

RAIL TRANSPORT VS. INDIVIDUAL TRANSPORT

Evaluation of the level crossings at the Stedinger Strasse in Oldenburg, Germany

Client: City of Oldenburg

Project period: April - Juni 2013



Initial situation

Two level crossings only 40 metres apart: Close to the Stedinger Strasse in Oldenburg (Lower Saxony, Germany) are the frequently used railway tracks 1500, Oldenburg – Bremen Hbf, and 1502, Oldenburg – Osna-brück. The Stedinger Strasse is a main road, used by several thousand cars a day. The two level crossings enclose the same residential area. If the train does not start or end here, it has to pass both crossings. In the worst case scenario, both crossings are closed consecutively, which results in additional waiting time.

In the near future, we can expect an increased tensile load due to an expanded offer of passenger transport and a probable higher amount of freight traffic. Further closing times will be the consequence.

Challenge

Apart from determining the current load of the level crossing and the resulting waiting times for the individual traffic, they also have to be determined for the year 2030. An increase of the rail transport as well as the individual traffic can be assumed. It is our goal to find out whether the substitution of the level crossings with undergrade crossings is necessary.

Strategy

The closing times of the barriers and the amount of train runs and motor vehicles are measured on a typical workday. On the basis of these numbers, the rail transport operation can be recreated in RailSys® for a representative workday in the year 2013.

A timetable without conflicts is constructed for the year 2030 in consideration of the prospective expansion of rail passenger traffic and the prognosticated increase of the freight traffic. Based on this data, the average amount of closing time can be calculated for a weekday in 2030.

Both years are rated subject to the directive 815 of the DB AG. This key figure is determined dependent on the strain of cars at the level crossings during the hour with the most amount of traffic, the amount of train runs during that hour and the average closing time of the crossing per train run. The key figures allow the objective recommendation for a level-free crossing.

Result

Our investigations show that a level-free crossing at the Stedinger Strasse is necessary as of now. The evaluation figure is already extending the threshold value and will increase even more until 2030.