

# **Planning of the offer at the SBB**

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# 1. Concept, definition

From the point of view of the Passenger Traffic Division:

- as regards the instruments employed:  
Planning of the offer understood as the planning of all the instruments of the Marketing Mix.
- The “10 commandments of the Marketing Mix”.
- 1st deduction:  
A limitation to the specifically production-oriented planning elements, such as timetable and rolling stock, in no way meets the requirements of a market-driven and profit-oriented enterprise.
- 2nd deduction:  
The shaping of the offer cannot be a scientifically and mathematically exact function alone. Creativity, ideas, a sense for market requirements are also important components.
- Another understanding of the concepts of the planning of the offer:
  - technical and infrastructural measures
  - target setting dictated by considerations of traffic policy.
- In the scope of this event: concentration on the planning of the offer of the marketing instruments “timetable” and “rolling stock”. These two instruments are also referred to as “products”.  
From a product point of view, we can understand planning of the offer as follows:  
to develop optimal products to satisfy established mobility needs, so that the set business targets can be reached.
- Railway-specific peculiarities of these products - with the corresponding consequences on the broad principles of the planning of the offer;
  - no on-stock production;
  - all products (passenger and freight traffic of all railway companies) are produced on the same machine (on the same tracks), at the same time;
  - mass production (compulsory item cost depression on the basis of the fixed costs) for individual requirements.

## 2. Principles to observe in the planning of the offer, and procedure

- Offers in public transport are hardly ever planned from scrap, with a “zero-base-approach” :  
many things exist already, generating benefit, are value adding, are burdened with high fixed costs (problem of the “sunk costs” !);  
new products (with considerable infrastructure charges): long planning and realisation periods.
- Build-up starting from existing structures:  
upward compatible solutions;  
if ever possible without creating losers (also not on the rolling stock side).
- Step-by-step realisation:  
quick benefit increase, generating receipts.
- Solutions/modules that can be financed.
- Procedures, as they are followed on principle:
  1. determination of market requirements;  
long-term trends, quantitatively (potentials, modal split), and qualitatively;
  2. planning of the offer (as permanent optimization process);
  3. step-by-step implementation.
- Integrated planning of the offer in the so-called planning triangle.

### Timetable offer

Rolling stock

Infrastructure

- valid for the different time horizons;
- optimization in the sequence timetable/rolling stock/infrastructure (time to market);
- optimization of each of the parameters and of the overall system.

### **3. Planning of the offer in the Passenger Traffic Division (P) - an overview**

#### **3.1 Overview**

- Limitation to the planning of the offer in passenger traffic until the interface with the infrastructure;  
important aspects in connection with the railway reform (such as access to the SBB network, timetable planning processes) constitute a separate theme treated in a separate block.
- The new Passenger Traffic Division (P):  
as the organization chart shows, the same Division comprises:
  - planning of all marketing instruments (timetable and rolling stock);
  - planning of all passenger traffic products (system traffic, commissioned traffic, regional, national, international traffic);
  - close contacts also with the institutional clients, particularly with the orderers in regional traffic (Cantons).
- The integrated, harmonized, coordinated planning of the system offer across all levels of the offer is simply an absolute necessity, imposed by market requirements and by the demand behaviour.
  - The image is determined by the overall impression (route chains);
  - The clients of public transport mostly use more than one product for one journey. Smooth connections, and the interconnection conditions rank very high in regard to the performance image and the quality of the offer.
- To fulfill this requirement is not easy, seen the different entities that are responsible (regional traffic: the Cantons as orderers, long-distance traffic: open access, third parties). In order to master the frictions and tensions that result from it, an early dialogue with the orderers, and the internal negotiating process, are all the more important.

## 4. Subject matters of the planning of the offer in the Passenger Traffic Division (P)

On the grounds of the preliminary works for the strategic goals of the Federal Council for the SBB AG 1999 - 2002, it can be expected that the SBB will be commissioned, in regular passenger traffic (system traffic), and in the field of infrastructure, to handle the planning of the whole public transport system.

It shall establish an offer that is coordinated with the other transport operators, and shall assume leadership in the handling of the processes. (If you will pardon my saying so: who else has the human and material resources that the SBB have, to a large extent, already today?; “coordinated” does not mean an offer that goes against the highest goals of the performance agreements between the Confederation and the SBB, wherein a positive financial result in passenger traffic is requested).

The system management will therefore be attributed to the SBB, together with the mandate to provide an optimal performance in favour of the client, at minimal cost (Confederation, Cantons), for all transport undertakings included in the planning of the offer.

### 4.1 Long-term planning (after termination of 1st phase of Rail 2000, from 2005)

#### ➤ Object of the planning:

Rail 2000 2nd phase, to build further, starting from the achievements of Rail 2000 1st phase, in the dimensions of the mentioned planning triangle. First rough ideas exist. However, these have not yet reached a stage that would enable drawing up concepts for the offer. They have to be dealt with in much greater detail. This is one of the pending core tasks of the business field Company Development of the Passenger Traffic Division (P).

Conceptual basic skeleton: origin-destination considerations in the dimensions potential (inhabitants, places of work) and traffic flows/modal split. Primarily focussed on domestic traffic (origin-destination relations on a matrix of approx. 700 zones); inclusion of international traffic on the grounds of external studies.

Concurrently, the concrete planning for AlpTransit takes place. But here, the question of the concept of the offer is not in the forefront any more (this has been set up in close cooperation with the Cantons, with Central Switzerland, and the BLS railway). Questions of capacity are in the forefront, specially for the northern access routes.

