



The LiRo Group

**Reference:**

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New York State Department of  
Transportation  
Region 11  
Long Island City, NY 11101  
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**Total Project Cost:** \$170,000,000

**Completion Date:** 2004

**Project Overview:**

LiRo provided project management and design during construction and construction inspection services for the reconstruction of Route I-495 (Long Island Expressway) from Van Dam Street to the Grand Central Parkway. The project involved the rehabilitation of seven miles of heavily congested urban expressway. Work included full-depth concrete pavement, construction and rehabilitation of 27 bridges, installation and use of TSM/ITS, CPM scheduling, A+B bidding, night work, and extensive public outreach. (NYSDOT, \$170M)

## Long Island Expressway Reconstruction - Grand Central Pkwy to Van Dam Street, 7 Miles of Urban Highway, 27 Bridges

Queens, NY

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Project Managers, one full and one part-time, to oversee this project in addition to an inspection staff of over 20 individuals. Our full-time Assistant Project Manger was responsible for CPM Schedule monthly update review, analysis of logic



changes and progress forecasting. The project included numerous tasks which are broken down into multiple stages in this very complex project. The CPM Schedule included over 3,500 activities and seven B-Clock tasks that have incentive/disincentive payments associated with them. LiRo also provided Value Engineering review and schedule impact reviews of contractor's proposed changes, most of which were time related issues.

The challenge of this project was compounded by staggering traffic volumes and a narrow construction corridor. This project also required extensive work at the Brooklyn-Queens Expressway interchange.

The bridge reconstruction work included such activities as widening of Queens Boulevard Bridge and replacement of superstructures and parts of substructures for six major bridges over the LIE, including superstructure replacement of the 58th Street overpass with sixteen Inverset panels approximately 25 meters long. Other work included replacement of entire structures including piers and abutments, deck replacements, substructure repairs, pile driving, and extensive painting of many existing structures. As



part of our work, we redesigned various temporary entrance/exit ramps to improve MPT. LiRo also provided complete design and construction documents for a multi-level retaining wall system comprised of pre-cast concrete posts and panels. Project specifics include:

- Drainage: Modification or replacement of over 700 drainage structures
- Concrete Pavement: 31,000 square meters of new European roadway pavements
- Sound Barrier: Precast concrete panels and posts are mounted on cast-in-place piers (3,500 square meters)
- Overhead sign structures: 35 total, including span and cantilever types
- Concrete Median and Shoulder Barrier: 30,000 lf, poured-in-place and precast.
- Retaining Walls: 12 walls, totaling 2,000M (1M to 7M high to accommodate raised profile of LIE)



Other work elements included drainage structures, street lighting, a complete ITS system with cameras, razing radar devices, Highway Advisory Radio, and the installation of Variable Message Signs (VMS). MPT on this project was of paramount importance due to the extremely high traffic volumes on the Long Island Expressway. In addition, close community and media contact was maintained through a highly effective community outreach and interactive plan.

This project received a "Highway Award of Merit," Best of 2004, from *New York Construction News* (Dec. 2004); and named "Project of the Year" by Construction Management Association of America (CMAA) (April 2005).

**Key Features:**

- One of NYSDOT's largest construction projects ever
- Reconstruction of 27 bridges
- European pavement (rigid) construction on one of the nation's busiest highways
- Drainage modifications, lighting, signage, retaining walls, noise walls, Intelligent Traffic System
- Maintenance and protection of extremely heavy traffic
- Construction management, construction inspection, CPM services