

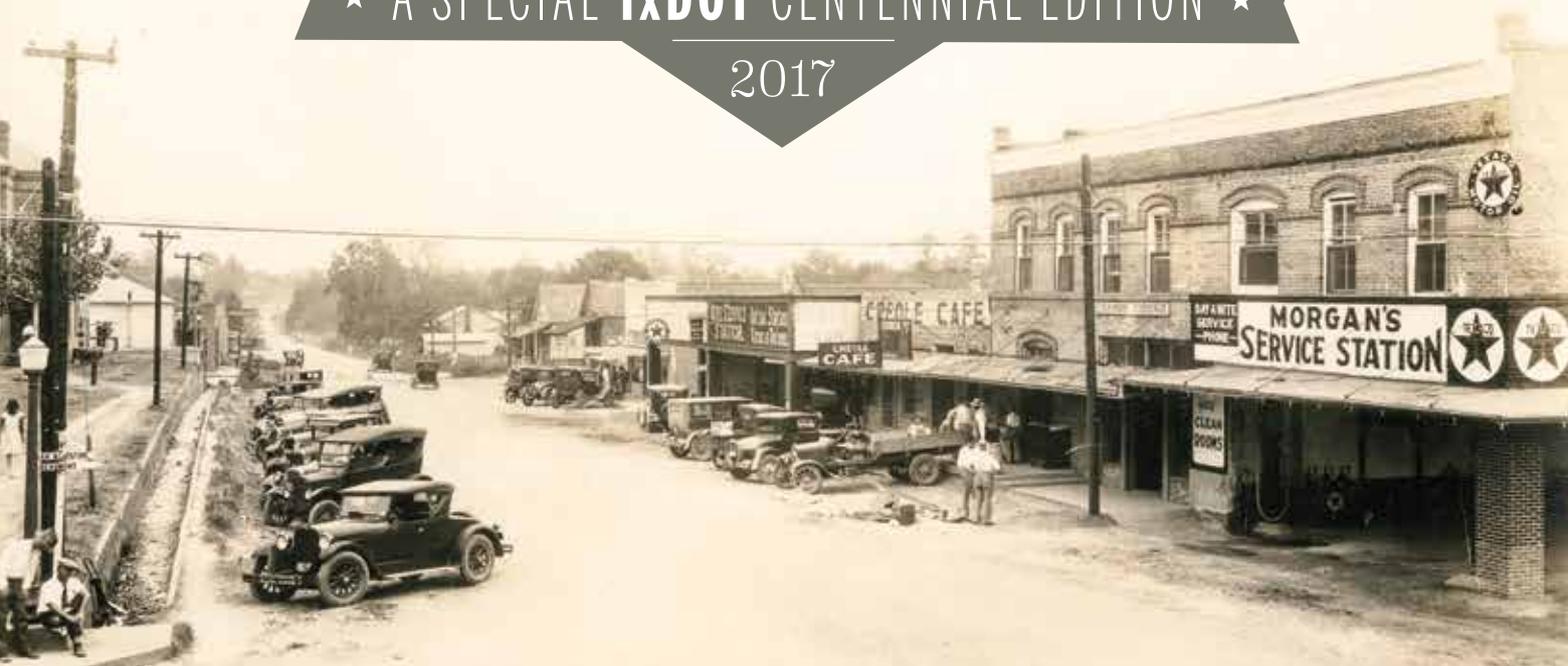
1917

★ TEXAS HIGHWAYS MAGAZINE PRESENTS ★

DIRT ROADS TO DIVERGING DIAMONDS: A CENTURY OF TRANSPORTATION IN TEXAS

★ A SPECIAL **TxDOT** CENTENNIAL EDITION ★

2017





GOVERNOR GREG ABBOTT

On a Century of Service to the People of Texas

There are miles and miles of Texas. In fact, there are more miles of roadways and state highways in Texas today than in any state in the nation. That robust transportation system paves the way to prosperity for more families and more businesses each and every day.

Since 1917, when it was known as the Texas Highway Department, the Texas Department of Transportation has been critical to the state's economic growth by delivering a safe, reliable and integrated transportation system that enables the efficient movement of people and goods.

Much has changed since TxDOT's founding. The state's population was just over 4.5 million people. Less than 200,000 motor vehicles were registered in the state, and most of our roads were clay and dirt. Today, our population is well over 27 million. Almost 24 million motor vehicles are registered here, and TxDOT is responsible for maintaining 80,000 miles of roadway as well as supporting aviation, rail and public transportation across this great state.

I commend TxDOT's ongoing commitment to providing a safe transportation system, including advances in highway safety engineering and public awareness campaigns for all who travel the many miles of Texas.

Through 100 years of collaboration and leadership, TxDOT has helped connect communities to commerce and people to opportunity by building and maintaining the backbone of our healthy economy — now the 10th-largest in the world.

In 2015, I proposed and the Texas Legislature approved an additional \$4 billion a year to build more roads without raising fees, tolls, taxes or debt. Backed by overwhelming voter approval, this historic investment ensures sustainable, predictable funding to build large-scale, multiyear construction projects. TxDOT can now program more than \$70 billion of projects over the next 10 years. I am confident the employees at TxDOT are prepared for this enormous responsibility and can deliver results in the form of reduced congestion.

On behalf of the people of Texas, I congratulate TxDOT on their first 100 years. I look forward to continuing our work to accelerate economic opportunity and fuel Texans' freedom to aspire.

Sincerely,

Greg Abbott
Governor



Left: This directional sign in Burleson County was posted prior to sign standardization, which began in 1927.

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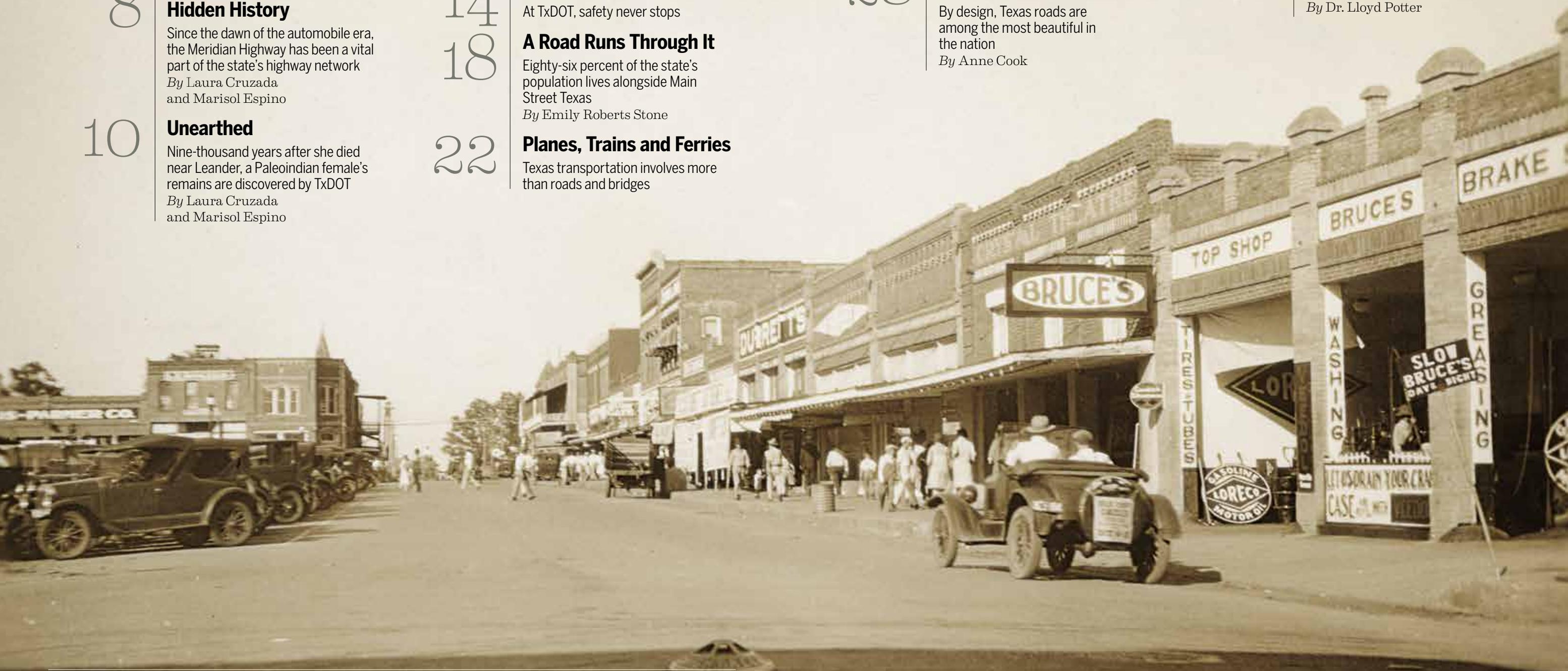
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State Highway 7, pictured here in September 1928 in the small East Texas town of Center, was one of the original 26 state highways proposed as a "Central Texas Highway" in 1917. It runs from I-35 south of Waco to U.S. 84 west of the Texas-Louisiana state line.

