TEXAS BOND REVIEW BOARD

2018 ANNUAL REPORT

FISCAL YEAR ENDED AUGUST 31, 2018

Supplement to the Fiscal Year 2018 State Debt Annual Report

This supplement, dated February 5, 2020, to the Fiscal Year 2018 State Debt Annual Report updates unrestricted revenues available for the fiscal year ending August 31, 2018 per Table 11 of the Comptroller of Public Accounts' 2018 Annual Cash Report as well as updates the Constitutional Debt Limit (CDL). On January 24, 2020, the Comptroller of Public Accounts published a revised unrestricted general revenue (UGR) figure for fiscal year 2018. Because UGR impacts the CDL calculation, the following text and figures have been updated in this report as stated below.

The paragraph in the Executive Summary starting on page iii, regarding the Constitutional Debt Limit calculation, is replaced with the following text:

> Constitutional Debt Limit
> As of August 31, 2018, Texas' constitutional debt limit (CDL) remained below the maximum of 5 percent with 1.34 percent calculated for debt outstanding and 0.87 percent calculated for authorized but unissued debt of the three-year average of unrestricted general revenue funds for a total of 2.21 percent. Included in the CDL is the $767.7 million of revenue bonds authorized by the 84th Legislature for the Texas Facilities Commission. The CDL declined 6.0 percent from the 2.35 percent calculated for outstanding and authorized but unissued debt calculated for fiscal year 2017.

The paragraph in Chapter 1 on page 7, regarding the not self-supporting scheduled annual debt service as a percentage of unrestricted general revenue, is replaced with the following text:

> Total not self-supporting debt increased from $3.07 billion at the end of fiscal year 2009 to $6.97 billion at the end of fiscal year 2018, an increase of 126.9 percent, and a decrease of 2.9 percent from the $7.18 billion outstanding in fiscal year 2017. Estimated scheduled annual debt service as a percentage of unrestricted general revenue decreased in fiscal year 2018 to 1.26 percent (*Figure 1.3*).

The paragraph in Chapter 1 on page 9, regarding total unrestricted general revenue, is replaced with the following text:

> Unrestricted general revenue increased 8.6 percent in fiscal year 2018 to $56.73 billion from $52.23 billion in fiscal year 2017 (*Figure 1.4*). Unrestricted general revenue is generally the most available funding source to make debt-service payments and to fund appropriations for state operations.

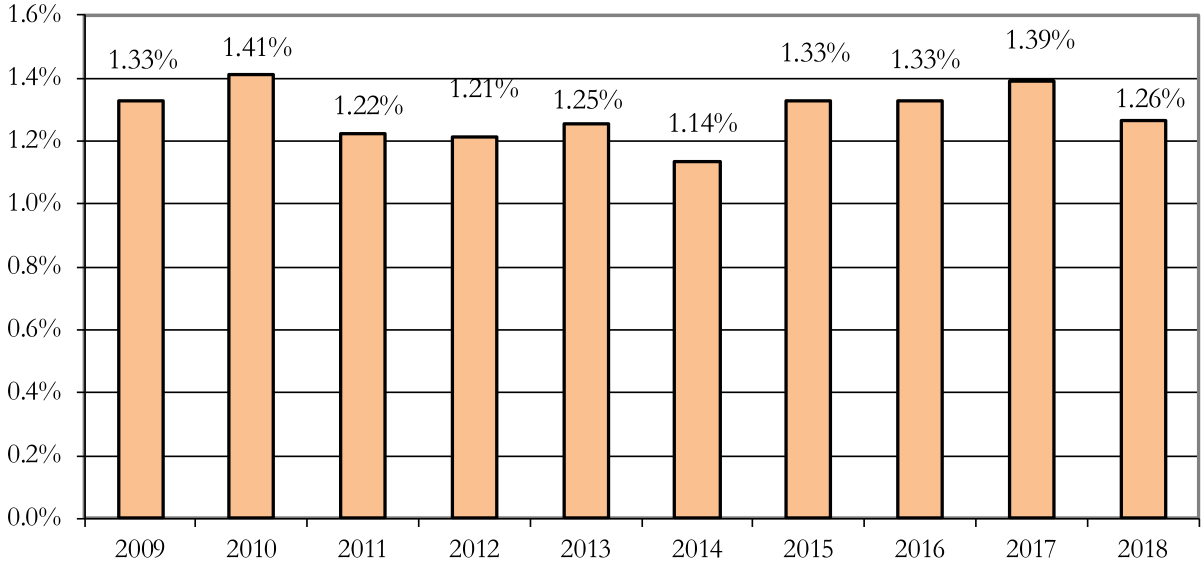
The paragraph in Chapter 1 on page 10, regarding the Constitutional Debt Limit calculation, is replaced with the following text:

> As of August 31, 2018, Texas' constitutional debt limit (CDL) remained below the maximum of 5 percent with 1.34 percent calculated for debt outstanding and 0.87 percent calculated for authorized but unissued debt for a total of 2.21 percent. Included in the CDL is the $767.7 million of revenue bonds authorized by the 84th Legislature for the Texas Facilities Commission. The CDL declined 6.0 percent from the 2.35 percent calculated for outstanding and authorized but unissued debt calculated for fiscal year 2017.

Supplement to the Fiscal Year 2018 State Debt Annual Report

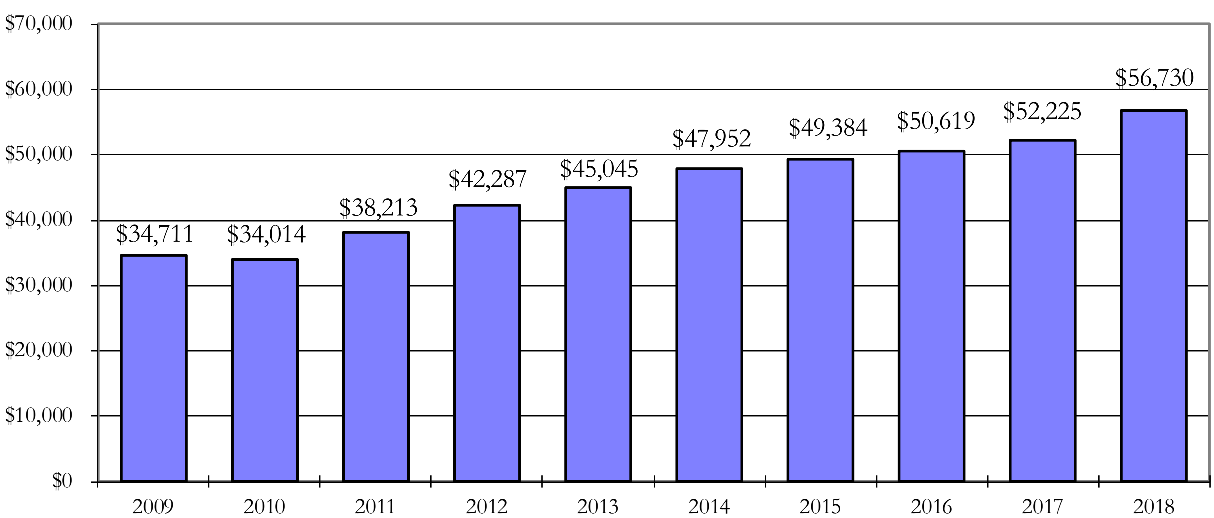
Figure 1.3 and *Figure 1.4* in Chapter 1 on page 11 are replaced with the following figures:

Figure 1.3
ANNUAL NOT SELF-SUPPORTING SCHEDULED DEBT SERVICE AS A PERCENTAGE OF UNRESTRICTED GENERAL REVENUE



Sources: Texas Bond Review Board - Bond Finance Office and the Texas Comptroller of Public

Figure 1.4
UNRESTRICTED GENERAL REVENUE
(millions of dollars)



Source: Texas Comptroller of Public Acounts

Supplement to the Fiscal Year 2018 State Debt Annual Report

February 5, 2020

Texas Bond Review Board
Annual Report 2018

Fiscal Year Ended August 31, 2018

Greg Abbott, Governor
Chairman

Dan Patrick, Lieutenant Governor

Joe Straus, Speaker of the House of Representatives

Glenn Hegar, Comptroller of Public Accounts

Robert B. Latsha II
Executive Director

December 2018

Overview

Background
The Texas Bond Review Board (BRB) is responsible for the approval of all state debt issues (excluding Permanent University Fund debt, Tax and Revenue Anticipation Notes and self-supporting debt issued by institutions of higher education with an unenhanced rating of AA- or higher) and lease purchase obligations with an initial principal amount greater than $250,000 or a term of longer than five years. The BRB is also responsible for the collection, analysis and reporting of information on state debt as well as the debt of local political subdivisions in Texas. In addition, the BRB administers the state's Private Activity Bond Allocation Program. This report discusses the activities undertaken by the Board and related events of the past fiscal year.

As of September 27, 2013, Texas' general obligation (GO) debt was rated at Aaa/AAA/AAA/AAA by the credit rating agencies Moody's Investors Service (Moody's), Standard & Poor's (S&P), Fitch Ratings (Fitch) and Kroll Bond Rating Agency (KBRA), respectively. All four rating agencies maintain their outlook as "stable."

On March 28, 2018, the Kroll Bond Rating Agency reaffirmed a long-term rating of AAA for the United States with a stable outlook. On April 5, 2018, Fitch reaffirmed its AAA rating for the U.S. with a long-term outlook of stable. In addition, on April 25, 2018, Moody's reaffirmed the U.S. government's Aaa rating and maintained its outlook as stable. Similarly, on June 26, 2018, S&P reaffirmed its AA+ long-term debt rating for the U.S. and maintained its long-term outlook as stable. Historically, Texas' GO borrowing costs have not been impacted by changes in U.S. credit ratings.

Texas ended fiscal year 2018 with a total consolidated General Revenue Fund cash balance of $4.48 billion, a 27.4 percent increase from the fiscal year 2017 year-end closing balance of $3.52 billion.

According to Moody's 2018 State Debt Medians, Texas ranked 42nd among all states in net tax-supported debt per capita. Texas had $410 in net tax-supported debt per capita compared to the national mean and median of $1,477 and $987, respectively. Texas' net tax-supported debt per capita ranked second lowest when compared to that of the nine other states rated AAA.

Total not self-supporting debt increased from $3.07 billion at the end of fiscal year 2009 to $6.97 billion at the end of fiscal year 2018, an increase of 126.9 percent, and a decrease of 2.9 percent from the $7.18 billion outstanding in fiscal year 2017.

The most recent U.S. Census Bureau data for state and local debt outstanding show that for census year 2016, Texas was the nation's second most populous state and ranked second among the ten most populous states in terms of Local Debt Per Capita, seventh in State Debt Per Capita and fourth in Total State and Local Debt Per Capita with 82.3 percent of the state's total debt burden at the local level.

Constitutional Debt Limit
As of August 31, 2018, Texas' constitutional debt limit (CDL) remained below the maximum of 5 percent with 1.34 percent calculated for debt outstanding and 0.87 percent calculated for authorized but unissued debt of the three-year average of unrestricted general revenue funds for a total of 2.21

percent. Included in the CDL is the $767.7 million of revenue bonds authorized by the 84th Legislature for the Texas Facilities Commission. The CDL declined 6.0 percent from the 2.35 percent calculated for outstanding and authorized but unissued debt calculated for fiscal year 2017.

State and Local Financings in Fiscal Year 2018

State Debt

In fiscal year 2018 the state's total debt outstanding (including conduit debt) increased 7.2 percent to $56.83 billion compared to $53.02 billion in fiscal year 2017 and $49.75 billion in fiscal year 2016.

Bonds issued by Texas state agencies, colleges and universities during fiscal year 2018 decreased by 18.2 percent to an aggregate total of $7.07 billion compared to $8.65 billion issued in fiscal year 2017. This decrease was due in part by the elimination of tax-exempt advance refundings when the Federal Government passed the Tax Cuts and Jobs Act of 2017. Fiscal year 2018 issues included $4.77 billion in new-money and $2.30 billion in refunding bonds. Other debt issued included $1.63 billion of commercial paper.

As of August 31, 2018, a total of $6.83 billion was authorized for state commercial paper or variable-rate notes (VRN) programs. Of this amount $2.14 billion was outstanding at fiscal year-end 2018, approximately $146.8 million more than the amount outstanding at fiscal year-end 2017.

Texas state issuers expect to issue approximately $4.40 billion in bonds, CP and VRN during fiscal year 2019, a projected decrease of $1.31 billion (22.9 percent) over the amount projected for fiscal year 2018.

Local Debt

As of fiscal year-end 2018 Texas local governments (excluding conduit debt) had $230.00 billion in outstanding debt, an increase of $34.60 billion (17.7 percent) since fiscal year 2014. Of the 2018 total 65.3 percent ($150.22 billion) is GO debt to be repaid from local ad valorem tax collections while the remaining 34.7 percent ($79.77 billion) will be repaid from revenues generated by various projects such as water, sewer and electric utility fees. Since fiscal year 2014, tax-supported debt outstanding increased 21.2 percent ($26.33 billion) and revenue debt outstanding increased 11.6 percent ($8.28 billion).

