnhofplatz 7 CH-9100 Herisau Telefon: +41 71 353 36 15 E-mail: planung@sob.ch

Table 10 – SBB/BLS/SOB contact addresses – Questions regarding track access.

1.8.1.4 Questions regarding day-to-day operations/emergency numbers

Topic	SBB Infrastructure	BLS Netz AG	SOB Infrastructure
Central point of contact for day-to-day operations and emergency numbers	SBB AG Infrastruktur Operation Center Infrastruktur Netzleitung/Alarmstelle Infrastruktur Bollwerk 10 CH-3000 Bern 65 Telephone: +41 51 220 77 70 Fax: +41 51 220 32 83 E-mail: netzleitung@sbb.ch	BLS Netz AG Betrieb Durchführung Betriebszentrale Bahnhofstrasse 14 CH-3700 Spiez Telephone: +41 58 327 20 71 Fax: +41 58 327 35 20 E-mail: disposition.bz@bls.ch	SOB Infrastruktur Betriebszentrale Bahnhofplatz 7 CH-9100 Herisau Telephone: +41 71 354 72 06 E-mail: bf@sob.ch

Table 11 – SBB/BLS/SOB contact addresses – Questions regarding day-to-day operations/emergency numbers.

1.8.1.5 Questions regarding GSM-R SIM cards

Topic	SBB Infrastructure	BLS Netz AG	SOB Infrastructure
Swiss GSM-R SIM cards	SBB AG Infrastruktur Telecom Poststrasse 6 CH-3000 Bern 65 Telephone: +41 51 220 11 82 E-mail: xtc011@sbb.ch	SBB AG Infrastruktur Telecom Poststrasse 6 CH-3000 Bern 65 Telephone: +41 51 220 11 82 E-mail: xtc011@sbb.ch	SBB AG Infrastruktur Telecom Poststrasse 6 CH-3000 Bern 65 Telephone: +41 51 220 11 82 E-mail: xtc011@sbb.ch

Table 12 – SBB/BLS/SOB contact addresses – Questions regarding GSM-R SIM cards.

1.8.2 Swiss Train Paths Ltd.

Topic	Contact person
Basic questions	Swiss Train Paths Ltd. Schwarztorstrasse 31 Postfach 8521 CH-3001 Bern Telephone: +41 31 384 20 40 Fax: +41 31 384 20 41 E-mail: info@trasse.ch www.trasse.ch
Train path requests and orders: <ul style="list-style-type: none"> • Annual timetable • For clients based in Switzerland 	Swiss Train Paths Ltd. Paul Hell Schwarztorstrasse 31 Postfach 8521 CH-3001 Bern Telephone: +41 31 384 20 49 Fax: +41 31 384 20 41 E-mail: p.hell@trasse.ch

Topic	Contact person
Train path requests and orders – international One Stop Shop: <ul style="list-style-type: none"> • Annual timetable • For clients based abroad 	Swiss Train Paths Ltd. Christoph Rüegg Schwarztörstrasse 31 Postfach 8521 CH-3001 Bern Telephone: +41 31 384 20 50 Fax: +41 31 384 20 41 E-mail: c.ruegg@trasse.ch
Train path orders <ul style="list-style-type: none"> • Interim timetable 	Swiss Train Paths Ltd. Ulrich Amsler Schwarztörstrasse 31 Postfach 8521 CH-3001 Bern Telephone: +41 31 384 20 48 Fax: +41 31 384 20 41 E-mail: u.amsler@trasse.ch

Table 13 – Contact addresses – Swiss Train Paths Ltd.

1.8.3 Swiss Federal Office of Transport (BAV)

Topic	Contact person
Basic questions	Bundesamt für Verkehr BAV CH-3003 Bern Telephone: +41 58 462 57 11 Fax +41 58 462 58 11 www.bav.admin.ch

Table 14 – Contact address – Swiss Federal Office of Transport (BAV).

1.8.4 Railways Arbitration Commission (SKE)

Topic	Contact person
Basic questions	Schiedskommission im Eisenbahnverkehr Monbijoustrasse 51A CH-3003 Bern Telephone: +41 31 322 55 84 Fax: +41 31 322 54 75 www.ske.admin.ch

Table 15 – Contact address – Railways Arbitration Commission (SKE).

1.8.5 RailNetEurope (RNE)

Topic	Contact person
Basic questions	Joint Office – RailNetEurope Oelzeltgasse 3/8 A-1030 Wien Telephone: +43 1 907 62 72 00 Fax: +43 1 907 62 72 90 www.rne.eu

Table 16 – Contact address – RailNetEurope (RNE).

1.9 Rail freight corridors

General Information [Link](#).

Rail freight corridor Rhine-Alpine Antwerp/Rotterdam–Cologne–Mannheim–Basel–Genoa
www.corridor-rhine-alpine.eu.

Rail freight corridor North Sea-Mediterranean Rotterdam–Antwerp–Basel/Lyon www.rfc2.eu.

1.10 RailNetEurope – international collaboration between infrastructure managers

RailNetEurope (RNE) was founded in January 2004 as a not-for-profit organisation of infrastructure managers (IMs) and train path allocation bodies. RNE is dedicated to the promotion of cross-border travel and transport on the European rail network.

The goal of RNE is to support RUs in their international activities (freight and passenger services) and to improve the performance of rail networks. RNE members harmonise the conditions governing international rail transport and maintain cooperation with the aim of promoting European rail operations to the benefit of the entire European rail industry.

RNE's mandates are carried out by four permanent working groups and a number of ad hoc project groups, which are coordinated by the Joint Office in Vienna.

Currently, the RailNetEurope organisation includes 38 IMs and train path allocation bodies, each with full member, partial member or client status. The IMs manage an overall rail network of 230,000 km. In its daily operations, RNE is committed to simplifying and harmonising international collaboration: this includes Europe-wide planning, standardised marketing and sales strategies for train paths (including Network Statements), collaboration between IMs in the area of operations management, real-time cross-border information exchange, and various customer services (monitoring, reporting, etc.).

1.10.1 One Stop Shop (OSS)

The European IMs have signed an agreement under the auspices of RailNetEurope (RNE) which creates the framework for a joint sales and marketing operation, centred on a network of national contact points (OSSs). This gives customers the option to submit their international train path requests (except for catalogued corridor train paths) to any OSS, and their chosen OSS will then take responsibility for coordinating all sections of the request.

Processing will take place in close collaboration with the relevant partners:

- Customer support and information on products and services
- Provision of all relevant track access information for the entire route
- Processing of international path requests
- Customer-oriented path planning for all time horizons
- Provision of quotes for the entire international route

Each national OSS is part of the international network aiming to make track access as easy as possible for its customers. The OSSs also provide train path price information and can compile operational reports.

With these specified national contact points, all customers should have access to competent, efficient and non-discriminatory support for all matters relating to international operations. A list of the national contact points is available from www.rne.eu.

In addition to these OSS, since November 2013, each of the rail freight corridors under section 1.9 has its own corridor OSS. They are exclusively responsible for the management and allocation of catalogued corridor train paths.

In Switzerland, both domestic and international train path requests and orders should (except for catalogued corridor train paths) be submitted directly to trasse.ch (cf. chapter 4).

1.10.2 RNE tools

Tool	Link
Path Coordination System (RNE PCS)	http://www.rne.eu/index.php/pcs.html
Charging Information System (RNE CIS)	http://www.rne.eu/index.php/cis.html
Train Information System (RNE TIS)	http://www.rne.eu/index.php/tis.html

Table 17 – RNE tools.

1.11 Glossary

The most important abbreviations and terms used are listed in the two tables below. A pan-European glossary produced by RNE is available at: <http://www.rne.eu/index.php/ns-common-structure.html>

1.11.1 Abbreviations

Abbreviation	Meaning
AB-EBV	Implementing Provisions for the Railways Ordinance
AB-FDV	Implementing Provisions for the Train Loading and Running Regulations
ABS	Upgraded high-speed line (Solothurn–Wanzwil)
ADFV	Grants Ordinance
AGB-ISB	General Terms and Conditions for the Use of Railway Infrastructure
AVIS	SBB's job management and information system
BAV	The Swiss Federal Office of Transport (part of UVEK)
BLS	BLS AG/BLS Netz AG
CBT	Ceneri base tunnel
CEN	The European Committee for Standardisation
CH	Switzerland (Confoederatio Helvetica)
CIS	Cargo Information System
CLC	CENELEC – The European Committee for Electrotechnical Standardisation
COTIF	Convention concerning International Carriage by Rail
CUI	Uniform Rules concerning the Contract of Use of Infrastructure in International Rail Traffic

Abbreviation	Meaning
DB	Deutsche Bahn AG
DfA	SBB database of fixed installations
DML	Zurich cross-city link
DOLS	Scheduling and operational control centre, Spiez
EBG	Railways Act
EBV	Railways Ordinance
EDIFACT	Electronic Data Interchange For Administration Commerce and Transport
EC	European Communities
EIRENE	European Integrated Railway Radio Enhanced Network
EN	European standard
ERA	European Railway Agency
ERTMS	European Rail Traffic Management System
ETCS	European Train Control System
ETM	European Transmission Module
EU	European Union
EVN	European Vehicle Number. The 12-digit vehicle number registered in the national register of vehicles (Art. 5i EBV).
RU	Railway undertaking
FTH/FAG	Form, type and hazard
FDV	Train Loading and Running Regulations
FPV	Timetables Ordinance
FTE	Forum Train Europe
GBT	Gotthard base tunnel
GSM-R	Global System for Mobile Communication – Railway
I	Infrastructure
IM	Infrastructure manager
LBS	Lötschberg base tunnel route
LBT	Lötschberg base tunnel
LVA	Overland Transport Agreement
NBS	New high-speed line (Mattstetten–Rothrist)
NAeP	Change of use process, safety
NEAT	New transalpine rail routes
NZV	Track Access Ordinance
NZV-BAV	BAV Ordinance on the Track Access Ordinance
OSS	One Stop Shop
PNL	Usable platform length
R	Regulation/radius
RA	Piggyback service
RADN	Block tables
RID	The European Agreements Concerning the International Carriage of Dangerous Goods by Rail (Règlement concernant le transport international ferroviaire de marchandises dangereuses)

Abbreviation	Meaning
DIR	EU Directive
RNE	RailNetEurope
RNE CIS	Charging Information System
RNE PCS	Path Coordination System
RNE TIS	Train Information System
ROLA	Piggyback service
RSD	Ordinance on the Carriage of Dangerous Goods by rail and cableway
RTE	Swiss Public Transport Association (VöV) compilation of technical rail regulations
SBB	Swiss Federal Railways
SiBe	Safety certification
SIM	Simplon Inter-Modal
SKE	Railways Arbitration Commission
SOB	Schweizerische Südostbahn AG
STB	Sensetalbahn
TNZ	SBB Infrastructure's Technical Track Access unit
trasse.ch	Swiss Train Paths Ltd.
TS	European technical specification (generally accepted technical standard which also has the status of a Swiss standard)
TSI	Technical Specifications for Interoperability
TV	Transport Ordinance
TZ	Transport number
UIC	International Union of Railways
UVEK	Swiss Federal Department of the Environment, Transport, Energy and Communications
VL	Connecting line
VLE	Ordinance on Railway Noise Abatement
VLS	Federal Law on Railway Noise Abatement
VöV	Swiss Public Transport Association
VPB	Ordinance on Passenger Transport
VSS	Swiss Association of Road and Transport Professionals
WTMS	Wayside train monitoring system
ZL	Train length

Table 18 – Abbreviations.

1.11.2 Terms used

Term	Definition
Applicant	An RU, an international consortium of RUs or any other company which is interested in carrying out rail traffic operations.
Notified Body	Body responsible for carrying out inspections and issuing certificates in conjunction with evaluations of compliance (Link).
Order conflict/train path conflict	Situation in which two or more mutually conflicting train paths cannot be allocated.
Railway undertaking (RU)	Public or private company whose main purpose is to provide rail services to transport passengers and/or freight, for which it must also secure the necessary motive power.
EuroSIGNUM	SIGNUM information in Eurobalises based on ERTMS/ETCS language packet 44 (NID_XUSER=2).
EuroZUB	ZUB information in Eurobalises based on ERTMS/ETCS packet 44 (NID_XUSER=2).
Timetables Ordinance	The Timetables Ordinance (FPV) regulates the process of creating, publishing and changing the timetable of public transport services for passengers.
Basic service	The definition of a basic service is derived from Art. 21 NZV and is described in more detail in the infrastructure managers' lists of infrastructure services.
Infrastructure	All fixed systems and installations required to provide rail transport service, such as tracks, trackside equipment, train protection systems and stations. "Infrastructure" as defined by the EBG also includes the operation of these systems.
Conflict resolution negotiations	Process to alleviate an order conflict. The train path allocation body and the relevant infrastructure manager work together with the applicant involved in the conflict to find reasonable alternative train paths.
Catalogued corridor train paths	Train paths established in advance on a rail freight corridor in accordance with EU Regulation 913/2010. Catalogued corridor train paths are offered for the entire length of the corridor or for specified sections of corridor for cross-border rail traffic. As regards annual timetable requests, catalogued corridor train paths are published eleven months before a timetable change. As regards the interim timetable, residual capacity is published two months before a timetable change. Catalogued corridor train paths are reserved exclusively for cross-border rail traffic.
Corridor OSS	A common point of contact established for a rail freight corridor by the infrastructure managers and the train path allocation bodies, to which applicants can submit orders for catalogued corridor train paths (incl. feeder train paths). The corridor OSS provides details of the train path allocation and of the conditions for using the network and allocates the catalogued corridor train paths in the name of and on behalf of the infrastructure manager and the train path allocation body concerned.
NeTS-AVIS	Network-wide track management system ordering tool
NeTS-PLAN	Network-wide track management system planning tool
Track access	Track access is the opening of the railway network to third-party providers without discrimination. These providers are called network users.
Track access permit	The track access permit enables rail companies to run services on foreign rail infrastructure. In Switzerland, such permits are issued by the BAV once reliability and financial performance criteria have been met.
Track access agreement	The track access agreement, as defined in Art. 9b para. 2 EBG governs the content of collaboration between an infrastructure manager and a network user.
Change of use process, safety (NAeP)	Risk assessment of safety-related concerns, questions and aspects by SBB Infrastructure. This is carried out as standard on the basis of a new RU service request in the planning horizon of ≤ 6 years in order to identify any newly emerging safety shortfalls (see section 3.2.1 for detailed description).
Path Coordination System	Planning and ordering tool for cross-border freight and passenger train paths.

Term	Definition
Framework agreement in accordance with Art. 12b NZV	The infrastructure manager and the companies interested in putting on rail traffic (Art. 9a para. 4 EBG) may conclude a framework agreement on track access specifying the characteristics of the train paths to be allocated. A framework is generally concluded for two timetable periods but for no longer than ten years. It may not grant any exclusive rights of use. It may be terminated by the infrastructure operator in order to improve usage of the relevant track. The agreement may specify compensation payments for cases such as this.
Safety certification	Safety certification is awarded by the BAV subject to the provision of a safety management system (SMS) by the network user. It recognises that the network user has fulfilled the relevant safety requirements to run services on a defined route, particularly those involving its staff, the rolling stock used and internal organisation.
Train path	A train path is defined as the basic service, i. e. the travel "slot" reserved for a train on the rail network defined in terms of place and time, as well as the associated ancillary services.
Train path request	"Train path requests" are applications for train path registrations submitted each second Monday in April for both the annual timetable and the interim timetable.
Interim timetable	Changes to the annual timetable arising from train path orders that are submitted after the deadline for definitive train path ordering.
Ancillary services	Services provided by infrastructure managers that can be applied for by an applicant in addition to the straightforward use of a train path. These include train stabling, shunting in marshalling yards, etc.

Table 19 – Terms used.



2 Track access conditions.

28

2.1 Introduction

Permits for RUs to use the Swiss rail network are issued by the BAV. Permits are issued subject to the provisions of the Railways Act (EBG) and Track Access Ordinance (NZV). The administrative procedure for obtaining access is described in the BAV's guideline for obtaining track access permits, safety certification and safety approval, and is depicted in the graphic below.

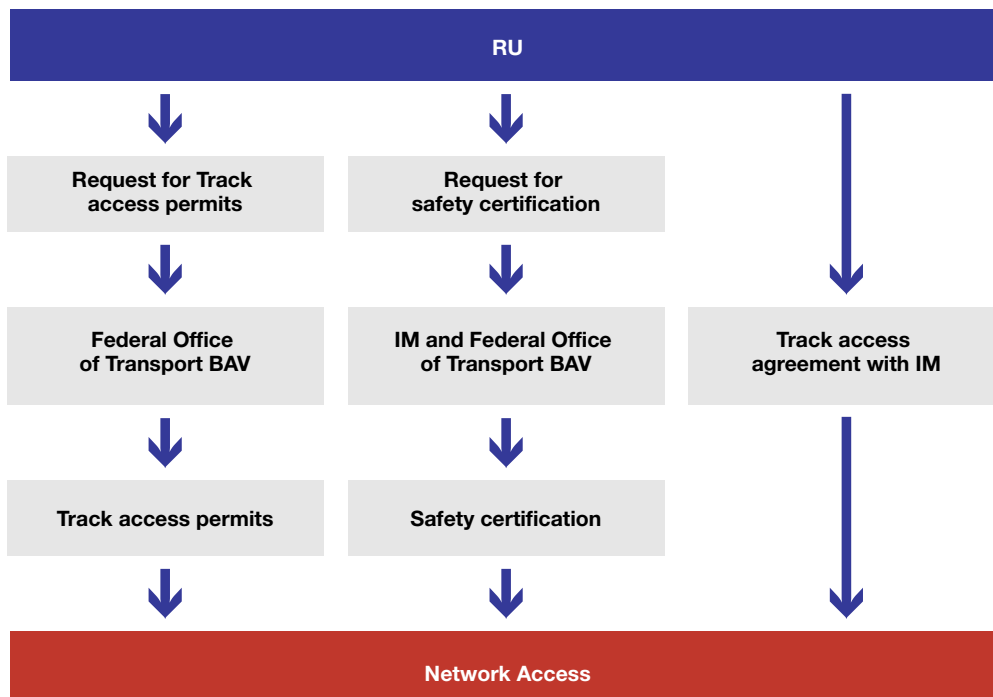


Figure 1 – Procedure for obtaining network access.

