

NJDOT Bureau of Research
 QUARTERLY PROGRESS REPORT
Date of report: December 1, 2008, Revised: May 23, 2012
Reporting period: October 1 to December 31, 2008

Project Title:	Portable Work Zone Barrier-Balsi Beam		
RFP NUMBER: 2007-14	NJDOT RESEARCH PROJECT MANAGER: Edward Kondrath		
TASK ORDER NUMBER: RFCUNY 29 – Mod.#1	PRINCIPAL INVESTIGATOR: Robert Paaswell		
Project Starting Date: 1/1/ 2007 Project Ending Date: 12/31/2008	Period Starting Date: October 1, 2008 Period Ending Date: December 31, 2008		

Tasks for Phase I – Fabrication	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Task 1: Advisory Committee meetings and presentations	30%	0%	100%	30%
Task 2: Licensing, Cost Estimates	50%	0%	50%	25%
Task 3: Documentation	20%	0%	60%	12%
TOTAL	100%			67%

Project Objective:

The objectives of this project are the fabrication, implementation, and evaluation of the Caltrans Balsi Beam portable protection device for the safety of New Jersey Department of Transportation workers in short duration highway work operations. This two-phase project will build on the results of the previous study, “Identification of Traffic Control Devices for Mobile and Short Duration Work Operations,” which identified the potential for the Balsi Beam to protect exposed highway workers along the shoulder and in the traveled lanes of high traffic, high speed areas.

Project Abstract:

This work will focus on the fabrication and implementation of the Balsi Beam which is a truck mounted, moveable, expandable beam that provides positive work zone protection comparable to a fixed concrete barrier. It is specifically intended to enhance worker safety when carrying out shoulder repair in work zones adjacent to guardrails, inlet repair, bridge rails, bridge deck repair, sound walls and other work where workers are normally exposed to traffic or behind cones in limited work areas for several hours. Usually the shadow vehicle or the truck mounted attenuator provides protection from rear end collisions; the new device provides protection from adjacent lane traffic.

The Balsi Beam provides positive, steel beam protection system for exposed workers who normally work behind temporary cones and barrels in limited work areas. As stated by engineers of Caltrans, a modified at higher nominal speed TL-2 crash test shows that the

beam does not deflect as conventional unpinned portable concrete median barrier in such crashes. The Balsi Beam is practically applicable to bridge and concrete repair projects where workers are concentrated in small areas over a one day period or less.

The Balsi Beam was developed by the California Department of Transportation, Federal Highway Administration and the Texas Transportation Institute under the Strategic Highway Research Program. The device was implemented by Caltrans on Interstate Route 80 in Northern California. The Caltrans implementation identified the ease of transporting the beam to the job site, ease of set up and ability of workers to work in the protected areas. Caltrans is able to use small front end loaders, compressors and other such equipment in the protected area. Workers like the protection of a positive barrier between them and high speed traffic.

1. Progress this quarter by task:

- The research team has identified a lateral protection equipment for mobile and short duration work operations. The equipment is designed and fabricated by Mobile Barriers, LLC. based at Denver, Colorado. The team made a field trip to Denver for a demonstration of the equipment. The equipment is owned and used by the Colorado Department of Transportation (CDOT). During the site visit, the research team had the opportunity to observe the equipment being utilized by CDOT at nighttime road maintenance operations.

2. Proposed activities for next quarter by task, and anticipated percentage complete by end of quarter.

- The research team is waiting for guidance from NJDOT on future steps.

3. List of deliverables provided in this quarter by task (product date)

Materials from the Denver’s field trip.

4. Progress on Implementation and Training Activities
NA

5. Problems/Proposed Solutions
NA

BUDGET EXPENDED AND REMAINING

Year 1 Total Project Budget	\$23,170
Modified Contract Amount:	\$43,120
Total Project Expenditure to date	\$23,170
% of Total Project Budget Expended	54%