School Districts accounted for 36.6 percent ($84.16 billion) of all local debt outstanding and Cities accounted for 32.7 percent ($75.25 billion). Water districts held the third highest percentage and accounted for 13.1 percent ($30.19 billion) of all local debt outstanding. The remaining 17.6 percent ($40.40 billion) was held by Community and Junior Colleges, Counties, Health/Hospital Districts and Other Special Districts.

Texas issuance of local debt (excluding conduit debt) has fluctuated over the past decade from a low of $21.68 billion in fiscal year 2010 to a high of $39.41 billion in fiscal year 2016. Additionally, the local issuance total in fiscal year 2018 decreased $6.77 billion (17.2 percent) from the record issuance total in fiscal year 2016.

Over the past five fiscal years, new-money debt issuance totaled $83.94 billion and refunding debt totaled $79.76 billion. During that time the top three issuers of both new-money and refunding money were school districts, cities and water districts that together comprised 88.1 percent of the new-money volume ($73.96 billion) and 79.4 percent of the refunding transaction volume ($63.30 billion).

Issuance Costs

Excluding issuances of conduit and private placement debt, during fiscal year 2018 the weighted average of issuance costs for state bond issuers was $4.69 per $1,000 compared to $5.26 per $1,000 for fiscal year 2017. The issuances ranged in size from $4.1 million to $1.05 billion.

Private Activity Bond Allocation Program and Other Bonding Authority

Texas again experienced an increase in volume cap for the Program Year 2018 Private Activity Bond (PAB) Allocation Program. The 2018 volume cap was set at $2.97 billion, an increase of $185.7 million (6.7 percent) over the calendar 2017 cap. The total size of the PAB program, including 2018 volume cap and carryforward, was $6.28 billion, a 17.7 percent decrease from the 2017 total. As of November 15, 2018, $1.45 billion had been allocated and application requests totaled $5.31 billion, a decrease of 14.2 percent of the total application requests from Program Year 2017.

As of January 1, 2018, when the program was eliminated by Section 13404 of the Tax Cuts and Jobs Act, Texas had $175.2 million in unused Qualified Energy Conservation Bond (QECB) authority.

85th Legislature - Regular Session and 1st Called Special Session

No new state debt authorizations were approved during the 85th Legislative Session. The 85th Legislature appropriated debt service for the 2018-19 biennium to the Cancer Prevention and Research Institute of Texas to issue $600 million in GO debt under the $3 billion in authority approved by voters in 2007. In addition, the Texas Public Finance Authority is authorized to issue on behalf of the Texas Facilities Commission the remainder of the $767.7 million of revenue bonds originally authorized during the 2016-17 biennium for the office buildings and utility infrastructure in the Capital Complex and the office building and parking structure in the North Austin complex.

Additional Detail

This report concludes with seven appendices. Appendix A provides a detailed description of each state bond transaction closed in fiscal year 2018. Appendix B reports on commercial paper and variable-rate debt programs used by state agencies and universities. Appendix C provides a background discussion of Texas Swap Programs and reports on swaps outstanding and debt-service requirements. While not a debt of the state, the aggregate notional amount of interest rate swaps outstanding at the state level was $5.11 billion at fiscal year-end 2018. Appendix D provides an overview of the costs of issuance and underwriting spread. Appendix E provides a brief description of each of the state's bond issuing entities. Appendix F provides a brief overview of the Private Activity Bond Program. Appendix G provides a glossary of terms.

For limitations on the purpose and use of this report, see the disclosure preceding Chapter 1.

Contents

Figures

Tables

Cautionary Statements
Chapter 1231 of the Texas Government Code directs issuers of state securities to report their securities transactions to the Bond Review Board (BRB). Chapter 1231 also requires the BRB to report the data to the governor, lieutenant governor, the speaker of the house, and each member of the legislature in an annual report within 90 days of the end of each state fiscal year. This report is intended to satisfy these Chapter 1231 duties.

The data in this report and on the BRB's website is compiled from information reported to the BRB from various sources and has not been independently verified. The reported debt and defeasance data of state agencies may vary from actual debt outstanding, and the variance for a specific issuer could be substantial.

State debt data compiled does not include all installment purchase obligations, but certain lease-purchase obligations are included. In addition, State Energy Conservation Office (SECO) LoanSTAR Revolving Loan Program and certain other revolving loan program debt and privately-placed loans are not included. Outstanding debt excludes debt for which sufficient funds have been escrowed to retire the debt either from proceeds of refunding debt or from other sources.

Future debt issuance is based on estimates supplied by each issuing agency. Future debt service on variable-rate, commercial paper, and other short-term and demand debt is estimated on the basis of interest rate and refinancing assumptions described in the report. Actual future data could be affected by changes in legislative and oversight direction, agency financing decisions, prevailing interest rates, market conditions, and other factors that cannot be predicted. Consequently, actual future data could differ from the estimates, and the difference could be substantial. The BRB assumes no obligation to update any such estimate of future data.

Historical data and trends presented are not intended to predict future events or continuing trends, and no representation is made that past experience will continue in the future.

This report refers to credit ratings. An explanation of the significance of the ratings may be obtained from the rating agencies furnishing the ratings. Ratings reflect only the respective views of each rating agency. In reporting ratings herein, the BRB does not intend to endorse the ratings or make any recommendation to buy, sell or hold securities.

This report is intended to meet chapter 1231 requirements and inform the state leadership and the Legislature. This report is not intended to inform investors in making a decision to buy, hold, or sell any securities, nor may it be relied upon as such. Data is provided as of the date indicated and may not reflect debt, debt service, population or other data as of any subsequent date. This data may have changed from the date as of which it is provided. For more detailed or more current information, see the issuers' web sites or their filings at Electronic Municipal Market Access (EMMA®). The BRB does not control or make any representation regarding the accuracy, completeness or currency of any such site, and no referenced site is incorporated herein by that reference or otherwise.

Chapter 1
Texas Debt in Perspective

As of September 27, 2013, Texas' general obligation (GO) debt is rated Aaa/AAA/AAA/AAA by the credit rating agencies Moody's Investors Service (Moody's), Standard & Poor's (S&P), Fitch Ratings (Fitch) and Kroll Bond Rating Agency (KBRA), respectively. All four rating agencies maintain their outlook as "stable". Table 1.2 provides a tier-ranking of each state relative to the states rated AAA by three rating agencies.

On March 28, 2018, the Kroll Bond Rating Agency reaffirmed a long-term rating of AAA for the United States with a stable outlook. On April 5, 2018, Fitch reaffirmed its AAA rating for the U.S. with a long-term outlook of stable. In addition, on April 25, 2018, Moody's reaffirmed the U.S. government's Aaa rating and maintained its outlook as stable. Similarly, on June 26, 2018, S&P reaffirmed its AA+ long-term debt rating for the U.S. and maintained its long-term outlook as stable. Historically, Texas' General Obligation (GO) borrowing costs have not been impacted by changes in U.S. credit ratings.

According to Moody's 2018 State Debt Medians, Texas ranked 42nd among all states in net tax-supported debt per capita. Texas had $410 in net tax-supported debt per capita compared to the national mean and median of $1,477 and $987*, respectively.*

STATE DEBT

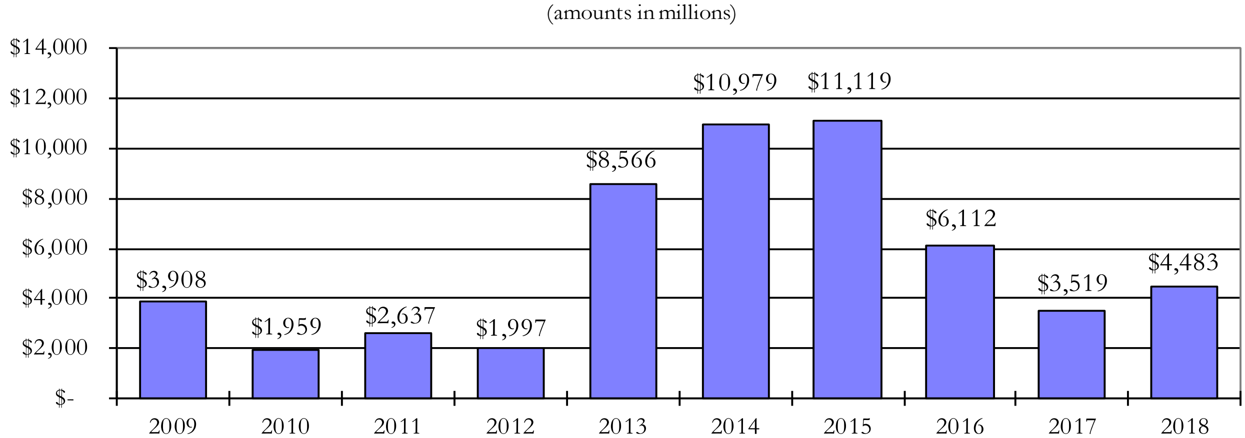
Texas' Financial Position

Texas ended fiscal year 2018 with a total consolidated General Revenue Fund cash balance of $4.48 billion *(Figure 1.1),* a 27.4 percent increase from the fiscal year 2017 year-end closing balance of $3.52 billion.

Total Tax Collections increased by 11.9 percent to $53.90 billion. Total Net Revenues and Other Sources increased by 8.4 percent to $146.23 billion, and Total Expenditures and Other Uses increased by 5.6 percent to $145.27 billion *(Table 1.1).*

The Sales Tax remains the state's primary source of revenue and accounted for 59.2 percent of Total Tax Collections during fiscal year 2018. Sales Tax revenues increased 10.5 percent from the prior fiscal year to $31.89 billion. The Natural Gas Production Tax revenue increased 45.6 percent ($448.3 million), the Oil Production and Regulation Tax revenue increased 60.9 percent ($1.28 billion), the state's Motor Vehicle Sales/Rental Tax revenue increased 9.7 percent ($438.9 million), Franchise Tax revenue increased 3.6 percent ($98.3 million), while the Cigarette and Tobacco Tax revenue

Figure 1.1
ENDING CASH BALANCE IN TEXAS' CONSOLIDATED GENERAL REVENUE FUND
(amounts in millions)



Source: Texas Comptroller of Public Accounts, 2018 Annual Cash Report.

Table 1.1

STATEMENT OF CASH CONDITION

CONSOLIDATED GENERAL REVENUE FUND

(amounts in thousands)

	Fiscal Year 2017	Fiscal Year 2018	% Change
Revenues and Beginning Balance			
Beginning Balance, September 1	$ 6,112,123	$ 3,519,222	-42.4%
Tax Collections			
General Revenue Fund			
Sales Tax	28,855,135	31,894,667	10.5%
Motor Vehicle Sales / Rental Taxes	4,510,052	4,948,939	9.7%
Motor Fuel Taxes	3,583,734	3,674,997	2.5%
Franchise Tax	2,731,479	2,829,812	3.6%
Insurance Taxes	2,376,092	2,508,434	5.6%
Natural Gas Production Tax	982,763	1,431,106	45.6%
Cigarette and Tobacco Taxes	624,893	561,826	-10.1%
Alcoholic Beverages Taxes	1,217,711	1,291,989	6.1%
Oil Production and Regulation Taxes	2,107,335	3,391,518	60.9%
Inheritance Tax	0	0	0.0%
Utility Taxes	439,065	452,391	3.0%
Hotel Occupancy Tax	530,716	601,244	13.3%
Other Taxes	208,575	315,941	51.5%
Total Tax Collections	**$ 48,167,550**	**$ 53,902,863**	**11.9%**
Federal Income	34,023,584	35,664,625	4.8%
Licenses, Fees, Permits, Fines, & Penalties	3,917,402	4,080,047	4.2%
State Health Service Fees and Rebates	6,701,557	7,598,886	13.4%
Interest and Investment Income	22,907	32,826	43.3%
Net Lottery Proceeds	2,053,244	2,228,779	8.5%
Escheated Estates	978,911	636,257	-35.0%
Sales of Goods and Services	179,704	188,911	5.1%
Settlements of Claims	505,914	519,896	2.8%
Land Income	26,768	3,089	-88.5%
Other Revenue Sources	2,499,736	2,841,129	13.7%
Interfund Transfers/Investment Transactions	35,834,735	38,533,381	7.5%
Total Net Revenue and Other Sources	**$ 134,912,012**	**$ 146,230,689**	**8.4%**
Expenditures and Ending Balance			
General Government	3,161,488	3,182,988	0.7%
Education	32,641,686	34,712,555	6.3%
Employee Benefits	4,328,417	4,315,637	-0.3%
Health and Human Services	48,937,600	50,299,421	2.8%
Public Safety and Corrections	4,922,010	5,358,084	8.9%
Lottery Winnings Paid	557,026	627,933	12.7%
Other Expenditures*	2,726,147	2,793,154	2.5%
Interfund Transfers / Investment Transactions	40,230,505	43,977,385	9.3%
Total Expenditures and Other Uses	**$ 137,504,879**	**$ 145,267,157**	**5.6%**
Net Increase to Petty Cash Accounts	-34	321	**1044.1%**
Ending Balance, August 31	**$ 3,519,222**	**$ 4,483,075**	**27.4%**

Source: Texas Comptroller of Public Accounts, 2018 Cash Report, Tables 1 & 11.

