SBB CFF FFS

Network Statement 2017.

For ordering and execution of time-tabled transport operations from 11 December 2016 to 9 December 2017.

November 2015

trasse.ch

thurbo Die Regionalbahn.

HAFENBAHN SCHWEIZ AG

Overview of changes

Sections in the Network Statement 2017 (Version 1.0) which have been changed from the Network Statement 2016.

Chapter	Section
Throughout the whole Network Statement	Dates and deadlines
1 General information	
2 Track access conditions	• 2.3.2.2 Regulating responsibilities in operational transfer stations when changing between two RUs with network access through SBB Infrastructure. • 2.5 Special consignments/heavy loads • 2.7 Vehicle acceptance and maintenance Art. 17a, Art. 17b, Art. 17c EBG
3 Infrastructure	• 3.3.3.1 Signalling systems • 3.4.6 Emergency brake overrides • 3.5.2.2 Maintenance windows • 3.5.3 Restrictions due to large-scale renovation and expansion projects
4 Capacity allocation	• 4.2.2.2 Annual timetable (process requests/orders) • 4.2.3.2 Catalogued train paths for freight traffic corridors • 4.2.4 Train paths for cross-border services (does not apply to catalogued corridor train paths) • 4.3.1 Annual timetable (deadlines) • 4.4.1.1 Principles allocation/coordination process • 4.4.1.2 Annual timetable • 4.4.1.3 Ancillary services (new section) • 4.6 Non-usage of definitively allocated train paths
5 Services	
6 Prices and invoicing	• 6.1.2.1 Minimum price (Art. 19 NZV) • 6.2.2.1 Provision of data Passenger services and locomotivehauled trains (passenger and freight services) • 6.2.2.2 Provision of data Freight services • 6.2.2.4 Basic rules train category (passenger or freight train) • 6.2.2.5 Application for a movement type • 6.2.3 Power supply ex catenary (measured on the locomotive) • 6.2.4 Wear and tear factor (provision of data, vehicle pricing)
7 Links to further information	

Network Statement 2017: overview of changes

List of the most important changes in updated (amended) versions of the Network Statement 2017.

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

Contents.

List of Tables.

Figures.

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), Thurbo, 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 2012/34[1]. 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 Thurbo), 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.

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[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.

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 2017 is correct. It accepts no liability for direct or indirect damages suffered as a result of obvious defects and misprints in the Network Statement 2017 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
Hilfikerstrasse 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.

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 10 March 2015 in Utrecht, Netherlands (RNE-WG Network Statement).

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 11 December 2016 to 9 December 2017.

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 2017 is available as a .pdf file[2] on the SBB website free of charge. Copies of regulations and more detailed SBB documentation can be obtained for a fee.

[2] All 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@sbb.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@sbb.ch www.onestopshop.ch Ancillary and miscellaneous services: SOB Infrastruktur Betrieb – Trassenmanagement Bahnhofplatz 7 CH-9100 Herisau Telephone: +41 58 580 76 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 58 580 76 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 Wylerstrasse 125 CH-3000 Bern 65 E-mail: einkauf.railbuyer@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 58 580 76 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 58 580 76 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 E-mail: beatrice.seydoux@sbb.ch	SBB AG Infrastruktur Fahrplan und Netzdesign Fahrplan und Angebot Hilfikerstrasse 3 CH-3000 Bern 65 E-mail: beatrice.seydoux@sbb.ch	SBB AG Infrastruktur Fahrplan und Netzdesign Fahrplan und Angebot Hilfikerstrasse 3 CH-3000 Bern 65 E-mail: beatrice.seydoux@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 58 580 76 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 58 580 76 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 58 580 76 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: aussergewöhnlichesendungen_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 58 580 76 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 by: 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 by: SOB Infrastruktur Betrieb – Trassenmanagement Bahnhofplatz 7 CH-9100 Herisau Telefon: +41 58 580 76 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: • Annual timetable • For ordering train paths outside of the north-south Gotthard and Lötschberg–Simplon axes	Swiss Train Paths Ltd. Patrik Zobrist Schwarztorstrasse 31 Postfach 8521 CH-3001 Bern Telephone: +41 31 384 20 49 Fax: +41 31 384 20 41 E-mail: p.zobrist@trasse.ch

Topic	Contact person
Train path requests and orders – international One Stop Shop: • Annual timetable • For orders on the north-south Gotthard and Lötschberg–Simplon axes	Swiss Train Paths Ltd. Christoph Rüegg Schwarztorstrasse 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 • Interim timetable	Swiss Train Paths Ltd. Ulrich Amsler Schwarztorstrasse 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 netz@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/ns_glossary.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
FOS	Formation Service
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

Abbreviation	Meaning
RID	The European Agreements Concerning the International Carriage of Dangerous Goods by Rail (Règlement concernant le transport international ferroviaire de marchandises dangereuses).
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 NoBo	Body responsible for carrying out inspections and issuing certificates in conjunction with evaluations of compliance (Link).
Designated Body DeBo	Checks compliance with Notified National Technical Rules as per EU directives 2008/57/EC and 2011/217/EU.
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.
Movement type	The movement type is a grouping element for several vehicle types that do not differ with respect to their physical characteristics. Movement types are only assigned by the infrastructure manager.
Vehicle type	The vehicle type describes the sort of vehicle.
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.

Term	Definition
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.
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.


SBB CFF FFS

2 Track access conditions.

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.

