Transportation Pooled Fund Program

Project Title: Validation of Numerical Modeling and Analysis of Steel Bridge Towers Subjected to Blast Loadings

Project Manager and Phone Number: Sheila Rimal Duwadi, 202-493-3106	**Project No:** TPF-5(110)	Project is: ____ PLANNING __X__ R&D
Reporting Period: January – March, 2010	**Multi Year Project** 2003 - 2010	

Description of Work Performed and Progress:

This study was initiated to develop better analytical modeling and numerical analysis capabilities of steel bridge towers subjected to airblast, and to develop retrofit schemes for the towers.

The scope consisted of analytical and controlled explosive tests on large-scale steel tower sections representative of typical towers in both their as-built and retrofit configurations to determine performance under various blast scenarios and for verification of numerical analysis techniques.

Progress: The contract for this study was completed in March 2010; and reports are under review by contributing pooled fund partners and FHWA. Because of the sensitivity of the subject, open distribution of the reports will not be made, and classification of the report is still being considered.

Series of tests were completed on basic plates to determine response levels and fragmentation effects; on cellular targets to study added structural complexity, and retrofits; parameter study on near contact detonations; analytical computations using sophisticated finite element analysis; and final retrofit validation tests on 3x3 cellular targets.

STATUS AND COMPLETION DATE

Percentage of work completed to date for total project
Project is: _99__%

__X__on schedule _____ behind schedule, explain:

Expected Completion Date: __ October 2010 for final review of reports _

Project Manager