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## **BUSINESS INTELLIGENCE SOFTWARE, NEW TECHNOLOGY, NEW OPPORTUNITIES? REGIONAL TRANSPORT ANALYSIS THROUGH DATA MINING WITH THE TRAFFIC FLOW-VISUALISATION-MODEL (TRAVIMO)**

**AUTHORS:** Dr. Bernd Buthe

### **Main part**

Broad digitalization of processes in business and society and new software-based analysis methods open up completely new possibilities for dynamically recording and analyzing regional traffic in Europe.

The further development of information technology and the associated options to collect traffic statistics data make it possible to generate large amounts of data about regional traffic. However, the collection and mass storage of data can only be seen as a first step in harnessing the information contained in the data. It is much more important, in a second step, to extract the essential information from the complex structured and large data sets. Available are various technologies and programs.

The aim of the first approaches to data mining in transport science was to extract knowledge from a large amount of data. Every day, a vast number of traffic statistics are generated in both freight and passenger transport. Because of the data volumes, this is called big data. In order to be able to draw valuable knowledge from this data, efficient preparation methods must be used. Standard office applications quickly reach the limits of their performance when processing traffic data. In order to be able to handle large amount of data and remove this limitation, the Traffic Flow-Visualisation-Model (TraViMo) was developed, which uses the latest business intelligence technology.

Mobility and traffic are extremely important for our everyday life. Regardless of whether for business or personal reasons - goods and people should and want to be mobile. In order to guarantee this wherever possible, regionally differentiated traffic statistics analysis are required.

Mobility and transport are of great importance for the development of societies, economies and regions. Mobility means participation and change, mobility supports economic prosperity and enables modern lifestyles. How well a region is connected to the transport network is the decisive factor in determining how successful locations will be in business. Innovative mobility concepts protect the environment and ensure quality of life even in rural regions. Mobility also has a social and monetary component. This becomes particularly clear when mobility costs rise and commuting threatens to break the budget of many households. Mobility and transport policy is therefore never solitary, but always closely interrelated with other policy areas.

Despite the great importance of mobility and transport policies, for this political field, there are hardly any regionalized data and analysis. The macro level alone is not enough to tailor political measures effectively to specific regions.

The Traffic Flow-Visualisation-Model (TraViMo) shows a way how this deficit can be reduced. Extensive traffic data is analytically linked and visualized using business intelligence software.

### **And what now? - what will change? - what is the relevance for the future?**

The work with and the visualization of large amounts of transportation data will continue to gain importance. Due to the COVID-19 pandemic, mobility in Europe is currently very limited. For example, restrictions on the transportation of goods and travel bans are intended to help prevent the further spread of the virus. To increase the acceptance for measures like these, a reliable database and the transparent evaluation of data is necessary. In addition, scientists of various fields need to understand the effects of the pandemic. Regional data mining with business intelligence software facilitates finding solutions by processing large amounts of data.

One major change results from the public discussion on the importance of movement data. It can therefore be assumed that there will be a higher willingness in society to voluntarily provide personal movement data for scientific purposes. This pool of data that could be obtained in this way will help scientists in the future to develop dynamic and targeted recommendations and measures to deal with disasters such as this pandemic.