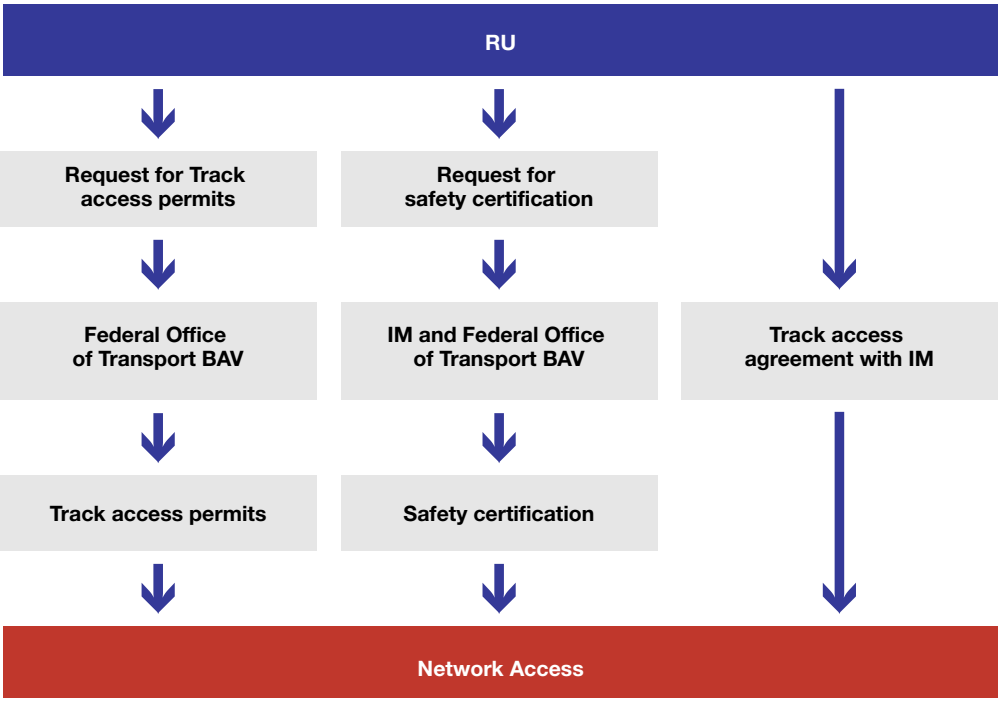


Figure 1 – Procedure for obtaining network access.

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 or 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 day 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 Regulating responsibilities in operational transfer stations when changing between two RUs with network access through SBB Infrastructure.

The following section governs the point in time at which the contractual relationship between the RU and IM transfers from one RU to another. The provision details 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.

Basic principle

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

Deviating provisions for marshalling yards

For wagons within the “wagon cycle marshalling yard” processing chain (uncoupling, sorting, formation of freight trains using the shunting hump) the contractual relationship transfers at the end of the uncoupling process (i. e. as soon as the wagons have stopped in the sorting siding). Responsibility for the scheduling of the wagons is not affected by this regulation. This always lies with the departing RU.

The provisions 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.

2.3.3 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.

2.4 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:

a. the implementation of public law obligations;
b. the braking ratio required for a certain speed (including stop brake) and the permitted thrust and shear forces;
c. the use of combustion-based motive power units in tunnels;
d. the loading gauge to be maintained;
e. the permitted axle load and load per metre;
f. the operation of vehicles with large wheel bases and of overlength trains;
g. the maximum current drain from the overhead power lines;
h. the official language to be used;
i. 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:

VÖV UTP

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

Members of UTP can obtain mandatory operating rules free of charge from the protected area of VöV website: www.voev.ch/rte-zugang.

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 Special consignments/heavy loads

The provisions concerning special consignments SC can be found in the following documents:
- UIC Leaflet 502, Annex 1 (www.uic.org)
- 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.

Special consignments only run as freight trains and are recorded in the CIS, with the exception of test runs and measuring trips (spec. train numbers; no CIS) SBB reserves the right to commission the RU for special consignments.

SBB subdivides special consignments as follows:
- Special consignments that do not foul the gauge (SC no fouling)
- Special out-of-gauge consignments (SC fouling)
- Special out-of-gauge consignments according to simplified notification procedure under R I-50089
- Special laterally out-of-gauge consignments (SC with lat. fouling)

Within ordering procedures BV1 to BV4a train path requests are only accepted for the following SCs:
- SC no fouling
- SC with fouling as per R I-50089 without notification

The other SCs must be ordered within the scope of the remaining capacity in the current timetable as per section 4.3.2.

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 Federal Office of Transport (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 technical track access conditions (infrastructure requirements) by SBB Infrastructure's Technical Track Access unit (TNZ) forms part of the BAV's approval procedure

(see, in particular, the approval guideline) and is a compulsory requirement for track access through SBB Infrastructure.

The main focus of the investigative work 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, in consultation with the applicant (RU, vehicle manufacturer, independent testing body), 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, so-called national technical rules). 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 Vmax > 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 base-line 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 base-line 3 equipment.

See also section 3.3.3.2, Train control systems.

The high-speed line (NBS) between Mattstetten and Rothrist, the upgraded high-speed line (ABS) between Solothurn and Wanzwil, the Brunnen excl.–Flüelen–Altdorf–Rynächt–Erstfeld excl. and Bodio excl.–Pollegio Nord–Biasca excl. and Biasca excl.–Osogna-Claro–Castione excl. lines as well as the Gotthard Base Tunnel are equipped with the ETCS Level 2 train control system. The opening of the Lausanne (excl.)–Villeneuve line is planned for April 2017, Giubiasco–San Antonio for June 2017 and Sion–Sierre for October 2018.

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 $250\,m \leq R < 400\,m$ (test range 4 in accordance with EN 14363 and UIC 518)
- Specific lines with a significant number of extremely small curve radii $R < 250\,m$ 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 since 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 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)
- St. Maurice–Les Paluds (131)
- Genève Aéroport–Renens–Lausanne (150)
- Châtelaine–La Plaine Grenze (–Bellegarde) (151)
- Genève–Genève La Praille (152)
- Daillens–Vallorbe (200)
- Renens–Yverdon–Biel (210)
- Auvernier–Travers (221)
- Chambrelien–La Chaux-de-Fonds–Le Locle–Col-des-Roches (223)
- 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 Mattstetten–Rothrist (450.1)
- Rothrist–Olten (450.1)
- Luzern–Littau (Teilstrecke 460)
- 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–Rupperswil–Brugg (550)
- Luzern–Immensee (600)
- Immensee–Arth-Goldau–Giubiasco–Chiasso (600)
- Giubiasco–Cadenazzo–Locarno (630)
- Cadenazzo–Luino (631)

