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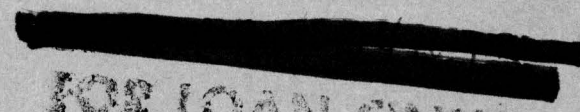
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TEXAS
on the move
STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION

a star is born



You are the star. That's right, you play the major role in highway development in Texas. From every gallon of gas you pump to your testimony at public hearings, you are involved. Texas highway officials coordinate with citizens throughout the state to build a highway system that serves the public. Each step of the planning process involves a partnership with the public that not only funds, but uses, the highway system.

How does it work? Your involvement begins at your local polls, when you elect the various officials who will represent your highway interests and needs at a statewide level.

You also have opportunities to voice your opinions about planned highway improvements. Public hearings are critical in the development of every major project.

And you directly support the highway department through the various taxes that are dedicated to transportation.

Did you know that part of the price of each gallon of gasoline helps fund roadways in Texas? And nine cents per gallon

(15 cents for diesel fuel) goes to the Federal Highway Administration, which later channels the money back to individual states.

You also help through your vehicle's registration and inspection fees. Although the fees are collected locally, the revenue helps fund the highways you travel in Texas.

If public transportation is your chosen form of mobility, then you are a participant in one of the department's efforts to move Texans efficiently and effectively.

However you become involved, you are an integral part of the system that keeps Texas on the move.

two's company, three's better



Getting somewhere in Texas today doesn't always mean getting in your car. More and more, Texans are choosing to board a bus or share a van. Some of you take advantage of express freeway lanes that are reserved for carpoolers, vans, and buses. By the end of this century, people may be riding railroads or trolleys in some cities. And some even move by water, using ferryboats in Port Aransas and Galveston.

All those means of moving people and goods are part of the mission of the Texas Department of Highways and Public Transportation. They're all part of the total transportation picture in big cities, small towns, and country settings across the state.

urban mass transit

Six Texas cities (Austin, Corpus Christi, Dallas, Fort Worth, Houston, and San Antonio) have metropolitan transit authorities that receive funding from local sales taxes. The department provides other funding, through the Public Transportation Fund, to help cities and rural areas meet the local-share requirements of federal transit grants. In cities, these state dollars can be applied only toward capital improvements such as buses, land, or

buildings. Some \$61 million of state funds have been expended from the PTF since 1976, but they have helped cities qualify for over \$375 million in federal transit dollars.

The department is also active in urban areas in planning, building, and monitoring the use of carpool, bus, and van lanes on major freeways. Other programs encourage "ride-sharing."

rural/small urban transit

Thirty-two contractors provide bus service in rural areas and urban areas under 50,000 population in Texas, the largest such program in the nation. Altogether,

these small transit systems receive from \$15 million to \$17 million annually, supplemented with local matching funds.

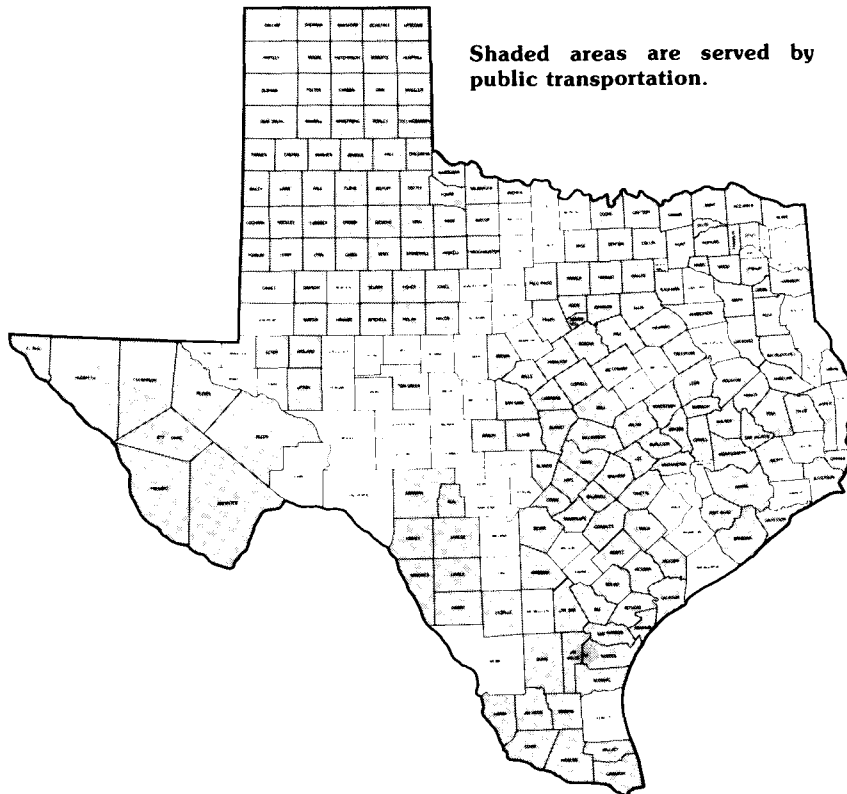
elderly/handicapped

Disabled Texans and senior citizens have special transportation needs. The department is helping people with limited mobility get around.

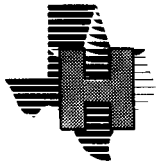
Under a federal program, the department provides money for private, nonprofit agencies to buy vans and station wagons for transportation of elderly and disabled passengers.

About \$1.2 million a year is channeled through this program, which now has about 150 active contracts. The 80 percent federal share of this funding is administered by the department, and 20 percent comes from the local recipient. These services enable Texans with no other means of transportation to hold down jobs, visit doctors, attend activities at senior centers, and participate in community life.

PUBLIC TRANSIT SERVICE AREAS



dollars and sense



Have you ever wondered what happens to the few pennies you are taxed when you buy a gallon of fuel? Texas highways are funded through a "user fee" system. The motorists who use the highways pay for them, through motor fuel tax, registration fees, vehicle sales tax, and other user-based fees. Those dollars are put right back into the roadway system that keeps Texans and our state's economy moving.

How does it all work? It's really quite simple.

You are probably one of the 12 million or so Texas motorists who drive about 14 million vehicles on our state's highways. You pay your car's registration fee to the county tax office. It becomes part of the dollars used to build and maintain the highways on which you drive.

When you purchase a gallon of gasoline, 15 cents of the price is a tax dedicated to highways and to education. Of the 15 cents, 11.25 cents goes to support highways and the rest is used for public education.

Another nine cents (15 cents for diesel) of each gallon's cost is a federal tax. The Federal Highway Administration controls the federal fuel tax and distributes it to individual states as refunds for certain state-funded projects.

