

Information document on train path studies

Note: This document addresses points 1-5 of measure no. 4 in the RailCom report on market monitoring, "train path studies". On the one hand, it already serves as an agreed proposal for processing the aforementioned sections of measure no. 4. On the other, it provides a basis for discussing how to proceed with the other measures in the RailCom report (10.11.2023).

Measure no. 4: Clarification of content, delimitation and responsibilities of the various train path study categories

In consultation with the main stakeholders (FOT, SBB Infrastructure), the train path allocation body (TVS) compiles an overview of all categories of train path studies (throughout the planning process). Together with the organisations involved, the TVS clarifies the following points. Where necessary, and with the involvement of the safety specialists (FS), the related requests will be delegated to SBB Infrastructure :

- 1 Definition, content and delimitation of all categories of train path studies across all affected planning horizons
- 2 Adequate presentation and documentation of the processes for describing all categories of train path studies by SBB Infrastructure.
- 3 Designation of the parties who are authorised to place orders, including the necessary order specifications (forms, tools, etc.)
- 4 Fixing of price conditions for all categories of train path studies in the TVS's area of responsibility
- 5 The conditions for the provision of train path studies as services and studies as part of STEP change management are to be defined and published by SBB Infrastructure. The TVS is coordinating this as part of measure no. 4.
- 6 Definition of supervision by the TVS for train path studies in the TVS's area of responsibility, possibly involving adapting the existing contractual basis with the IMs
- 7 Standards and specifications to ensure proper documentation and interpretation of the study results by SBB Infrastructure (see measure no. 1)

Implementation: After consulting the offices concerned, the TVS will submit a proposal for the implementation of the measure to the FS by the end of October 2023 together with a timetable for implementation. The specific implementation deadlines will be fixed at a bilateral meeting in November 2023.

Contents

- 1 Definition of the train path studies..... 3
 - 1.1 Studies over the short-term horizon 3
 - 1.2 Studies over the medium- and long-term horizon..... 3
 - 1.2.1 Review request..... 3
 - 1.2.2 Change requests..... 3
 - 1.2.3 Planning of next expansion steps..... 3
- 2 Content and delimitation of train path studies 4
 - 2.1 Studies over the short-term horizon 4
 - 2.2 Studies over the medium- and long-term horizon..... 4
 - 2.3 Overview of the review content of all studies..... 4
- 3 Train path study process 5
 - 3.1 Submission of study requests 5
 - 3.1.1 Studies over the short-term horizon..... 5
 - 3.1.2 Studies over the medium- and long-term horizon..... 5
 - 3.1.3 Overview of the submission of requests for all studies 5
 - 3.2 Review body..... 6
 - 3.3 Decision-making body..... 6
 - 3.4 Documentation of the overall process 7
 - 3.4.1 Studies over the short-term horizon..... 7
 - 3.4.2 Studies over the medium- and long-term horizon..... 7
- 4 Conditions for train path studies 8
 - 4.1 Data..... 8
 - 4.1.1 Studies over the short-term horizon..... 8
 - 4.1.2 Studies over the medium- and long-term horizon..... 8
 - 4.2 Pricing 9
 - 4.2.1 Studies over the short-term horizon..... 9
 - 4.2.2 Studies over the medium- and long-term horizon..... 9

1 Definition of the train path studies

1.1 Studies over the short-term horizon

In the short-term horizon of annual planning, train path studies will be divided into the categories "BV1-BV3" (annual plan) and "BV4a" (annual plan update). Applicants can have new or modified service provision or production concepts checked for feasibility. The feasibility check includes a detailed examination of factors such as the service pattern, track occupancy and conflict avoidance at track confluences.

1.2 Studies over the medium- and long-term horizon

In medium and long-term planning, a distinction is made between a "review request" ("Prüfauftrag") and a "change request" ("Änderungsauftrag"). Review requests and change requests only deal with timetable-related enquiries. This includes examination of the service pattern, track occupancy and conflict avoidance, as well as a check on conflicts with other traffic at confluence points. In addition, there are also "requirements for approved infrastructure" and "planning for the next expansion step", which always also includes the definition and study of new or expanded infrastructure objects.

1.2.1 Review request

Review requests can be submitted by the RUs for all NNP (network usage plan) years (x-2 to x-7). The RUs may commission reviews by third parties or by SBB Infrastructure. Thus, SBB Infrastructure is subject to competition. If an RU commissions SBB Infrastructure with a review request, the request goes directly to SBB Infrastructure for processing. Review requests only contain timetable-related enquiries. If there is an impact on infrastructure, they are rejected.

