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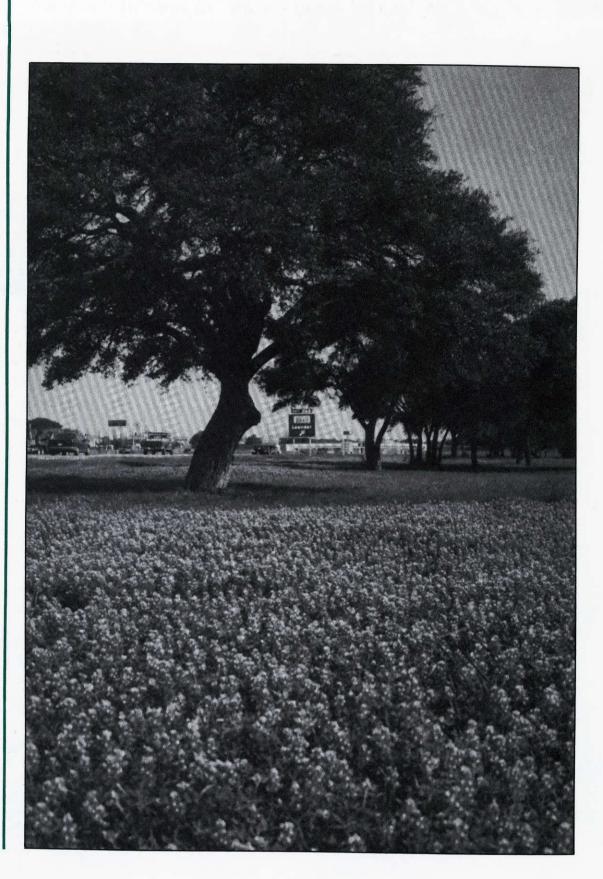
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# Transportation News

# PERSPECTIV

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### A Special Report from Transportation News

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# TRANSPORTATION

### January 1991

Volume 16

Number 5

A newsletter published monthly by the Travel and Information Division of the State Department of Highways and Public Transportation at 11th and Brazos streets, Austin, Texas 78701-2483.

Associate Editors	Jeff Carmack
	Gina McAskill
Typesetting	Carolyn Flores
	Margie Freeman
Printing	Equipment and
	Procurement Division

State Highway and Public Transportation Commission

Robert H. Dedman	Chairman
Wayne B. Duddlesten	. Member
Ray Stoker Jr.	. Member

Printed on recycled paper with soy ink

PERSPECTIVE is the third "yearbook" published by *Transportation News*. It is designed to update readers on the activities of each district and division. We hope this year's issue, more than doubled in size, will provide improved "perspective" on the highlights of 1990 and how each reader's responsibilities contribute to the department's mission.

A section on the department's environmental programs is a special feature of this year's PERSPECTIVE, in keeping with the department's renewed emphasis on helping to protect our natural environment.

Many people cooperated to produce this issue. Contributors in each district and division wrote about their activities and either sent photographs or enlisted the services of the Travel and Information Division's Audiovisual Branch. Typesetting and printing was accomplished by the Equipment and Procurement Division.

The magazine format has been adopted only for the January issue each year. You will receive your usual newspaper beginning again in February. Your comments on this special report are welcome.

## On our cover

Beautiful wildflower scenes like this one on Interstate 35 near Georgetown are the most visible and well-recognized evidence of the department's concern for the environment. How we see things often depends on how others show them to us. In the history of art, for example, the discovery of linear perspective allowed artists to represent the three-dimensional world more accurately. That, as I see it, is the role of *Perspective*, to illustrate and inform us all with the greatest degree of accuracy.

As a department, we've confronted some huge challenges in the past year: Sunset Review, rules on public involvement and environmental issues, and the Texas Highway Trunk System. Everyone needs to be aware of these, if we are to do our part as stewards of Texas transportation.

When the Legislature convenes in January, legislation must be signed into law for the department to continue operations. Our existence is not threatened; the Sunset staff supports our continuation as a separate agency. However, changes such as increasing efforts to recruit minority employees in upper management, changing regulations on overweight vehicles, and creating advisory committees will be debated.

In November, the commission formalized the Texas Highway Trunk System, a network of four-lane highways that will link cities with rural areas and provide access to major ports and points of entry. The trunk system will provide Texas' frame for the highway system Congress enacts at the national level.

We've also proposed rules to preserve and enhance Texas' natural environment. The proposed rules support a uniform administration of project development so that environmental issues get full consideration and the public has ample opportunity for involvement. As I said at the July district engineers and division heads meeting, "The issue is no longer how good our engineering is. We must win the confidence of the people on environmental awareness, accountability, and public affairs."

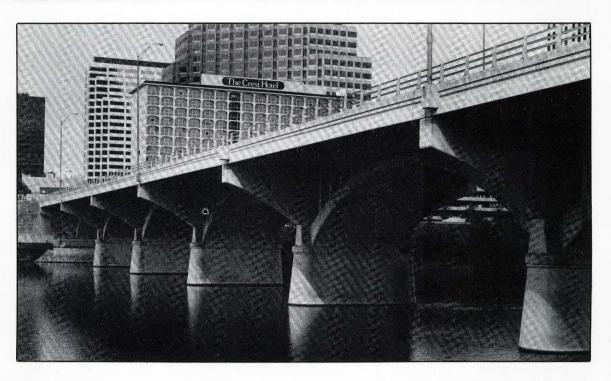
We also continue to do those things that have pulled us through other challenges. We're emphasizing traffic management to keep motorists moving and encouraging participation in Texas Association for Minorities in Engineering to introduce talented young people to careers in engineering. Our accomplishments are many, and each comes from your service.

In little ways, we've all experienced the crunch of the department's funding problems during the last year. The problem has arisen for three primary reasons. Inflation has reduced the department's buying power over the last six years by \$575 million. At the same time the dollar has been shrinking, the needs of the system have been growing, both in maintenance and construction. And in order to meet budget problems in other areas, the Legislature has diverted approximately \$200 million a year out of highway funds to other state needs. These are the causes for reducing the letting schedule from \$1.6 billion to \$1.3 billion.

But, as the old proverb goes, "It's a long road that has no turning." We'll be working hard to find solutions to our problems, even creating new techniques to do things more efficiently with the resources we have at hand — like those inventive artists who put new angles in their art. The best things about our future are that we share a common perspective — and we'll be working together. I have faith in all of you.



### Special section



The Congress Avenue Bridge in Austin is an example of how a historic structure was widened without destroying its grace. The span is also home to the world's largest urban colony of bats.

4

L he decade of the '90s, while hardly a year old, has already been dubbed "the environmental decade." 1990 saw the 20th anniversary of Earth Day, which paralleled a rise in environmental awareness that seems to penetrate even to the grassroots level. Even McDonald's has kicked the styrofoam habit and now uses paper for packaging its burgers.

People around the world are gradually coming to the realization that Earth and its capacity to absorb abuse are not limitless, and that it is no exaggeration to say that our survival depends upon protecting our planet.

The Texas State Department of Highways and Public Transportation has renewed its commitment to protecting our environment. The department strives to make environmental soundness a reality by making the environmental process an integral part of the project development process, through state-of-the-art mitigation methods, avoidance alternatives, and training in environmental awareness for department employees.

The careful consideration of environmental issues may increase project development time and project costs, as more money is spent on mitigation and aesthetic improvements. Although there will be more short-term time and money spent, long-term time and costs can be reduced through greater outside agency and public satisfaction with department projects.

A 15-member task force was appointed this summer to develop an environmental policy statement and programs to complement that policy. The statement has been drafted and is currently being reviewed by the task force.

In response to growing public concern and federal environmental legislation affecting project development, the department established the Environmental Section in the early 1970s as a part of the Highway Design Division (D-8). Its ranks were bolstered in 1985 when the Archaeology Section, which was established in 1970, was merged with it.

The section's mission is to interpret state and federal regulations, beginning with the National Environmental Policy Act of 1969, and help the department comply with them.

While the districts are responsible for preparing environmental documents, performing various environmental analyses, and conducting public involvement procedures, D-8E reviews and edits these documents, determines the state and federal review each project requires, and coordinates with the appropriate agencies. A state-funded rehabilitation project might require only review and approval by the section. A more complex project, however, might require coordination with several agencies, such as the U.S. Fish and Wildlife Service and the Texas Department of Parks and Wildlife, the State Historic Preservation Office and the Advisory Council on Historic Preservation, the U.S. Coast Guard and the U.S. Army Corps of Engineers.

### Sound abatement

The department must consider noise affecting property next to proposed highway projects. This includes analyzing ambient and predicted noise levels and evaluating whether soundwalls will alleviate a problem.

D-8's Environmental Section has developed computer models to help the districts prepare noise analyses, and provides other technical assistance to the districts. In addition, new materials and techniques are being evaluated to provide more efficient soundwalls — for both abatement and economic value.

There are now approximately 45 projects in the state with planned soundwalls. The total estimated cost of these soundwalls is \$32 million, with projected letting dates over the next three years.

Some projects with soundwalls are south US 59 in Houston, where 14,400 linear feet of soundwall to shield 220 residences is currently under construction. The total cost of this soundwall will be \$3,780,000. Another project in Houston is Beltway 8, where 19,550 linear feet of soundwalls were constructed to shield 70 residences, at a total cost of \$3,992,000.

In Austin, 12 soundwalls are planned along FM 734 (Parmer Lane) to shield 137 residences at a total cost of \$531,800. A soundwall in Dallas County along Texas 190 shields 71 residences and cost \$1,476,000.

### Hazardous materials

Hazardous materials affect almost every aspect of the department, from wastes generated by asphalt extraction procedures, to paint used to stripe roadways and chemicals to control roadside vegetation, to underground storage tanks or hazardous-material dumps encountered during right-of-way acquisition or construction.

To streamline the handling of hazardous materials, the department in 1990 assigned a hazardous-materials ("haz-mat") officer and haz-mat administrator from the Occupational Safety Division (D-20).

An administrative circular distributed in 1990 names D-20 as the office of primary responsibility in coordinating haz-mat matters, and outlines the responsibilities of all other divisions, with the exception of the Public Transportation Division and the Division of Motor Vehicles.

In addition, the circular ordered each district and division to select a haz-mat coordinator and alternate to serve as points of contact for haz-mat management.

As an energy-producing state, Texas has many petrochemical and chemical industries.

### Special section

particularly in the southeast. Within the scope of project development, the department is developing procedures for considering haz-mat sites in environmental documentation.

During environmental planning and review, sites such as abandoned gasoline storage tanks, service stations, landfills, asbestos in structures taken for right-of-way, and spills that have occurred within the right-of-way for a project are evaluated. When haz-mat sites are identified early in project development, they can be either avoided or mitigated.

This field of environmental concern means, in addition to development of new procedures, the need for training in site identification and mitigation. These new procedures should be implemented early this year, and training completed by mid-1991.

### **Endangered** species

The department evaluates the possible effects of highway projects on endangered species and recommends mitigation to ensure both compliance with agency regulations and the protection of the species.

An example of a project involving endangered species and mitigation of possible effects is Texas 6 in Brazos County. The project was determined to affect the Navasota ladies' tresses, a federally protected plant. In coordination with the U.S. Fish and Wildlife Service, an eight-acre preserve was established within the right-of-way. This area is now available to qualified scientists for the study of the species.

The Queen Isabella Causeway between Port Isabel and South Padre Island is an ongoing endangered-species project. The endangered-species coordination began long after the causeway was built. Concerned citizens noticed that many brown pelicans, a federally protected bird, were being hit by cars on the causeway, particularly during high winds. As a temporary measure, signs have been posted warning motorists of the possibility of birds on the structure. Additionally, the Texas Transportation Institute at Texas A&M University is under contract to research the problem and recommend more permanent solutions. This research is in its final year.

The Edwards Plateau is home to many endangered species. The department actively considers seven federally protected species in that area. Two of these, the black-capped vireo and the golden-cheeked warbler, are songbirds. Five are cave invertebrates.

D-8's Environmental Section has conducted the only statewide study of the black-capped vireo. The study included surveying areas that supported vireos in the past, as well as noting suitable habitat for the species. In addition, a biological consultant was contracted to survey parts of Travis County for individual birds and nesting territories.

### **Aquifer protection**

A growing area of environmental concern is water quality in aquifers. The department has responded to this concern by encouraging mitigation and coordination in these sensitive areas.

The Edwards Aquifer is the only designated sole-source aquifer in Texas an aquifer that is the only source of water for some cities. Both Austin and San Antonio rely on the Edwards Aquifer for their water, and current and future highway projects cross these areas. Therefore, mitigation efforts are of prime importance. Highway Design's Environmental Section proposes mitigation methods to the districts and coordinates mitigation measures with the Texas Water Commission through a regulated permitting process.

A venture between the department and the United States Geological Survey (USGS) is planned for the near future. Highway runoff will be studied to document its effect on receiving waters in the Austin area. Several locations will be monitored, and the efficiency of a newly designed filter will be tested. Results will be used as a reference for water quality mitigation on projects crossing the Edwards Aquifer and other sensitive areas throughout the state.

# Wetlands identification and mitigation

The awareness of wetlands as unique ecosystems has grown tremendously in the past several years, and as a result the department has developed expertise in identifying wetlands involved in highway projects.

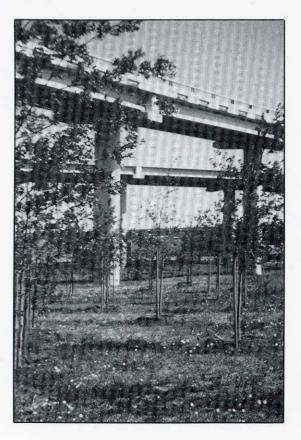
An example of a completed mitigation project is the creation of 40,000 square feet of bay bottom adjacent to Park Road 22 in Nueces County. Transplanting sea grasses proved successful in establishing the desired bay bottom habitat.

The department is negotiating with the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, the Environmental Protection Agency, the National Marine Fisheries Service, the Texas Parks and Wildlife Department and the Texas General Land Office to set up a program of "banking" wetlands. Under this program, the department would create or enhance wetland areas on land managed by the Texas Parks and Wildlife Department, and wetlands taken in highway projects would be "credited" to these areas.

The program would compensate for the effect of future projects on wetlands and lessen negotiating times for permits. Additional benefits for wildlife management, recreation and species protection would also be realized.

### Landscaping, vegetation management, and litter control

The department's commitment to environmental protection stretches back at least as far as the 1930s. In 1930, State Highway Engineer Gibb Gilchrist outlined and instituted a policy of preserving trees along rights-of-way. Three years later, he hired a landscape architect and charged him with making the highways beautiful. In a letter to all division and resident engineers, Gilchrist said, "I want you to work with him and give him every assistance in the beautification of highways."



A landscape project in the Houston District is designed to re-establish native plants and trees.

### Special section



The department is sponsoring an investigation of Freedmen's Memorial Park, a Civil War-era cemetery that will be affected by the widening of North Central Expressway in Dallas. The reasons behind the beautification program are manifold. Several are practical; using native vegetation helps control soil erosion and cuts down on maintenance costs, protecting the highway investment. Colorful and well-planned plantings also break the monotony of highway driving, making traveling safer.

The extent of the department's commitment to beautification is evident in its policy of dedicating 1 percent of the funds for new highway construction to landscaping.

That commitment includes several other programs as well. "Don't Mess with Texas" is the most visible part of the department's war on litter. Begun in 1985 in response to annual litter-pickup costs that had reached \$20 million and were increasing by 15 to 20 percent a year, the campaign has resulted in a 60 percent reduction in visible litter along Texas roadsides.

The Adopt-a-Highway program, which also originated in Texas, allows civic, fraternal, school and other groups to formally adopt two miles of roadway and to clean it at least three times a year. More than 3,600 groups now participate in the program, and most of the other states have instituted a similar program or are considering one.

The Landscape Development Matching Program allows civic organizations, private developers, local cities, other governmment agencies, and private groups to undertake joint landscaping ventures with the department. The program calls for 50/50 sharing of costs, but the department allows for in-kind services, cash, or a combination of the two for the contributing group's half.

The department's support of Keep Texas Beautiful, Inc. is designed to get grass-roots involvement with local litter reduction programs and individuals statewide. Since the department began supplementing KTB's budget in 1985, hundreds of additional community beautification groups have become involved in the organization's programs.

Research on landscape design using wildflowers and other native plants has resulted in innovative methods for soil erosion control in environmentally sensitive areas. In constructing Loop 1 South in Austin, for example, the department employed native seedlings and grasses to hold the soil together, ditches lined with a special matting which allows plants to grow through it, and extensive preconstruction planning to prevent pollution of Barton Creek by construction activities and heavy equipment.

### Training

The Environmental Section of D-8 is deeply involved in training department employees for environmental and archaeological studies. A variety of classes, both formal and informal, have been designed and developed by section employees.

### Environmental overview training

This informal, half-week training was designed by the section to provide an overview for new employees working in the environmental field. Basic information is given in an informal setting to encourage questions on specific projects. The classes are kept small to provide one-on-one instruction.

### Highway design schools

In 1987, the department instituted a series of schools to provide training in the design process. A brief environmental overview is presented in the second level of the design school. A half-week course is given in the third level that includes air and noise modeling and more detailed information on document preparation, archaeology, ecology, and socioeconomics.

### Wetland schools

This basic, one-week course in the identification and classification of wetlands is typically divided into regions of the state to provide local personnel an opportunity to learn about wetlands within their own region. District and residency personnel are trained to determine the necessity for wetland permits. In 1990, 45 employees were trained in wetland identification.

To provide a more in-depth look at wetlands, a wetland delineation school is planned for this spring. This school will further develop the expertise of district personnel in determining the the effects of highway projects on wetlands.

### Field archaeology training

District personnel are trained in basic identification of surface archaeological features within projects, borrow pits, and construction haul roads. Training lasts one to two days. District personnel do not make final archaeological determinations, but provide the most basic and preliminary form of survey. All site evaluation is done by the Environmental Section's archaeological staff.

### National Highway Institute

In order to provide the districts with the latest information on a variety of subjects concerning the environment, the department frequently contracts with the National Highway Institute to provide training courses. Recent course offerings have included noise abatement and analysis and public involvement.

# The future in environmental planning

Environmental rules and regulations are only becoming tighter, with less negotiating room than in the past. Agencies are more carefully scrutinizing department projects to ensure that environmental problems are either avoided or mitigated for. This coordination is a role that is becoming more and more critical for the Environmental Section and the districts.

The department, too, has recognized the sensitivity and importance of the environment in highway planning. In providing an environmentally sound roadway system for the citizens of Texas, the department is committed to a proactive stance towards the environment.

The Highway Design Division is currently formulating rules for the environmental processing of state-funded projects. These rules are modeled after Federal Highway Administration regulations, to provide continuity in project development and approvals. It is anticipated that these rules will be published in their final form in the *Texas Register* in 1991.

# Administration

### T

A he retirement of Deputy Director Al Castello in 1990 prompted a realignment of duties for the department's four deputy directors.

Castello, who had been battling health problems, retired Aug. 31. He had overseen support operations since 1984 and was the first non-engineer deputy director in department history. He received the first Raymond E. Stotzer Jr. Award in October for his outstanding service.

The realignment put Marcus Yancey, deputy director for planning and policy, in charge of the Planning and Policy, Transportation Planning, Public Transportation, and Automation divisions. Roger Welsch became deputy director for field operations, overseeing the Equipment and Procurement, Construction, Materials and Tests, and Maintenance and Operations divisions. Henry Thomason, as deputy director for support operations, is responsible for Finance, Motor Vehicles, Human Resources, Travel and Information, and Occupational Safety divisions.