Miles and Miles of Texas

How I learned to love TxDOT for all the best reasons

By Carol Dawson

FIVE YEARS AGO, I embarked on a thousand-year journey. The road trip that loomed ahead struck me as both thrilling and daunting; it required that I venture into lands for which I owned no passport and no language training, with only a piecemeal collection of maps for tracking my way. Some of these maps were new; many were very old and often inaccurate.

My job was to travel backward in time, research, interview a number of people and write a book. The lands I would explore lay contained within the boundaries of Texas—beginning with a Texas none of us have ever seen, a Texas as it looked a millennia and more ago, and ending with the landscape we know now. I'd tell the story of our communities and wide-open spaces through the lens of game trails and early roads, then go on to recount the 100-year history of the Texas Highway Department, now known as the Texas Department of Transportation.

I entered into this expedition as an ordinary Lone Star citizen who, like most folks, took one of our greatest prizes for granted. Our road system was something I depended on every day but assumed as a right—one of the givens of living here. If a thoroughfare closed for repairs, the inconvenience annoyed me; if construction prompted a detour, I cursed the nameless ones who put me out. Potholes seldom gave me any trouble on the silken surface of our highways, interstates and farm-to-markets, but I failed to stop and wonder why—though I did

★
“It never hurts to remind ourselves that we who build highways work under a public mandate. If we do not have the public's confidence, we cannot do our work.”

—
Dewitt C. Greer

realize that as soon as I crossed a state line, the next pavement often jounced my car like a buckboard with wooden tires. As for the agency itself: Its employees seemed a species apart, a tight-knit mystery, and their engineering and construction terms might as well have been ancient Sanskrit.

This ignorance lent me an advantage. Possessing no prior loyalties, I could ransack the department with an objective eye and tell the truth. With such wealth at its disposal, the easy presumption was that there must be something rotten somewhere. Right? Look at other agencies. Look at the scandal and controversy constantly circling state agencies and employees. A new story of corruption seems to go “viral” each week.

Little did I guess the truths that would soon emerge.

For corruption, I immediately hit pay dirt. The moment the legislative act creating the Texas Highway Department was signed into law by the infamous Governor James “Pa” Ferguson



Right: As seen in this 1929 photo, driving was muddy and dangerous in central Texas on State Highway 2 (also known as the Meridian Highway) before the Texas Highway Department started construction.



Early photo of what is now U.S. 281 near Encino. A caliche surface was applied in 1920 and replaced with concrete in 1928.

on April 4, 1917, he whipped straight around to pirate the profits. First he suggested that all funds generated for the new department be funneled into an account held by the Temple State Bank, of which he was the principle shareholder. After the secretary of state advised, “We prefer the state treasury,” he entered Ferguson’s suggestion into the long list of skull-duggeries for which, four months later, Ferguson would be impeached.

Over the next seven years, the Texas Highway Department tried to shape itself into an institution that could “get the farmers out of the mud.” Six years in, the newest state engineer—a young Texas A&M graduate named Gibb Gilchrist—started restructuring by hiring steadfast bridge and road designers, surveyors and work crews; creating divisions for specific tasks; and buying surplus World War I military equipment to do the heavy lifting. During that time the department bonded together, founding what would come to be known as the Highway Family, or as we call it today, the TxDOT Family.

Then, less than a year into his tenure, Gilchrist resigned. James Ferguson’s stand-in, his wife, Miriam, had just been elected governor—running on a platform promising



“The State Highway Department is a nonpolitical body. We are trying to conduct our business as the best thinking people of Texas would have it conducted; that is, along the best business lines.”

—
Gibb Gilchrist

extensive cuts in state appropriations—and Gilchrist recognized the futility of fighting the oncoming flood. Sure enough, the Governors Ferguson instructed cronies who knew nothing of asphalt or gravel to establish overnight paving firms so they could secure lucrative state contracts—all the while giving them a cut. For two years the couple pillaged the department, paving a door-to-door route between their home in Temple and their ranch 57 miles away, awarding inflated projects to their buddies and hiring—at huge cost—a Louisiana inventor to build an “experimental” brick-and-asphalt road between Temple and Belton that would elevate cars onto two tracks above the road bed (with the risk of falling off at the jerk of a steering wheel).



A U.S. Army convoy travels on U.S. 281 near Blanco during World War II.

But the department fought back.

One of the most important facts I learned on my journey is a simple equation: Politicians often care about self-interest and making money. Engineers care about solving problems as efficiently as possible, which is both their mandate and their born nature. $X + Y =$ a paradox.

Soon Gilchrist joined the lieutenant governor as an expert consultant who helped prosecute the Fergusons’ corruption charges. After Miriam Ferguson’s first two-year stint ended, Gilchrist resumed his post as state engineer, forging steel walls between government tampering and the Highway Department’s integrity. When Miriam was re-elected in 1934, Gilchrist enraged the Fergusons with a sturdy bulwark protecting highway funds and designated projects.

And that tradition of integrity remains. It lies embedded in the agency’s culture. Although a few mistakes get made here and there, no graft, bribery or dishonesty have ever corrupted it. For instance, the department was the first state organization anywhere to establish a self-auditing system to catch any fraud, cheating, theft, sexual harassment, misappropriations of funds or other malfeasance within—a measure that still

proves effective. Veteran engineers who could earn triple salaries elsewhere continue to shine as dedicated TxDOT professionals who care about making things, and then making them better and cheaper. As one 35-year employee proudly told me, “An engineer is someone who can do for \$1 what it takes others \$10 to do.” Texas not only has some of the smoothest, finest and most efficient roadways in the nation; it also has the thriftiest, thanks to the policies of longtime state engineers Gilchrist and Dewitt Greer—who during 27 years as the agency’s chief director would not let a contractor buy him so much as a cup of coffee.

