

CASE STUDY

TransPennine Express

Crew diagramming consultancy

Challenge

- Evaluate potential productivity savings for 250 train drivers and conductors
- Validate the proposed approach to depot strategy and measure the benefits of Resource Management Solution - Rail (RMS - R) for the new TransPennine Express franchise whilst taking into account the pay terms and conditions for two labour agreements.

Approach

- Import the timetables and model the pay terms and conditions using RMS - R
- Generate optimized crew diagrams for the February and December 2004 timetables while observing two existing labour agreements
- Analyze the validity and efficiency of existing crew diagrams. In addition, carry out sensitivity analysis ("What-if" scenarios) with respect to depot size and structure and employee award conditions to assist strategic decision making.

Results

- Legal and operable diagrams with an overall reduction in the total amount of working time and cost
- Substantial productivity improvements were identified
- Identified implications of various strategic alternatives that allowed management to make appropriate decisions.

In February 2004 FirstGroup and Keolis (FGK) took over the newly created TransPennine Express (TPE) rail franchise in the north of England. This new railway is a combination of the old TransPennine Express and some additional northern services operating in the same region.

FGK had been examining the crewing strategy using spreadsheets to manually create new crew jobs (diagrams) for TransPennine Express based upon the awards and conditions that were already in use. In order to further examine the rules the crewing of TransPennine Express, Jeppesen was commissioned to provide an analysis using RMS - R.

The system produced crew diagrams based upon the February and December 2004 timetables. This resulted in a set of equitable diagrams with less work hours, which complied with all allowances and RMS - R also allowed for the evaluation of factors such as the:

- implications of altering some of the awards and conditions
- implications of infrastructure movements e.g. depot sizing and movements
- key performance indicators such as overall time allowances, productivity and cost differences.

About TransPennine Express

TransPennine Express is a train company that offers, fast, frequent and superior service. FirstGroup plc, the United Kingdom based international transport company, has teamed up with Keolis, one of Europe's private transport operators, to deliver a unique rail service across the Pennines.

An investment program of over £260 million has been implemented to bring high quality inter-city rolling stock, new depots, substantial improvement to 30 stations and the development of their employees.

The FirstGroup and Keolis vision is to revitalize and redevelop TransPennine Express, making it the preferred mode of transport for customers in the north of England.

About Our Company

Jeppesen is a wholly-owned subsidiary of The Boeing Company, comprising over three thousand staff, including transportation business specialists, researchers, and software engineers. Our business has for more than 70 years grown from the supply of navigational tools for the aviation industry, to now include world-leading expertise in improving transport operators' bottom-line performance, efficient use of their capital assets, and quality-of-life for their staff.

The Rail, Logistics and Terminals business unit of Jeppesen supplies optimization, simulation, modelling, and decision support software and services to a wide range of leading transportation companies, giving them the competitive edge required to succeed both locally and globally.

"The results of Jeppesen's consultancy work with their train crew management tool, RMS - R allowed us to identify significant productivity improvements and make more informed decisions regarding future resourcing."

Leo Goodwin
Senior Commercial Manager, TransPennine Express

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