Frank Holzmann, a 34-year veteran of the highway department, moved from his post as head of the Highway Design Division to become deputy director for project development. He oversees the Bridge, Highway Design, and Right of Way divisions. The reorganization allows the engineer-director to appoint an information resources manager, who will coordinate compliance with Department of Information Resources requirements, develop a strategic plan for information resources, and administer the department's Executive Information System.

### Office of General Counsel

During 1990, among many other activities, staff attorneys have

- served as hearing officers in selected grievance hearings,
- represented the department in administering environmental compliance in proceedings brought by other state agencies,
- assisted the Highway Division of the Attorney General's Office in contractor claim cases,
- provided counseling on compliance with requirements of the Open Meetings and Open Records acts, and requested 21 rulings from the Attorney General on open records requests.

The General Counsel is chairman of the Legislative Information Team; staff is in the final stages of drafting proposed bills for the next legislative session.

The office also has responsibility for administrative rule-making by the commission. During the past year, the office has drafted rules pertaining to such matters as the Texas Highway Trunk System and the sick-leave pool program, and have helped revise rules relating to permits for oil-well vehicles, the substance abuse program, and other areas.

### **Internal Audit Section**

The section is an independent appraiser for the review of operations both internal and external to the department. The unit helps the department's managers effectively discharge their responsibilities by providing information on financial, operational, and support activities. External audits in fiscal year 1990 resulted in \$120.6 million of billed costs involving federal, state, and local government funds that resulted in \$1.08 million of questioned costs and payment reductions of \$1.04 million.

### Special Projects Office and Sunset Review

The Special Projects Office (SPO), which reports to the deputy engineer-director, provides analytical and coordinating capability to the administration and the commission.

The consuming activity for SPO during the past year has been the administration of the the department's Sunset Review, a process through which the state Legislature evaluates the purpose and effectiveness of every state agency, about every 12 years. Legislation must then be adopted to continue an agency and incorporate any changes.

The department is well past the midpoint in the two-year Sunset Review process. The Sunset Advisory Commission (SAC) staff delivered a detailed report on the department in July, and the SAC held a public hearing on the report in September. At a "decision meeting" in October, the SAC considered and acted on the 16 issues arising from the SAC staff report and 23 new issues aired in the hearing. The SAC adopted 11 of the issues from the report and 3 from the hearing.

A bill reflecting these recommendations, drafted and endorsed by the SAC, will be acted upon during this spring's legislative session. Some of the more significant of the issues identified by the SAC that may be debated in the Legislature include recommendations to continue the department as a separate agency, to increase recruitment and hiring of minority and female employees, and to develop rules for the process of environmental impact reviews.

The bill will be subject to the same process of amendation as any other legislation. Passage of a reauthorization measure for the department is required by the end of May, with an effective date of Sept. 1.



Special Projects Office staffers and members of the Sunset Review team observed a concrete pour in Austin as part of their examination of department operations. **P**aris District employees are becoming more aware of the importance of preserving and improving our environment. Handling, proper use and disposal of all materials are being taught through a series of classes and meetings.

From computer printouts to memos, the Paris District produces a mountain of paperwork. Employees are separating this paper for pickup by a recycling company. Recycling paper reduces the need for landfill space and helps save trees.

In another environmental area, litter reduction, the employees of the district take a serious stand. Many are active in Adopt-a-Highway groups, and local news media provide good publicity for both litter prevention and pickup activities.

In July, a formal groundbreaking ceremony celebrating the start of construction of the Clarksville bypass was held. The project had been in planning and design for about 20 years.

Clarksville Mayor Gavin Watson had many compliments for the highway department. He spoke to a crowd that included state Sen. Bill Ratliff, Engineer-Director Arnold Oliver, former engineer-director Luther DeBerry, Paris District Engineer Bobby Myers, and former district engineer Bob Thornburrow.

Oliver told the group that "this project ... will be as important to Red River County as the expansion of North Central Expressway ... will be to Dallas." Following several days of heavy rains in May, water ran over the spillway of the Lake Texoma dam. This was only the second time since the dam's completion in 1944 that water had risen so high.

The result was a wall of water coursing down Shawnee Creek, crashing into and over US 75A. The road was washed away.

When the floodwaters receded, inspection revealed damage that would take at least three months to repair. This meant that the

### **Counties:**

Delta, Fannin, Franklin, Grayson, Hopkins, Hunt, Lamar, Rains, Red River

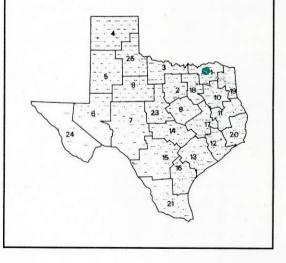
Centerline miles: 3,178

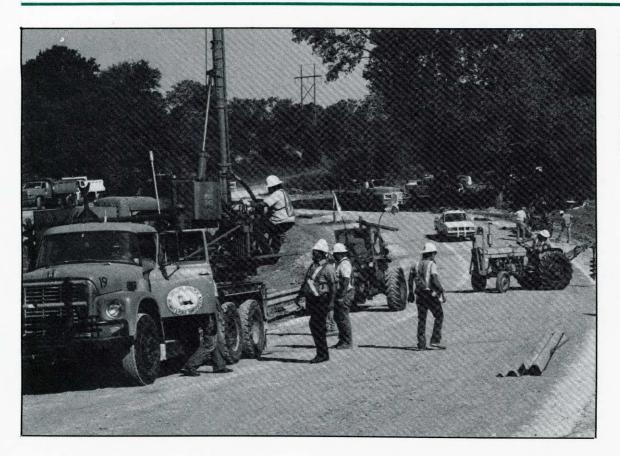
Lane miles: 6.968

Registered vehicles: 272,970

Employees 399

**District Engineer:** Bobby L. Myers, P.E.





A Paris District crew installs guardrails along a US 75A detour. The project was paid for with private funds to hasten construction of the detour around the flood-devastated roadway.

road would be closed during the peak summer business season. Several business owners felt that they would be hurt financially if the road remained closed until repairs were finished.

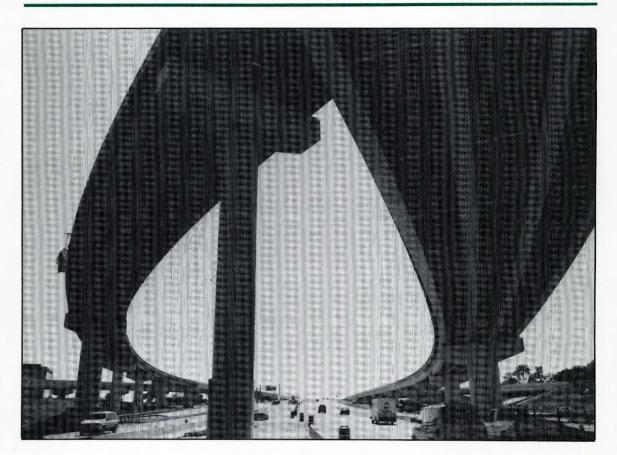
The solution to this problem came in the form of an unusual joint venture between a private citizen and the department.

Dallas businessman H. Ross Perot came forward with a generous offer to build a temporary detour, using his employees and equipment.

The Sherman Residency staff worked with Perot's people, providing construction plans and inspection. Grayson County maintenance forces and Paris District special crews installed the guard rail, detour signs, drums, vertical panels, raised pavement markers, and striping.

The temporary detour was completed in a record 14 days and traffic was restored on the "Oklahoma connection." The public and local business owners were very pleased.

# ) Fort Worth



The Interstate 30/I-820 interchange was completed in November, one year ahead of schedule, directly connecting the freeways for the first time.

> Over the past year, Texans have been motivated to lobby for better control over their environment. The Fort Worth District has worked to ensure a clean, beautiful environment compatible with the construction of highways. The district currently has more than S277 million in construction projects, the third highest total in the state.

The district cooperated with the city of Arlington, the University of Texas at Arlington, and area businesses on designs for Farm-to-Market Road 157 that would complement the university's campus. Expansion was required because of increasing traffic and student enrollment. FM 157 was widened to six lanes and slightly depressed, and three elevated pedestrian crossings were included. The roadway and support facilities blend with the campus' architecture.

Environmental analysis and planning are under way for two sections of Texas 199 between FM 730 and the proposed Texas 121. This project will reconstruct 16 miles of four-lane boulevard to a freeway.

### Counties:

Erath, Hood, Jack, Johnson, Palo Pinto, Parker, Somervell, Tarrant, and Wise

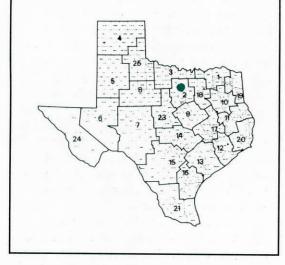
**Centerline miles:** 3,070

Lane miles: 7,870

Registered vehicles: 1,259,890

Employees: 792

**District Engineer:** J.R. Stone, P.E.



The Fort Worth Nature Center and Wildlife Refuge is next to one section of Texas 199. The district plans to use compatible vegetation, selected by nature center personnel, in the right-of-way. Another section lies between a historical district and a park. Landscaping and attractive retaining walls will make the highway and the park more visually compatible. A retaining wall designed to complement remnants of a 1932 wall will be constructed on the historic district side.

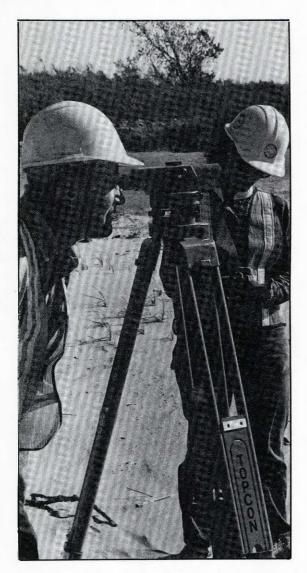
Planning is continuing for the extension of Texas 121 from I-35 West northwest of the Fort Worth central business district south to Cleburne, an all-new-location project. On the section between I-35 West and Texas 199, existing roads, railroad yards, and a neighborhood with several historic homes mean community involvement is needed to solve problems concerning the roadway. Landscaping is being studied as a way to soften the freeway's effects, and multi-use development — such as use of land beneath structures for recreational purposes — is also under consideration.

Several projects around the new Alliance Airport were under way this year. The commercial airport will have access from the new Texas 170, from the interchange of I-35 at Alliance Boulevard, and another interchange at I-35 at Keller-Haslet Road.

The I-35/I-20 five-level interchange is on schedule for completion in spring 1991. The \$68.8 million project is being constructed while about 155,000 vehicles per day travel through the interchange.

One year ahead of schedule, the I-820/I-30 interchange was completed in November 1990. I-30 was originally constructed as a turnpike, and later became part of the Interstate system, but there was no connection between I-30 and I-820. Motorists had to use city streets to get from one Interstate to the other. The new interchange finally provides direct connections between the two freeways.

# Wichita Falls



Charles Herrmann and Tammy McClung of the Wichita Falls Residency do bridge plan work in the Red River bottom.

For the Wichita Falls District, 1991 will be a year of continued planning for future projects, a year of small, but badly needed projects, and a year of budget restrictions brought on by the uncertain state of the economy.

It will also be a year of optimism, a year of evaluation and of hope for a brighter, more prolific period of building highways to meet the ever-increasing demands of traffic.

Planning continues for the construction of a new bridge over the Red River between Muenster and Nocona with a possible letting date in the latter part of 1991. The project also calls for some new sections of farm-to-market roads to provide better access to the bridge. Workers from the Bowie Residency and district office have been involved in planning and site work for this exciting project, which is being coordinated closely with the Oklahoma Department of Transportation.

The long-awaited bridge will fill a need for motorists on both sides of the river. The project is located in some of the most historic country of Texas near the famed Spanish Fort, which dates back several centuries in Texas history.

Another section of Kell Boulevard (US 82) in Wichita Falls has been completed and opened to traffic, meeting with approval from motorists throughout the area. The new roadway relieves pressure on the service roads and provides a quicker and safer alternative for motorists.

Planning continues for an elevated expressway for some 14 blocks of Holliday and Broad streets (US 287) in Wichita Falls. Schematics have been submitted to the Federal Highway Administration, and the Texas Transportation Institute is preparing an economic study. An environmental statement will be submitted in spring 1991. Alternatives to the elevated section are a depressed section covering the same route, and loops around the city.

Some 100 smaller projects, with a price tag totaling \$15.6 million, will provide storm sewers, wider roadways, improved shoulders, bridge replacements, and seal-coat projects as well as other needed work. With the oil industry making a comeback in North Texas, many of the projects in rural areas are badly needed because of increasing traffic volumes and heavier loads.

The shaky economy of the nation during the past year has not hurt the travel information centers in Wichita Falls and Gainesville. Visitors to the centers totaled 519,000 over a 12-month period, up from 460,000 the year before.

Department employees helped with routing and safety details for the 1990 Hotter 'n Hell Hundred. The bicycle ride pulls some 12,000 participants into Wichita Falls. The August event is recognized internationally and much of the course is on state roadways.

Retirements of veteran employees are leaving a dent in the overall experience level of the district work force, but bright new employees are tackling their work with a fervor that guarantees continued success and efficiency for future years.

### Counties:

Archer, Baylor, Clay, Cooke, Montague, Throckmorton, Wichita, Wilbarger, and Young

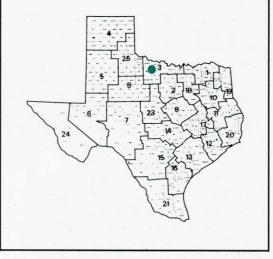
**Centerline miles:** 2,744

Lane miles: 6,303

Registered vehicles: 220,257

Employees: 330

**District Engineer:** Jimmy Stacks, P.E.



4

# Amarillo

Major projects under way in the Amarillo District include reconstructing the mainlanes and replacing the Rock Creek bridge on Texas 136 in Hutchinson County; grading and resurfacing the freeze-damaged US 287 in Sherman County; an overlay with safety end treatments on US 83 in Lipscomb County; and widening and adding shoulders to US 385 in Oldham County.

Projects completed in 1990 include rehabilitating a structure in the Interstate 40/I-27 interchange in Amarillo; resurfacing and adding safety features on I-40 from Coulter Road to the Santa Fe Railroad overpass; and replacing two structures on and widening Ranch-to-Market Road 1061 in Amarillo.

The largest project scheduled for 1991 is the replacement and widening of the 15th Street overpass on US 60/87 in Amarillo. This overpass is a vital link between the I-40/I-27 interchange and the downtown dispersal system. Proposed work at this location includes adding two lanes each way with channelization and replacing the existing steel spans with a widened, prestressed box beam bridge.

A second major roadway project is scheduled for RM 1061 in Potter County from Loop 552 to Coulter Road. Proposed work for this project includes widening and strengthening the existing roadway from two lanes to an urban curb and gutter section, with four lanes and continuous left-turn lane. The third major project is the construction of Spur 591 to serve the recently completed William P. Clements Correctional Justice Facility in Amarillo. The fourth major project is a new highway at a dam site from Farm-to-Market Road 3214 to Texas 15 in Hansford County. District 4 is working in conjunction with

### **Counties:**

Armstrong, Carson, Dallam, Deaf Smith, Gray, Hansford, Hartley, Hemphill, Hutchinson, Lipscomb, Moore, Ochiltree, Oldham, Potter, Randall, Roberts, and Sherman

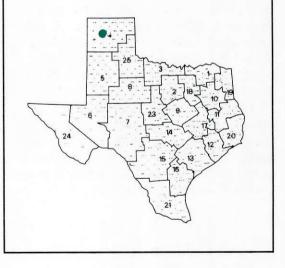
Centerline miles: 3,693

Lane miles: 9,163

**Registered vehicles:** 330,667

Employees: 430

**District Engineer:** James N. Moss, P.E.



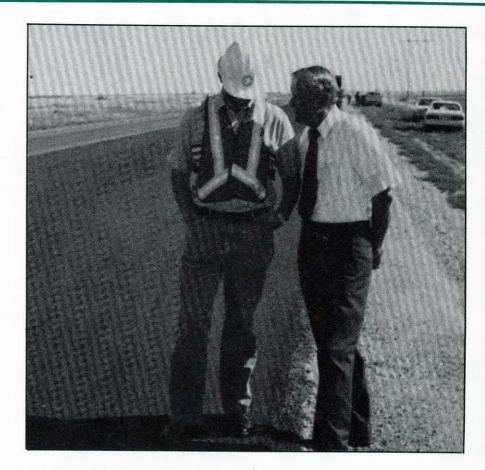
Hansford County and Freese & Nichols Consulting Engineers for the construction of a new FM road across a dam being built to form the Palo Duro Creek Reservoir in the northern Panhandle.

Earlier in the year, Leon Wood, manager of district traffic operations, was the first recipient of the Richard H. Oliver Award, created by the Maintenance and Operations Division to recognize significant contributions to safety and traffic operations. Wood was commended for his efforts in developing traffic management teams, communicating traffic engineering principles to local government and law enforcement officials, and furnishing expert testimony in litigation.

Jim Day, an inspector, was honored by the Associated General Contractors and the highway department with a Texas Project Award for joint efforts with a contractor to improve the subgrade soil throughout a 4.7-mile project to build the southeastern quadrant of Loop 335 in Amarillo. Martin Rodin, a design engineer, received a Texas Project Award for developing an innovative design that allowed two lanes of traffic in each direction to continue throughout construction without crossing the median.

In May, 300 employees were recognized during the district's third annual safety awards luncheon.

In September, District Engineer Bill Lancaster became head of the Highway Design Division. Assistant District Engineer Jim Moss was promoted to district engineer, and District Design Engineer Ron Hillier was promoted to assistant district engineer. Assistant Design Engineer John Willis was promoted to district design engineer.



Engineer specialist Don Clark, left, and Dalhart Resident Engineer Lou Gallegly discuss the unique characteristics of placing an overlay containing ground rubber. 5

# Lubbock

A developing network of excellent highways in the district is evidence of an effective relationship with local governments and chambers of commerce. Together they work to meet the continuing transportation needs of Lubbock and the surrounding cities, communities, farms, and ranches in 17 counties that make up the Lubbock District.

Noticeable progress has been made this year on the construction of Interstate 27. Since its beginning in 1987, the project has progressed ahead of schedule. Three major portions of the freeway are scheduled for completion in 1991, while the last project is expected to be completed in the spring of 1992. This \$136 million project completes the last segment of new Interstate construction in Texas.

Coinciding with the construction of I-27 is the preparation of design drawings and environmental studies for a major east-west freeway in Lubbock. This freeway will serve as a connector in northeast Lubbock to I-27, providing a smoother flow of traffic around the central business district and Texas Tech University. In southeast Lubbock, a recent contract to upgrade a section of Loop 289 from four lanes to six lanes will improve travel connections to I-27.

During 1990, the district has been involved with several environmental projects. A cooperative effort with the Texas Parks and Wildlife Department will develop access to the Lubbock Lake Site, an archaeological site dating back 12,000 years. An extensive archaeological investigation in Plainview, near the distinctive "Plainview Point" arrowhead site, was done in preparation for the extension of Texas 194. An archaeological survey was conducted in a historically diverse area of Garza County to prepare for the improvement of Farm-to-Market Road 2458 and the construction of the newly designated FM 3519 to Lubbock's new reservoir at Lake Alan Henry.