* Includes Transportation, Natural Resources/Recreational Services, Regulatory Agencies, Payment of Interest and Capital Outlays.

Totals may not sum due to rounding.

decreased by 10.1 percent ($63.1 million).

85th Legislature – Regular Session and 1st Called Special Session

No new state debt authorizations were approved during the 85th Legislative Session. The 85th Legislature appropriated debt service for the 2018-19 biennium to the Cancer Prevention and Research Institute of Texas (CPRIT) to issue $600 million in GO debt under the $3 billion in authority approved by voters in 2007. In addition, the Texas Public Finance Authority (TPFA) is authorized to issue on behalf of the Texas Facilities Commission (TFC) the remainder of the $767.7 million of revenue bonds originally authorized during the 2016-17 biennium for the office buildings and utility infrastructure in the Capital Complex and the office building and parking structure in the North Austin complex.

84th Texas Legislature

The 84th Legislature authorized the issuance of $767.7 million of revenue bonds and appropriated those bond proceeds in the General Appropriations Act to the TFC for the North Austin and Capitol Complex projects. The bonds are anticipated to be repaid with lease payments from state agencies subject to biennial appropriation by the legislature. Such lease payments were appropriated to the TFC for the 2016-17 biennium. In addition, the 84th Legislature appropriated debt service for the TFC to issue $1.35 billion of Prop 12 GO debt and for CPRIT to issue $600 million in GO debt for the biennium.

The legislature also authorized $3.10 billion in Tuition Revenue Bond (TRB) debt with the passing of HB 100. Historically, the legislature has appropriated funds in an amount equal to all or a portion of the debt service on TRB debt issued.

Additionally, the 84th Legislature passed HB 122 which limits the issuance of debt secured by the Texas Mobility Fund solely to refundings or issuances that replace variable-rate debt.

83rd Legislature – Regular Session, 1st, 2nd and 3rd Called Special Session

The 83rd Legislature appropriated debt service for the 2014-15 biennium for the Texas Transportation Commission to issue $2 billion of Prop 12 GO debt, for CPRIT to issue $600 million in GO debt and for TPFA to issue $146.2 million in GO debt for various state agencies.

Senate Joint Resolution (SJR) 1 of the Regular Session proposed the creation of a State Water Implementation Fund that would be administered, without further appropriation, by the Texas Water Development Board (TWDB). HB 1025 authorized the transfer of $2 billion from the state's Economic Stabilization Fund (ESF), also known as the Rainy Day Fund, to implement the state's water plan. Voters approved the proposed amendments to the Texas Constitution at the November 5, 2013, bond election.

SJR 1 of the 3rd Called Special Session proposed a constitutional amendment diverting half of the oil and gas tax revenues to be deposited into the ESF to the State Highway Fund to provide transportation funding for repairs and maintenance of public roads. Voters approved the proposed amendment to the Texas Constitution at the November 4, 2014, general election.

Additional Bonding Authority

In October 2008 the Heartland Disaster Tax Relief Act of 2008 created $1.86 billion in tax-exempt bonding authority for the Hurricane Ike disaster area which includes 34 counties along the Texas coast. The Hurricane Ike Authority expired on January 1, 2013.

In February 2009 the American Recovery and Reinvestment Act of 2009 (ARRA) created new types of bonding authority and expanded authority under existing programs. *(See Chapter 4 for more detail related to additional bonding authority.)*

Recent Credit Rating Agency Reports on Texas' General Obligation Debt

On June 15, 2018, Fitch affirmed its AAA rating and stable outlook on Texas' GO debt. In its report of that date entitled "Fitch Rates Texas Water Development Board's $240MM GO Bonds' AAA; Outlook Stable" Fitch stated that "Texas' long-term AAA Issuer Default Rating (IDR) reflects its growth-oriented economy and the ample fiscal flexibility provided both by its conservative approach to financial operations and its high reserve balance. In recent years, economic diversification and broader growth momentum allowed Texas to absorb a material contraction in its globally important energy sector during the 2014-15 period. The sector is now in recovery, supported by higher prices, with associated tax revenues and employment rising. Overall state economic and fiscal trends remain solid, with employment and revenue collections rising steadily."

On August 2, 2018, the Kroll Bond Rating Agency affirmed its long-term rating of AAA with a stable outlook to the State of Texas' GO Bonds. Key rating strengths include: a very large and diversified state economic base, conservative financial management and budgeting policies and procedures, a high level of financial reserves and strong liquidity position and low debt burden. Key rating concerns include: Volatility in oil and gas prices still impacting economic activity and revenue collections as shown in 2015 and 2016, increasing fiscal pressure to fund the necessary infrastructure to keep up with its economic and population growth, specifically in the areas of education and transportation.

S&P's latest action on Texas' GO rating was to affirm its AAA rating and stable outlook on October 22, 2018. In its report of that date entitled "Texas, Texas Higher Education Coordinating Board; General Obligation" S&P stated that "the rating reflects our view of the state's Diverse and resilient economy that we expect will outpace the nation in terms of job growth and productivity; Strong revenue forecasting and cash management practices, including comprehensive monthly revenue and expenditure cash monitoring and forecasts, as well as a willingness to maintain strong liquidity to meet constitutionally defined priorities, including the repayment of debt service; low overall net debt; rising unfunded pension and long-term liabilities, which we believe will require active management to ensure that benefit costs remain affordable; potential long-term budgetary pressures related to growing public school expenses and modification to the school funding formula, which is compounded by a reduction in recurring general fund revenue during the biennium."

On October 23, 2018, Moody's affirmed its Aaa rating and stable outlook on Texas' GO debt. In its report of that date entitled "Moody's assigns Aaa to Texas' GO College Student Loan Bonds Series 2019 and Refunding Series 2018 issued through Texas Higher Education Coordinating Board" Moody's stated that "The Aaa rating reflects the size and strong fundamentals of the Texas economy; a strong budgetary cushion provided by the State's Economic Stabilization Fund; strong governance and fiscal management; and low bonded debt levels. Those strengths are offset by high pension liabilities and ongoing pressure to maintain structural budget balance against the spending pressures of strong demographic growth."

Table 1.2

STATE BOND RATINGS as of September 2018

States With a General Obligation Rating

Steps from AAA Ranking	State	Moody's Investors Service	Standard & Poor's	Fitch Ratings
-	Delaware	Aaa	AAA	AAA
-	Florida	Aaa	AAA	AAA
-	Georgia	Aaa	AAA	AAA
-	Maryland	Aaa	AAA	AAA
-	Missouri	Aaa	AAA	AAA
-	North Carolina	Aaa	AAA	AAA
-	Tennessee	Aaa	AAA	AAA
-	**TEXAS**	**Aaa**	**AAA**	**AAA**
-	Utah	Aaa	AAA	AAA
-	Virginia	Aaa	AAA	AAA
1	South Carolina	Aaa	AA+	AAA
1	Vermont	Aaa	AA+	AAA
1	Minnesota	Aa1	AAA	AAA
3	Arkansas	Aa1	AA	**
3	New York	Aa1	AA+	AA+
3	Ohio	Aa1	AA+	AA+
3	Oregon	Aa1	AA+	AA+
3	Washington	Aa1	AA+	AA+
4	Alabama	Aa1	AA	AA+
4	Hawaii	Aa1	AA+	AA
4	Massachusetts	Aa1	AA	AA+
4	Montana	Aa1	AA	AA+
4	New Hampshire	Aa1	AA	AA+
4	New Mexico	Aa2	AA	**
4	Wisconsin	Aa1	AA	AA+
5	Michigan	Aa1	AA	AA
5	Nevada	Aa2	AA	AA+
6	Oklahoma	Aa2	AA	AA
6	Mississippi	Aa2	AA	AA
6	Maine	Aa2	AA	AA
6	Rhode Island	Aa2	AA	AA
7	Alaska	Aa3	AA	AA
7	West Virginia	Aa2	AA-	AA
9	California	Aa3	AA-	AA-
9	Louisiana	Aa3	AA-	AA-
10	Pennsylvania	Aa3	A+	AA-
13	Connecticut	A1	A	A+
17	New Jersey	A3	A-	A
26	Illinois	Baa3	BBB-	BBB
States With Only an Issuer Credit Rating				
*	Arizona	Aa2	AA	**
*	Colorado	Aa1	AA	**
*	Idaho	Aa1	AA+	AA+ (Implied GO)
*	Indiana	Aaa	AAA	AAA (Lease)
*	Iowa	Aaa	AAA	AAA (Implied GO)
*	Kansas	Aa2	AA-	**
*	Kentucky	Aa3	A	AA- (Implied GO)
*	Nebraska	Aa1	AAA	**
*	North Dakota	Aa1	AA+	**
*	South Dakota	Aaa	AAA	AAA (Implied GO)
*	Wyoming	**	AA+	**

* Issuer Credit Rating.

** Not rated

Source: Moody's Investors Service, Standard & Poor's, and Fitch Ratings.

Factors Affecting the Rating of Texas' General Obligation Debt

Credit rating agencies consider four primary factors when rating a state's debt: economy, finances, debt and management. Within economic factors, the agencies review the state's income, employment, economic diversity and demographics. Financial factors considered are the state's revenues, cost structure, balance sheet health and liquidity. Debt factors reviewed include debt ratios and debt security and structure. Management factors include: budget development and management practices; constitutional constraints, initiatives and referenda; executive branch controls; mandates to maintain a balanced budget; rainy day funds; and political polarization.

The sometimes overlapping conclusions reached by the major rating agencies reflect their collective judgment that several challenges may arise if Texas is faced with a low-revenue environment. Among the most prominent and commonly cited of these problems are: 1) the state's heavy dependence on the sales tax without support from a state income tax; 2) issues related to unfunded pension liabilities, funding for public schools and assistance programs such as Medicaid; and 3) the state's continued rapid population growth that will necessitate budget increases for operating costs as well as increases in capital expenditures for growing infrastructure needs including transportation and water development.

Table 1.2 provides a tier ranking of each state's rating relative to states that are rated Triple-A by three rating agencies. Texas is one of ten states that is rated Triple-A by Moody's, S&P and Fitch.

Changes in State Bond Ratings

During the past year, five states received upgrades in ratings. Moody's upgraded Florida one notch to Aaa from Aa1 and gave Nebraska, which had been not rated, a rating of Aa1. Standard & Poor's upgraded Michigan and Minnesota to AA from AA- and AAA from AA+, respectively. Fitch upgraded Wisconsin one notch to AA+ from AA.

Four states received ratings downgrades: New Mexico was downgraded by Moody's, Connecticut and Kentucky were downgraded by Standard & Poor's and Alaska was downgraded by Fitch. *(Table 1.3).*

Texas' Debt Ratios Compared to AAA-Rated and Other States

According to Moody's 2018 State Debt Medians, Texas ranked 42nd among all states in net tax-supported debt per capita. Texas had $410 in net tax-supported debt per capita compared to the national mean and median of $1,477 and $987, respectively (*Table 1.4*). Texas' net tax-supported debt per capita ranked second lowest when compared to that of the nine other states rated AAA *(Table 1.5).* By comparison, AAA-rated Delaware had the highest debt per capita at $2,587. Additionally, Texas' 2017 personal income (the most recent data available) per capita of $47,362 is above that of five other AAA states: Georgia, Missouri, North Carolina, Tennessee and Utah.

Texas' net tax-supported debt as a percent of calendar 2016 personal income was 0.9 percent, 42nd among all the states and below the national mean and median of 2.9 percent and 2.3 percent, respectively *(Table 1.4).* Compared to the ten other states also rated AAA by all three major rating agencies, Texas ranked second lowest on this measure with the mean and median for all AAA-rated states at 2.3 percent and 2.0 percent, respectively *(Table 1.5).*

The most recent U.S. Census Bureau data for state and local debt outstanding show that for census year 2016, Texas was the nation's second most populous state and ranked second among the ten most populous states in terms of Local Debt Per Capita, seventh in

Table 1.3 **CHANGES IN STATE BOND RATINGS** **September 2017 to September 2018**			
State	**Moody's**	**Standard & Poor's**	**Fitch**
Upgrades			
Florida	Aa1 to Aaa		
Nebraska*	Not Rated to Aa1		
Michigan		AA- to AA	
Minnesota		AA+ to AAA	
Wisconsin			AA to AA+
Downgrades			
Alaska			AA+ to AA
Connecticut		A+ to A	
Kentucky*		A+ to A	
New Mexico	Aa1 to Aa2		

* Issuer Credit Rating

Sources: Moody's Investors Service, Standard & Poor's, and Fitch Ratings.

