Customer: AS „Transporta un sakaru institūts”
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Modelling of Krasta-Maskavas-Slavu Junction (Riga, Latvia)

Krasta-Maskavas-Slavu is one of the most traffic jam problematic junctions in Riga. This transport node is located on the Riga entrance (direction to Daugavpils) and causes traffic jams.

Problem definition

The project object of research is the transport node (complex junction) with constantly appearing traffic jams. The main tasks of modelling are:

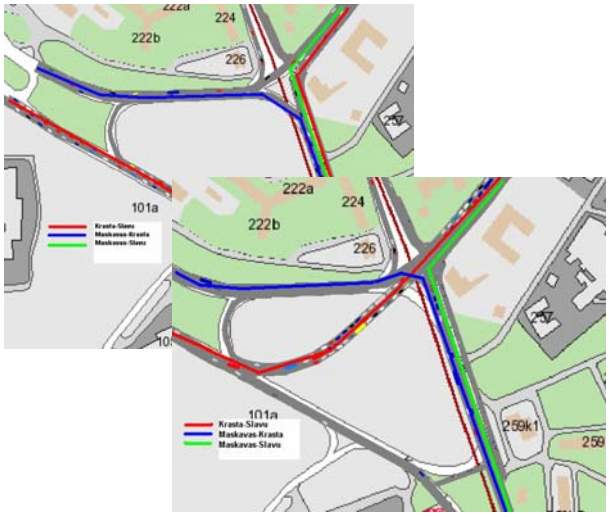
- the choice of the optimal movement organization in the junction;
- estimation of capacity for each version of movement;
- signal heads work optimisation;
- actions (measures) analysis on cargo transport traffic simplification;

Proceeding

As a realization instrument a specialized simulation package VISSIM 4.0 family PTV Vision has been selected.

The following suggestion is supposed to give a positive effect on the transport traffic organization and to raise the capacity of a considered area:

- to bring out the roadway directly from Krasta street to Slavu bridge across the parking place territory that exists now.



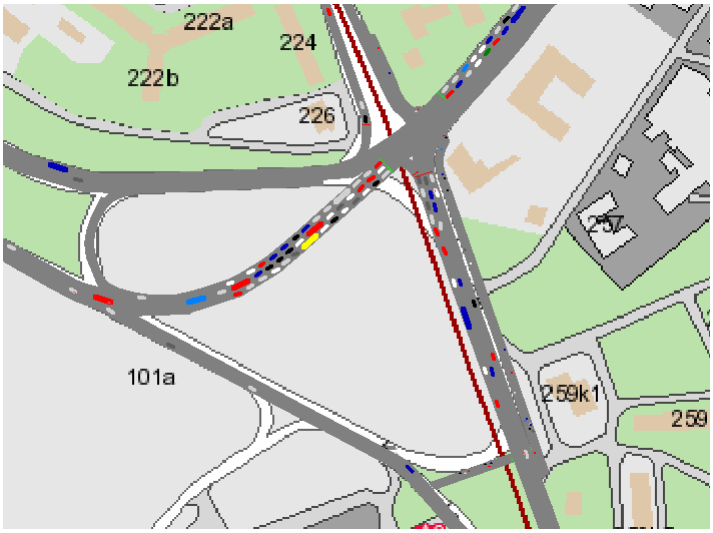
Modelled node before (left side) and after reconstruction (right side).

Experiments with each version of the model have been done. In three areas of a model:

- (Krasta–Slāvu)
- (Maskavas–Krasta)
- (Maskavas–Slāvu)

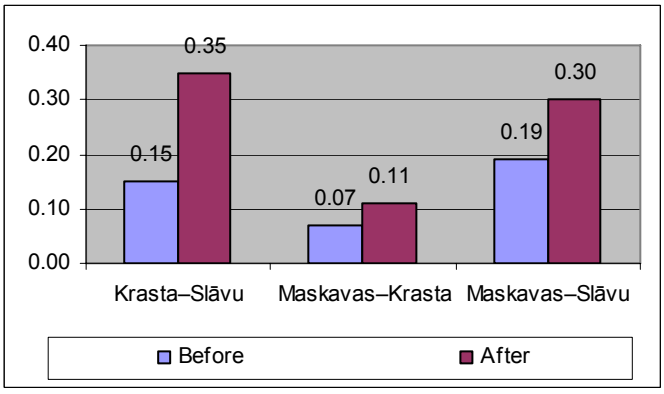
the following characteristics fixation has been made:

- average time of vehicle going through the area
- quantity of vehicles crossing the given area.



Results

The experiments with the model allow to assume that traffic intensity before and after reconstruction differs: intensity flows in the investigated areas has significantly increased.



As a result of such re-structuring the large-sized cargo vehicles do not create jams on semi-circle Krasta-Maskavas for exit to Slavu bridge.

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