

Fire safety

Norm, case studies, research:

[Road Tunnel](#)

[Rail Tunnel](#)

More and more tunnels are used for roads and railways to cross natural barriers such as mountain ranges, rivers or even straits. Environmental aspects and restricted space in urban areas also result in underground facilities such as mass transit systems, railway and road tunnels.

In general, tunnels have become vital parts of the land transport networks, and many of them ensure arterial economic links as well as politically highly-ranked mobility of people and goods.

Building a tunnel is generally considered as a challenge, not only by the engineers but also by the general public.

Following several dramatic accidents in road tunnels, between 1999 and 2001. Tunnel safety became a concern, which led to a strong demand for improvements from tunnel users and politicians.

Many initiatives were launched since then at several national, European and international levels.

They all aim at enforced and if possible internationally-harmonised recommendations and regulations, and at new research activities in order to improve the understanding of tunnel fires and the possibilities to limit their impact.