In 1984, we were in jeopardy of losing federal tax dollars because of a shortage of state funds to match them. And our highways suffered a serious lack of repair. We needed to build new roadways and fix existing ones.

An increase in 1984, and a second increase in 1987, raised our state fuel tax from five cents to the present 15 cents a gallon. And Texans were on the road again.

Also in 1984, lawmakers approved a gradual increase in vehicle registration fees over the next few years.

Texans saved millions of other tax dollars by turning the highway department into a user-fee agency. The increased fuel tax means that as of fiscal year 1988, other revenue dollars will no longer be used to build and maintain your highways.

As a result of the 1984 and 1987 legislative actions, construction and maintenance work around the state jumped from less than \$700 million in 1984 to nearly \$2 billion in 1986. Other dollars were channeled into planning and engineering work and into purchasing land for new highways.

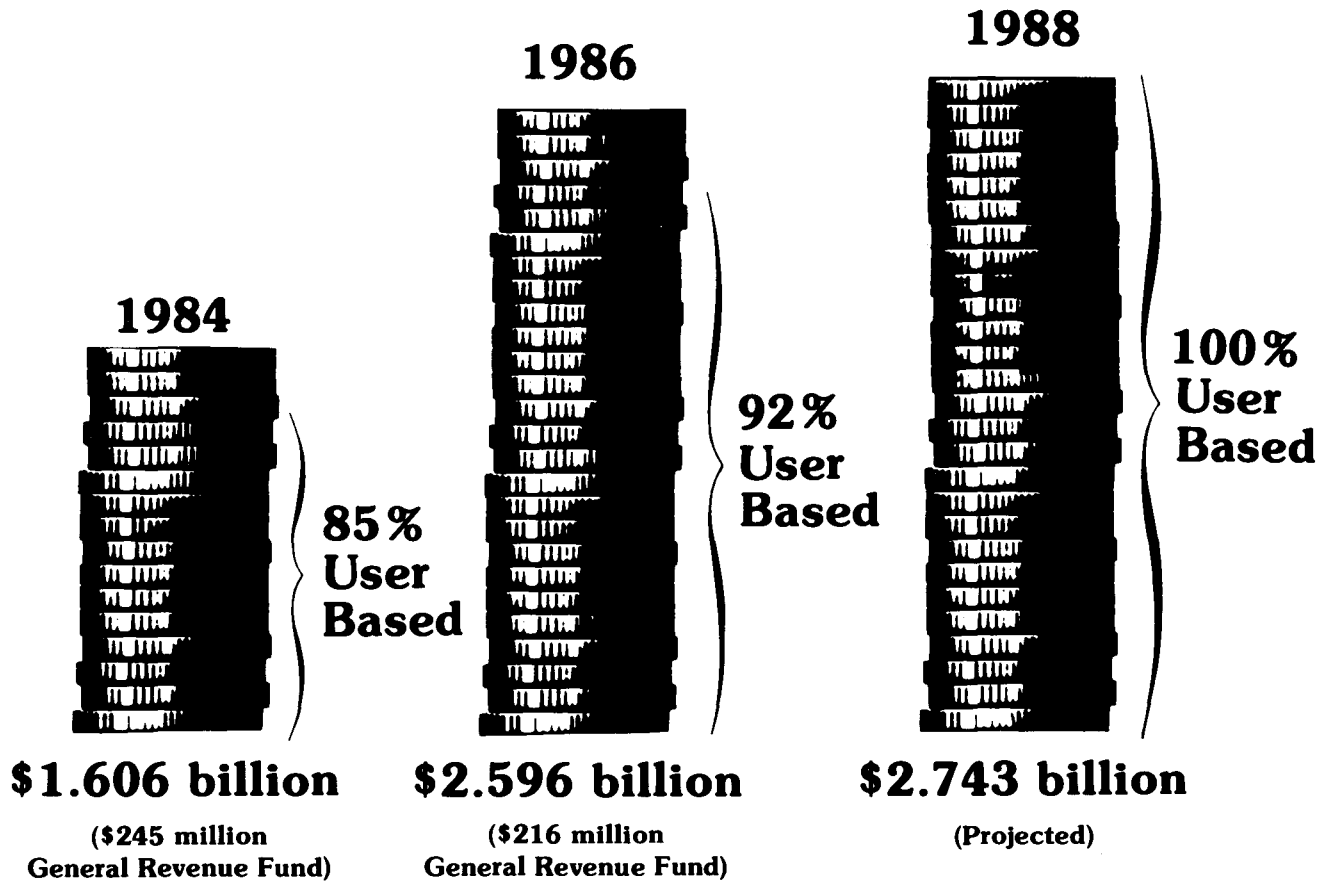
Highway officials project that over the next 10 years about \$2 billion annually will be spent on repairing, expanding, and improving our state's transportation system.

Many thousands of Texans will be employed as a result of spending highway dollars. According to a federal study, about 23,700 jobs are generated for every \$1 billion in highway contracts.

And highway users will fund 100 percent of highway and transportation work in the state.

It's all part of the plan . . . to keep Texas on the move.

HIGHWAY FUNDING



Highway work has increased since 1984, and taxpayers have saved more than \$200 million a year by the conversion to a user-funded system.

people and priorities



Like any other organization, the highway department is made up of people, all committed to the same goal: to keep Texas on the move. From attorneys to archeologists, bridge builders to bookkeepers, and secretaries to systems analysts, more than 15,000 people across the state work to build, manage, and maintain your highway system.

Running an organization that serves an area as big as Texas is no easy task. It all starts with your elected officials.

The flow of dollars into the agency is controlled through the state legislature. And at the very top of the highway organization are three commissioners, who are appointed by the governor and approved by the state Senate. The State Highway and Public Transportation Commission serves as a policy-making body, much as the board of directors of a corporation does.

The commission appoints the engineer-director, who is the chief administrative officer of the department. The engineer-director is assisted by a deputy engineer-director and four deputy directors.

Together, this administrative group directs the activities of the 15,000 other full-time employees of the department.

Each employee has a very important role to play in the operation of your highway department. Highway workers are in almost every county in Texas, as well as in the state headquarters in Austin. There are 24 districts, both in urban and rural areas. The capital city offices house 15 divisions and the administration.

You may often see construction and maintenance crews along your highways. When you do, you know your tax dollars are working for you. About 32 percent of the department's personnel are employed in highway construction. But once a highway is built, maintaining it becomes a full-time job. About 50 percent of the highway

department's employees are needed to keep the 72,000 miles of state-maintained highway in Texas in good shape. Altogether, a whopping 82 percent of the department's work force is needed to build and maintain our state's highways.