2.2 General access conditions

The most important access conditions can be found:

- in the [track access guideline](#) (Track Access Permit, Safety Certification)
- in the [Railways Act \(EBG\)](#), articles 9a and 9b, and
- in the [Track Access Ordinance \(NZV\)](#) and the [NZV-BAV](#).

Additional access conditions for foreign companies are described in section 2.2.3.

2.2.1 What you need to request a train path

The requirements for train path requests are set out in section 4.1.3.

2.2.2 Which freight and/or passenger trains are entitled to track access? Art. 4 NZV

Subject to statutory considerations and other provisions mentioned in this document, any company is entitled to request track access. The safety and reliability of a company are important access criteria, and are described as follows in article 4 of the Track Access Ordinance (NZV):

*Art. 4 Professional competence
(Art. 8d para. 1a EBG)*

As part of the procedure for awarding safety certification, the railway company must furnish evidence of its professional competence to provide safe and reliable rail operations.

2.2.3 Track access permit, Art. 8c, 8d EBG

Track access permits are issued by the BAV. All application documentation should be submitted to the contact point listed in section 1.8.3.

The Railways Act (EBG) describes the requirements for the issuance of a track access permit and safety certification as follows:

Art. 8c Track access permit and safety certification

¹ *Any company wishing to carry out rail traffic operations requires approval as a rail traffic company (track access permit) and safety certification. The Federal Council can provide for exceptions in the case of companies operating locally.*

² *A rail company which has obtained safety certification is entitled to conduct rail operations on all its own routes and on other routes to which the safety certification applies.*

³ *The company must observe Swiss statutory requirements, i. e.:*
a. technical and commercial regulations;
b. regulations relating to activities with safety implications.

⁴ *The right, granted in accordance with Articles 6–8 of the Carriage of Persons Act dated 20 March 2009, to convey passengers regularly and on a commercial basis is reserved.*

Art. 8d Issue and renewal of the track access permit

¹ *The BAV will issue a track access permit if the company:*

- a. has a satisfactory organisational structure and possesses the necessary knowledge and experience to ensure safe and reliable operations;*
- b. is solvent and has adequate insurance cover;*
- c. meets the reliability standards required of those persons responsible for the company's management;*
- d. observes workplace safety regulations and subscribes to the working conditions applicable to the rail industry sector;*
- e. has its registered offices in Switzerland.*

² *A track access permit will be issued for ten years at most. It can be renewed.*

³ *Where an agreement has been reached with other countries about mutual recognition, then permits issued by these countries will also apply within Switzerland.*

Art. 3 NZV elaborates on this as follows:

*Art. 3 Track access permit
(Art. 8c and 8d EBG)*

¹ *The Federal Office of Transport (BAV) will decide whether to issue or renew a track access permit within three months of receiving an application.*

² *It may limit the track access permit to certain types of traffic or certain routes.*

Track access for foreign railway undertakings is governed by Art. 9 NZV:

Art. 9

Track access permits issued by other countries may be recognised for journeys on cross-border routes without the need for an interstate agreement about mutual recognition.

The [overland transport agreement](#) between Switzerland and the EU is authoritative.

2.2.4 Safety certification, Art. 8e EBG

Safety certification is issued by the BAV. All application documentation should be submitted to the contact point listed in section 1.8.3.

Art. 8e Issue and renewal of safety certification

¹ *Safety certification is issued by the BAV.*

² *Safety certification includes approving the railway company's safety management system and approving the precautions it has taken to ensure that operations on the relevant routes are carried out safely. In particular, the company must prove that:*

- a. its employees possess the relevant qualifications to ensure safe operations;*
- b. the rolling stock meets the requirements for safe operations.*

³ *Safety certification is issued for five years at most. It can be renewed.*

⁴ *Where an agreement has been reached with other countries about mutual recognition, then safety certification issued by these countries will also apply within Switzerland.*

2.2.5 Solvency (insurance), Art. 5 NZV and Art. 5a NZV

Article 5 of the Track Access Ordinance (NZV) describes the solvency-related requirements as follows:

*Art. 5 Solvency
(Art. 8d para. 1b EBG)*

¹ *The railway company will be regarded as solvent if statements made by it indicate that it will be able to meet its financial obligations for at least one year.*

² *If this solvency requirement cannot be met, but financial restructuring is in progress, the BAV can issue provisional approval valid for at most six months.*

³ *The details required in respect of solvency are set out in the Annex.*

*Art. 5a Insurance cover
(Art. 8d para. 1b EBG)*

¹ *Insurance cover will be regarded as adequate if the company can show that it is insured against the consequences of its liability up to a sum of CHF 100 million per incident or can offer securities to the same value.*

² *If the insurance policy is terminated before the date in the document which shows that insurance cover exists, then the insurance company must undertake to continue to provide cover for claims for compensation or damage in accordance with the terms of the policy until such time as the permit is withdrawn but for no longer than 15 days after the BAV has been informed that the policy has been terminated. The date on which the permit is withdrawn is deemed to be the date on which the withdrawal order takes legal effect.*

2.3 General Terms and Conditions

The General Terms and Conditions for the Use of Railway Infrastructure ([AGB-ISB](#)) form an integral part of the track access agreement (see [Link 5](#)). For capacity allocation, the provisions of Swiss Train Paths Ltd. set out in chapter 4 apply.

2.3.1 Framework agreement (Art. 12b NZV)

See section 4.4.4.

2.3.2 Track access agreement (Arts. 15-17 NZV)

Provisions concerning the track access agreement are covered in articles 15-17 of the Track Access Ordinance (NZV).

If all the requirements set out in section 2.2 are satisfied, a track access agreement may be signed. If the BAV is unable to issue permits by the time requested, the track access agreement will be concluded subject to permits actually being granted. This agreement governs the general aspects of collaboration between the IM and the RU. It must be produced in written form and in duplicate in an official Swiss language or in English, and must contain the following constituent parts:

- details of the allocation of the requested basic and ancillary services
- the General Terms and Conditions for the Use of Railway Infrastructure (AGB-ISB)
- the IM's list of infrastructure services
- the IM's Network Statement
- the applicant's train path request or details of services order.

By concluding a track access agreement, the RU is not bound to place train path orders. The template for such an agreement can be found via [Link 6](#). Swiss Train Paths Ltd., the body responsible for the impartial allocation of train paths (chapter 4), also receives a copy of each track access agreement.

2.3.2.1 Accounting code

RUs are identified by means of an accounting code for ordering and invoicing services (cf. General Terms and Conditions for the Use of Railway Infrastructure, [Link 5](#)).

The RU must comply with the following rules in its use of the accounting code (if already issued):

- The accounting code issued must be used every time a train path is ordered
- Train paths (train numbers) must be ordered with a single accounting code for all sections of the route.

2.3.2.2 Agreements with third-party orderers (Applicants) Art. 9a 4 EBG

⁴ A request for track access along a train path in a specific location and for a specific length of time can be made by any company interested in putting on rail traffic. At least one month before commencing operations, the company must submit a track access permit or commission a railway undertaking to put on the rail traffic. The railway undertaking putting on the traffic must submit a safety certificate by the time it commences traffic operations at the latest.

Information on agreements with third-party orderers can be obtained from www.trasse.ch.

2.3.2.3 RU's responsibilities to the IM in operational transfer stations

The following section governs the RU's responsibilities to the IM in operational transfer stations and serves to implement the requirements under Appendix 1 "Lines in border regions" to the guideline on obtaining track permits and safety certificates as well as safety approval in Switzerland. A distinction is made between trains with and without change of load and applies regardless of whether or not the change of load is planned or is in response to operational requirements.

Trains without change of load:

The arriving RU shall remain party to the contract and thus answerable to SBB Infrastructure until the departing locomotive driver declares that the train is ready to depart. Then the transferee RU shall become party to the contract.

Trains with change of load:

The arriving RU shall remain party to the contract with SBB Infrastructure until the locomotive and/or group of wagons is uncoupled. Then the transferee RU shall become party to the contract. If there are no regulations governing how wagons are to be passed on (e. g. wagons without scheduling), then the arriving RU shall remain party to the contract with SBB Infrastructure until the transfer time communicated by the transferee RU (scheduled departure time as per NeTS-AVIS or, if the train departs early, the declaration by the locomotive driver that it is ready to depart).

The responsibilities that apply between the arriving and the departing RU as regulated above shall also apply in the case of shunting manoeuvres by third parties within the transfer station. In all other respects, the AGB-ISB shall apply. Any liability on the part of the third party shall be determined based on the relevant statutory provisions.

2.4 Regulations and recommendations

2.4.1 Track access conditions

All the relevant Swiss legal standards (laws, regulations, implementing provisions, guidelines, etc.) are to be observed as conditions for track access. Likewise, any conditions placed by the licensing authorities (Federal Office for Transport [BAV] [Link](#)) on the issue of track access permits, rolling stock permits and safety certification must also be observed without exception.

The conditions stated in the track access agreements themselves must also be observed. This also applies to the provisions of the integral components of the track access agreements in their current forms, i. e. for:

- the General Terms and Conditions for the Use of Railway Infrastructure
- the IM's list of infrastructure services
- this Network Statement, including rules referenced therein.

Any conditions imposed by trasse.ch as regards applications for, and the allocation of, train paths must be observed.

The following routes are subject to the following specific track access conditions (Appendix 9, 10, 11, 12 and 13), compliance with which is mandatory: these conditions are published as part of the SBB Infrastructure [One Stop Shop](#):

- The new high-speed line (NBS) between Mattstetten (excl.) and Rothrist (excl.)
- The upgraded high-speed line (ABS) between Wanzwil (excl.) and Solothurn (excl.)
- The connecting line between Rothrist (excl.) and Zofingen (excl.)
- Gotthard Tunnel (mountain route): Arth-Goldau–Erstfeld–Göschenen–Airolo–Bellinzona
- Gotthard Base Tunnel (GBT) Rynächt–northern tunnel portal–Giustizia

N. B.: Journeys between Arth-Goldau–Erstfeld and Bodio–Bellinzona are governed by the terms and conditions for track access of the Gotthard Tunnel (mountain route).

The IM has the right to make checks on RUs and shall notify the BAV of any irregularities or hazardous situations (Art. 24 NZV).

2.4.2 Train Loading and Running Regulations (Art. 11a EBV):

The provisions concerning the Train Loading and Running Regulations are set out in article 11 of the Railways Ordinance (EBV) as follows:

¹ The Swiss Train Loading and Running Regulations (FDV) are issued by the BAV.

² In order to facilitate the provision of short-distance cross-border services, it can authorise the use of the neighbouring country's train loading and running regulations.

The FDV are issued in the form of an ordinance, and are published as part of the official collection of Swiss laws at www.admin.ch or on the [BAV website](#).

2.4.3 Operating rules (Art. 12 EBV):

The provisions concerning operating rules are set out in article 12 of the Railways Ordinance (EBV) as follows.

- ¹ The operating rules required for operation and maintenance are issued by the railway undertakings, which shall ensure that they are applicable in practice and user-friendly.
- ² The operating rules are to be made available to the BAV in good time, generally speaking three months before they are intended to take effect, so that the BAV may use them as the basis for its supervisory role. Operating rules deviating from the Train Loading and Running Regulations issued by the BAV on the basis of Art. 17 para 3 EBG must be submitted to the BAV for approval at least three months before planned implementation. The instructions on the function, operation and maintenance of a facility or vehicle should together make up an appropriate operation manual.
- ³ The railway undertakings shall ensure that the necessary documents are available to users.
- ⁴ The network user is bound by those operating regulations containing rules relating to the route being used and concerning:
- the implementation of public law obligations;
 - the braking ratio required for a certain speed (including stop brake) and the permitted thrust and shear forces;
 - the use of combustion-based motive power units in tunnels;
 - the loading gauge to be maintained;
 - the permitted axle load and load per metre;
 - the operation of vehicles with large wheel bases and of overlength trains;
 - the maximum current drain from the overhead power lines;
 - the official language to be used;
 - electromagnetic compatibility.
- ⁵ The BAV is responsible for ensuring that the operating regulations are as uniform as possible for performing rail operations.

RUs with an allocated accounting code can obtain all mandatory operating rules issued by SBB Infrastructure for a fee from the contact point listed in section 1.8.1.1. Supplementary instructions on operating rules will be sent to the relevant RUs by post.

On the RTE-webshop (www.rte.voev.ch) of the Union of Public Transport (UPT) mandatory operating rules can be ordered as a PDF or paper copy:

	<p>Verband öffentlicher Verkehr VöV Dählhölzliweg 12 CH-3000 Bern 6 Telefon: +41 31 359 23 23 E-mail: RTE@voev.ch RTE-Webshop: www.rte.voev.ch</p>
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Members of UTP can obtain mandatory operating rules free of charge from the protected area of VöV website:

Our www.voev.ch → Topics → RTE access to RTE rules → RTE Webshop.

2.4.4 Technical/operational recommendations (Art. 12a EBV)

The provisions concerning technical/operational recommendations are set out in article 12a of the Railways Ordinance (EBV) as follows:

Technical/operational recommendations for infrastructure use are issued by the infrastructure manager. These recommendations help minimise operational disruptions and draw network users' attention to possible damage events. They contain, in particular, tips regarding:

- a. motive power on steep gradients or long inclines;*
- b. infrastructure wear and tear;*
- c. ideal train lengths, draw-hook loads, driving characteristics, derailment safety;*
- d. protection of goods against load shifting and damage.*

2.5 Exceptional loads/special consignments/heavy loads

The provisions concerning exceptional loads/special consignments can be found in the following documents:

- UIC Leaflet 502, [Annex 1 \(www.uic.asso.fr\)](#)
- The Infrastructure Implementing Provisions for the FDV and associated provisions (AB-FDV), [R I-30111](#)

For the transportation of heavy loads (details required include, in particular, axle arrangement and axle loads) not covered by the provisions of UIC leaflet 700, a case-specific processing time applies. This shall be agreed/decided upon on a case-by-case basis depending on the type of heavy goods transport. We kindly request that you contact us well in advance.

For more information, please contact SBB Infrastructure at the contact point listed in section 1.8.1.3.

2.6 Dangerous goods

The European Agreements Concerning the International Carriage of Dangerous Goods by Rail (RID – Appendix C to the Convention concerning International Carriage by Rail [COTIF; SR 0.742.403.1]) apply to the national and international carriage of dangerous goods.

Copies of these regulations can be obtained from the contact points listed in section 1.8.1.1.

Provisions that differ from RID can be found in the in the appendices to the [Ordinance on the Carriage of Dangerous Goods by Rail \(RSD\) SR 742.401.6](#).

2.7 Vehicle acceptance and maintenance Art. 17a, Art. 17b, Art. 17c EBG

Art. 17a Register of approved vehicles

¹ The BAV keeps a register of all vehicles in Switzerland which have been approved in accordance with this law.

² Possessors of an operating permit (keepers) must have their vehicles entered in the BAV's register.

³ The register can be accessed by all safety authorities and accident investigation agencies both within and outside Switzerland as well as by all other persons with a legitimate interest.

Art. 17b Maintenance of vehicles

¹ The person named in the register of vehicles approved for use in Switzerland is responsible for maintaining that vehicle.

² If the vehicle has not been registered or if no person is named in the register as being responsible for the vehicle, then the duty of maintaining the vehicle falls upon either the keeper or, alternatively, the person who exercises actual control over the vehicle.

³ The Federal Council can specify requirements for persons responsible for maintenance and for persons entrusted with carrying out maintenance.

Art. 17c Assessment of safety-relevant aspects

¹ The BAV's approval procedure includes a risk-oriented assessment of safety-relevant aspects based on safety reports or random inspections.

² The BAV will specify those aspects in respect of which the applicant must furnish a safety report.

The BAV is responsible for accepting rolling stock (obtaining the necessary operating permit/type acceptance). All application documentation should be submitted to the contact point listed in section 1.8.3. The following documents set out the legal basis for rolling stock acceptance:

- [Railways Act \(EBG; SR 742.101\)](#)
- [Ordinance on the Construction and Operation of Railways \(Railways Ordinance \[EBV\]; SR 742.141.1\)](#)
- [Implementing Provisions for the Railways Ordinance \(AB EBV; SR 742.141.11\)](#)
- [BAV Guideline on the Acceptance of Railway Vehicles](#) based on Arts. 6a, 7 and 8 of the Ordinance on the Construction and Operation of Railways (Railways Ordinance [EBV])

Examination of the infrastructure manager's technical track access conditions forms part of the BAV's approval procedure; it is essentially a review of safety-relevant aspects (see, in particular, the Guideline on the Acceptance of Railway Vehicles). The main focus of the investigative work undertaken by the Technical Track Access unit (TNZ) of SBB Infrastructure (IM) is on making certain that the vehicles and SBB Infrastructure's equipment and systems are mutually compatible in order to ensure their safe and reliable interaction. The TNZ specifies those infrastructure requirements for which evidence of compliance must be provided and checks whether the conditions have been met and the relevant evidence has been furnished (particularly in the case of uniquely Swiss requirements). The TNZ issues non-objection certificates (similar to a report) for each aspect as its formal comment on the evidence submitted and as confirmation of compliance with the infrastructure requirements (proof of compatibility):

- Provisional non-objection certificates (for test runs)
- Definitive non-objection certificates (for commercial journeys)

In addition, the TNZ assists interested RUs/vehicle keepers and vehicle manufacturers in acquiring track access, i. e. everything from producing the specification document right up to acceptance for running operations on SBB Infrastructure's rail network. In this way, the unit makes an important contribution to the safe operation of vehicles on SBB Infrastructure's rail network and to preventing disruptions to rail operations.