- Suhr–Lenzburg (645)
- Rupperswil–Lenzburg–Killwangen-Spreitenbach (650)
- Emmenbrücke–Waldibrücke (651)
- 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)
- Winterthur–Bülach (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)
- Winterthur–Schaffhausen (762)
- Niederweningen–Oberglatt (765)
- Kreuzlingen–Romanshorn (820)
- Oberwinterthur–Seuzach (821)
- Winterthur–Etzwilen–Stein am Rhein (821)
- Wil–Kreuzlingen (830)
- Winterthur–Oberwinterthur–Romanshorn (840)
- Romanshorn–Rorschach (845)
- Winterthur–Wil–St. Gallen–Rorschach (850)
- Rorschach–St. Margrethen (880)
- Sargans–Buchs (880)
- Buchs–St. Margrethen (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 man-

agement companies can be used on the routes mentioned above using international GSM-R roaming (as at April 2015):

- DB Netze (Germany)
- RFI (Italy)
- SNCF Réseau (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 April 2015):

- 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 7.4 and SRS 15.4 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 this Link “Domain Safety engineering”.

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/rerail of 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 (BAV).

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 after 30 days. 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.

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 elements[3]: 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 to 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 infrastucture
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 SNCF RÉSEAU 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 December 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 description[4]

SBB Infrastructure maintains a network of around 3,034 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. 639 signal boxes[5]. There are around 393 tunnels with a total length of around 250 km (excluding the Gotthard base tunnel), and almost 5,936 bridges (90 km). Over 17,274 sets of points and 31,266 signals[6] are ready for use on a daily basis. Six railway-owned hydroelectric plants plus a number of partner plants and seven transformer stations supply traction power. SBB Infrastructure has 1,834 km of transmission line. In addition, two GSM-R control centres are available.

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 2015
[5] Includes former MThB, postal signal boxes, disused signal boxes, marshalling yards and service stations Excludes KTU (licensed transport operator) networks (as at April 2015)
[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 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), Lausanne (excl.)–Villeneuve (from April 2017 onwards), Giubiasco–San Antonino (from June 2017 onwards) and Sion–Sierre (from October 2018 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 2016 onwards on the north-south corridors, ETCS Level 1 in "Limited Supervision" operating 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 and in the Gotthard Base Tunnel when driving passenger trains (see also Link).

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:

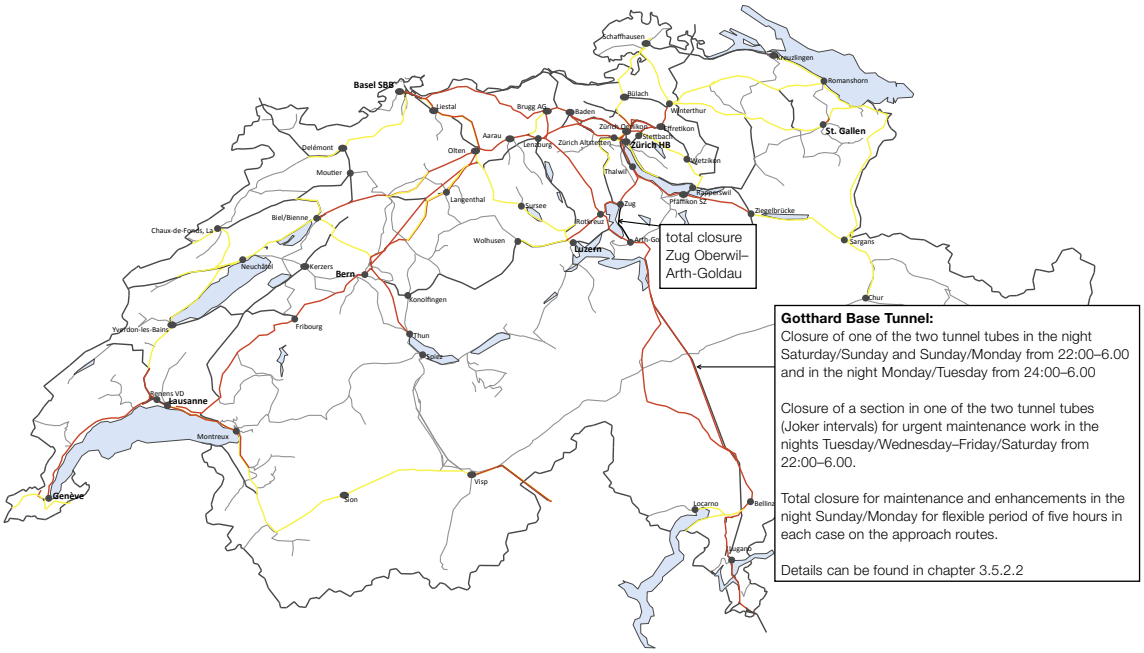
1. *La Plaine (frontier)–Lausanne Triage–Biel/Bienne–Olten–Othmarsingen–Heitersberg–RB Limmattal–Winterthur–Frauenfeld–Rorschach–Chur*
2. *Lausanne Triage–Bern*
3. *Vallorbe (frontier)–Lausanne–Brig–Iselle (frontier)*
4. *Basel (frontier)–Olten–Bern–Thun–Brig*
5. *Basel (frontier)–Bözberg–Othmarsingen–Rotkreuz–Giubiasco–Chiasso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

The legally defined route opening times (see above) will only be announced after train path allocation for the 2016/2017 timetable and will be published online as of November 2016 (www.onestopshop.ch).

