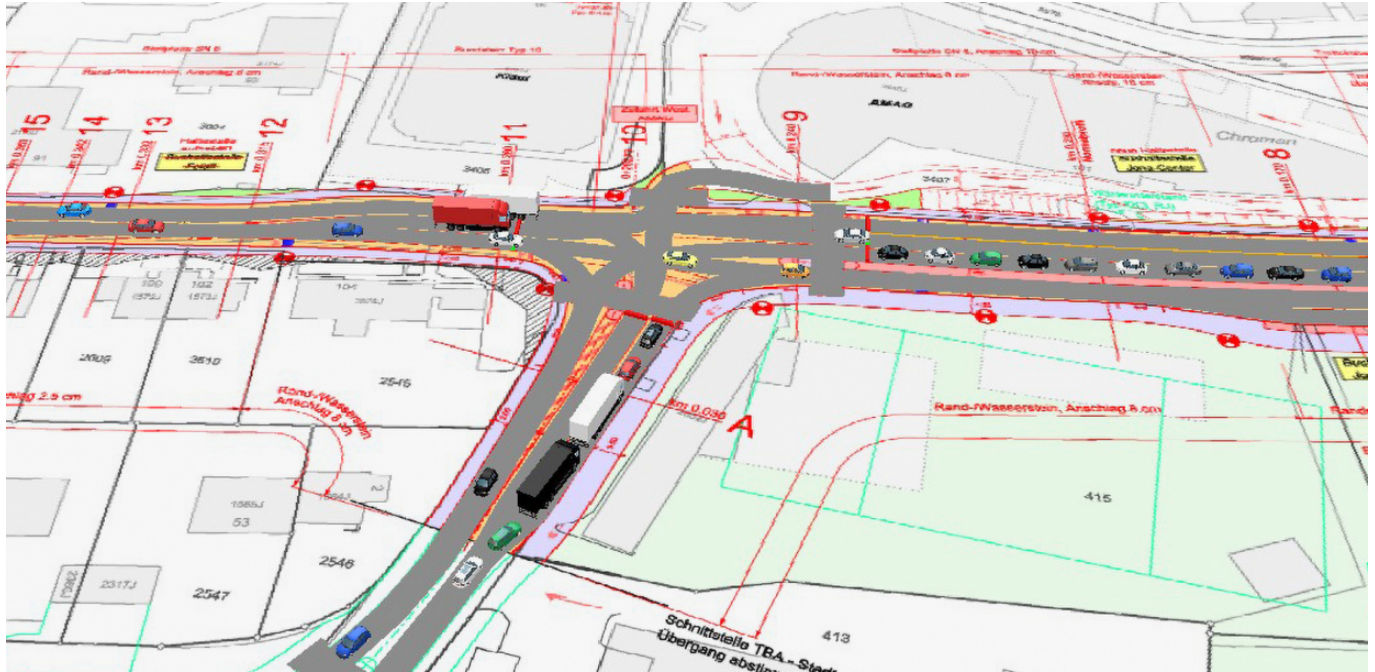


Evaluation of roadway intersection capacity in Rapperswil-Jona



The city of Rapperswil-Jona is planning to redesign its road network so as to accommodate projected increases in traffic volume. In connection with this plan, the city commissioned EBP to examine the capacity of the proposed intersection layouts. EBP used both operational analysis methods and microscopic traffic-flow simulation to complete its assignment.

In order to redesign Rapperswil-Jona's road network to accommodate the projected increases in traffic volume, the Canton of St. Gallen commissioned the drafting of a construction plan for an intersection (the St. Gallerstrasse/Feldlistrasse section) on the cantonal road. In addition, the city of Rapperswil-Jona conducted a feasibility study for a traffic circle on Feldlistrasse.

For its part, EBP was commissioned to show whether the planned measures would secure the capacity to accommodate increases in traffic volume stemming from various settlement development projects and a planned expansion of the Jona-Center.

EBP completed the work in the following steps:

- Updating traffic volumes in accordance with foreseeable developments, especially densification plans in surrounding areas
- Operational analysis of the capacity of both intersections given the current traffic-signal control program
- Modeling of network supply and demand states with public-transportation prioritization and adaptive traffic-signal control (VISVAP)

Client

City of Rapperswil-Jona, Office of Planning, Transportation and the Environment

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- Simulation of intersection interaction (VISSIM)
- Evaluation of processed intersection flow, waiting times and traffic-jam lengths given the various supply and demand states

Traffic-flow simulation is an important tool today when it comes to evaluating dynamic traffic flow in road networks. The project team used simulation as a basis for determining the future infrastructure requirements. This also facilitated the work of the project participants when it came to visualizing the impact the network renovation and development projects would have on traffic flow and preparing accessible documentation for the public.