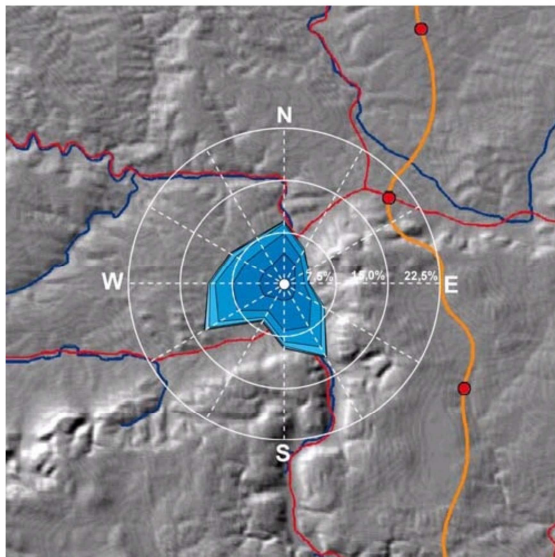
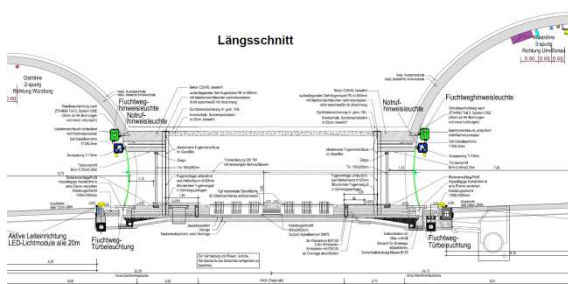


Jet fan lay-out in the three-lane southbound tunnel

Stations-Nr.: 4457 Aalen



Wind data from the environmental monitoring station in Aalen, used for evaluation of the 95-percentile of wind pressure on the tunnel portal



Longitudinal section of a cross-passage between the tunnel tubes

## Description

Tunnel Agnesburg in the vicinity of Aalen constitutes part of the German Autobahn BAB A7 from Ulm to Würzburg. The twin-tube tunnel runs from north to south and is operated with uni-directional traffic. The 700 m long southbound tunnel has a longitudinal gradient of 3%. The tube consists of three traffic lanes whereas the northbound tunnel has only two lanes.

According to the German safety regulations, the tunnel equipment has to be upgraded from their current state in order to improve tunnel safety. The project includes two additional cross-passages. Then, the tunnel will have three egress passageways into the parallel tube. Both tubes are equipped with jet fans for longitudinal ventilation. All jet fans have to be replaced. In order to achieve a higher safety level, the monitoring system required for ventilation control has to be upgraded, as well.

During the actual refurbishment work, the Autobahn section must not be closed for traffic. A tunnel ventilation control system TVCS has been developed that allows the operation of either tunnel in bi-directional traffic. Under this special operational regime, all aspects of tunnel safety have to be taken into account for these exceptional periods of bi-directional traffic.

## Services

HBI Haerter is responsible for the tunnel ventilation Concept and Detailed Design of the Tunnel Agnesburg. Services include

- Tunnel Ventilation Concept Design
- Update of Concept Design following new national design codes
- Tunnel ventilation Detailed Design and Bill of Quantities
- Equipment technical description and tender documentation
- Design of egress pressurisation
- Tunnel Ventilation Control System TVCS detailed functional description for uni- and bi-directional traffic