3.5.2 Fixed maintenance windows

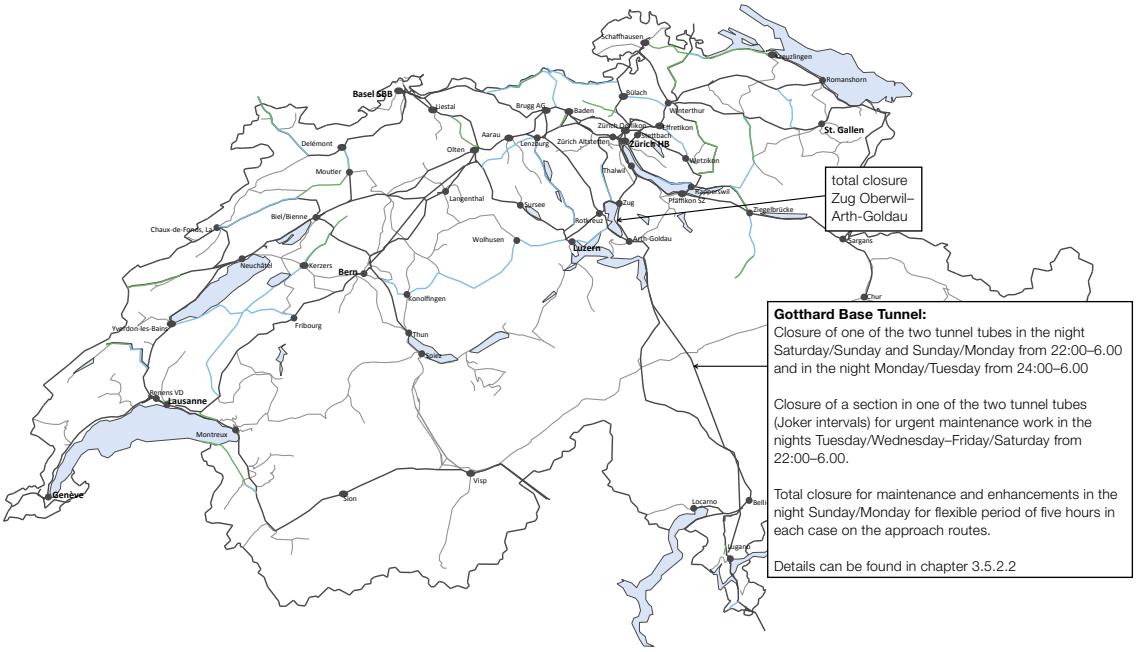
3.5.2.1 Basis for planning fixed maintenance windows

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.



Regional line	8 hours single-track day or 8 hours total closure day (8:30–16:30), approx. 5–15 shifts
Branch line	8 hours total closure day (8:30–16:30), approx. 5–15 shifts

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 closure 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 (mountain route)

- Total closure for maintenance and enhancements in the night Sunday/Monday for flexible period of five hours in each case.

North-south guideline times:

- Erstfeld from 23:30 until 6:00; Airolo from 23:30 until 6:00; Bodio from 23:30 until 6:00.

South-north guideline times:

- Bodio from 00:35 until 6:00; Airolo from 00:35 until 6:00; Erstfeld from 00:35 until 6:00.

Gotthard (Base Tunnel)

- Closure of one of the two tunnel tubes in the night Saturday/Sunday and Sunday/Monday from 22:00–6.00 and in the night Monday/Tuesday from 24:00–6.00 in each case.
- Closure of a section in one of the two tunnel tubes (Joker intervals) for urgent maintenance work in the nights Tuesday/Wednesday–Friday/Saturday from 22:00–6:00.
- Total closure for maintenance and enhancements in the night Sunday/Monday for flexible period of five hours in each case on the approach routes.

North-south guideline times:

- Rotkreuz from 22:55; Arth-Goldau from 23:10; Rynacht from 23:40; Biasca from 23:50 (towards Bellinzona, Biasca from 00:20 (from Rynächt direction), Bellinzona from 00:00 (from Rynächt direction), Bellinzona from 00:10 (to Chiasso); Lugano from 00:40; Chiasso from 1:10.
- Rotkreuz until 3:40; Arth-Goldau until 3:50; Rynächt until 4:20;Biasca until 5:05; Bellinzona until 5:20 (from Rynächt), Bellinzona until 5:30 (to Chiasso); Lugano until 5:45; Chiasso until 6:10.

South-north guideline times:

- Chiasso from 21:10; Lugano from 21:45; Bellinzona from 22:10; Biasca from 22:25; Rynächt from 23:10; Arth-Goldau from 23:40; Rotkreuz from 23:55.
- Chiasso until 4:50; Lugano until 5:20; Bellinzona until 5:20 (from Rynächt), Bellinzona until 5:45 (from Chiasso); Biasca until 5:30; Rynächt until 6:10 (from Chiasso), Rynächt until 5:15 (to Goldau).
- Arth-Goldau until 4:55 (to Rotkreuz) Arth-Goldau until 5:30 (from Chiasso); Rotkreuz until 5:00.

Cadenazzo-Luino

- Total closure to all traffic Cadenazzo–Luino: 6 months (June-December), preparatory work with daytime closure from 9:00–13:00 for approx. 6 months (January–June). Limited diversion options (capacity, border crossings).

Chiasso VG

- Nighttime maintenance window from 1:10–4:30 (Mon-Sun): All trains must run via CHSM/CHSU.
- Passenger services: S11 departures/arrivals only via track 13 with no transfers (waiting opposite direction in Como). Last S11 must arrive by 1:00.
- Freight services: no journeys possible from/to Chiasso VG Fascio C between 1:00–4:30, no journeys possible southbound via MO 1 between 1:00–4:30.

Mendrisio–Stabio

- Total closure for focused maintenance Mendrisio (excl.)–Gaggiolo Confine: 5 nights Sun/Mon–Thu/Fri from 21:30–6:00.

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).

Simplon (Brig–Iselle)

- Continuous ¼ closure of the Simplon Tunnel until the start of March 2017. The reduced track capacity will be shown in the annual timetable and/or the train path allocation.

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.

Lausanne–Bern

- Individual sections may have permanent single track operation for the upgrade of the line to make it suitable for WAKO use (passive tilt mechanisms). Reduced capacity and temporary construction timetables necessary.

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.

3.5.3 Restrictions due to large-scale renovation and expansion projects

3.5.3.1 Lausanne–Genève line

Nighttime window of 90 minutes total closure (all line tracks) from approx. 2:00 until 3:30 in the nights Sun/Mon until Thu/Fri as required (150–200 nights) to put construction objects in place.

