

East Side Access -Historic Biltmore Room

Manhattan, New York



The \$3.5 billion East Side Access Project is a new rail link which will greatly improve access to Manhattan's East Side for commuters in the Long Island Transportation Corridor. This rail link will connect the LIRR's Port Washington and Main Line tracks to a proposed deep terminal in Grand Central Station below the existing lower track levels.

Naik Consulting Group, PC (**NAIK**) provides surveying and mapping support under contract to the General Engineering Consultant (GEC) for the project. Under this contract numerous individual survey tasks have been performed in support of the on-going final design.



This project task involved providing a complete topographic, structural and architectural as-built survey of the historic Biltmore Room, the Urban and Suburban Levels below it located within Grand Central Terminal, and the parking garage and former Bally's Health Club adjacent to it to the west. This survey was in support of the design of new escalators into the Biltmore Room from the new LIRR Concourse

The topographic and architectural survey was performed using a Leica C10 time-of-flight laser scanner. The scans were run at medium resolution collecting approximately 11 million points of data in about 4 minutes per scan. The level of detail captured in the scan data can be seen at the left in RGB and greyscale.

During the scanning operations digital color photography was captured using a high resolution Canon digital SLR camera coupled with the scanner's position. This digital imagery was incorporated into the scan data assigning RGB color values on each point and allowing the point cloud to be visualized in true color. As a by-product, QuickTime VR and Flash movie files were generated for easy review by downstream users without the need for specialized software.

All data was post-processed in Leica Cyclone. 3D CADD files were generated in Microstation v8 2004 for delivery to project design staff.



Agency/Owner:
MTA / Long Island Rail Road

Construction Cost:
\$3.5 Billion

Project Duration:
March - June 2009