



RTI Semi-Annual Progress Report

Fiscal Year 2005

Date of This Report: August 1, 2005 **Project Number:** 0-4569 **RMC:** 5

Period Covered by This Report: March 1 – August 31, 2005

Project Title: Design of Bridges for Security

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1. Requested Changes for Possible Project Modification

Project Termination: No changes

Project Personnel: No changes

Funding Needs: No changes

Work Plan: No changes

Deliverables Table: No changes

2. Program Development Information

This project is scheduled to terminate August 31, 2005.

3. Equipment

No equipment was purchased during the time period covered by this report.

4. Progress to Date, by Task

Task 1: Literature Review

This task was completed in a previous reporting period.

Task 2: Example Calculations

This task was completed in a previous reporting period.

Task 3: Develop a Plan to Investigate Cost-Effective Measures to Improve Bridge Security

This task was completed in a previous reporting period.

Task 4: Present Literature Review Results

This task was completed in a previous reporting period.

Task 5: Develop Guidelines to Implement Cost-Effective Measures to Improve Bridge Security

Task 5a: Identify Five Representative Bridges for Analysis

This sub-task was completed in a previous reporting period.

Task 5b: Perform a Risk Assessment and Vulnerability Analysis for Representative Bridges

This sub-task was completed in a previous reporting period.

Task 5c: Develop Risk Management Strategies

Work on this task has been completed during the current reporting period.

Task 5d: Investigate Structural Modifications to Improve Bridge Safety

Work on this task has been completed.

Task 6: Reporting

Work on this task is nearly complete. A draft document is currently being reviewed. It is expected that the final report will be completed by the project termination date.

5. Progress on Development of “Product” Deliverables

Product #	Product Description	Progress to Date & Implementation Status
P1	International Literature Review of Research Related to Bridge Security	completed
P2	Example Calculations of Typical Texas Overpass Bridge Subjected to Blast Loads	completed
P3	Work Plan to Implement Phase II Research	completed
P4	Cost-Effective Guidelines to Improve Bridge Security	To be submitted 31 AUG 2005

6. Meetings/Conferences

On 22 April, the PI attended a meeting held by the ASCE Committee on Bridge and Tunnel Security. At this meeting, the PI discussed some of the research results obtained from the current TxDOT-sponsored project, and he helped provide input on future activities of the committee.

The PI presented an overview of TxDOT 0-4569 at the RMC 5 meeting held in Austin on June 6, 2005. Following the presentation, the PI met informally with the Project Director to discuss the status of the research.

On 27 June, the PI provided a project update to the AASHTO T-1 Committee on Transportation Security. The T-1 Committee includes members from various state DOTs from across the country. Results of the research are thus receiving attention nationally.

Findings from the current project were presented at the opening plenary session of the 6th International Bridge Engineering Conference held in Boston 17-20 July. MAJ David Winget, formerly a student on the project, delivered the presentation, and the topic generated a great deal of interest from the audience.

7. Possible Candidates for Formal Presentations at the Upcoming RMC Meeting

As this project is nearly complete, and a presentation was given at the last RMC 5 meeting, the PI believes that an additional presentation at an upcoming RMC meeting is not necessary.

8. Miscellaneous

The PI will begin working on NCHRP 12-72, "Blast-Resistant Highway Bridges: Design and Detailing Guidelines" this summer. Research conducted for TxDOT 0-4569 will be extended, and several of the most promising design strategies will be validated experimentally.

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