State Debt Per Capita and fourth in Total State and Local Debt Per Capita *(Table 1.6)* with 82.3 percent of the state's total debt burden at the local level. Listed by decreasing amount outstanding, local debt is issued by Public School Districts; Cities, Towns and Villages; Water Districts; Special Districts; Counties; Community and Junior Colleges and Health/Hospital Districts.

Texas state and local debt outstanding as a percentage of gross state product has remained relatively constant indicating that economic growth has kept pace with state and local debt outstanding (Figure 1.2).

Many communities throughout Texas are continuing to experience significant population growth with increasing demand for infrastructure, programs and services. Population growth in the state, according to the U.S. Census Bureau, increased 6.9 percent (1.8 million) from 2013 to 2017 (most recent data available), forcing many small and medium-sized communities to increase financing for infrastructure such as roads, schools, water and wastewater services to meet expanded needs. Based on projections of current demographic trends, Texas will continue to experience increasing demand for expenditures in these areas.

General Obligation Debt Has Increased Over the Past Decade

General obligation (GO) debt pledges "the full faith and credit of the state" to back the payment of the debt. In the event that program or project revenue is insufficient to pay debt service on self-supporting debt, the first monies coming into the state treasury not otherwise constitutionally appropriated shall be used to pay the debt service.

Some GO debt, such as that issued by the Texas Veterans' Land Board, is self-supporting, and other GO debt, such as that issued by the Texas Public Finance Authority to finance programs for the Cancer Prevention and Research Institution of Texas, as well as the capital expenditure needs of the Texas Department of Criminal Justice, the Texas Department of Aging and Disability Services and the Texas Juvenile Justice Department, is not self-supporting and must receive annual appropriations from the legislature for debt-service payments from the state's general revenue fund.

Total not self-supporting debt increased from $3.07 billion at the end of fiscal year 2009 to $6.97 billion at the end of fiscal year 2018, an increase of 126.9 percent, and a decrease of 2.9 percent from the $7.18 billion outstanding in fiscal year 2017. Estimated scheduled annual debt service as a percentage of unrestricted general revenue decreased in fiscal year 2018 to 1.26 percent *(Figure 1.3).*

Table 1.4

SELECTED TAX-SUPPORTED DEBT MEASURES BY STATE

State	Moody's Rating	Net Tax-Supported Debt as a % of 2016 Personal Income	Rank	Net Tax-Supported Debt Per Capita	Rank
Hawaii	Aa1	10.4%	1	$5,257	3
Massachusetts	Aa1	9.5%	2	6,085	2
Connecticut	A1	9.5%	3	6,544	1
New Jersey	A3	7.0%	4	4,281	4
Illinois	Baa3	5.6%	5	2,919	6
Delaware	Aaa	5.5%	6	2,587	8
Mississippi	Aa2	5.2%	7	1,854	14
New York	Aa1	5.2%	8	3,082	5
Kentucky	Aa3*	5.1%	9	1,995	13
Washington	Aa1	5.0%	10	2,662	7
Oregon	Aa1	4.5%	11	2,017	12
Rhode Island	Aa2	4.4%	12	2,188	10
California	Aa3	3.9%	13	2,188	9
Louisiana	Aa3	3.8%	14	1,627	16
Maryland	Aaa	3.7%	15	2,164	11
Wisconsin	Aa1	3.6%	16	1,660	15
Kansas	Aa2*	3.3%	17	1,554	18
New Mexico	Aa1	3.0%	18	1,139	22
Virginia	Aaa	2.9%	19	1,515	19
West Virginia	Aa2	2.9%	20	1,056	24
Alaska	Aa3	2.8%	21	1,574	17
Minnesota	Aa1	2.8%	22	1,430	20
Pennsylvania	Aa3	2.6%	23	1,311	21
Ohio	Aa1	2.5%	24	1,118	23
Georgia	Aaa	2.4%	25	986	26
Alabama	Aa1	2.3%	26	898	28
Maine	Aa2	2.1%	27	900	27
Vermont	Aaa	2.0%	28	987	25
Florida	Aa1	2.0%	29	889	29
Utah	Aaa	1.9%	30	772	31
Arizona	Aa2*	1.6%	31	651	34
Arkansas	Aa1	1.6%	32	639	35
Michigan	Aa1	1.5%	33	673	33
Nevada	Aa2	1.5%	34	637	36
North Carolina	Aaa	1.5%	35	611	37
South Dakota	Aaa*	1.5%	36	694	32
New Hampshire	Aa1	1.4%	37	773	30
South Carolina	Aaa	1.3%	38	517	39
Idaho	Aa1*	1.2%	39	482	41
Missouri	Aaa	1.2%	40	532	38
Colorado	Aa1*	0.9%	41	484	40
Texas	**Aaa**	**0.9%**	**42**	**410**	**42**
Tennessee	Aaa	0.7%	43	312	43
Oklahoma	Aa2	0.7%	44	303	44
Indiana	Aaa*	0.7%	45	295	45
Iowa	Aaa*	0.5%	46	219	46
Montana	Aa1	0.4%	47	177	47
North Dakota	Aa1*	0.2%	48	133	48
Wyoming	NGO**	0.1%	49	38	49
Nebraska	Aa1*	0.0%	50	20	50
Mean		2.9%		$1,477	
Median		2.3%		$987	

* Issuer Rating (No GO Debt)

** No general obligation debt

Analysis based on calendar year 2017 data.

Source: Moody's Investors Service, *2018 State Debt Medians - April 24, 2018.*

Table 1.5						
SELECTED DEBT MEASURES FOR TEXAS AND STATES RATED AAA						
State	**Rating***	**Net Tax-Supported Debt as a % of 2016 Personal Income**	**Rank**	**Net Tax-Supported Debt Per Capita**	**Rank**	**2017 Personal Income Per Capita**
Delaware	AAA	5.5%	6	2,587	8	49,673
Florida	AAA	2.0%	29	889	29	47,684
Georgia	AAA	2.4%	25	986	26	44,145
Maryland	AAA	3.7%	15	2,164	11	60,847
Missouri	AAA	1.2%	40	532	38	44,978
North Carolina	AAA	1.5%	35	611	37	44,222
Tennessee	AAA	0.7%	43	312	43	45,517
TEXAS	AAA	0.9%	42	410	42	47,362
Utah	AAA	1.9%	30	772	31	43,459
Virginia	AAA	2.9%	19	1,515	19	55,105
Mean of AAA States		**2.3%**		**$1,078**		**$48,299**
Median of AAA States		**2.0%**		**$831**		**$46,440**

* Rated Aaa by Moody's, and AAA by Standard & Poor's and Fitch Ratings.
Analysis based on calendar year 2017 data.

Sources: Moody's Investors Service, *2018 State Debt Medians;* Bureau of Economic Analysis, State BEAR Facts

Unrestricted general revenue increased 8.6 percent in fiscal year 2018 to $56.73 billion from $52.23 billion in fiscal year 2017 *(Figure 1.4)*. Unrestricted general revenue is generally the most available funding source to make debt-service payments and to fund appropriations for state operations.

Authorized but Unissued Debt Decreases

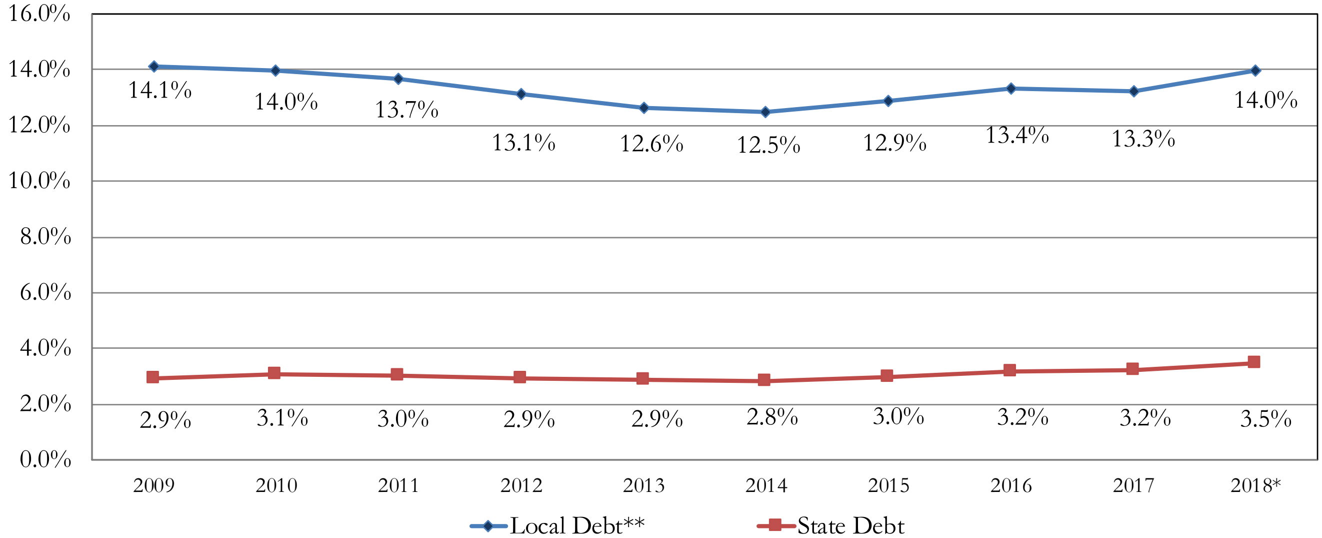
Authorized but unissued debt (debt that has been authorized by the legislature and may be issued at any time without further legislative action) decreased by 2.5 percent from approximately $14.00 billion at the end of fiscal year 2017 to approximately $13.65 billion at the end of fiscal year 2018. This decrease is mainly attributable to GO

Table 1.6												
TOTAL STATE AND LOCAL DEBT OUTSTANDING: TEN MOST POPULOUS STATES												
	Total State and Local Debt				State Debt				Local Debt			
State	Population (thousands)	Amount (millions)	Per Capita Amount	Per Capita Rank	Amount (millions)	% of Total Debt	Per Capita Amount	Per Capita Rank	Amount (millions)	% of Total Debt	Per Capita Amount	Per Capita Rank
New York	19,849	$356,519	$17,961	1	$137,480	38.6%	$6,926	1	$219,039	61.4%	$11,035	1
Illinois	12,802	151,666	11,847	2	65,792	43.4%	5,139	2	85,874	56.6%	6,708	4
California	39,537	433,826	10,973	3	151,308	34.9%	3,827	3	282,518	65.1%	7,146	3
Texas	**28,305**	**279,310**	**9,868**	**4**	**49,357**	**17.7%**	**1,744**	**7**	**229,953**	**82.3%**	**8,124**	**2**
Pennsylvania	12,806	121,869	9,517	5	47,099	38.6%	3,678	4	74,770	61.4%	5,839	5
Ohio	11,659	85,225	7,310	6	33,165	38.9%	2,845	6	52,061	61.1%	4,465	7
Michigan	9,962	72,507	7,278	7	33,745	46.5%	3,387	5	38,762	53.5%	3,891	9
Florida	20,984	139,084	6,628	8	33,469	24.1%	1,595	9	105,615	75.9%	5,033	6
Georgia	10,429	57,938	5,555	9	13,131	22.7%	1,259	10	44,808	77.3%	4,296	8
North Carolina	10,273	47,240	4,598	10	16,919	35.8%	1,647	8	30,321	64.2%	2,951	10
MEAN		**$174,518**	**$9,154**		**$58,146**	**34.1%**	**$3,205**		**$116,372**	**65.9%**	**$5,949**	

Note: Detail may not add to total due to rounding.

Source: U.S. Census Bureau, *State and Local Government Finances by Level of Government and by State: 2016,* the most recent data available. July 2017 U.S. Census Bureau, Population Division.

Figure 1.2
STATE AND LOCAL DEBT AS A PERCENT OF GROSS STATE PRODUCT



* Uses gross state product as reported for 2017 - Most recent data available.
** Excludes conduit debt of local governments
Source: Texas Bond Review Board - Bond Finance Office; U.S Department of Commerce Bureau of Economic Analysis

issuances by the Texas Higher Education Coordinating Board (THECB) ($155.7 million), Veteran's Land Board (VLB) ($250.0 million) and TPFA ($222.2 million). Of the $13.65 billion of authorized but unissued debt remaining as of fiscal year-end 2018, approximately $10.48 billion is GO debt while $3.18 billion is non-GO debt. Approximately $2.70 billion of the authorized but unissued amount is considered not self-supporting and includes GO and non-GO debt payable from general revenue.