Behind the scenes there are hundreds of planners, design engineers, draftspersons and others who work to bring each project to the construction stage. Planning and administration uses about 13 percent of the department's work force.

But highway work is not just confined to the roadways. Have you ever stopped to get travel information at one of the state's tourist bureaus? The friendly travel counselor behind the counter is another trained professional of the highway department. And the folks who maintain your vehicle registration records are part of the department's auxiliary functions.

The highway department has a history of high dedication among its employees. The opportunity to serve you, the public, in such an important capacity has led many engineering and other professionals to choose the highway department as a career.

To ensure that your highways are designed and built to the highest possible standards, training has become an important part of staff development in the highway department. Technical workshops and management training keep the skills of highway professionals current with new research. All this ensures that the entire department is run in a professional and cost-effective way.

PEOPLE POWER

Administration & Planning 2,063

Highway Maintenance 7,550

Highway Construction 4,798

Auxiliary Functions and Public Transportation 652

Total 15,063

building the future



That smooth stretch of highway you travel did not happen overnight. Years of planning, decades of engineering expertise, and many dollars go into every mile of roadway you travel. The highway department's primary function is to construct and maintain a quality transportation system. That responsibility is far-reaching, because our state's highway system affects your life every day.

The department awarded \$1.9 billion in construction contracts in fiscal year 1986. The total for fiscal year 1987 was \$1.6 billion. But as recently as 1984, the state's highways suffered for lack of funding. Less than \$700 million was spent that year to repair and build roadways. An increase in highway funding over a three-year span since then has pumped badly needed revenue into the Texas highway system.

Some of those dollars are building new miles of roadway. Other millions of dollars go into repairing and maintaining the roadways you travel. This investment ensures that you drive on the best highway system in the nation. It also pumps money into the state's economy through the purchase of construction materials and the creation of new jobs. The U.S. Department of Labor estimates that each billion dollars of highway construction generates 23,700 on-site jobs. These are in addition to jobs in construction-related businesses.

According to a study by the Texas Transportation Institute at Texas A&M University, motorists receive about four dollars in benefits for every dollar put into highway construction projects. These benefits are in the forms of time savings and fewer accidents.

So how do highways happen?

Years of planning go into each mile of roadway in Texas. Hearings are held to get input from local residents, and extensive studies of environmental, social, and economic impact are made.

Once the route is determined, the right-of-way — the land on which the highway will be built — is acquired. If many landowners are involved, this may take years.

Engineering design often goes on while right-of-way is being acquired, which hastens the start of construction.

Construction steps include grading the natural terrain to needed specifications, possibly treating it with lime or other materials for stabilization, putting down a layer of material such as crushed limestone for a base, and adding a final layer of asphalt or concrete. Each layer is applied in scientifically determined thicknesses.

Other components of a completed highway include bridges and overpasses, plus provision for water drainage. And don't forget signs, pavement markings, and sometimes safety lighting that must be in place before the first cars roll down the new roadway.

The Texas highway department has a long history as a world leader in technical innovations in building, designing, and maintaining highways.

The department spends about \$9 million annually on research and implementation efforts so that word of new techniques and materials gets to engineers in the field as soon as possible.

Many studies are conducted by major universities in Texas, and other experiments are made by the department itself. The breakaway sign support was the idea of a highway department engineer. It was developed further by academic researchers and now is a standard feature on highways throughout the country.

People from highway agencies all over the world come to Texas to see the department's innovations in such things as linking computers to aerial photography to design highways. The department uses space satellites to cut days and weeks off time once spent making surveys.

While construction of highways is a full-time job for some department personnel, keeping the highways in good condition is

Continued

building the future (Continued)

the full-time job for about half of the department's employees.

A major thrust of the preventive maintenance activity is the statewide seal coat program. Seal coating is like putting a new roof on your house. A thin, one-quarter-inch, layer of liquid asphalt is spread on the roadway to seal cracks and protect the surface. While the asphalt is hot, a layer of fine rock chips is spread to provide a rough texture and make the pavement more skid-resistant.

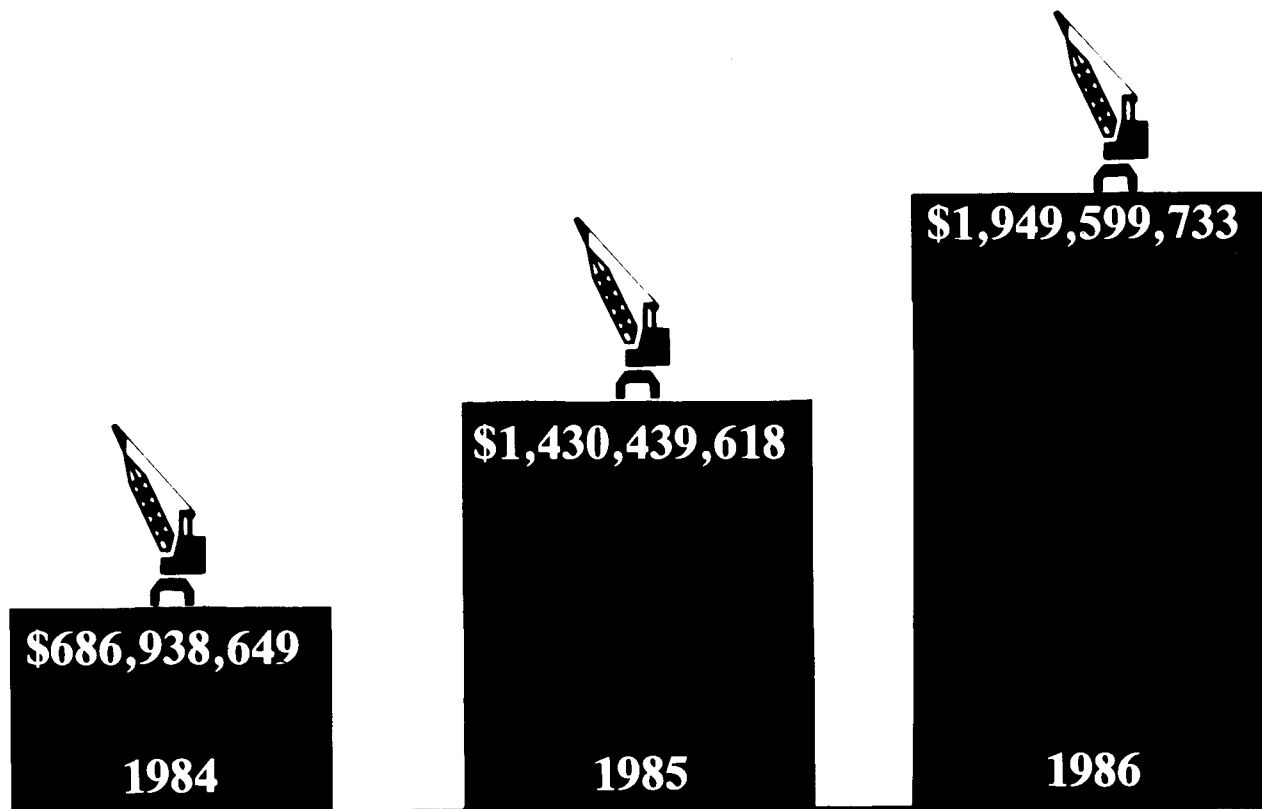
The seal coat prevents water from seeping down into the roadway's base. If water gets inside, it freezes and expands. When it

