IVU | TRAFFIC TECHNOLOGIES

IVU.suite at BLT

DIGITAL DUTY SCHEDULING AND OPTIMISATION FOR EFFICIENT PROCESSES
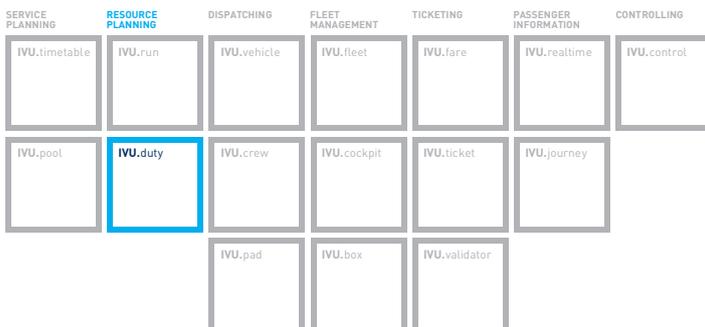
INITIAL SITUATION

Baselland Transport AG (BLT) carries 53 million passengers per year – 73 percent more than in 1995. It operates in the Swiss city of Basel and the greater Basel conurbation area. Yet while transport capacity has increased – along with the number of employees and days of operation – before the project started, the dispatchers were still scheduling in the same way as they did back then: Until 2007, pencil, paper, spreadsheets and lots of erasers were the key tools for defining the duties for the 250 or so employees who worked there at the time. As well as taking lots of time, this method was also prone to errors. Every duty schedule version had to be checked manually – a time-consuming process. Even so, errors such as an incompletely planned set of duties occasionally arose. In addition, labour law provisions and union agreements resulted in stricter requirements in terms of duty schedule quality. And involving transport service staff in the planning process was difficult.

OVERVIEW

Employees	approx. 435
Vehicles	62 buses, 98 trams
Transport capacity	53 million passengers per year, 174 million passenger kilometres
Operations	Public transport
Objectives	Digitisation of duty scheduling
	More efficient dispatching
	Elimination of error sources
	Increase in employees' scope of influence in duty scheduling
Specific details	Phased introduction
	In-depth training

| SERVICE PLANNING	RESOURCE PLANNING	DISPATCHING	FLEET MANAGEMENT	TICKETING	PASSENGER INFORMATION	CONTROLLING
IVU.timetable	IVU.run	IVU.vehicle	IVU.fleet	IVU.fare	IVU.realtime	IVU.control
IVU.pool	**IVU.**duty	IVU.crew	IVU.cockpit	IVU.ticket	IVU.journey	
		IVU.pad	IVU.box	IVU.validator		

IVU.SUITE IN USE AT BLT

DUTY SCHEDULING AND OPTIMISATION WITH **IVU.duty**

OBJECTIVES

To meet the increased requirements and make the dispatchers' jobs easier, BLT decided to **digitise duty scheduling**. The aim was to significantly reduce the level of planning complexity while eliminating error sources, thus ensuring a long-term increase in duty schedule quality. It was also important for BLT **involve employees** in the planning process to a greater extent. Further objectives were to take transport service staff preferences into account more effectively and make it easier to comply with scheduling regulations.

SOLUTION

BLT opted for gradual introduction of the **IVU.suite** planning product **IVU.duty**. In the first step, dispatchers started to prepare the duties with IVU.duty but continued with manual duty generation. This enabled BLT to identify and eliminate sources of error e.g. data transfers. In addition, digitally supported duty scheduling now allowed the planners to base scheduling on all duties available, while taking into account labour law related provisions.
In the second step, BLT switched the entire duty-sche-
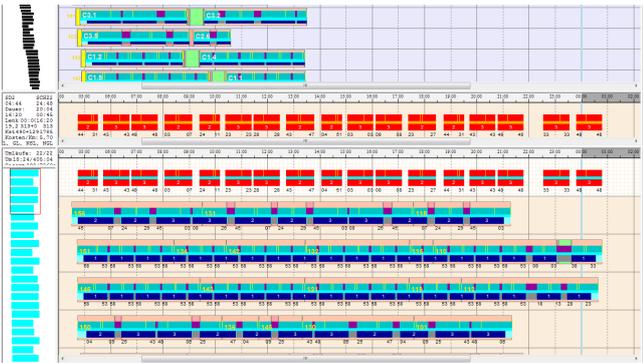
"Ideal duties" at BLT thanks to duty scheduling with IVU.duty (detail).

duling process to software-based scheduling with IVU.duty. This made it possible to **schedule duties automatically and optimise them**. In addition, representatives of the transport service staff defined criteria for an **"ideal duty"**, with regard to rest periods and specific conditions of high frequency routes. These requirements were incorporated in duty scheduling

along with labour law and union related provisions. To ensure a smooth transition to the new software and a **high level of user acceptance**, BLT offered in-depth training courses in conjunction with IVU. IVU's experts were also on hand to advise on the data structure.

RESULTS

BLT now generates its duty schedules largely automatically. The integrated optimisation components mean that **all resources are deployed optimally** and cost-effectively. At the same, the duty schedule takes into account all provisions of labour law, union agreements and the preferred duties of transport service staff.
What-if scenarios allow BLT to calculate different duty schedule variants in advance and thus **respond to changes or absences at short notice**. Through optimisation processes with different variables, BLT can calculate the effects of future service changes and capacity utilisation at an early stage.
Following on-the-job training in the introductory phase, the dispatchers are comfortable with the software. As a result, weak spots in data transmission as well as errors and problems in the schedules have been overcome. Using IVU.duty has **reduced the daily workload** of the dispatchers at BLT, and the scheduled duties have **increased satisfaction** among transport service staff.

"With IVU.duty, we have completely modernised the processes in our duty scheduling. Now, our duty schedules are always correct and optimised in line with the requirements of the management and the transport service staff. We can work successfully on this basis."

Martin Koblet
Head of Management Systems,
Project Manager for Service Planning & Systems
BLT