2.7.1 Definition of the minimum vehicle train control system requirements

This definition (formerly train protection) affects train movements with shunting, engineering, tracklaying, track maintenance and historical vehicles on the Swiss standard gauge network. On 4 November 2013, the BAV enacted the following [requirements](#) (in German).

2.7.1.1 ETCS

Minimum ETCS requirements for vehicles (BAV decision of 10 August 2011):

- By the end of 2017, vehicles intended for use on SBB Infrastructure's network must be fitted with SIGNUM+ETM-S or ZUB+ETM. To travel on lines with $V_{max} > 160$ km/h, vehicles must have ETCS Level 2 (driver's cab signalling).
- Since 1 July 2014, every newly commissioned vehicle has been required as a basic principle to be equipped with an ECTS baseline 3 train control system or at least to be designed to enable such a system to be easily retrofitted.
- The requirement for ECTS equipment can only be waived for vehicles due to be commissioned before the end of 2017 in justified cases, e. g. if the vehicles are only to be used on lines with no long-term plans to be switched to ECTS L2.
- The transitional stage for migrating the whole network to ETCS level 1 LS is expected to be completed in late 2017. From this date onwards, vehicles will no longer require any SIGNUM or ZUB systems if they are fitted with ETCS baseline 3 equipment.

See also section 3.3.3.2, Train control systems.

The high-speed line (NBS) between Mattstetten and Rothrist and the upgraded high-speed line (ABS) between Solothurn and Wanzwil are equipped with the ETCS Level 2 train control system. The following lines were commissioned in 2015 with ETCS level 2: Brunnen excl.–Flüelen–Altdorf–Rynächt–Erstfeld excl. and Bodio excl.–Pollegio Nord–Biasca excl. and Biasca excl.–Osogna–Claro–Castione excl. The opening of the Gotthard Base Tunnel is planned for December 2016.

Permission to proceed and the appropriate speed will be displayed in the driver's cab. The corresponding vehicle-side requirements can be found in the track access conditions.

2.7.2 SBB Infrastructure guidelines and requirements

2.7.2.1 Wheel/track interaction

Wheel/track interaction is based on the limiting conditions and limit values set out in the AB-EBV. An inspection is to be conducted taking into account the relevant Swiss legal provisions/specialities and in accordance with CEN standard EN 14363 (Testing for the acceptance of running characteristics of railway vehicles – Testing of running behaviour and stationary tests).

The following serve as guidelines and benchmarks:

- Adherence to the limiting conditions and limit values set out in the AB-EBV
- Internationally recognised standards (EN 14363, EN 15663, UIC 518, UIC 645)
- The Swiss track network with its many very small curve radii $250\text{ m} \leq R < 400\text{ m}$ (test range 4 in accordance with EN 14363 and UIC 518)
- Specific lines with a significant number of extremely small curve radii $R < 250\text{ m}$ in accordance with R I-50127 (test range 5, not covered by EN 14363 or UIC 518)
- Ensuring that points on tight curves can be traversed safely and without undue strain on the track and maintaining the minimum buffer overlap in accordance with R I-50007
- Minimum technically traversable radius (curve radius) in accordance with R I-50007
- Specific SBB regulations (R I-50007, R I-50064)

2.7.2.2 Interface between load limits of vehicles and infrastructure

In accordance with EN 15528 and R I-50064 (technical specification for effecting the interface between load limits of vehicles and infrastructure in line with the EU standard EN 15528), the line category is determined by the maximum wheelset load and the mass per unit of length. The line category of an entire train is always determined based on the vehicle in the train that has the highest load, i. e. that is in the highest-numbered line category. Compatibility is ensured if the vehicle's line category (or payload limit for freight wagons) is the same as or lower than the line's own category, taking account of the maximum permitted speed.

2.7.2.3 Pantograph/overhead line interaction

Pantographs require component approval from the BAV in accordance with the BAV [Guideline on the Acceptance of Railway Vehicles](#).

The following serve as guidelines and benchmarks:

- Adherence to the limiting conditions and limit values set out in the AB-EBV
- Adherence to the force criteria in accordance with EN 50367
- Adherence to the contact wire uplift criteria in accordance with EN 50119
- Adherence to the pantograph requirements in accordance with EN 50206
- Infrastructural requirements governing the interaction between pantographs and overhead lines in accordance with R I-50088
- Verification of pantograph gauges (see also section 3.3.2.1)
- Optimised pantograph horns
- SBB Infrastructure's many different overhead power line systems (compliance will be demonstrated over several reference sections of track depending on the intended employment)
- Specific SBB regulations (R I-50088)

2.7.2.4 Flange lubrication (“Spurkranzschmierung”)

All rolling stock in use on the SBB network must have flange lubrication (“Spurkranzschmierung”). Detailed requirements governing the lubricants to be used (especially with regard to their environmental impact), the required quantities and frequency of lubrication can be found in the Swiss Public Transport Association’s Technical Rail Regulation 49410.

2.7.2.5 Electrical requirements for motive power units

In order to guarantee safe and reliable interaction of motive power units with infrastructure installations and systems, the following conditions must be met and the corresponding proof submitted with the type acceptance for the motive power units:

2.7.2.5.1 Requirements for input admittance

In order to reliably prevent the line-side converters of motive power unit converters, including the associated line-side converter controller, from generating network resonances and thus possibly rendering the traction current supply network unstable, the input admittance frequency response must be passive for any values above a defined threshold frequency. The corresponding requirements for input admittance of motive power unit converters and the specifications for motive power unit frequency response measurements are set out in SBB Regulation R I-20005. This regulation is a binding operating rule within the meaning of Art. 12 para. 4g EBV.

2.7.2.5.2 Requirements for power limitation

In order to prevent failures arising from under- or overproduction in the case of special configurations of the traction power supply network, motive power units must be equipped with a frequency-dependent power limitation function in accordance with SBB Regulation I-55068. In order to prevent a power outage in the event of a weak power grid, e. g. where there are long supply bypasses or special circumstances such as failure of a substation, motive power units must be equipped with a voltage-dependent power or current limitation function in accordance with SBB Regulation I-50069.

The regulations are binding operating rules within the meaning of Art. 12 para. 3g EBV for vehicles accepted for operation as from 1 January 2011. For older motive power units, the aim is for these functions to be added within the context of general software updates.

Current versions of these documents can be obtained from the relevant contact point as per section 1.8.1.1.

2.7.2.5.3 Compatibility with track-release systems

Adherence to EN 50238 will ensure the compatibility of all rolling stock with track-release systems. This standard is divided into three sections: process (EN 50238-1, formerly EN 50238), parasitic currents (CLC/TS 50238-2) and magnetic interference (TS 50238-3).

More detailed documents exist for SBB infrastructure which set out specific Swiss characteristics supplementing the provisions of CLC/TS 50238-x. These are:

- SBB Regulation I-50097 (formerly J78) on parasitic currents and
- SBB Regulation I-50098 (formerly J84) on magnet interference.

All rolling stock with electronic equipment on board (and in particular static convertors with output of 500 W or higher) must be able to prove compliance for all parts of that equipment with EN 50238, R I-50097 and R I-50098. Depending on the vehicle and the operational concept, proof of compliance obtained abroad on a 15 kV/16.7 Hz system (and, as necessary, 25 kV/50 Hz for certain of SBB Infrastructure's cross-border routes) may also be presented for EN 50238 parts. Details of any CLC/TS 50238 parts that are not yet complete are contained in R I-50097 und R I-50098.

2.7.2.6 En route communication

Communication using GSM-R is already compulsory on the following routes:

- Lausanne–Sierre (100)
- Sierre–Brig–Domodossola (100)
- Genève Aéroport–Renens–Lausanne (150)
- Geneva–Châtelaine–La Plaine (frontier) (151)
- Genève–Genève La Praille (152)
- Daillens–Vallorbe (200)
- Renens–Yverdon–Biel (210)
- Auvernier–Travers (221)
- Delémont–Moutier (226)
- Basel SBB–Delémont (230)
- Moutier–Lengnau (241)
- Lausanne–Fribourg (250)
- Fribourg–Bern (250)
- Biel–Zollikofen (260)
- Bern–Thun (290)
- Biel–Solothurn–Olten (410)
- Ausbaustrecke Solothurn–Wanzwil (415)
- Bern–Mattsteten–Burgdorf–Langenthal–Rothrist (450)
- Neubaustrecke Mattsteten–Rothrist (450.1)
- Rothrist–Olten (450.1)
- Basel SBB–MuttENZ–Pratteln–Olten (500)
- MuttENZ–Liestal (500.1)
- Grenze DB Netz AG–Basel Kleinhüningen Hafen (502) GSM-R D (Deutschland)
- Olten–Luzern (510)
- Zofingen–Suhr (514)
- Olten–Aarau–Rapperswil–Brugg (550)
- Immensee–Arth Goldau–Giubiasco–Chiasso (600)
- Luzern–Immensee (600)
- Giubiasco–Cadenazzo–Locarno (630)
- Cadenazzo–Luino (631)
- Suhr–Lenzburg (645)
- Rapperswil–Lenzburg–Killwangen–Spreitenbach (650)
- Lenzburg–Rotkreuz–Immensee (653)
- Othmarsingen–Brugg (657)
- Zug–Thalwil (660)
- Zug–Rotkreuz–Luzern (660)
- Zug–Arth Goldau (661)
- Pratteln–Brugg (700)

- Turgi–Koblenz–Waldshut (701)
- Würenlos–Killwangen–Spreitenbach–Dietikon/Rangierbahnhof Limmattal (704)
- Etzgen–Stein–Säckingen (705)
- Bülach–Winterthur (706)
- Brugg–Zürich HB (710)
- Zürich Altstetten–Zug (711)
- Zürich Aussersihl–Zürich Altstetten (715)
- Zürich HB–Dübendorf (733)
- Rapperswil–Küsnacht–Zürich Stadelhofen (736)
- Rapperswil–Uznach–Ziegelbrücke (737)
- Rapperswil–Wallisellen–Zürich Oerlikon (740)
- Zürich Oerlikon–Zürich HB (740 + 750)
- Winterthur–Effretikon–Zürich Flughafen–Zürich Oerlikon (750)
- Effretikon–Dietlikon–Wallisellen (751)
- Winterthur–Winterthur–Grüze (754)
- Zürich Seebach–Opfikon–Kloten–Bassersdorf (755)
- Wettingen–Zürich Oerlikon (755/756)
- Effretikon–Wetzikon–Hinwil (757)
- Schaffhausen–Rafz–Zürich Oerlikon (760)
- Neuhausen–Winterthur (762)
- Winterthur–Schaffhausen (762)
- Niederweningen–Oberglatt (765)
- Kreuzlingen–Romanshorn (820)
- Oberwinterthur–Seuzach (821)
- Wil–Kreuzlingen (830)
- Winterthur–Oberwinterthur–Romanshorn (840)
- Romanshorn–Rorschach (845)
- Winterthur–Wil–St. Gallen–Rorschach (850)
- Rorschach–St. Margrethen (880)
- Sargans–Buchs (880)
- Zürich HB–Pfäffikon (SZ)–Ziegelbrücke–Landquart–Chur (900)

Other routes will follow. An up-to-date overview of the GSM-R rollout is available [here](#).

GSM-R-compatible devices with Swiss GSM-R SIM cards (which can be ordered from SBB Telecom, contact details in section 1.8.1.5) can be used on all routes in Switzerland with GSM-R reception. In addition, devices with SIM cards from the following infrastructure management companies can be used on the routes mentioned above using international GSM-R roaming (as at March 2014):

- DB Netze (Germany)
- RFI (Italy)
- RFF (France)
- Pro Rail (Netherlands)
- Infrabel (Belgium)
- ÖBB Infrastruktur (Austria)

There are currently no plans to equip the entire SBB route network with GSM-R. On some routes where it is possible to do so, GSM network coverage is to be supplied by a public mobile phone operator (national roaming). A reduced range of GSM-R functions will be available on these routes. The switching points between “National Roaming” and the GSM-R network are listed in the RADN block tables. National roaming is accessible using GSM-R SIM cards from the following infrastructure management companies (as at March 2014):

- SBB Infrastructure (Switzerland)
- DB Netze (Germany)

As far as possible and necessary, additional roaming connections (both international GSM-R roaming for GSM-R routes and national roaming for other routes) will be established in co-operation with foreign infrastructure management companies as required. The relevant national GSM-R network operator must inform SBB Telecom of the need for such a connection with a lead time of at least six months.

From 11 December 2011, it has been possible in principle to communicate using GSM-R devices across the entire SBB network, either via existing GSM-R radio coverage or (on routes with no coverage, or no coverage as yet) via national roaming. On SBB routes with no GSM-R radio coverage, national roaming should be used. GSM-R devices must be used to transmit track requirements for shunting tasks (from the mobile subscriber to the movements inspector). Access arrangements will be dealt with separately for foreign RUs, whose GSM-R devices will be fitted with different SIM cards and will therefore not support national roaming, but whose services may exceptionally run on routes where only national roaming is available.

EIRENE FRS 7.1 and SRS 15.1 specifications and the concomitant MORANE specifications form the basis of GSM-R communication.

It is recommended that vehicles be fitted with GSM-R-compatible cab radios. According to the BAV, handheld devices are only to be used on regular train services under the following conditions:

- Handheld device recharging using an in-vehicle charger
- Device connected to an external antenna
- It must be possible to discontinue a conversation if it is necessary to receive a railway emergency call.

On trains making irregular journeys on the SBB network, SBB Infrastructure’s minimum requirement is for a handheld device designed to allow a conversation to be discontinued if it is necessary to receive a railway emergency call.

The list of approved GSM-R devices can be viewed at <http://www.bav.admin.ch/dienstleistungen/bewilligungen>, in the safety technology specialist area.

SBB Regulation I-30131 (RADN) indicates which type of communications technology is to be used for each route; this information can also be found in the route database (Link 4).

2.7.2.7 Brakes

Eddy current or other static friction braking systems may not be used for service or emergency braking on SBB Infrastructure's rail network.

Exceptions include:

- Electromagnetic rail brakes may be used for emergency braking. This also includes rapid braking initiated by the driver.
- The use of eddy current brakes which act on the infrastructure is only possible following additional local inspections or a route upgrade. Route-specific compatibility with track-release systems must be demonstrated (axle systems which are not intended for this purpose could suffer permanent damage) and the permanent way must be approved for their use.

2.7.2.8 Sanding (greater adhesion)

Equipment which automatically dispenses sand if the driver initiates emergency or rapid braking is not permitted and must be deactivated for rail operations within Switzerland. Sanding by single traction units of up to four axles, including multiple unit control, is not permitted on SBB Infrastructure's rail network when travelling at less than 40 km/h. (Exceptions are emergencies in order, for example, to avoid passing a signal at danger or to prevent a collision/see also D I-B 11/12).

2.7.2.9 Aerodynamics

In order to ensure safe operation when affected by side winds, the standard vehicle wind characteristic curves in accordance with DB Netz AG's Guideline (RiL) 80704 (section 807.0413) must be adhered to when travelling at every speed over 140 km/h to the vehicle's maximum speed. As far as is known today, this guideline covers all parts of the SBB network which are critical as regards side wind, in particular the Mattstetten–Rothrist high-speed line (NBS). A special risk assessment should be submitted if the standard wind characteristic curves cannot be adhered to.

2.7.2.10 Negotiating curves at high speed

For negotiating curves at speeds above the R series (tilting trains, passive tilt mechanisms), a route-specific licence for the higher speed is required for each route travelled in addition to the general vehicle licence (operating permit with R series licence). Further details on licensing requirements and procedures can be found in Document R I-20019.

2.7.2.11 Intervention (rescue trains)

Before commercial commissioning of newly registered vehicle types, Intervention (Infrastructure Operation, Intervention, Bollwerk 10, 3000 Bern 65, intervention@sbb.ch) has to be informed with technical documentations in accordance with R I-50131 (Operational intervention requirements governing the registration of new rail vehicles) for the purpose of towing. If necessary RU (or the manufacturer) instructs the necessary specific vehicle information.

2.8 Staff acceptance, Art. 6 NZV

The BAV is responsible for approving staff. The provisions contained in Regulations (EU) No. 1158/2010 and No. 1169/2010 apply. All application documents are to be submitted to the office mentioned under section 1.8.3.

2.9 Recording voice communications during train traffic management

Voice communications during train traffic management on the SBB AG rail network are recorded. These recordings allow reconstruction of the chain of communication related to an incident leading to an accident or a dangerous situation.

Recordings are made up of voice communications by Infrastructure's control centres (Operation Centre Infrastructure [OCI], regional operation centres [BZs], shunting yards, railway stations, the Wayside Train Monitoring Systems (WTMS) intervention centre and SBB Cargo's operation points) as well as by all mobile services which communicate with those control centres (locomotive engineers, conductors, shunters, construction and maintenance personnel, intervention, etc.). Recordings are also made up of voice communications between locomotive engineers, conductors, shunters, and construction and maintenance personnel.