thaws, air pockets form. With nothing to support it, the pavement over the pockets soon breaks up under constant pounding of thousands of wheels rolling over it. Thus, a pothole is born.

At the present rate, roadways in Texas receive seal coat treatment every seven years.

But all the work involved in keeping your highways well maintained is worth it. Your tax dollars are protected through the years. And the economy of Texas continues to ride on the best transportation system in the nation.

DOLLARS IN HIGHWAY MAINTENANCE/CONSTRUCTION



Since a revenue increase in 1984, highway construction work in Texas has nearly tripled.

hit the road



If you have traveled more than a few miles in Texas, you know that it is no easy task to describe our state. Both in size and beauty, Texas offers magnificent opportunities for new experiences. Texas contains 275,416 square miles, a vast territory of places to go and things to do.

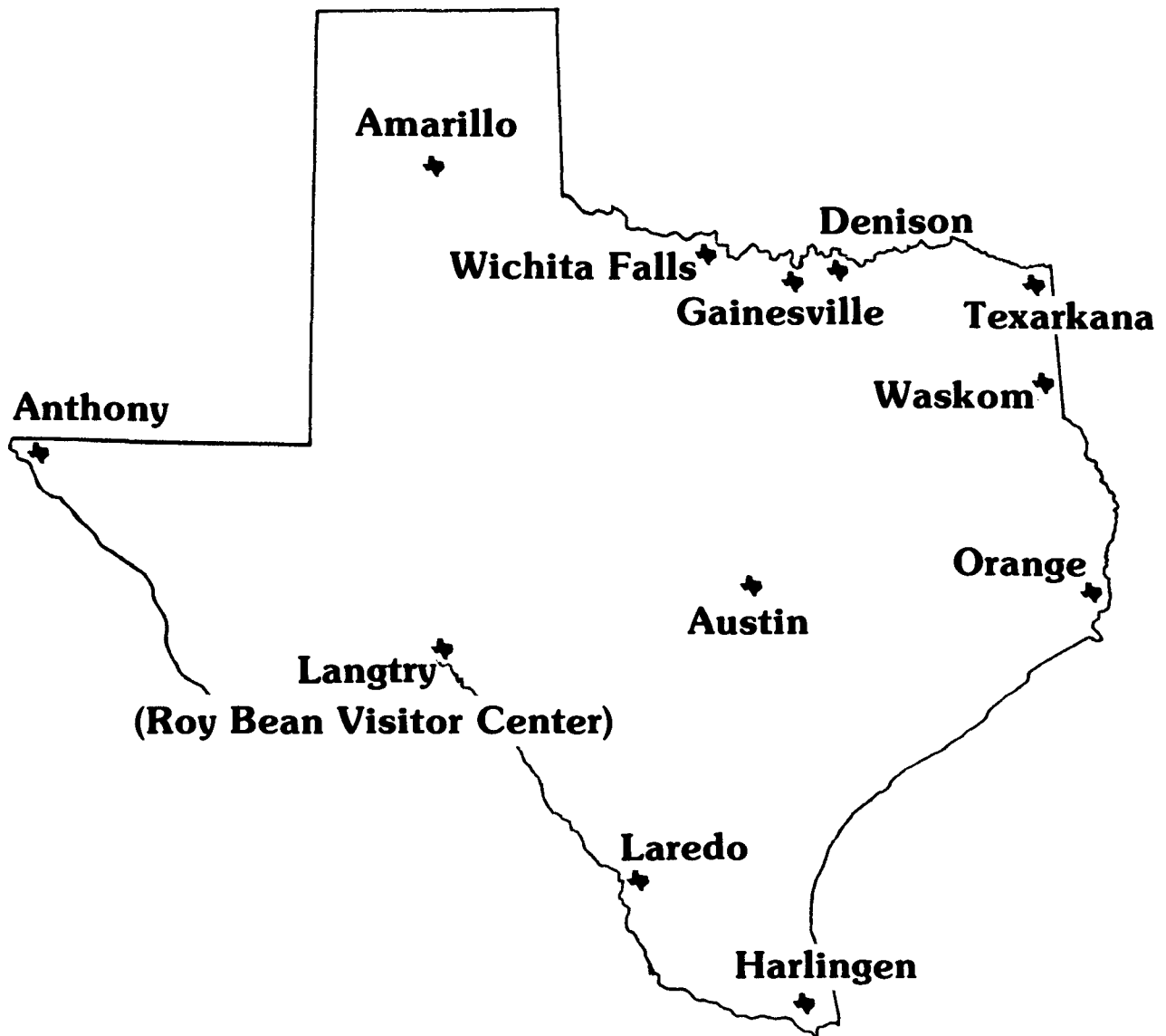
From Big Bend's rugged grandeur to East Texas' piney woods, from the breezy Panhandle plains to the sandy gulf shore beaches, millions of tourists drive Texas roadways each year. In 1984, 37.6 million visitors to our state added nearly \$6 billion to Texas' economy, ranking our state third nationally in the tourism industry.

The highway department operates 12 tourist bureaus and visitor centers that serve more than three million visitors annually. Trained travel counselors welcome you and provide a wealth of literature, information, and suggestions to make every Texas trip more pleasant.

More than 3,000 different items of free travel literature are available at the tourist bureaus, including travel publications produced by the highway department such as the *Official Highway Travel Map* and the *Texas Travel Handbook*. The bureaus are open daily year round, except Christmas.

