

# Declining Influence, Declining Infrastructure

BY BARRY B. LEPATNER, ESQ.



When the I-35W bridge in Minneapolis shuddered, buckled, and collapsed during rush hour on August 1, 2007, sending 13 people to their deaths and injuring 145 others, it

appeared to many as an act of God. Engineers, however, knew better. Bridges do not collapse “for no apparent reason.” Nor are they too big to fall.

Yet, in one of the most shocking jolts to the engineering profession, an investigation and report promulgated by the National Transportation Safety Board blamed the failure on a 40-year-old engineering error—the erroneous design of several gusset plates that were fabricated and installed as overseen by the bridge’s original designers, Sverdrup & Parcel. Placing the primary blame for a failure of this magnitude on engineers was an attack on the profession as a whole. Yet the silence of engineering professionals has been deafening. Professional associations

Transportation. The report also overlooked how state politicians diverted bridge maintenance funding to new projects rather than those clearly in need of remediation.

Should the NTSB have evaluated, for example, how Mn/DOT’s leadership dealt with the advice received from its engineers advising of numerous cracks, frozen bearings, and a lack of structural redundancy and ignored the information from the state’s accountants and managers, who were responsible for allocating transportation funds for all state roads and bridges? Why were the engineering consultants’ reports highlighting the perilous state of the I-35W bridge totally ignored by Mn/DOT and state officials, which led to the decision to defer replacement of the bridge deck for more than a decade? And if any of these factors were valid concerns, why didn’t NTSB include them in its report so that other state DOTs could learn from what went wrong?

Where has all the influence that engineers once held in this country gone? How did engineers become silent when once they were such a vigorous part of building our nation’s infrastructure? Until the 1960s, engineers in America were not colorless technocrats. They were part of the great road, bridge, and dam building era from the 19th century through the mid-20th century. But as the environmental movement and the activism of critics challenged indiscriminate highway construction that destroyed the fabric of many cities, political actors began

to wrest control of transportation agencies from the engineers and replaced them with politicians.

According to NSPE member Sam Schwartz, P.E., an engineer and former deputy commissioner of New York City’s Transportation Department in the late 1980s, “Today, it is rare to find an engineer as chief of any agency, including transportation, environmental protection, and school construction.”

Restoring engineers to positions where they can exercise their professional judgment free of political or financial constraints is critical to ensuring that work on our most deteriorated infrastructure is a higher priority than building new projects. Engineers who oversee remediation of the 150,000 U.S. bridges that are rated structurally deficient or functionally obsolete are aware that every year these bridges receive only cosmetic attention or none at all, they move one step closer to potential tragic failure. These engineers would be hard-pressed to provide assurance that the 7,980 bridges in the nation that are designed as fracture critical and which are also rated as “structurally deficient”—a toxic combination of factors that led to the I-35W failure—are safe for the traveling public.

Today, advanced technology can help engineers monitor structurally deficient bridges. This technology, however, is rarely used because of a lack of available funding and commitment by transportation agencies. Without these needed tools, the engineer’s ability to serve as a warning agent to the public is hindered.

Adding to the depressing state of our nation’s infrastructure is the increasing marginalization of engineers in our state DOTs. They have been moved further from the public eye and replaced by budget specialists or political appointees with no engineering background. Engineering decisions should be left to engineers, whose judgment and experience are needed to deal with our aging roads and bridges. Financial concerns should not outweigh the professional judgment of these engineers, who are the true stewards of our critical transportation systems and who, by the very oath they take when they receive their engineering licenses, are charged with protecting the welfare of the public they serve.

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THE COLLAPSE OF THE I-35W BRIDGE IN MINNEAPOLIS TOOK THE LIVES OF 13 PEOPLE.

have marshaled no protests or conducted no investigation of their own to challenge an indictment of engineers who were no longer around to defend themselves.

To date, engineers have not challenged the fact that detailed information about the cause of the collapse shows that the NTSB’s report completely ignored the negligent manner in which the bridge was managed and maintained by the Minnesota Department of

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