

Client:

Massachusetts Port  
Authority (Massport)

Location:

Boston, MA

Services Provided:

- Provided continuous stream of real-time data
- Provided essential data for assessing stresses and loads affecting the bridge

Value Provided:

- Smart technology helped to identify and alert Massport to Tobin's structural health

## Background & Project Challenges

The 58-year-old, 2.25-mile-long Tobin Bridge is a major artery connecting Boston to the North Shore for 80,000 motorists who use the bridge each day. In June 2008, the Massachusetts Port Authority (Massport) announced

the implementation of a new structural monitoring system will be installed on the bridge for Massport to better understand the stresses on the bridge.

The Tobin Bridge will be the state's first "smart bridge" with technology that will alert Massport to stresses on the bridge, and will allow the Authority to identify and address any concerns immediately.



## Geocomp Role & Accomplishments

Geocomp designed and installed the sensor system which will provide a continuous stream of real-time information about stresses and loads on the bridge as well as environmental and corrosion conditions. The continuous stream of data will provide important real-time information about stresses and loads on the bridge. The computer modeling, calibration and installation of the sensors should be complete by 2010.

The contract calls for the team to conduct a finite element analysis of forces and strains on the bridge using a three-dimensional computer engineering model of the entire bridge. The model will be calibrated against actual conditions using measurements from wireless sensors attached to representative areas of the bridge.