Texas' Constitutional Debt Limit and Debt-Management Policy

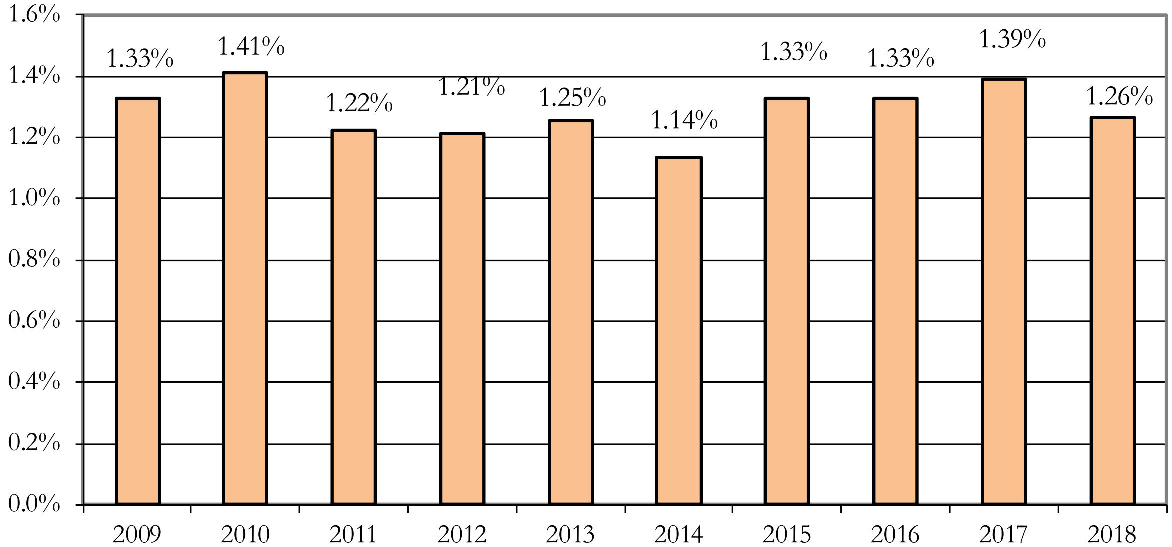
In 1997 the 75th Legislature passed and voters approved HJR 59 that added Section 49-j to Article III of the Texas Constitution. This amendment states that additional tax-supported debt may not be authorized if the maximum annual debt service on debt payable from general revenue, including authorized but unissued debt, exceeds 5 percent of the average annual unrestricted General Revenue Fund revenues for the previous three fiscal years.

As of August 31, 2018, Texas' constitutional debt limit (CDL) remained below the maximum of 5 percent with 1.34 percent calculated for debt outstanding and 0.87 percent calculated for authorized but unissued debt for a total of 2.21 percent. Included in the CDL is the $767.7 million of revenue bonds authorized by the 84th Legislature for the Texas Facilities Commission. The CDL declined 6.0 percent from the 2.35 percent calculated for outstanding and authorized but unissued debt calculated for fiscal year 2017.

The decrease in the CDL was mainly due to an increase in the three-year rolling average of unrestricted general revenue available to pay debt service and a decline in the debt service on authorized but unissued debt payable from general revenue. This decline in authorized but unissued debt service is due to the issuance of $222.2 million by TPFA for cancer research projects, which was authorized by voters at the November 2007 General Election. The CDL is expected to continue to decrease slightly with the issuance of authorized debt.

HB 2190, passed in the 77th Legislature, directed the Bond Review Board (BRB) to adopt formal debt policies and issuer guidelines to provide guidance to issuers of state securities and to ensure that state debt is prudently managed. These policies and

Figure 1.3
ANNUAL NOT SELF-SUPPORTING SCHEDULED DEBT SERVICE AS A PERCENTAGE OF UNRESTRICTED GENERAL REVENUE



Sources: Texas Bond Review Board - Bond Finance Office and the Texas Comptroller of Public

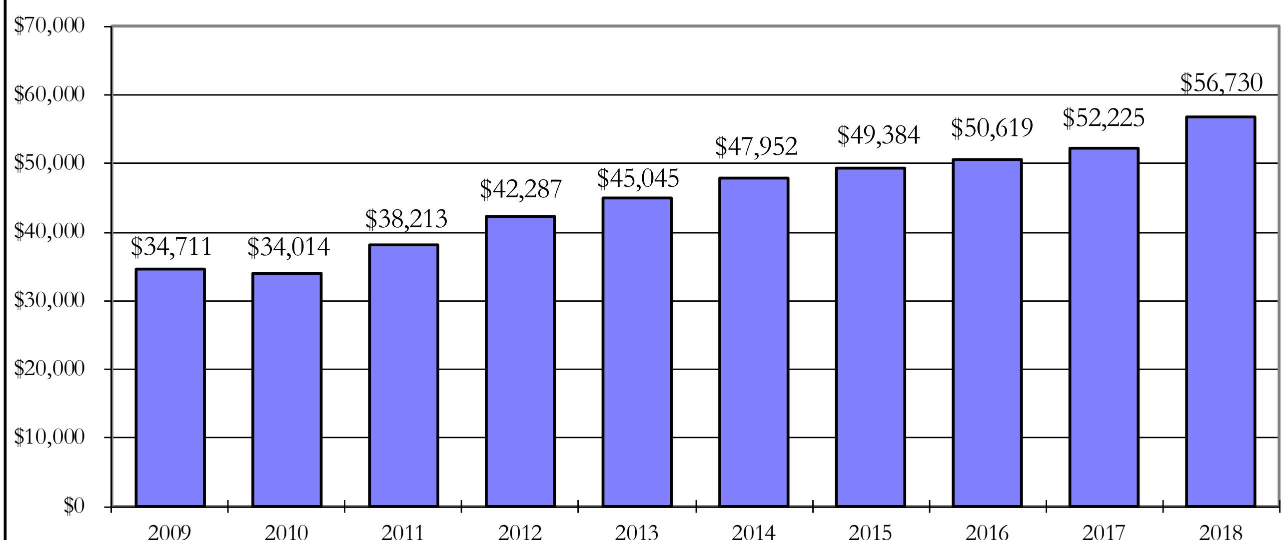
guidelines are posted on the agency's website.

SB 1332, passed in the 80th Legislature, amended the agency's statutes to require the BRB to adopt a state policy related to the risks and effects of derivative agreements. This policy was adopted in fiscal year 2009 and is available on the agency's website.

Capital Planning Review and Approval Process

The 76th Legislature (1999) passed legislation that biennially directs the BRB to produce the state's Capital Expenditure Plan (CEP). The legislation specifies that all state agencies and higher education institutions appropriated funds by the General Appropriations Act (GAA) are required to report capital planning

Figure 1.4
UNRESTRICTED GENERAL REVENUE
(millions of dollars)



Source: Texas Comptroller of Public Acounts information for projects that fall within four specific project areas: 1) acquisition of land and other real property; 2) construction of buildings and facilities; 3) renovations of buildings and other facilities estimated to exceed $1 million for a single state agency or institution of higher education; and (4) major information resources projects estimated to exceed $1 million. In previous reports, the BRB requested that all planned expenditures exceeding $250,000 must be reported, but the threshold was adjusted to $1 million in 2006 for future reports.

From a budgetary and capital planning standpoint, a number of state agencies work together to coordinate the budgetary and capital reporting and approval process for state agencies. They include the Governor's Office of Budget, Planning & Policy (GOBPP), the Legislative Budget Board (LBB), the Texas Higher Education Coordinating Board, the Texas Facilities Commission, the Comptroller of Public Accounts, House Committee on Appropriations (HAC) and Senate Finance Committee (SFC).

The legislature defines the types of projects and cost thresholds to be reported in the CEP. The BRB coordinates the submission of capital projects through the CEP, develops the report and determines the effect of the additional capital requests on the state's budget and debt capacity. The completed plan is then provided to the GOBPP and the LBB to develop recommendations for appropriations to the legislature.

The GOBPP and LBB also assess short-term and long-term budget needs. Through the HAC and SFC, the legislature makes the final decisions on projects to be funded for the two-year biennial period. Approved capital and operating budgets are integrated into the GAA that authorizes specific debt issuance for capital projects. Through the capital budgeting process, capital projects are approved for the two-year biennial period. Additionally, the CEP reports on the preceding year and the remaining two out years for identifying long-term needs of the state and for future planning purposes.

The 2020-21 CEP was released September 1, 2018, pursuant to Senate Bill 1, Article IX, Section 11.03 of the 85th Legislature and covers the out years 2022-23. Historical CEP reports are available on the agency's website. The CEP is a management tool for state decision makers to use in assessing future individual capital expenditure requests within the framework of the state's overall financial position. The 2020-21 CEP is available on the agency's website.

Debt Affordability Study

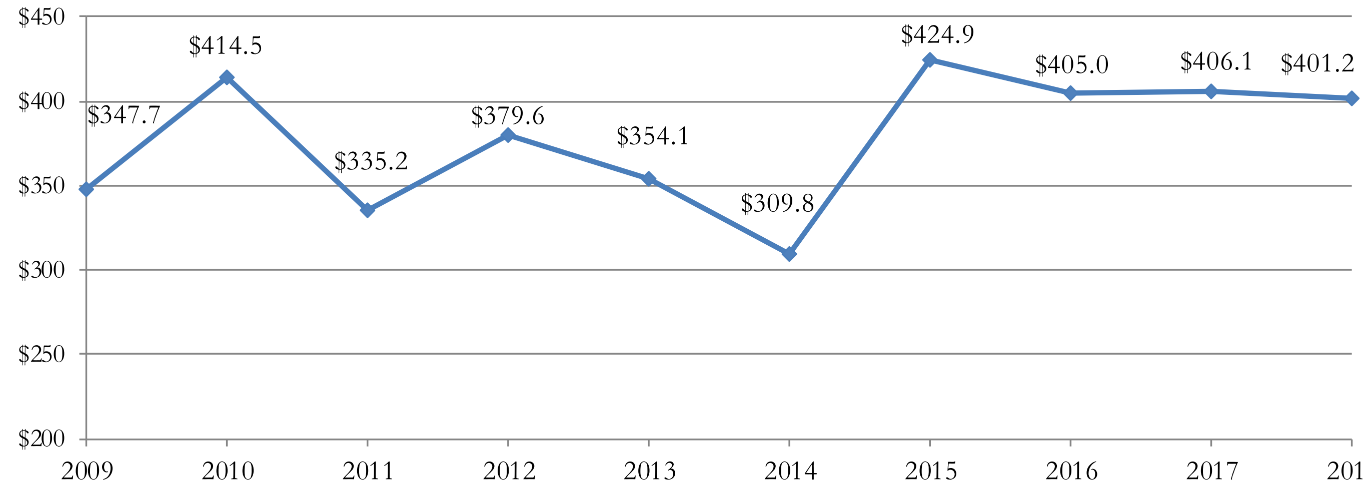
The state's Debt Affordability Study (DAS) is designed to provide the state leadership with an integrated approach to manage state debt by assessing historical debt use and analyzing the state's financial and economic resources in conjunction with long-term needs contained in the CEP. The BRB, LBB and the Texas Public Finance Authority prepared the state's first DAS, released in February 2007. With the passage of SB 1332 (80th Legislature), the BRB in conjunction with the LBB is responsible for subsequent editions of the DAS. Historical DAS reports are available on the agency's website. The 2019 DAS will be released in February 2019.

LOCAL DEBT

Local Debt Issuance Process

Local governments in Texas issue debt to finance construction and renovation of government facilities (i.e., schools, public safety buildings, city halls and county courthouses), public infrastructure (i.e., roads, water and sewer systems) and various other projects authorized by law. Key factors that affect a government's need and ability to borrow funds for infrastructure development

Figure 1.5
NATIONWIDE GOVERNMENT DEBT ISSUANCE
(amounts in billions)

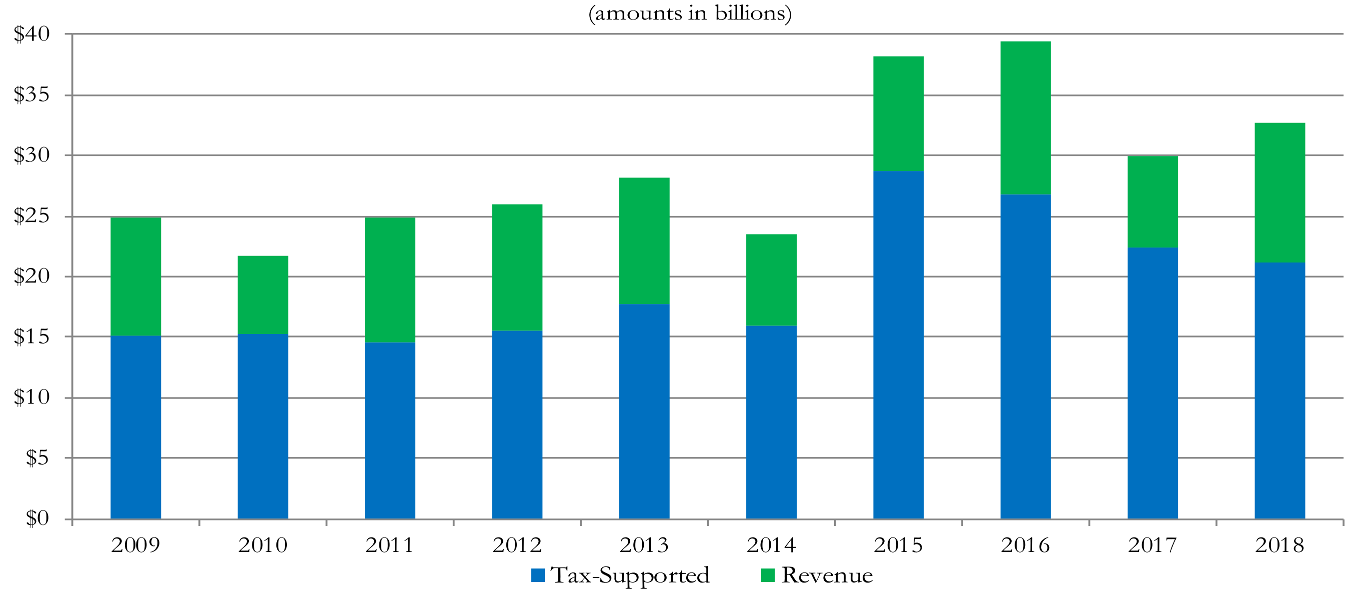


Source: The Bond Buyer

include population changes, revenue sources, tax rates and levies, interest rates and construction costs. Local governments issue two main types of debt: tax (general obligation or GO) and revenue. General obligation debt is secured by the full faith and credit of the issuer's ad valorem tax revenue while revenue debt is secured by a specified revenue source.

