

## TxDOT-Houston District

Gary K. Trietsch, P.E. ♦ District Engineer

TxDOT, Houston, TX

At the turn of the last century, Houston was recognized as the city where 19 rail lines met the sea and a locomotive was placed on the seal of the City of Houston.

One hundred years later, the seal for the Houston District could display an orange construction barrel.

In 1999 and 2000, the Houston area had 234 projects awarded, each one guarded by a row of orange barrels. The projects had a total value of \$750 million, a figure including the record-setting \$512.7 million let in fiscal year 1999 alone.

This marks the third-highest dollar amount let for projects in the past 15 years for the Houston District.

The Houston District responds to the many challenges of addressing highway mobility and transportation safety needs for the nation's fourth largest city with innovation and a community commitment.

Perhaps the clearest example of the district's commitment to being a good citizen is in establishing new aesthetic guidelines for Texas highways through the Green Ribbon Project.

A year-long exercise in developing design standards, the Green Ribbon Project was suggested by state Rep. Garnet Coleman to mitigate negative responses to Houston's highways because of a perceived lack of attractive qualities for new or relocating industries.

By installing Houston's naturally lush vegetation alongside highways, transportation corridors become ♦ green ribbons ♦ and can positively promote the community.

With well-designed, imaginative and safe structural features installed throughout the region, residents and visitors benefit from TxDOT's conceptual guidelines integrating environmental aesthetics, artistic expression, and roadway functionality.

In 2000, a department employee and TxDOT earned a first patent. The patent protects a method in which recycled toner can be used in asphalt to give pavement rigidity and a longer life. The process, developed by a Houston District employee, has already been featured in more than 150 articles in national publications.



Inventiveness was also required for the removal of the Baytown Tunnel from beneath the Houston Ship Channel. Originally five separate tubes that were joined and sealed to create the Baytown Tunnel, the tunnel was removed in a unique recovery operation ♦ the only known removal of a tunnel in this nation.

In every part of the district, construction zones signal either the beginning of improvements to local highways or the reconstruction of familiar freeways. New lanes on SH 225 connect Pasadena, Deer Park and the Fred Hartman Bridge south of the Houston Ship Channel. On I-10 East, between the San Jacinto River and the Harris (County line, a lane in each direction is being added to the highway.


Three construction zones mark the expansion of the highway system north. North of the Sam Houston Parkway, the expansion of U.S. 59 has been extended to Humble and Kingwood where eight and 10 mainlanes expand the freeway from Humble through Montgomery County. In Montgomery County four new overpasses for U.S. 59 are being added at East River Drive, Fostoria Road, Roman Forest Boulevard and Creekwood Lane. The Tomball Parkway (SH 249) continues to be widened to six-lane and eight-lane freeway from Beltway 8 to Westlock Drive on its march to Tomball. Contracts to extend the frontage road have already been awarded.

Interstate 45 has been widened to eight and 10 mainlanes in Montgomery County near the Woodlands and a direct connector to the Woodlands is being added to I-45. In Harris County, the expansion of I-45 North nears its end with the award of the last contract, Cypresswood to the Harris County line. The final four direct connector ramps on I-45-North Freeway at the Beltway 8 interchange in the Greenspoint area will be accessible by the end of 2002. Completing the interchange will be a \$36.3 million undertaking and will include fiber-optic lighting and landscaping in all four corners of the interchange.

U.S. 59 has remained the focus of much of Houston's highway construction as major projects continued unabated at U.S. 90A in Sugar Land, the Museum District and I-10 intersection. Recent federal legislation has authorized the designation of U.S. 59, where it already meets interstate standards, as the future route of I-69 (the NAFTA Highway).

U.S. 59  the Southwest Freeway  is being expanded between the Fort Bend County line and SH 6 to accommodate four lanes of traffic in both the northbound and southbound directions. A \$66 million contract for continuous frontage roads for U.S. 90-Alternate and a three-level interchange at the Union Pacific railroad tracks in Sugar Land provides U.S. 59 with direct access to U.S. 90-A. In the heart of Houston's prestigious Museum District, U.S. 59 is being widened to six mainlanes in each direction and adding two lanes of high-occupancy-vehicle in the center.

More importantly, four high-profile arched bridges at Mandell, Dunlavy, Woodhead and Hazard streets, representing a new aesthetic design sense for TxDOT, will span the highway.

The Southwest Alternatives Project (SWAP), made up of state and local representatives, collaborated with Houston TDOT officials in modifying the arched bridge design that was part of the \$32.5 million, three-year reconstruction. The arched bridge design, produced in-house, provides for increased clearance without a central support. In response to SWAP demands for aesthetic enhancements, the design for the four bridges, which are now dubbed the  Gateway to Houston," includes decorative spherical finials and innovative multicolor lighting.

At the northeast corner of Houston's central business district, reconstruction of the U.S. 59 interchange at I-10 is being completed under two separate contracts with a combined value of \$126 million. The new U.S. 59 interchange with I-10 will conform to present design standards, expanding the number of through lanes and knitting the Southwest and Eastex freeways together by 2003.

Planning ahead, the district is looking forward to the expansion of the Katy Freeway from I-610 to the Brazos River. A billion-dollar project expected to last 10 years, the reconstruction of I-10 West will begin in earnest with the first contracts scheduled to be let in 2003.

**AT A GLANCE AT A  
GLANCE GLANCE**

- **District engineer:** Gary K. Trietsch, P.E.
  - **Main number:** 713-802-5000
- **Counties:** Brazoria, Fort Bend, Galveston, Harris, Montgomery, Waller
  - **Employees:** 1,500
  - **Centerline miles:** 3,024
  - **Lane miles:** 9,280
  - <http://crossroads/org/how/>

If you have any questions, please contact [Dr. C.Vipulanandan](#)  
Copyright ♦ 1998 University of Houston