3.5.3.2 Zug–Arth-Goldau line

The Zug Oberwil–Arth-Goldau will be closed to all traffic throughout the 2017 timetable and probably until 5.8.2018. The reason for this is the upgrade in the Walchwil area to double track, the expansion of the line profile for double-deck trains and renovation work to the whole of the railway technology equipment.

From 15–23 April 2017, from 8 July–20 August 2017, from 21–29 April 2018 and from 7 July–5 August 2018 the closure will be extended as far as Zug. Detailed information on the project can be found on the internet at www.sbb.ch/zugersee.

3.5.3.3 Brunnen–Flüelen (Axen) line

Brunnen–Flüelen train services will be run on a single track throughout the 2017 and 2018 timetable on one section at a time. The reason for this is the renovation and upgrade of the Axen Tunnel to a line profile suitable for trains with a corner height of 4 m.

The reduced line capacity will be shown in the annual timetable and/or the train path allocation.

3.5.3.4 Bellinzona–Giubiasco line

Capacity on the Bellinzona–Giubiasco line will be restricted throughout the 2017 and 2018 timetable due to upgrade of the Svitto Tunnel to a line profile suitable for trains with a corner height of 4 m and the Südkopf renovation in Giubiasco. The reduced line capacity will be shown in the annual timetable and/or the train path allocation.

3.5.3.5 Melide–Maroggia line

Capacity on the Melide–Maroggia line will be restricted throughout the 2017 timetable until the middle of 2018 due to upgrade of the Maroggia Tunnel to a line profile suitable for trains with a corner height of 4 m. The reduced line capacity will be shown in the annual timetable and/or the train path allocation.

3.5.3.6 Arth-Goldau nodal point

Use of the Arth-Goldau nodal point will be restricted throughout the 2017 timetable and probably until 5.8.2018. The reason for this is the modifications being made in the area of platforms 1–4 to comply with the requirements of the disability act regarding train access as well as increased logistics traffic with the complete closure of Zug–Arth-Goldau.

In the case of transiting freight trains, any stopping points for changing personnel and/or motive power unit must be made in Schwyz instead of Arth-Goldau.

The storage sidings on the Tierpark side (incl. old depot) are not available.

3.5.3.7 Rotkreuz nodal point

Use of the Rotkreuz nodal point will be restricted from 11.12.2016 probably until 31.1.2017 and in June/July 2018. The reason for this is increased logistics traffic during the removal of the Zug–Arth-Goldau railway technology equipment.

3.5.3.8 Zug nodal point

Use of the Zug nodal point will be restricted from 15–23 April 2017, from 8 July–20 August 2017, from 21–29 April 2018 and from 7 July–5 August 2018. The reason for this is the modifications being made in the area of platforms ½ and increased logistics traffic during the Zug–Zug Oberwil construction work.

The freight traffic loading platform, tracks 1 and 2 and the sidings on the Oekihof side will not be available.

3.5.3.9 Bellinzona nodal point

No train compositions or formation changes can be undertaken in the San Paolo station section at the Bellinzona nodal point as a result of a lack of capacity. Any necessary marshalling must be undertaken in Biasca/Bodio. The RUs currently affected by this are to be notified in a separate letter.

Ancillary services: restrictions in the allocation of sidings, possible changes with regard to the platforms allocated for 2017 dependent on the construction phase.

3.5.3.10 Chiasso nodal point

Ancillary services: restrictions in the allocation of sidings, possible changes with regard to the platforms allocated for 2017 dependent on the construction phase.

3.5.3.11 Biasca station

Ancillary services: restrictions in the allocation of sidings, possible changes with regard to the platforms allocated for 2017 dependent on the construction phase.

3.6 Infrastructure facilities

3.6.1 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.

3.6.2 Freight terminals

See the link for details of the terminal locations.

3.7 Service facilities

3.7.1 Train formation yards

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

3.7.2 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 from 1.1.2015 in the currently applicable version.

3.7.3 Maintenance and supply installations

Information about maintenance and supply installations can be requested from the One Stop Shop.

3.7.4 Tank installations

Contact: einkauf.railbuyer@sbb.ch

3.7.5 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 aerials 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.

3.8 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 2.7.2.6, more sections with GSM-R are to be expanded, including:

- April 2017: Lausanne (excl.)–Villeneuve
- October 2018: Sion–Sierre (A later start cannot be excluded)
- 2023/2025: Visp–Brig–Simplon
- 2023/2024: Roche VD–Vernayez

ETCS Level 1 LS

Since 2012, the EuroSIGNUM/EuroZUB balises have also started carrying ETCS Level 1 "Limited Supervision" (L1 LS) operating mode 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 by the end of December 2016. Network-wide rollout of ETCS L1 LS is expected to be completed by the end of 2017. BAV guideline on SIGNUM/ZUB migration to ETCS LS (Link) and BAV information letter "ETCS migration in Switzerland and Acceptance of Vehicles 2015" (Link).

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:

- April 2017: Lausanne (excl.)–Villeneuve
- October 2018: Sion–Sierre (A later start cannot be excluded)
- 2023/2025: Visp–Brig–Simplon
- 2023/2024: Roche VD–Vernayez

From 2025 during replacement of signal boxes as part of asset maintenance or if installations have to be adapted due to expansion of capacity, as a basic principle ETCS Level 2 will be used.

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).

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 ordering and allocating train paths and ancillary services can be found in the Railways Act (EBG), in the Track Access Ordinance (NZV) and in the guidelines of the Federal Office of Transport, notably articles 9a and 9b of the Railways Act (EBG), the fourth part of the Track Access Ordinance (NZV) and the BAV guideline “Train Path Allocation and Bidding Procedure” (see section 1.3.7). This list is by no means exhaustive.

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 (cf. section 1.1), 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-Confine 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 SNCF RÉSEAU 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.