1.2.2 Change requests

For adjustments to the target concept, change requests are submitted once a year by RUs, cantons or transport associations to the FOT, which then forwards these requests to SBB Infrastructure as the lead organisation. The review relates only to timetable-related enquiries. If the request involves additional infrastructure, it is rejected. If implementation is nevertheless to be examined, it must be reviewed with a "requirement for approved infrastructure".

1.2.3 Planning of next expansion steps

In the context of expansion steps, the requesters (FOT, cantons, freight transport industry via VöV [public transport association]) can submit new service targets to the FOT. These are evaluated and prioritised as necessary. On behalf of the FOT, SBB Infrastructure develops an overall concept that takes the required service objectives into account as far as possible. The feasibility and costs of the additional infrastructure required for this are determined by an infrastructure concept and/or preliminary study.

2 Content and delimitation of train path studies

2.1 Studies over the short-term horizon

Train path studies are reviewed on the basis of defined criteria (see chapter 4 for input; review criteria form the basis for planning; see Capacity Management information document KABU). The feasibility of the "BV1-BV3" and "BV4a" train path studies is analysed using the NeTS planning tool. The feasibility study includes checks on service pattern, track occupancy and conflict avoidance at route confluences. If the assessment is positive, the feasibility check results in a producible timetable. An upward compatibility check is not carried out; the request and assessment must be repeated every year unless a study for the medium and long-term horizon is requested. In this process, the TVS has access to all the information and can therefore ensure the harmonisation and transparency of the transactions.

2.2 Studies over the medium- and long-term horizon

In a review request, the conflict-free feasibility of timetabling and upward compatibility (analogous to a change request) is examined, e.g. introduction or extension of an additional S-Bahn service as of a specific NNP year. In this process, the Viriato and/or OpenTrack tools are used for the review. A distinction is made here between an assessment ("Abschätzung") and a review ("Prüfung"). An assessment can usually be done within half a day and involves just an approximate, higher-granularity check. It merely provides an initial, rough assessment of feasibility and may serve to determine whether a more in-depth examination of the request is at all expedient. So if another train path is affected and a conflict cannot be resolved, for instance, the application must be rejected. A review is more comprehensive and involves drawing up a realisable timetable and identifying any conflicts, risks or dependencies.

In the "Requirement for approved infrastructure" category, Network Development will, if required, trigger a check on train path allocation on the basis of new infrastructure by the Timetabling unit.

2.3 Overview of the review content of all studies

The material nature of the review varies depending on the category of the study, as follows:

Study category	Review content	Review instrument
Train path study BV1-BV3	Feasibility review without upward compatibility check	NeTS
Train path study BV4a	Feasibility review without upward compatibility check	NeTS
Review request (service offering)	Feasibility review and upward compatibility check	Viriato and/or OpenTrack
Change request	Timetable-related review of a desired change in the target concept	Viriato
Requirement for approved infrastructure (preliminary study)	Review of train path on the basis of approved infrastructure	Viriato
Planning of the next expansion step	Preparation of a service offering concept on behalf of FOT	Viriato

Table 1: Overview of the review content of all studies

3 Train path study process

3.1 Submission of study requests

3.1.1 Studies over the short-term horizon

As part of the TVS's timetabling mandate, SBB Infrastructure carries out train path studies at the request of authorised applicants (section 5.4, Timetabling mandate). All companies that can apply for train paths in accordance with Art. 9a of the Railways Act (RailA) are authorised to commission a train path study (cf. Art. 2 let. b of the Ordinance on the Train Path Allocation Body).

3.1.2 Studies over the medium- and long-term horizon

Over the medium- and long-term horizon, cantons and regional transport networks may also submit change requests to the FOT.

3.1.3 Overview of the submission of requests for all studies

Submission varies depending on the category of the study, as follows:

Competent authority	Study category	Parties authorised to submit requests	Method of submission
TVS	Train path study BV1-BV3	RU (as per Art. 9a para. 4 RailA)	e-form , PCS (International)
TVS	Train path study BV4a	RU (as per Art. 9a para. 4 RailA)	NeTS-AVIS, PCS (International)
FOT	Review request (service offering)	RU directly, cantons, regional transport networks <u>via</u> FOT	Form & e-mail
FOT	Change request	RU, cantons, regional transport networks <u>via</u> FOT	List of change requests (Excel)
FOT	Requirement for approved infrastructure (preliminary study)	RU, cantons, regional transport networks <u>via</u> FOT	Form & e-mail, meetings with FOT, working group on study or service offering
FOT	Planning of the next expansion step	RU, cantons, regional transport networks <u>via</u> FOT	Request is formulated on the basis of the specifications defined by the FOT

Table 2: Overview of parties authorised to submit requests and method of request transmission for all studies

The data required differs according to the various categories of train path studies and is explained in section 4.1.

