

# Focus on Research

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

## Research Assesses Effectiveness of Transit Policies and Programs

Both research and experience indicate that transit is most effective when other supporting policies and programs (such as land use, zoning, development design, parking pricing and supply, trip reduction, growth management, and employer participation) are also in use. Ensuring that policies and programs in these areas support all types of transportation requires detailed study.

Project 7-1975, *Examination of Policies and Programs Supporting Transit Use in Texas*, has the following three objectives: (1) conduct a state-of-the-art

review of policies and programs supporting the use of high-occupancy commute modes and examine the impact of these on transit use; (2) identify the policies and programs that appear most appropriate for use in Texas, given the state's unique features and characteristics associated with land use, development, zoning, and transportation; and (3) develop examples of the general approaches and implementation techniques that appear most appropriate for use

by transit systems, communities, and TxDOT.

Short- and long-term benefits to TxDOT, transit systems, and communities in Texas will include an analysis of the possible barriers or issues associated with transit use, an identification of approaches most appropriate for use in Texas, and possible presentation of implementation techniques. The results will be of use by transit systems and communities in other parts of the country (especially the southwest) that have similar development and land use patterns. Finally, this research study will analyze the different types of policies and programs supporting transit use, their general costs and benefits, and the possible barriers or issues associated with their use.

The project started in November of 1992 and ends in August of 1994.

**Area 1 — Research Project Director:** Karen Dunlap, Public Transportation Division

**Researcher:** Katherine F. Turnbull, TTI

Office of Research and Technology Transfer,  
in cooperation with the FHWA



## CTR Study Evaluates Use of BCO on IH-10

In many large metropolitan areas, sections of the interstate highway system are nearing the end of their serviceable lives; yet, the structural performance and ride quality of these pavement sections can be improved by routine maintenance, rehabilitation, or reconstruction. The economic and technical feasibility of using bonded concrete overlays (BCO) as a solution for rehabilitation needs to be investigated, considering overall life-cycle costs and pavement quality.

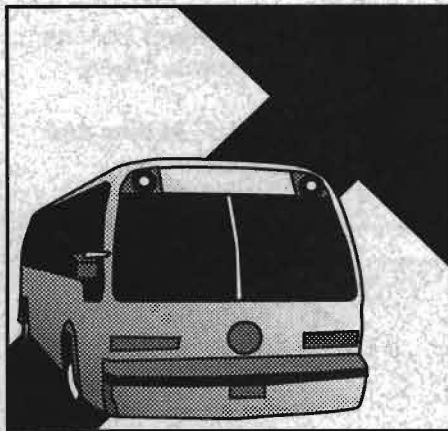
The objectives of Study 7-2911, *Full-Scale Bonded Concrete Overlay on IH-10 in El Paso*, are to evaluate the technical and economic feasibility of using BCO for IH-10 in El Paso; monitor materials, techniques, and climatic conditions during construction; and perform long-term monitoring of the completed BCO.

TxDOT will receive thorough documentation on the economic and technical feasibility of BCOs — documentation that will be useful in the development of design guidelines and construction specifications for BCOs. BCO construction, based on the research results, is scheduled for the summer of 1994 in the El Paso District.

The project started in October of 1993 and will end in August of 1995.

**Area 2 — Research Project Director:** David Head, P.E., El Paso District

**Researchers:** Drs. B. F. McCullough and David Fowler, CTR

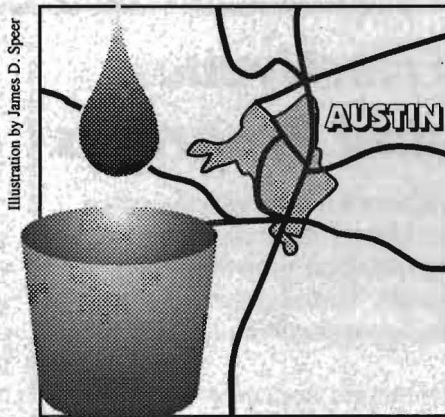


# Construction Impacts on Austin Creeks Studied

The *Consent Decree and Judgment* issued to TxDOT in January 1990 has halted both the proposed extension of Loop 1 (MoPac) and the construction of Segment 3 of SH 45 between Loop 1 and RM 1826 in Austin, Texas. Some principal concerns focus on the impact of construction on the water quality in the creeks and on the potential for contamination of the Edwards Aquifer by highway stormwater runoff. The proposed highway crosses at three creeks (Williamson, Slaughter, and Danz), with 12 total creek crossings. Several sections of the construction lie in a creek bed or parallel the creek for some distance.

Project 7-1943, *Water Quantity and Quality Impacts Assessment of Highway Construction in the Austin, Texas, Area*, is collecting baseline data on the quality and quantity of the water in the creeks upstream and downstream of the construction sites (and in areas not yet under construction). Research-

ers are evaluating in particular (1) the pollution loads contributed by existing highways in the Edwards Aquifer recharge zone; (2) the runoff characteristics of the new highway; and (3) the



effectiveness of runoff control structures and devices and of the pollution control and treatment systems installed at the sites.

The findings of this research project will provide accurate assessments of

the quality and quantity of water in the Austin area creeks crossed by the extension of MoPac South and by the portion of Segment 3 of SH 45 between Loop 1 and RM 1826. In addition, it will determine the effectiveness of runoff containment devices in the removal and retention of silt, estimating in the process the pollutant loads resulting from existing sections of highway under different climatological conditions and vehicle use patterns.

Finally, this project will produce runoff characteristics of the new highway and will install runoff control structures and pollution control methodologies.

The project runs from April 1992 to August 1995.

**Area 1 — Research Project Director:**  
**Tom Word, P.E., Corpus Christi District**

**Researchers: Drs. J. F. Malina and R. J. Charbeneau, CTR**

## Focus on Research

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

Contact Kathleen M. Jones (512) 465-7947, Office of Research and Technology Transfer, P.O. Box 5051, Austin, TX 78763-5051, if you need more detailed information on any one of these projects.



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