Right-of-way purchasing is near completion, while construction on the first of

### **Counties:**

Bailey, Castro, Cochran, Crosby, Dawson, Floyd, Gaines, Garza, Hale, Hockley, Lamb, Lubbock, Lynn, Parmer, Swisher, Terry, and Yoakum

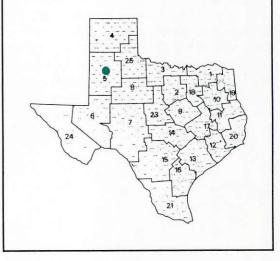
Centerline miles: 4,914

Lane miles: 11,645

**Registered vehicles:** 361,717

Employees: 505

**District Engineer:** Mel Pope, P.E.





Reviewing Interstate 27 construction plans are Fred Long and Lewis Gamboa, inspectors for the project.

three contracts converting US 60 to a four-lane divided highway has begun in Parmer and Castro counties. These improvements are part of a joint Texas-New Mexico plan to upgrade 400 miles of the US 60/70 route from Las Cruces, N.M., to Amarillo.

Along I-27 between Lubbock and Plainview, a new rest area has been opened. The well-lighted area includes picnic tables, restroom facilities, an ensemble of maps, and valuable information on the Lone Star State.

A collective effort by the city of Post and the district resulted in a unique beautification project on Main Street (US 380) in Post. Beautification work featured brick work, trees, grass, park benches, and old-time street lamps. The completion was highlighted with a dedication by state Sen. John Montford and state Rep. David Counts. Karl Bednarz, engineer in Lubbock Rural Residency, was recognized as Outstanding Young Man of America; Nellie Gomez, engineer in the Lubbock Urban Residency, was a nominee for Lubbock Hispanic of the Year; and Leonard Albus Jr., engineering technician in the Littlefield Residency, was awarded the prestigious Silver Beaver Award for his distinguished leadership in Boy Scouts.

The district considers 1990 a successful year, having the most valuable of all resources — dedicated employees.

# Odessa

The great strides made in the Odessa District during the past year exemplify its dedication to the growth and development of the Permian Basin.



The Odessa District's pride is evident not only in highways but in its buildings and landscaping. Sally Boyd helps care for the grounds at the district office. Recently, emphasis has been placed on the diversification of the economy in West Texas. This has increased the demand for quality transportation, and District 6 has continually met those demands.

The area is served by a vast array of industries, including agriculture, electronics, and communications. The oil industry has experienced a recent upswing, with prices topping \$40 per barrel at times.

District 6 is largely rural, and only two other districts serve a larger area. More than 300 miles of Interstate highway lie within the district. The largest communities, Odessa and Midland, are home to 223,000 people, and are considered one urban area when assessing transportation needs.

While competition between the two cities is often evident, the highway department has physically bridged the cities with three highway routes. The newest, Texas 191, has completed frontage roads and is the site of the first three-level interchange in the district. The interchange will be completed in 1991, along with a portion of the main lanes and an additional interchange. The highway is already competitive with Interstate 20 in the number of vehicles that it carries between Odessa and Midland.

Due to the efforts of department employees, a valuable spirit of cooperation has developed throughout the district. This

### **Counties:**

Andrews, Crane, Ector, Loving, Martin, Midland, Pecos, Reeves, Terrell, Upton, Ward, and Winkler

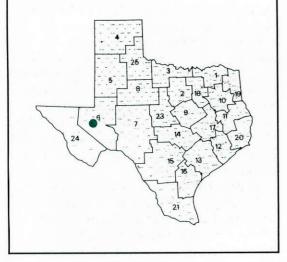
Centerline miles: 3,291

Lane miles: 7.861

Registered vehicles: 282,408

Employees: 355

**District Engineer:** Marshall Huffman, P.E.



attitude has unfolded through working with various government entities and public organizations. Citizens throughout the district are aware of the role the department has taken in enhancing the environment. In Ector and Midland counties, more than 1,000 desert pine and desert willow trees were planted along US 80. Many other areas have been extensively landscaped, with the goal of beautifying major entrances to cities. The "Keep Midland Beautiful" organization is a two-time recipient of the Governor's Community Achievement Award. In conjunction with the highway department, the group has completed construction and landscaping on a park and several traffic islands.

Several other areas have been chosen for upcoming beautification projects, including interchanges in Reeves, Ector, and Midland counties. In such a dry environment, it is critical that low-maintenance, native plants be used in landscaping. This has been particularly successful in Reeves County, where Jose Rodriguez is the maintenance supervisor. Rodriguez's talent for using plants indigenous to the dry climate was recognized when he was selected as a finalist for the 1990 Highway Beautification Award.

The past year has brought many challenges to the Odessa District, in both the construction and maintenance of quality highways, and in enhancing and beautifying the environment. The district employees take pride in meeting those challenges.

# San Angelo

### **Counties:**

Coke, Concho, Crockett, Edwards, Glasscock, Irion, Kimble, Kinney, Menard, Reagan, Real, Runnels, Schleicher, Sterling, Sutton, Tom Green, and Val Verde

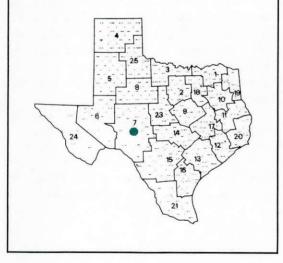
**Centerline miles:** 3,700

Lane miles: 8,130

Registered vehicles: 173,921

Employees: 405

District Engineer: Walter G. McCullough, P.E.



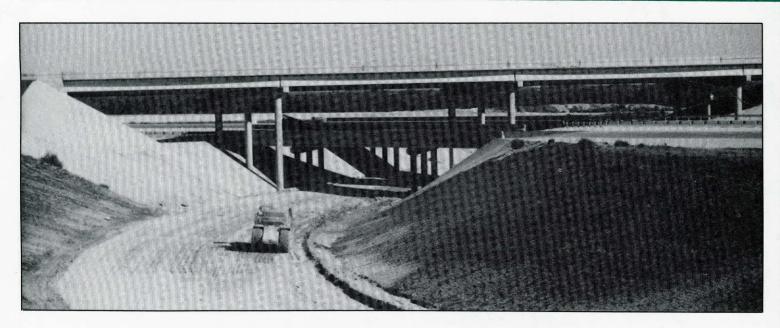
District 7, headquartered in San Angelo, has the largest land area (23,567 square miles) of all the highway districts and serves the traveling needs of its rural population. The district comprises 17 counties, which vary in population from Tom Green's 100,000 to Glasscock, with 1,200 population.

San Angelo and Del Rio are the two major trade centers for this area. The smaller towns serve the day-to-day needs of the people who live there or farm or ranch nearby. The economy of the area is based on farming, ranching, energy production, diverse manufacturing, and health and recreation facilities.

1990 saw the completion of several major highway construction projects in District 7, including: the West Interchange on the East-West Freeway in San Angelo; widening of the US 67 bridge on the Middle Concho River; widening of US 87 to four lanes divided near Wall; and an off-system bridge replacement near Winters. Due to the continuing expansion of Goodfellow Air Force Base training facilities, access to both entrances was rebuilt to four lanes with a center left-turn lane.

Construction continues on the East Interchange of the East-West Freeway in San Angelo, and upgrading a section of US 87 in Concho County to four lanes divided. In Del Rio, a contract was let to replace the Taini Street bridge under the off-system program.

Maintenance contracts let included mowing, janitorial, litter pickup, picnic and rest area maintenance, bridge joint cleaning and sealing, pavement marking, and the normal seal coat and restriping work. The district exceeded its goal of contracting out a percentage of maintenance work to the private sector.



John Stephens, Maintenance Supervisor in Coke County, received the "Twelve Months of Color" award for 1990 in recognition of the work to preserve and enhance floral vegetation that will prevent erosion, as well as provide eye-pleasing scenery for travelers throughout the year.

Counties, cities, chambers of commerce, and civic organizations throughout the district were very active in the 2020 hearings and the proposed Texas Trunk System. West Texans depend on a good highway system, since other means of transportation are limited in this area. Generally, the Texas Trunk System will meet the future needs for major traffic movements within and through the district. A high-visibility project in the San Angelo District is the building of a three-level interchange at US 67 and Loop 306 east of San Angelo.

"Maintaining the highway system in this large area to the high standards that the people of Texas expect could not be accomplished without the great work and cooperation of all the 400-plus dedicated and experienced employees throughout the district," said District Engineer Walter McCullough.

# Abilene

The decline of construction money to the Abilene District has created a new focus on maintenance activities. The Abilene District maintenance budget is almost equal to construction allocation. If seal coating is considered a maintenance activity, the maintenance program will have a higher dollar amount than the construction program.

"Top-quality" describes the maintenance of 3,325 centerline miles of highway in the Abilene District. Two hundred sixteen top-quality maintenance employees and 49 maintenance support employees are responsible.

Quality is not a matter of chance. Since each employee has an average of 37 lane miles of highway to maintain, the employee must know not only what to do, but must have the skills to do it — safely. Because of this, District 8 employees receive many hours of training on everything from personal safety and light-equipment maintenance to maintenance management. Employees receive an average of 30 hours of training annually.

To ride the highways in District 8 is to discover what skilled employees working together can do. To review the safety record of the district is to see what special emphasis on safety can accomplish — a 24.81 percent reduction in personal injury since fiscal year 1989.

### **Counties:**

Borden, Callahan, Fisher, Haskell, Howard, Jones, Kent, Mitchell, Nolan, Scurry, Shackelford, Stonewall, and Taylor

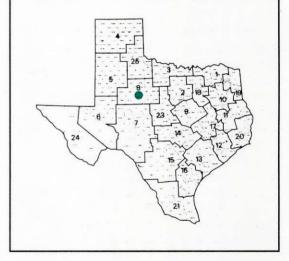
Centerline miles: 3,302

Lane miles: 8,246

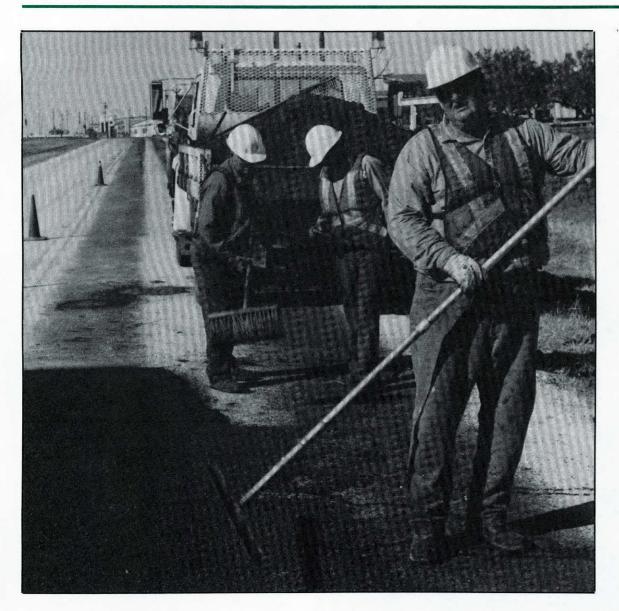
Registered vehicles: 228,351

Employees: 402

**District Engineer:** William G. Burnett, P.E.



District maintenance activities are a case study in efficiency. Management training provided by the department emphasizes greater productivity through efficiency. The district workforce has decreased by 14 percent in the past 10 years. During the same period, the district has gained 23 centerline miles.

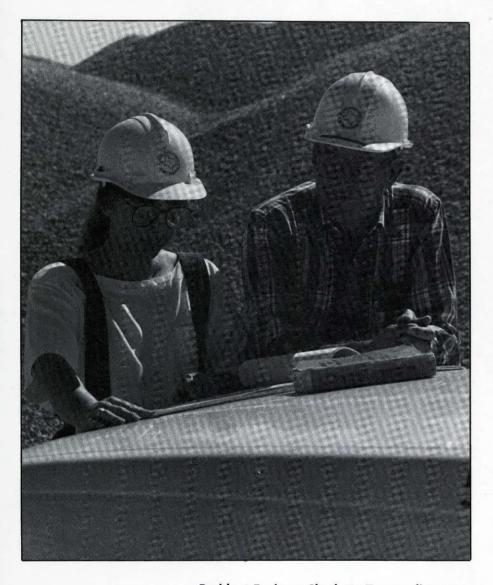


Taylor County maintenance employees patch a section of the Interstate 20 north frontage road at Tye.

Private contracting has absorbed some of the workload, but the bottom line is that maintenance employees have become more skilled and efficient at their assigned duties. The cost per lane mile for maintenance in District 8 is \$2,369, compared to a statewide cost of \$3,055. Fewer employees, additional work, quality at below-average cost therein lies the proof.

Waco

Several "firsts" in a variety of activities greeted the Waco District in the new decade.



Resident Engineer Sharlotte Teague discusses a project with construction inspector Jerry Sullivan. Teague is in charge of Coryell and Hamilton counties.

A major topic of the '90s is the environment and the Waco District addresses environmental concerns in both construction and maintenance activities.

The district's first major environmentally sensitive project involved the protection of an aquatic habitat on Nolan Creek in Bell County. Communication between the Environmental Protection Agency, the U.S. Fish and Wildlife Service of the Department of the Interior, and district design personnel resulted in a change in the roadway's alignment that satisfied departmental and environmental criteria.

Maintenance supervisors in the district's eight counties are also aware of environmental concerns. Erosion control, mowing practices, and careful use of herbicides in the vegetation management program are geared to achieve a natural right-of-way to the greatest practical extent.

The new decade marked the appointment of the district's first woman resident engineer. Sharlotte Teague now supervises the construction and maintenance activities in Coryell and Hamilton counties. Teague has also been involved in department activities outside the district as an instructor in the Level I and Level II design training courses.

Another first for the district was the funding of the rural public transportation system. In its first contract, the system operated 34 vehicles in five counties, transporting approximately 7,500 passengers per month. The system carried mainly citizens who had no other transportation. Mention "traffic circle" in the Waco District and be prepared for a debate. The district's two traffic circles in Mexia and Waco have been the center of controversy for many years and when plans to remove the "landmark" in Mexia were discussed, the debate returned.

The project to remove the circle began with some controversy, but when construction was completed in the summer of 1990, the fears of Mexia business owners and residents were relieved.

Not only have congestion and confusion been eliminated, but the use of pavers and native shrubs in landscaping has aided in beautifying the signalized intersection.

The widening and reconstruction of Interstate 35 continues to be the most visible project in the district. The work to expand Waco's "main street" to six lanes at a cost of more than \$6 million has reached the halfway mark.

A project to widen the Interstate south of Waco is scheduled to go to contract in two years at a cost of \$11 million.

Time spent surveying may change dramatically in the future, thanks in part to the application of satellite surveying technology. One of the district's field parties is surveying Texas 31 using the global positioning system, which utilizes Department of Defense satellites normally used to navigate ships and tanks. This technology provides ground-control information necessary for highway mapping, as well as saving time and surveying costs.

Project Celebration, promoting drug- and alcohol-free parties for graduating high school seniors, was also a success. Fifteen area schools and approximately 2,500 students participated in this department-sponsored program.

### Counties:

Bell, Bosque, Coryell, Falls, Hamilton, Hill, Limestone, and McLennan

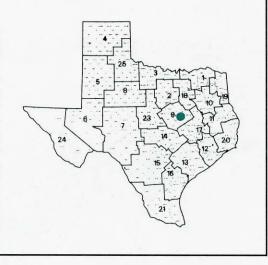
**Centerline miles:** 3,300

Lane miles: 7,446

**Registered Vehicles:** 419,255

Employees: 430

**District Engineer:** Kirby W. Pickett, P.E.



# 10 Tyler

E ast Texas, and particularly the eight counties that make up the Tyler District, has always been known for oil fields; the rose industry; natural beauty of rolling hills, pine and hardwood forests; sparkling lakes; and unmatchable country hospitality. Although these are still very evident, the area enters the 1990s with new possibilities and expectations.

Due to population growth, the area is no longer considered rural. Tyler's population is 81,000 and, only 37 miles away, Longview weighs in at 77,000. The two metropolises are establishing themselves as important links in the state's economy. And the rest of the district has grown as well. The Longview-Kilgore area on the district's east side is located in the hotbed of the productive East Texas oil field. Today, this area is becoming well-known for its movement in attracting new industry to our state.

On the district's west side, the lakes area near Athens and Palestine attracts thousands to relocate their businesses and families to enjoy a tranquil life of fun in the sun.

In the center of all this is the rose capital of America, Tyler. Known for its beautiful flowers and charming homes and churches, Tyler has boomed to excellence in medical facilities, financial services, and educational opportunities.

Longview Resident Engineer Robert Ward, left, Assistant District Engineer Gene Adams, District Engineer Bobby Evans, and Engineer-Director Arnold Oliver enjoy an Aggie joke at a Tyler District reception for Oliver.



Tyler is the medical center of East Texas, with hospital bed capacity of 1,288. Patients are served by more than 320 physicians involved in 35 specialties. The nine banks and five savings and loan associations in Tyler are considered to be the financial center of East Texas. Tyler is also a leading educational center: Tyler Junior College has an enrollment of 8,500 full-time students, Texas College attracts students from 15 other states and several foreign countries, and the University of Texas at Tyler, an academic component of the University of Texas system, is an upper-level and graduate educational institution with a 200-acre wooded campus and an enrollment of 4,000.

What does all this growth mean to highway department employees in the Tyler District? It means expansion of the transportation system in East Texas — not only the need for more and improved roadways throughout the area but the need for expansion of the district's physical plant as well.

A new complex for maintenance and residency offices is nearing completion in Mineola. New complexes are also to be built in Jacksonville and Palestine. The district's headquarters will build a new radio/signal shop with storage facilities, and the administration building is under construction to add approximately 9,600 square feet. In order to handle the district's transportation needs, two additional residencies and an expressway design section have been organized. This was accomplished with no increase in personnel allocations.

The Tyler District is experiencing growing pains, but not to the point that highway construction is slowing. In midsummer 1990, there were 37 ongoing construction contracts totaling \$80.7 million.

The Tyler District takes pride in the challenge ahead. Knowing that there are

### Counties:

Anderson, Cherokee, Gregg, Henderson, Rusk, Smith, Van Zandt, and Wood

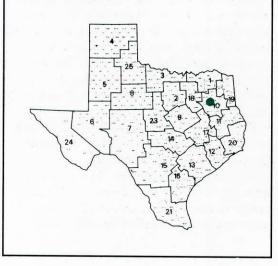
**Centerline miles:** 3,631

Lane miles: 8,339

**Registered vehicles:** 477,903

Employees: 443

**District Engineer:** Bobby Evans, P.E.



many new and exciting things on the horizon, the employees of District 10 look forward to offering the highest quality of transportation facilities to the citizens of East Texas. Lufkin

**C**roviding highways that are not just safe, but also clean and attractive is one of the top priorities for the Lufkin District. The district has come a long way from the early Texas law requiring "first-class roads" be built between county seats.

The only specifications were that the paths be 40 feet wide, cleared of timber, and stumps less than eight inches in diameter were to be cut off at ground level. Larger stumps were to be rounded so wagon wheels would roll over them easily.

The Lufkin District is responsible for almost 3,000 miles of picturesque modern roadways covering nine counties in the heart of deep East Texas. The rolling hills and numerous streams in the district necessitate the use of more than 1,450 bridges. These roadways, including more than 1,700 miles of tranquil farm-to-market roads, are supervised and maintained by just under 350 employees.