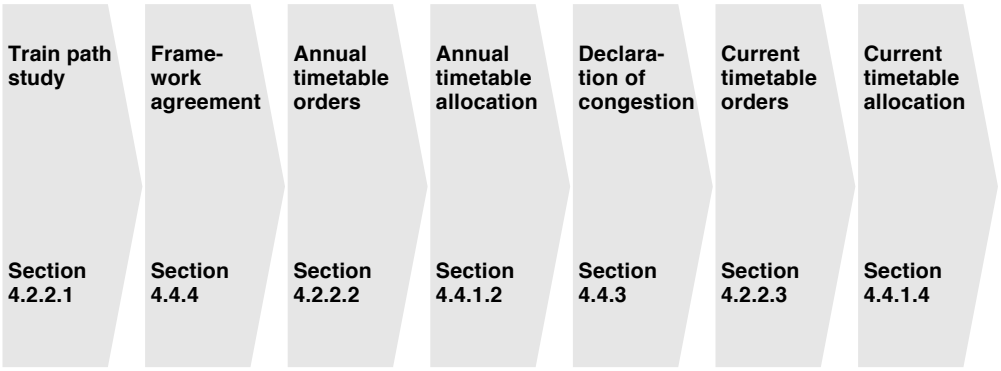


Figure 3 – Phases of the train path order process.

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 11 April 2016 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 2016.

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, i. e. requests with two or more implementation options, 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, retrospectively 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 3 June 2016 and a provisional allocation of train paths for cross-border routes on 4 July 2016. 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 24 June 2016 using the "Ancillary Services Order Form" trasse.ch will definitively allocate these additional services on 22 August 2016. In the event of outstanding conflicts, train paths will only be allocated once these have been resolved, but as soon as possible.

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 11 April 2016 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 15 August 2016. trasse.ch will definitively allocate the basic services on 22 August 2016.

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. The choice of proposed operating points for the catalogued corridor train paths (known as Flex-PaPs) designated for this purpose is the only exception. These can be reduced by the applicant if they are not required.

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 (does not apply to catalogued corridor train paths)

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 2017 timetable:

- 11 April 2016 Application deadline for normal path allocation
- 03 June 2016 Provisional allocation by trasse.ch for domestic services
- 24 June 2016 Deadline for ordering ancillary services
- 04 July 2016 Provisional path allocation by trasse.ch for cross-border services
- 15 August 2016 Deadline for definitive train path orders
- 22 August 2016 Definitive train path allocation (incl. ancillary services) by trasse.ch
- 11 December 2016 The timetable changes

The dates for the provisional allocation of train paths may vary in the event of outstanding conflicts (see also section 4.2.2.2).

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.

4.3.2.1 Exceptions

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

Order deadlines for special consignments (SC)

- SC that do not foul the gauge Vmax ≥ 80 km/h: as per section 4.3.2
- SC that do not foul the gauge Vmax < 80 km/h: 4 days
- SC out-of-gauge Vmax ≥ 80 km/h with no other conditions of carriage*: as per section 4.3.2
- SC out-of-gauge and other conditions of carriage* or Vmax < 80 km/h: 4 days
- SC out-of-gauge as per R I-50089 without notification: as per section 4.3.2
- SC out-of-gauge as per R I-50089 with notification: 4 days
- SC out-of-gauge laterally: 10 days

* other conditions of carriage as per R I-30111 5.1 3.5.5.7

Changes at short notice (e.g. load shifting) can only be processed for SC with order deadline as per section 4.3.2.

4.3.2.2 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). trasse.ch thereby takes applicants' need for confidentiality vis-à-vis competitors into account as far as possible.

In the case of multiple orders that are communicated transparently to the applicants involved, trasse.ch aims to superimpose both requests in identical train paths. If this succeeds, the train path will be allocated to the applicant who can provide evidence of transport. If none of the applicants can provide evidence of transport by the allocation deadline, they will all receive a conditional allocation.

If the applicants involved insist on confidentiality vis-à-vis their competitors, or if the attempt to combine the various requests on a single train path fails, all requests involved, without limitation, remain in the normal 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

There is a distinction between ancillary services that are essential for the provision of a basic service and ancillary services with no direct connection to a basic service. In the case of conflicts where no mutually acceptable solution can be reached, a higher degree of flexibility is expected from those ordering ancillary services with no direct connection to a basic service.

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 additional 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 will run. Here requests are divided into the following three categories with decreasing priority:
   - trains which run on average on ≥ 5 days per week in the year
   - trains which run on average on ≥ 3 to < 5 days per week in the year,
   - trains which run on average on ≥ 1 to < 3 days per week in the year.

   The number of train path days requested will be used as the measurement. Within the individual categories requests are considered as having equal priority. If seasonally operating trains run on average on less than one day of travel per week over the year, the days of travel actually ordered per timetable year are compared. If, in the case of year-round train services, individual days are not applied for (e. g holidays), the applicant will not be at a disadvantage.

   The days of operation are accumulated if the same train path is involved and the requested trains on it have the same departure points and destination. The train numbers are not relevant to this consideration and may therefore vary.

   In the 2017 annual timetable, cross-border trains, for which train paths via Luino are requested in the first half of the year and train paths via alternative routes are requested in the second half of the year due to the complete closure of the Cadenazzo – Luino route, are treated the same as year-round train services in terms of the number of days of operation. In the case of conflict between a train such as this and a year-round train service, the days of operation via Luino are taken into account accordingly in the application of ranking criteria C.
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 Ancillary services

A coordination process also comes into effect in the case of conflicts when ancillary services are ordered. If no agreement can be reached in the coordination process, ancillary services will be allocated according to the following procedure:

1. Orders for ancillary services that are essential for the provision of basic services are given priority over those that have no direct connection to basic services. In the case of orders for ancillary services with a direct connection to basic services, the ancillary services are given the same priority as the associated basic service.
2. Ancillary services which have no direct connection to a basic service are allocated in the following order:
   A. Ancillary services for trains/requirements, for which, for technical reasons, no alternatives can be offered.
   B. Ancillary services for trains/requirements, which, for geographical reasons, are less easy to relocate to alternative locations.
   C. Ancillary services for trains/requirements, which are used repeatedly during the timetable year depending on the frequency of the registered requirements. The assessment is carried out in a similar way to the procedure for train path conflicts in the annual timetable.

