

## Special Case of Trip Distribution Model and Its Use for Estimation of Detailed Transport Demand in the Czech Republic

**Authors :** Jiri Dufek

**Abstract :** The national model of the Czech Republic has been modified in a detailed way to get detailed travel demand in the municipality level (cities, villages over 300 inhabitants). As a technique for this detailed modelling, three-dimensional procedure for calibrating gravity models, was used. Besides of zone production and attraction, which is usual in gravity models, the next additional parameter for trip distribution was introduced. Usually it is called by "third dimension". In the model, this parameter is a demand between regions. The distribution procedure involved calculation of appropriate skim matrices and its multiplication by three coefficients obtained by iterative balancing of production, attraction and third dimension. This type of trip distribution was processed in R-project and the results were used in the Czech Republic transport model, created in PTV Vision. This process generated more precise results in local level of the model (towns, villages)

**Keywords :** trip distribution, three dimension, transport model, municipalities

**Conference Title :** ICTEUTS 2023 : International Conference on Transport Engineering and Urban Transport Systems

**Conference Location :** Venice, Italy

**Conference Dates :** June 15-16, 2023