The district continues to follow the basic formula developed in the 1930s of making use of native trees, shrubs, vines, and flowers along its roadsides. The district's approach is to link landscaping with safety measures and the prevention of erosion; beautification is an added benefit. With

### **Counties:**

Angelina, Houston, Nacogdoches, Polk, San Augustine, San Jacinto, Sabine, Shelby, and Trinity

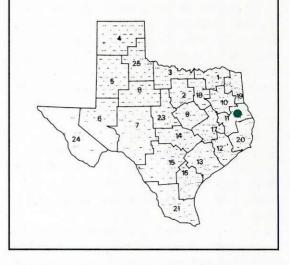
Centerline Miles: 2,812

Lane miles: 6,217

**Registered vehicles:** 208,841

Employees: 355

**District Engineer:** J.L. Beaird, P.E.



many thousands of acres of right-of-way to manage, employees have become expert "gardeners," either by preserving the natural vegetation, mowing grassy areas, or providing more detailed landscaping.

In 1989 and 1990, more than 4,742 pounds of wildflower seed was planted along US 59 from the Neches River to Lufkin. This is part of a matching fund program through the Temple Foundation totaling \$137,000. The district has programmed numerous



The Lufkin District's approach to landscaping, like at this US 59 interchange, is to link it with safety and erosion prevention.

other landscaping and beautification programs. Some \$80,000 is programmed for US 69 in Lufkin, and another \$40,000 is tentatively programmed for US 59 in Diboll. Numerous other beautification and landscaping projects are in development, including some major undertakings in Angelina, Nacogdoches, and Polk counties.

In a further effort to beautify the roadsides of the district, another high-priority item is the control of outdoor advertising signs. Perhaps the most dramatic aspect of the beautification program is the help of citizens to keep roadsides clean through the Adopt-a-Highway program. The Lufkin District has more than 365 miles of roadways that are kept litter-free through this program. "We are proud of the natural beauty afforded us here in East Texas and we want to make every effort to enhance our part of the state," said J.L. Beaird, district engineer.

# 12

### Houston

### **Counties:**

Brazoria, Fort Bend, Galveston, Harris, Montgomery, and Waller

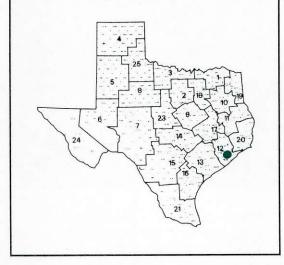
Centerline miles: 2,625

Lane miles: 8,500

Vehicles: 2,725,000

Employees: 1,814

**District Engineer:** Milton Dietert, P.E.



### T

L he Houston District is experiencing results. Hard work and dedication are paying off: Houston recorded the largest congestion index decline of any major city in the United States. More than \$500 million in construction was completed this year.

In light of this success, one might think that it would be difficult to find new challenges. But the district expects traffic growth to continue at the rate of 6 percent each year. The challenge will be to continue to provide transportation improvements with limited resources.

The voice of the public caught the ear of the department more than ever in 1990. They helped redirect attention to matters of greatest importance to them. District 12 is making a renewed effort to work closer with the area residents and give them an opportunity to play a more active role in project development.

The search continues for the most effective techniques to further district goals. Techniques explored in 1990 include:

- A task force with representatives from public interest groups, supported by a technical group comprised of engineering and architectural firms, to find an acceptable alternative in the West Loop (Interstate 610) expansion
- Animation as a visual aid to help gain acceptance of the proposed design for the West Loop
- A "wetlands bank" to address wetlands mitigation on the Texas 242 projects as well as other projects in south Montgomery and north Harris counties

The major projects on which contracts were awarded this year include:

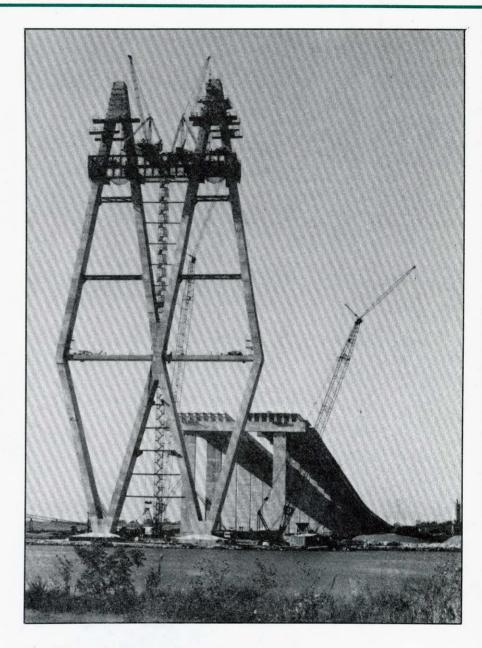
- A \$44.2 million project for continuation of freeway widening and HOV construction on the Gulf Freeway (I-45)
- Several projects on the final leg of Beltway 8

- A \$40 million project that will extend the massive reconstruction effort on the Southwest Freeway (US 59)
- Construction of eight freeway lanes and rehabilitation of frontage roads on Texas 225, which serves the industrial east side of Harris County, at a cost of \$56.2 million
- Widening and reconstructing of the I-10 east freeway totaling \$63.1 million
- The first contract for installation of Computerized Transportation Management System equipment, awarded at a cost of \$7.3 million, covering installations on I-45 north and south.

The need for extensive noise abatement measures was highlighted this year in the Houston District. Several miles of noise barrier wall were constructed in 1990 and an additional seven projects totaling \$5.2 million are still under way.

Events scheduled for 1991 include numerous projects to further development of the Computerized Transportation Management System, commencement of the reconstruction and widening of the Eastex Freeway (US 59), and construction of a bypass around the city of Hempstead.

In 1991, District 12 will increase efforts to research and employ new techniques to improve efficiency and productivity. The staff will work closer with the community in an effort to demonstrate a genuine desire to improve mobility while balancing quality of life and the environment.



The "diamond piers" of the Fred Hartman Bridge over the Houston Ship Channel rise 440 feet above the water and can be seen for miles.

# 13 Yoakum



A new rest area along US 59 provides more ample parking and improved services to travelers.

### T

Let Yoakum District put the final touch on three extensive projects in 1990 by participating in three ribbon-cutting ceremonies. The three completed projects were the rest area on US 59 between Victoria and Edna, Loop 463 in Victoria, and the Texas 71 loop around La Grange.

Work continues on US 290 from the Washington County line near Carmine to the Lee County line near Ledbetter in Fayette County. This portion of roadway is being upgraded to a four-lane divided highway.

A project that will widen US 87 (Main Street) from downtown Victoria to the rural community of Nursery is now underway.

Due to funding shortfalls, the only major project due to be let in 1991 is an eight-mile stretch of Texas 71. This project received lots of publicity because original plans claled for the removal of a stand of 200-year-old live oaks near Plum. The project was redesigned so all of the 27 trees would be preserved. Adding retaining walls and exchanging the wide grassy median for a barrier wall added \$1 million to the cost of the project.

Another project scheduled for letting is the Colorado River bridge on US 77 in La Grange. The new bridge will replace a narrow truss bridge built in 1925.

Expansion of the Formosa Plastics Corporation USA plant in Calhoun County is continuing, necessitating reconstruction of FM 1593 to handle additional traffic.

Landscaping projects for Cuero and Victoria, winners of the Governor's Achievement Awards for Keep Texas Beautiful, are in place. The city of Yoakum's landscape project for the same award is scheduled for letting in 1991.

#### **Counties:**

Austin, Calhoun, Colorado, De Witt, Fayette, Gonzales, Jackson, Lavaca, Matagorda, Victoria, and Wharton

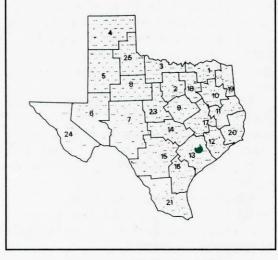
Centerline miles: 3,485

Lane miles: 7,759

**Registered vehicles:** 269,615

Employees: 450

**District Engineer:** Ben W. Bohuslav, P.E.



Besides landscape projects on construction jobs, the Yoakum district maintenance sections scatter a ton of bluebonnet seeds on the roadsides each year. Tourists converge on all 11 counties to view the colorful display which has helped to earn the district the label "God's country."

## Austin

With numerous endangered species and a federally designated Sole Source Aquifer in the Austin area, District 14 remained active in environmental issues during 1990.

Proactive environmental actions by the district have allowed several highway projects to proceed without jeopardizing a host of federally protected species that range from songbirds, to toads, to cave invertebrates.

Construction began in late 1990 on improvements to Texas 21 west of Bastrop. The bulk of the project involves safety improvements for motorists, but the project also includes nearly \$100,000 of work to protect the endangered Houston toad, which lives along the highway. To allow toads safe passage from one side of the roadway to the other, 12-inch-high metal fencing will be installed parallel to the roadway to channel toads through six existing drainage pipes under the highway.

At the recommendation of the U.S. Fish and Wildlife Service, the highway department will monitor the project for two years to study how successful it is in reducing the deaths of Houston toads on the highway.

Safety improvements began on Ranch-to-Market Road 2222 west of Austin after efforts were made to lessen the impact of the roadway on the endangered golden-cheeked warbler. Designers used retaining walls to minimize destruction of warbler habitat. Studies on the warbler were conducted by the Environmental Section of the Highway Design Division.

As a part of a project to upgrade US 290 in southwest Austin, the highway department funded a study of a cave near the proposed roadway to determine if it contained any federally protected cave invertebrates.

### **Counties:**

Bastrop, Blanco, Burnet, Caldwell, Gillespie, Hays, Lee, Llano, Mason, Travis, and Williamson

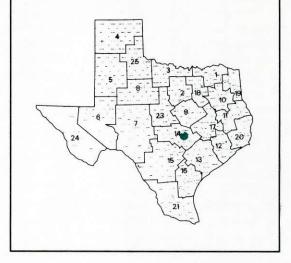
**Centerline miles:** 2,963

Lane miles: 8,090

**Registered vehicles:** 731,398

Employees: 659

**District Engineer:** William C. Garbade, P.E.



While not locating any endangered species, the study, by a University of Texas researcher, recommended that the cave be preserved and remain accessible for research. As a result, District 14 redesigned the roadway to move it further away from the cave.



The rusty appearance of this guardrail complements the red clay soils near Bastrop. The median guardrail maintains safety while preserving trees along Texas 21.

Construction began in 1990 on what is believed to be the first hazardous material traps to be built as part of a highway project in Texas. Twenty of the traps will be built along Loop 1 in southwest Austin to protect the Edwards Aquifer, designated a sole-source aquifer by the federal government. The 8,000-gallon traps are designed to contain spills of hazardous materials. They are being built at environmentally sensitive areas such as creek and tributary crossings where recharge of the aquifer may take place. Meanwhile, District Engineer Bill Garbade remains involved in long-range efforts to protect area endangered species. Garbade represents the department on the Executive Committee of the Balcones Canyonlands Habitat Conservation Plan. The 15-member group is exploring a plan to set aside land west of Austin as habitat for endangered species.

## San Antonio

Covering a 16-county area in south-central Texas, the San Antonio District has more lane miles and centerline miles than any other district.

Transportation challenges for the 1990s in this district range from massive mobility projects in the San Antonio area to primarily preventive maintenance, safety, and rehabilitation projects in rural areas. Currently, 71 projects are under contract in the district, totaling \$227 million.

### Counties:

Atascosa, Bandera, Bexar, Comal, Dimmit, Frio, Guadalupe, Kendall, Kerr, La Salle, Maverick, McMullen, Medina, Uvalde, Wilson, and Zavala

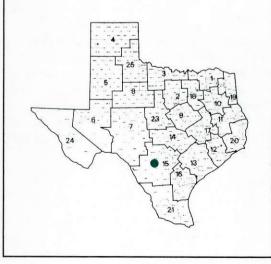
**Centerline miles:** 5,133

Lane miles: 12,256

**Registered vehicles:** 1,150,737

Employees: 1,017

**District Engineer:** Richard D. Lockhart, P.E.



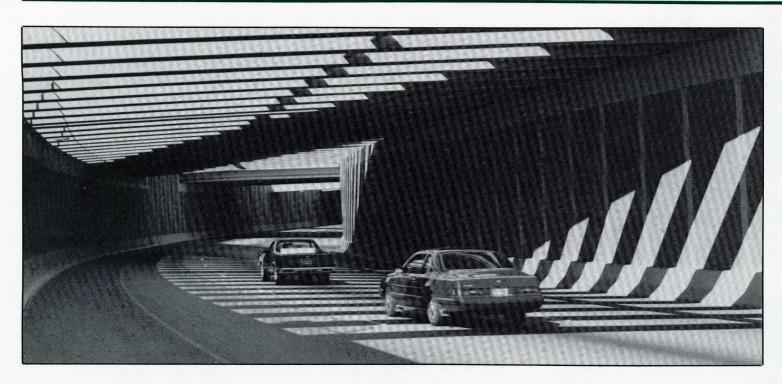
The most significant construction effort under way in the district is the \$270 million "double-decking" of Interstate 10 and I-35 in downtown San Antonio. The "Downtown Y" includes the expansion of 10 miles of highway from four to 10 lanes and modernizing the I-10/I-35 interchange.

With the completion of the \$17.5 million first phase of the interchange this summer, six of the nine major projects are complete. Two projects are under way, including a \$43.9 million project on I-10 and a \$42.9 million project on I-35. Construction began in November on the \$52 million final major project that will complete this tremendous expansion effort.

The "Downtown Y" project has increased accessibility to the central business district, significantly improved mobility, and reduced accidents. The strikingly beautiful bridge structures represent a great aesthetic advance for the department.

The transformation of US 281 in north-central San Antonio from an extremely congested four-lane highway with signalized intersections to a six-lane freeway was completed in April 1990. This \$40 million project has greatly improved mobility in the and is a showpiece of aesthetic design.

The first section of Texas 211, which provides access to the Texas Research Park, also opened in 1990, with all land for this highway provided at no cost to the state. Work progresses on the second section of this new 18.5-mile highway linking US 90 to



Texas 16 in west Bexar County.

1990 marked the start of several major projects including the expansion of I-10 to six lanes and the conversion of Loop 1604 to a four-lane divided freeway. Both projects are in the vicinity of the University of Texas at San Antonio and Fiesta Texas, a new theme park similar to Opryland, which is slated to open in 1992.

Other major projects under way include the expansion of US 90 to eight lanes from downtown to Kelly Air Force Base and the widening of I-35 to six lanes through Selma in northeast Bexar County. Employees of the district were recognized for numerous achievements in 1990. Russell Obregon, a chief construction inspector, received a Texas Project Award for his exemplary performance on a large Loop 1604 expansion project. Harvey Beierele, signal shop supervisor for the district, was the first recipient of the Gene Sparks Award for outstanding service in the field of safety and traffic operations.

During the year, 647 district employees were honored for a total of 6,478 years of accident-free driving. Nineteen heavy-equipment operators were recognized for a total of 207 years of safe handling of their machinery.

The San Antonio District headquarters was the first highway district and state agency to receive a "70% by '90" award from the National Highway Traffic Safety Administration for achieving safety belt usage by 78.7 percent of employees. Traffic heads toward San Antonio's Texas 151, a freeway named by the city council in honor of former engineer-director Raymond Stotzer Jr.

# 16

## Corpus Christi

▲ ncreased activity in oil and gas exploration and refining, a growing tourism industry, and a strong military presence dominate economic projections for the Corpus Christi Bay area.

Ongoing improvements to the transportation network that serves the area include the \$26.6 million project on Interstate 37 in northwestern Corpus Christi. The project, expected to be completed next year, will improve the connection to US 77 and upgrade the 2.5-mile section to Interstate standards.

I-37 is the primary entrance to Corpus Christi. It serves the Port of Corpus Christi, petroleum and chemical refineries, and leads directly to the Corpus Christi bayfront. Corpus Christi Greyhound Park, one of three greyhound racing tracks authorized for the state, was to open in mid-November. The park is next to I-37, just past the connection to Texas 358.

The Texas State Aquarium opened in July to record crowds. More than 100,000 visitors toured during the first month of operation. The first phase, the Gulf of Mexico Exhibit Building, will form the hub of the four-phase master plan for the 7.3-acre facility. Located near the north end of the Harbor Bridge, the aquarium will benfit from an \$8 million roadway construction project in progress. The project will complete the freeway between the Harbor Bridge and the Nueces Bay Causeway.

Widening of the Nueces Bay Causeway was completed in May. Construction gave a unique opportunity to work with local environmentalists to enlarge a spoil island. The island, visible to southbound travelers, had been created by an earlier channeldredging operation. As part of the bridge

### **Counties:**

Aransas, Bee, Goliad, Jim Wells, Karnes, Kleberg, Live Oak, Nueces, Refugio, and San Patricio

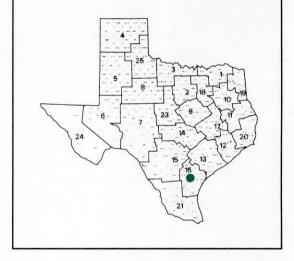
**Centerline miles:** 2,748

Lane miles: 6.515

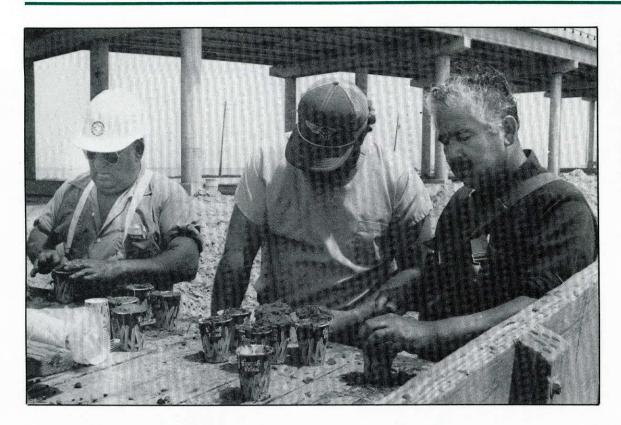
**Registered vehicles:** 368,250

Employees: 490

**District Engineer:** Nino Gutierrez, P.E.



construction project, work-channel dredging spoil was used to enlarge the island. It serves as a rookery for the endangered black skimmer and other shore birds.



Shorty Lopez, left, Tom Puckett and Ramiro Vega of the Nueces County Maintenance Section fill unwaxed paper cups with sea grass for planting in new bay bottom. The project helped the section win the 1990 Highway Beautification Award.

For nearly 10 years, maintenance forces have maintained a fenced area at two locations along busy roadways to provide a protected area for the birds. The federally protected skimmers scoop out divots in the sand to form their nests. They return to the same area each spring to lay their eggs. Packed sand beside the roadway is a favorite nesting site.

One nesting area, adjacent to the John F. Kennedy Causeway, is near the site where sea grasses were planted. The new sea grass bed was installed as mitigation for disruption caused when a large drainage outfall was built for the nearby roadway construction project on Park Road 22. A protected area, south of the roadway near the Intracoastal Canal, was excavated to a depth below low tide. Sea grasses from the area to be disturbed were transplanted in the new location. New bay bottom habitat and a new sea grass bed are the result. Careful attention to environmental concerns has resulted in the Corpus Christi District being able to complete roadway improvements with only minimal and temporary disruption of nature's balance. In the process, additional nesting areas have been created for endangered shore birds and sea grass beds have been established.

