Project

Strategic development program for federal highways in Switzerland

The Swiss Federal Roads Office (FEDRO) plans to expand a number of federal highways to ensure their capacity to handle current and future traffic volumes. In keeping with the Swiss government's approach to railway development, road development projects are to be selected and realized in accordance with a special program known as the Strategic Development Program for Federal Roads (STEP-NS). EBP has helped FEDRO to establish a basis for project selection.

In a referendum on February 12, 2017, Swiss voters and cantons (states) approved the Swiss Federal Council's resolution in favor of creating a special fund for federal highway development (NAF). The fund will enable the long-term maintenance and enhancement of Switzerland's transportation network. The scope of the NAF includes the Strategic Development Program for Federal Highways (STEP-NS). In future, the purpose of STEP-NS is to bundle the selection and step-by-step realization of all federal highway development projects analogous to the railway development program (STEP-AS).

Analysis of capacity deficits extending to the year 2040

The main purpose of STEP-NS 2018 is to address existing and forecast highway capacity deficits that threaten or could threaten the functional integrity of the federal highway network. Numerous locations in the network already face various degrees of overload. Given the anticipated, across-the-board increases in traffic volume, the capacity deficits can be expected to worsen significantly by 2040 if left unaddressed. It

Client

Swiss Federal Roads Office (FEDRO)

Facts

Period	2016 - 2017
Project Country	Switzerland
Number of projects	38
Total roadway deficit by 2040	More than 300 km
Total investment	More than CHF 20 billion

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is therefore essential to ascertain existing and prospective capacity deficits and to remedy these in the context of targeted development projects.

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Development projects to eliminate capacity deficits

We compiled a list of projects that would effectively eliminate all of the roadway capacity deficits that currently exist or that can be expected to emerge by the year 2040 and also estimated their costs. In addition to lane widening and road network extensions, we also examined bypass projects conceived to eliminate capacity deficits. Altogether, nearly 40 individual projects were examined for possible inclusion in the program for 2018.

Project evaluation and prioritization

The large number of capacity deficits and prospective expansion projects made it necessary to prioritize the projects according to their impact and urgency. We used the Uniform Assessment Method for Federal Highways (EBeN), a method developed by FEDRO, to carry out a cost-benefit analysis for each project. This method includes numerous indicators to represent all areas of sustainability. We then used this and other considerations to assign the projects to the various development steps outlined in STEP-NS 2018 and to draft a program dispatch for the Swiss Federal Council and Swiss Parliament.

Providing support to the FEDRO

As the prime contractor of the WEN project team, we carried out capacity-deficit analyses and project evaluations together with Ecoplan and Transitec so as to provide a sound basis for decision making within STEP-NS 2018.