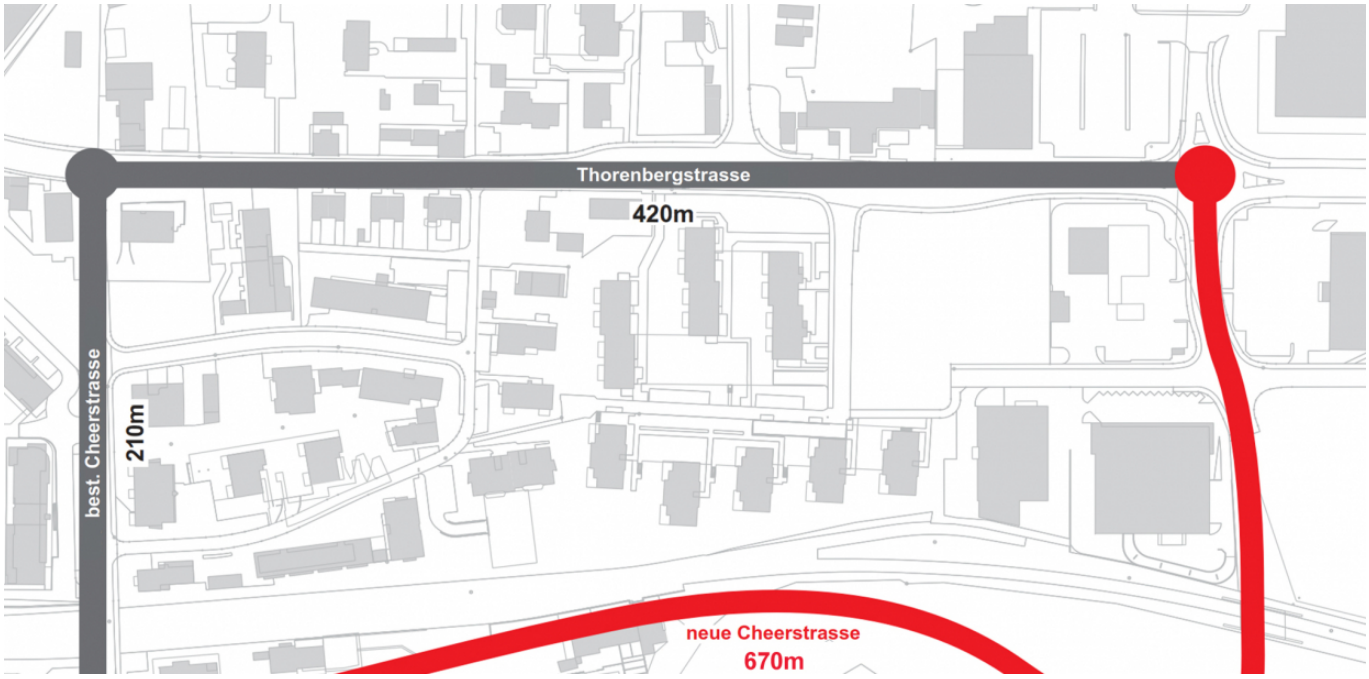
# Cost-benefit analysis for the Cheerstrasse expansion project




**The city of Lucerne is planning to expand one of its city streets - the Cheerstrasse. In the context of securing additional financing for the project, the city commissioned EBP to draft a cost-benefit analysis that would also take account of the larger development context.**

### Project for enhanced district access more expensive than expected

The bottleneck at the Littau Railway Station and traffic conditions at the point at which Cheerstrasse transitions into Thorenbergstrasse have led to daily traffic jams and numerous accidents. In 2009, the municipality of Littau voted in favor of rerouting Cheerstrasse in the interest of enhanced traffic safety and flow. A review of the project in April 2015 resulted in a number of important changes. These changes increased the cost of the project to a level above the amount of the approved loan. The Lucerne Planning and Development Agency therefore commissioned EBP to draft an expanded cost-benefit analysis.

### Target-achievement system and evaluation procedure

To assess the larger impact of the project on the district, EBP first developed a target-achievement and indicator system based on a Swiss Federal Guideline for assessing road infrastructure projects (NISTRA). In addition to the project costs, the system takes account of environmental, economic and social-sustainability targets (e.g. relating to enhanced access for pedestrians, cyclists, motorists, local residents, industry and commerce and commuters using public

## Client

Lucerne Planning and Development Agency

## Facts

| | |
|---|---|
| Period | 2015 - 2016 |
| Project Country | Switzerland |

## Contact persons

Frank Bruns
**frank.bruns@ebp.ch**

Remo Baumberger
**remo.baumberger@ebp.ch**

transportation).

### Ascertaining the impact on traffic dynamics

EBP considered the impact on motorists, users of public transportation, pedestrians and bicyclists to ascertain the contributions toward target achievement. The main impact can be broken down as follows:

— Lower waiting times as a result of circumventing the railway crossing (compared to gridlock of up to 18 minutes per hour, i.e. as per reference case)
— Increase in route length and driving times for motorists driving between the village of Littau and Wolhusen
— Lower waiting times for motorists and users of public transportation at the junction between Cheerstrasse and Thorenbergstrasse

The actual impact will naturally depend on future traffic volume, which depends, in turn, on population and job development in the district. In this connection, it is important to take into account the fact that the city district of Littau is expected to show considerable growth in the coming years. In running our analysis, we considered the following two scenarios:

— Scenario 1: The zones reserved for development in the Development and Zoning Ordinance from 2009 are regarded as developed.
— Scenario 2: The zones reserved for development in the Development and Zoning Ordinance for 2009 are regarded as developed and additional zones are regarded as developed.

The new Cheerstrasse is accorded a district access benefit and the corresponding increase in traffic volume from the district development is considered.

### Results

The analysis showed that the benefits of lower travel times for motorists are, on balance, minimal compared to other projects. Gains associated with a reduction of waiting times at the railway crossing and improved traffic flow at the above-mentioned problematic junction are balanced out by losses associated with longer travel routes between other locations. Clear benefits result in connection with enhanced traffic safety. The benefits associated with the enhanced district access that would result from rerouting Cheerstrasse represent an important argument in favor of the project. Our analysis shows a juxtaposition of these benefits and the project costs.