In recognition of these efforts, the district received the 1990 Environmental Achievement Award, presented as part of the department's Highway Beautification Awards program. James McNeill, maintenance construction supervisor in Nueces County, brought another honor to District 16 by winning the top beautification award.

# 17

## Bryan

### **Counties:**

Brazos, Burleson, Freestone, Grimes, Leon, Madison, Milam, Robertson, Walker, and Washington

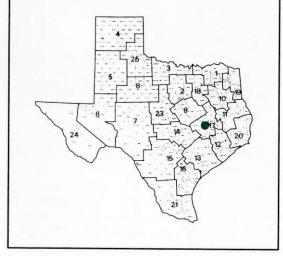
**Centerline miles:** 3,043

Lane miles: 6.710

Registered vehicles: 228,523

Employees: 364

**District Engineer:** Carol Zeigler, P.E.



### R.

▲ iscal year 1990 was a very successful year for the Bryan District. There were 26 projects completed, with total contract costs exceeding \$38 million. Contracts were awarded for 31 projects totaling \$28,563,990. The district currently has 33 projects under contract totaling \$46,692,635.61.

The district's maintenance program exceeded its goal of contracting at least 30 percent of its maintenance work. Needed repairs and resurfacing goals were also accomplished.

The district had some major landscape development projects during the past year. Plantings on Texas 6 south of Navasota, Texas 21 in Burleson County, and Farm-to-Market Road 60 in Brazos County were completed. The cost of the landscape projects totaled more than \$161,000.

Right-of-way purchases are being made on Texas 36 in Washington County, US 79 in Milam County, and Texas 47 in Brazos County.

New funding limitations will curtail the district's lettings for the next fiscal year. There are only two major construction projects scheduled for 1991. These projects are the extension of FM 2818 from Texas Avenue to Texas 6 and constructing a new railroad underpass and widening of Texas 21 to five lanes in Caldwell.

The planning section is still proceeding with the plans for LO TRAK. This project calls for the complete reconstruction of the Wellborn Road-railroad corridor in Bryan-College Station and through the Texas A&M campus.

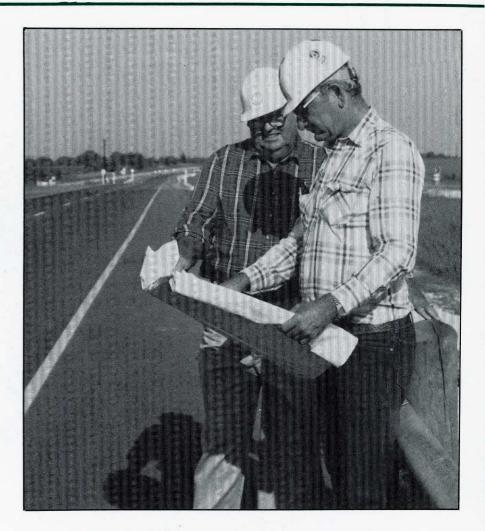
The four-mile project will be built as a divided highway with the railroad in the median. Over a major portion of the project length, the railroad and main lane of Wellborn Road will be depressed below ground level, allowing the construction of grade separations for crossing streets to be at approximately ground level.

The three major organizational units of the district are headquarters (Management, Administrative and Support sections), five residencies, and 10 county maintenance sections. The district has operated under an integrated construction-maintenance system for approximately 17 years. Each resident engineer is responsible for design and construction work in a two-county area and is also directly responsible for two county maintenance sections.

This provides local contacts for citizens to receive quick attention to questions, problems, and complaints. The decentralized operation allows the district to be responsive to transportation needs and citizens' concerns in each community.

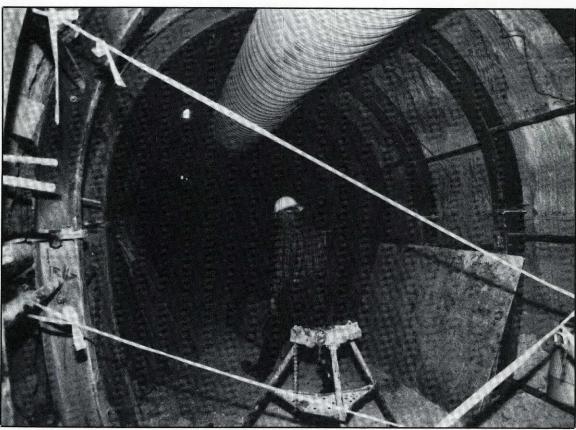
The Texas Highway Trunk System of 10,500 miles as proposed includes 565 miles in the Bryan District. Approximately 4 percent of the centerline miles of the total highway system is located in this district. However, the district has about 5.4 percent of the mileage on the trunk system. The district has nearly 6.3 percent of the centerline miles of the trunk system that is currently two-lane. This indicates that the district could have a high construction workload as the trunk system is developed.

The district has a very active public affairs program. Steps have been taken to make key employees throughout the district aware of good relations with the public, and keep the district public affairs officer advised of concerns of people in their areas. The success of these measures is gauged by by a subjective evaluation of the support the department receives from elected officials and the general public.



Hilton Stewart, left, chief inspector for the Bryan District, and Bill Fulton of Young Brothers Inc. review traffic control plans on Texas 6 north of Bryan. The project is due for completion this summer.

## 18 Dallas



A new drainage tunnel is being built under North Central Expressway in Dallas to collect water overflow from a 10-mile stretch of the freeway.

### P

**P**rogress. It's happening in the Dallas District like never before. This past year marked the beginning of long-awaited construction on North Central Expressway and the era of cooperative projects with the local transit authority.

The North Central Expressway reconstruction is now under way with three major projects — two roadway expansion projects and one drainage tunnel project. The ground breaking in June featured highway commission Chairman Robert Dedman as the keynote speaker, and with the help of commission members Ray Stoker and Wayne Duddlesten and Engineer-Director Arnold Oliver, the first bucket of earth was moved. North Central Expressway has also focused the Dallas District on environmental issues. Next to the expressway is a Civil War-era cemetery now being investigated by the department's staff archaeologists. Right-of-way needed to expand the expressway was thought to contain 12 graves. Investigations have found about 130 and very little existing space to reinter the remains found. Even locating the boundaries of the cemetery has been difficult. This sensitive archaeological investigation is being performed with overwhelming support from the community.

### **Counties:**

Collin, Dallas, Denton, Ellis, Kaufman, Navarro, and Rockwall

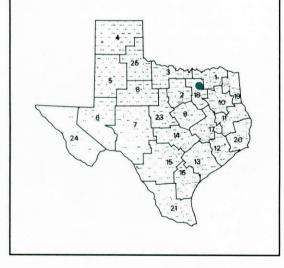
Centerline miles: 3,290

Lane miles: 9,466

Registered vehicles: 2,177,239

Employees: 1,103

District Engineer: James M. Huffman, P.E.

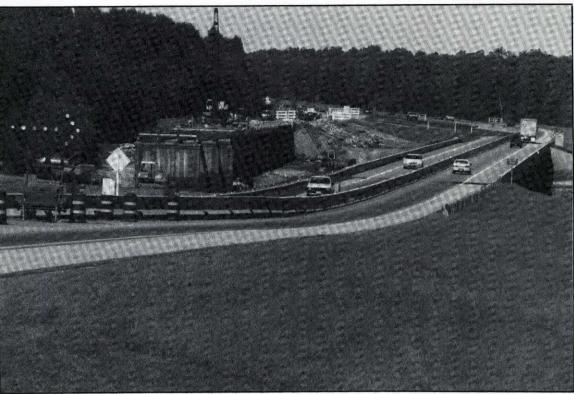


An unprecedented step for the Dallas District has been its cooperation with Dallas Area Rapid Transit in mass-transit projects. For the first time, the district will share the cost for Dallas' first reversible highoccupancy vehicle lane on Interstate 30. The district is also studying the feasibility of a diamond (concurrent flow) lane on I-35 East, north of I-635. Public affairs has gotten involved by cosponsoring an exhibit with DART at the State Fair of Texas and producing a joint newsletter about improvements in the North Central corridor.

This year signifies the district's largest construction effort in five years. Improvements are under way on Texas 121 and Texas 190, the new-location facility connecting Garland to Carrollton. The first portion of new-location construction is planned for Texas 161, and major rehabilitation is upcoming on I-45, a major link between Dallas and Houston, and I-30 near Lake Ray Hubbard.

The Dallas District has taken an innovative approach to its organization and staffing. In the past year, three new residencies have been added — Traffic Management Residency, Signal Residency, and the East Dallas County Residency. Another first for the Dallas District was naming a woman to head the new urban construction residency. A major building and renovation program is making room for these residencies and boosting employee morale.

## 19 <u>Atlanta</u>



The Atlanta District has focused much of its design and construction efforts on its bridge replacement and rehabilitation program. There are 24 bridges currently under contract.

T

Le Atlanta District has recently focused much of its design and construction efforts on its bridge program. During 1990, nine bridge replacement or rehabilitation projects were completed by the district, and 24 more are under contract. The district hopes to let contracts on four more bridge replacement projects in 1991. Topping some of the major highway projects completed in 1990 were three widening projects on sections of US 59, a major north-south arterial through the district. A seven-mile section between Domino and Queen City was reconstructed to four- and six-lane divided highway. This project completes a separation of opposing traffic lanes from Atlanta to the Red River.

A 1.5-mile section of US 59 in Marshall was widened to six lanes and a two-mile section south of Carthage is currently being widened to a four-lane divided highway. Should funds become available this year, a final six-mile section of US 59 will be widened in Panola County. Once completed, this will provide divided highways of four or more lanes from the Shelby County line to Jefferson. This leaves only a 33-mile stretch in the district, between Jefferson and Atlanta, left to widen to meet Texas Highway Trunk System standards. One important part of the Atlanta District's maintenance operations is its vegetation management, primarily its tree-planting program. The district has been planting pine trees along highways in Northeast Texas for almost 30 years. Maintenance personnel have planted more than 1.5 million seedlings on about 2,240 acres of right-of-way. By removing the planted areas from the mowing programs, the cost of planting is amortized in about five years. Depending on availability of seedlings, the Atlanta District plants about 100,000 pine trees annually.

Planting pine trees on rights-of-way serves several purposes. Trees reduce erosion, enhance the appearance of the highways, provide wildlife habitat, fulfill an obligation to protect natural resources, and are living proof of the department's concern for the environment of future generations.

An ever-increasing challenge to the Atlanta District is the effect that construction projects have on federally protected wetlands. Almost every project in the Atlanta District has some impact on wetlands. Fortunately, most of the projects need little fill and have a low impact. However, the district has several pending projects that will require lengthy and detailed wetland analysis in order to obtain a Corps of Engineers' 404 Permit; they also may require mitigation.

Heavy spring rains that created widespread flooding in several districts in Central and East Texas last year also caused problems for the Atlanta District. All roads leading north in Bowie County were closed at times because of flooding near the Red River. However, due to several employees working 12-hour shifts for as long as 13 days, damage was kept to a minimum. Major highways leading across the Red River were closed mostly due to flooding and damage to highways in Arkansas and Oklahoma.

#### **Counties:**

Bowie, Camp, Cass, Harrison, Marion, Morris, Panola, Titus, and Upshur

**Centerline miles:** 2,566

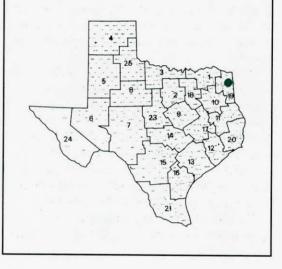
Lane miles: 6,195

**Registered vehicles:** 250,950

Employees:

411

District Engineer: Lawrence L. Jester Jr., P.E.



# 20

### Beaumont

Doutheast Texas is a resource-rich land of contrast. A resurging petrochemical industry drives the Gulf Coast economy while timber provides the economic catalyst of the region known as the Piney Woods. Tourism and recreation are the area's growth industries. The Beaumont District's construction and maintenance programs continue to meet the growing transportation needs of this diverse region.

Construction in the district's many environmentally sensitive areas necessitates strict attention to environmental concerns. A significant portion of projects in the southern three counties affect wetlands, while northern counties are laced with units of the Big Thicket National Preserve, home to many exotic, rare, and endangered plant species.

A unique method for placing of fill material in a wetland site was used in building approaches to the \$22.8 million cable-stayed bridge on Texas 87 over the Neches River. Bill Potter, area resident engineer in Port Arthur, worked with researchers at the University of Texas at Austin to develop a system of wick drains used during placement of fill material.

By the time construction of the approaches was complete, 442 miles of wick

drain varying in length from 10 to 45 feet were set in place. The system has proved itself over the past five years as the approaches' subsidence has resulted in planned roadway elevations.

The new bridge, the first cable-stayed structure to be constructed in the state, should open during the spring of 1991. The bridge parallels its sister structure, the famous Rainbow Bridge, and together they provide a stark contrast in engineering design and depict the progress the department continues to make in roadway and bridge design.

### **Counties:**

Chambers, Hardin, Jasper, Jefferson, Liberty, Newton, Orange, and Tyler

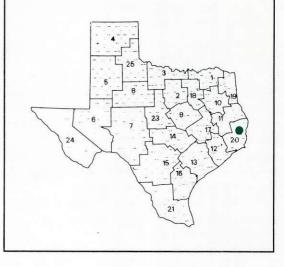
Centerline miles: 2,289

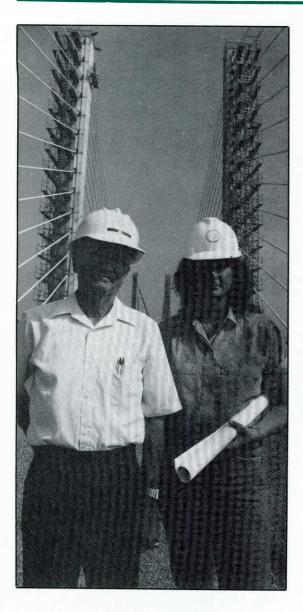
Lane miles: 5,291

**Registered vehicles:** 424,608

Employees: 454

**District Engineer:** Franklin C. Young, P.E.





Port Arthur Resident Engineer Bill Potter and project engineer Charlotte Warner stand atop the new Veterans Memorial Bridge spanning the Neches River on Texas 87. The structure, the first cable-stayed bridge in the state, will open in spring 1991. A major environmental issue the district faces is the future of Texas 87 in Jefferson County. It lies between the Gulf of Mexico and a national wildlife refuge. During the 1990 hurricane season, two storms reduced the roadway to its current impassable condition. Federal regulations mandating no net loss of wetlands prohibit moving the roadway further inland, and there is not sufficient land within the right-of-way to rebuild it in its present location. State, local, and federal officials are working together to seek an amiable solution.

Fifty projects totalling \$230 million are under way in the district. The Beaumont Residency, supervised by area resident engineer Duane Browning, is handling more than half the district's construction. This includes a project in Beaumont which carries the combined traffic load of Interstate 10 and US 69, approximately 110,000 vehicles per day. The \$19.2 million project is a complete reconstruction of this highway interchange.

Under way are two projects on I-10 in Chambers County totalling \$60 million, which will widen the main travelway from four to six lanes. A \$4 million railroad underpass in Dayton was recently completed under the supervision of area resident engineer in Liberty, Ed Seymour.

District "winners" this year include Extra Mile Award recipient Gordon Oge, traffic signal technician, who risked his life in an attempt to save another. Engineer Duane Browning and Forrest Cleveland, project inspector, each received Texas Project Awards in construction for their efforts in completing a \$28 million Interstate project through Beaumont.

### Pharr

### T

▲ he Pharr District entered 1990 with a hard freeze and was faced with finding an answer to the problems this caused on area roadways.

A \$15 million bonus allocation by the highway commission, representing an estimated 150 percent of the district's annual rehabilitation budget, lessened the burden by expediting the 1990 Consolidated Rehabilitation Program. Thirteen projects benefited, including farm-to-market roads in Brooks, Cameron, Hidalgo and Willacy counties; six miles of Interstate 35 frontage roads near Laredo; and a section of US 83 in Starr County.

Diverse demands in agriculture, retail trade, tourism and the ever-expanding *maquiladora* twin-plant operations in Mexico amplified the need to implement a more modern, efficient and safe infrastructure in South Texas. Major projects under construction in the last year included:

- Loop 499 in Harlingen is being reconstructed and widened to a six-lane urban roadway as part of the Ed Carey Drive expansion project. This road is an outlet to the renovated Valley International Airport, a new Fruit of the Loom plant and a greyhound race track.
- US 77/83 in Cameron County is the last segment of full expressway facility to be constructed on this route. Retaining walls, paved stone walks and landscape design makes this one of the district's most valuable assets.

- Four miles of **Texas 100 in Cameron County** are being reconstructed to a four-lane divided highway providing safer access to and from South Padre Island.
- Texas 107 in the Mission area is undergoing its last segment of multiple lane expansion.
- The last 15-mile segment of **Texas 16 between Hebbronville and Freer** will be reconstructed and widened.
- At the US 83/TEX-MEX underpass, a railroad crossing is being reconstructed to prepare Guadalupe/Chihuahua streets for one-way operation providing access to and from Interstate 35.

The district strives to protect all rare and endangered species in design, construction and maintenance. Managing a vegetation program that protects both plants and animals, maintenance crews are working to return roadsides to nature. This includes controlled mowing to preserve native grasses as well as saving trees whenever possible.

The endangered brown pelican and ocelot have received special attention. Signs were installed at both ends of the Queen Isabella Causeway to alert motorists of the pelicans' presence. Maintenance crews constructed a small tunnel under FM 510 in Cameron County to provide a safe crossing for the wild feline.

Adding to the beauty of the area is the travel information center located in Harlingen. Recently celebrating its 10th anniversary, it is one of many South Texas attractions visited by some estimated 120,000 Winter Texans.

Continuing with tradition, the district honored 247 employees at the 36th Annual Safe Driver Awards.

Other international and district roadway plans include Mexico's Monterrey/Cadereyta Autopista (four-lane toll expressway), which will connect Reynosa, Mexico, with Hidalgo, Texas. An interchange at US 83/US 281 in

### Counties:

Brooks, Cameron, Duval, Hidalgo, Jim Hogg, Kenedy, Starr, Webb, Willacy, and Zapata

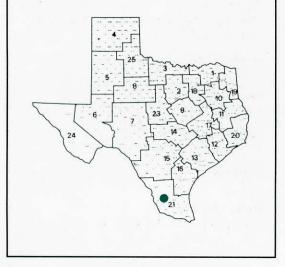
Centerline miles: 2,798

Lane miles: 6,771

Registered vehicles: 491,801

Employees: 434

**District Engineer:** G. G. Garcia, P.E.



Hidalgo County will be a critical element in the district's commitment to transporting goods and services from both countries over our road system. US 281 has been named "La Carretera Comercio Internacional" (The Road to International Commerce) by private and public officials in support of dividing the highway all the way across Texas.



International, national, state and local officials gathered recently to break ground for a \$14 million international bridge which will link Dolores, Texas, with Colombia, Mexico.

The district will construct 1.8 miles of roadway (FM 255) to connect with the bridge facilities and the new \$400 million "El Camino Real" currently under construction in Mexico. Considered a key project for the economic development of South Texas and northern Mexico, this expressway will lead to Monterrey, Nuevo Leon, which has an estimated population of 3.5 million and is the second largest city in Mexico. Maintenance crews seed 150 acres of wildflowers near the Laredo Travel Information Center on Interstate 35.