Voice communications and context data are continuously recorded and temporarily held in the recording systems' storage area. The communications recorded (audio) are stored on the recording system for 30 days. The context data recorded is stored on the recording system for 180 days. If recordings are needed for analysis purposes, they will be permanently stored; otherwise, recordings will be automatically and irretrievably deleted. The retention periods are governed by I 50094

If an incident occurs, the Safety and Operations (I-B-SBE) staff have exclusive access to recorded voice communications and context data in order to analyse the particular incident.

It is possible, for good reasons, to listen retrospectively to one's own voice communications. A written application to do so must be submitted to the following address within 5 days after the relevant voice communication was recorded:

SBB Infrastruktur
Betrieb – Sicherheit-Betrieb
Ereignisanalysen und Nachbearbeitung
Bollwerk 10
CH-3000 Bern 65
E-mail: asb.sbe@sbb.ch

The application deadline is based on I 50094

2.9.1 Content of a voice communication recording

SBB AG records context data and voice communications which take place in an operational context between Infrastructure's control centres and the mobile field centres and which could offer useful insights when analysing an incident. The data contains:

- Voice communication content: The complete content of a voice communication between two participants.
- Time stamp: Start, end and duration of the communication.
- Participants: Details of all participants (name, phone number, organisation) in the communication. This also applies to conference calls.
- Registered role: The name of the participant's registered operative role in the communications system.
- Location of remote terminals (if available): Information about the location of the participating remote terminals.
- Communication type: Information about the type of communication and the technical interfaces.

Note: The above list is not exhaustive and can be extended.

2.9.2 Informing the parties involved

- SBB personnel will be informed through a corporate directive.
- Third-party personnel will be informed by the network statement. Senior managers are responsible for disseminating information within their organisation.
- Unless callers have previously contractually agreed to recordings being made (see note below), a voice message will inform callers that the call will be recorded. This ensures that each caller is aware that their call will be recorded.
- In the event of an incident, no message will be issued about the special safekeeping (storing) of recorded voice communications and context data.

Note: At a later date, it will be possible to opt out of hearing the message. To take advantage of the opt-out option, railway companies must contractually commit themselves to inform their staff that SBB AG will be recording their calls.



 SBB



3 Infrastructure.

3.1 Introduction

In analogy to EU practice, infrastructure is defined as meaning all resources (including staff and installations) that need to be available and in working order for train services to operate. This primarily includes the infrastructure capacity (train paths) and installations that facilitate access to the rail system such as platforms, including their access routes. The term “infrastructure” covers both capacity management and operations. Power supply installations are also part of infrastructure.

The SBB Infrastructure, BLS Netz AG and SOB Infrastructure networks are organised in accordance with the valid train-path allocation regulations (AB-EBV re Art. 17).

Further information on infrastructure can be found under Link 2 (SBB network map/train path map) and Link 4 (route database).

The description of the network in chapter 3 is updated for every Network Statement (including the outlook for further infrastructure development in section 3.9).

3.2 Network

3.2.1 Information on the rail infrastructure

The network's geographical features and limitations are listed in the route database (under Link 4).

3.2.1.1 Change of use process safety

SBB Infrastructure reserves the right to initiate a change of use process safety (NAeP), i. e. a risk assessment of safety-relevant concerns, questions and elements³: This is carried out as standard on the basis of a new service request (request/order for a new train path by an RU/applicant) in order to identify any newly emerging safety shortfalls (e. g. insufficient platform lengths, missing departure blocking devices, missing stop boards, insufficient flank protection measures, etc. RUs are requested by SBB Infrastructure to always complete a “Basic information on the RU” form. To simplify the form-filling process, the most common vehicle types used in passenger traffic are preselected in a vehicle matrix The following criteria are applied (list not necessarily conclusive):

Passenger trains:

The NAeP focuses primarily on systematic changes to or increases in the frequency of the service offer or on extensive changes to the rolling stock to be used in the medium term (planning horizon ≤ 6 years). SBB Infrastructure thus requires detailed basic information at an early stage. This includes rolling stock lengths and types, cycles and information on train personnel as well as forwarding. As previously, the NAeP is also used for individual scheduled or special extra trains, e. g. during peak hours, to which additional coaches/modules are attached or which operate during at least one timetable year with different rolling stock. Other

³ Requirement of the BAV audit of 2004/2011, Commission Regulation (EC) No 352/2009 of 24 April 2009 on the adoption of a common safety method on risk evaluation and assessment as referred to in Article 6(3)(a) of Directive 2004/49/EC of the European Parliament and of the Council, and the resulting SBB Group Directive K 250.1 “Specialist implementing provisions for addressing safety-relevant changes” dated 1 January 2012.

major trigger criteria are changes in stops, stations with new train turn-arounds and new crossing points/overtaking points.

Freight trains:

If system/catalogue paths or shunting processes at stations are fundamentally modified or routes/service points have freight paths (re)assigned to them. If the NAeP is conducted, the RU should expect to receive a response in no less than thirty days.

If safety-relevant infrastructure measures are identified, SBB Infrastructure clarifies whether the RU can compensate for these through organisational measures. If not, SBB Infrastructure reserves the right to only approve the service request after relevant infrastructure upgrades have been implemented or to reject it on the grounds of insufficient project funds.

The majority of the safety-relevant infrastructure elements are based on the Implementing Provisions for the Railways Ordinance (AB-EBV), with which all RUs and IMs are obliged to comply.

3.2.1.2 Exceptional use of infrastructure

The RU shall notify the IM of the exceptional use of infrastructure (e. g. major events, exceptionally high frequency of services, a large number of visitors/private individuals near the track, etc.) as early as possible so that the necessary safety measures may be organised.

3.2.2 Border crossings/adjoining networks

SBB infrastructure borders on the following foreign infrastructure networks [RFF](#) in Basel, Vallorbe, Les Verrières, Le Locle-Col-des-Roches, La Plaine (Genève) and Delle; [DB Netz AG](#) in Basel, Schaffhausen, Kreuzlingen/Konstanz and Koblenz/Waldshut; [RFI](#) in Chiasso, Pino Transito/Luino, Iselle/Domodossola and Mendrisio-Varese (scheduled for June 2016); [ÖBB-Infrastruktur AG](#) in Buchs (St. Gallen) and St. Margrethen.

3.2.2.1 Further information

The precise definitions of the network borders are listed in [R I-30121](#) under the heading “Grenzbahnhof” (“Border station”).

3.2.3 Adjoining infrastructure managers (standard gauge)

BDWM

BLS

CJ

OeBB

SOB

ST

SZU

TMR

TPF

transN

TRAVYS

3.3 Network description⁴

SBB Infrastructure maintains a network of around 3,000 km of standard gauge track, of which around 1,400 km is multiple track and signalled for two-way operation. This network includes 7,400 km of catenary, about 800 stations or stops and approx. 625 signal boxes⁵. There are around 290 tunnels with a total length of around 250 km (excluding the Gotthard base tunnel), and almost 5,900 bridges (90 km). Over 16,000 sets of points and 33,000 signals⁶ are ready for use on a daily basis. Six railway-owned hydroelectric plants plus a number of partner plants and transformer stations supply traction power. SBB Infrastructure has 1,600 km of transmission line.

The network covers virtually the whole of Switzerland. SBB's standard route class is D4. The key transit routes are the north-south axis from Schaffhausen/Basel to Chiasso/Luino or Brig/Domodossola (via [BLS](#)) and the east-west axis from St. Margrethen/Buchs (St.Gallen) to Genève.

3.3.1 Geographical description

3.3.1.1 Lines and tracks

There are no separate tracks for passenger and freight services (mixed traffic lines). The Gotthard route is a mountain route with a maximum gradient/incline of 26 ‰, a feature that places specific demands on motive power. You will find details of the routes on the [SBB network map](#) (Link 2) and in the route database (Link 4). Route gradient profiles can be found in the tables in the Implementing Provisions for the Train Loading and Running Regulations (AB FDV), R I-30111, which can be found at www.voev.ch or in the route database (Link 4).

⁴ Source: SBB database of fixed installations (DfA), April 2009

⁵ Includes former MThB, postal signal boxes, disused signal boxes, marshalling yards and service stations Excludes KTU (licensed transport operator) networks (as at April 2009)

⁶ Combined, warning and main signals types L and N, plus ground signals

3.3.1.2 Track gauge

The track gauge is 1,435 mm. Curve radii are designed to be as minimal as possible:

- Main track: $R_{\min} = 150$ m
- Shunting track: $R_{\min} = 135$ m
- Siding track: $R_{\min} = 80$ m or 35 m

The minimum radius that interoperable vehicles must be able to traverse in accordance with the TSI is $R_{\min} = 150$ m. However, this is not sufficient for unrestricted operation on SBB Infrastructure's rail network. If rail vehicles are also to be able to travel on shunting track and older rail systems without any restrictions, the curve radius requirements in accordance with R I-50007 must also be met.

Industrial and private sidings are governed by separate rules. Details of deviations on specific routes are provided in the route database. See also UIC leaflet 502-2 "Exceptional consignments – Outline procedure".

3.3.1.3 Stations

Details of SBB Infrastructure's stations are available on request from the OneStopShop as per section 1.8.1.1.

3.3.2 Technical data

You will find technical data on the SBB network and Terms of Use in SBB Regulations R I-30111 (AB FDV), R I-30121 (Local Train and Shunting Movement Regulations) and R I-30131 (RADN), which can be obtained from the Swiss Public Transport Association (www.voev.ch), or from the Swiss Association of Road and Transport Professionals (www.vss.ch), and in the route database in Link 4. A diagrammatic map with numbers marking the various modules forms part of the BAV's track access [guideline](#).

3.3.2.1 Clearance/loading gauge

Unlimited-use vehicles:

- Upper area: max. EBV O1 (including UIC G1)
- Lower area: in accordance with UIC Leaflet 505-1
- Calculation rules (calculation of vehicle construction gauge) associated with the reference line: in accordance with UIC Leaflet 505-1

Vehicles designed for use on specific routes (especially double-deck cars):

- Upper area: max. EBV O2
- Lower area: in accordance with UIC Leaflet 505-1
- Calculation rules (calculation of vehicle construction gauge): in accordance with UIC Leaflet 505-1 (for vehicles running exclusively in Switzerland: in accordance with EBV special regulation).

Please note:

The calculation of vehicle construction gauge in accordance with EN 15273-2 (with Austria variant for CH) corresponds to the vehicle construction gauge calculation in UIC 505-1.

Intermodal freight:

- Route code for the Gotthard corridor: C60/384 – P60/384 – NT50/375
- Route code for the Basel–Lötschberg–Brig–Domodossola (SIM) corridor: C80/405 – P80/405 – NT70/396

Pantographs (see also section 2.7.2.3):

- Pan head width 1,450 mm, insulated end horns, envelope: in accordance with UIC Leaflet 608.
- Profile certification for pantographs in accordance with EN 15273-2, UIC 505-1.
- Exception for historic vehicles: pan head with 1,320 mm authorised (routes with specific track access conditions are excluded).

Technical aspects of track access with regard to the loading gauge are described in detail in Regulation R I-20030 (Technical Aspects of Track Access: The Vehicle Clearance Line – The Impact of the Loading Gauge on Vehicles and their Loads). Details of restrictions to specific routes are provided under Link 4 (route database).

3.3.2.2 Route classes

See route database (Link 4) and AB FDV section 5.1 (and section 2.7.2.2).

3.3.2.3 Inclines and gradients

See route database (Link 4) and Regulation I-30131 (RADN).

For steep inclines, see Table R I-30111, section 5.4 (AB FDV Infrastructure).

3.3.2.4 Maximum authorised speed

Maximum authorised speeds depend on the nature of the route section, the rolling stock and the braking ratios, and are indicated in Regulation I-30131 (RADN).

3.3.2.5 Maximum train lengths

See AB FDV R I-30111, section 5.2, points 1.1 and 1.2.

3.3.2.6 Power supply

The power system is 15 kV/16.7 Hz; voltage and frequency tolerances comply with European standard EN 50163.

3.3.3 Train control systems and en route communications**3.3.3.1 Signalling systems****Trackside signalling**

With the exception of the NBS (Mattstetten–Rothrist), the ABS (Solothurn–Wanzwil) and the track sections re-equipped in 2015, i. e. Brunnen excl.–Flüelen–Altdorf–Rynächt–Erstfeld excl., Bodio excl.–Pollegio Nord–Biasca excl., Biasca excl.–Osogna–Claro–Castione excl. and the Gotthard Base Tunnel (from December 2016 onwards), both L and N signalling systems are used for trackside signalling on SBB Infrastructure's network (cf. Train Loading and Running Regulations FDV R 300.2).

In-cab signalling ETCS Level 2

The exceptions listed above are equipped with the ETCS Level 2 train control system. Permission to proceed and speed data are displayed in the driver's cab. The relevant vehicle-side requirements can be found in the "Pre-conditions for operating vehicles on ETCS routes" as per Annex No. 3 AB-EBV and in the track access conditions.

3.3.3.2 Train control systems

SBB Infrastructure's network uses the SIGNUM and ZUB train control systems as well as, from December 2015 onwards on the north-south corridors, ETCS Level 1 in "Limited Supervision" mode (L1 LS). For some time now, Eurobalises and EuroLoops with EuroSIGNUM/EuroZUB and ECTS L1 LS information have also been installed. With the migration to ETCS components, all SIGNUM and ZUB GKS/loops are being replaced by Eurobalises and EuroLoops (13.5 MHz). This being the case, motive power units must be equipped for regular journeys with ZUB 121, Signum and ETM systems or with ZUB 262ct and SIGNUM or SIGNUM/ETM-S.

The following software versions must be installed in rolling stock as a minimum requirement:

ETM or ETM-S

- Version 01.00

ZUB 262ct:

- Version 12.51 (DAZ option)
- Version 12.52 (MVB option)

For information on special train control requirements for cross-border routes, see Link 4 (route database).

The IM defines the details that are required for the universal care and maintenance of the train control systems. The RU will supply the IM with these details free of charge and at the appropriate time, and the IM is to treat them confidentially.

3.3.3.3 En route communications

See R I-30131 (RADN) and the route database (Link 4).

3.4 Traffic restrictions

All running restrictions in force on SBB's infrastructure as set out in the local regulations on general and shunting movements (R I-30121) are reserved. The key points are as follows.

3.4.1 Specialised infrastructure

No restriction on use has been imposed under Art. 49 of EU Directive 2012/34.

3.4.1.1 SIM (Simplon-Inter-Modal) corridor

See R I-30111 (AB-FDV), section 5.1, points 3.7ff and BLS Netz AG Network Statement: [BLS AG, BLS AG Infrastructure: Train Paths and Network Access Requirements RFI Network Statement \(Italy\)](#)

3.4.1.2 Seetal

The loading gauge of the Seetal line (Lenzburg–Emmenbrücke) is less than [EBV O1](#). The line may only be used by rolling stock that complies with R I-30121.

3.4.2 Environmental restrictions

Vehicles must be compatible with environmental protection requirements. A copy of all orders for movements with steam locomotives should be sent by e-mail to SBB's company security units by the ordering RU. These addresses should be incorporated into the AVIS steam train movement dossier distribution list:

- b22.bel190@sbb.ch
- ode.lausanne@sbb.ch
- kdt-bw.zuerich@sbb.ch

In cases where climatic conditions (drought) raise uncertainties, please contact the standby centre emergency response hotline as per section 1.8.1.4.

Due to noise control requirements certain routes may be subject to operating restrictions. These routes are marked in the route database in Link 4 (see, in particular, the details for the Wanzwil–Solothurn–Wanzwil upgraded high-speed line and the Rothrist–Zofingen–Rothrist connecting line at: [SBB: Infrastructure – One Stop Shop](#)).

3.4.3 Dangerous goods

See R I-30121 for further details.

3.4.4 Tunnel restrictions; steam locomotives/combustion-based motive power

Exceptions and restrictions are indicated in R I-30111, section 16.1 and in R I-30121.

3.4.5 Bridge restrictions

Running restrictions on bridges can be found in R I-30121.

3.4.6 Emergency brake overrides

Generally speaking, locomotive drivers are not authorised to disengage emergency brakes in tunnels, galleries and bridges (e.g. emergency brake overrides). However, they are permitted to do so along the high-speed Mattstetten/Solothurn–Rothrist route and the Rothrist–Zofingen connecting line when driving passenger trains (see also [NBS/ABS](#)).

Sheet no. 2 section 4.5 on Art. 49 AB-EBV:

Vehicles used for the conveyance of passengers must be fitted with an emergency brake request or emergency brake override system:

- *if they operate on routes with tunnels over 1000 m in length and these tunnels do not have any evacuation points,*
- *or the evacuation points are more than 100 m apart and over 100 trains a day run on these routes.*

The emergency brake overrides must enable the train driver to intervene in the braking process outside the stop window and choose the stopping point of the train or immediately restart the train following a stop.

3.4.7 Lavatory systems

Only vehicles with controlled emission toilet systems are permitted on routes with specific track access conditions (NBS, GBT, LBT).

