

Client:

- MTA

Location:

- New York, NY

Services Provided:

- Employ advanced Dynamic Monitoring services
- Baseline Dynamic Signature
- Data Acquisition
- Frequency Identification
- Non-linear Damping Characteristics
- Continuous Monitoring
- Construction and Calibration of FEM

Value Added:

- Provided a Baseline Dynamic Signature (BDS) to quantify the structure's condition.
- Provided continuous Dynamic Monitoring to track changes in the dynamic performance.
- Produced a Risk Profile of the building 'pre' and 'post' construction based on its dynamic measurements.
- Observed and reported on any changes that occurred to the buildings behavior throughout construction to help avoid damage.
- Saved the client significant money by providing detailed information regarding the condition of the structure.

Project Summary

The Corbin Building, at the corner of Broadway and John Street, is an iconic element of the Transit Center Complex. The brick, stone and terra cotta building was designed in 1888 by architect Francis Hatch Kimball for Long Island Rail Road chief Austin Corbin and originally housed a bank and offices.

STRAAM was contracted to perform a Baseline Dynamic Assessment of the structure, build and calibrate a Finite Element Model and provide continuous monitoring. Buildings of this age rarely have accurate structural drawings which makes creating an accurate FE Model extremely difficult. However, because our methods capture the structure's unique dynamic signature, we are able to calibrate the model to reflect its current condition.

STRAAM's continuous dynamic monitoring system provided invaluable information on several occasions when the thresholds set using the industry standard methods were exceeded. Our measurements showed the condition of the structure remained stable thus allowing work to continue. The MTA saved a significant amount of time and money through use of STRAAM Technology.