If the order of priority described above fails to resolve a conflict and the ancillary service cannot be allocated to an ordering party, trasse.ch will conduct a two-stage bidding process. The ancillary service 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. trasse.ch will invoice the successful applicant directly. The bid price must also be paid even if the ancillary service allocated as a result of the bidding process is not used or is subsequently relinquished.

4.4.1.4 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 (3) 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.

The route shown below has been declared as congested for the 2017 timetable year:

Brig–Iselle di Trasquera

On 5 July 2013, trasse.ch declared track section 100.6, i. e. Brig–Iselle di Trasquera, to be congested until the end of the timetable year in which capacity-restricting construction work, as part of the Simplon tunnel refurbishment, would be completed.

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. 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. Different provisions may apply to the section 4.4.3 congested routes.

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 Special consignments and dangerous goods

4.7.1 Special consignments

The provisions for special consignments (SC) can be found in section 2.5. The order deadline for the train path can be found in sections 4.3.2. The ordering railway company must supply the necessary information together with the train path order. The infrastructure transport agreement (I-TZ) drawn up must be available when the train path request is made and the I-TZ number provided.

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.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5 Services.

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: 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 1: 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

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.

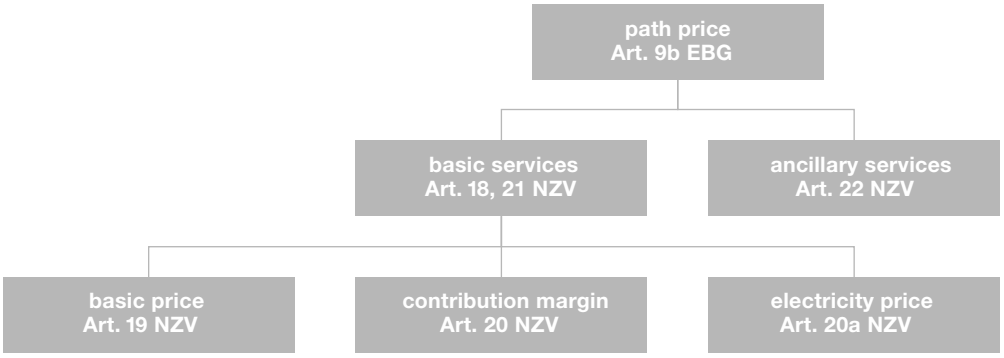

Figure 4 – Basis for train path prices.

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 (minimum price train path);
b. per train based on wear and tear caused by the train's vehicles (minimum price wear and tear).

[3] The minimum price varies according to the following price factors, surcharges and discounts:
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.
f. discount for locomotives that help to optimise line capacity utilisation.

[4] The BAV specifies the locomotives and discounts according to number 3 letter f.

[5] Third parties may be assigned the task of checking the calculation of wear and tear caused by vehicles.

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.

[4] Requests must always be made for a calendar year and be submitted to the BAV no later than the end of June of the following year. If the deadline for submitting requests is not observed, entitlement to the discount shall lapse.

6.1.2.6 Cancellation payment (Art. 19d NZV)

[1] If a railway undertaking relinquishes use of a train path it has been definitively allocated on particular days, a cancellation payment shall replace the train path price. This covers in particular the administration costs incurred and helps to cover contingency costs.

[2] The cancellation payment equates to the train-path minimum price according to Article 19 clause 3 letters a–c, multiplied by the following factors:
a. 0.2 if relinquished up to 61 days in advance;
b. 0.5 if relinquished up to 31 days in advance;
c. 0.8 if relinquished by 17:00 the previous day;
d. 1 if relinquished after 17:00 the previous day;
e. 2 if relinquished after the scheduled departure time of the train.

[3] On congested lines (Art. 12a) the cancellation payment also becomes due if the following are relinquished:
a. a provisionally allocated train path if the allocation had been in place for at least five working days;
b. an ordered train path if the order leads to conflicts among users and the infrastructure managers informed the users concerned about the conflict more than five working days ago.

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 correctly 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. From the operating day 11.12.2016 (timetable change) at the latest the RUs must submit the data to the Formation Service (FOS) system and no longer to the KompoEVU system. It will be possible to submit data to the Formation Service (FOS) system as early as the beginning of 2016. As soon as data is submitted to FOS it will no longer be necessary to supply it to KompoEVU.

- Via an electronic interface using defined messages (XML) in consultation with SBB Infrastructure.
  The new notification format is designed in such a way that the European standards for cross-border data exchange (TSI TAF/TAP) and the requirements of the user-based train-path pricing system (TPS 2017) are met. The RUs shall bear their own costs for planning up to and including migration and for modifying their system in line with the new notification process. Experts from SBB Infrastructure will be on hand to offer migration support and advice on request.
- Direct data entry over the internet.
  The respective RU must bear the costs of the internet connection between the RU and SBB Infrastructure. SBB Infrastructure offers free training in using the new input interface. Users' time and wage costs shall be borne by the parties involved themselves.

The RU must send data to SBB Infrastructure as follows from the 2017 timetable change onwards (operating day 11.12.2016):

1. Provision of complete annual data at the latest one week after provisional train path allocation
2. Subsequent provision of complete annual data at a two-week interval
3. Daily data – 4 up to + 20 days in relation to the current operating day, immediately and continuously after each change. Complete daily data must be provided for each day entering the time window (today + 20 days).

