

Why we must ensure bridges are maintained and upgraded to the highest possible levels of safety and environmental performance

The European Union has one of the densest transport infrastructure networks in the world. Nevertheless, most of this infrastructure was constructed in the 1960s and 1970s and is now coming under increasing pressure due to an increase in traffic that was not foreseen nor considered at the time.

The lack of proper maintenance has led to the deterioration of Europe's transport infrastructure, thus exposing its users to a greater risk. This vulnerability is no more evident than with the collapse or closure of bridges in recent years, the Morandi Bridge in Genoa being a prominent example and one we don't want to see repeated. In addition, the maintenance deficit has significant environmental impacts, particularly in terms of CO₂ emissions and raw material consumption.

BRIDGES: ESSENTIAL LINKS IN OUR TRANSPORT NETWORK

The functioning of the internal market, the free movement of goods, persons and services, rely on well-developed and well-maintained infrastructure, especially bridges, to achieve their full potential. Bridges are essential in our transport network and their "malfunctioning" attracts particular attention as it has significant consequences on the traffic flow, be it for road or for rail.

HIGHER COSTS TOMORROW

In addition to immediate effects caused by disruptions to our transport network, it is important to think of the long-

Bridges: Tackling the maintenance deficit in Europe

term consequences of lack of maintenance. Neglecting infrastructure today, and especially bridges, will result in higher costs tomorrow, both in economic and environmental terms. In fact, the longer maintenance is neglected, the larger the scale of works needed to restore a bridge's condition (or even to rebuild it).

This is already being observed across several European countries. In Germany, for example, over 1,000 railway bridges need to be demolished and reconstructed due to their dilapidated state.

PROTECTING USERS AND THE ENVIRONMENT

Maintaining bridges to a high standard of quality is essential to ensure the safety of its users. While user-related factors are the leading cause of accidents, the condition of infrastructure plays an important role in the severity of these accidents. This problem is widespread and requires urgent action. In France, for example, at least 25,000 bridges are in such a critical state and constitute a risk for their users as they have deficiencies in terms of usability.

In addition to the benefits to its users, continuous maintenance of bridges also reduces the environmental impact of the transport system as a whole. First, the "malfunctioning" of bridges has the potential to cause severe disruptions to traffic flows, and therefore, having an impact in terms of CO₂ emissions. Second, neglecting maintenance for longer periods of time entails using more new materials and generating more waste to restore a bridge to its original state.

A MORE AMBITIOUS TEN-T

An important legislative development at EU level is the

revision of the Trans-European Transport (TEN-T) guidelines. The TEN-T is an EU-wide network of rail, inland waterways, shortsea shipping routes, and roads, connecting over 400 major cities with transport hubs. This revision will bring about many changes and, importantly, will have a greater focus on maintenance.

The new TEN-T rules will oblige Member States to maintain the network's infrastructure in a way that it can provide the same level of service and safety during its lifetime. Such obligation is absent in the existing Regulation. FIEC considers the addition of these obligations to be a step in the right direction to tackle the already worrying maintenance deficit of our infrastructure.

THE ROLE OF DIGITALISATION

The maintenance of bridges should also be future-oriented, meeting the newest quality standards and mobility patterns. Digitalisation can play an important role in this respect as it can provide us with new tools that can allow to better assess the life cycle of infrastructure, anticipate possible weaknesses and indicating those solutions can then provide a more sustainable impact on the environment. For example, sensor and robots can be used for predictive maintenance.

All this comes with a cost, both for the contractor – who must carry out the necessary developments and investments, including the training and education of its workers – and for the client. But this cost needs to be assessed against the economic, social, and environmental costs of neglecting infrastructure maintenance, especially of bridges. It is therefore vital to accelerate the path towards an increased digitalisation of the

construction industry, ensuring that nobody is left behind.

A TOP PRIORITY

Bridges are a key component of our transport network. As essential connecting points, we must ensure that bridges are maintained and upgraded to the highest possible levels of safety and environmental performance. Not doing so will have significant costs in the future. Despite this, many of our bridges have been neglected for quite a long time and are now deteriorating.

As such, FIEC considers tackling the maintenance deficit in Europe with respect to bridges to be one of the top priorities at the moment in transport policy. For this reason, FIEC has been continuing its efforts to raise awareness to this growing problem. Every year, FIEC co-organises an event dedicated to the maintenance of bridges, and which brings together participants from EU institutions, national authorities and the private sector.

This year's conference, Eurobridge 2023, takes place in Brussels on 14 April.

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