### Brownwood

Widespread flooding in Brown, Comanche, and Eastland counties during April and May of 1990 caused extensive damage to roadways, especially around bridge abutments. Employees worked many hours under adverse conditions during and following the flooding. As a result of their efforts, there was no loss of life to high water on the highway system, and three district employees received the Extra Mile Award for their heroism.

The flooding necessitated two emergency contracts to repair washed-out riprap and approaches on six bridges at a cost of \$496,000. In addition, state forces completed approximately \$140,000 worth of roadway repairs.

With every roadway in and around Brownwood impassable at some point, transportation between Early and Brownwood would have ceased entirely had it not been for Farm-to-Market Road 2126. This roadway was under construction, but traffic had to be routed over its raw base, causing some damage and delaying completion.

Construction to convert Brownwood's traffic circle to a signalized T-intersection was in full swing when 18 to 20 inches of rain fell in a short period of time, causing 5 to 6 feet of water to rush over the entire project. However, very little damage resulted; the pavement was intact when the water receded. The project was completed in June, ahead of schedule, in spite of the flood and heavy rains. Brownwood citizens were solidly behind the replacement of the traffic circle and were outspoken in their appreciation of the project both before and after it was completed.

A concrete pan girder bridge was constructed in Comanche over Indian Creek, and through cooperation with the city, local historical society, and the contractor, the old truss bridge was moved 170 feet downstream. The old bridge, originally built about 1906, will be preserved as a pedestrian and bicycle pathway connecting

#### **Counties:**

Brown, Coleman, Comanche, Eastland, Lampasas, McCulloch, Mills, San Saba, and Stephens

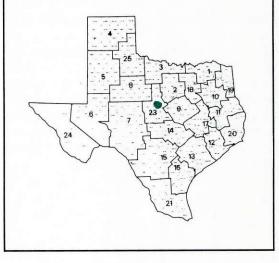
Centerline miles: 2,638

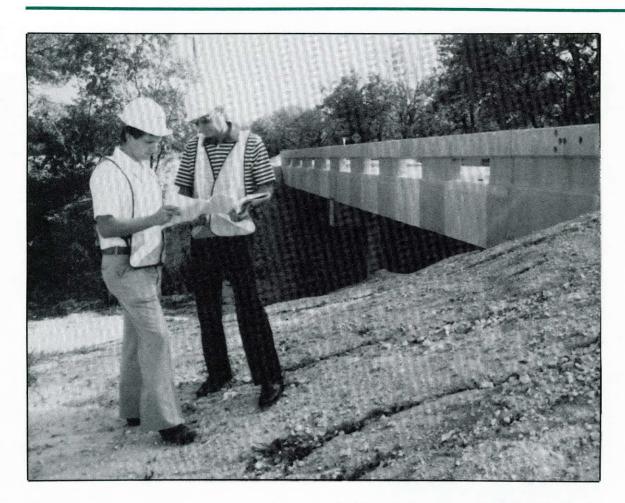
Lane miles: 5,691

**Registered vehicles:** 117,538

Employees: 257

**District Engineer:** Charles W. "Wes" Heald, P.E.





the Comanche Community Center and City Park.

A new residency and maintenance building was completed this summer in Eastland. As a boost for a safe environment, old underground fuel storage tanks at the building site were replaced with aboveground tanks.

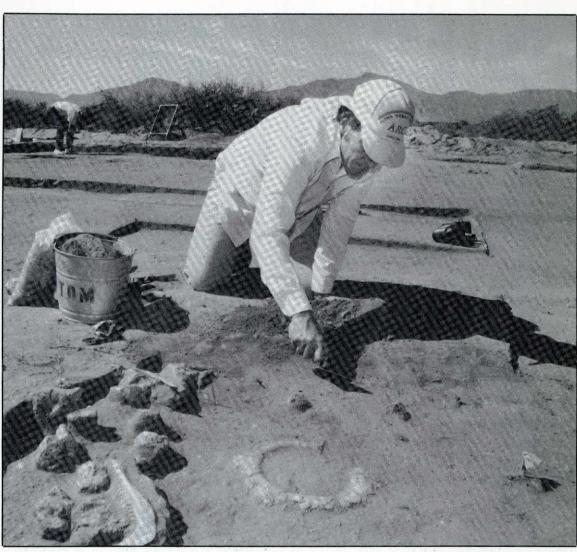
Many improvements were made districtwide in highway beautification and scenic preservation. One of the most outstanding projects is the landscaping at the intersection of I-20 and FM 570 in Eastland, where six varieties of trees and shrubs were planted.

Employees were surprised and then delighted when a "Yard of the Month" sign was erected in September at the Resident Engineer Bryan Neaves of Eastland, left, and Weldon Turner of Comanche look over the plans of this new bridge near Comanche. The span replaces an old truss bridge moved downstream to serve as a pedestrian and bicycle crossing.

intersection of US 67/84 and US 183 near the district office. It was a tribute from the Early Chamber of Commerce for the department's beautification efforts at the intersection.

District 23 was honored this year when supervisor Gene Christian and the Coleman County Maintenance Section were named runner-up in the Highway Beautification Awards.

## 24 El Paso



A University of Texas at El Paso anthropology student works on an archaeological site on Fort Bliss. When the small timber bridge southeast of El Paso called the Ysleta Port of Entry was opened in 1929, no one envisioned that one day it would be the major crossing for the 20th century's fast-growing *maquiladora* plants.

Maquiladoras are plants that operate on both sides of the international border. Some well-known companies — Briggs & Stratton, General Motors, General Electric, Ford Motor Co., and RCA — are among the more than 300 such operations in El Paso and Juarez, Mexico, that contribute to the bustling truck traffic crossing the Rio Grande on the four bridges within El Paso's city limits.

District 24 designed a system of two bridges — one for commercial vehicles and one for other vehicles and pedestrians to replace the old Ysleta bridge. The new Zaragosa bridge system consists of two parallel structures about 804 feet long with two lanes of traffic in each direction on each bridge.

Construction of an international bridge

### **Counties:**

Brewster, Culberson, El Paso, Hudspeth, Jeff Davis, and Presidio

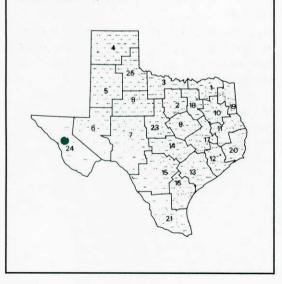
Centerline miles: 1,823

Lane miles: 4,916

Registered vehicles: 382,391

Employees: 335

**District Engineer:** Joe M. Battle, P.E.



requires an almost unbelievable amount of paperwork, negotiations, and agreements — in both English and Spanish. The district also supervised the construction of the structures for the city of El Paso, which owns the American half of both bridges.

Highway access from the Zaragosa port of entry is being improved with an interchange currently under construction at Loop 375, the outer loop around the city. An important link in the completion of Loop 375 is the proposed 12-mile, four-lane section through Fort Bliss. Archaeological investigations lasting more than three years caused realignment of part of the proposed route. However, plans are complete and a contract for construction is expected by 1991.

Engineer-Director Arnold Oliver was the speaker in July for a ceremony dedicating recently completed major projects in the El Paso area that contributed significantly to transportation in the state's fourth largest city.

# 25

## Childress

### **Counties:**

Briscoe, Childress, Collingsworth, Cottle, Dickens, Donley, Foard, Hall, Hardeman, King, Knox, Motley, and Wheeler

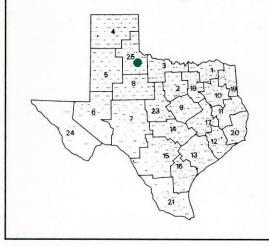
**Centerline miles:** 2.427

Lane miles: 5,391

Registered vehicles: 47,263

Employees: 218

**District Engineer:** Vance L. "Huck" Castleberry, P.E.



### Π

▲ he Childress District, which wraps around the southwest corner of Oklahoma, primarily maintains and rehabilitates projects on highways in its 13-county area, with occasional added-capacity or new construction projects.

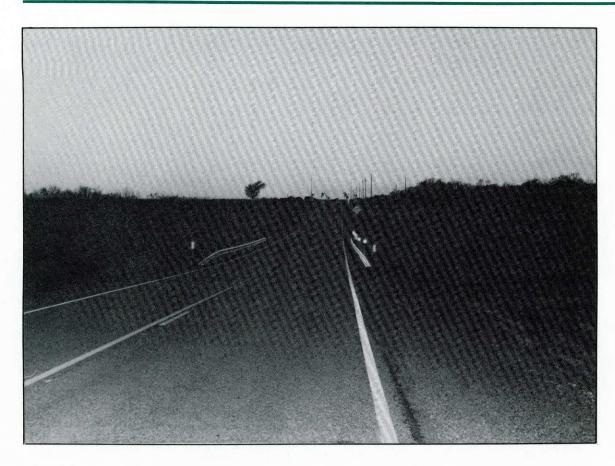
Although District 25 is considered the smallest district in the state, its highway system totals some 2,500 miles. US 287 crosses the district from southwest to northwest. It carries motorists from the Dallas/Fort Worth area to Amarillo and points west. US 83 crosses from north to south, carrying motorists from Abilene and points south to the Texas-Oklahoma border and points north. From Interstates to farm roads, the network serves an agricultural region and cross-country traffic in this sparsely populated area.

With a limited number of employees, the district was proud to count this year several recently licensed engineers on its work force. They are Timothy Weight, resident engineer in Childress; Daniel E. Brown, Wellington; and Gary Mizer, Munday.

The newest licensed engineers include Patty Crews-Weight, design engineer, who is the first female engineer to work in District 25; and Martin Smith, assistant resident engineer, both of Childress.

Numerous district employees participated in training programs this past year, and also participated in the functional review committee.

All District 25 employees are proud, dedicated and experienced personnel. They work together and always see their projects to completion.



The wide open spaces of the Childress District translate into many miles of roads, such as this farm-to-market road, to maintain and rehabilitate.

## D-3 Finance



Funds Management Section staffers Larry Baumann and Joyce Sarria evaluate a funding scenario.

### T

Le Finance Division's response to a rising number of financial information requests has become increasingly challenging each year. The division's services are in demand as the source of data for

- department administration to make managerial decisions,
- legislators to gain insight into highway financing, and
- auditors to ensure methods of collecting and monitoring data are sound.

### Created: 1969

### Sections:

Accounting Management; Claims Management; and Funds Management

**Location:** Dewitt C. Greer Building in Austin

Employees: 82

**Division Director:** Frank Smith Three section directors and 10 managers offer constant support and provide daily contact with districts and divisons.

The Accounting Management Section ensures that all accounting procedures of the department are consistent with standard accounting practices required for governmental activities. It also prepares and publishes the agency's official financial reports.

Standard practices are achieved by constantly comparing the department's practices with requirements promulgated by the Governmental Accounting Standards Board, the State Auditor's Office, and other authoritative sources. Fifty to 100 changes a year must be made to financial report preparation procedures.

This section prepares and verifies the department's cost accounting reports. These reports are analyses of "contracting-out" versus in-house completion of activities such as preliminary engineering for construction projects. The cost analyses also include reports of comparative costs by such factors as geographical area, type of activity, and allocation of overhead expenses.

The Claims Management Section has three units. The Payroll Processing Unit is responsible for payments to more than 16,000 employees, including child support, cafeteria plans, deferred compensation, group insurance, and IRS levies.

The Contractor Payments Unit makes approximately 850 contractor payments each month for highway construction work. They prepare a bill to the federal government for its share in federal project costs and then track the reimbursement deposit and ledger entry.

The Voucher Processing Unit is responsible for processing all other payments, including purchases of materials, services and reimbursements of employee travel expenses. The section processed more than 42,000 vouchers during fiscal year 1990, generating nearly 600,000 warrants. In spite of the size of the task, the unit has an enviable record of accuracy and timeliness.

The Funds Management Section, which contains the budget office, deposits and records receipts, collects and disseminates economic information, forecasts future departmental financial positions, and coordinates Financial Information Management Systems (FIMS) processing.

The budget office is a strategically located function in the division, where it operates in close harmony with forecasting, revenue collecting, bill-paying, and accounting. This section analyzes funding requests and advises the administration of the financial implications and alternatives available. These analyses range from minor funding increases requested by a district or division to a major program shift that may require additional taxes in the future.

The major goal of the division is to provide an accurate and timely service to the general public, governmental entities, and department personnel.

## D-4 Equipment and Procurement

Let he name Equipment and Procurement only partially conveys the scope of this division's operations. Included in this description of the missions of the division are examples of the many behind-the-scenes services vital to the operation of the department.

Mission 1: Procure equipment, materials, supplies and services. D-4 processed more than 33,000 procurement actions in FY 1990 totalling \$250 million. FY 1991 will bring installation of computer equipment for the Automated Purchasing System, a \$3.5 million project. Training provided by the division has resulted in the certification of 47 employees — 20 of them from D-4 — as Professional Public Buyers and three D-4 employees as Certified Public Purchasing Officers.

### Created: 1919

### Sections:

Purchasing and Equipment; Supplies and Services; Information and Records; Property Management; and Internal Review and Budget

#### Locations:

Five locations in Austin; three regional warehouses; and TDC Sign and Dump Body Inspection Operations

Employees: 343

**Division Director:** Robert E. Flaherty Mission 2: Manage the department's major equipment fleet and provide a fleet of automobiles for division use. The department's fleet is the nation's sixth largest government fleet, comprising more than 18,100 vehicles, with a replacement value of about \$405 million. The division is testing compressed natural gas as an alternative fuel in department vehicles, uses antifreeze and freon recovery systems, uses engine exhaust gas analyzers, and prepares environmentally sound specifications.

Mission 3: Manage the department's warehouse stock inventory. The three general warehouses and the Austin warehouse stock more than 2,000 different items and boast an average 93 percent service level for FY 1990. The Materials and Supply Management System provides control of more than \$86 million in materials and supplies in more than 430 locations.

Mission 4: Serve as manager for the disposition of surplus and salvage property. Surplus property sales during FY 1990 brought in a record \$5 million. D-4 sells environmentally sensitive items such as used batteries and waste oil only to certified vendors that will recycle or properly dispose of them.

Mission 5: Maintain and operate special-purpose shops to develop, construct, and maintain equipment, buildings, and grounds. Buildings and grounds management personnel maintain more than 700,000 square feet in 18 buildings for Austin divisions. Eight shops design, build, and repair equipment, including gyratory asphalt presses and herbicide units. D-4 maintains and operates equipment for core drilling and bridge inspection.

The division, in coordination with the Governor's Energy Management Center, held the department's first Energy Management Conference in FY 1990. Modifications made to Austin headquarters buildings resulted in a \$30,000 energy rebate from the city.

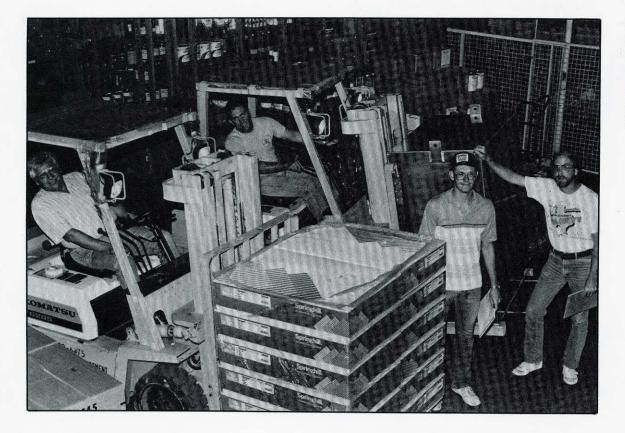
Mission 6: Provide reproduction operations and electronic publishing services. During FY 1990, high-speed laser printers produced 1,664,397 pages. Other volumes of service during FY 1990 included 145,130,249 pages of printing, 2,382,335 plan prints, and 21,476,408 pages of duplication copies.

**Mission** 7: To distribute mail to division offices in Austin.

Mission 8: Operate a records management program and maintain the

department's records depository. During FY 1990, D-4 produced 7,367,577 microfilm images to preserve the department's history and save storage space.

Mission 9: Coordinate voice communications for the department. D-4 owns the 449 telephone systems, 9,500 telephones and 269 fax machines throughout the state, and coordinates training of district personnel on the operation of telephone systems. D-4 manages the TexAN telephone bills, which included more than 10,000,000 minutes in long-distance calls in FY 1990, costing the department more than \$1.4 million.



Employees at D-4's central and regional warehouses manage and distribute more than 2,000 different items the department needs to do its work.

## Bridge

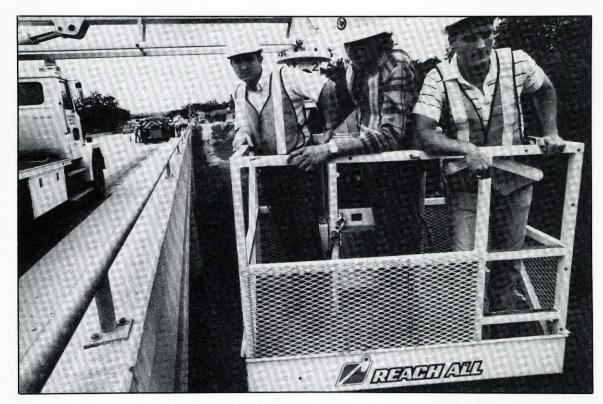
Anyone wondering about the Bridge Division's contributions to preservation of the environment and enhancement of the aesthetic qualities of the state's bridges will be interested in significant accomplishments in both areas.

The first of these is a recently completed research study titled "Mitigation of Traffic Mortality of Endangered Brown Pelicans on Coastal Bridges." The study was conducted by the Texas Transportation Institute with technical coordination provided by the Bridge Division. The objectives were to identify the factors influencing the presence and resulting deaths of brown pelicans on the Queen Isabella Causeway on Park Road 100 and to suggest ways to mitigate these factors.

The researchers concluded that brown pelican deaths on the causeway correspond to a recovering brown pelican population and that strong north winds often force the pelicans to land on the roadway, where they

Inspectors use the department's long-armed "snooper" truck to closely examine the undersides of bridges quickly and unobtrusively.

)-1



are often struck by cars. Suggested mitigation efforts include erecting warning signs for motorists, reducing the speed limit when weather conditions are likely to result in pelicans' landing on the bridge and installing telephones at each end of the causeway to allow motorists to report birds on the road.

The Bridge Division has also been a forerunner in the development and use of concrete segmental bridge construction in North America. When plans were being made for expanding the intersection of Interstate 10 and I-35 in downtown San Antonio, aesthetics was a prime consideration. The desire for an open, uncluttered appearance for the elevated portions of the project led to the selection of a "winged-T" box girder shape, which will also be employed on a major portion of the US 183 project in Austin.

An outgrowth of these efforts to achieve a harmonious relationship between bridges and a particular urban environment has been the creation of a Bridge Division aesthetic design team. Its principal charge is to satisfy the public's concern for quality while operating within strict fiscal limitations. The products of this team approach to structural and aesthetic design include a bridge rail that received national acclaim in a *Wall Street Journal* article and various architectural treatments that diminish the visual impact of structural components in environmentally sensitive areas.

The Bridge Division takes special pride in its role as one of the chief participants in the inspection, design, and construction of bridges at the state's southern border. Activities in this area of the division's overall operations have intensified as a result of Texas' economic alliances with Mexico and the continuing need to replace deficient and obsolete bridges crossing the Rio Grande.

