

The Bridge Division oversees and provides assistance in bridge program and project development; structural and geotechnical design; plan development; plans, specifications, and estimate (PS&E) review; safety inspection; and bridge construction and maintenance support to the districts. The Bridge Division administers the following programs for TxDOT:

- Federal Bridge Safety Inspection Program.
- Federal Highway Bridge Program, including TxDOT's Participation-Waived Project/Equivalent-Match Project (PWP/EMP) Program.

The Bridge Division also is responsible for coordination with the Texas Parks and Wildlife Department in making recyclable materials available for the Texas Artificial Reef Program.

Mission

The Bridge Division's mission is to provide support and leadership on all matters relating to bridges and other transportation structures.

Vision

- Bridge Division services and solutions are recognized and respected as safe, innovative, cost-effective, durable, environmentally sensitive, aesthetic, and timely.
- The Bridge Division is dedicated to developing and retaining a diverse team of skilled professionals.

Web Addresses

Intranet: <http://crossroads/org/brg>

Internet:
http://www.txdot.gov/business/contractors_consultants/bridge/default.htm

Bridge Manuals:
<http://onlinemanuals.txdot.gov/manuals/AlphaList.html>

Bridge Standards:
<http://www.txdot.gov/business/standardplanfiles.htm>

Load-Restricted Bridge Map:
http://www.txdot.gov/business/motor_carrier/roadways/restricted_bridge.htm

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Bridge Facts

FY 2009

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BRIDGE TERMS AND DEFINITIONS

Definition of Bridge: An on-system or off-system structure, including supports, erected over a depression or an obstruction such as water, a highway, or a railway; having a roadway or track for carrying traffic or other moving loads; and having an opening measured along the center of the roadway of more than 20 feet between faces of abutments, spring lines of arches, or extreme ends of the openings for multiple box culverts or multiple pipes that are 60 inches or more in diameter and that have a clear distance between openings of less than half of the smallest pipe diameter.

Highway Bridge Program: The Highway Bridge Program (HBP) is a federal-aid program that provides funding to enable states to improve the condition of their highway bridges through replacement, rehabilitation, and systematic preventive maintenance.

Structurally Deficient and Functionally Obsolete: The terms "structurally deficient" and "functionally obsolete" are used by the Federal Highway Administration to designate bridges eligible for federal funding. Bridges classified as structurally deficient or functionally obsolete are not unsafe. A structurally deficient bridge is one with routine maintenance concerns that do not pose a safety risk or one that is frequently flooded. To remain open to traffic, structurally deficient bridges are often posted with reduced weight limits that restrict the gross weight of vehicles using the bridges. Classification as functionally obsolete means the bridge met current design standards when built, but over time has become obsolete due to an increase in traffic volume. Functionally obsolete bridges are those that do not have adequate lane widths, shoulder widths or vertical clearance to serve current traffic demands or are occasionally flooded.

Sub-standard-for-Load-Only: The term "sub-standard-for-load-only" is used by TxDOT to designate bridges in relatively good condition that do not have specific maintenance concerns, but do have a load-carrying capacity less than the state legal limit for public roadways. Sub-standard-for-load-only bridges are posted with reduced weight limits. These bridges are not classified as structurally deficient or functionally obsolete under FHWA definitions.

On-System Bridge: A vehicular bridge owned and maintained by the state on the TxDOT-designated highway system.

Off-System Bridge: A vehicular bridge owned and maintained by a county, city, or other local or regional governmental unit, and not on the TxDOT-designated highway system.

Historic Bridge: A bridge listed on or eligible to be listed on the National Register of Historic Places.

FY 2009 BRIDGE STATISTICS

	Number	Sq. ft. (Deck)
Statewide	51,019	446,837,349
On-system	33,393	376,851,363
Off-system	17,626	69,985,986
Structurally deficient	1,676	9,222,575
On-system	325	6,620,763
Off-system	1,347	2,601,812
Functionally obsolete	7,472	73,270,678
On-system	3,557	51,480,387
Off-system	3,915	21,790,291
Sub-standard-for-load-only	1,214	1,888,238
On-system	90	341,691
Off-system	1,124	1,546,547

Number of international bridges

Thirty international bridges are open to traffic between Texas and Mexico.

Number of bridges over waterways

Statewide	43,193
On-system	26,022
Off-system	17,171

Number of steel-truss type bridges

Statewide	255
On-system	48
Off-system	207

Number of suspension-type bridges

Statewide	4
On-system	0
Off-system	2 open to traffic 2 closed to traffic

Average bridge construction cost per square foot of deck area

The average structure unit cost during fiscal year 2009 for constructing bridge structures was:

- On-system span-type bridge: \$54.40 per sq. ft.
- On-system culvert: \$66.10 per sq. ft.
- Off-system span-type bridge: \$69.51 per sq. ft.
- Off-system culvert: \$97.73 per sq. ft.

Asset value of bridges

The historical cost of capitalized on-system state bridges is \$18.4 billion with accumulated depreciation totaling \$10.1 billion. TxDOT's policy is to capitalize only those bridges and improvements with a cost of at least \$500,000.

Average age of Texas bridges

On-system years – 42 years
Off-system years – 30 years

FY 2009 CONTRACT STATISTICS

Existing bridges let to contract for replacement or rehabilitation, FY2009

On-system	271
Value of contracts	\$248.1M
Off-system	149
Value of contracts	\$53.1M

New-location bridges let to contract, FY2009

On-system	127
Value of contracts	\$269.1M
Off-system	7
Value of contracts	\$7.3M

GENERAL INFORMATION

Highest Bridge

The Rainbow Bridge (SH 87) near Port Arthur has 176.9 feet of clearance between the bridge and the water.

Longest Bridge

The longest bridge on the National Bridge Inventory is the Pharr/Reynosa Bridge over the Rio Grande River. It is 15,770 feet long. This off-system bridge is partially owned by Mexico.

The longest on-system bridge is the Sabine River/Toledo Bend Bridge on SH 21. It is 13,196 feet long. This on-system bridge is partially owned by the State of Louisiana.

The longest on-system bridge fully owned by the State of Texas is IH 45 Southbound crossing IH 30, US 75, and the DART Rail Line in Dallas. It is 13,192 feet long.

The longest on-system bridge fully owned by the State of Texas and spanning a body of water is the Queen Isabella Memorial Bridge at South Padre Island. It is 12,510 feet long.

Bridge with Longest Span

The main span of the Fred Hartman Bridge (SH 146) over the Houston Ship Channel is 1,250 feet long. The bridge is owned by the State of Texas.

Oldest Bridge

FM 51 over Town Creek, Parker County
On-system – Built in 1911

LP354-Houston Street crossing IH 30 and the Trinity River, Dallas County
On-system – Built in 1911