3.5 Infrastructure availability

3.5.1 Route opening times (Art. 6 NZV-BAV)

¹ *The normal operating hours for a route shall be deemed to be the time period between the first and last passenger train listed in the official timetable publication.*

² *From Monday to Friday, routes suitable for freight operations should generally be open from 4.00 a. m. onwards.*

³ *The routes specified in Appendix 4 shall in principle be open 24 hours a day.*

The routes listed in Appendix 4 to Art. 7 NZV-BAV are:

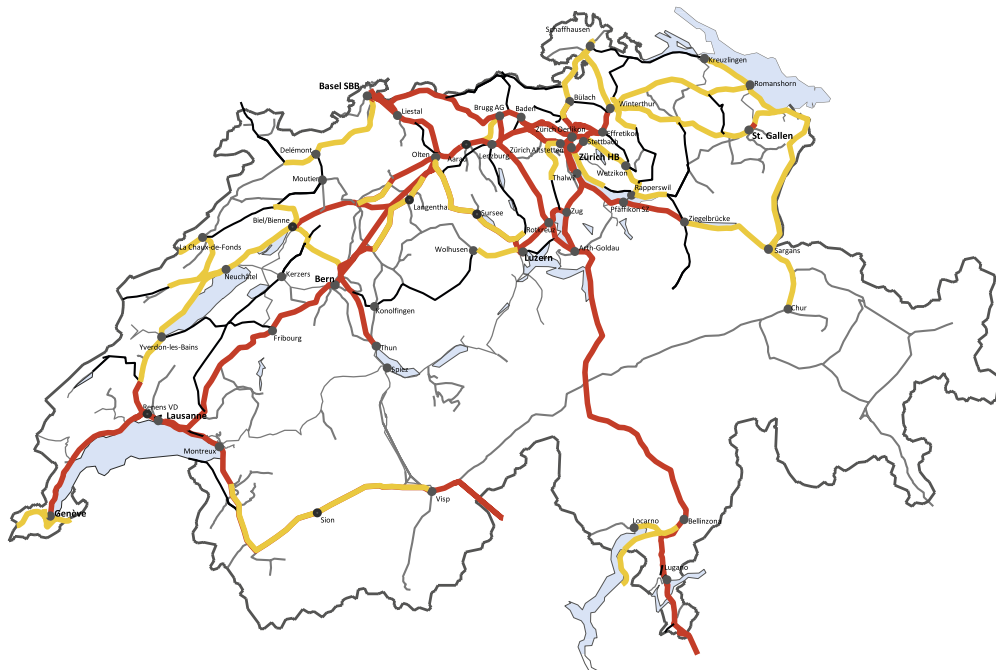
1. *La Plaine (frontier)–Lausanne Triage–Biel/Bienne–Olten–Othmarsingen–Heitersberg–RB Limmattal–Winterthur–Frauenfeld–Rorschach–Chur*
2. *Lausanne Triage–Bern*
3. *Vallorbe (frontier)–Lausanne–Brig–Iselle (frontier)*
4. *Basel (frontier)–Olten–Bern–Thun–Brig*
5. *Basel (frontier)–Bözberg–Othmarsingen–Rotkreuz–Giubiasco–Chiasso (frontier)*
6. *Giubiasco–Pino-Tronzano (frontier)*

The legally defined [route opening times](#) (see above) will only be announced after train path allocation for the 2015/2016 timetable and will be published online as of the end of October 2015 (www.onestopshop.ch).

3.5.2 Fixed maintenance windows

3.5.2.1 Basis for planning fixed maintenance windows

SBB Infrastructure plans its maintenance activities on the basis of the standard window types shown in the overview maps below. The aim is to combine several maintenance activities within a single window. The window types are applied to lines without fixed maintenance windows (see 3.5.2.2) between two operating points in each case. Example: On the Basel–Olten line, an eight-hour maintenance window is planned between 22:00 and 6:00, involving single-track running between Gelterkinden and Tecknau.



Top line	8 hours single-track night (approx. 21:00–5:00), approx. 10–20 shifts
Main line	8 hours single-track night (double-track sections) or 8 hours total closure night (single-track sections, approx. 21:00–5:00), approx. 10–20 shifts excluding Ligerz–Twann and Mühlehorn–Tiefenwinkel

Figure 2 – Maintenance windows night.

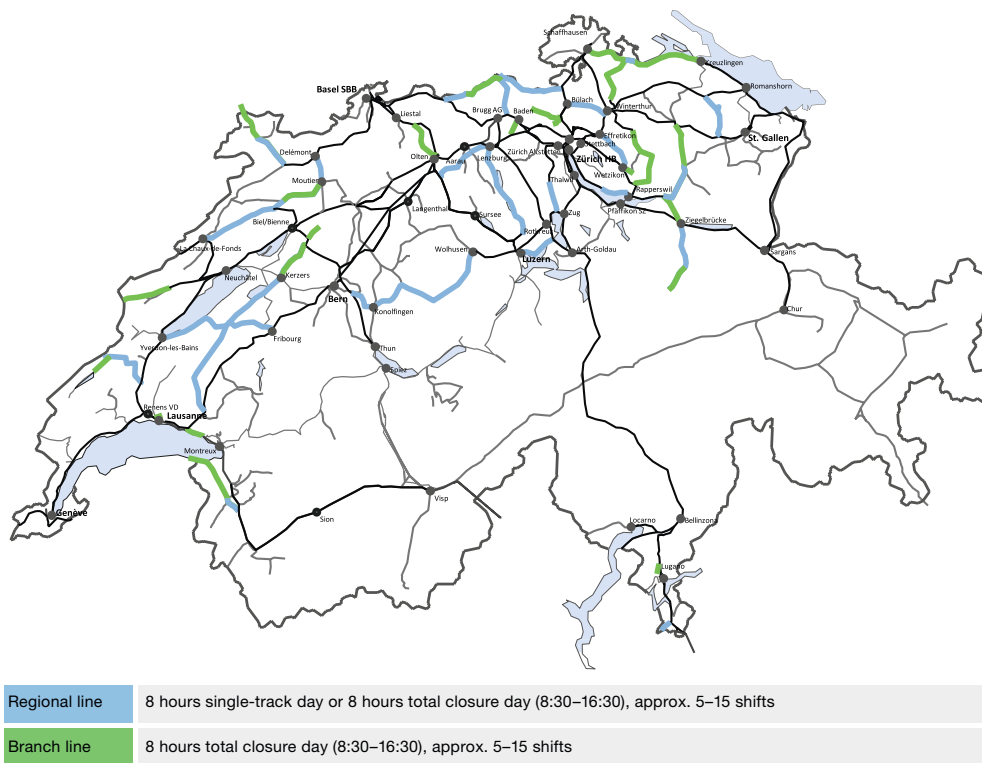


Figure 3 – Maintenance windows day.

3.5.2.2 Maintenance windows

In addition to the information in 3.5.2.1, the following line-specific restrictions must be observed:

Bözberg

Total close for focused maintenance work: Pratteln–Stein-S.–Brugg–Othmarsingen (excl):

- 20 nights (5 nights Sun/Mon–Thu/Fri for 4 weeks) from 21:30–5:30. Half capacity from 21:00 (single-track operation to permit overtaking).
- Limited diversion options via Olten VL (capacity).

Gotthard:

- Total closure for maintenance and enhancements to ATG/upgrade work Rotkreuz–Chiasso in the night Sunday/Monday for flexible period of five hours.

North-south guideline times:

- Rotkreuz from 22:40; Arth-Goldau from 23:00; Erstfeld from 23:30; Biasca from 23:20; Castione from 23:30; Bellinzona from 23:45; Lugano from 00:20; Chiasso from 00:50.
- Rotkreuz until 3:35; Arth-Goldau until 4.25; Erstfeld until 4:10; Bellinzona until 5:25; Lugano until 5:55; Chiasso until 6:20.

South-north guideline times:

- Chiasso from 21:00; Lugano from 21:25; Bellinzona from 21:50; Erstfeld from 22:55; Arth-Goldau from 23:48; Rotkreuz from 23:30.
- Chiasso until 4:45; Lugano until 4:55; Bellinzona until 5:20; Erstfeld until 6:40; Arth-Goldau until 4:55; Rotkreuz until 5:15.

Until the GBT enters into service, there may be phases of short-term capacity reduction on the northern and southern approaches as a result of test, trial and compliance runs.

Cadenazzo–Luino:

- Total closure for focused maintenance Cadenazzo–Luino: 10 days (2 weeks Mon–Fri) from 8:30–16:00. Limited diversion options (capacity, border crossings).

Hauenstein:

- Reduction of capacity to no more than 14 paths on the route in view of maintenance Pratteln–Sissach–Olten in the nights Sun/Mon–Thu/Fri from 22:00–6:00: limited diversion options via Bözberg (capacity, line characteristics).

NBS/ABS:

- Total closure for focused maintenance work Löchligut/Solothurn–Wanzwil–Rothrist on approx. 40 nights from 22:30–5:55: trains diverted via existing Löchligut–Burgdorf–Rothrist or Solothurn–Oensingen–Olten lines.
- Short-term total closures for enhanced monitoring Löchligut–Wanzwil–Rothrist in the night Sunday/Monday from 00:30–4:30: diversion options via Biel/Biel RB–Oensingen, reduced capacity (single track).

Aaretal:

- During weeks of focused maintenance, also a total closure Gümligen–Thun in the night Sun/Mon from 1:30–4:30: limited diversion options via Belp or Konolfingen or a major diversion via Lausanne (capacity, loads, line characteristics).

Wiggertal:

- During weeks of focused maintenance, also total closures Olten–Zofingen–Gütsch in the nights Sun/Mon–Thu/Fri from 1:30–4:30: limited diversion options via Südbahn–Rotkreuz.

Geneva–Coppet:

- Totally closed to regional services (platform-related) for focused maintenance work Geneva (excl.)–Coppet: 15 nights Sun/Mon–Thu/Fri from 21:30–5:00.

Zurich Cross-City Link:

- Total closure for focused maintenance work Zurich Altstetten–Weinberg Tunnel–Zurich Oerlikon: 25 nights (5 nights Sun/Mon–Thu/Fri for 5 weeks) from 22:15–5:15. Limited diversion options (intercity trains towards eastern Switzerland diverted from/to Zurich via Zurich–Wipkingen/Hard. Partial closure of the Zurich S-Bahn [lines S2, S8 and S14]).

The RUs will be notified of the precise dates for the work in accordance with the process described in 4.5 (planned restrictions in infrastructural capacity).

For restrictions on use due to renovation, maintenance and upgrades to infrastructure, see 4.5. Specific restrictions on use may still be imposed as a result of the conditions of construction permits issued by the competent licensing authority.

3.5.2.3 Further informations

The line Furet (Bif)–Geneva-La Praille can only be served by diesel trains.

Freight trains from France to Geneva-La Praille must be hauled by diesels.

Freight trains from Geneva-La Praille to France must be hauled by diesels.

The RUs currently affected by this are to be notified in a separate letter.

3.5.2.4 Forecasts ab December 2016

The Zug–Arth-Goldau line will be closed to all traffic from 11.12.2016 to 5.8.2018 (“Lake Zug East” closure).

3.6 Passenger stations

Information about platform lengths at stations used for passenger services and about minimum and maximum values for each route section can be found under Link 4 (route database).

The RU is obliged to use only rolling stock that is compatible with stations (in terms of platform height). Train length should not exceed the length of the platform. Vehicles on which the doors can be locked from a central point away from the platform are also acceptable.

If the RU does operate inappropriate formations, it is responsible for meeting the additional requirements necessary to maintain the required standard of passenger safety and comfort at its own expense. The RU is also responsible for bearing any costs for required measures even if, at the time that train paths were allocated/ordered, exceptions were agreed with regard to restrictions because of platform height or length.

SBB Infrastructure is not liable for damages if the formations concerned are incompatible with a particular station. The state of the installations at the time of train path allocation shall prevail.

3.7 Freight terminals

Terminals are in a range of locations, including Basel SBB CT, Aarau CT and Chiasso CT, St. Gallen-Winkeln, Dietikon, Renens and Sion. See the Link for further details of the terminal locations.

3.8 Service facilities

3.8.1 Train formation yards

Information on train formation yards is available on request from the One Stop Shop.

3.8.2 Sidings

Information about sidings can be requested from the [One Stop Shop](#). Regulations governing the stabling of wagons/trains carrying hazardous goods are contained in D I-50026, "I-B regulations for the transport of hazardous goods and other liquids potentially harmful to water supplies", applicable in the currently applicable version.

3.8.3 Maintenance and supply installations

Information about maintenance and supply installations can be requested from the [One Stop Shop](#).

3.8.4 Tank installations

Contact: einkauf.railbuyer@sbb.ch

3.8.5 Technical installations (wayside train monitoring systems)

SBB Infrastructure has installed various wayside train monitoring systems (WTMS) across its network that are used to monitor the technical condition of rolling stock and loading (see ZKE handbook (I-50099 and R I-30111, section 9.11). In the event that intervention thresholds are exceeded, SBB Operations will intervene as per SBB's operating regulations.

Wayside train monitoring systems consist of various sensor and surveillance systems, reliably detecting technical problems on trains and facilitating the necessary response (e. g. halting trains or reducing speeds) by providing immediate, location-independent data analysis. A dense and comprehensive network of static track-mounted measuring equipment checks relevant physical characteristics of trains as they pass at scheduled section speed. Response stations are fitted with the necessary reporting systems. The following measuring systems are distributed throughout the SBB network to enhance safety:

Clearance profile and antenna detectors:

Detects clearance infringements and gauge limits being exceeded and the aeriels of vehicles on piggyback trains coming into contact with the catenary.

Fire and chemical detectors:

Detects fire gases and escaping hydrocarbons or hazardous materials.

Wheel load check points:

Detect load displacement, overloading and serious wheel defects.

Hot axle box and blocked brake detectors:

Report the temperature of axle bearings, wheel rims and brake discs, making it possible to prevent derailments as a result of axle and wheel failures.

SBB's train monitoring facility (IZ-ZKE) in Erstfeld coordinates operations in an alarm situation.

3.9 Information on future upgrades

The following details reflect the status of planned upgrades at the time of publication of this Network Statement. The intention is to provide preliminary information for RUs. SBB Infrastructure cannot guarantee that the dates given will not change. Detailed information on the expansion of the Swiss rail network can be found via the following Link: [SBB projects home page](#)

GSM-R

In addition to the routes listed in section 2.7.2.5, more sections with GSM-R are to be expanded, including:

- St. Maurice–Les Paluds (131)
- Chambrelieu–La Chaux de Fonds–Le Locle-Col Roches (223)
- Delémont–Delle (240)
- Lucerne–Littau (line section 460)
- Emmenbrücke–Waldbrücke (651)
- Eglisau–Koblenz (705)
- Winterthur–Etwilen–Stein am Rhein (821)
- La Praille–Annemasse
- Eppenbergtunnel

ETCS Level 1 LS

Since 2012, the EuroSIGNUM/EuroZUB balises have also started carrying ETCS Level 1 “Limited Supervision” (L1 LS) information on a section-by-section basis (permanent parallel installation). Routes equipped in this manner admit vehicles with SIGNUM/ZUB/ETM, SIGNUM/ZUB262ct, SIGNUM/ETM-S or “ETCS only” (ERTMS/ETCS baseline 3.x incl. limited supervision). Vehicles with “ETCS only” (including limited supervision) will only be admitted once ETCS L1 LS has been implemented and activated on corresponding route sections. The first priority is to equip the Basel–Lötschberg–Domodossola and Basel–Chiasso/Luino corridors. Network-wide rollout of ETCS L1 LS is expected to be completed by the end of 2017.

ETCS Level 2

North-south corridor

The Gotthard and Ceneri base tunnels will be equipped with ETCS Level 2. Based on the current project status, the Gotthard base tunnel is due to come into service in December 2016 and the Ceneri base tunnel in December 2019.

The northern and southern approach routes to GBT and CBT will be equipped with ETCS Level 2 and opened as follows:

- June 2017: (Bellinzona excl.)–Giubiasco–S. Antonino–(Cadenazzo excl.)
- June 2017: (Bellinzona excl.)–Giubiasco station–(Ceneri mountain route excl.)
- December 2019: (Bellinzona excl.)–Giubiasco–CBT–Vezia–(Lugano excl.)
- December 2019: (Taverne excl.)–Vezia–(Lugano excl.)

Rhône valley

An implementation concept has been drawn up for the Rhône valley that provides for the fitting and operation of ETCS Level 2 on the following routes:

- 2017: Sion–Sierre (A later start can not be excluded)
- 2023/24: Roche VD–Vernayaz
- 2022/2023: Visp–Brig–Simplon
- 2017: Pully–Villeneuve

Runs on these routes will only be possible with ETCS Level 2-compatible vehicles from the commissioning times listed above.

The BAV published information on the further development of its ETCS strategy on 14 November 2014 ([Link](#)).

3.9.1 Trial operation of the Gotthard Base Tunnel from June to December 2016

Trial operation of the Gotthard Base Tunnel from June to December 2016: during the trial phase, compliance runs will take place involving commercial trains. Any RUs that are interested will be able to obtain more information on the various options, terms and conditions from August 2015 onwards by e-mailing info.gotthard@sbb.ch. You can also find information on the NRLA Gotthard online by following this [Link](#).



4 Capacity allocation.

4.1 Introduction

4.1.1 Purpose of these provisions

This chapter, compiled by Swiss Train Paths Ltd., explains the processes and provisions for ordering and allocating timetabled train paths (basic and ancillary services), as well as the steps which need to be taken before and after the allocation procedure, and cites the relevant regulations. These processes, provisions and steps are mandatory and apply to all applicants.

Ordering and allocating catalogued corridor train paths is done in accordance with the procedures and provisions for freight traffic Rhine-Alpine and North Sea-Mediterranean.

Details can be found in chapter 4 of the relevant corridor information documents, published on the corresponding websites of the corridor organisations www.corridor-rhine-alpine.eu, www.rfc2.eu.

4.1.2 Legal basis

The definitive legal requirements for train path ordering and allocation can be found in articles 9a and 9b of the Railways Act (EBG) and in the fourth part of the Track Access Ordinance NZV, (see section 1.3.2).

The process and the deadlines for ordering train paths and ancillary services are defined and published by the BAV for the coming two-year timetable period.

4.1.3 The requirement to order train paths

The SBB, BLS and SOB rail networks may only be used if the appropriate train paths have been ordered and allocated. In order to ensure coordination with other rail traffic movements, this also applies to the infrastructure managers themselves if they are intending to use their own networks for their own operations (e. g. work trains).