And thanks to the amazing cohesion within the TxDOT family, roads and bridges are now my passion, and engineers are my new heroes. What a surprise!

Carol Dawson is an Austin-based writer and artist. The author of Miles and Miles of Texas: 100 Year of the Texas Highway Department, master-minded by former TxDOT Executive Assistant Roger Polson, she has also authored four novels and one award-winning book of non-fiction. She teaches writing workshops, was writer-in-residence at The College of Santa Fe, and is a member of the Texas Institute of Letters.

The Texas Roadside's Hidden History

Since the dawn of the automobile era, the Meridian Highway has been a vital part of the state's highway network

By Marisol Espino and Laura Cruzada



Above: Businesses surrounding the Square in San Marcos have changed throughout the years. The building at right, seen in this 1940 photo, previously housed West Ray's and Tin Lizzie's before it became the Root Cellar Cafe in 2005. **Right:** A road connects Laredo and San Antonio circa 1922.

IMAGINE THE STATE'S ROAD SYSTEM without its intricate veins of interweaving automobiles. While transportation routes connecting goods and people date back to the earliest Native American tribes, colonizers and later pioneers, travel was not always easy. The roads were as rugged as the terrain. What began as arteries for exploration, military conquest, settlement and commerce no longer sufficed with increases in car ownership and population growth during the early 20th century. These changes created a demand for decent roads.

Although several roadways connected trade routes throughout the U.S. from east to west coasts, the Meridian Highway was the first and largest highway to connect the continent along a north to south route from Canada to Mexico. The route was named after the sixth principal meridian, which draws a line right down the center of the country and establishes boundaries of public lands.

The highway's path in Texas measured roughly 800 miles long and paralleled modern-day I-35. "Most people know about Route 66. But highways like Meridian, Bankhead and Old Spanish Trail were just as or more important during their time," says Renee Benn, historic preservation specialist in TxDOT's Environmental Affairs Division.

In all, the Meridian Highway traversed 2,400 miles by 1926, connecting South Texas to North Dakota. "It was even longer if you went from Winnipeg to Mexico City," Benn says.

Guided by federal laws, historians consider these facts while planning expansion of TxDOT's transportation system. The route started as part of the Republic of Texas' Military Road, transporting people, goods and material to military installations. Later it passed through the Fort Worth Stockyards as a major path used to take cattle to northern markets during the famous cattle drive era after the Civil War.

Beginning in 1911, the International Meridian Association sought to promote this cross-continental route. In Texas, the route extended through Laredo and San Antonio, linking many historic places such as the Alamo and Mission San José with Fort McIntosh. Shortly after its inception, the Texas Highway Department designated Meridian as State Highway 2. This move signified the importance of the road, second only to the 1916 Bankhead Highway (State Highway 1).

Today, I-35 stands in its place, yet many parts of the old highway survive today. You might see evidence of the Meridian's history in the buildings, iconic gas stations, roadside parks, motels and restaurants along the original alignment throughout the state. Businesses like a 1914 gas station and auto repair shop on Waco Street in Hillsboro or a 1916 concrete bridge and roadway in Bellevue may go unnoticed, but they betoken state history. "They represent a significant part of Meridian Highway's story and the people along its forgotten



path," Benn says.

Additionally, a 1920 stone tourist court complex on Seldon Loop in Bowie, the still-functioning 1929 Faust Hotel in New Braunfels and the round-shaped 1964 Holiday Inn on Town Lake in Austin still stand along the route of the historic highway.

In 2016, TxDOT and the Texas Historical Commission brought the highway and its history back to life through an interactive online documentary (thc.texas.gov/meridian). Historians documented 521 gas stations, 210 hotels/motels, 158 restaurants, 150 auto dealerships, 280 road segments and four metal truss bridges associated with the historic routes.

★
"All highways are essentially military highways."
—
Thomas H. MacDonald,
chief of the Bureau of Public Roads in 1917 after the U.S. entered World War I

Marisol Espino is completing a directed study with TxDOT focusing on archaeological scoping and contract management. She also helps with public involvement and outreach. She is currently a graduate student at Texas State University San Marcos, studying South African archaeology.

Laura Cruzada manages the public outreach program for TxDOT's Cultural Resources Management Section. She is responsible for bridging a gap between what people know about TxDOT and how they can get involved in the historic preservation process. Cruzada brings communications expertise from a 10-year career working on award-winning national public health campaigns. She is a graduate of the University of Texas at Austin.

Unearthed

Eleven-thousand years after she died near Leander, a Paleoindian female's remains are discovered by TxDOT

By Laura Cruzada and Marisol Espino

LONG BEFORE BIG BOX STORES AND baseball fields blanketed the landscape of Leander, Texas, the area along Brushy Creek was a prehistoric hotbed of hunting and gathering. Ancient humans roamed the countryside making camp by the creek, subsisting on bison-size mammals, small turtles, birds (and their eggs), rodents and rabbits. Thousands of years later, TxDOT excavated the remains of one such Paleoindian before constructing FM 1431.

In 1973, a team led by TxDOT's first Director of Archeology, Frank Weir, took to shovels and trowels to see what might lie beneath the land around Brushy Creek. TxDOT's initial efforts then, as they are today, are part of a process all projects must go through during environmental reviews. Archeologists, aware and sensitive to the fact that water resources are often a good indication of life, visited the site and noted its potential. A decade later, archeologists working on the site uncovered more than dart and arrow points or fish net weights—they discovered a human finger bone. Working carefully, the excited crew gently loosened and removed the dirt around it and discovered a skeleton, which they nicknamed "Leanne" in reference to the modern-day town where she was discovered.

Today the site is one of the state's archaeological treasures. Until its discovery, few sites contained such a long record of human activity in North America or a burial of Leanne's antiquity, roughly 11,000 years old. Leanne's knees were drawn up, arms crossed and her right hand rested underneath her head. Alongside her body was a smooth rock made of red sandstone most likely used to grind plants and other stones as well

★
TxDOT archeologists and historians work diligently to preserve history, heritage and cultural environments as part of the review process prior to transportation construction.

as a limestone slab, probably left there to secure the hide that wrapped her body. Her cause of death is unclear, but whoever laid her to rest did it with great care.

Well into the 1990s, archeologists excavated layer upon layer of dirt containing evidence of people inhabiting this shoreline. While Leanne was one of the oldest features of the dig, archeologists discovered multiple groups of prehistoric people camped in the area for the next 11,000 years, not knowing she was right under their feet.

