PROJECT NUMBER: 01216

PROJECT TITLE: Deploying Advanced Public Transportation in Birmingham

PRINCIPAL INVESTIGATORS:
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PROJECT OBJECTIVE:
The research is aimed at addressing the need and possibility for Advanced Public Transportation Systems deployment in the existing fixed route bus system as well as rideshare and other para-transit activities currently in operation in and around Birmingham. The research will also address other public transportation modes currently under consideration for Birmingham. The results of the research will serve as technical guidance for political officials, public transportation decision makers, and transportation planners as they strive to improve the quality of transit operations, reduce congestion, and improve air quality in and around Birmingham.

PROJECT ABSTRACT:
The project proposed herein is intended to examine the feasibility of Advanced Public Transportation Systems (APTS) deployment in the Birmingham area. The research will address the existing fixed route bus system and para-transit activities as well as other public transportation modes currently under consideration for Birmingham as identified in the 1999 Strategic Regional Multimodal Mobility Plan (SRMMP). The research will investigate the possibility of deploying technologies such as: automatic vehicle locations (AVL) systems, priority control of traffic signals for buses, geographic information systems (GIS) and computer-aided dispatch (CAD), available transit management software applications, electronic fare payment systems, and advanced traveler information systems (ATIS). The proposed research will serve as technical guidance for political officials, public transportation decision makers, and transportation planners as they strive to improve the quality of transit operations, reduce
congestion, and improve air quality in and around Birmingham. Ultimately, it is intended that this research will serve as a foundation for more aggressive transit-oriented research in Alabama. The identification of specific technologies applicable to improving public transportation in the Birmingham area will allow for more specific research efforts such as evaluation of prototype systems and urban mobility needs assessment in rapidly growing southern cities.

PROJECT TASK DESCRIPTIONS:
1. Identify stakeholders: Birmingham-Jefferson County Transit Authority and the Regional Planning Commission of Greater Birmingham.
2. Review of Birmingham specific transit information.
3. Conduct a technical review of APTS-related literature
4. Identify U.S. cities similar to Birmingham, and conduct surveys.
5. Tour cities with similar transit markets and systems.
6. Compile a list of candidate technologies based on Birmingham’s characteristics and needs.
7. Conduct a meeting with stakeholders to present initial list of candidate technologies.
8. Develop a draft report containing detailed technical descriptions of final candidate technologies, etc.
9. Develop final report for submittal to UTCA.

MILESTONES AND DATES:
1. Jan-Feb 2001
2. Jan-Mar 2001
3. Feb-Apr 2001
4. Feb-May 2001
5. May-Jul 2001
7. Jun-Sep 2001

TOTAL BUDGET:
One-year project: UTCA $51,476; total budget $102,963.

STUDENT INVOLVEMENT
One graduate student from the CEE Department at UAB will be involved in this study.

RELATIONSHIP TO OTHER RESEARCH PROJECTS:
Although urban oriented, the proposed research will augment the transit-related UTCA project 99104, “An Analysis And Recommendations For Rural Public Transportation Systems For Alabama,” conducted by Dr. Jay Lindly and Dr. Richard L. Sanford. Also, the proposed research will add a transit dimension to the ITS-related efforts currently supported by the UTCA.

TECHNOLOGY TRANSFER ACTIVITIES:
As part of this research study, a four-hour workshop will be planned after completion of the work to present to ALDOT the results of the study and the impact of the new wind provisions on the design of structural supports in Alabama. Additionally, the workshop will provide the
attendees with algorithms and step-by-step procedures for calculating wind loads on structures using the newly adopted specifications.

POTENTIAL BENEFITS OF THE PROJECT:
Experience in other cities indicates that application of APTS technologies can increase efficiency, improve customer service, reduce operating costs, and even increase ridership for public transit agencies. The technical guidance expected to result from the successful completion of this proposed research will assist decision-makers in choosing the right technologies to achieve similar successes in Birmingham. The RPCGB has endorsed the project and committed $5,000 cash match from its annual planning budget. Region 2020, a local, nonprofit group has offered their support of the proposed project. Ultimately, it is intended that this research will serve as a foundation for more aggressive transit oriented research in Alabama. The identification of specific technologies applicable to improving public transportation in the Birmingham area will allow for more specific research efforts such as evaluation of prototype systems, GIS/GPS applications, and urban mobility needs in rapidly growing southern cities.

TRB KEYWORDS:
APTS, AVL, bus, transit, urban.