Required train formation operating data (to be submitted electronically):

- train path ID
- train number
- operating day or traffic period
- timetable period
- RU
- formation journeys with start and end operating points including arrival and departure times.
- coupling of the formation element (inward train, outward train) at the start or end of the formation journey
- Productive power (vehicles of the same rotation that are assigned together)
- Direct run of the wagons (coupling of formation elements between trains without the passengers having to leave the vehicles)
- movement type: RUs must now provide the movement type per unit that may not be separated operationally, in the formation data. The movement type determines the wear and tear dependent part of the train-path costs and the vehicle dynamics characteristics. The movement type is allocated and managed by SBB Infrastructure.
- Vehicle type: The vehicle types must be provided with the same semantics as previously. Each vehicle type relates to a wagon body. All wagon bodies that are part of a specific articulated vehicle must be provided under the same movement type.
- Equipment features (seats 1st and 2nd class air-conditioning, wheelchair spaces; air-conditioning and other)
- Wagon number for reservations
- Whether the locomotive is towed. Optional, for deduction from train-path costs
- Vehicle condition for customers: open, closed
- EVN of the vehicles, mandatory for locomotives and articulated trains
  The EVN is the 12-digit vehicle number registered in the register of vehicles.
- Train sequence (optional)
- Brake sequence (optional)
- Operating power of the locomotive
- Role of the locomotive
- SMS_RU (mandatory from 2018 timetable)

The complete list of data to be provided was defined in the interface specification between RUs and FOS.

If the RU with responsibility for safety management (SMS-RU) given at the time the train path is ordered changes, the change must be recorded in the FOS before the train departs on the affected section of line.

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.

If data is not transferred to the billing system correctly, billing shall be based on the standard values for each train type published in SBB Infrastructure's list of services.

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

The freight train composition data defined correctly by the RU and the IM must be entered into SBB Infrastructure's Cargo Information System (CIS) before the departure of the train (for locomotive-hauled trains see section 6.2.2.1). 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, operating and possibly modifying 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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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, brake type, 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
- SMS-RU (mandatory from 2018 timetable)

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 RU with responsibility for safety management (SMS-RU) given at the time the train path is ordered changes, the change must be recorded in the CIS Infra offer before the train departs on the affected section of line.

If data is not transferred to the billing system completely or correctly, billing shall be based on the standard values for each train type published in SBB Infrastructure’s list of services.

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 2018/2019, 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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6.2.2.4 Basic rule train category (passenger or freight train)

Criteria	Passenger services	Freight services
Composition	1) Mostly passenger wagons or 2) Historic rolling stock (P/F) not used commercially	1) Mostly freight wagons
Train category/ train number	Empty stock train-chartered train	Freight train
Data acquisition	FOS	CIS-Infra
RID	No	Yes

1) Mostly = number of metres
2) Definition of historic rolling stock as per BAV guideline "Acceptance of Historic Railway Vehicles" section 3

Trains with RID must run as freight trains recorded in CIS-Infra.

6.2.2.5 Application for a new movement type

Before a new or technically modified vehicle can be introduced on to SBB Infrastructure's network, an application must be submitted for a new transport type to which this vehicle can be assigned. Journey times are calculated on this basis for train path planning and operating systems.

The procedure for doing this is as follows:

- At the same time as the application for the initial or new registration of the vehicle (provisionally for measuring trips or definitively) the applicant (manufacturer, vehicle keeper, RU) must submit a list of the vehicle dynamics values to zlr@sbb.ch.
- A summary of the values required is available via the following link (Link to Onestopshop – Technical Trace Access – rolling stock tab).

- SBB Infrastructure will inform the applicant within 30 days of receiving all required data of the movement type applicable to these vehicles. The train path order can then be placed as per section 6.2.2.1.
- Where longer procurement projects are involved, the applicant is advised to apply for the movement type with provisional data at an early stage.

The rolling stock data office at zlr@sbb.ch will be happy to answer any questions.

6.2.3 Power supply ex catenary (measured on the locomotive)

The energy measurement systems must comply with the specifications under section 6.2.3.1. 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 standard as per UIC leaflet 930 “Exchange of data for cross-border railway energy settlement”. Even when a third party measurement service provider is engaged the network user is responsible to SBB Infrastructure for complying with the requirements and correct data provision as per section 6.2.2.

6.2.3.1 Requirements for energy measurement systems

6.2.3.1.1 Energy measurement system in accordance with EN50463

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.

6.2.3.1.2 Energy measurement system in accordance with TSI

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.

6.2.3.1.3 Transitional regulation for energy measurement systems

An energy measurement system that was activated prior to 31 December 2013 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.

This transitional regulation applies until 31 December 2018.

6.2.3.2 Registration of vehicles for actual invoicing

So that invoices can be based on measurement readings, vehicle keepers must register completely and correctly with SBB Infrastructure vehicles equipped with energy measurement systems, together with the relevant supporting documentation, at the latest 30 days before the month to be invoiced. The identification number of both the EVN[7] and the measuring device must be supplied among other things. If the energy measurement data is sent correctly the vehicle is then registered for actual invoicing.

As regards vehicles registered by network users, energy invoices will be based exclusively on the readings from the vehicle (see section 6.2.3.4 for exceptions).

6.2.3.3 Data provision and energy measurement data

Network users are to transmit energy measurements to SBB Infrastructure in accordance with the specifications of UIC leaflet 930 to SBB Infrastructure's billing system EREX-Exchange. The RU is responsible for implementing the relevant interfaces with 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).

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.

6.2.3.4 Invoicing according to relative energy consumption

If network users renounce the use of energy measurement systems for on-vehicle measurement of power consumption that comply with section 6.2.3.1 or data is not transferred to the billing system correctly, invoices for the basic service will be based on the relative consumption values per train type published in the SBB Infrastructure List of Services. The is the case if

a) the energy measurement systems do not meet the specified technical standards as per section 6.2.3.1,
b) a valid certificate of conformity has not been submitted for the energy measurement system
c) the energy measurement systems fail,
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 readings are incorrect or implausible and thus invalid,

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

g) readings for individual sections of a train journey are missing,
h) the data is not received by the infrastructure manager in good time,
or
i) taking, transmitting and evaluating the readings would involve disproportionate time and expense.

6.2.3.5 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.

6.2.4 Wear and tear factor (provision of data, vehicle pricing)

The minimum wear and tear price is based per train on the wear and tear category of the train's vehicles. For billing purposes data as per sections 6.2.2.1 and 6.2.2.2 is required for the individual vehicles. For vehicles that are not priced or are unknown billing will be based on the default values published in the list of services.

Note to RUs: The contact for support relating to vehicle pricing is published appropriately on the www.onestopshop.ch platform under "Services and prices".

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.

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–Airolol

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