UTC PROJECT DESCRIPTION

PROJECT NUMBER:
00108

PROJECT TITLE:
Air Quality Aspects of Traffic Management

PRINCIPAL INVESTIGATOR:
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PROJECT OBJECTIVES:
The goal of this research is to demonstrate the impact of traffic management decisions on air quality in Alabama. This goal is supported by two objectives: (1) to prepare educational materials explaining how transportation (specifically, traffic management) impacts air quality in Alabama, and (2) to improve the current (default) air quality assessment methodology (MOBILE 5B modeling) by exploring a number of input data/parameter modifications.

PROJECT ABSTRACT:
This project is being conducted to address the effect of traffic management decisions on air quality in Alabama. To build a body of educated decision-makers, educational materials will be prepared to explain how transportation (specifically, traffic management) impacts air quality in Alabama. Transportation managers can use these materials in the future when dealing with the press, with legislators and administrators, and with the public. The second major aim of the research is to improve the current (default) air quality assessment methodology (MOBILE 5B modeling) by exploring a number of input data/parameter modifications. Currently, the default parameters are used when attempting to define air pollution resulting from planned changes to the transportation system. If parameters can be identified that are more appropriate for Alabama (than the default values), they will give more realistic modeling results and provide a transportation system more attuned to the environment and better for the future of the State.

PROJECT TASK DESCRIPTIONS, MILESTONES AND DATES:
- Feb 15, 2000 - Assemble stake holders
- Mar 15, 2000 - Review current emission estimation methods
- Mar 15, 2000 - Review technical literature
- May 15, 2000 - Review impact of changing standard MOBILE Model input to explore more-appropriate assumptions
• May 15, 2000 - Develop draft educational materials
• Aug 15, 2000 - Have final educational tools in production
• Aug 15, 2000 - Attempt linkage between monitored data and modeling transportation impacts
• Sep 15, 2000 - Develop demonstration examples using Alabama traffic data
• Dec 31, 2000 - Prepare final report

TOTAL BUDGET:
One-year project: UTCA $47,868; total budget $95,769.

STUDENT INVOLVEMENT:
Two graduate students will work on this project. They will use this research as the start of a thesis project in the topic area of air quality modeling.

RELATIONSHIP TO OTHER RESEARCH PROJECTS:
This project can be viewed as a stand-alone project as it does not tie into any other UTCA projects.

TECHNOLOGY TRANSFER ACTIVITIES:
The educational material developed in this project will be widely disseminated to interested parties throughout the state. In addition, the technical material developed and lessons learned will be made available in a UTCA report and on-line and may be part of a future UTCA sponsored short course on transportation externalities.

POTENTIAL BENEFITS OF THE PROJECT:
There will be two immediate benefits of this project. The first is an informed body of decision makers who can realistically channel State and local resources toward improving air quality in the long run; current there are no champions of this cause within the State. The second is the development of modeling methods that are more representative of Alabama situations than the current default values; this will lead to better decisions during planning and policy studies, and will deliver better projects from an air quality point of view.

TRB KEYWORDS:
Air quality, emissions, transportation system management.