State law sets limitations on certain local government debt issuers by setting maximum ad valorem tax rates per $100 of assessed property valuation. These rates vary by government type, but all must generate sufficient funds based on annual ad valorem tax collections to provide for the payment of the debt service on outstanding and projected ad valorem tax (GO) debt. Additionally, all public securities issued by local debt issuers must be approved by the Office of the Attorney General – Public Finance Division (OAG) and registered with the Texas Comptroller of Public Accounts. For reporting purposes issuances that combine both tax-supported and revenue bonds are categorized as tax-supported debt.

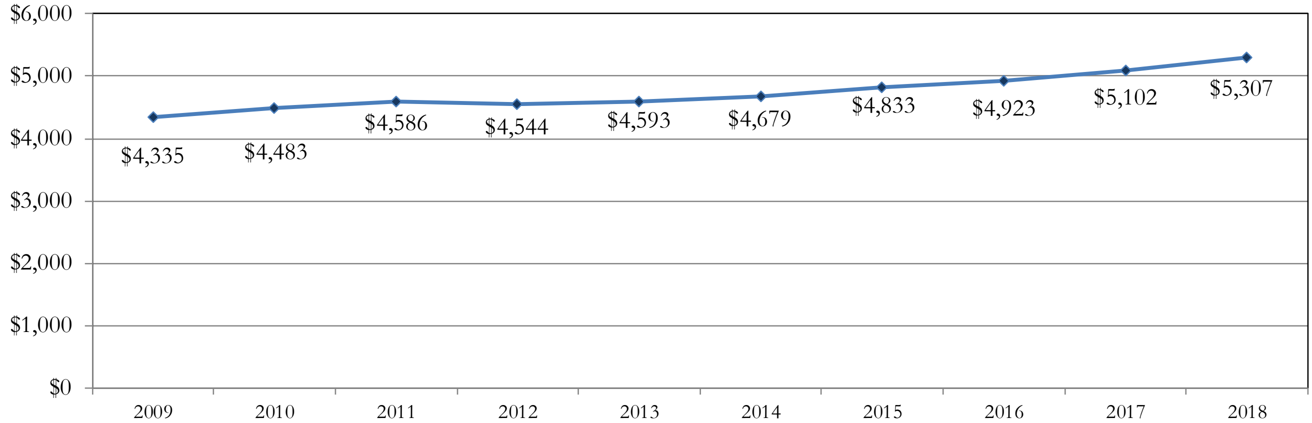
Figure 1.6
TEXAS LOCAL GOVERNMENT DEBT ISSUANCE
(amounts in billions)



Source: Texas Bond Review Board - Bond Finance Office
Excludes commercial paper and conduit debt.

Figure 1.7

TEXAS LOCAL GOVERNMENT
TOTAL TAX-SUPPORTED DEBT PER CAPITA*



*Includes debt secured by a combination of ad valorem taxes and other revenue sources. Excludes conduit debt.

Source: Texas Bond Review Board - Bond Finance Office; July 2017 U.S. Census Bureau, Poulation Division.

Texas Bond Review Board and Local Government Debt

The Texas Bond Review Board (BRB) has no direct oversight of local government debt issuance. Chapter 1231 of the Texas Government Code requires the BRB to prepare statistical reports on local government debt. This information on debt issued by political subdivisions is primarily collected by the OAG in its review and approval of public securities under Chapter 1202 of the Texas Government Code and then forwarded to the BRB for its report on local debt statistics pursuant to Section 1202.008 of the Texas Government Code. Conduit debt issued by nonprofit corporations as well as local indebtedness not approved by the OAG will not be reflected in this report.

All reporting on local debt is presented on the agency's website and on the Texas Open Data Portal. Visitors to the BRB website can search databases and access the Data Portal to download spreadsheets that contain debt outstanding, debt ratios and population data by government type at each fiscal year-end. The BRB posts this information to its website and the Data Portal annually within four months after the close of the fiscal year. In fiscal year 2018, approximately 9,414 different users of the BRB's website downloaded over 29,100 spreadsheets containing Texas local government debt data.

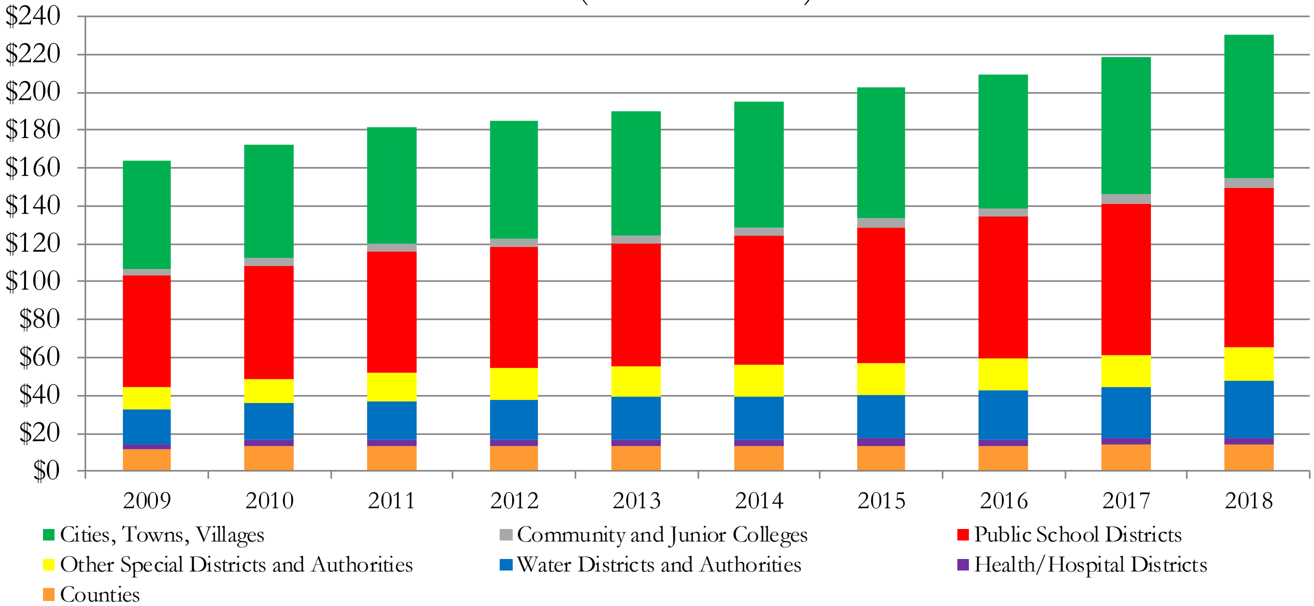
The BRB separates the local government issuances into seven categories: Cities, Towns, Villages (Cities); Public School Districts (School Districts); Water Districts and Authorities (WD); Counties; Other Special Districts and Authorities (OSD); Community and Junior Colleges (CCD); and Health/Hospital Districts and Authorities (HHD).

The data in this report and on the website is compiled from information provided to the Bond Review Board from various sources and has not been independently verified.

Nationwide Debt Issuance Continues to Decline from Peak Years

Over the past decade nationwide issuance of government debt has fluctuated from issuances totaling $347.72 billion in fiscal year 2009 to a total of $401.21 billion issued in fiscal year 2018 *(Figure 1.5)*. Texas issuance of local debt (excluding conduit debt) has fluctuated over the past decade from a low of $21.68 billion in fiscal year 2010 to a high of $39.41 billion in fiscal year 2016. Additionally, the local issuance total in fiscal year 2018

Figure 1.8
TEXAS LOCAL GOVERNMENT DEBT OUTSTANDING BY FISCAL YEAR
(amounts in billions)



Excludes conduit debt.
Source: Texas Bond Review Board - Bond Finance Office

decreased $6.77 billion (17.2 percent) from the record issuance total in fiscal year 2016 *(Figure 1.6)*.

Majority of Local Debt Issuance Supports Educational Facilities and Equipment

During the five-year reporting period, 44.5 percent of Texas' new-money local debt issuance was used to finance educational facilities and equipment including school buses. Water related financings were the second highest use (19.2 percent), and the third highest use (18.5 percent) was for general-purpose debt, which includes public improvements. (The water related figure was likely understated because some issuers, especially cities, borrow for multiple purposes in one transaction, over half of which involve financings for water and transportation purposes.) The fourth highest use (8.1 percent) was to finance transportation projects including roads, toll roads, bridges, parking facilities, airports, rapid transit and other public transportation needs including the acquisition of hybrid diesel-electric buses.

The remaining 9.7 percent of local debt issuance was used for the following additional categories: utility systems, recreation, health related, pension obligations, commerce, power, public safety, prison/detention centers, economic development, solid waste, computer technology, fire protection, and housing.

School Districts, Cities and Water Districts Account for more than 83 Percent of New-Money and Refunding Transactions

Over the past five fiscal years, new-money debt issuance totaled $83.94 billion and refunding debt totaled $79.76 billion. During that time the top three issuers of both new-money and refunding money were school districts, cities and water districts that together comprised 88.1 percent of the new-money volume ($73.96 billion) and 79.4 percent of the refunding transaction volume ($63.30 billion).

Fiscal year 2018 was a low year for refundings at $11.80 billion, a decrease of 48.8 percent from the record total of $23.02 billion issued during fiscal year 2016. Over the past five fiscal years, 93.8 percent of local governmental refundings achieved both a cash and net present value savings, 1 percent provided only a net present value savings with a cash loss, 0.3 percent provided a cash savings but a net present value loss and 1.6 percent resulted in a loss in both. In the latter cases, the primary objective was to restructure debt-service requirements to more evenly match budget flows and thus avoid raising taxes during times of economic weakness. The remaining 3.3 percent includes refundings of commercial paper and variable rate debt for which savings information was not provided.

Since fiscal year 2014, refundings for Texas local issuers achieved cash savings of $12.12 billion with a net present value savings of $9.04 billion including $1.72 billion in cash savings and $1.14 billion in net present value savings realized in fiscal year 2018.

Capital Appreciation Bonds

During fiscal year 2018 local governments issued $17.3 million of capital appreciation bonds (CABs), a decrease of 96.4 percent from the fiscal year 2014 issued amount of $476.7 million. Additionally, CABs only account for approximately 0.1 percent of the total par amount issued by Texas local governments. School Districts issued approximately 94.2 percent of the total CABs issued by local governments during fiscal year 2018 (Table 1.7).

CABs are sold at a discounted price called the par amount. They are often sold in combination with current interest bonds (CIBs). While the debt service for CIBs is paid throughout the life of the obligation, principal and interest on CABs is paid at maturity. Interest on CABs compounds semiannually and accumulates over the life of the bond, and the amount paid at the maturity is called the maturity value. Interest rates for CABs are generally higher than for CIBs. The total debt outstanding figures are understated to the extent that these bonds are reported at their par issuance price rather than their maturity value.

Local governments issue more premium CABs than non-premium CABs. Premium CABs have lower initial stated par amounts to: 1) lessen the impact of an issuance on par-based debt limits (i.e., the “50-cent test” for school districts as provided in Texas

Table 1.7

TEXAS LOCAL GOVERNMENT
CAPITAL APPRECIATION BONDS PAR AMOUNT ISSUED BY FISCAL YEAR
(amounts in millions)

	2014	2015	2016	2017*	2018
Public School Districts	$471.9	$214.1	$70.5	$38.1	$16.3
Cities, Towns, Villages	-	-	0.7	1.2	0.4
Water Districts and Authorities	1.0	1.8	2.5	11.6	0.6
Other Special Districts and Authorities	-	-	-	-	-
Counties	1.4	-	-	-	-
Community and Junior Colleges	1.0	-	-	0.0	-
Health/Hospital Districts	1.3	-	-	-	-
Total CAB Par Amount Issued	**$476.7**	**$215.9**	**$73.8**	**$51.0**	**$17.3**
Total Par Amount Issued**	$23,546.2	$38,152.2	$39,412.4	$29,941.5	$32,645.2
CAB Par Amount % of Total	**2.0%**	**0.6%**	**0.2%**	**0.2%**	**0.1%**

* CCDs issued $35,000 of CABs in 2017

** Includes current interest bonds, excludes commercial paper authorizations and conduit issuances.

Source: Bond Review Board - Bond Finance Office

Education Code Section 45.0031), 2) increase the amount of proceeds not subject to debt limits and 3) help local governments reach tax-rate targets.

