

## SPR PROJECT DESCRIPTION

**PROJECT NUMBER:**

05409

**PROJECT TITLE:**

Evaluation of Double Drop Beads Pavement Edge Lines

**PRINCIPAL INVESTIGATOR:**

Dr. Jay Lindly

Associate Professor

Department of Civil, Construction, and Environmental Engineering

The University of Alabama

Box 870205, Tuscaloosa, AL 35487

Phone: 205-348-1724

Fax: 205-348-6862

Email: Jlindly @eng.ua.edu

**PROJECT OBJECTIVES:**

The project will provide a quantitative assessment of both dry and wet retroreflectivity of double drop bead (DDB) thermoplastic edge striping that can be compared to the retroreflectivity data for flat thermoplastic and rumble stripe markings.

**PROJECT ABSTRACT:**

In UTCA projects 01465 and 04405, the retroreflectivities and the life cycle costs were measured and compared for standard Alabama Department of Transportation (ALDOT) thermoplastic edge stripes that contained only one size of retroreflective beads. This project will perform a quantitative assessment of the wet and dry retroreflectivities and the life cycle costs of thermoplastic edge lines containing two sizes of beads both in the intermix beads and the beads applied to the surface. Those values will be compared to the data already amassed for the standard edge lines.

**PROJECT TASK DESCRIPTIONS:**

Task 1 – Perform literature review

Task 2 – Visit candidate test sites

Task 3 – Measure retroreflectivity three times over three years

Task 4 – Observe retroreflectivity decay rate of double drop bead lines

Task 5 – Predict typical lifespan and perform life cycle cost

Task 6 – Share data

Task 7 – Compare data to standard ALDOT edge lines

Task 8 – Produce final report

**MILESTONES AND DATES:**

Tasks 1-2: Mar-May '06

Task 3: May '06-Feb '09

Tasks 4-7: Mar-Apr '09

Task 8: Apr 30, '09

**TOTAL BUDGET:**

37 month project; ALDOT SPR funding \$131,482

**STUDENT INVOLVEMENT:**

A graduate student will be employed to coordinate test site selection, participate in field testing and help with data analysis. An undergraduate student will be employed principally for field testing.

**RELATIONSHIP TO OTHER RESEARCH PROJECTS:**

This project is an extension of the work done in UTCA projects 01465 and 04405. The project is a "safety" project and in that sense relates to many other UTCA projects and to the UTCA theme.

**POTENTIAL BENEFITS OF THE PROJECT:**

The results of this work will provide the Alabama Department of Transportation data to help it select cost-effective and safety-effective edge stripes for use in Alabama.

**TRB KEYWORDS:**

Edge lines, retroreflectivity, retroreflectometer, thermoplastic markings, pavement markings, retroreflective beads