

# ABSTRACT

Analysis and Retrofit Design for Blast Load Effects on The Cooper Union  
Foundation Building

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Given a universal understanding that there is always, and for the foreseeable future, will always be a global terrorism threat, globally, civil engineers are tasked with taking this into account as they design the structures that will dominate the skylines of the future. Given the popularity and perception of New York City as the cultural and financial center of the United States, New York City is uniquely attractive for acts of terrorism on a large scale; this was evident during the bombing of the World Trade Center in 1993, as well as the September 11<sup>th</sup>, 2001 attacks. The aims of this study were to investigate how to properly assess and retrofit a historic structure in New York, as to make the Cooper Union Foundation Building more resilient to the potential of blast loads. Overall, a number of different recommended retrofitting solutions were proposed, with the ultimate recommendation involving the use of bollards to establish a suitable standoff distance from the building.