The 84th Legislature passed House Bill 114, effective September 1, 2015, that prohibits Texas local governments from issuing CABs secured by property taxes with terms of more than 20 years, and (with some exceptions) from refunding CABs to extend their maturity dates. It also limits each government's CAB debt to no more than 25 percent of its total outstanding bond debt including principal and interest. The 85th Legislature passed Senate Bill 295, which extends the allowed maturity date for CABs issued for refunding purposes and financing transportation projects.

Texas Local Governments: $230.00 Billion of Outstanding Debt

As of fiscal year-end 2018 Texas local governments (excluding conduit debt) had $230.00 billion in outstanding debt *(Table 1.8),* an increase of $34.60 billion (17.7 percent) since fiscal year 2014. Of the 2018 total 65.3 percent ($150.22 billion) is GO debt to be repaid from local ad valorem tax collections while the remaining 34.7 percent ($79.77 billion) will be repaid from revenues generated by various projects such as water, sewer and electric utility fees. Since fiscal year 2014, tax-supported debt outstanding increased 21.2 percent ($26.33 billion) and revenue debt outstanding increased 11.6 percent ($8.28 billion).

School Districts accounted for 36.6 percent ($84.16 billion) of all local debt outstanding and Cities accounted for 32.7 percent ($75.25 billion). Water districts held the third highest percentage and accounted for 13.1 percent ($30.19 billion) of all local debt outstanding. The remaining 17.6 percent ($40.40 billion) was held by Community and Junior Colleges, Counties, Health/Hospital Districts and Other Special Districts (*Table 1.8*).

The most recent U.S. Census Bureau data, for census year 2016, showed that Texas continued to be ranked second in population, second among the ten most populous states in terms of Local Debt Per Capita, fourth in Total State and Local Debt Per Capita and seventh in State Debt Per Capita.

Total tax-supported debt per capita increased by 4.0 percent from $5,102 in fiscal year 2017 to $5,307 in fiscal year 2018. Over the past 10 years debt per capita has increased by 22.4 percent ($972) while the state's population has increased by 16.4 percent (4.0 million) (*Figure 1.7*).

Over the past decade, total local debt outstanding (excluding conduit debt) increased by 39.9 percent from $164.34 billion to $230.00 billion. During this period debt for School Districts increased 43.2 percent from $58.77 billion to $84.16 billion. Other notable increases included Water Districts (water, sewer and roads) which increased 66.4 percent from $18.15 billion to $30.19 billion and Hospital Districts which increased 58.2 percent from $2.32 billion to $3.67 billion (*Figure 1.8*).

Tax-Supported Debt Rises 21.2 Percent in Five Years

Total tax-supported debt has increased from $123.90 billion in fiscal year 2014 to $150.22 billion in fiscal year 2018 (21.2 percent) *(Table 1.9).* Tax-supported debt for Texas School Districts increased over the past five years from $67.71 billion in fiscal year 2014 to $83.89 billion in fiscal year 2018 (23.9 percent) while public school attendance for districts with debt outstanding increased by 3.0 percent to 4,671,973 students. Tax-supported school district debt accounted for 55.8 percent of all tax-supported debt and is primarily used to finance instructional facilities while only a handful of school districts carry revenue debt for constructing, improving and equipping athletic/stadium facilities.

Over the five-year period tax-supported debt carried by Texas Cities, Towns and Villages has increased from $28.39 billion to $33.13 billion (16.7 percent) and accounted for 22.1 percent of all tax-supported debt.

During the past five fiscal years, tax-supported debt for Water Districts including navigation and port districts, river authorities, municipal utility districts (MUDs) and municipal water authorities increased from $10.75 billion to $14.88 billion (38.5 percent) and accounted for 9.9 percent of all tax-supported debt.

During the same period, County tax-supported debt increased from $11.11 billion to $11.56 billion (4.0 percent).

During the five-year period, enrollment for the 50 Junior and Community College Districts in Texas has increased slightly from 786,234 to 797,126 (1.4 percent). Tax-supported debt outstanding increased from $3.35 billion to $4.08 billion (21.6 percent) during the same time period.

During the five-year period, tax-supported debt for Health/Hospital Districts increased from $2.39 billion to $2.52 billion (5.4 percent). Population increases along with the increasing healthcare needs of aging baby boomers also contributed to increased debt issuance. In addition, aging healthcare facilities continue to be renovated or replaced to accommodate advances in medical technology, energy efficiency and to comply with new fire and building codes.

During the five-year period, tax-supported debt for Other Special Districts decreased from $198.4 million to $166.2 million (16.3 percent). The majority of Other Special District issuances are issued as revenue debt.

Revenue Debt – 11.6 Percent Increase in Five Years

Since fiscal year 2014 revenue debt has increased by 11.6 percent ($8.28 billion) from $71.50 billion to $79.77 billion *(Table 1.9).*

City revenue debt increased by 9.2 percent from $38.57 billion to $42.12 billion in the five-year period. As the state's population increased by 6.9 percent (1.8 million) from 2013 to 2017 (most recent data available), urban areas have experienced particularly rapid growth that has created the need for new infrastructure including roads and construction for new and expanded water and sewer systems. The majority of city revenue debt has been used to finance utility-related projects including water, wastewater and in some localities, electric utility systems.

Since fiscal year 2014, Water Districts revenue debt increased 29.5 percent from $11.81 billion to $15.30 billion, Health/Hospital revenue debt increased 9.0 percent from $1.06 billion to $1.16 billion, revenue debt for Other Special Districts increased 6.3 percent from $16.19 billion to $17.20 billion, Community College Districts revenue debt rose by 6.1 percent from $1.12 billion to $1.18 billion as a response to increased enrollments, and revenue debt for Counties increased 2.6 percent from $2.47 billion to $2.54 billion.

During the five-year period, revenue debt for School Districts decreased 3.1 percent, from $278.1 million to $269.5 million.

Table 1.8

TEXAS LOCAL GOVERNMENT

DEBT OUTSTANDING AS OF AUGUST 31, 2018

(amounts in millions)

Type of Issuer		Tax-Supported*	Revenue**	Total Debt
Public School Districts	Voter-approved tax	82,721.6		82,721.6
	Maintenance tax (ed. equipment)	1,170.8		1,170.8
	Lease-purchase contracts		268.3	268.3
	Revenue (athletic facilities)		1.3	1.3
	Subtotal	**$ 83,892.5**	**$ 269.5**	**$ 84,162.0**
Cities, Towns, Villages	Tax	33,128.1		33,128.1
	Revenue		41,937.5	41,937.5
	Sales Tax		177.5	177.5
	Lease-purchase contracts		3.8	3.8
	Subtotal	**$ 33,128.1**	**$ 42,118.8**	**$ 75,246.9**
Water Districts and Authorities	Tax	14,884.3		14,884.3
	Revenue		15,301.7	15,301.7
	Sales Tax		1.7	1.7
	Subtotal	**$ 14,884.3**	**$ 15,303.4**	**$ 30,187.7**
Other Special Districts and Authorities	Tax	166.2		166.2
	Revenue		12,462.2	12,462.2
	Sales Tax		4,668.3	4,668.3
	Lease-purchase contracts		71.3	71.3
	Subtotal	**$ 166.2**	**$ 17,201.7**	**$ 17,367.9**
Counties	Tax	11,558.6		11,558.6
	Revenue		2,484.4	2,484.4
	Lease-purchase contracts		55.8	55.8
	Subtotal	**$ 11,558.6**	**$ 2,540.1**	**$ 14,098.8**
Community and Junior Colleges	Tax	4,076.6		4,076.6
	Revenue		1,184.4	1,184.4
	Subtotal	**$ 4,076.6**	**$ 1,184.4**	**$ 5,260.9**
Health/Hospital Districts and Authorities	Tax	2,517.2		2,517.2
	Revenue		1,099.5	1,099.5
	Sales Tax		56.7	56.7
	Subtotal	**$ 2,517.2**	**$ 1,156.2**	**$ 3,673.3**
	Total Local Debt Outstanding	**$ 150,223.4**	**$ 79,774.1**	**$ 229,997.5**

*Includes debt secured by a combination of ad valorem taxes and other revenue sources.

**Excludes conduit debt.

Source: Texas Bond Review Board - Bond Finance Office

Table 1.9
TEXAS LOCAL GOVERNMENT
DEBT OUTSTANDING BY FISCAL YEAR
(amounts in millions)

	8/31/2014	8/31/2015	8/31/2016	8/31/2017	8/31/2018
Public School Districts					
Tax-Supported*	$67,708.1	$71,961.3	$74,577.5	$79,607.5	$83,892.5
Revenue**	278.1	340.1	313.3	300.6	269.5
Total	**$67,986.2**	**$72,301.4**	**$74,890.8**	**$79,908.1**	**$84,162.0**
Cities					
Tax-Supported*	$28,393.9	$29,532.3	$30,575.4	$31,261.5	$33,128.1
Revenue**	38,567.7	39,142.1	39,394.0	40,680.3	42,118.8
Total	**$66,961.6**	**$68,674.4**	**$69,969.4**	**$71,941.8**	**$75,246.9**
Water Districts and Authorities					
Tax-Supported*	$10,745.9	$11,322.8	$12,534.1	$13,677.7	$14,884.3
Revenue**	11,812.9	11,727.1	12,805.0	13,374.9	15,303.4
Total	**$22,558.9**	**$23,049.9**	**$25,339.1**	**$27,052.6**	**$30,187.7**
Other Special Districts and Authorities					
Tax-Supported*	$198.4	$191.8	$175.0	$178.9	$166.2
Revenue**	16,185.2	16,217.6	16,889.1	17,145.6	17,201.7
Total	**$16,383.6**	**$16,409.4**	**$17,064.1**	**$17,324.5**	**$17,367.9**
Counties					
Tax-Supported*	$11,112.1	$11,259.7	$11,221.3	$11,699.4	$11,558.6
Revenue**	2,474.9	2,471.6	2,303.2	2,146.2	2,540.1
Total	**$13,587.1**	**$13,731.3**	**$13,524.5**	**$13,845.5**	**$14,098.8**
Community College Districts					
Tax-Supported*	$3,351.1	$3,612.4	$3,676.8	$3,645.4	$4,076.6
Revenue**	1,116.6	1,153.8	1,105.9	1,225.1	1,184.4
Total	**$4,467.7**	**$4,766.2**	**$4,782.6**	**$4,870.5**	**$5,260.9**
Health/Hospital Districts and Authorities					
Tax-Supported*	$2,388.4	$2,382.7	$2,399.0	$2,302.5	$2,517.2
Revenue**	1,061.2	1,092.7	1,099.1	1,048.4	1,156.2
Total	**$3,449.6**	**$3,475.3**	**$3,498.1**	**$3,350.9**	**$3,673.3**
Total Tax-Supported*	$123,898.0	$130,262.9	$135,159.1	$142,372.9	$150,223.4
Total Revenue**	$71,496.7	$72,145.1	$73,909.4	$75,921.0	$79,774.1
Total Debt Outstanding	**$195,394.8**	**$202,408.0**	**$209,068.5**	**$218,293.9**	**$229,997.5**

*Includes debt secured by a combination of ad valorem taxes and other revenue sources.

**Excludes conduit debt.

Source: Texas Bond Review Board - Bond Finance Office

Chapter 2
State Debt Issued in Fiscal Year 2018 and Debt Outstanding

In fiscal year 2018 the state's total debt outstanding (including conduit debt) increased 7.2 percent to $56.83 billion compared to $53.02 billion in fiscal year 2017 and $49.75 billion in fiscal year 2016.

Bonds issued by Texas state agencies, colleges and universities during fiscal year 2018 decreased by 18.2 percent to an aggregate total of $7.07 billion compared to $8.65 billion issued in fiscal year 2017. Fiscal year 2018 issues included $4.77 billion in new-money and $2.30 billion in refunding bonds. Other debt issued included $1.63 billion of commercial paper.

