

## SUCCESS STORY

# As punctual as a Swiss clock

SWISS FEDERAL RAILWAYS IS USING PTV VISUM TO CREATE A NETWORK DIAGRAM

## PROJECT GOAL

If there is one thing Switzerland is known for, it is punctuality. It is therefore not surprising that punctuality is a top priority for the Swiss Federal Railways (SBB). To achieve this goal, SBB has been working with PTV Visum for almost 20 years.

## RESULTS

PTV Visum is integrated into SBB's own planning and modelling landscape and is used in all important steps in the creation of the nationwide timetable that meets both current and future demand. This allows SBB, for example, to design customer-friendly timetables and to initiate measures to increase demand.

## SBB MOVES SWITZERLAND

Swiss Federal Railways (SBB) has been transporting passengers and goods across the Swiss rail network for over a century. As the backbone of the Swiss public transport system, SBB ensures that over 1.25 million passengers and 205,000 tons of goods reach their destinations on time every day. In order to achieve this, over 10,000 trains travel across a network that spans over 3,200 kilometers every day. Passenger transport makes up the biggest division of the company with approximately 14,000 employees.

## THE STARTING SITUATION

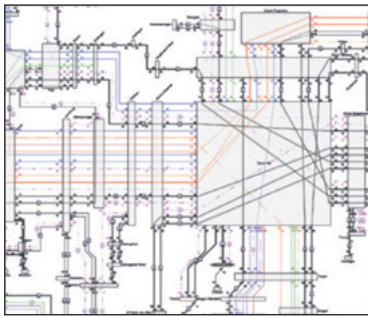
The „Capacity Planning“ department of SBB's passenger transport division is responsible for planning and operating an attractive and dependable rail service that meets both current and future demand.

To best meet these capacity requirements, since 2001 SBB has relied heavily on PTV Visum for strategic planning and analysis. PTV Visum is the leading software for traffic analysis, traffic forecasting and GIS data management, and was specially integrated into 'SIMBA', SBB's internal planning and modelling landscape. PTV Visum is used to visualize the network, calculate demand, identify and select optimal routes, map traffic flows, and manage timetables and services. In the case of Switzerland PTV Visum helps to generate a timetable for the whole country in five steps:

1. Updating the basic network (including all lines and stations).
2. Recording the service (timetables: mostly at regular intervals and spanning the whole of Switzerland).
3. Calculation of demand based on various parameters such as travel time, frequency of passenger transfers, and service intervals.

## PROJECT OVERVIEW

- Project name: planning, evaluation and visualization of the SBB service
- End user: Swiss Federal Railways (SBB)
- PTV Group's role: software supplier
- PTV Software: PTV Visum
- Implementation: PTV Visum 2001, Schematic Line Diagram 2014



Section of the schematic SBB line diagram.

4. Mapping vehicle assignment and managing the vehicle fleet size.

5. Evaluating key data relating to transport and operations.

Based on the new data obtained, passenger transport is now planned financially; projects are compared to each other and evaluated; services are scheduled at more customer-friendly intervals; and measures to increase demand have been initiated.

### THE SCHEMATIC LINE DIAGRAM

The Schematic Line Diagram (or network diagram) is used to visualize the regular-interval timetable. Swiss Federal Railways has been using the PTV Visum module as a dynamic core element of its capacity planning since 2014 and uses it to visualize the regular-interval timetable for railway traffic throughout Switzerland. The same data are used as a basis for all applications, regardless of whether they are visualized in tabular or graphical form or as a Schematic Line Diagram. Interactions with the tabular or graphical schedule are directly visualized, allowing any changes to be analyzed immediately.

The schedule is displayed as a network diagram and assessed based on this presentation format. The network diagram is thus also a monitoring tool for quality assurance purposes. Communication both between internal departments and with external institutions are centered around these visualizations, which serve as a shared basis for discussion.

The use of the Schematic Line Diagram means that the planning, evaluation and visualization of the service can all be undertaken from a single source. Whereby, multiple consecutive planning and communication stages can all be undertaken using a single software platform, enabling SBB to optimize and simplify its internal processes.

### FUTURE PROSPECTS

SBB is a forward-thinking company that is proactively working to provide its customers and partners with an attractive public transport service. Stefan Buchmüller and Wolfgang Scherr, Senior Transport Planners in SBB's passenger transport division, offer a view of the future: „Continuous improvement and development of the software is essential in order to support the SBB as it faces future challenges. Our main goal is to offer continuous support to the planning process within SBB's passenger transport division, including strategic railway production planning.“ In one specific project, employees of both SBB and PTV Group are working jointly to give the Schematic Line Diagram on PTV Visum an even more transparent design, and to expand it with additional features.

You can find more information on SBB at [sbb.ch](http://sbb.ch).