While traveling through Texas' 254 counties, you can pause at one of the state's many highway rest areas. Texas pioneered the concept of miniature parks along travelways, and more than 1,000 rest areas, picnic sites, and scenic turnouts await you as you travel our state.

texas tourist bureaus





hose roadside gardens of wildflowers you pass each time you travel Texas' highways are not just accidents of nature. Many years of experience and planning go into making our state's highways beautiful. And pretty is as pretty does; natural landscaping helps prevent erosion as well as enhancing the view.

The highway department has patiently sown native flowers and planted shrubs for more than half a century to give Texas travelers the largest garden in the world.

A beautification program begun in the 1930s proved economical and provided a way to control erosion. This work requires sowing on new locations, planting shrubs or large trees, and carefully timing maintenance – mowing in particular. The department seeds roadsides with native flowers and plants, and does not mow the vegetation, except for safety purposes, until after the primary blooming and seeding seasons.

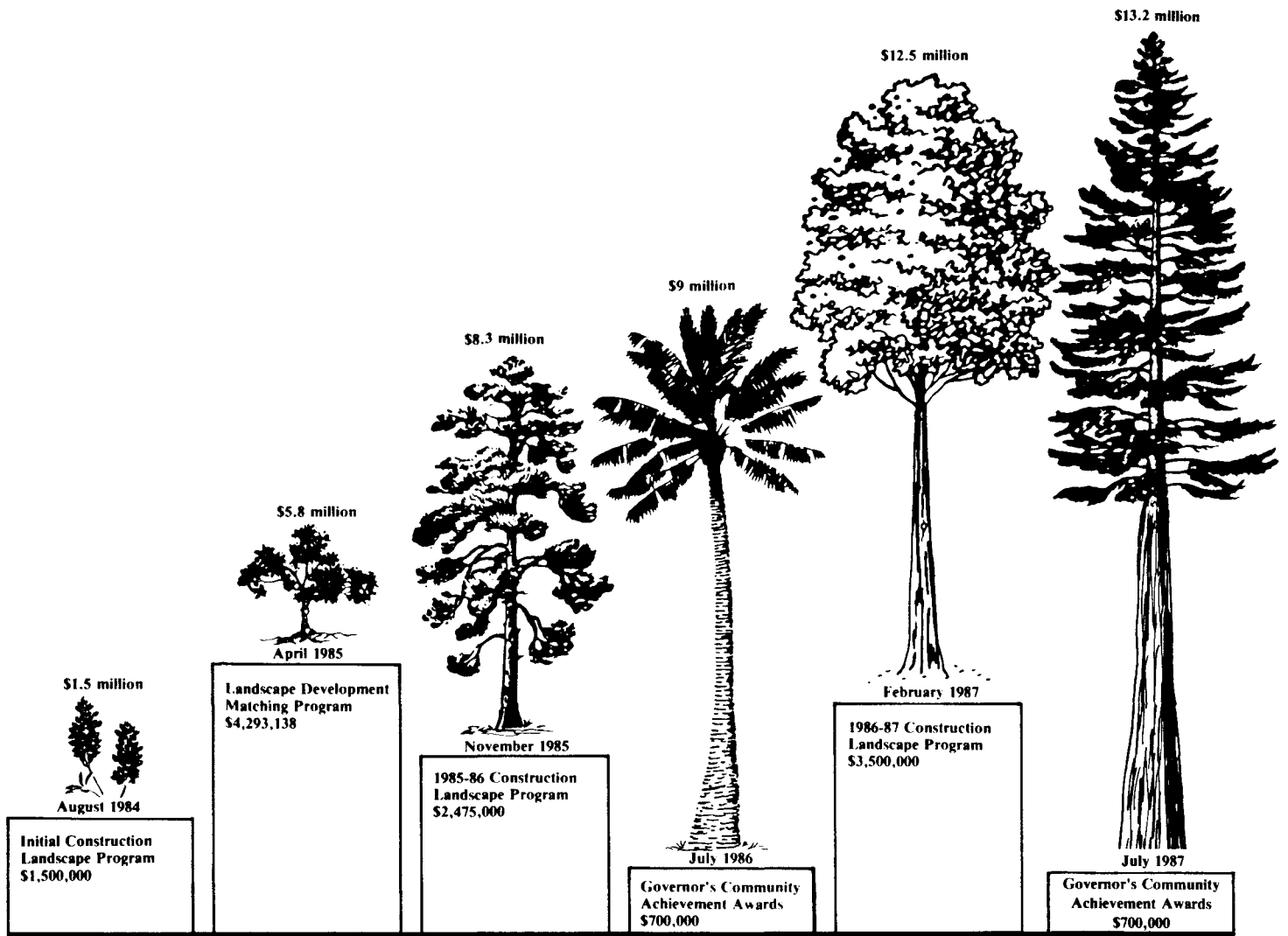
A landscape and vegetation management program uses innovative methods to cultivate, mow, and care for more than one million acres of highway right-of-way. Highway department landscapers use as many native plants as possible. They are not only attractive, but drought-resistant and able to withstand the extremes of Texas temperatures. The result is beauty by the mile, and a cost savings in maintenance and labor. Use of native plants saves water and controls soil erosion.

The department's commitment to highway beautification has inspired several

other programs. The construction landscape program, begun in 1984, puts one percent of the cost of new highway construction into landscaping. A landscape development matching program, begun in 1985, invites civic and private organizations, developers, and other governmental entities to participate in a 50-50 sharing of beautification costs with the highway department.

Another program complements the department's aggressive "Don't Mess with Texas" antilitter campaign. The highway department provides \$300,000 to support Keep Texas Beautiful Inc., an organization to spark grass-roots involvement in local litter reduction programs. Funding of \$700,000 is also provided for the Governor's Community Achievement Awards, landscape grants presented annually to cities in recognition of their cleanup programs.

You may be one of thousands of Texans who have joined the beautification efforts by volunteering to pick up trash regularly along adopted miles of state roadsides. The highway department's Adopt-a-Highway program recognizes organizations involved by placing a sign at each end of the "adopted" stretch.



Since August 1984, the highway commission has committed a total of \$13.2 million to landscaping.



Did you know Texans throw away millions of dollars each year? More than \$20 million a year is spent to pick up litter along Texas' highways. That figure had been rising 15 to 20 percent annually until 1985, when highway commissioners ordered an all-out campaign against roadside trash. They decided to send out a clear message: **DON'T MESS WITH TEXAS.**

And it worked.

The \$4 million campaign includes a \$2 million public education program, \$1 million litter law enforcement program, \$300,000 in support for Keep Texas Beautiful Inc., and \$700,000 in highway landscaping as a part of the Governor's Community Achievement Program.

