

MBTA Load Rating Statewide, MA

Project Description:

Location

Statewide, MA

Owner

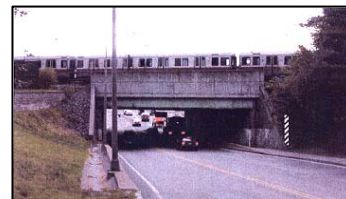
MBTA

Duration

2006-2008

AI Engineers inspected, evaluated and performed load rating analyses of different types of bridges for the Authority system wide. This project included structures that carry commuter rail trains, Amtrak passenger and freight trains, Red Line, Orange Line and Green Line transit tracks and highways. The structure types included through girder and floor beam systems, concrete encased steel beam and precast concrete beam bridges. A variety of software was used to analyze the different types of bridges assigned in the project. STAAD was used to model and analyze the majority of the bridges in the assignment. Also AASHTO Virtis software and MDX programs were available to the AI engineers to use as more refined finite element analysis for the bridge assignment. Support programs like MathCAD and Excel spread sheets were used in the assignment.

During the course of the assignment, we discovered that some of the bridges assigned did not have plans. Those bridges required special attention and field inspection to determine the geometric data of the bridge and verify the condition of the structures. For some of these bridges, specialty work was assigned to a testing company to determine the size and location of the reinforcement in the concrete members. The steel bridges needed an in-depth inspection to identify and determine the sizes of the structural members and locate and measure any section loss. The analysis work was done according to AREMA, AASHTO and MBTA specifications and guidelines.



Salient Features

- AREMA Guidelines
- NBIS Guidelines
- Non-Destructive Testing
- Structure Condition Survey