The requirement for train paths to be ordered is irrespective of the frequency and regularity of the intended network usage. Both regular-service train paths (for regular movements) and special train paths (for one-off movements) must be ordered.

4.1.4 Permits and documents required for train path orders

It is not absolutely essential for a track access permit (see section 2.2.3), a safety certificate (see section 2.2.4) and a track access agreement (section 2.3.2) to have been issued before a train path is applied for and allocated. At least one month before commencing operations, the applicant must either submit a track access permit or instruct a railway company to carry out the rail movements. The safety certificate must have been issued at the very latest by the time rail operations commence (Art. 9a para. 4 EBG).

Applicants who, at the time they apply for a train path, have not yet concluded a track access agreement with the relevant infrastructure manager are requested by trasse.ch to confirm in writing within five (5) working days that they acknowledge and accept the network access conditions set out in this Network Statement, especially the prices (chapter 6). Without this written confirmation, trasse.ch will not process the train path request.

If an applicant is not able to use a train path which has been definitively ordered and firmly allocated because the track access permit, the safety certificate or the track access agreement have not been issued in time or because the name of the rail company instructed to carry out the rail movements on the applicant's behalf is not known, then the applicant will be liable to pay compensation as laid down in the infrastructure managers' current service provision catalogues.

4.1.5 Geographical areas to which these provisions apply

In addition to the networks listed in section 1.1 – and on the basis of treaties or bilateral agreements between the infrastructure managers and subject to the relevant foreign legislation – these provisions apply to the routes between the border in the Simplon tunnel and Domodossola, from Pino-Confinè to Luino, from Les Verrières-Frontière to Pontarlier and from Boncourt to Delle. However, these provisions do not apply to the SBB routes from Vallorbe to the border in the Mont d'Or tunnel, from Le Locle-Col-des-Roches to the border in the Col-des-Roches tunnel and from La Plaine to the border. The RFF conditions apply to these three cases. For more information on train paths for cross-border routes, please see section 4.2.4.

4.2 Process description

4.2.1 Overview

Train paths can be ordered for the annual or current timetables. Figure 3 is a simplified pictorial representation of the individual phases of the train path order and shows the sections of this chapter in which each phase is explained.

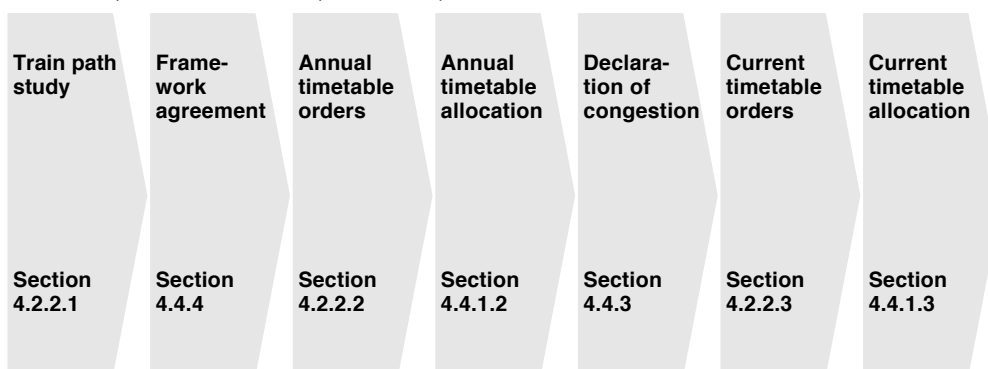


Figure 3 – Phases of the train path order process.

4.2.2 Train path requests/orders

4.2.2.1 Train path studies

Explanatory notes

Train path studies (timetable studies) enable applicants to examine the feasibility of new or amended service concepts, using an iterative process to develop them further with a view to ordering train paths for the annual or current timetables.

Requests for train path studies should be submitted to the relevant infrastructure manager (see section 1.8.1.2 for contact addresses).

Circumstances for which train path studies are appropriate

A train path study is strongly recommended:

- for new train path requests for the annual timetable
- if requirements have changed compared with the previous year (e.g. motive power unit and rolling stock used, stopping policy)
- for all cross-border routes.

Binding nature of train path studies

Responses to train path studies in no way constitute binding approvals for the allocation of timetabled train paths, and do not exempt the applicant from submitting train path requests in accordance with the normal ordering procedure.

Optional monitoring of the study by trasse.ch

In order to ensure that there is no discrimination, companies which request studies can demand that the study process be monitored by trasse.ch. If they disagree with the methods used to carry out the study, they can also approach trasse.ch once the studies are complete. (For the relevant contact address, see section 1.8.1.2).

4.2.2.2 Annual timetable

Requests for train paths and provisional allocation

Train paths (basic services) for the annual timetable should be requested from trasse.ch no later than 13 April 2015 using the NeTS-AVIS ordering tool. (For international train paths, see section 4.2.4.). The planning data in the NeTS-AVIS ordering tool will be available to applicants from 1 February 2015.

If requests are incomplete or not plausible, trasse.ch will set a deadline of five (5) working days to amend or correct insufficient, missing or impermissible details. If the applicant does not meet this demand, trasse.ch will not process the train path request. If the necessary details only reach trasse.ch after the deadline, the relevant request will be processed with a lower priority than other requests submitted in full and on time.

Variant requests are not permitted because they take up unnecessary planning time and tie up track capacity. In the event of a variant request, therefore, trasse.ch will grant the party making the request a grace period of five (5) working days to decide on one order variant and withdraw the others. If it fails to comply with this request in good time, trasse.ch will not consider the variant request.

If, by the train path request deadline, too little is still known about certain requirements for train paths to be allocated in the normal way (e.g. locomotive and tractor-hauled freight trains), it is recommended that these train paths are ordered subsequently. However, retroactively orders are assigned a lower priority than requests submitted on time.

Applicants will receive from trasse.ch a provisional allocation of train paths for domestic routes on 5 June 2015 and a provisional allocation of train paths for cross-border routes on 6 July 2015. This gives the applicant a binding train path offer, and thus the assurance of being able to develop its production concepts. Each provisional allocation is made subject to the feasibility of the ancillary services ordered. In the event of outstanding conflicts, train paths will only be allocated once these have been resolved, but as soon as possible.

Requesting and allocating ancillary services

For the annual timetable ordered ancillary services, in particular capacities for stabling trains and using loading sidings/facilities must be ordered no later than 26 June 2015 using the “[Ancillary Services Order Form](#)” trasse.ch will definitively allocate these additional services on 24 August 2015.

Formation groups in marshalling yards influence train path allocation for the related basic service. For this reason, requests to use formation groups in marshalling yards in the annual timetable must be submitted by 13 April 2015 using the NeTS-AVIS ordering tool together with requests for the basic services.

The customer service team at trasse.ch will be on hand to provide advice and support to applicants if anything is unclear (See section 1.8.2 for the contact address).

Submission of train path requests after the normal train path allocation deadline

Train paths for the annual timetable can still be requested after the normal deadline has passed. However, requests of this kind will be allocated a lower priority than those submitted on time and irrespective of the type of traffic, will be processed in the order in which they are received.

Definitive train path orders and allocation

The train paths requested (basic services) must have been definitively ordered by 17 August 2015. trasse.ch will definitively allocate the basic and ancillary services on 24 August 2015.

Catalogued corridor train paths for freight traffic

Ordering and allocating catalogued corridor train paths is done in accordance with the procedures and provisions for freight traffic corridor Rhine-Alpine or North Sea-Mediterranean (www.corridor-rhine-alpine.eu, www.rfc2.eu).

4.2.2.3 Current timetable

Ordering train paths

Train paths and ancillary services can also be ordered at short notice for the current timetable year. However, orders submitted during the current timetable are given a lower priority than those ordered and allocated for the annual timetable, and can only take up remaining capacity. They will be allocated on a first come, first served basis, regardless of the traffic type involved.

Train paths for the current timetable year are to be requested using the NeTS-AVIS ordering tool (for international train path requests, see section 4.2.4). Infrastructure managers are bound to their offer for five (5) working days. If the offer is not accepted within this period, it will be deemed to have been refused by the applicant.

Catalogued corridor train paths for freight traffic

Ordering and allocating catalogued train path corridors is done in accordance with the procedures and provisions for freight traffic corridor Rhine-Alpine or North Sea-Mediterranean (www.corridor-rhine-alpine.eu, www.rfc2.eu).

4.2.3 Train path catalogues

4.2.3.1 National train path catalogue

For freight traffic on the north-south Gotthard and Lötschberg-Simplon corridors, train path catalogues – as defined in EU Directive 2012/34 (Art. 40 para. 5 and Annex VII, section 4) – are available as an ordering aid when submitting train path requests and for service planning.

Annual timetable process

The train path catalogues will be posted from the middle of January on the trasse.ch website (www.trasse.ch; keyword: [Services/Planning](#)) and will show the train paths available for transalpine freight traffic in the forthcoming annual timetable. The guideline times indicated in the train path catalogues for border stops and shift changes are intended as a planning aid and it will be to the applicant's advantage if they are taken into account when requesting train paths. It is possible to submit orders which deviate from the guideline times; however, this can potentially lead to conflicts with other orders.

Remaining capacity in the current timetable

The train path catalogues published on the trasse.ch website (www.trasse.ch; keyword: [Services/Allocation](#)) show the remaining capacity available in the current timetable. They are to be used as a planning aid for train path orders in the current timetable. Updates are usually published at the internationally coordinated annual update intervals.

4.2.3.2 Catalogued train paths for freight traffic corridors

The Corridor OSS for the freight traffic corridor Rhine-Alpine or North Sea-Mediterranean publishes the catalogued corridor train paths in the Path Coordination System (PCS) ordering tool. Unlike catalogued national train paths, catalogued corridor train paths cannot be varied, i. e. train path requests must adhere strictly to the published train path parameters.

Further details can be found in the relevant corridor information documents published on the corresponding websites of the corridor organisations (www.corridor-rhine-alpine.eu, www.rfc2.eu).

4.2.4 Train paths for cross-border services

Ordering formalities

Train paths for cross-border services (except for catalogued corridor train paths) can either be applied for from the relevant national train path allocation bodies or from the One Stop Shop network operated by the infrastructure managers and independent train path allocation bodies affiliated to RailNetEurope (RNE). The One Stop Shop network allows applicants to use the PCS ordering tool to submit their harmonised requests for the entire international route to a single train path allocation body affiliated to the network. Details of the train path request and allocation procedures for cross-border traffic can be found in the "Procedures for International Train Path Requests" guideline (see www.rne.eu; keyword Timetabling).

When crossing over to networks operated by non-Swiss infrastructure managers, orders should be submitted as detailed in Appendix 8.

Note

Formal allocation of train paths takes place in accordance with the relevant national provisions.

4.2.5 Information required for train path requests and orders

Annual and current timetables

Compulsory fields as specified in the ordering tools:

- Applicant's name
- Cross-border services: name(s) of the foreign partner RUs
- Name of the RU instructed to carry out the rail movement (if already known, cf. section 4.1.4)
- Accounting code (if available, cf. section 2.3.2.1)
- Train number (if known) or train path catalogue number
- Traffic period (days and periods of travel)
- Traffic type/train category
- Departure point of the requested train path; if not the same as the train path, plus the departure station for the train run including departure time
- Destination point of the requested train path; if not the same as the train path, plus the destination station for the train run including arrival time
- Border crossings, including predicted handover time(s)
- Routing
- Intermediate stops, incl. details of time required (with additional information about, for example, change of system, removal of a wagon group, increase/decrease in motive power, change of locomotive crew, etc.).
- Train characteristics:
 - Formation, motive power unit(s), diesel/electric (including type), wagon/coach type
 - Gross weight
 - Length including motive power units
 - Loading gauge for intermodal train paths
 - Train and brake sequence (with braked weight percentage)
 - Top speed
- Additional information for train paths for light engine trains: from train ... /for train ...
- ETCS

Ancillary services (sidings and formation groups in marshalling yards)

Compulsory fields as specified in the ordering tools and order forms.

- Applicant's name
- Accounting code (if available, cf. section 2.3.2.1)
- Name of the RU instructed to carry out the rail movement (if already known, cf. section 4.1.4)
- Train number (if known)
- Traffic data
- Operating point
- Arrival time at operating point
- Departure time from operating point
- Composition (motive power unit[s], diesel/electric, number of wagons/coaches, type, length in metres)
- Special platform requirements (details of platform number or loading platform including time period from ... to ...)

4.2.6 Changes to train path requests and orders

The details supplied when requesting or ordering train paths (see section 4.2.5) are binding. Any subsequent change to these details must be made using the ordering tool and must be in the form of a cancellation and a new order. However, excluded are changes that have no impact on the train path allocation and therefore do not require cancellation and reordering.

Train paths may not be sold nor transferred to another company (Art. 9a para. 5 EBG). The contract under which a RU is instructed to carry out the rail movement on behalf of another company does not count as trading in train paths.

The conditions shown in the relevant corridor information documents (www.corridor1.eu, www.corridorc.eu) apply to catalogued freight traffic corridor train paths.

4.3 Deadlines

4.3.1 Annual timetable

Path assignment is normally coordinated with the timetabling process for passenger services. The BAV specifies the deadlines for the submission of train path requests, the allocation procedure and the timetabling procedure. The following deadlines apply specifically to the 2016 timetable:

- 13 April 2015 Application deadline for normal path allocation
- 5 June 2015 Provisional allocation by trasse.ch for domestic services
- 26 June 2015 Deadline for ordering ancillary services
- 6 July 2015 Provisional path allocation by trasse.ch for cross-border services
- 17 August 2015 Deadline for definitive train path orders
- 24 August 2015 Definitive train path allocation (incl. ancillary services) by trasse.ch
- 13 December 2015 The timetable changes

4.3.2 Current timetable

Art. 11 para. 3 NZV states that the final deadline for train path requests is:

- 17:00 on the day before execution of single, irregular movements by RUs which have already booked other train paths on a route within the same timetable period;
- 30 days before the train is first due to run in all other cases.

Exceptions:

For measuring trips and test runs, the minimum order deadline is five (5) working days.

For exceptional loads, the minimum order deadline is four (4) working days (see also 4.7.1).

Catalogued corridor train paths for freight traffic

The deadlines published in the corridor information documents (chapter 4) apply to the ordering and allocating of catalogued corridor train paths (www.corridor-rhine-alpine.eu, www.rfc2.eu).

4.4 Allocation process

4.4.1 Coordination process

4.4.1.1 Principles

Ban on improper orders of empty slots

As a basic principle, any party making a request can determine its desired train path freely and without any restrictions. It must therefore be able to purchase the train paths required to implement its production plans or expected customer orders in good time even if it has not yet concluded any contracts with its end customers at this point in time. However, orders submitted with the sole intention of impeding a competitor and/or securing a better starting position in the path allocation process in respect of competing path orders (particularly to circumvent the applicable order of priority) are not permitted. If trasse.ch suspects empty orders of this kind that represent an abuse of rights and lack an underlying business plan, it may request that the ordering party provide additional information and documentation to demonstrate the credibility of the actual or planned traffic. If this documentation or information is not submitted in the requisite quality or at all, the path request may be completely or partially rejected.

Multiple orders for the same transport task

If it is suspected that multiple orders are being placed for traffic runs with the same transport task (e.g. in the case of ongoing tenders), trasse.ch will request information on the background to the order (customer, business plan). If the suspicion is reinforced, trasse.ch will request proof of the transport task. If one of the ordering parties is able to provide this proof, its request will remain in the process to award train paths. The remaining requests that lack proof will be rejected. If, by the time train paths are allocated provisionally, none of the ordering parties can provide any proof or the contractual situation is unclear, then all requests affected will remain in the conflict resolution process.

Obligation to participate in the coordination process

trasse.ch aims to approve as many train path requests as possible. If it receives requests for simultaneous, mutually incompatible train paths, it will instigate coordination procedures based on the BAV guideline "Train Path Allocation and Bidding Procedure" and (in the same vein) Art. 46 of Directive 2012/34/EU. The ordering parties affected are obliged to participate in these procedures, in particular by taking part in conflict resolution negotiations and submitting the information and documentation requested by trasse.ch. If an ordering party fails to comply with its participation obligation either in whole or in part and, in so doing, hinders or prevents the performance of the coordination procedure, then it shall bear the adverse consequences. This may extend to its path request being partially or completely rejected.

Ancillary services

The terms and conditions governing the coordination procedure for basic services also apply to ordering and allocating ancillary services.

Catalogued corridor train paths for freight traffic

Special procedures and priority rules apply to the catalogued corridor paths allocated by the Corridor OSS (www.corridor-rhine-alpine.eu/www.rfc2.eu).

4.4.1.2 Annual timetable

As part of the coordination procedure, ordering parties will, where possible, be offered alternative paths that differ from those originally requested. In the interests of optimising the use of infrastructural capacity, trasse.ch may request that each ordering party be flexible, for both passenger and freight traffic, so that all path requests can be implemented. In the case of high-frequency passenger traffic, however, the connections along an agreed public transport chain must be guaranteed. In the case of trains that increase frequency from half-hourly services, the degree of flexibility expected goes above and beyond guaranteeing connections.

If no agreement can be reached in the coordination process, train paths will be allocated according to the following procedure:

1. Prioritisation of and conflicts between high-priority train path requests

Regular-timetable passenger services have priority for track access, as stated in Art. 9a para. 2 EBG. Connections within a defined public transport chain may not be broken. Where the requests are of equal ranking, preference will be given to the request that will yield the highest contribution margin (Art. 12 para. 1 NZV).