The latter two portions of the program were included to encourage grass-roots support of the department's antilitter efforts. Keep Texas Beautiful coordinates a statewide network of local clean-community groups. The Governor's Community Achievement Awards go to the eight communities in various population categories which have done the most to decrease litter in the past year. The winners receive proportionate amounts of \$700,000 worth of highway landscaping for the state-maintained road system around their cities.

Most visible has been the public education program, with its "Don't Mess with Texas" theme. The bold, tough-talking message has now appeared on more than five million litterbags, 3-1/2 million Coca-Cola cans, 10 million grocery bags, half a million bumper stickers, and 20,000 litter barrels, as well as on T-shirts, "gimme" caps, and the lips of most Texans.

In its first year of existence, the program reduced litter by an average of 29 percent statewide. The research group that came up with the statistics noted that this was the largest first-year decrease it had ever seen in a statewide program. The group had studied litter programs in over 30 other states. The 1987 survey shows an astounding 54 percent drop in roadside litter since 1985.

In addition to the extensive coverage given the campaign by the Texas media, *The New York Times* and *Time* magazine carried stories on the remarkable success of "Don't Mess with Texas."

At about the same time the \$4 million program was begun, another litter campaign was instituted in the department's Tyler district. The Adopt-a-Highway program allows civic groups to adopt a two-mile stretch of roadway for litter pickup. The popular practice spread statewide, and now, about 3,000 Adopt-a-Highway organizations clean some 6,000 miles of Texas roadway.

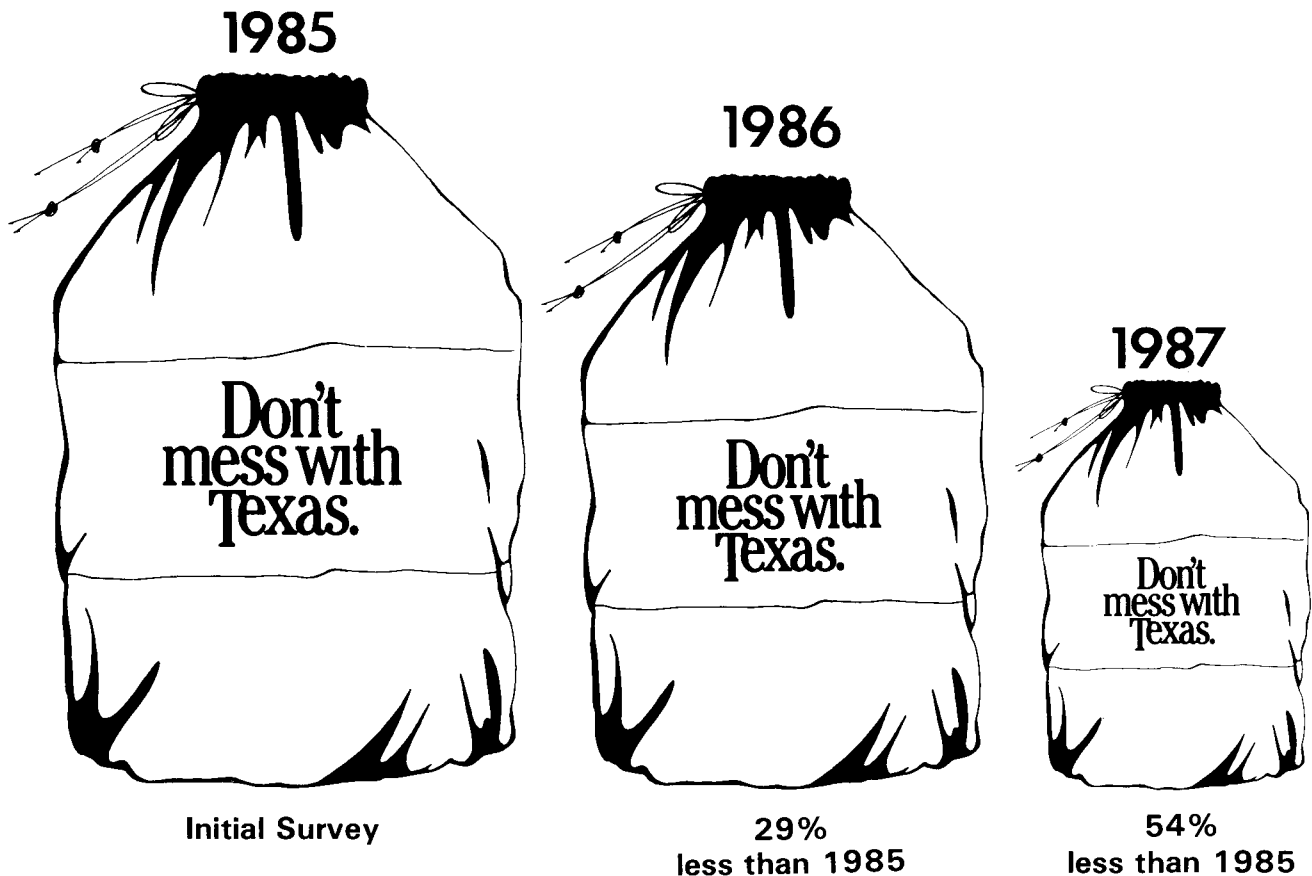
An annual event, dubbed "The Great Texas Trash Off" has been created to focus attention on the state's litter problem for one special day of the year. In 1987, the Trash Off was on April 25, and more than 16,000 Texans picked up trash along 2,400 miles of highway.

Continued

keep it clean (Continued)

These combined efforts are working to reduce the amount taxpayers spend for litter pickup – money that can be put to better use improving your highways.

changes in visible litter



Texas has made more progress in reducing litter on its streets and highways in shorter time than has any other state monitored. Comparisons with data obtained in prior surveys indicate that in July 1987 litter was 29% lower than in 1986 and 54% lower than in 1985.



uckle up. Drive Friendly. We're not just giving you casual advice with those slogans. The highway department's years of campaigning, designing, and building for safety on Texas highways has paid off for you, and millions of other Texans.

The department administers a wide-ranging statewide traffic safety program. A series of projects targeting drunk driving, child car safety seats, and safety belts has made Texas a leader in highway safety.

The department's vigorous safety-belt campaign, coupled with strong law enforcement, brought a 70 percent usage rate among drivers in Texas during the first year of safety-belt enforcement. Texans led the nation in compliance. And about 60 percent of Texans continue to buckle up.

