

Application of Temporal Databases in Modeling of Railway Processes

Eugene Kopytov and Natalia Petukhova

*Transport and Telecommunication Institute
Lomonosova 1, Riga, LV-1019, Latvia
E-mail: kopitov@tsi.lv / natalia@ldz.lv*

Key words: data analysis, temporal model, temporal database

Major data sources for modeling of railway transportations are operational information systems and data warehouses. Specialists acquire different time sequences from those systems, which characterize passenger and cargo traffic, railway junction load, etc. As it is known, besides trends and seasonal component data also depends on other parameters: tariff policy, exchange rates and schedule. Full value analysis and data preparation are often impossible without navigation over its time dimension.

We evaluated usability of temporal databases in information systems on the railway. Different variants were considered for calculation of time dimension of data in developing information systems. Original methods and models are offered for working with temporal databases, taking into account specificity of tasks on the railway.