Customer: AS „Rīgas Starptautiskā Autoosta"
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MODELLING OF NEW COACH STATION PROJECT IN RIGA

„Rīgas Starptautiskā Autoosta" JSC being a leader in the area of passenger bus transportation services in Latvia provides the international, intercity and regional trips. An important requirement to the modern bus station is the quality of customer's and carrier's service. The „Rīgas Starptautiskā Autoosta" JSC plans include the extension of its activity and modernization of the existing Riga International Bus Station. The current bus station is located in the heart of the city where land availability is critical.

Problem definition

Project includes the simulation model of the new coach station according to the assumed design solution and the experimental work with the following objectives:

- To analyze the possibilities of the new station design for fulfilling the schedule in different modes;
- To investigate the impact of a number and geometrical layout of sites for embarkation and debarkation, sites for bus parking on the capacity of the coach station.

Proceeding

As a realization instrument a specialized simulation package VISSIM 4.2 family PTV Vision has been selected. The package is envisaged for traffic modelling on the micro-level and has visual reference to assist in explaining the complexity of transport node job and analysis of possible congestions.

As the input data the information about distribution of the bus trips amount provided by the today station during all operating hours has been used. Three types of vehicles simulating bus travelling by the international and intercity lines have been described with the indication of the physical characteristics and passenger's capacity:

- Large international buses up to 70 passengers;
- Buses for intercity transportations, whose capacity complies up to 40 persons;
- Microbuses for transportation up to 20 passengers;
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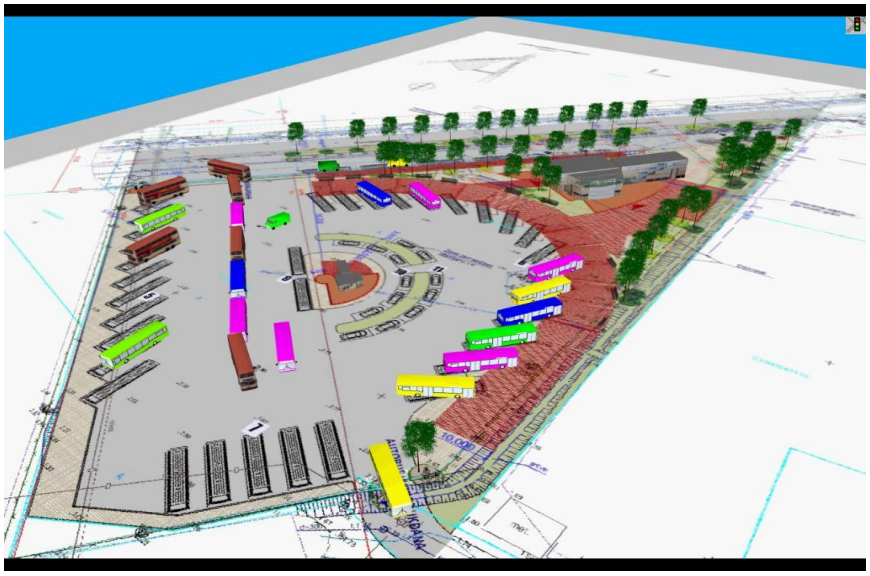
The model value lies in the dynamic assignment of buses into bays for boarding and alighting.

Taking into account the plan of a new station, layout of



16 embarkation and 11 debarkation platforms, as well as the transportation network model of vehicles traffic trajectory across the coach station have been realized. Time-schedule realization is based on the existing data about buses traffic in the coach station operating in Riga. However for a new project of a coach station almost the new time-schedule was created, since the quantity and layout of platforms had changed.

Results

The constructed simulation model validated the design of coach station in the scope of maximizing the potential throughput of the station. The created with use of VISSIM was used during planning and design phases to test concepts and to support negotiations with all actors of this process: transport operators, local authority, etc. In conclusion, it is possible to notice that, in general, a new station is able to provide current schedule. However, the experiments with the model have shown that it operates at the breaking point of its potential and it has been necessary to use new platforms on the territory that is not foreseen for it. In the process of this project the recommendations for the coach station plan changes had been suggested that resulted in the change of coach station plan project taking into account the determined disadvantages.

Project Leader: Dr.Sc.Ing. Irina Yatskiv
Project Executor: M.Sc.Comp. Elena Yurshevich

Transport and Telecommunication Institute
Lomonosova 1, LV-1019, Riga, Latvia
Telephone: +371-7100594, Fax +371-7100
http://www.tsi.lv