2. Conflicts between lower-ranking train path requests

In the event of conflicts between lower-ranking services where no mutually acceptable solution can be reached:

- freight service vs. freight service
- freight service vs. lower-ranking passenger service, or
- lower-ranking passenger service vs. lower-ranking passenger service (with identical contribution margins),

trasse.ch will allocate train paths in the following order of priority:

- A. Freight trains, to which, for technical reasons, in particular the critical clearance gauge, no alternatives can be offered
- B. Freight trains which, for geographical reasons, are less easy than others to divert onto alternative routes
- C. Trains which run more than once during the timetable year, depending on how frequently they run
- D. Other trains

If the order of priority described above fails to resolve a conflict and the train path cannot be allocated to an applicant, trasse.ch will conduct a two-stage bidding process. The train path will be allocated to whichever applicant submits the highest bid. The winner will pay a maximum of CHF 1,000 more than the second-highest bid. If the conflict involves a lower-ranking passenger service, the price offered must reach at least the sum defined as a contribution margin in Art. 20 NZV. trasse.ch will invoice the successful applicant directly. The bid price must also be paid even if the train path allocated as a result of the bidding process is not used and is subsequently given back.

The above is subject to changes in the order of priority specified by the Federal Council in accordance with Art. 9a para. 3 EBG and to the prioritisation of freight traffic by the BAV in accordance with Art. 12 para. 5 NZV.

4.4.1.3 Current timetable

Train path orders (basic and ancillary services) for the SBB network for the current in-year period will be handled by SBB Infrastructure. If the applicant's order can be met as requested, SBB Infrastructure will allocate the train path directly. If a train path ordered for the current in-year period conflicts with train paths which have already been allocated, SBB Infrastructure will, where possible, offer alternatives. If there are no adequate alternatives or if the ordering party does not accept the alternatives offered, SBB Infrastructure will consult trasse.ch. Depending on the nature of the conflict, trasse.ch will invite the affected applicants together with SBB Infrastructure to a conflict resolution meeting which trasse.ch will chair. In the event of a conflict, in-year train path orders will be exclusively allocated by trasse.ch; this includes rejecting applications. Orders following an offer of a train path must be received by Infrastructure at least three days before the date on which the service is to run.

For reasons of time, train path orders which affect immediate operations will be directly handled, allocated and, as appropriate, rejected by SBB Operations. This affects train path orders submitted later than 8:00 on the day before the service is to be run (weekends, Saturdays and Sundays and public holidays as per the Sat/Sun NeTS calendar do not count as the day before or as working days). The last possible order deadline for receipt of an order by SBB Operations is 90 minutes before the train's departure time. SBB Operations will inform trasse.ch of any orders it has rejected. trasse.ch will subsequently check whether the order was correctly handled and whether the decision to reject was taken without discriminating against the applicant and was well founded.

4.4.2 Arbitration in the event of a dispute over train path allocation

The SKE is responsible for dealing with complaints about track access. If it is suspected that track access is being prevented or granted in a discriminatory manner, the SKE is also authorised to instigate investigations (see 1.8.4 for the address to contact).

The procedure for disputes about catalogued corridor train paths is set out in the provisions of the relevant freight traffic corridors (www.corridor-rhine-alpine.eu, www.rfc2.eu).

4.4.3 Congested routes

In the event that trasse.ch is unable to grant train path requests because of a lack of capacity, a route is deemed to be congested. In such circumstances, trasse.ch is entitled in accordance with Art. 12a para. 3 NZV to cancel train paths already allocated to optional trains, and not to offer these any longer, insofar as this results in better capacity utilisation on the route in question. trasse.ch can also withdraw train paths and allocate them to another applicant if the train path on the congested route is being used to a lesser extent than as may be specified in the published track access conditions (Art. 12 para. 4 NZV). In the event that conflicts arise from the train path allocation process to which no mutually acceptable solution can be reached, the causes of each of these will be analysed. Depending on the cause and the likely duration of the bottleneck, trasse.ch will work together with the relevant infrastructure manager to conduct a capacity analysis in accordance with Art. 12a para. 4 NZV to highlight possible short to medium-term relief measures.

The above provisions apply to both lines and nodal points and for both basic and ancillary services.

No line has been declared to be congested for the 2016 timetable year.

4.4.4 Framework agreements on capacity allocation

Applicants and IM may conclude framework agreements in accordance with Art. 12b NZV.

4.5 Allocation of capacity during maintenance work

Art. 11b NZV and the BAV "Line closures in accordance with Art. 11b NZV" guideline govern the arrangements made by infrastructure managers in the event of capacity restrictions. Infrastructure managers will announce route closures for construction work in accordance with Art. 11b NZV.

They will plan maintenance and upgrade work as part of the network timetable production process. In principle, applicants will be informed at the earliest possible moment. The applicants' interests will be incorporated into this planning process and taken into account as far as possible. In the event that capacity-limiting maintenance work is being carried out when train paths are allocated as part of the annual timetable process described in section 4.2.2.2, applicants will be allocated train paths:

- if acceptable alternatives can be found for them during the maintenance period in question;
- subject to conditions, if an acceptable solution has yet to be found for the maintenance period.

Applicants will be notified in writing of planned maintenance and upgrade work affecting train paths which have already been allocated.

4.6 Non-usage of definitively allocated train paths

If definitively allocated train paths are cancelled, this must be done using the corresponding ordering tool. Cancellations can be made free of charge in the annual timetable process up to 30 days after definitive train path allocation. Thereafter, the applicant or the railway company instructed to carry out rail movements on the applicant's behalf will be liable to pay compensation. Different provisions may apply to the section 4.4.3 congested routes.

The precise requirements and conditions for the non-usage of definitively allocated train paths (basic and ancillary services) can be found in the relevant provisions (in particular the list of services) of the infrastructure managers.

Non-usage of train paths for cross-border services must be coordinated with the relevant non-Swiss partner railway company. When cancelling, the agreements made with partner companies must be quoted in the ordering tool under "Details" (e.g. "Project is not being implemented" or "Train paths on the non-Swiss routes have been cancelled by the partner applicant").

The provisions applicable to freight traffic corridors take precedence over national provisions in the event of non-usage of allocated catalogued corridor train paths Rhine-Alpine or North Sea-Mediterranean the national provisions (www.corridor-rhine-alpine.eu, www.rfc2.eu).

4.7 Exceptional loads and dangerous goods

4.7.1 Exceptional loads

The provisions for exceptional loads can be found in section 2.5. The order deadline for the train path is at least four (4) working days. The ordering railway company must supply the necessary information together with the train path order, including the freight acceptance number for the exceptional load.

4.7.2 Dangerous goods

The provisions for the carriage of dangerous goods can be found in section 2.6. The order must include the RID risk category for the freight to be transported.

4.8 Special measures to be taken in the event of disruption

Art. 14 NZV applies in the event of disruptions to operations. Infrastructure managers are authorized to issue instructions to RUs. Both the infrastructure managers and the RUs have an obligation to inform each other and to provide mutual assistance in the form of personnel and materials in order to resolve the disruption and restore the public transport service.

If the disruption is expected to close the line for several days, the IM shall draw up an emergency timetable in consultation with the RU concerned and publish it. If the line closure is expected to last longer than 30 days, trasse.ch will calculate the share of overall freight traffic on the closed line and the diversion route that is attributable to the RU. It will allocate train paths on the diversion route to each RU based on their share of overall traffic on the closed line and the diversion route. In doing so, it may revoke paths in passenger and freight traffic that it has already allocated if this helps to optimise capacity utilisation.

The corridor information document should be followed as regards catalogued corridor train paths.

4.9 Test runs

Test runs deviating from current regulations fall under the special regulations issued by SBB Infrastructure (R I-30023), by BLS Netz AG or by SOB Infrastructure and the Implementing Provisions for Test Runs as per FDV R 300.6, section 6.1. The relevant central points of contact are listed in section 1.8.1.3.



5 Services.

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5.1 Introduction

SBB Infrastructure offers basic, ancillary and miscellaneous services in accordance with the Track Access Ordinance (NZV).

5.2 Basic services (Art. 21 NZV)

Basic services include:

- a. *Use of the train path in a predetermined quality, including train operation services;*
- b. *Use of electricity ex catenary;*
- c. *The safe and true-to-schedule run of operations on the line, in the stations passed through and in the nodes, including telecommunication and IT services necessary for the management of operations;*
- d. *For passenger trains, the use of a track along a platform at the departure, intermediate and destination stations, according to the requirements of the system traffic, and the access of the passengers to the public amenities of these stations;*
- e. *The use of tracks by the unaltered train in goods traffic between agreed departure and destination points.*

5.3 Access to service facilities and supply services

5.3.1 Service facilities

5.3.1.1 Electricity

Contact: [Link](#)

5.3.1.2 Supplies

Contact: einkauf.railbuyer@sbb.ch

5.3.1.3 Passenger stations

Stations & services: [Link](#)

5.3.1.4 Freight terminals

www.swissterminal.com. For further information on terminal locations, see [Link](#).

5.3.1.5 Marshalling yards

Marshalling Yards Offer Catalogue: [Link](#)

5.3.1.6 Train formation facilities

Marshalling Yards Offer Catalogue: [Link](#)

5.3.2 Sidings

List of services, section 2.3: [Link](#)

5.3.3 Maintenance and other technical facilities

Fleet and maintenance: [Link](#)

5.4 Ancillary services (Art. 22 NZV)

¹ The infrastructure manager defines the prices of the following ancillary services without discrimination, insofar as these can be provided with the existing infrastructure and available personnel, and publishes these (Art. 10):

- a. Keeping paths available for optional trains;
- b. Track allocation in the event of a delay requested by the network user and not caused by scheduled traffic;
- c. Stabling of train compositions;
- d. Shunting routes;
- e. Provision of water and electricity to, and disposal of rubbish, sewage and waste water from, stationary passenger trains;
- f. Use of loading tracks and facilities;
- g. Shunting in marshalling yards;
- h. Keeping routes open outside of normal operating hours;
- i. Marshalling services if these are not provided in marshalling yards;
- j. Additional customer information services;
- k. Assistance for staff on board long-distance services to improve operations, in particular video surveillance on platforms.

² The prices covered by paragraphs 1a-c and f are to be set as scarcity prices as a function of demand and investment value on a location-by-location basis. All other prices are to be set analogously in accordance with the principles laid out in Article 19. In addition, a pro rata element can be added for capital and amortisation costs in respect of assets used mainly in the provision of ancillary services.

³ Services defined in paragraph 1i can be purchased by the network user from other companies as well as from the infrastructure manager, at freely negotiable prices. In this case they are treated as miscellaneous services (as defined in Art. 23).

Ancillary services must be ordered. For information on ancillary services which can be provided locally on an individual basis, contact the SBB/BLS onestopshop@sbb.ch. Ancillary service prices are published in the current list of infrastructure services.

5.4.1 Power ex catenary

List of services, section 2: [Link](#)

5.4.2 Purchasing supplies

List of services, section 2: [Link](#)

5.4.3 Services provided to trains (pre-heating, water supplies, etc.)

List of services, section 2: [Link](#)

5.4.4 Marshalling and other services

List of services, section 2: [Link](#)

5.4.5 Exceptional loads, transport of dangerous goods

Exceptional loads: see section 1.8.1.3

Dangerous goods: List of Infrastructure Services, section 1.2.2

5.4.6 Other services

List of services, section 2: [Link](#)

5.5 Miscellaneous services (Art. 23 NZV)

Miscellaneous services can be purchased by RUs from other companies as well as from the IM, at freely negotiable prices. They are not part of network access and comprise, in particular:

- a. ...
- b. *Distribution services;*
- c. *Luggage handling;*
- d. *Clearance of faults not impairing operations, light maintenance, heavy maintenance, cleaning of vehicles;*
- e. *Telecommunication and IT services not directly connected with the operation of the train.*

More information on basic, ancillary and miscellaneous services can be found in the current [List of Infrastructure Services](#). For miscellaneous services in marshalling yards [Link](#).

5.5.1 Access to the telecommunications network

[Link](#)

5.5.2 Customer information

[Link](#)

5.5.3 Railway Technology Centre

[Link](#)

5.5.4 Responsibility for movable equipment at stations

The allocation of responsibility between RUs and IMs for the movable equipment needed for train operation is set out in the following list. RUs are obliged to purchase, maintain and hold in stock all the materials for which they assume responsibility according to the list below.

IMs place the movable equipment for which they assume responsibility at the disposal of all RUs, without discrimination and in the required quantity.

1	Brake bars	RU
2	Heating system	Infrastructure
3	Heating cable	RU
4	Heating plate	RU
5	Water tap connection	Infrastructure
6	Hoses	RU
7	De-icing devices for rolling stock	RU
8	De-icing devices for track equipment	Infrastructure
9	Stop blocks (for one rail)	RU
10	Stop blocks (for both rails)	Infrastructure
11	Iron handles	RU
12	Earthing rods	Infrastructure
13	Tarpaulins (for covering wagons)	RU
14	Chocks	RU
15	Nets	RU
16	Stop block plates	RU
17	Orange flag (staffed mail car)	RU
18	Protection signal	Infrastructure
19	Preheating panel	RU
20	Points wedges	Infrastructure
21	Hand crank for points	Infrastructure
22	Inspection rod	Infrastructure
23	Lantern with white and red and light	Infrastructure
24	Red signal flag	Infrastructure
25	Red stop signal indicator	Infrastructure
26	Tail light	RU
27	Tail end indicator	RU
28	Mobilifts	RU
29	Luggage trolleys	RU
30	Departure signal rod	Infrastructure



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6 Prices and invoicing.

6.1 Right to compensation (Art. 9b EBG)

- ¹ The licensed railway undertaking is entitled to charge a fee for the use of its infrastructure.
- ² The participating undertakings shall set out the detailed arrangements regarding access rights and fees in an agreement. If the participants fail to reach a consensus, a decision will be made by the SKE (Art. 40a).
- ³ The fee payable shall be determined without discrimination and must cover at least the usual marginal costs accrued in respect of a modern railway line; these marginal costs are defined for each line category by the BAV. It shall take into account, in particular, the different costs within the network, the environmental impact of the rolling stock and demand aspects. In the case of regular passenger services, the fee will comprise the marginal costs defined by the BAV for the relevant line category and the revenue share from the service defined by the franchising authority.
- ⁴ The BAV defines the basis for calculation of charges and arranges for their publication. In defining the basis for calculation, the BAV ensures that comparable routes are subject to uniform levels of train path pricing and that optimal use is made of rail capacity.

6.1.1 Basis for train path prices (Art. 18 NZV):

- ¹ Payment as per article 9b of the EBG (train path price) comprises a basic service price and the charges for ancillary services.
- ² The price for basic services is composed of:
 - a. the minimum price;
 - b. the contribution margin;
 - c. the electricity price.
- ³ The train path charge for a route is always determined via the same procedure and without discrimination.

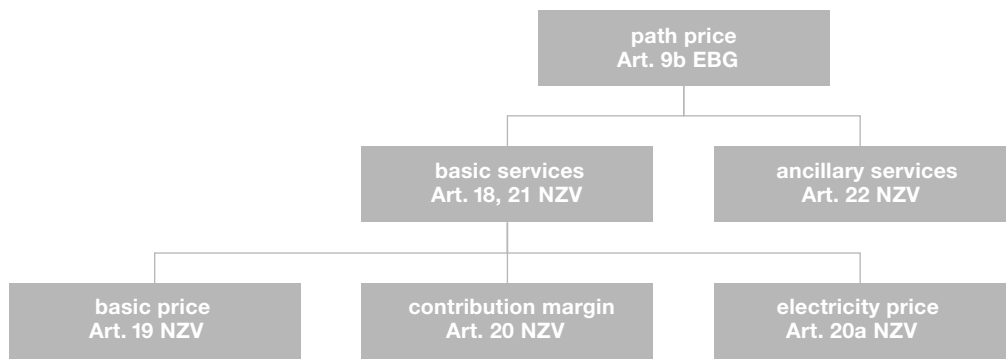


Figure 4 – Basis for train path prices.

6.1.2 Basic services

6.1.2.1 Minimum price (Art. 19 NZV)

¹ The minimum price for all types of traffic corresponds to the standard marginal costs, which take into account the different infrastructure costs throughout the network, demand and the environmental impact of vehicles used.

² The BAV sets the minimum price for each route category based on information provided by the infrastructure managers, and divides it in accordance with the cause of each cost:

- a. per train-kilometre;
- b. per gross tonne-kilometre.

³ The minimum price varies according to:

- a. demand-related price factor for each train path;
- b. quality-related price factor for each train path;
- c. demand-related stop surcharge;
- d. quality-related surcharges and discounts for the environmental impact caused by the vehicles used;
- e. discount for trips on routes with ETCS.

6.1.2.2 Contribution margin (Art. 20 NZV)

¹ The contribution margin for non-franchise-holders' passenger services amounts to CHF 0.0027 per offered kilometre, except in the case of empty runs.

^{bis} The contribution margin for franchise-holders' passenger trains is calculated based on traffic revenues, including those generated by the sale of tickets, reservations, supplements and the carriage of luggage.

² The contribution margin for franchise-holders' passenger trains is determined by the franchising authority as follows:

- a. For ordered services, 18 months before the start of the respective timetable year, after consultation with the relevant infrastructure managers, network users and clients;
- b. For all other services, at the time the franchise is granted, on the basis of the application/at the request of the relevant IMs. If the franchise is being granted for a period greater than five years, provision should be made for regular review and realignment of the contribution margin.

³ Contribution margins for franchise-holders' passenger trains must be published.

⁴ No contribution margin will be deducted for freight services, subject to paragraph 5.

⁵ If the contribution margin is defined as part of a bidding process as per Article 12 paragraph 1, this is the amount owed.

6.1.2.3 Electricity price (Art. 20 NZV)

¹ The BAV sets the electricity price based on information from infrastructure managers so that overall, no uncovered costs arise.

² The electricity price is increased by 20% during peak periods and reduced by 40% between 22:00 and 6:00.