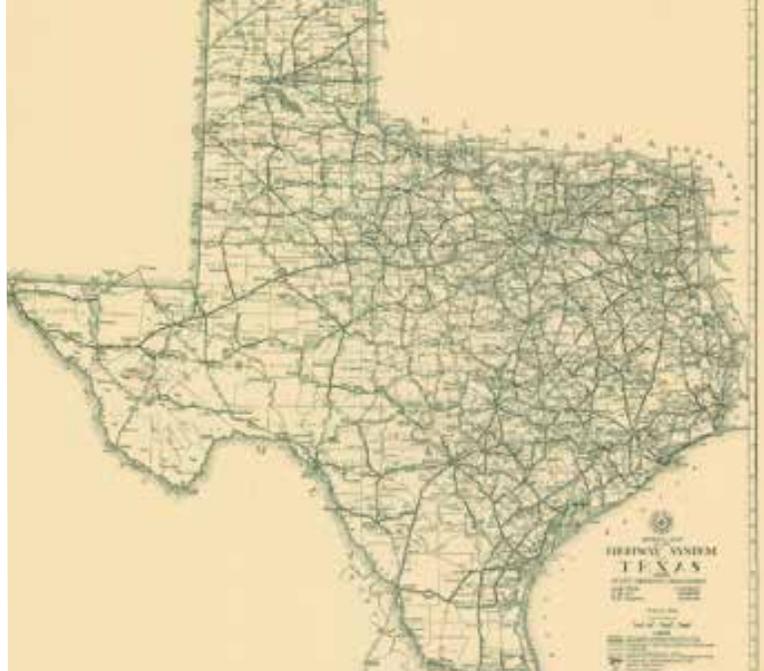
A decade before Leanne's discovery in 1971, TxDOT archeologists working under Wier excavated the foundation of the temporary State Capitol building as one of their first projects. This early work led to the first law for the preservation and protection of the state's archaeological and cultural materials.

The National Historic Preservation Act is designed to preserve pieces of history in the face of development. "When TxDOT archeologists discover something like this, our goal is to tell a story about how people liked to settle and what their life was like," says Scott Pletka, chief archaeologist at TxDOT. "It is one way the past is not completely lost."



Inset: This reconstruction of the young Paleoindian woman buried at the Wilson-Leonard site was created by forensic specialists and artists at Dow Corning, based on measurements taken from the skull. **Right:** In 1983, remains were found on a stream terrace of Brushy Creek in the right-of-way for an extension of Ranch Road 1431. TxDOT PHOTO BY RANDY GREEN

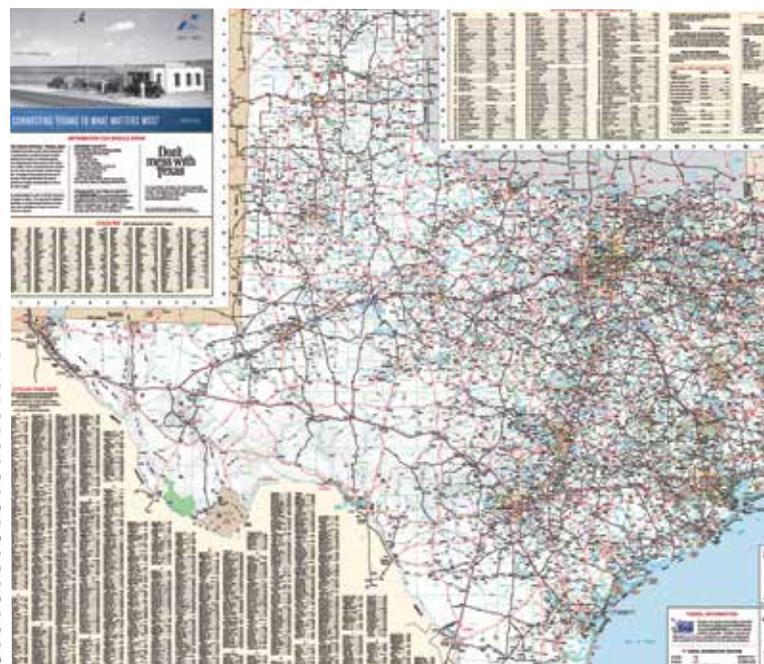




You Can Get There From Here

TxDOT has been mapping the state since 1917

By Julie Stratton



OCCASIONALLY, visitors who are unfamiliar with the Lone Star State imagine they can drive from Houston to Big Bend and experience both places during the same weekend. Then the Texas Official Travel Map comes out, and as its pages unfold, visitors see the bigger picture—emphasis on bigger.

“Texas on a small smartphone or computer screen creates a totally different impression from a printed travel map,” says Dan Mullis, who edited the map from 2001 to the end of 2009. “Being able to visualize the entire travel route enables a traveler to see what lakes, state or national parks, or other tourism-related sites might need to be factored into the trip, making it more than just a tool for getting from here to there.”

Maps have been a useful resource for the Texas Department of Transportation since the Highway Department created its first proposed highways map in June 1917. They began widely distributing them in 1936, and since then, the department has generated a variety of maps to help drivers navigate the state, including county maps and the drivetexas.org road-conditions map. The agency map people are most familiar with, however, is the travel map—about 1 million are distributed to the public each year though the 12 Texas Travel Information Centers and by request. Travel counselors at each center often highlight routes for visitors to assist with their journeys across the state.

Looking back through the travel maps over the years showcases the state’s development as cities grew: Roads transformed

into highways and then interstates, reservoirs and lakes were created, and state parks and historical sites were developed. The maps’ appearance gradually evolved as well—cartographic styles advanced from traditional methods, including scribe coat and stick-up, to digitization in 2003.

The travel division’s driving force over the years has been to find ways to continuously improve the map’s usefulness and readability. These efforts have not been without challenges, however. In 1968, in an effort to increase the scale of the state and improve road visibility on the map, mapmakers lopped the Panhandle off the top of the state and moved it to the left. Despite reported complaints, the Panhandle remained on the side until 1993, when the map was printed on a larger sheet of paper, which allowed the state to remain the same size while moving the Panhandle back to its rightful place.

Another struggle has been to provide the map with a relief that accurately represents the state’s varied terrain, from the Guadalupe Mountains to the Coastal Plains. Earlier versions of map relief often resembled coffee stains. The 2017 map introduced a highly detailed relief from the U.S. Department of the Interior.

As time sprints forward and mapping improves and changes, travelers continue to rely on the printed travel map—for reasons aside from seeing the bigger picture.

“For what it’s worth, the printed travel map doesn’t talk back to a traveler like a smart phone-based digital system does,” Mullis says. “No scolding ‘recalculating’ from our map.”

Julie Stratton is an editor with TxDOT’s Travel Information Division and has more than 15 years of writing and editing experience. She is the current editor of the Texas Official Travel Map.

★
“Texas is the finest portion of the globe that has blessed my vision.”
 —
Sam Houston

Left: 1917, 1928, 1941, 1945, 1968 and 2017 maps.

Mission Zero

At TxDOT, safety never stops

★
3,531 people were killed in vehicle traffic accidents in 2015—140 of them in work zones.

BUILDING and maintaining the nation's largest transportation infrastructure can be dangerous work—not just for road crews but for motorists as well. In 1928, the department created a safety program to reduce on-the-job accidents, which fostered a culture of safety that today, nearly a hundred years later, is woven into the fabric of every district and division in the agency.



Above: In this 1964 photo, a maintenance employee assigned as a flagman wears a nylon vest and uses fluorescent flags to alert motorists of roadwork.

Right: As illustrated by this 1938 photo, many eyes have been saved by safety goggles through the years.



Above: Texas Highway Department personnel in El Paso circa 1940 pose with their safety record sign.
Below: Signs along a highway work site in Austin in 1950 warn motorists to drive with caution.