### Created: 1928

### Sections:

Design; Construction (including BRINSAP); Planning; Plan Review; Hydraulics; Railroad; Automation; and Consultant Contracts

### Location:

La Costa Centre in Austin

### **Employees:**

124

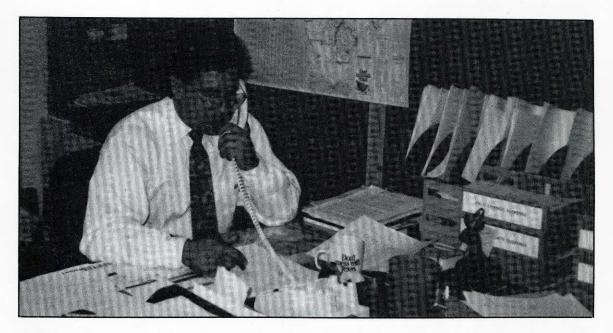
**Division Director:** Luis Ybañez, P.E.

From conception to completion, a typical bridge project requires dozens of administrative, legal, and diplomatic procedures involving local, state, federal, and international representatives of both nations. Planning efforts alone are extraordinarily complex considering the different engineering concepts and design philosophies of the American and Mexican engineers. Few other states have bridge engineers with comparable experience and opportunities for interaction with engineers of another nation.

Thus, the diversity of the Bridge Division is sufficient to meet almost any challenge, from environmental preservation to bridge design and construction on an international level.

# D-6 Construction and Contract Administration

Although the Field Engineering Section has taken on more extensive inspections, office work is still a big part of the job for engineers like Rolando Besa.



### T

Le past year has brought change to D-6, reflected by its new name. Known as the Construction Division since 1923, D-6 is now called the Construction and Contract Administration Division, with the addition of the Contract Administration Section, formerly a part of the Finance Division.

The division's diverse duties increased with the new section, which brought the

### Created:

1923 as Construction Division

### Sections:

Construction Administration; Pre-Qualification and Proposal Issuance; Automated Data Processing; Field Engineering; Equal Employment Opportunity; Claims; Project Staffing; and Administration

### Locations:

Dewitt C. Greer Building in Austin

Employees: 85

**Division Director:** Bobbie F. Templeton, P.E. number of employees to 85. The Contract Administration Section develops contract policies and procedures, writes and reviews negotiated contracts, processes highway construction and maintenance contracts, and maintains contract and insurance information. The section is now creating a comprehensive contracting manual.

The Prequalification and Proposal Issuance Section issues bid documents and information proposals to contractors each month and review applications for eligibility to bid. The section is working with the Division of Automation to complete the interface of automated contractor prequalification and proposal issuance.

The Automated Data Processing Section is streamlining construction management. A method for automating project records to facilitate estimate procedures is being developed. The section monitors the Construction Cost Index monthly and is working toward a new comprehensive cost index. The ADP Section plans to network automated equipment in the division, as well as improve automated procedures to help the districts.

The Field Engineering Section continues to cross-train its young engineers with the districts. This section reviews and processes field change requests, extra work orders, supplemental agreements, and final estimates. It works with district personnel and surety companies on defaulted construction contracts as well. Field engineers have recently undertaken more extensive field inspections, including in-depth reviews of construction and contract activities for various projects. This section coordinates the Traffic Control Review Team, which consists of representatives from several divisions. The team visits various districts to analyze the effectiveness of traffic control on construction projects.

The Equal Employment Opportunity Section certifies disadvantaged business enterprises (DBEs) and monitors compliance with EEO requirements. The section now monitors 640 certified DBEs and monitors compliance with Title 6 of the Civil Rights Act internally and externally.

The EEO Section ensures DBEs are given maximum opportunity to participate in the department's work. It accomplishes this through training, advice, and publications for DBEs, and other support services from the Texas Engineering Extension Service.

The Claims Section reviewed and made recommendations on approximately 10 formal contractor claims worth almost \$30 million in the past year. The section works with districts to reduce claims and to assist with dispute resolutions, encouraging the resolution of disputes at the district level. They also issue the "Claims Update," a summary of recent claims and disputes, so that others may be aware of potential problem areas.

The Project Staffing Section has developed a program to estimate the number of full-time equivalents (FTEs) needed per project in the future. This program is being fine-tuned.

The Administrative Section includes the Bid Analysis Management System (BAMS) and labor compliance and training. BAMS, which verifies that bids received during construction lettings are competitive, has recently been implemented and is being further analyzed. The labor compliance and training area provides technical expertise to districts and divisions, and establishes wage rates through quarterly surveys.

# D-7

## Planning and Policy

### T

Let he department completed the first cycle of dynamic integrated planning with the publication of a Tactical Plan. This plan influenced the legislative appropriation request for 1992-93. The second cycle began with the update to the department's Strategic Plan, which was praised highly by the highway commission at its October meeting.

The Planning Section works with other divisions to enhance the Highway Performance Monitoring System and Bridge Needs Investment Process. These computer models will help identify needs for the update of the Strategic Mobility Plan.

Performance measures for gauging efficiency and effectiveness will be refined and implemented as part of the Executive Information System. The Planning Section will also examine the effectiveness of Management by Objectives and develop models that administration, districts and divisions can use.

The Legislative Information Section last year monitored the Legislature during the regular session and the six special sessions. Proposed legislation was evaluated for its potential impact on the department's employees, operations, and fiscal stature. In preparation for the 72nd Legislative Session, the section has researched 38 legislative issues in areas important to the efficiency and effectiveness of the department.

Uncertainties over national transportation policies have caused the Legislative Information Section to double its efforts to monitor federal legislation. With other states and the American Association of State Highway and Transportation Officials, the section is developing recommendations that will shape federal transportation policies and programs.

The Legislative Information Section monitors the Texas Register and the Federal Register to ensure that the department keeps abreast of changes in state and federal rules and submits comments. The section has also provided assistance to the administration on issues such as intermodal planning and reciprocity for motor carrier movements between Texas and Mexico.

The Program Analysis and Policy Section provides assistance in developing policy and procedure documents, with emphasis on understandability. The section provided facilitator/advisor assistance to 21 work groups involved in the functional review of Austin divisions. The last work group completed its field work and report in July. This project provided opportunities for more than 100 district and division employees to obtain a broader awareness of the department's operations.

The section is coordinating a policy manual that will include all policies affecting the department, as well as coordinating the production of a uniform set of department manuals.



Under the leadership of Al Eells, center, D-7 staffers Bob Jackson, left, David Soileau, Maureen McCoy, and Jim Bisson keep a watchful eye on happenings under the domes of the capitols in Austin and in Washington, D.C.

The Highway Performance Monitoring System, a computer simulation used to determine highway needs and analyze various investment plans, was refined and used in the planning process. In addition, the division has been involved in developing long-range plans for a national Intelligent Vehicle Highway System program.

In 1990, the Strategic Plan and the Strategic Mobility Plan will be updated. The division will continue to support Transportation 2020 and efforts to reauthorize federal legislation and complete research on legislative issues for the next lawmaking session. The conclusion of functional review also is expected this year.

# Created: 1985

Sections:

Planning; Legislative Information; and Program Analysis and Policy

Location:

Dewitt C. Greer Building in Austin

Employees: 27

Division Director: Thomas A. Griebel

# Highway Design

# T

▲ he Highway Design Division's primary mission is to maintain letting schedules and coordination of plans, specifications, and estimates (PS&E). The division conducts activities such as programming federal-aid monies, issuing commission authority for preliminary engineering, ensuring compliance with state and federal environmental requirements, preparing bidding information and proposals, and legal advertisement.

The Project Development Plan (PDP) is maintained in D-8. This plan identifies added capacity as well as reconstruction projects matched to available funds, and makes it possible for the state to meet long-term needs under systematic prioritized goals. Also, the PDP allows districts to program emphasis in special areas, while at the same time affords control over funds statewide.

Two activities supported by the division that are shared with other divisions and districts are the In-House Design Training Program and the department's Specification Book Update.

Three levels of the In-House Design Training are now operational. Level I covers project origin through PS&E submission for personnel with less than one year's experience. Level II is a two-week course for those with one to two year's experience and deals with design theory and problem solving. Level III involves eight one-week courses in preliminary engineering and environmental issues, right-of-way, roadway design, pavement, hydraulic, traffic, and PS&E preparation. The Level III, Structural Design Course remains to be completed. Since FY 1988, 2,130 employees have received training.

The standard Specification Book is the main source of material and work specifications since 1982. The update of this book has involved the efforts of district and division personnel in seven task forces. Approximately 97 percent of the book has been rewritten, with 80 percent reviewed by the Specification Committee and 45 percent coordinated with the private sector. Thirty percent of the rewritten specifications have been approved by the administration and reviewed by the Federal Highway Administration. The scheduled completion date for the update is July 1991.

The division's Environmental Section provides consultation and coordination between districts and federal and state agencies. Early assessment of the effects of highway projects on natural and cultural resources ensures more effective mitigation at the lowest possible cost.

The department and several other state agencies were required to prepare for the 300th anniversary of the Old San Antonio Road, the state's oldest road. This action developed a cultural link to the past by researching and documenting the trail's history and current nature.

In 1990, D-8 and the Bridge Division initiated a pilot value engineering program with three districts. Four projects were studied with 27 individuals participating on team studies. Although reducing cost was not the primary objective, each functional area was evaluated with cost and value in mind. The studies recommended changes that would reduce original estimates by \$23 million, while improving the design and moving the project forward in its development. In addition, construction estimated at \$16.3 million was recommended to be deferred.

Other benefits of the studies included an appreciation by each team member for the other disciplines represented on the team, a better understanding of the logic behind the design decisions, and increased experience in presenting recommendations for project change and improved project management.



#### Created:

1929 as Road Design Division

#### Sections:

Administration; Programming and Scheduling; Geometric Design; Pavement Design; Environmental; Field Coordination I, II, and III; and Project Services

#### Locations:

La Costa Annex and Promontory Point in Austin

**Employees:** 

115

**Division Director:** William A. Lancaster, P.E. The faces behind D-8's Progamming and Scheduling Section, from left, are Billy Rogers, Linda Olson, Wayne Dennis, John King, Stella Jennings, Josie Pellegrino, Bill Newberry, Stacy Dukes, Norma Shaw, and Khali Persad. Not pictured are Merlene Kouba and Maria Gallant.

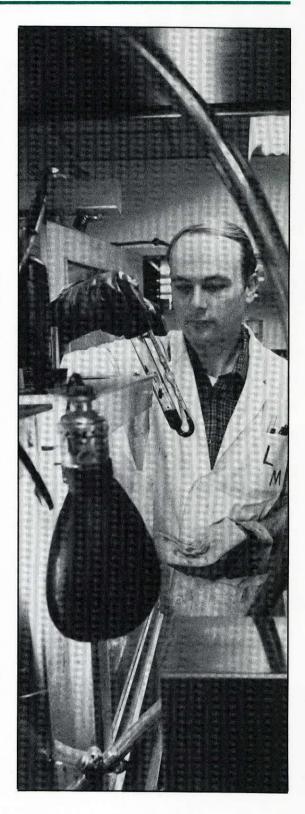
# Materials and Tests

The Materials and Tests Division is a service division, responding to the needs of the districts by assisting them with any materials problems they may have. The division also conducts some research on materials.

D-9 is responsible for testing many of the materials used in highway construction, including cement, paints, lime, asphalt, sealers, joint materials, aggregates, and signing and lighting items. D-9 also inspects the fabrication of precast concrete and steel items and related materials at locations throughout Texas and the United States. Staff members have inspected structural steel members in Japan and Korea.

During 1990, the division performed out-of-state inspection on materials at locations including New York, Pennsylvania, Illinois, Massachusetts, Arkansas, Louisiana, and Missouri. Inspection of structural steel members for the Fred Hartman Bridge was performed in South Africa.

The work of technicians like Larry Miller is important to keep standards high for the materials used in highway construction and maintenance.



# Created: 1918

## Sections:

Physical Testing; Coatings and Traffic Materials; Asphalt and Chemical; Soils and Aggregate; Bituminous; Structural Field; Calibration; General Services; and Administration

# Locations:

Camp Hubbard in Austin; Amarillo, Arlington, Baytown, Chico, Corpus Christi, El Paso, Fort Worth, Houston, New Braunfels, Port Neches, San Antonio, San Marcos, Uvalde, Victoria, Waco, Weatherford, and Apple, Okla.

**Employees:** 

220

**Division Director:** Billy R. Neeley, P.E.

The Materials and Tests Division's Austin laboratory was one of the first in the United States to become accredited under the new American Association of State Highway and Transportation Officials Materials Reference Laboratory (AMRL) program. A part of this program includes periodic inspections of equipment and witnessing of test procedures performed by Austin technicians by teams of inspectors from AMRL and the Cement and Concrete Reference Laboratory (CCRL).

The Austin laboratory participates in the AMRL and CCRL split-sample testing program, which permits comparison with other laboratories throughout the country. The Austin lab offers similar split-sample testing with district laboratories, and test results are tabulated for statistical comparison and evaluation.

This division represents the department at the national level on materials subcommittees of AASHTO and the American Society for Testing and Materials. As members of these organizations, D-9 participates in writing materials standards for the nation's industry.

In 1991, D-9 will begin work on the Laboratory Accreditation Program for the district laboratories. Representatives from the Materials and Tests Division in Austin will visit each district laboratory to qualify technicians to perform various tests. Equipment will also be checked. The goal of this program is to improve the quality and uniformity of testing throughout the department.

# D-10 Transportation Planning

The Transportation Planning Division negotiates purchases of dredge disposal sites for the Gulf Intracoastal Waterway, performing the department's part in keeping this important transportation link open.



# T

L he Transportation Planning Division completed several projects in 1990 that will be important contributions to the design and construction of future highways.

Data was collected throughout the state and travel surveys were conducted in San Antonio, Amarillo, and Tyler. Two additional special surveys are beginning in Brownsville and Sherman-Denison the first part of 1991. The information collected from these surveys will be used to validate existing travel models and forecast traffic volumes. Six route feasibility studies were also completed in 1990 and a seventh is in progress. The Texas Highway Trunk System, a rural, four-lane divided highway network, was approved by the highway commission during 1990 after more than a year of public hearings and the participation of numerous groups and individuals.

The number of county maps automated has tripled in the last year to 149 maps currently available. Automated maps for all of the major urban areas are now complete. For the first time, a private contract has been let for annotation of digitized maps of Tarrant County. The results of this contract should be available in early 1991.

Work has also been done in coordination with the Division of Automation and vendors to automate the placement of the Reference Marker System on department maps. Field installation of the new reference markers was completed during August 1990. The division continues in its support of the Highways of National Significance Program through manual and automated mapping and development of preliminary systems for Texas.

Texas state universities, chiefly the University of Texas and Texas A&M University, performed more than 118 research studies during 1990 at a cost of about \$9 million. The Technology Transfer System, a state-of-the-art, computerized information retrieval system allows access to worldwide research findings. The system is on the department's mainframe and contains more than 50,000 abstracts of reports contained in the Technology Transfer library.

A national traffic data acquisition technologies conference and exposition was hosted by D-10 during August 1990. More than 250 participants from around the world attended presentations covering technologies for data collection and weigh-in-motion

## Created:

1936

## Sections:

Administrative Operations; Transportation Systems Planning; Research and Development

Location: Camp Hubbard in Austin

Employees: 184

Division Director: Alvin R. Luedecke Jr., P.E. equipment and installations.

The 1991 Interstate Cost Estimate was completed by D-10 in 1990. This estimate is required by the Federal Highway Administration and is used to apportion all Interstate Construction Funds for Texas.

Twenty-nine employees of the Division received longevity awards totaling 435 years of service. Fourteen employees are attending college part-time and one is enrolled in the MBA II program.

# D-11 Public Transportation



Created: 1988

Sections:

Planning Research and Development; and Grants Management

Location: Training Center in Austin

Employees: 17

Division Director: Richard G. Christie As Texans saw gasoline prices begin to rise during August 1990, the Public Transportation Division recognized the challenge that lay ahead. Transit ridership is always sensitive to such increases as motorists search for alternative ways to make necessary trips.

Public transportation is a lot more than big-city transit systems. D-11 administers grants for 37 rural transit systems and 255 agencies providing transportation to disabled

or elderly people.

However, other factors are also contributing to a surge in public transportation use in Texas. The state's population is aging, particularly in rural areas. Senior citizens who are no longer able to afford or safely operate an automobile face a lonely, isolated existence if they cannot participate in community activities. Public transportation offers them the opportunity to shop, meet friends, and maintain more independence.

Air quality concerns have also led many local governments to consider increased transit service. Many municipal bus systems, along with some rural operations, are investigating alternative fuels such as compressed natural gas and propane that burn cleaner than diesel or gasoline. Obviously, greater reliance on transit relieves congestion as well.

All of these trends keep the staff of the Public Transportation Division very busy. The Legislature appropriated \$9.6 million for public transportation activities during the fiscal 1990-91 biennium. Those monies are generally used to leverage federal grant funds to purchase buses and other vehicles and to pay operating expenses.

In addition, the division administers four programs for the Governor's Office that are funded by oil-overcharge funds. These programs increase consumer awareness of transit capabilities, establish new park-and-ride facilities, and fund other capital improvements. Despite increased contracting activity, D-11 staff members were able to significantly reduce processing time on payments to grant recipients. The department is required to prepare a biennial Public Transportation Master Plan for the state Legislature. The division staff has compiled information from the transit systems to accurately project financial and other resource needs in the future. The annual statistical report was expanded to include rural operations as well as systems serving elderly or disabled people.

In 1989, Texas public transit systems provided almost 215 million one-way passenger trips. This was accomplished by the state's six metropolitan transit authorities, 15 city transit systems, 37 rural transit systems, and 255 private nonprofit agencies providing transportation for disabled or elderly people.

Although federal drug-testing regulations were withdrawn in January 1990, it is expected that new requirements will be imposed on transit systems very soon. The department's Mass Transit Drug Control demonstration project offered training to system managers through a series of seminars.

Passage of the Americans with Disabilities Act in July 1990 creates a new set of challenges for D-11 and the transit industry. Disabled individuals must be provided transportation services comparable to those provided for the general public. The division intends to offer training and other technical assistance to ensure that disabled people enjoy the same mobility options that are available to all Texans.

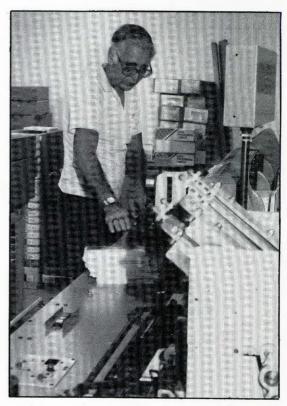
# D-12 Motor Vehicles

T

L he bywords will be "change" and "progress" at the Division of Motor Vehicles (DMV) during the 1990s. As the division's mission continues to evolve during this decade, the people of DMV will lead the way with a series of innovative programs designed to improve overall efficiency and the quality of service to the motoring public of Texas.

1990 saw the introduction of a new passenger license plate numbering system. The new system — three letters, followed by two numbers and one letter (such as: BBB-11B) — will produce 15,830,100 possible combinations (excluding vowels). This numbering system will last until 1997 or 1998, when all combinations should be exhausted:

During 1990, a newly designed passenger vehicle license plate graced with the flag of the Lone Star State was introduced. These plates will continue to be validated annually with a registration validation sticker. As has been the case since 1969, the new license plate is reflective, serving as an added



Gary Gold of the Special Services Section operates the automatic mail inserter machine preparing some of the more than 15,000 certificates of title mailed daily.

vehicle safety feature.

