

Focus on Research

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"Focus on Research updates engineers and technicians on items of interest upcoming in active TxDOT research projects."

Exploring Sign Substrate Materials

Sign blanks made from marine-grade plywood and aluminum are becoming expensive. Recycled plastic and rubber sign posts are available, and similar materials have been suggested for sign substrate. Such an alternative would benefit the environment, help TxDOT meet its "buy recycled" goal, and perhaps exceed the performance of current materials. TxDOT seeks a viable, cost-effective substitute for plywood and aluminum sign blanks.

Project 0-1338, *Recycled-Content Sign Blanks*, will:

- ◆ Develop performance-based specifications for sign substrates
- ◆ Prepare a report summarizing results of literature and product searches
- ◆ Conduct laboratory testing of candidate materials with respect to performance specifications

This research will contribute performance-based specifications for sign blanks that will allow TxDOT to use any material meeting those standards. These specifications will furnish guidance to design engineers in selecting recycled-content materials that are acceptable for use as sign blanks. The state will benefit economically from lowered life-cycle costs and environmentally from reduced landfill volumes. This project started in December 1994 and will end in August 1995.

RMC 7 — Art Barrow, MAT

Researchers: Fred Benson, TAMK, and Paul Roschke, TTI

Purchasing Specs for Re-refined Oil Anticipated

Re-refined oils and fluids have been promoted as environmentally friendly oils and fluids for equipment operation. TxDOT currently requires complete and objective data on the quality, performance, and total cost (including related equipment repair) associated with the use of re-refined oils and fluids. Also needed are technical contract specifications for their purchase.

Research Project 0-1355, *Re-Refined Oil Performance and TxDOT Used Oil Collection Procedures*, developed the necessary background data, procedures, and specifications to allow TxDOT to comply with SB 1340 in a safe, environmentally conscious, and cost-effective manner. These data will be used to determine which oils and fluids (if any) used by the TxDOT fleet can be re-refined oils and fluids. The data also reflect both societal benefits and regulatory requirements.

Performance specifications for re-refined oils and fluids identified by this project will assist TxDOT in buying lubricating oils and fluids economically. These specifications will also ensure that neither the environment nor equip-

A New Focus in TxDOT Research

Research Management Committees (RMCs)

Effective June 1, 1995

RMC 1	Management and Policy
RMC 2	Multimodal Transportation
RMC 3	ROW, Hydraulics, and Environmental Conservation
RMC 4	Roadway Planning and Design
RMC 5	Structures
RMC 6	Pavements
RMC 7	Materials
RMC 8	Construction and Maintenance
RMC 9	Traffic Operations

ment performance is adversely affected. In addition, researchers will propose an environmentally sound collection and recycling system for used oils and fluids to be adopted by TxDOT. The results of Project 0-1355 may be applicable as well to other Texas agencies and to agencies in other states. The draft specification is anticipated in October 1995. This project started in December 1994 and will end in August 1995.

RMC 7 — PD: Glenn Hagler, GSD
Researchers: Jesse Jones and Timothy Maxwell, TECH

Comprehensive Plan for Areawide ITS

The Dallas area ranks seventh out of twenty-nine metropolitan areas in the United States adversely affected economically by traffic congestion. It needs new ways to manage traffic congestion and improve air quality. The Intermodal Surface Transportation Act of 1991 provides for a wide range of high technology solutions through better communication, intergovernmental cooperation, increased attractiveness of transit, and improved traveler information systems.

The main objectives of Research Project 9-591, *Development of a Dallas Areawide Intelligent Transportation System Plan*, are to:

- ◆ Improve safety and operational efficiency of existing transportation systems
- ◆ Reduce energy usage and environmental impacts
- ◆ Increase economic productivity
- ◆ Define projects for implementation
- ◆ Identify private and public funding sources

To meet these objectives, project staff have formed a steering committee representing TxDOT, Dallas County, affected cities, the Federal Highway Administration, Dallas Area Rapid Transit, the North Central Texas Council of Governments, and the private sector. This committee meets the first Thursday of ev-

ery month and as needed for workshops and technical presentations. Under the guidance of the steering committee, this project is to produce an implementable, integrated, areawide, multimodal, multijurisdictional Intelligent Transportation Plan, including the private sector as a partner and maintaining sufficient flexibility to incorporate emerging technologies. The project staff has also:

- ◆ Inventoried and documented existing traffic management
- ◆ Determined existing procedures and who is responsible for freeway incident management and recommended potential improvements
- ◆ Identified institutional issues affecting coordinated areawide incident and traffic management and conducted a workshop concerning cross-jurisdictional traffic control. Consensus was reached and documented in a related project report, 7-1980-7, *Traffic Signal Coordination under Incident Conditions*.
- ◆ Developed incident detection and response plans
- ◆ Coordinated with TxDOT to ensure that PDP projects scheduled for letting are complementary to the ITS plan being developed

Dallas County bond funds are providing seed money to implement the incident detection and response system on arterials, as well as corridor bottleneck improvements, and signal upgrading. TxDOT is already constructing bottleneck improvement on freeways and has established a traffic area office to implement other efforts identified in the plan.

The earliest benefit of the research project will be the incident detection and response system that coordinates across jurisdictional boundaries. However, the greatest benefit is the involvement of all the actors in the transportation process sitting down together to find courses of action in their best mutual interest. These actions will simplify, streamline, and make more effective the services they provide. Working through a comprehensive plan, they can modernize their equipment and procedures to work together with each other effectively. They also can assess the latest in technology in the rational comprehensive plan to reduce congestion, air pollution and energy waste further

Project 9-591 started in October 1994 and will end in August 1995. Work continues under the related Project 7-1980, *Development of an IVHS Plan for Dallas*

**RMC 9 — PD: Melanie Young, DAL
Researchers: James Carvell, Jr.,
and Carol Walters, TTI**

Focus on Research

The purpose of *Focus on Research* is to update engineers and technicians on items of interest in active or upcoming projects. The contents of the various articles do not necessarily reflect the official views of the FHWA or TxDOT.

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