BY THE NUMBERS: SAFETY STATS FOR 2015

AT LEAST ONE PERSON HAS DIED EACH AND **EVERY DAY** ON TEXAS ROADS SINCE NOVEMBER 7, 2000

3,531 PEOPLE WERE KILLED ON TEXAS ROADS IN **2015**

960 PEOPLE DIED IN CRASHES WHERE THE DRIVER WAS UNDER THE INFLUENCE OF ALCOHOL —27% OF **ALL** TRAFFIC FATALITIES ★

1 REPORTABLE **CRASH** OCCURRED EVERY **61** SECONDS

246,335 PEOPLE WERE **INJURED** IN MOTOR VEHICLE TRAFFIC CRASHES

1 PERSON WAS **KILLED** EVERY 2 HOURS, 29 MINUTES

1 PERSON WAS **INJURED** EVERY 2 MINUTES, 8 SECONDS

807 PEOPLE WERE **KILLED** IN CRASHES OCCURRING IN INTERSECTIONS OR RELATED TO AN INTERSECTION

THERE WERE **459** **MOTORCYCLISTS** OR PASSENGERS KILLED—52% OF THEM WERE NOT WEARING A HELMET

SINGLE VEHICLE, RUNOFF THE ROAD CRASHES RESULTED IN **1,255** DEATHS IN 2015.

PEDESTRIAN FATALITIES TOTALED **550**, AN **INCREASE** OF 12.7% OVER 2014

476 PEOPLE WERE **KILLED** IN CRASHES INVOLVING **DISTRACTED DRIVING**

Below: Highway patrol in the 1930s. TxDOT PHOTO BY R.M. STENE



A Road Runs Through It

Eighty-six percent of the state's population lives along or east of Main Street Texas

By Emily Roberts Stone



EVERYTHING'S BIGGER IN TEXAS, including the road projects. And none is bigger, more complex and more integral to the state's economy and quality of life than Interstate 35. Known as Main Street Texas, the north-south highway connects Texas' big cities and stretches through the state for more than 450 miles, from

★
On any given day, more than 4,200 people are working on I-35 throughout the state on 71 current projects in various stages of development and delivery—in Wichita Falls, Dallas, Fort Worth, Waco, Austin, San Antonio and Laredo.

Laredo near the U.S.-Mexico border, to the Red River north of Gainesville where it crosses into Oklahoma. Several expansion projects along the interstate—in Central Texas, Dallas, Laredo and Corinth—will be completed in 2017. Others will wrap up in 2018 and 2019, and still new projects will begin. While drivers may be impatient for I-35 construction to finally finish, the state's continuous population growth and strong economy indicate the finish line will be a moving target.

On any given day, more than 4,200 people are working on I-35 throughout the state on 71 current projects in various stages of development and delivery—in Wichita Falls, Dallas, Fort Worth, Waco, Austin, San Antonio and Laredo. All projects are ongoing while the highway is kept open, a Herculean task. For example, the Dallas Horseshoe Project—which includes the expansion, repaving and addition



Above: State Highway Engineer D.C. Greer cuts the ribbon officially opening Interstate 35 from the Atascosa county line to Broadway in San Antonio on September 19, 1960. **Opposite Top Left:** Construction workers on the Stemmons Freeway in Dallas in 1959. **Opposite Top Right:** This four-level Interchange in Fort Worth, taken in 1959, connected Interstate 35 (U.S. 81), Texas 550, and the Dallas-Fort Worth Turnpike. **Opposite Bottom:** Construction workers expand Interstate 35 at Loop 20 in Laredo, also known as the Milo Interchange, in 2004. TxDOT PHOTO BY MICHAEL AMADOR



Dewitt C. Greer – 1902-1986

A Man of Integrity

DEWITT CARLOCK GREER WASN'T BORN IN TEXAS, but as the saying goes, he got here as soon as he could. His parents moved to Texas from Shreveport, Louisiana, when he was just 3 weeks old. The family settled in the East Texas town of Pittsburgh, where Dewitt attended public school, played the French horn and trombone, and delivered the *Dallas Times-Herald*. He attended Texas A&M and graduated with honors in civil engineering in 1923.

Greer began his career with the Texas Highway Department in 1927 as an engineer, and by 1929 he was serving as acting district engineer of the Tyler district. He later became the district engineer but moved to Austin in 1936 after Gibb Gilchrist appointed him to lead the Construction and Design Division. Four short years later, in 1940, the Texas Highway Commission appointed him State Highway Engineer. Greer was just 37 years old. He

held the position for 27 years and later served as a commissioner and chairman of the Texas Highways and Public Transportation Commission for 12 years. One of his many accomplishments over the course of his lauded career was opening Interstate 35 in 1962. Upon retirement from public service in 1981, the state highway headquarters building at 11th and Brazos streets in Austin was renamed the Dewitt C. Greer State Highway Building.

During his long tenure, the department earned a reputation for honesty and integrity with a steadfast focus on highway safety.

Top left: The aesthetic enhancements to Interstate 35 in recent years include distinctive color banding and Lone Star branding on overpass support pillars.

of several new bridges and roadways along Interstates 30 and 35E—has a total of 460,000 vehicles traveling on it on weekdays.

“It has taken a lot of work and innovation in the traffic phasing plans to keep traffic moving during construction,” says Bill Hale, TxDOT’s chief engineer. “The existing number of interstate mainlanes have been maintained through all phases of construction.”

I-35’s history reflects the history of interstates throughout the country. It was Denison-born President Dwight D. Eisenhower who spearheaded passage of the National Defense Highway Act, which proposed 41,000 miles of domestic limited-access highways, including I-35.

“Eisenhower had spent time in Europe and saw some of the major highways, particularly in Germany, and recognized the importance of having a strategic military highway network,” explains Randy Hopmann, TxDOT’s director of district operations. “The original purpose of having an interstate system was having a way for the military to get from the east coast to the west coast in a more expedient manner.”

Since its inception in 1956, the interstate system and I-35—which stretches to Duluth, Minnesota, at its northernmost boundary—has transformed the country and the state.

“Today we can’t even imagine the

★
The interstate highway system has contributed \$3.7 trillion to the Texas economy since its inception. An analysis by Texas A&M Transportation Institute in 2010 found that a \$4 billion annual investment in road construction could save the typical Texas household \$3,390 annually by 2035.



Top: I-35 in the vicinity of Round Rock in 1961. **Center:** Improvements to I-35 in Round Rock include diverging diamond intersections, which increase traffic flow by eliminating the need for left-turn arrows. TxDOT PHOTO BY KEVIN STILLMAN **Above:** In 1960, I-35 in Dallas was bustling.

state of Texas, or the country, without the interstate system,” Hopmann says. “In some respects, it has been the impetus behind our economic growth across the country—particularly in Texas, which has prospered even in times of downturn because of its transportation system and the oil and gas industry that keeps the state’s economy going strong.”

The interstate highway system has contributed \$3.7 trillion to the Texas economy since its inception. An analysis by Texas A&M Transportation Institute in 2010 found that a \$4 billion annual investment in road construction could save the typical Texas household \$3,390 annually by 2035.

And a lot of households are affected by I-35, with more than 10 million Texans living within 20 miles of the interstate. As such, the success of I-35’s many road projects is contingent on TxDOT’s relationship with cities, counties and local officials throughout the state.

“We pride ourselves on having good working relationships with our local communities and local officials,” Hopmann says. “Our role is transportation, so there’s a defined role. We try to come to the table and see what we can do to assist communities from an economic and quality of life standpoint.”

One of the ways TxDOT works to reflect the communities it partners with is through artwork along its highways and interstates. In West Texas, brands of nearby ranches adorn concrete retaining walls, and a strong heritage of agriculture is captured in murals on retaining walls. Along the coast, retaining walls reflect the importance of bountiful marine life, and in East Texas, the piney woods, rivers and streams come to life.