Safety consciousness has helped protect millions of Texans involved in vehicle accidents. The number of front-seat fatalities in car and light truck accidents decreased from 1984 to 1986, the first year the law was in effect. The percentage of motorists involved in accidents who were wearing safety belts more than doubled during that time.

Other programs target driving while under the influence of drugs or alcohol. "Project Graduation," more recently called "Project Celebration," promotes chemical-free parties as an alternative to the "tradition" of student- or parent-sponsored keg parties. The primary aim of Project Celebration is to reduce the number of accidents caused by drugs or drinking that involve young people.

Much of the funding for such programs comes from federal government grants. The National Highway Traffic Safety Administration provides funds for education, enforcement, and evaluation.

But highway safety involves more than the driver. Texas is a leader in the design and construction of safer highways.

Federal highway dollars are put to use for safety programs like community engineering assistance and engineering

training.

Departmental research has produced numerous design innovations that improve traffic safety. The department often works hand-in-hand with such organizations as the Texas Transportation Institute of Texas A&M University, the University of Texas' Center for Transportation Studies, and the Rice Center.

No one knows how many accidents are prevented because of improved design. Research has shown the way toward "softer" accidents. The ends of guardrails, for example, have been buried to deflect a careening vehicle rather than present a rigid, unyielding hazard.

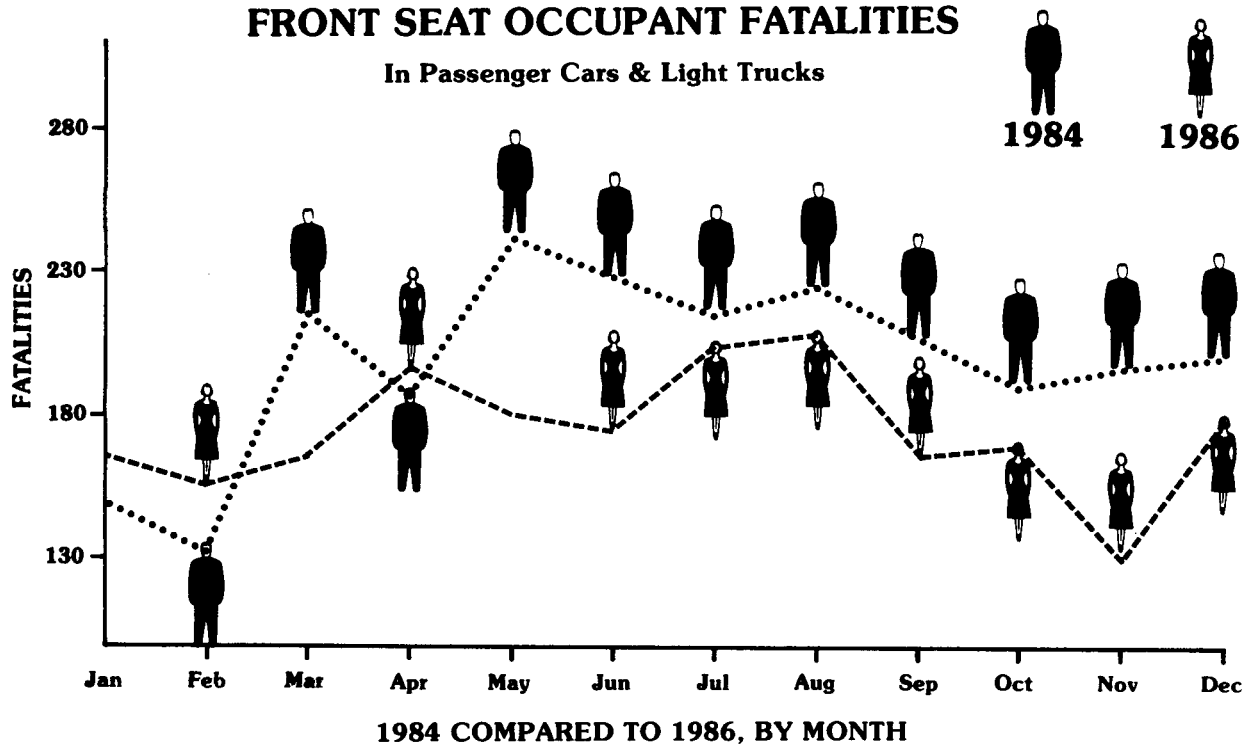
Another dramatic example is the breakaway sign. The department places signs and markers along the highways to warn, caution, and inform motorists. But in the past, these very signs became instruments of death when struck by speeding vehicles. A rash of car-and-sign collisions, some fatal, on Texas expressways led state highway engineers to develop a sign structure that would yield on impact, yet withstand heavy wind and support large signs.

Years of research were required to devise sign supports now on all Texas expressways. The innovation has proved its worth.

In the first 125 cases of cars hitting breakaway signs, not one serious injury occurred. Because the Texas design is so successful, it is now a national requirement on all federal-aid highway projects.

FRONT SEAT OCCUPANT FATALITIES

In Passenger Cars & Light Trucks



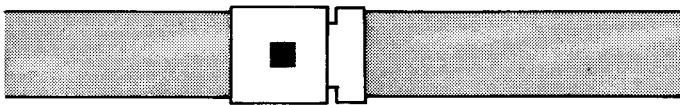
The graphs show that from 1984 to 1986 as safety belt use increased, front seat fatalities decreased.

SEAT BELT USE RATES

1985

On All Occupants

1986



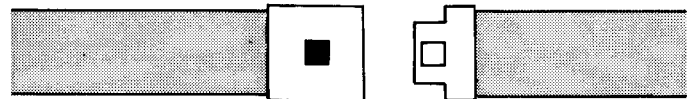
Belted
(24.3%)



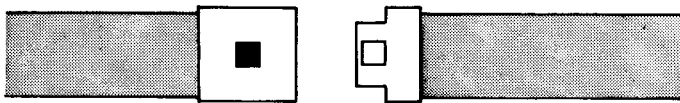
Belted
(66.6%)



Unbelted
(37.8%)



Unbelted
(14.3%)



Unknown
(37.9%)



Unknown
(19.1%)

In 1986, there was a dramatic increase in the number of persons **reported** as being restrained who were involved in accidents. In 1986, 66.6% of the occupants in accidents were **reported** as being restrained, while in 1985, only 24.3% of the occupants in accidents were **reported** as being restrained.

