PROJECT NUMBER:
07305

PROJECT TITLE:
Summer Transportation Engineering Institute – Phase VII

PRINCIPAL INVESTIGATORS:
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PROJECT OBJECTIVE:
The objective of this research is to conduct a summer program for encouraging diversity in transportation-related educational programs in Alabama.

PROJECT ABSTRACT:
The numbers of female and minority students are increasing overall in engineering, however there is still a relatively small percentage drawn to the field of transportation engineering. As a consequence, there is a need to educate young people about the profession to encourage under-represented individuals to become engineers. Therefore, the major goal of this program is to introduce middle school students from under-represented groups to basic engineering and transportation-related concepts. An additional goal of the project will be to draft local minority and female engineers to act as mentors. Students will use real world examples and new technologies in their hands-on activities.

Instructional and interactive experiences will be developed with this grant to motivate interest in transportation engineering and related science topics. The strategy of this program is aimed at producing students who know "how to find out" and "how to examine and evaluate evidence." The summer program will involve inviting middle school students, referred by
their teachers, to UAH for a one-week intensive transportation engineering seminar. Another week will be devoted to alumni students and involve advanced research-oriented experiments.

PROJECT TASKS AND SCHEDULE:
Task 1. Send recruiting letters to schools
Task 2. Obtain formal commitments from schools
Task 3. Select participants
Task 4. Confirm dates, send letters to students
Task 5. Set up experiments, field trips and lab materials
Task 6. Select mentors (professionals and former students)
Task 7. Finalize schedule and send it to participants
Task 8. Implement program
Task 9. Survey alumni and evaluation
Task 10. Conduct CE Challenge at UAH
Task 11. Deliverables – final report

MILESTONES AND DATES
Task 1: Jan-Mar 2007
Task 2: Mar-Apr
Task 3: Apr-May
Task 4: May-Jun
Task 5: Apr-Jul
Task 6: May-Jun
Task 7: May-Jul
Task 8: Aug
Task 9: Aug-Oct
Task 10: Oct
Task 11: Sep-Dec 2007

BUDGET:
One-year project; UTCA $30,989; UAH cost share: $31,158; total budget $62,147.

STUDENT INVOLVEMENT:
The project will employ four undergraduate student assistants (all either minority or from an under-represented group) to help in designing the projects, documenting plans, laboratory set-ups, and assist with the participating instructors at the institute. Other university students will act as volunteers through the SWE, ASCE and NSBE student chapters. These students will use their design experiences to complete a selected topic course in fall.

TECHNOLOGY TRANSFER ACTIVITIES:
The team members will prepare documents of lab activities in manual form (both student activity guide and teacher instruction guide) and electronic version as a teacher resource. The research findings of this study will be incorporated into a final report and will be distributed to transportation professionals throughout the state.

TRB KEYWORDS:
transportation, education, safety, outreach, diversity