Several new special license plate classifications were produced in 1990 bringing the total to 35 categories. Among the most popular of the new special plates are the collegiate license plates. Fifteen Texas colleges and universities are participating, and others are eligible to join the program.

Also extremely popular are the Purple Heart license plates, available only to recipients of this medal, and the Pearl Harbor Survivor license plates, which are only available to those who served in the U.S. armed forces and were stationed in the Hawaiian Islands on Dec. 7, 1941. An additional category, Capitol license plates, allows for \$25 of the \$30 annual fee (charged in addition to the regular registration fee) to go to a special fund to be used by the State Preservation Board to help defray the cost of the Capitol Building restoration.

The division began issuing a newly designed certificate of title in 1990. The new certificate incorporates changes in the odometer statement mandated by state and federal legislation in an effort to deter odometer fraud. It conforms with American Association of Motor Vehicle Administrators' guidelines and also contains enhanced security features to discourage alterations.

# Created: 1945

## 1515

# Sections:

Accounting; Administration; Correspondence; File Maintenance; Operations; Personnel; Production Data Control; Registration Auditing; Special Plates; Special Services; and Title Control Systems

#### Location:

Camp Hubbard in Austin

# **Regional offices:**

Abilene, Amarillo, Austin, Beaumont, Corpus Christi, Dallas-Carrollton, El Paso, Fort Worth-Arlington, Houston, Longview, Lubbock, Midland-Odessa, Pharr, San Angelo, San Antonio, Waco, and Wichita Falls

Employees: 496

Division Director: Dian K. Neill Approaching the implementation stage is the Registration and Title System project. This point-of-sale system will provide a more efficient and timely method of issuing titles and updating registration records for the nearly 14 million registered vehicles in Texas. Installation of the new automated equipment in the offices of each of Texas' 254 county tax assessor-collectors (who act as the department's agents in title and registration matters) will begin in May 1992 and should be completed by December of that year.

Calendar year 1989 saw the division process nearly \$765.8 million in registration and title fees. These fees account for 23 percent of the department's annual revenue.

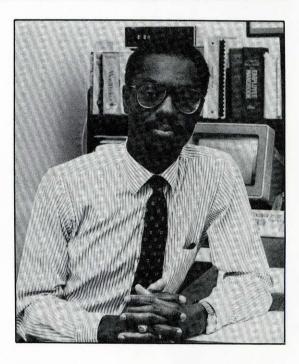
# Human Resources

During fiscal year 1990, the Employee Relations Section implemented an employee sick-leave pool program that provides additional sick leave when an employee or a member of his immediate family suffers a catastrophic illness or injury. Employees may contribute eight to 24 hours of sick leave each fiscal year.

The division has initiated a substance-abuse program to maintain an alcohol- and drug-free workplace that protects the health and safety of employees and the public. The program will be phased in through 1992. It includes alcohol and drug testing of employees who work in safety-sensitive jobs.

As part of the program, a statewide employee assistance program will be launched, to provide assessment, counseling, and referral of employees who have alcoholor drug-abuse problems or marital, emotional, or work-related problems.

The department has expanded efforts to attract new minority employees through cooperation with the Texas Alliance for Minorities in Engineering (TAME). Under the guidance of the Human Resources Division, six districts have established TAME chapters.



# Marvin Bridges, of the Human Resources Division, is the department's Equal Employment Opportunity Officer.

During FY 1990, the division contracted with the Texas Commission on Human Rights to provide five equal opportunity employment compliance seminars in Austin, Dallas, and Houston. More than 180 department employees participated. EEO initiatives for next year include increased cooperative education and work-study programs with universities and community colleges and more aggressive national efforts to recruit minority employees.

The Training and Development Section trains employees statewide. High-quality training ensures a return on the highway department's most important investment: its people.

) - 13

The section's Engineering Professional Development Branch coordinates a continuing education curriculum for engineers. The branch helps unregistered engineering licenses. The branch also coordinates administration of the Master of Science in Civil Engineering graduate program.

The Curriculum Design, Development, and Evaluation Branch analyzes training needed by districts and divisions, then develops programs to meet those needs. The branch evaluates the training, and feedback from the evaluation aids in development of future training.

The Administrative Services Branch coordinates class scheduling and handles registration. The Training Delivery Branch presents training in areas such as automation, management, and various technical areas.

D-13's Classification Branch is implementing the functional title classification system. Briefings have been conducted in each district and division to inform supervisors of new classification procedures. Supervisors have compared the duties of their employees to the job descriptions in the new classification manuals and identified functional titles where good matches were found. Functional titles were identified for approximately 65 percent of employees. Employee reclassifications, the final step of the implementation, have been rescheduled for September 1991.

The division is conducting a pilot selfanalysis staffing study, using procedures developed by the Plans Branch. It is planned to have all divisions use the procedures used in the pilot study to develop their individual staffing standards.

# D-15 $\frac{\text{Right of Way}}{\text{T}}$

Let pulse is upbeat — even with temporary budget constraints — due to the variety of challenges and developments in the Right of Way Divsion. Changes in laws, in regulations, and within the department aid in the timely acquistion of rights-of-way. Implementing change is not always fun, but is always interesting.

Acquiring right-of-way is a complex matter which touches many different professions both inside and outside the department. The involvement of engineers, attorneys, Realtors, land planners, financial experts, appraisers, and others protects the rights of those from whom right-of-way is acquired.

Many of the changes are aimed at lessening the inconvenience and providing for the needs of property owners affected by right-of-way acquisition. The relocation assistance program, initiated in the 1960s, benefits affected owners or displacees by authorizing payment for replacement housing, moving costs, incidental expenses, and business re-establishment expenses.

# Created: 1956

Sections: Engineering; Legal; Appraisal; Administrative; Utility; and Records

Location: Walnut Creek Business Park in Austin

Employees: 67

**Division Director:** Gary Bernethy, P.E.

The division's involvement in environmental concerns is extensive since in the acquisition of right-of-way, hazardous materials and petroleum storage tanks are often encountered. These must be handled in accordance with liability and environmental considerations.

When the Right of Way Division was created in 1956, its primary mission was to assist the districts in the acquisition of right-of-way for the Interstate system and in reimbursing counties and cities for right-of-way costs on other state highways. Over the years, as the scope of the department has expanded, division responsibilities have increased accordingly.

The acquisition of right-of-way previously performed by counties and cities in many instances is now performed by districts and this division. The areas of responsibility of the six sections of the Right of Way Division illustrate the increased areas of operation for which the division is now responsible:

 Appraisal Section — appraisal and approved values for cost of right-of-way; surplus real property disposal; interagency reviews of appraisals for other state agencies; exchanges of right-of-way for relocation of state highways; Gulf Intracoastal Waterway.

- Engineering Section right-of-way maps, property descriptions, deeds, agreements; mineral and surface leases of highway right-of-way; hazardous wastes and petroleum storage tanks; division publications.
- Legal Section right-of-way law; eminent domain liaison with Attorney



General; transportation corporations and road utility districts.

- Utility Section relocation, adjustment or removal of utility facilities within highway right-of-way preliminary to construction; Utility Accommodation Policy.
- Administrative Section relocation assistance, regulation of outdoor advertising signs and junkyards; eminent domain review.
- Records Section right-of-way contracts; data processing; payment submissions; disposal of improvements on acquired right-of-way.

Old underground storage tanks in right-of-way bought by the department present a hazardous-waste problem.

# D-16 Travel and Information



Mailing operations staffers Lorraine Villegas, left, and Virginia Garcia work to fill requests for travel and tourism literature.

# T

L he Travel and Information Division coupled its communication mission with automation experience to became a national trendsetter in travel services during 1990.

The division's two primary services are TRAX and TIDE. The "Travel Requestors Address exchange" provides a weekly listing of approximately 25,000 names and addresses during peak travel seasons to travel representatives across Texas. The travel industry can download information based on nine regions and six cities. "Travel Information Data Exchange" functions as an electronic mailbox for magazine fulfillment houses. TIDE has allowed the state to respond within 72 hours to a request for travel information. Before TIDE became active, the average response time was three to four weeks. These services continue to give Texas a marketing advantage for tourism.

To provide front-line support for tourism, the division operates 11 travel information centers, and an Austin center offers travel services both in the Dewitt C. Greer Building and at the state Capitol. Last year, the division's 54 travel counselors gave information and literature to more than 3.4 million Texas visitors. An additional 880,000 requests for information were fulfilled with division-produced travel maps and the award-winning state travel guide, most to support the advertising efforts of the Tourism Division of the Department of Commerce.

The division produced video programs to assist other divisions with seminar

documentation, training needs, and public service messages in addition to videotaping all sessions at the 1990 Short Course and recording other department seminars.

The state's official travel magazine, *Texas Highways*, continues as a major force in Texas tourism and is enjoyed by almost 430,000 households every month throughout the United States and in 107 foreign destinations.

On March 2, 1990, the magazine sponsored the "Toast to Texas" with more than 300 high-spirited Texans gathered in Austin. Other simultaneous toasts were made from Washington, D.C., to New York to Saudi Arabia and Australia. In 1991, the magazine is coordinating the Toast to Texas with the main event scheduled at Washington-on-the-Brazos.

The department's antilitter program both Adopt-a-Highway and "Don't Mess with Texas" - received two national awards in 1990. A National Environmental Achievement Award was presented to the department in April as part of the celebration of Earth Dav's 20th anniversary. The National Environmental Awards Council was composed of 22 nationally recognized environmental organizations including the National Audubon Society, the National Wildlife Federation, Renew America, and the Sierra Club. The department also received the Friends of the United Nations Environmental Programme international award on World Environment Day, June 5.

Working as a team, Travel and Information and Maintenance and Operations division representatives presented information about department activities, especially maintenance contracting, at Texas Business Council forums sponsored by the Texas Employment Commission.

The division upgraded weather forecast monitoring for emergency road conditions through a link with the National Weather Service that provides continuous updating of North American weather patterns. The division also continues to produce a daily road condition report and provides a news clipping service, as well as coordinating Road Hand and Extra Mile awards.

#### Created:

1953 as Division of Information and Statistics

## Sections:

Travel Services; Information Services; Support Services; and *Texas Highways* 

# Location:

Dewitt C. Greer Building, Camp Hubbard, and Training Center in Austin

# **Travel Information Centers:**

Amarillo, Anthony, Denison (closed until 1992), Gainesville, Langtry, Laredo, Orange, Texarkana, Harlingen, Waskom, Wichita Falls, and Austin

# **Employees:**

125

**Division Director:** J. Don Clark

# D-18 Maintenance and Operations

Major changes — attributable, partially, to legislation and new department policies — were implemented in the Maintenance and Operations Division during 1990. The changes addressed the organizational structure, staff development, the environment, and technology and social issues.

To meet the challenges of a growing and mobile population, a new Traffic Management Section was created to develop statewide traffic management plans with, and for, the state's major metropolitan areas. The section will be responsible for traffic management planning and freeway/corridor control systems development. The systems will be the building blocks for "intelligent" highways, which will ultimately evolve into facilities that communicate with "intelligent" vehicles in the future.

Initiated to improve the technical and operational skills of maintenance supervisors, the statewide Maintenance Supervisors' Training program was completed this year. Because of the positive response to



Traffic management systems like this one for high-occupancy vehicle lanes in Houston will become more common as the department seeks ways to maximize traffic load instead of building new roads or lanes.

this program and to the increase in district contracting activities, a companion contract inspection program is being prepared.

In keeping with the role of a leader in the development and implementation of improved methods and technologies, the division contracted for the development of the Texas Mobile Load Simulator. The MLS is a transportable testing facility that will allow investigators to simulate 10 to 20 years of traffic flow in only a few months. The simulations will provide valuable information for the design, construction, and maintenance of pavements. In order to reach more contractors, especially those considered to be disadvantaged businesses, the division contributed to the departmentwide effort to develop several statewide Economic Opportunity Forums during 1990. Information was disseminated concerning the department and the routine maintenance contracting system. To answer many common questions, division personnel developed a helpful booklet. A standardized questionnaire was also developed to enroll contractors in the automated state bid list for routine maintenance contracts.

Environmental issues continue to be a major focus of division resources. Underground storage tank remediation emerged as a major program during the year. The department has 1,516 tanks that must be inspected and, when warranted, repaired. Asbestos is another environmental concern; asbestos abatement is likely to become a major concern in the future.

For many years, department staff have recognized the effect on the environment of road construction and maintenance. As new

Created:

1923

# Sections:

Purchasing and Personnel; Buildings and Real Estate; Central Permit Operations; Landscape; Maintenance; Pavement Management; Planning and Administrative Support; Safety and Traffic Operations; and Traffic Management

## Locations:

La Costa, Promontory Point, and Camp Hubbard in Austin

# **Employees:**

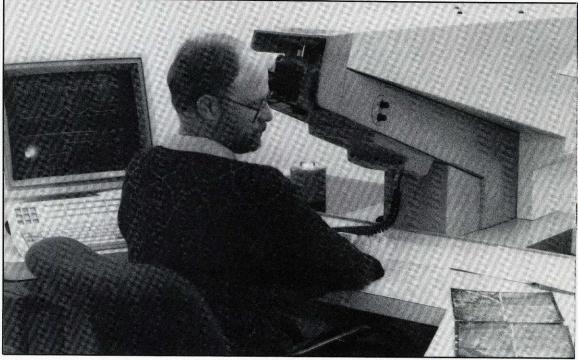
248

**Division Director:** Bob G. Hodge, P.E. technologies offer new options concerning the environment, the department is taking action to implement more environmentally sensitive methods into its daily operations.

Maintenance activities statewide affect the environment every day. Many of these activities — mowing, blading and pothole patching — are as old as the department. Others, such as herbicide spraying, are relatively new. All are necessary, however, to keep the highways well maintained. Additionally, these activities are compatible with a healthy environment.

The department is undertaking a systematic environmental assessment of all maintenance activities. Unlike highway construction, maintenance activities do not involve federal funding and therefore are not required by law to undergo environmental scrutiny. Still, the department is committed to being environmentally conscious in all its operations.

# D-19 Automation



Phillip Hancock uses an Integraph InterMap analytic stereoplotter to collect existing features from aerial photography. The resulting data base is used to plan and design highway facilities.

T

L he Division of Automation ensures that all departmental information resources are obtained, organized, and maintained in a manner that addresses the department's goals and objectives quickly and cost-effectively.

The department's communications network is one of the largest in state government, currently supporting more than 3,500 pieces of computer equipment in 395 department locations statewide. With the pending implementation of the Registration and Title System in county tax assessor-collector offices, the network will grow by 2,200 workstations in 400 additional locations. In 1990, the department implemented a top-down planning process for selecting and prioritizing projects to be included in the three-year Information System Plan. Those projects that offered the highest contribution to the overall transportation system were selected and prioritized for development during this period. Many other worthwhile projects will be considered for inclusion in future Information Systems Plans.

The department followed the lead of the American Association of State Highway and Transportation Officials (AASHTO) and initiated a contract to develop an Executive Information System. This system, in concert with Decision Support Systems, will provide to executives predefined information necessary to manage departmental resources.

The Automated Plan Preparation System continued to be the lead project in the engineering category. This effort permits the generation of a project data base that includes survey data, map data, data processed using the Interactive Graphics Roadway Design System (IGrds), and other data needed in construction plans. From this data base, the user can create detail sheets for areas such as bridge, hydraulics, and traffic safety.

Other major efforts in the engineering arena are the conversion of software currently running on a VAX mainframe to run on desktop workstations, and the development of scanning techniques and methodology. This software conversion will offer the sophisticated engineering programs developed in-house and through AASHTO Joint Development activities to offices that previously could not justify the expense of workstations connected to the mainframe. Mainframe support of engineering programs will probably diminish as desktop systems become more powerful and versatile.

### Created:

1965

#### Sections:

Administrative and Fiscal Services; Automation Research and Training; Data Processing; Engineering Graphics and Satellite Survey; Engineering Systems; Planning and Information Systems; and Systems and Programming

# Locations:

Camp Hubbard in Austin

Employees: 365

**Division Director:** Tommie F. Howell, P.E. During the past year, the division has been instrumental in promoting the application of computer graphics and video for improving presentations of proposed highway projects. The Houston District, Travel and Information Division, Texas A&M Landscape, Intergraph Corporation, and the Division of Automation cooperated to produce a demonstration video for the Northwest Freeway in Houston. Video presentations are easily understood by all audiences and are expected to become the method of choice for presentations at design and public hearings and for litigation support in the courtroom.

The division continues to improve satellite surveying for setting ground control for mapping, right-of-way, and other applications. Experiments continue in cooperation with the National Geodetic Survey to perfect airborne global positioning surveys.

Another important activity of the Division of Automation last year was continued support of automation requirements associated with the department's Design Training Program. Division personnel provided instructors for 14,000 FTE student hours.

# D-20

# Occupational Safety

T

Let state's new workers' compensation law had a major effect on the Occupational Safety Division's structure and work in 1990. The law is designed to improve benefits for employees injured on the job and to reduce the insurance costs of employers.

Rigorous reporting requirements, a substantial increase in administrative workload, and legal incentives to accelerate the entire claims resolution process have brought about changes within the division. Workers' compensation staffing was increased by about half. The state has been divided into north and south regions with newly assigned regional claims managers. A new, automated claims information and tracking system will be in place shortly.

Everything that has been done helps all concerned — the injured employee and all others involved — get the most out of workers' compensation expenditures and also to comply with the law. Since the new workers' compensation law provides substantial civil and criminal penalties for non-compliance, supervisors dealing with on-the-job accidents would be well served to stay in close touch with D-20's workers' compensation staff if there is any doubt about what to do and when.

As always, the best way to avoid the penalties associated with workers' compensation violations is to avoid the injuries that produce claims. The department's safety program provides the guidance needed to help in this area.

The department published a new safety program in the summer of 1990. It is contained in Volume 2 of the Occupational Safety Manual. The program was developed by a task force of district and division representatives. The program will require less total time departmentwide but places more emphasis on the responsibilities of section-level supervisors and district safety committees.

Much of the across-the-board training in first aid and the old Fleet Safety Program is now history. Instead, organizational safety committees are required to analyze accidents for causes, recommend corrections to their district engineers or division heads, and furnish briefs that can be used for accident prevention elsewhere in the department.

The past year was, in some respects, a success for accident prevention. The department's disabling injury rate was 15 percent lower than the year before. Also, the total number of on-the-job injuries decreased. On the other hand, the number of vehicle accidents and work-related

# Created:

1938

# Sections:

Workers' Compensation; Tort; Safety; Industrial Hygiene; and Liability; and Hazardous Materials

#### Location:

Camp Hubbard in Austin; field representatives in Houston, Lubbock, Odessa, Tyler, and Dallas

Employees:

41

Division Director: Quinner F. Williams



fatalities increased.

One of the other programs administered by the Occupational Safety Division is generated by the Tort Claims Act, which permits people to be reimbursed for the department's negligent actions under prescribed circumstances. Still another special program, provided by state law, lets the department buy insurance to protect employees while they are operating state-owned vehicles and equipment.

The year 1990 will be remembered as a year of change. These changes, while demanding, will produce a safer work environment and improved benefits for those who are unfortunate enough to be injured on the job. Joan Reichert, Vicki Lewis and Martha Gold work with new automation equipment that will help the department deal with problems accompanying new workers' compensation laws.



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