“It becomes a great source of community pride because those walls are going to be there for a long time,” Hopmann says. “Communities look forward to working with TxDOT to help tell their stories.”

For the latest news, project and road condition updates, traffic camera views and community meetings along the I-35 corridor, visit my35.org.

Planes, Trains and Ferries

Texas transportation involves more than roads and bridges

WHILE the Texas Department of Transportation's oversight of the state's roadway system is well known, it also plays a key role in travel by sea, railway and air. TxDOT's Aviation Division works with cities and counties to obtain funds to maintain 300 reliever and general aviation airports across the state, generating billions of dollars in economic activity, creating jobs, and helping Texas recruit and retain some of the nation's best companies. With nearly 11,000 railroad track miles, over 2,000 highway-rail bridges and more than 16,000 open railroad crossings, Texas leads the nation yet again. In addition, the Rail Division manages and implements improvements for the South Orient Rail Line that runs from Presidio, on the Mexican border, to San Angelo Junction. And more than 8 million riders travel on passenger ferries each year thanks to the Houston and Corpus Christi districts, while the Maritime Division oversees the development and connectivity of Texas' ports, waterways and marine infrastructure. For more information about the activities of the Aviation, Rail and Maritime divisions, visit txdot.gov.



Above: A 2011 study of the economic impact of general aviation airports to the state economy showed 56,000 jobs, \$3.1 billion in payroll and \$14.6 billion in total economic output.



Above: Widespread public campaigns to eliminate at-grade railroad crossings in the 1920s and 1930s led to the building of underpasses like this one on U.S. 81 south of Bowie, taken in 1936.
Below: Galveston ferry landing circa 1937. The Galveston-Port Boliver and Aransas Pass-Port Aransas ferries operate 24 hours a day, 365 days a year—weather permitting.



Weathering the Storms

When disaster strikes, TxDOT responds

By Elizabeth Small



Left: Damage caused when Hurricane Carla made landfall near Port Lavaca on September 11, 1961. TxDOT PHOTO BY DOUG FAIRCHILD
Above: TxDOT workers unload supplies for Hurricane Katrina refugees at the Van Zandt County Safety Rest Area on September 2, 2005. TxDOT PHOTO BY PETE MARTINEZ



TEXAS THREATENED to wash away last spring. During catastrophic floods in March and April 2016, TxDOT's highway conditions website, drivetexas.org, received over 930,000 visits, and more than 35,000 calls were logged by the DriveTexas Travel Information Line. Meanwhile, I-10 and the Orange Travel Information Center at the Texas-Louisiana state line were closed due to the rapidly rising water. "The parking lot looked just like a bathtub filling up," Orange travel counselor Judy Garcia recalls. "We'd never seen anything like it."

During emergencies, TxDOT employees perform a carefully choreographed ballet of coordinated effort: Maintenance crews clear affected roads, rescue stranded motorists and enter up-to-the-minute conditions into the database that populates DriveTexas. Public Information Officers and Media Relations staff work tirelessly to ensure travelers have the latest information, and TxDOT travel counselors at

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"Everything we do is about helping travelers," DriveTexas staffer Joe Hurley says. "We're really proud to be a resource for people—not just during emergencies but every single day."



Top: Counselor Gabe Bautista assists a traveler from his desk at the Anthony Travel Information Center.
Center: Flood waters submerged I-10 in Orange in March 2016.
Above: Tropical Storm Frances made landfall in the Houston area on September 11, 1998. TxDOT PHOTO BY KEVIN STILLMAN

the Travel Information Centers provide one-on-one help to thousands of callers. The automated system can answer most questions, but many travelers opt for the personal assistance only a travel counselor can provide, asking about alternate routes and resources: pet-friendly shelter options, where to get gas or refill prescriptions, and more.

One of the most important safety benefits provided by these centers is highway conditions information, updated statewide online 24/7 and through the automated Travel Information Line at 1-800-452-9292. TxDOT offers current information on highway closures, construction delays and weather-related conditions like flooding and ice.

TxDOT has offered highway conditions via phone for 25 years, opening a call center in 1991. The first website interface became available in 1993. Today, the Travel Information Line is automated and interactive, so callers can query it by location; the dynamic online map works on computers and mobile devices, with an intuitive, user-friendly interface.

But it's not just travelers who count on DriveTexas. TxDOT's Emergency Operations Center relies on it to mobilize response, and as part of statewide emergency efforts, the State Operations Center at DPS Headquarters monitors it closely. TxDOT plays a vital role in emergency coordination across multiple agencies, and a veritable army works around the clock to keep the system accurate and up-to-date.

"Everything we do is about helping travelers," DriveTexas staffer Joe Hurley says. "We're really proud to be a resource for people—not just during emergencies but every single day."

Elizabeth Small handles projects related to Drive Texas, Travel Information Center operations, travel counselor training, and emergency response. She also coordinates the annual Texas Travel Counselors Conference and other events.



Top: TxDOT crews prepare for Hurricane Ike by mobilizing in nearby counties on September 13, 2008. TxDOT PHOTO BY MICHAEL AMADOR
Center: Hurricane Beulah hit South Texas on September 20, 1967. The above bridge washed out on U.S. 281 at Slough C of Three Rivers. TxDOT PHOTO BY TRAVIS LONG
Above: Crews in the Childress District deal with Winter Storm Goliath on December 28, 2015. TxDOT PHOTO BY JEFF SMITH

Stop and Smell the Wildflowers

By design, Texas roads are among the most beautiful in the nation

By Anne Cook

“GETTING ON THE SUBJECT OF beautification is like picking up a tangled skein of wool,” Lady Bird Johnson wrote in her diary in the winter of 1965, shortly after her husband’s second inauguration. “All the threads are interwoven—recreation and pollution and mental health, and the crime rate, and rapid transit, and highway beautification, and the war on poverty, and parks—national, state and local. It is hard to hitch the conversation into one straight line because everything leads to something else.”

To Lady Bird, beauty was never just about aesthetics. The same could be said about our state’s beloved highways: The first lady’s fond memories of scenic Texas roads were her

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“Almost every person, from childhood, has been touched by the untamed beauty of wildflowers.”

—
Lady Bird Johnson

inspiration to adopt highway beautification as her cause in the White House. Texas had prohibited billboards in highway right-of-way since 1927, but we still had our share of litter spoiling the view. As highway design has evolved, our beautification efforts have expanded to include decorative features on highway structures. Enhanced retaining walls, special illumination and regionally inspired architectural elements grace new overpasses and bridges—on these Texas highways, beauty and safety go hand in hand.

Perhaps most famously, Lady Bird loved the roadside wildflowers that sprouted alongside Texas routes each spring. Shortly after the Texas Highway Department was founded a century ago, officials noticed these colorful weeds were the first to reappear from the disturbed earth when they built roads. In 1932, State Highway Engineer Gibb Gilchrist hired landscape architect Jac Gubbels, who began producing printed instructions with illustrations for landscaping and



Left: Wildflowers near Cuero. TxDOT PHOTO BY J. GRIFFIS SMITH **Above:** The famous Adopt-a-Highway program began in Tyler in 1985. Today there are nearly 90,000 groups in 49 states and in Puerto Rico, Canada, New Zealand, Australia and Japan. TxDOT PHOTO BY PETE MARTINEZ **Inset:** Boy Scouts and Girl Scouts in Texas who participated in one of the statewide Trash-Off events received this special 30th anniversary Don't Mess with Texas patch.



