

# Sprucing Up the Subway

The joint venture of Bovis Lend Lease and PB is helping New York's Metropolitan Transportation Authority create a new transit center – and a new customer experience.

BY ROSEANN MCGRATH BROOKS  
PHOTOS BY DANNY TURNER

The interconnected downtown subway facilities at Fulton Street in New York City (NYC) needed more than just a face-lift; they needed a complete body and personality makeover. Even before the events of September 11, 2001, the Metropolitan Transportation Authority (MTA) wanted to improve congestion and “way finding” at that Lower Manhattan center. With 12 subway lines joining in six stations at one location – the stations span an area that can be walked in about 10 minutes – hundreds of thousands of visitors and commuters alike have had difficulty finding where they are going underground. So to improve the access and aesthetics of the stations, the MTA made the decision to create the Fulton Street Transit Center.

The Fulton Street Transit Center – an \$888 million project funded by the Federal Transit Administration – will be a unique, contemporary glass and steel structure that enables sunlight to filter down into the lower levels of the complex, providing a new experience for transit

A man in a dark suit, white shirt, and tie is standing on a set of stone stairs. He is wearing a white hard hat with a logo, safety glasses, and a high-visibility orange and yellow safety vest over his suit. He is smiling and looking towards the camera. The background shows a building with windows and a sign that says "Zlotys" and "Alliantz".

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**Bovis Lend Lease's Patrick Bronner: Working to create the new Fulton Street Transit Center in Lower Manhattan**



riders. When completed in 2010, the new hub will encompass pedestrian concourses, retail shops and transit offices – and offer better signage to help commuters navigate the myriad exits and entrances to this vibrant part of the city. In addition, it will improve connections between subway lines, and link NYC transit facilities with the Port Authority Trans-Hudson (PATH) service – the commuter line between New Jersey and Lower Manhattan, which is home to Wall Street, the historic South Street Seaport and the site of the future World Trade Center Memorial.

### MTA CAPITAL CONSTRUCTION

In 2003, the MTA formed MTA Capital Construction (MTACC) to manage the Fulton Street Transit Center project along with several other transit construction megaprojects. MTACC – charged with overseeing the design, construction and management of the Transit Center project – then contracted with the joint venture of Bovis Lend Lease, a global project management and construction company, and the engineering and construction management firm PB (formerly Parsons Brinckerhoff), for consulting construction expertise and support.

“Together, we’re serving as the consultant construction manager, or CCM,” explains Bovis Lend Lease Senior Office Manager Patrick Bronner, PE, CCE. “We are an extension of MTACC’s construction management staff, supplying project management and field inspection personnel, and providing office engineering support.”

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Office engineers handle the information management of four separate construction contracts for the multimillion dollar project in Primavera Contract Manager. The megaproject was too large to be covered by just one contract, and required sequencing and scheduling over a six-year period – thus the four contracts.

Bronner’s task is management of the CCM’s project control systems setup in Contract Manager.

### CENTRALIZED INFORMATION

Bovis Lend Lease and PB chose Primavera Contract Manager for two reasons. First, MTACC already had experience with the software, which made it easy for its own employees to manage a new project with familiar solutions. Second, the software and hardware environment was already in place for other PB projects.

More important is that the construction management office was not set up at the job site. Office engineers and field inspectors were – and still are – located in multiple office locations.

“PB maintains the server environment and database in Denver,” Bronner says. “The advantage of keeping this information in a central database with local Web access



The contemporary glass and steel Fulton Street Transit Center will allow natural light to filter down into the complex. Artist's rendering courtesy of Bovis Lend Lease.

is that we don't have to move the information every time we physically move. And now that we have staff on site, they can access Contract Manager from wherever they are via a Website."

The data is backed up nightly at the central database, eliminating any worries about failure of the database at a local site, he explains. "And as Internet speed has improved over the years, we have minimal response time issues and fewer delays in data entry."