3.2 Review body

With two exceptions, all categories are always processed by Timetabling.

The exceptions to this are reviews of the service offering topics in the categories "Planning next expansion stage" and "Requirement for approved infrastructure". These two categories are handled by Network Development. In the case of the "Request for approved infrastructure", Timetabling is involved in working out the technical feasibility of the timetable. "Planning of the next expansion stage" is handled solely by Network Development.

3.3 Decision-making body

If necessary, a number of different bodies can be involved to clarify issues. The result of the review of train path studies does not constitute a binding commitment for the allocation of train paths; the train path application must be submitted by the applicant in the normal way (section 4.2.3.5 NWS).

The decision-making body varies depending on the category of the study, as follows:

Competent authority	Study category	Decision-making body	Positive decision leads to:
TVS	Train path study BV1-BV3	TVS	Non-binding, regular train path application required, not upward compatible
TVS	Train path study BV4a	TVS	Non-binding, regular train path application required, not upward compatible
FOT	Review request (service offering)	NNP steering committee (chair FOT; members TVS and SBB I)	NNP (upwards compatible up to NNK possible if required)
FOT	Change request	Service offering working group (chaired by FOT; including IM and RU), change management AK	Target concept (inclusion in NNK possible)
FOT	Requirement for approved infrastructure (preliminary study)	Study working group (chaired by FOT, including SBB I)	Target concept (inclusion in NNK possible)
FOT	Planning of the next expansion step	Working group A+I (Chair: FOT; including SBB I)	Next NNK

Table 3: Decision-making bodies and incorporation of decisions

Figure 1 shows which products are influenced by which train path studies.