Above: Women (like Reba Gibson seen here in Waskom) were first employed as travel counselors in 1957—20 years after the centers began operation.

Below: Safety and highway beautification have been linked since the early days of the department. Here, work is being done on Highway 20 in Washington County. In the interest of safety, shoulders were worked up and widened, and grass was sown to hold up the dirt. The completed roadway was safer and more attractive.



Above left: Hill County Southbound Rest Area on I-35, approximately 5 miles south of Hillsboro. TxDOT PHOTO BY MICHAEL AMADOR

Above right: Sunny Saucedo, pictured here in 2013, is one of the scores of celebrities who have volunteered to make a PSA for the iconic Don't Mess with Texas anti-littering campaign. TxDOT PHOTO BY KEVIN STILLMAN



beautification of the roadside. Gubbels encouraged the district engineers and county maintenance foremen to become landscape conscious.

Working with garden clubs and Boy Scouts—and with landowner's permission—the department began gathering wildflower seeds and transplanting trees. Gubbels' research showed that landscape design could make highways safer by eliminating monotony and using trees to highlight approaching changes. By 1934, the department officially put a stop to springtime mowing—unless essential for safety—until after wildflower seasons were over.

In a 1930 memo, Gilchrist directed division and resident engineers to be on the lookout for sites that could be acquired without cost for use as roadside parks. The original picnic tables and shelters at these parks had varied design styles, including concrete faux bois, hewn logs, and thatched roofs or arbors to provide shade in treeless regions. More than 500 roadside parks were completed before World War II slowed construction and materials acquisition. By the department's 50th anniversary in 1967, it maintained more than 1,100 roadside parks, scenic turnouts and overlooks, and had begun building new safety rest areas (which were euphemistically named "comfort stations" for a time).

TxDOT's certified travel counselors sustain a proud legacy that goes back more than 80 years to the Texas A&M cadets who greeted visitors as they entered Texas to attend state centennial events in 1936. Intended to be temporary, the first information centers were small, one-room buildings housing the Aggie cadets. They met the cars that pulled in, provided travelers with a free Texas highway map and offered any necessary directions including current road conditions; a cup of water from a nearby barrel was optional. The building designs reflected regional architecture: log cabins in East Texas, Colonial-style in Northeast Texas and stucco-coated adobe in West Texas. Shuttered during World War II, the information centers were managed and staffed by men when they reopened.

By 1957, tourist bureaus welcomed visitors inside to browse brochure racks, visit with a travel counselor or use

restrooms—and women were finally allowed to serve as travel counselors. The September 1957 issue of *Texas Highways* documented the payoff best: "Combine that natural quality known as 'woman's intuition' with the studied art of giving directions, and don't be surprised when the tourists who drive away from the Travel Information Bureaus ... write back as did recent visitors from New York, 'The young lady at the Information Bureau was wonderful, and because of her we stayed a week longer than expected.'" Today's travel information centers still feature certified travel counselors—both men and women—to guide travelers.

These early ideas of highway beautification, roadside parks and travel information centers are now Texas traditions. They have evolved to include decoratively enhanced highway structures; safety rest areas with restrooms, landscaping that attracts migrating butterflies and play areas for families to stretch their legs; and the continued presence of travel information centers at Texas borders. Perhaps one day, even passengers riding in driverless cars will appreciate these programs in the century to come.

Anne Cook manages the TxDOT Photo Library, which contains a still photo archive of more than half a million images as well as a digital database of more than 200,000 images. She completed a Master of Library and Information Science from the University of Texas in 1983 and came to TxDOT in 1989.

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"Promiscuous mowing of the right-of-way should be delayed until flower season is over."
 —
Gibb Gilchrist in 1934



Crossing the Great Divide

Thousands of bridges span the state, a timeless symbol of state history

SINCE 1918, BRIDGE ENGINEERS in Texas have been skillfully creating innovative, beautiful and safe bridges. In accordance with the department's commitment to the safety of the traveling public, TxDOT's Bridge Division thoroughly inspects all bridges every two years. Bridges deemed unsafe are closed to vehicular traffic.

With 53,875 bridges and counting, Texas has nearly double the bridges of any other state, and more than the combined total of 17 states. As of September 2016, 82 percent of Texas bridges are in "good or better" condition and just 1.9 percent earned the lowest rating—the national average for deficient bridges is 9.6 percent. Texas bridges are in better condition now than at any other time in our history, while at the same time, bridge costs are among the lowest in the nation.



"I have tried to get close to the frontier between architecture and sculpture and to understand architecture as an art."

—
*Santiago Calatrava,
Margaret Hunt Hill Bridge designer*

Left: The Port Arthur-Orange Highway Bridge was constructed in the mid-1930s. **Above:** The Rainbow Bridge and the newer Veterans Memorial Bridge span the Neches River to join Bridge City and Port Arthur in Jefferson County. TxDOT PHOTO BY JAMES E. PIRIE



Left: Fireworks light up the West Seventh Street Bridge in Fort Worth during its opening ceremony on November 16, 2013. The bridge, which crosses the Trinity River, is the first precast network arch bridge in the world. TxDOT PHOTO BY KEVIN STILLMAN

Above: Congress Avenue Bridge in Austin is home to 1.5 million Mexican free-tailed bats from March through October. After the bats moved into the crevices under the bridge in 1980, TxDOT teamed with Bat Conservation International to study the phenomenon. TxDOT's understanding of the environmentally beneficial aspects of bats led to a program to make bridges and culverts more suitable for bat roosting and nurseries. TxDOT PHOTO BY J. GRIFFIS SMITH



Above: The current Pecos River Bridge near Langtry, shown here, was completed in 1957. The top of the finished bridge reaches 1,228 feet above mean sea level. The original 1923 bridge was destroyed by flood waters in 1954. Two subsequent temporary bridges met the same fate. TxDOT PHOTO BY RANDALL MAXWELL

Right: TxDOT worked closely with the City of Dallas on the Margaret Hunt Hill Bridge project. The cable-stayed bridge across the Trinity River, designed by Santiago Calatrava, has become an iconic city landmark since it opened in 2012. TxDOT PHOTO BY KEVIN STILLMAN



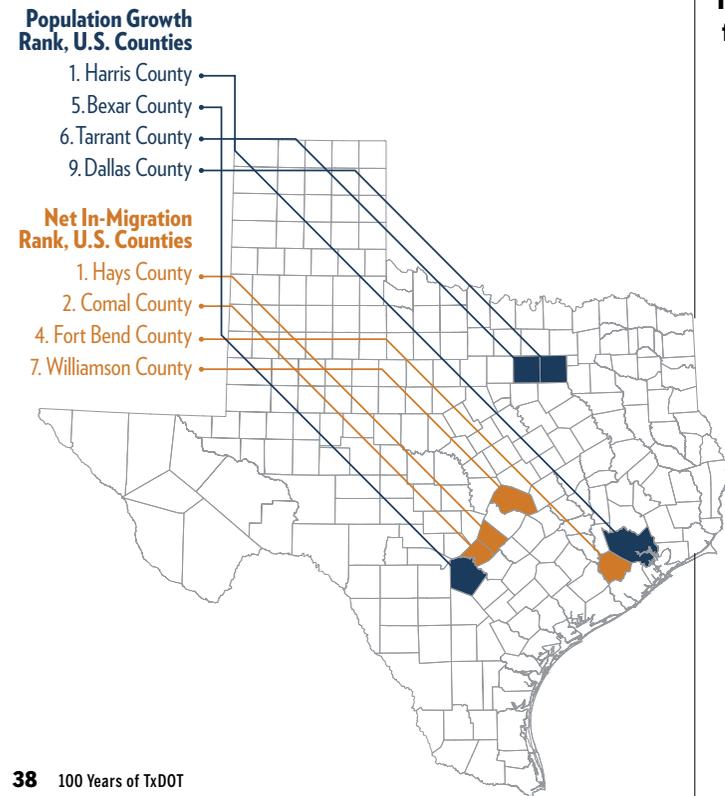
The Next 100 Years

The state demographer explains the value TxDOT offers

By Dr. Lloyd Potter

Growth by the Numbers

In recent years, Texas outpaced all other states for numeric growth, and it has grown more quickly than all other large states. It is the second-largest state in terms of population and geography, with a total land area of about 261,797 square miles.