³ If network users forego the installation and calibration of measuring devices for electricity consumption on vehicles, infrastructure managers are at liberty to set rates for each train category based on sample measurements. IMs are obliged to take into account electricity consumption for comfort features and the energy efficiency of vehicles in this process.

6.1.2.4 Low-noise bonus (Art. 19b NZV)

¹ Railway undertakings operating freight trains fitted with disc brakes, drum brakes or composite brake blocks are entitled to claim a low-noise bonus of:

- a. CHF 0.01 per axle-kilometre for vehicles with a wheel diameter of less than 50 centimetres;
- b. CHF 0.02 per axle-kilometre for vehicles fitted with composite brake blocks or drum brakes and with a wheel diameter of less than 50 centimetres;
- c. CHF 0.03 per axle-kilometre for vehicles fitted with disc brakes and with a wheel diameter of 50 centimetres or more.

² The BAV will establish individual categories for vehicles with other or combined braking systems, taking into account permissible and operating values.

³ Claims should be made for a calendar year and submitted to the BAV no later than the end of June the following year. They must include:

- a. a list of all vehicles included in the low-noise bonus claim;
- b. details of the brakes fitted to these vehicles and their wheel diameters;
- c. the total distance covered by each vehicle in axle-kilometres;
- d. any other details requested by the BAV that are necessary to assess the claim.

⁴ Claims upheld by the BAV are to be forwarded to the relevant infrastructure managers.

⁵ Infrastructure managers are responsible for issuing low-noise bonuses.

6.1.2.5 Discount for the ETCS train control system (Art. 19c NZV)

¹ On request, a train-path price discount of CHF 25,000 per fitting of ETCS to rolling stock per year will be granted for journeys on routes converted to the ETCS train control system.

² The discount will be granted up until 31 December 2024 for vehicles which were taken into service before 1 January 2013 and which do not run either on the Mattstetten-Rothrist route or on the Lötschberg, Gotthard or Ceneri Base Tunnel routes.

³ Vehicles whose ETCS equipment was subsidised by the federal government will not receive a discount.

6.1.3 Ancillary services (Art. 22 NZV)

Ancillary services are defined as agreed, scheduled services (held in reserve) and services needed at short notice which are provided subject to availability of resources (staff and vehicles) and capacity (facilities). There is no automatic entitlement to individual services requested at short notice within the timetable period. These requests are complied with according to the first in = first served principle. See also section 5.4.

6.1.4 Miscellaneous services

IMs offer a range of miscellaneous services where resources are available (as per Art. 23 NZV). More information about these services, together with the relevant terms and conditions, is available from the contact point listed in section 1.8.1.1.

6.2 Accounting arrangements

Accounting is carried out via the joint SBB/BLS/SOB train path sales agency using the I-Prix system. Services are allocated using the accounting code.

6.2.1 Accounting code

As mentioned in section 2.3.2.1 above, the accounting code serves primarily to identify the RU and as a means of securing income (calculation of basic, ancillary and miscellaneous services). In addition to the conditions pertaining to the accounting code mentioned above, the rules of procedure in section 2.3.2.1 must be followed.

6.2.2 Provision of data

6.2.2.1 Passenger services and locomotive-hauled trains (passenger and freight services)

Composition data (as defined by the RU and the IM) for both passenger services and all locomotive-hauled trains (passenger and freight services) must be provided to SBB Infrastructure before the departure of the train. RUs may supply data in one of the following ways:

- Via an electronic interface using defined messages (XML) in consultation with SBB Infrastructure. The process for submitting data in 2016 is unchanged on the previous years. The content of the reporting format (XML) will be modified in the course of 2016. Details on this change will be explained in the 2017 Network Statement. Additional modifications, due not least to the TSI-TAP ([Link](#)), will be required in future. The RUs will be notified of this in due course. SBB Infrastructure and the RUs shall each bear their own costs for planning the migration phase and for modifying their system for submission purposes. SBB experts will be on hand to offer support and advice. If RUs should wish to use different interfaces from late 2016 onwards, the associated costs (e. g. for continuing to operate existing IT systems) incurred by SBB Infrastructure shall be passed on to the RU in question.
- Direct data entry over the internet. The RU must bear the costs of the internet connection. The input interface will be modified in the course of 2016. The RUs will be notified directly of the planned changes (timing, content). Any costs incurred in training users shall be borne by the parties involved. Each RU shall individually bear the communications costs for their Internet connection.

The RU must send data to the infrastructure manager as follows:

- Provision of annual data at the latest one week after provisional train path allocation
- Subsequent provision of annual data (updates or variants) at a defined time interval
- Overall provision of daily data
- Updates to the daily data already provided, immediately and continuously after each planned and established change.

The scope of the data required is defined in consultation with the RU when the interface is created or electronic delivery method agreed and must also include the EVN (European Vehicle Number) for the purposes of billing for ex-catenary energy supply. This is the 12-digit vehicle number registered in the register of vehicles.

If data cannot be submitted electronically due to a fault at the RU's premises or with the Internet, or if SBB's systems are unavailable, then the RU must retrospectively enter or submit the data required for operational purposes in or to these systems as soon as possible after the interruption.

FachBus unit will be glad to assist with any questions, problems and orders for access rights to use the application.

SBB AG

Infrastruktur – Betrieb

FachBus KompoEVU

Anforderungs- & Projektmanagement (Requirements & Project Management)

Bollwerk 10

CH- 3000 Bern 65

Telephone: +41 51 220 80 40

E-mail: kompoevu@sbb.ch

If the services being provided by SBB/BLS/SOB include ancillary and miscellaneous services as well as train paths, further information may need to be submitted. Modifications may still be made to data required for operational purposes on the basis of changes in requirements, technical specifications (e. g. EOL) or statutory provisions. In particular, the TSI-TAP have been enshrined in the Ordinance on the Construction and Operation of Railways (Railways Ordinance [EBV]) since 1 July 2013 and must be observed accordingly.

6.2.2.2 Freight services

The freight train composition data defined by the RU and the IM must be entered into SBB Infrastructure's Cargo Information System (CIS) before the departure of the train. The RU may supply data free of charge in one of the following ways:

- Direct entry into the Infrastructure CIS over the internet or a Citrix emulation using the "Train controlling" application only. The RU must bear the costs of the internet connection.
- Delivery via defined electronic XML messages (CISTDEVU).

Advanced use of the Infrastructure CIS via the internet or a Citrix emulation, and in particular integrated use of its applications (wagon tracking, train controlling, brake ratio calculations, train lists, lists for Italian authorities, transport data acquisition, data transmissions to local systems, etc.), GREM (cross-border messages = international data exchange) and AHA (CIS analyses) or electronic delivery from Infrastructure CIS is offered subject to a fee, and can be arranged as a miscellaneous service by separate request.

Consignment-related wagon data, which forms the basis for train controlling, can be transmitted via UIC Hermes advance train notification (Treno) or the XML message from the Infrastructure CIS (Swift-IN).

Delivery of the required operational data via a different interface is possible at the RU's request. The costs incurred by the IM for developing new interfaces will be charged to the RU.

If electronic data transfer is not possible because of a fault with the RU's systems, or if SBB's systems become unavailable, the required operational data must be submitted to the designated office ("Netzleitung Güterverkehr" [Freight Traffic Network Administration Centre], Bern) by fax. A corresponding model list (template) can be obtained from the system managers. The required operational data must also be entered into the system/delivered electronically by the RU once the disruption has been resolved.

Application managers from SBB Infrastructure's Information Technology unit will be glad to assist with any questions, problems and requests for access rights to the CIS-Infra programmes.

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Haslerstrasse 30, BN 124
CH 3000 Bern 65
Telephone: +41 51 220 22 77
E-mail: xbf039@sbb.ch

Required train operating data (to be submitted electronically):

- railway undertaking (accounting code)
- train number
- departure date
- train's departure station code (incl. UIC country code)
- train's destination station code (incl. UIC country code)
- UIC border entry code (if any) and scheduled date of border crossing
- special interchange station for wagons (if any)
- message type
- motive power units along entire route: code number and EVN, position in train, unladen and braked weights, energy (combustion-based or electric regenerative/non-regenerative), locomotive Vmax, brake loading weight required to bring the train to a stop (in kilonewtons or tonnes)
- train and brake sequence
- train's maximum speed
- wagon number plus loading unit number for intermodal traffic
- relevant consignment identification number(s)
- consignment accounting code or RU's RICS code for the transferring and accepting RU/ carrier
- country code of the wagon or consignment's forwarding station
- wagon or consignment forwarding station code
- loading point (if forwarding station is in Switzerland)
- country code of the wagon or consignment's destination station
- wagon or consignment destination station code
- unloading point (if destination station is in Switzerland)
- routing code (of the foreign destination station)
- for cross-border services at least the wagons' UIC border entry and/or departure code (UIC routes) for Switzerland
- wagon's position number in the train composition

- composition group in the train
- number of axles per wagon
- wagon's unladen weight
- length over buffers
- handbrake type code and Handbrake loading weight (in kilonewtons or tonnes)
- wagon's brake type, status and equipment
- braked and brake changeover weights and the wagon's current braked weight
- any special characteristics of the brakes
- number of brake units on wagon
- load limit chart
- agreed chart
- maximum speed of wagon (as a function of load, construction and damage)
- load weight
- any faults on the wagon bill and damage
- date of last overhaul and safety allowance
- date of last special inspection and period between inspections (if applicable)
- load carriage restriction code (damage/engineering; if applicable)
- form, type and hazard (FTH/FAG) code

The following supplementary information is required for all wagons carrying dangerous goods and, for intermodal traffic, every loading unit containing dangerous goods:

- Number indicating level of danger
- UN number
- RID class
- packing group
- Form, type and hazard (FTH/FAG) code.

The following supplementary information is required for exceptional loads:

- load carriage restriction
- form, type and hazard (FTH/FAG) code
- permit number of exceptional load (see also section 2.5).

Before departure of the train, an "departure check without wagons" or "empty" message message must be created in CIS for any station from which a freight train operates without a load. If this train check is not entered, the default amount for the corresponding type of train will be invoiced. To change a freight train (with or without load) to a light engine on an order, the order needs to be cancelled and a new one submitted (cf. section 4.2.6).

If the services being provided by IMs include ancillary and miscellaneous services as well as train paths, further information may need to be submitted.

The right to modify required operational data or to require delivery of additional data in line with legal requirements is reserved. Particular attention should be paid to the stipulations of the Customs Act of 18 March 2005 (ZG; SR 631.0), the Customs Ordinance of 1 November 2006 (Art. 125; ZV; SR 631.01), and the Technical Specification for Interoperability – Telematic Applications for Freight (TSI-TAF). The data catalogue for the summary customs declaration can be accessed at www.ezv.admin.ch (Link).

6.2.2.3 Planning, Production and Information System assembly yards

From 2015/2016, SBB Infrastructure will be introducing the LoPPIS (Local Planning, Production and Information System) in several assembly yards.

The data/information required for the services to be performed in the assembly yards (planning, stabling, shunting, etc.) must be input in the underlying CIS-Infra systems by the time the relevant train/assembly arrives at the latest in order for the data/information to be available in LoPPIS in good time.

If desired, more comprehensive LoPPIS functionality can be provided for a fee. This will be agreed separately on request as a miscellaneous service.

The application managers will be happy to help with any questions, problems and orders for access rights relating to the use of LoPPIS.

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6.2.3 Power supply ex catenary (measured on the locomotive)

The energy measurement systems must comply with the specifications under section 6.2.3.7. The corresponding certificate of conformity from a Notified Body must be submitted to the infrastructure manager.

The network user must ensure that the measurement readings are correctly recorded and can be taken remotely. Measurement readings must be transmitted to infrastructure managers in accordance with the UIC 930 standard "Exchange of data for cross-border railway energy settlement".

6.2.3.1 Transitional regulation

Transitional regulation for energy measurement systems commissioned prior to 31 December 2013:

The energy measurement system will be permitted to meter energy for billing purposes based on actual consumption provided that the following minimum requirements are met:

1. The EMS has class 0.5 overhead current and overhead voltage transformers that are approved in accordance with the national standards for measurements calculated for billing purposes that were valid at the time of installation.
2. The meter has been approved by a state authority in Europe in accordance with the national standards for measurements calculated for billing purposes that were valid at the time of installation and has been calibrated by a state-approved testing body. Proof of approval and calibration must be provided.
3. Meters must be re-calibrated every five years. The calibration certificate must be submitted to the infrastructure manager.

4. The measurements meet the following requirements as a bare minimum:
 - a. The time reference period is either 1 or 5 minutes.
 - b. The energy measurements comprise
 - I. the active energy that is consumed and fed back in
 - II. the reactive energy that is consumed and fed back in
 - c. The measurements include location data (latitude and longitude at the end of the measurement period). This GPS data must comply with WGS84 (World Geodetic System 1984) specifications.
5. The measurements are submitted to SBB Infrastructure's billing system EREX-Exchange in UTILTS format and in compliance with UIC 930. The RU is responsible for implementing the relevant interfaces with EREX-Exchange.

If data is not transferred to the billing system correctly, the relevant share of total energy shall be billed based on the relative consumption values for each train type published in SBB's list of infrastructure services.

This transitional regulation applies until 31 December 2018.

6.2.3.2 Not correctly transferred data

If data is not transferred to the billing system correctly, the relevant share of total energy shall be billed based on the relative consumption values for each train type published in SBB's list of infrastructure services.

6.2.3.3 Data provision and energy measurements

Network users are to transmit energy measurements to SBB Infrastructure and in accordance with the specifications of UIC leaflet 930 to SBB Infrastructure's billing system EREX-Exchange.

Readings are to be provided to SBB Infrastructure daily (or at the latest 3 days after the date on which the train ran).

6.2.3.4 Vehicle data

So that invoices can be based on measurement readings, network users must register with SBB Infrastructure all vehicles equipped with energy measurement systems, together with the relevant supporting documentation, at the latest 30 days before the month to be invoiced. In every case, network users must supply the identification number of both the EVN⁷ and the measuring device.

As regards vehicles registered by network users, energy invoices will be based exclusively on the readings from the vehicle (see section 6.2.3.3 for exceptions).

In order to ensure that readings can be attributed to a train, the data provided in accordance with section 6.2.2 must without fail include all EVN.

⁷ European Vehicle Number. The 12-digit vehicle number registered in the national register of vehicles (Art. 5i EBV).

6.2.3.5 Missing data or incorrect data provision

If network users renounce the use of energy measurement systems for on-vehicle measurement of power consumption that comply with section 6.2.3.7, invoices for the basic service will be based on the relative consumption values per train type published in the SBB Infrastructure List of Services. Invoicing will also be based on relative consumption values if:

- a) the energy measurement systems fail or if the data is not received by the infrastructure manager in good time.
- b) taking, transmitting and evaluating the readings would involve disproportionate time and expense.
- c) readings for individual sections of a train journey are missing.
- d) if a train includes motive power units, some of which are equipped with energy measurement systems and some not.
- e) the motive power unit identification numbers are missing when providing the data as per section 6.2.2.
- f) the energy measurement systems do not meet the specified technical standards.
- g) the readings are incorrect or implausible and thus invalid.
- h) a valid certificate of conformity has not been submitted for the energy measurement system.

6.2.3.6 Billing address

SBB Infrastructure will, as indicated under section 6.2, submit invoices for using the basic traction current service exclusively to the train operating RU or to the debicode allocated to the train or service.

6.2.3.7 Energy measurement systems

Energy measurement systems that comply with the standard EN 50463 "Railway applications – Energy measurement on board trains" and have been homologated by a Notified Body are authorised to meter traction current for billing purposes. The certificate of conformity must be submitted to the IM.

Energy measurement systems not homologated in accordance with EN 50463 but which do meet the requirements of section 4.2.8.2.8 of the TSI LOC&PAS may be authorised to meter traction current for billing purposes in consultation with the infrastructure manager. A corresponding certificate of TSI conformity from a "Notified Body" must be obtained and the deviations from EN 50463 must be indicated and substantiated.

6.3 Invoicing

6.3.1 Basic principle

The infrastructure manager will issue invoices monthly in Swiss francs (CHF) or, on request, in euros (EUR). In the latter case, the RU undertakes to keep to the chosen currency for a timetable year. The invoice date determines the exchange rate. The RU should pay the invoice within 30 days. Complaints regarding invoices must also be received by the invoice originator at the latest 30 days after invoicing.

6.4 Charges

The currently applicable charges are set out in SBB/BLS/SOB Infrastructure's [List of Infrastructure Services](#).

6.5 Changes to charges

We reserve the right to make changes to the statutory services and charges. Legislative changes which take effect after the publication of this Network Statement and which conflict with provisions of the applicable Network Statement will be added as editorial updates.

6.6 Billing arrangements

See List of Infrastructure Services section 4.2, Invoicing.

7 Links.

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- Link 1 [Necessary regulations for the RU](#)
- Link 2 [SBB network map/train path map](#)
- Link 3 [List of Infrastructure Services](#)
- Link 4 [Route database](#)
- Link 5 [General Terms and Conditions for the Use of Railway Infrastructure](#)
- Link 6 [Track access agreement template](#)
- Link 7 [Stopover times for freight services at border stations \(train path catalogue\)](#)
- Link 8 [Regulation at border stations \(network transfers to foreign infrastructure managers\)](#)
- Link 9 [Specific track access conditions Mattstetten–Rothrist](#)
- Link 10 [Specific track access conditions Solothurn–Wanzwil](#)
- Link 11 [Specific track access conditions Rothrist–Zofingen](#)
- Link 12 [Specific track access conditions Gotthard-base tunnel](#)
- Link 13 [Specific track access conditions Gotthard via Göschenen–Airolo](#)

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