### MANAGING MULTIPLE CONTRACTS

The project staff uses Contract Manager along with other Primavera software solutions for schedule monitoring and document control, among other project controls tasks. Because of the size and complexity of the project, the team is following an advanced work breakdown structure, file coding and contract numbering system. The files are logged and their records exist in one group in Contract Manager. They can be statistically summarized at the program level, but they are organized and managed separately by program and project-wide elements and by contract.

"Contract Manager gives us the flexibility to have one group, yet separate databases, to manage the four contracts and keep track of meeting minutes, contact lists, correspondence, design drawings, submittals, RFIs, and most important, the maintenance of current drawing lists, all in one place," says Bronner.

"The number of design drawings and reference documents required for this project alone is in the thousands," Bronner explains. "The contracts, tied to the four phases of the project, start with those design documents, and support three different procurement methods: Design-Bid-Build, Design-Build and Design-RFQ-RFP-Build." The multiple methods

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require different general contractors and independent procurements and relate to the following contract work:

**Contract I – Rehabilitating the station (December 2004 through August 2007)** – Contract I, now completed, was awarded as Design-Bid-Build. MTACC advertised for contractors to bid on the designs and related construction documents. Finally, the winning contractor performed the



construction, which involved rehabilitation of one of the existing Fulton Street subway stations and the creation of two new entrances.

Throughout the process, revision information was maintained for more than 590 design drawings in Contract Manager, ensuring that the drawing list was up to date with each new modification, and that the updated drawing lists were distributed to field personnel or management team members as necessary.

### Contract II – Building an underground concourse (July 2005 through July 2008) –

To accelerate construction, completion and coordination with other Lower Manhattan projects, Contract II was awarded as Design-Build. MTACC issued an RFQ to select the best skilled contractors to complete the final

design and construction, which includes extensive underground structural work and relocating aging utilities, some of which are pipes and structures dating back to the original subway construction in 1904.

**Contract III – Deconstructing four existing buildings (January 2007 through September 2007)** – This Design-Bid-Build contract covered demolition of four buildings in prepa-



ration for the new Transit Center building, as well as preparation for the restoration of the Corbin Building, a New York state historic landmark.

**Contract IV – Final construction (Early 2008 through Mid-2010)** – The final contract, which includes all the remaining work on the Fulton Street Transit Center, will be awarded as Design-RFQ-RFP-Build. In May, 2007, MTACC issued an RFP. The successful bidder will be awarded the contract to complete construction of the project, including the above-ground glass and steel structure. The contract also includes major civil work, subway station rehabilitations and the finishes for all the connections. It will require management of more than 3,500 design drawings and their related revisions.

“Managing multiple contracts takes discipline,” says Bronner. “Once the contracts are awarded, our team must track documents from the original issue through every new submittal and revision, from the designers to the contractors and back.” He notes that for steel frame constructions, for example, there is often one shop drawing for each piece of steel.

### A DELUGE OF DOCUMENTS

In addition to managing the hundreds of drawings, the project team also manages pre-construction meeting minutes as well as the minutes of biweekly management meetings throughout the project. “In this way, we capture history and

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have visibility into project progress,” says Bronner. After each meeting, minutes are entered into Contract Manager for item tracking and issue resolution. For the next meeting, managers generate a copy of the minutes with updates. A detailed item-numbering system lets them see which issues have been resolved since the previous meeting, and which are

still outstanding.

Reports are key for the meetings. “We need exception reports so that we can determine not only what is under review as scheduled but also what is overdue,” explains Bronner. “The ability to customize these reports for our client’s needs is paramount.”

### NEW EFFICIENCIES GOING FORWARD

Document management also includes management of incoming and outgoing correspondence. One goal for future



project use of Contract Manager is to use hyperlink functionality so that if an office engineer enters a record in the database, he or she can include a hyperlink to the scanned image of the document for clarification or more information. PB provides a collaborative software product called ProjectSolve that receives and stores image files. The team plans to link ProjectSolve to Primavera Contract Manager to enable more efficient collaboration going forward.

“Monitoring information for multiple contracts puts a burden on system management,” says Bronner. “Having the information all in one place with Primavera Contract Manager, and having a disciplined, collaborative construction management team, enables us to respond more effectively to our client’s needs.” •

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