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Texas is creating employment opportunities at a pace faster than the homegrown labor force is growing, so people are migrating to Texas to fill those jobs.

WHILE IT IS CLEAR to most that the Texas Department of Transportation is responsible for development and maintenance of the road and highway infrastructure, it's important to remind people of the vital role TxDOT plays in economic development. TxDOT's management of our airports, water ports, railroads and mass transit support business and population growth throughout the state. From a time when the economic base of Texas was largely agrarian, TxDOT's precursor—the Texas Highway Department—formed in 1917 to administer the construction and maintenance of highways. The development of the highway system in Texas played a key role in bringing agricultural products to market. Since 1917, through an evolution of responsibilities and names, TxDOT has overseen the development and maintenance of an enormous and complicated infrastructure that goes well beyond roads and is fundamental to the state's continued economic wellbeing and growth.

As the state's urban areas grow and the regional economies of Texas become more and more integrated and advanced, TxDOT's role in expanding transportation infrastructure and incorporating advances in transportation technology will continue. Advancing efficient intermodal transit of freight, planning for driverless cars and trucks, developing efficient mass-transit options within and between urban centers, and generally ensuring the flow of people and freight is done as efficiently and as safely as possible, is a tall demand. While TxDOT is focused on current transportation demands, it also has an eye to the future. If Texas' demographic trends continue as they have for the past decade, the population will double by 2050. The transportation system in the state will need to move twice as many people, and likely twice as much freight, within 40 years. Developing most elements of a complex transportation system takes many

years from the time a need is identified until a project is completed. Anticipating and planning how to grow and adapt existing transportation system elements to incorporate emerging transportation technology will define how well our transportation continues to meet the need for our growing population.

GROWTH FACTORS

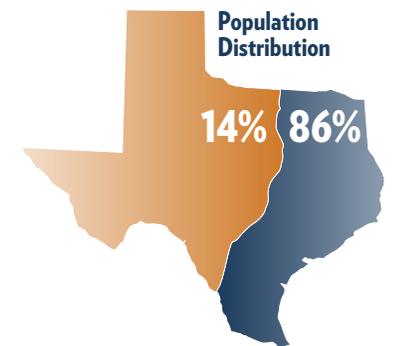
While about half of Texas' growth is from natural increase—more births than deaths—the other half is from net in-migration with many of these new Texans landing east of I-35 in the suburban areas surrounding some amazing cities. The major reason behind this population boom is because Texas is creating employment opportunities at a pace faster than the homegrown labor force is growing. So people are migrating to Texas to fill those jobs. This is great for the economy, but economic growth is also substantially dependent on the ability to move goods and materials—freight—from one place to the next in a timely and cost efficient manner. The transportation infrastructure—roads, rail, air, and water—are what makes this possible. TxDOT is at the center of all of this. Without or with limited capacity to move goods, the economy would not grow.

Regions that are growing quickly from net in-migration are largely the suburban counties surrounding the urban cores of Houston, Dallas/Fort Worth, San Antonio and Austin. Population growth from in-migration has a different impact on the infrastructure compared to growth from natural increase. A new family or individual moving to Texas needs a housing unit, water and power hook-ups, and they likely have a car or two that will be joining us on the surface roads and highways. A population growing quickly from migration puts sudden demands on the infrastructure, with demands on transportation infrastructure perhaps the most obvious. Driving through areas of Texas that are growing rapidly from in-migration is likely to include substantial time in slow-moving traffic as TxDOT and local governments work as fast as possible to catch up with demand.

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If Texas' demographic trends continue as they have for the past decade, the population will double by 2050.

With new Texans joining the state every day from around the country and world, and with other Texans moving from less populated areas to more densely populated areas, the capacity of Texas' roads to handle the increases in passenger cars and commercial truck traffic is being stretched. The resulting congestion and slow-moving traffic is costly in many ways. Time is valuable, whether it's time at work or time spent with family and friends—the more time spent sitting in traffic, the less time to be productive and enjoy life. For commercial freight on the roads, time is money: Companies are paying drivers to sit in traffic, and when freight is delayed, so is the flow of income associated with freight delivery. Congestion is costly in many ways. Perhaps one of the greatest challenges for TxDOT and state leadership is to anticipate, plan and meet the future transportation needs of the state. If TxDOT is able to meet this challenge, there is little that can stop Texas from continuing to lead the nation's roadways.

Dr. Lloyd Potter was appointed as the Texas State Demographer in June 2010. He is Professor of Demography at the University of Texas at San Antonio where he serves as Director of Texas Demographic Center. He holds a Bachelor of Science degree from Texas A&M University and a Ph.D. in sociology and demography from the University of Texas at Austin.



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TxDOT MISSION

Through collaboration and leadership, we deliver a safe, reliable and integrated transportation system that enables the movement of people and goods.

TxDOT VALUES

People - People are the Department's most important customer, asset and resource.

The well-being, safety and quality of life for Texans and the traveling public are of the utmost concern to the Department.

We focus on relationship building, customer service, and partnerships.

Accountability - We accept responsibility for our actions and promote open communication and transparency at all times.

Trust - We strive to earn and maintain confidence through reliable and ethical decision-making.

Honesty - We conduct ourselves with the highest degree of integrity, respect and truthfulness.

TxDOT VISION

A forward-thinking leader delivering mobility, enabling economic opportunity and enhancing quality of life for all Texans.

STRATEGIC GOALS

1: Deliver the Right Projects • 2: Focus on the Customer

3: Foster Stewardship • 4: Optimize System Performance

5: Preserve our Assets • 6: Promote Safety • 7: Value our Employees

Texas Department of Transportation

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We're building bigger bridges to the future, and our employees are at the heart of everything we do. With a history of maintaining one of the nation's largest transportation systems, we take pride in our work to keep Texas moving. We connect farmers and ranchers to market, operate ferries along the gulf, help people travel these great Texas highways and create multimodal transportation solutions. We have opportunities in aviation, archaeology, environmental, communications, construction, engineering, maintenance, accounting/finance, human resources, research, transportation planning and so much more. What path will you take? Picture yourself here and build a career as big as Texas, because what you build today isn't just work—it's a legacy.

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CELEBRATING 100 YEARS



1917 ★ 2017



OVER THE PAST CENTURY, TxDOT has worked closely with community leaders and citizens to build one of the safest and most reliable transportation systems in the world. Through it all, our team has been focused on connecting Texans and visitors to what matters most. We look forward to our next 100 years of service to the people of Texas.

#TxDOT100