#### ➤ Planning instruments:

##### **Polydrom:**

Polydrom is a software product for transport planning, allowing to implement intermodal transport models. The instrument is mainly used in long-term planning to satisfy the following requirements:

- **Transport demand analysis:**  
At the SBB, Polydrom is used, among other things, in basic research for the second phase of Rail 2000 for the analysis of transport demand on road and rail (key word “modal split”).
- **Assessment of planned offers:**  
With the help of Polydrom, planned offers that are worked out in the system Viriato, can be judged in regard to their effects on the market. With the transfer model it is possible to assess the quality of travel offers in regard to the number of end-to-end users, the number of those who have to change trains, and the journey time.

Apart from these core areas of use of the planning instrument Polydrom, there are further fields of application, so for instance the analysis of the competition (Swissmetro), or the development of prognosis models.

### **Viriato:**

Viriato is a planning instrument which at the Passenger Traffic Division supports the conceptual planning of the offer (on the level of graphical network map, picture timetable). The instrument is used in long-term planning, mainly for the following tasks:

- **Definition of rough ideas of offers in variants:**  
Into existing states of transport offers (for example Rail 2000, first phase), the new offer that has to be planned, is integrated. Details of connections can be checked in a simple way with the help of network graphs, and first train path conflicts can be identified in a simple way with the help of the picture timetable.
  - **Communication of rough plans for transport offers:**  
The network graph is a simple, informative and easily readable form of presentation of states of transport offers (for example first phase of Rail 2000). The representatives of the Cantons are accustomed to this presentation form and bring forward their ideas regarding transport offer, particularly in regional traffic, at this level.
- Pointer: these are not the only instruments. Several others are necessary, mainly as supporting systems, so for instance the rail transport demand data.

### **Journey report evaluations (FBA):**

The journey report evaluation provides the number of passengers as quantity data for the projection of receipts on the trains. The journey reports are cross section countings that are undertaken at about 150 locations of the network for up to 5 directions. The counting of passengers is undertaken on at least 50 days in the year, at all counting places and all trains. With the help of journey report evaluations, calibration values are determined at cross sections for the model calculation in Polydrom.

### **Passenger countings in trains (FQ):**

When passengers are counted in trains, also a census of the structure of the ticket types is made. A census is made at least five times each year for each train. The census is made on three weekdays, on a Saturday and a Sunday. Apart from the train occupation rate, in this way a detailed and section-by-section ticket type structure, with travel routes, is collected. Overall, up to 3 million data records with details on journeys are available each year from the passenger countings.

The recorded origin-destination relations are being projected to an average origin-destination demand, and find their way into the transport model in the form of a matrix of optimal lines.

- The following bodies are involved in the Processes:  
within the SBB:     - within P: Company Development with Long-distance Traffic, Regional Traffic, Production, Rolling Stock;  
                          - outside P: P with Infrastructure Division and Major Projects Division;  
  
outside the SBB:    - primarily Infrastructure Division, Major Projects Division with Federal Transport Office.

Time scheduling: must be worked out with the Federal Transport Office.

Tentative plans of the SBB's Passenger Traffic Division: analysis and perspectives of the market, of the market environment, of competition: until autumn 1999.

## **4.2 Medium-term planning (until completion of the 1st phase of Rail 2000**

- Subject of planning:  
Realisation of the offers IPV (international passenger traffic), FV (long-distance traffic), RV (regional traffic) in alignment to the 1st phase of Rail 2000, for the individual timetable periods 1999 (completed), 2001, 2003 and 2005 in the planning triangle mentioned earlier. Primacy belongs to the timetable and rolling stock (procurement of low-cost vehicles for regional traffic), and not to infrastructure (decided programmes/projects/objects; time needed for realisation).  
Special situation: Expo 01, scheduled traffic with ICN (tilting train), supplementary trains with double-deck cars.
- Instruments of planning:  
Polydrom, Viriato, LER, basic systems (FQ, FBA).
- The following bodies are involved in the processes:  
Within the SBB:     - within P: Company Development with Long-distance Traffic, Regional Traffic, Production, Luggage Transport and Passenger Safety, Customer Services, Rolling Stock;  
                          - outside P: P with Infrastructure, Major Projects, Installations Management;  
outside the SBB:    - primarily with the Cantons.

### 4.3. Short-term planning (within a timetable period)

- Subject of planning:  
planning of chartered trains (insofar as requests are addressed to the Passenger Traffic Division, and not directly to the Infrastructure Division).  
In the operational sector planning of relief trains/supplementary trains (trains preceding or following scheduled trains), management of operating troubles.
- Instruments of planning:  
ordering procedure for charter traffic and special traffic, FQ (passenger countings in trains), FBA (journey report evaluations), LER (profit-and-loss account for lines).
- Processes:  
within the SBB
  - within P: Long-distance Traffic with Production, Rolling Stock;
  - outside P: Long-distance Traffic with Infrastructure, O.S.S.;  
outside the SBB: - with potential clients.

## 5. Conclusions, outlook

- The planning and the shaping of the offer are a permanent process;
- The SBB work on a trust basis, integrate and optimize permanently;
- The offers are introduced into the market by stages, and in an upward compatible way;
- The SBB want to keep their role as system leader;
- The SBB are open for new ways/developments  
(The best is the enemy of the good)