

# Expressway controlled Pavement stops hydroplaning

## computer system

Texas A&M University has developed a major computer facility in which controls the North Central Expressway corridor. The corridor consists of arterials, expressways and frontage roads that parallel it. These 39 frontage ramps, 15 frontage road interchanges and 14 arterial interchanges keep traffic moving in a 30-mile area from downtown Houston to the surrounding LBJ Freeway.

The system employs a system of microcomputers; (14 more to be added this summer) and a medium host computer to keep the traffic flowing toward town in the morning and out of town in the evening.

Senior Systems Analyst Charles W. Blumentritt of A&M's Transportation Institute (TTI), TTI works with the Federal Highway Administration in cooperation with the Texas Department of Highways and Public Transportation of the City of Dallas. The group works from a central control center at the Central Expressway.

The control periods are from 7 to 8 a.m. and 4:15 to 6:15 p.m. The system is designed to maintain a steady flow of traffic on the freeway so that it can operate at capacity, but not so loaded that it breaks down to stop and go, Blumentritt pointed out.

If the freeway is overloaded, the system allows the driver to use alternate routes like the frontage roads or arterials so he keeps progressing along the route, he said.

"We have nine TV cameras in a 14-mile stretch so that we have a

bird's eye view of conditions," Blumentritt noted. "We have a central telephone number so that drivers can call in for a traffic report."

There are also 300 vehicle detectors that measure volumes and speeds of traffic. These detectors print out any rapid drops in the flow of autos which indicate an accident or congestion.

"By having the frontage roads under computer control then a diversion of this type will allow traffic to proceed down the frontage road or some other alternate route," he added.

Other innovations are in the works for the near future. Sixty-two interchanges will be added to the computer control. Bus detectors in the pavement will pick up signals from a transponder on the bus and either shorten the red light or extend the green light to get the bus through the intersection more rapidly and decrease bus travel time.

Other TTI teams are working with displays to motorists to tell them of problems further down the freeway and to suggest alternate routes, Blumentritt said. "They are currently looking at what motorists will respond to."

"When you add up the memory sizes of the computers on the project it makes it one of the larger facilities around," he said. "The system is one of the largest on which the university is providing ongoing research and the largest designed by TTI. The facility will have a total of 35 computers at its first stage of completion."

Texas A&M University engineers may have licked the problem of hydroplaning.

Professor of civil engineering Bob M. Galloway is presenting the A&M findings to the International Symposium on Porous Asphalt this week in Amsterdam, Netherlands.

Galloway is a member of a blue-ribbon international group for the symposium at the Study Centre of Road Construction. There are participating representatives from the United Kingdom, Netherlands, Belgium, Denmark, Switzerland, Japan, France, Sweden and Germany.

The results of the A&M team's work can be seen on West S. H. 21 near Bryan. A sample of the free-draining pavement has been laid there and is currently being tested

with an overhead arrangement of sprinklers to simulate rainfall of up to three inches per hour.

"This type of open-graded asphalt mixture offers promise for improved safety on the nation's highways," Galloway said. "At this point it appears that high friction porous road surfaces offer one of the best methods available to minimize hydroplaning and maintain good, uniform friction during rainy weather."

"Also, in many areas selected local ingredients can be used to cut the costs of this new type surface and make it quite economically competitive," he added.

"We think the road will be free draining in rains up to the point where one could no longer see to drive safely," Galloway said. "Applica-

tions would be made on a priority basis in areas of heavy traffic, poor drainage and considerable rain like Houston, for example, where it would find extensive application."

The surface is laid down about one inch thick over the existing road.

The results of the Texas A&M research will be presented in the paper by Galloway and Jon A. Epps, professor of highway safety research. It is entitled "Laboratory and Field Evaluation and In-Service Performance of Free-Draining Pavement Surfaces."



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## Flight completes dedication of Easterwood control tower

Guy Davis, president of Davis Airlines, took a 13-minute flight and became the last man to use the old control tower at Texas A&M University's Easterwood Airport. After taking off he landed as the first to officially use the new control tower yesterday.

After being held up a few minutes because of rain, Davis took off at 10:07 a.m. under directions of the old tower. Flying in one of his twin-engine Cessnas, he landed at 10:20 a.m. under directions from the new tower.

His air controller was tower chief Bobby Clay. They were both here when the retired facility was first made operational 23 years ago.

Davis' flight inaugurated the new \$320,000 facilities which go into full swing with official dedication ceremonies to be held here July 1. The new tower is 14 feet taller, with en-

closed stairway and transistorized equipment.

The old tower was originally trucked to College Station from Ellington Air Force Base to help with radar controlled traffic at Bryan Air Force Base. Now the Easterwood field has the capability for handling large aircraft such as Boeing 727's and military C-130's and will work up to 300 light aircraft on a football weekend.

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## Extension Service given new director Pfannstiel

Dr. Daniel C. Pfannstiel has been named director of the Texas Agricultural Extension Service, the Texas A&M University System's public service agency which provides agricultural, homemaking, 4-H and summer assistance to thousands of Texans throughout the state.

Pfannstiel's appointment was announced last week by the Texas A&M University System Board of Regents, subject to concurrence of the Secretary of Agriculture. The appointment was effective yesterday.

The 2,000-employee service, which operates offices in all but two Texas' 254 counties, is a joint state-federal program which has traditionally served farmers, ranchers and residents of rural communities and is becoming increasingly popular with urban dwellers.

"We have searched throughout the nation to confirm what we thought was the case all along, that we already have in our ranks the best person for this key position," stated out Board of Regents Chairman Clyde H. Wells in announcing Pfannstiel's promotion.

Pfannstiel, 48, has served the Texas Agricultural Extension Ser-

vice for 27 years, as associate director since 1971. He joined the Extension Service upon graduation in 1949 from Texas A&M. He worked his way up through the ranks, from assistant county agent in Wharton County to county agent in Matagorda County in 1952. In 1956 he became administrative assistant at the service's College Station headquarters and became assistant director in 1959.

He succeeds Dr. H. O. Kunkel, Texas A&M's dean of agriculture, who has served as the Extension Service's acting director since February when Dr. John E. Hutchison retired as director of the largest state Extension Service in the nation.

"Dr. Pfannstiel is undoubtedly one of the most qualified administrative officers in the nation's entire Cooperative Extension Service," Dean Kunkel noted. "He has been eagerly sought by several other agencies but has chosen to stay and serve in Texas."

In addition to his B.S. degree in animal husbandry from Texas A&M, Pfannstiel earned a master's in extension education from Michigan State University in 1952 and a Ph.D. in extension administration from the University of Wisconsin in 1959.

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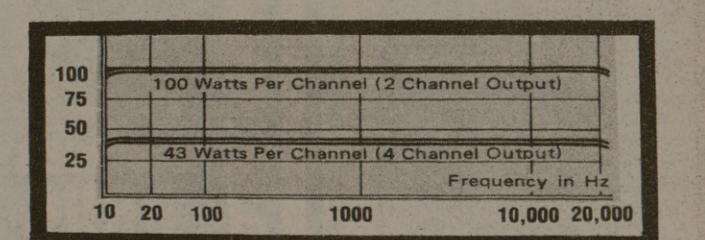
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