



PROJECT PROFILE

Metropolitan Highway System

Stem-to-Stern Safety Review | Boston, MA



CLIENT

Commonwealth of Massachusetts

BACKGROUND

Big Dig is the unofficial name of the Central Artery/Third Tunnel (CA/T) Project to reroute Interstate 93 through the heart of Boston into a 3.5 mile tunnel underneath the city and extend Interstate 90 east to the airport underneath Boston Harbor. At \$15 billion, the Big Dig is the nation's largest civil infrastructure improvement project, encompassing 66 lane miles of new roadways, tunnels, and structures.

Following the fatal ceiling collapse of the I-90 connector tunnels and the subsequent discoveries of systematic problems, Governor Mitt Romney ordered, via Executive Order 474, a stem-to-stern safety review of the entire Metropolitan Highway System (MHS). The MHS includes the Big Dig and associated roadways connecting the Big Dig to existing highways.



SOLUTION

WJE's interdisciplinary team provided the necessary expertise and experience to conduct an objective and thorough evaluation of any deficiencies in the design or construction of the Big Dig tunnels and facilities. The team of upwards of sixty professionals experienced in structural, electrical, mechanical, and life safety systems examined over 66 lane miles of roadway, tunnels, and structures with minimal disruption of normal operations and within the project delivery schedule. WJE documented deficiencies and recommended priorities for action—from immediate removal and replacement to continued service with monitoring.



Phase I of the project consisted of a review of the Big Dig tunnels and ceilings where failure would have resulted in a collapse to determine whether all preventive measure had been taken. Additionally, WJE examined structures vulnerable to buckling and those exhibiting signs of failure and distress as well as the project's ventilation and fire safety systems.

In Phase II of the project, WJE provided repair services based on the Phase I investigations. The task was compounded by a need to complete the safety audit within a ninety-day period.

