20th International Emme Users' Conference
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CALL FOR PAPERS

The modelling of 2 different cases of the trip distribution in EMME in the Czech Republic
Title of the paper

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BIOGRAPHICAL SUMMARY FOR MAIN AUTHOR (100 words mini-CV)

I am 38 years old. I have degree certificate "Master of Science" acquired in the Masaryk University, Faculty of Science in Brno, Czech Republic. After some time which I spent as an assistant and on a praxis in mentioned university, I have been working in Transport research Centre since 1997 as a researcher. My main job is the transport and emission modelling what I did in the Czech specific software and from2004 in EMME/2 software. My work also involves the development of programmes of air quality improvement, emission and immission decrease.

AUDIOVISUAL SUPPORT NEEDED

(A PC with Office XP, a projector, and a microphone will be provided. Please mention any other needs.)

ABSTRACT (500 words)

The demand modelling is done in EMME/2 in the Czech Republic in two different areas that represent a regional and city level. The Middle Bohemian region and the city of Brno are the main modelled areas. In the case of Middle Bohemia region, the demand modelling comes from the data of National population census. The model has 574 zones (512 internal, 62 external) which are grouped in zone groups corresponding to the administrative units, former “districts”. Due to the detailed population census made recently, the traffic relation between individual district are well known. It was a fundament for 3-dimensional trip distribution modelling where all OD pairs were assigned to specific categories, depending on a district which they belong to.
In the second case, the city of Brno was modelled with the knowledge of population census data. The zonation could be done according to the smallest city units called “urbanistic units”. There are totally 294 such units in Brno and there are many socioeconomic data about each of them. These units create all internal zoning system of the Brno model. In addition, the model involves next 26 external zones. Part of the trip production that depends on the percentage of employed women in individual zones was distributed as a 3-leg trip chains with two destinations by using matrix calculation and matrix convolution tools. The destinations involve the shopping and leisure time activities. Other part, correspond to men employment in individual zones has been distributed as a “normal” 2-leg trip (home – work – home). Third trip category, which is considered is the one-destination shopping trips to the zones where are big shopping centres. In addition, the matrix of the students day-to-day movements home (college) – school and back has been calculated and consequently assigned to the mode network. All these trips are considered by public transport. This matrix was assigned to the transit network using the “route choice strategy” with a help of fixed demand transit assignment. This modelling is the part of the complete reconstruction of the former Brno city transport multimodal model in order to fit it better with socioeconomic data.

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