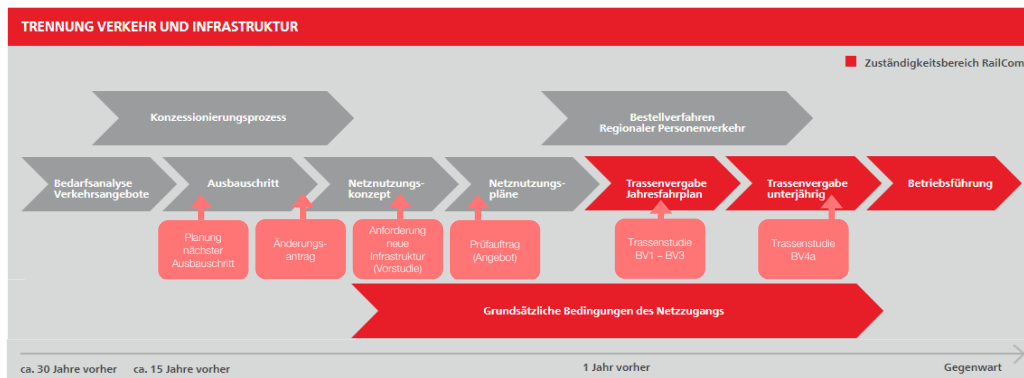


Figure 1: Study categories and their incorporation in the process

3.4 Documentation of the overall process

3.4.1 Studies over the short-term horizon

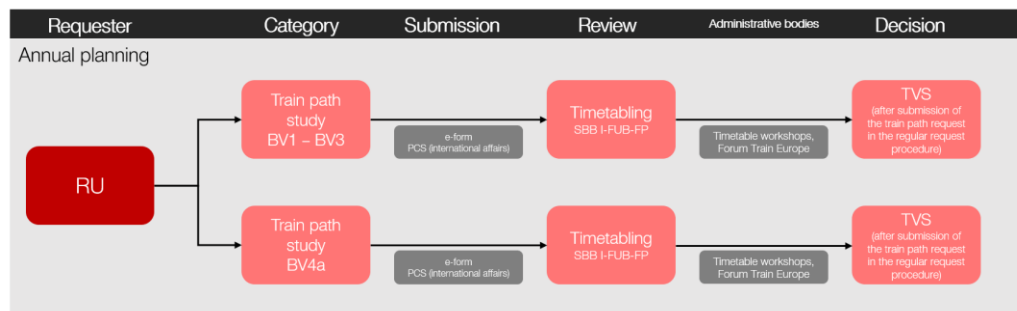


Figure 2: Overall process of studies for the short-term horizon

3.4.2 Studies over the medium- and long-term horizon

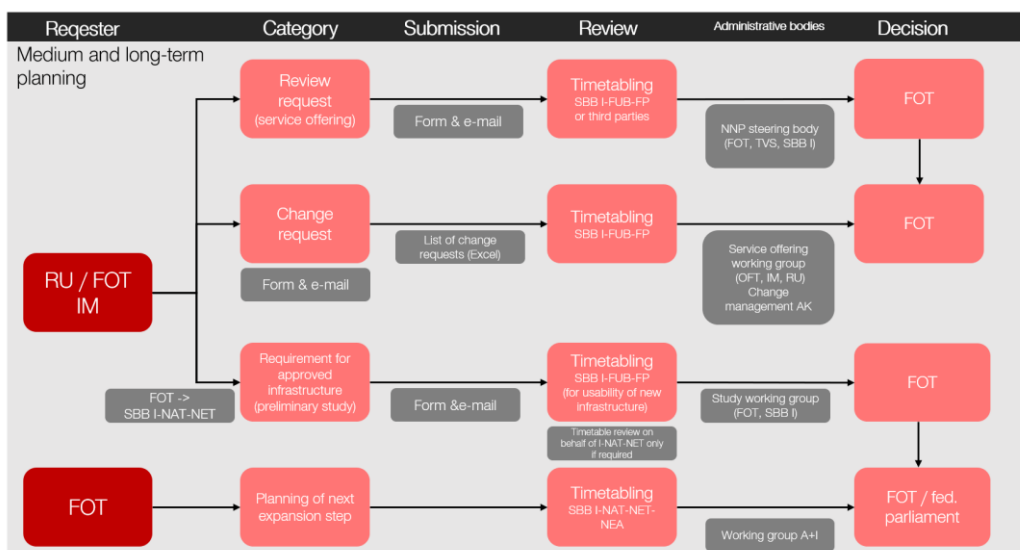


Figure 3: Overall process of studies for the medium- and long-term horizon

4 Conditions for train path studies

4.1 Data

4.1.1 Studies over the short-term horizon

For the train path studies BV1-BV3 and BV4a over the annual timetable horizon, the following data is required in the e-form or NeTS for the review:

- *Contact details,*
- *Service offering request,*
- *Timetable horizon,*
- *Positioning/travel time,*
- *Period of operation,*
- *Rolling stock,*
- *Stopping pattern,*
- *Debicode*

In order for the train path study to be processed, the data must be complete and the requester must be authorised to submit a request in accordance with Art. 9a Para. 4 EBG.

4.1.2 Studies over the medium- and long-term horizon

For a medium-term horizon study, the following data is required in the form for the review process:

- *Contact details,*
- *Background, objectives,*
- *Service targets,*
- *Room for manoeuvre,*
- *Positioning/travel time,*
- *Period of operation,*
- *Infrastructure required,*
- *Rolling stock,*
- *Production concept,*
- *Expected result,*
- *Probability of realisation*

In order for the train path study to be processed, the data must be submitted in full to SBB Infrastructure. The FOT is involved once the review has yielded a positive result, i.e. the request is theoretically realisable, and provided the requester still wants to implement the request on the basis of the review result. If either the test result is negative or the requester no longer wishes to implement the request on the basis of a positive review, the review request will not be pursued any further and no implementation will take place.

Work over the long-term horizon for "planning the next expansion phase" is carried out with the continuous involvement of the FOT.

4.2 Pricing

4.2.1 Studies over the short-term horizon

For the short-term horizon, the train path studies are not charged to requesters but are included in the remuneration for the TVS timetabling order.

4.2.2 Studies over the medium- and long-term horizon

RUs can order train path studies, like review requests, from third parties. Thus, SBB Infrastructure is subject to competition. Train path studies by SBB Infrastructure are quoted at market prices. Over the medium and long-term horizon, the preparation of review requests, studies and expenses for the next expansion stage are charged at the current rate (CHF 110 per hour at present, excluding VAT but inclusive of a 2% charge for administrative overheads).