Vienna Consulting Engineers

research bridges railways tunnelling monitoring technology management international

Colle Isarco Viaduct (Gossensass)

The Gossensass Viaduct is part of the Brenner highway in the north of Italy. The bridge with a total length of 1028.80 meters consists of 13 spans and was built in 1969. The deck of the post-tensioned box-girder bridge is represented by two box-girder superstructures with a total width of 22.10 m which are linked by the same piers. The bridge was designed fully isostatic. The box-girders consist of cast-in-place balanced cantilever beams with varying girder depth. The height of the box girder varies from 10.80 m over the middle support to 2.85 m in the mid-span. In the main span (length = 163 m) as well as in six more spans suspended t-beams – all of them 45 m long - are inserted via Gerber joints. The construction type of the viaduct – particularly the Gerber joints – results in a high sensitivity for dynamic vibrations.

The dynamic monitoring campaign was undertaken in order to determine the global condition of maintenance of the load-bearing structure (the structure's integrity) as well as the load bearing capacity by means of BRIMOS®. Along with the conventional bridge assessment this investigation supports the determination and localisation of potential problem zones based on the measured structure's vibration behaviour and the decision process of the bridge owner in the course of cost planning for maintenance and possible rehabilitation measures.

The assessment at the Colle Isarco Viaduct consists of a detailed initial measurement campaign performed in March 2007 and a follow-up measurement one year after the first one. Additionally a permanent monitoring system for condition and traffic monitoring was installed at every carriageway.

- Client: Autostrada del Brennero
- Location: Gossensass, Italy
- Checking Period: 2007 – 2008

BRIMOS® Services conducted:

Lifecycle Management:	☒ Condition Assessment	☒ Condition Monitoring	☐ Rehabilitation Planning	☐ Quality Control
	☐ Lifetime Assessment	☐ Traffic Analysis	☒ Environmental Influences	☒ Risk Assessment
Special Measurements:	☐ Attendant Monitoring	☐ Noise and Vibrancy	☐ Deflection Measurements	☐ Seismics