There are several reasons for the large increase in reported belt usage: (1) improved reporting by investigating officers; (2) more individuals wearing seat belts due to the seat belt law; (3) more individuals telling an investigator that they were wearing a seat belt when involved in the accident (due to the seat belt law and the individual's desire to avoid prosecution).

miles and miles of texas



about one-quarter million miles of roadways lace Texas. Of those, only about 72,000 miles are maintained by the state. The rest are county roads and city streets. While state highways make up less than a fourth of the total, they carry 75 percent of the state's traffic. On an annual basis, that's 101 billion miles or more than 400,000 trips to the moon!

what's in a name

Interstate – All highways that cross state lines can be said to be “interstate” highways, but not all highway routes crossing state lines are Interstate (with a capital I) highways. Interstate highways – identified by the red, white, and blue shield (designed by a Texan) – officially are part of the “National System of Interstate and Defense Highways” authorized in 1946.

The Interstate system was first envisioned as a system of 41,000 miles of superhighways, but some additional mileage was added later. Interstate highways are built to rigid federal standards by state highway agencies, using 90 percent federal and 10 percent state funds for construction and reconstruction. Control of access (where you can get on or off the main freeway lanes) is strictly limited and the Interstate highway goes over or under intersecting roads. The states provide for and pay all of the costs of routine maintenance – pothole patching, restriping, litter collection, and other minor repairs.

US-numbered routes – Many US highways in Texas carry hundreds of thousands of cars and trucks daily and may be built to the same freeway standards as Interstate highways. Drivers have only the black-and-white route marker shield to tell them they are not driving on a “brand name” Interstate. Other US highways are of more traditional design without freeway features. US route numbers are assigned by a committee representing all state highway agencies. The US number is for

the convenience of the traveling public only, and doesn't necessarily mean that the federal government had anything to do with its being there.

State-numbered routes – Like US highways in Texas, highways marked with a square sign bearing the word TEXAS and a route number come in a variety of designs. Some Texas-numbered highways are even built to expressway standards. Others are of more familiar two-lane rural highway designs. Some are former farm-to-market roads that have been “promoted” as logical extensions of Texas-numbered routes.

Farm- and ranch-to-market roads – Begun before World War II, the Texas farm-to-market road network received its real push in 1949 when the Legislature set aside \$15 million annually from the general fund for FM and RM roads. General fund money is no longer used. The program has given Texas the largest all-paved system of secondary roads in the nation. These roads are developed cooperatively, with the city or county supplying the land and any necessary utility adjustments. The highway department provides for construction and maintenance. Many routes, besides serving agriculture, bring recreational travelers to lakes, beaches, mountains, and other attractions across Texas. These routes range from the glitter and sophistication of FM 1093 (Westheimer

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what's in a name (Continued)

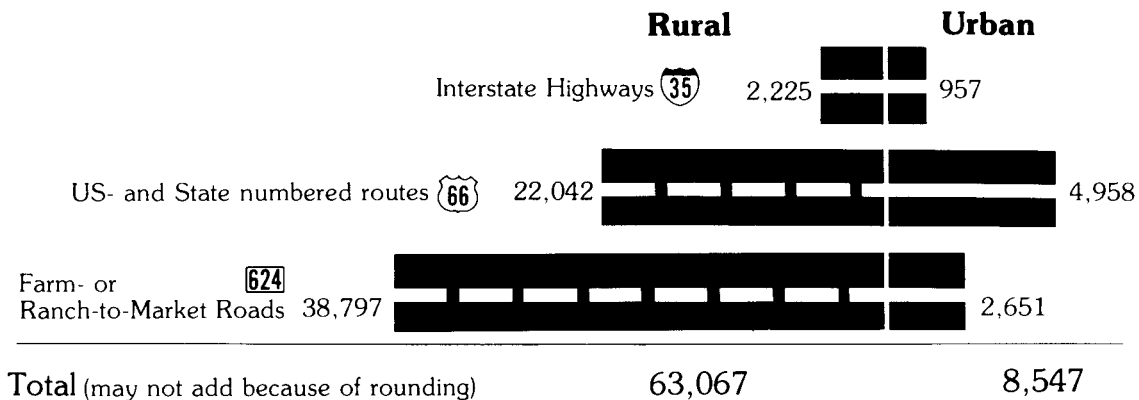
Road in Houston) to the wild grandeur of FM 170 (El Camino del Rio) which flirts with the Rio Grande in Texas' Big Bend. Incidentally, there is no difference between a ranch-to-market road and a farm-to-market road. If the people who live along the road call themselves ranchers, then RANCH ROAD signs go up. If they think they are farmers, the signs will read FARM ROAD.

bridges

There are more than 39,700 bridges on the state-maintained highway system. The highway department considers it a bridge if it has an opening of 20 feet or wider for the waterway. If it's any smaller, call it a culvert. The longest bridge in Texas is the Queen Isabella Causeway, stretching more than two miles across the Laguna Madre, linking the mainland at Port Isabel with South Padre Island. The highest bridge in the state takes US 90 over the deep Pecos River Canyon near Del Rio, standing 273 feet above the water.

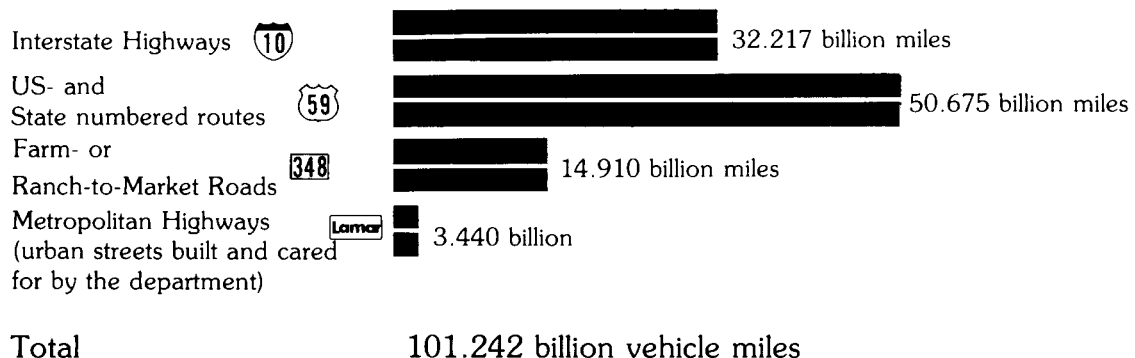
highways

There are more than 284,000 miles of roads, streets, and highways in Texas – enough to reach the moon plus a couple of laps around the earth for good measure. A total of 71,600 miles are cared for by the state highway department, including:



The remainder of the roads and streets are under city or county maintenance.

In 1985, Texans and their visitors drove more than 144 billion miles. State highway department-maintained facilities carried more than 101 billion miles of this astounding amount of travel:



The remaining miles were traveled on city streets and county roads.