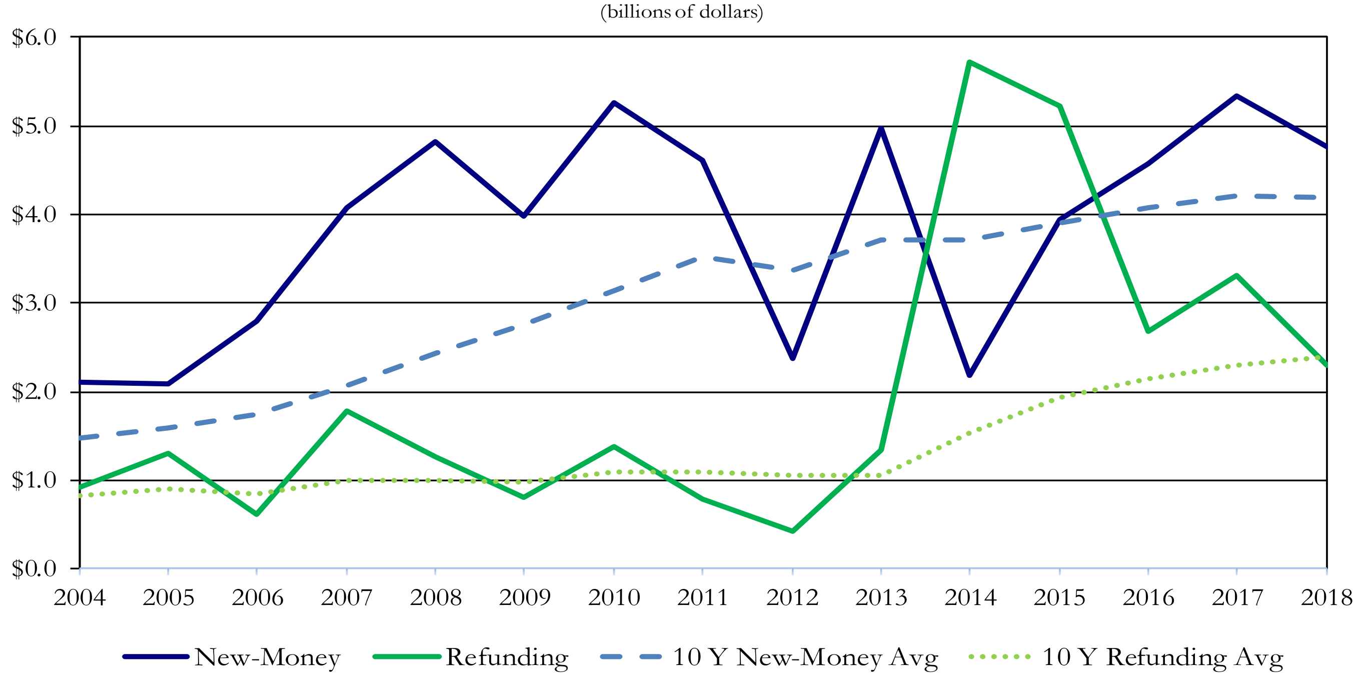
Detail on bond transactions can be found in Appendix A, and detail on commercial paper and variable-rate notes can be found in Appendix B.

New-Money and Refunding Issuances Decrease in Fiscal Year 2018

A total of $7.07 billion in bonds was issued in fiscal year 2018. Of that amount $4.77 billion (67.4 percent) was issued as new-money bonds, a decrease of $561.2 million (10.5 percent) from $5.33 billion issued during fiscal 2017. The remaining $2.30 billion (32.6 percent) was issued as refunding bonds, a decrease of $1.02 billion (30.7 percent) from $3.32 billion issued during fiscal year 2017. (*Figure 2.1*). Overall net present value savings from fiscal year 2018 refundings totaled $104.9 million.

Of the $4.77 billion in new-money bonds issued in fiscal year 2018, approximately $2.23 billion (46.8 percent) was issued by Texas Water Development Board (TWDB), $1.48 billion (31.1 percent) was issued by Grand Parkway Transportation Corporation (GPTC), $254.4 million was issued by Texas A&M University System (TAMUS) (5.3 percent) and $250.0 million was issued by Texas Veterans Land Board (VLB) (5.2 percent).

Figure 2.1
TEXAS NEW-MONEY AND REFUNDING BOND ISSUES 2004-2018
(billions of dollars)



Source: Texas Bond Review Board - Bond Finance Office.

Table 2.1 **TEXAS BONDS ISSUED DURING FISCAL YEAR 2018** **SUMMARIZED BY ISSUER**				
ISSUER	**REFUNDING BONDS**	**NEW-MONEY BONDS**	**TOTAL BONDS ISSUED**	**New-Money Use of Proceeds**
Grand Parkway Transportation Corporation	-	1,483,955,000	1,483,955,000	Highway improvement projects
Texas Dept. of Housing and Comm. Affairs	-	190,310,000	190,310,000	Single family mortgage bonds and multifamily bonds
Texas Higher Education Coordinating Board	-	155,720,000	155,720,000	College Student Loan Program
Texas Public Finance Authority	$ 25,155,000	$ -	$ 25,155,000	N/A
Texas State Affordable Housing Corporation	-	18,500,000	18,500,000	Multifamily bonds
Texas Veteran's Land Board	-	250,000,000	250,000,000	Veteran's Home Loan Program
Texas Water Development Board	254,585,000	2,231,955,000	2,486,540,000	Water Financial Assistance Programs and SWIRFT
Texas Woman's University	25,625,000	12,375,000	38,000,000	Acquire, purchase, construct, and equip various facilities
The Texas A&M University System	647,200,000	254,355,000	901,555,000	Acquire, purchase, construct, and equip various facilities
The University of Texas System	1,177,410,000	-	1,177,410,000	N/A
University of Houston System	150,685,000	169,950,000	320,635,000	Acquire, purchase, construct, and equip various facilities
University of North Texas System	22,845,000	-	22,845,000	N/A
Total Texas Bonds Issued	**$ 2,303,505,000**	**$ 4,767,120,000**	**$ 7,070,625,000**	

Note: Table 2.1 includes private placements. Excludes commercial paper and variable-rate notes. See Table B1, Appendix B, for these issuances. Excludes lease purchases.
Source: Texas Bond Review Board - Bond Finance Office.

Of the $2.30 billion in refunding bonds issued in fiscal year 2018, the University of Texas System (UTS) issued $1.18 billion (51.1 percent), TAMUS issued $647.2 million (28.1 percent), TWDB issued $254.6 million (11.1 percent) and the University of Houston System (UHS) issued $150.7 million (6.5 percent) (*Table 2.1*).

Build America Bonds Outstanding for Fiscal Year 2018

In fiscal year 2009 the American Recovery and Reinvestment Act of 2009 (ARRA) created Build America Bonds (BABs) that could be issued as Tax Credit BABs or Direct-Payment BABs. Authority to issue BABs expired on December 31, 2010. As of August 31, 2018, Texas Transportation Commission (TTC), UTS, Texas Public Finance Authority (TPFA) and UHS had $3.52 billion, $1.61 billion, $181.8 million and $71.9 million of BABs outstanding, respectively.

Under the Budget Control Act of 2011, across-the-board sequestration took effect on March 1, 2013, and direct-pay bonds such as BABs experienced a 8.7 percent reduction of the original 35 percent federal subsidy on BABs interest payments. The Internal Revenue Service reported that effective October 1, 2014, issuers of BABs and other direct-pay bonds would have their subsidy payments processed in federal fiscal year 2015 reduced by 7.3 percent. In federal fiscal years 2016, 2017 and 2018 the subsidy payments were further reduced by 6.8 percent, 6.9 percent and 6.6 percent, respectively. In federal fiscal year 2019 the subsidy payments are expected to be reduced by 6.2 percent.

Interim Financing in Fiscal Year 2018

Several state agencies and institutions of higher education have established variable-rate debt financing programs that provide financing for equipment or capital projects or provide loans to eligible entities.

As of August 31, 2018, a total of $6.83 billion was authorized for state Commercial Paper (CP) or variable-rate notes (VRN) programs. Of this amount $2.14 billion was outstanding at fiscal year-end 2018 *(Table B1 in Appendix B)*, approximately $146.8 million more than the amount outstanding at fiscal year-end 2017. Additional information about individual CP and VRN programs is included in Appendix B.

Table 2.2

TEXAS STATE DEBT ISSUES EXPECTED DURING FISCAL YEAR 2019

ISSUER	APPROXIMATE AMOUNT	PURPOSE	APPROXIMATE ISSUE DATE
General Obligation Debt			
Self-Supporting			
Texas Higher Education Coordinating Board	TBD	Refunding of certain outstanding college student loan bonds	Nov-18
Texas Higher Education Coordinating Board	175,000,000	College Student Loan Bonds	Feb-19
Texas Veterans Land Board	250,000,000	Proceeds will be used to augment the Veterans' Housing Assistance Program	Jul-19
Texas Water Development Board	TBD	Texas Water Development Fund (DFUND) new-money/refunding bonds	Apr-19
Total Self-Supporting	**$425,000,000**		
Not Self-Supporting			
Texas Water Development Board	53,492,000	Economically Distressed Areas Program (EDAP) new-money bonds	Jan-19
Texas Public Finance Authority	181,780,000	Refunding Bonds	Oct-18
Texas Public Finance Authority	TBD	Refunding of Outstanding CP Series 2008	TBD
Total Not Self-Supporting	**$235,272,000**		
Total General Obligation Debt	**$660,272,000**		
Non-General Obligation Debt			
Self-Supporting			
Texas Dept. of Housing and Communtiy Affairs	175,000,000	Single Family First-Time Home Buyer Program	Feb-19
Texas Dept. of Housing and Community Affairs	150,000,000	Single Family First-Time Home Buyer Program	Jun-19
Texas Water Development Board	TBD	Clean Water and Drinking Water State Revoloving Fund	May-19
Texas State Technical College	1,260,000	Lease purchase agreement for data center financing	Oct-18
Texas State Technical College	6,405,470	Lease purchase agreement with the TSTC Foundation for the Industrial Technology Center in Ft. Bend Co.	Oct-18
Texas State University System	10,000,000	Sam Houston State University - Lowman Student Center Phase 2 (Renovation)	Aug-19
Texas State University System	12,612,894	Texas State University - Library Learning Commons (New Construction)	Aug-19
Texas State University System	79,040,409	Texas State University - Hilltop Complex (New Construction)	Aug-19
Texas State University System	11,520,000	Texas State University - Infrastructure Research Laboratory (New Construction)	Aug-19
Texas State University System	50,000,000	Sam Houston State University - Medical Science Building (New Construction)	Aug-19
Texas State University System	10,000,000	Sam Houston State University - Parking Structure II Bowers (New Construction)	Aug-19
The Texas A&M University System - RFS*	665,000,000	RFS Bonds/Commercial Paper Notes for the financing of educational facilities	TBD
The Texas A&M University System - PUF*	391,000,000	PUF Bonds/Commercial Paper Notes for the financing of educational facilities	TBD
The University of Texas System - RFS*	975,000,000	RFS Bonds/Commercial Paper Notes for the financing of educational facilities	TBD
The University of Texas System - PUF*	600,000,000	PUF Bonds/Commercial Paper Notes for the financing of educational facilities	TBD
Stephen F. Austin State University	36,435,000	Student Housing Project	Feb-19
Stephen F. Austin State University	23,705,000	Athletics Facility	Feb-19
Stephen F. Austin State University	34,130,000	Performing Arts Facility	Feb-19
Stephen F. Austin State University	11,990,000	E&G Building Renovations	Feb-19
Texas Tech University System	120,000,000	Fix Out Outstanding CP	Nov-18
Texas Tech University System	75,815,000	Potential Refunding of 2012A TE 14th Series Bond - Callable Par 2022 & on	Nov-18
Texas Tech University System	4,850,000	Potential Refunding of 2012A TE 14th Series Bond - Callable Par 2022 & on	Nov-18
University of North Texas System	172,110,000	Various projects	TBD
Total Self-Supporting	**$3,615,873,773**		
Not Self-Supporting			
Texas Public Finance Authority*	TBD	TFC and MLPP CP Programs	TBD
Total Not Self-Supporting	**$0**		
Total Non-General Obligation Debt	**$3,615,873,773**		
Conduit Debt			
TPFA Charter School Finance Corporation	TBD	Charter School Financing	TBD
Texas State Affordable Housing Corporation	15,000,000	Walnut Creek Apartments Multi-Family Residential Bond Project	Oct-18
Texas State Affordable Housing Corporation	40,000,000	Ventura at Fairgrounds Apartments Multi-Family Residential Bond Project	Nov-18
Texas State Affordable Housing Corporation	30,000,000	Ventura at Fairgrounds Apartments Multi-Family Residential Bond Project	Nov-18
Texas Windstorm Insurance Association	TBD	Insurance Claims	TBD
Texas Dept. of Housing and Comm Affairs	16,000,000	Park Yellowstone Multi-Family Residential Bond Projects	Nov-18
Texas Dept. of Housing and Comm Affairs	12,000,000	Treymore Eastfield Multi-Family Residential Bond Project	Nov-18
Texas Dept. of Housing and Comm Affairs	6,300,000	McMullen Square Apartments Multi-Family Residential Bond Project	Nov-18
Total Conduit	**$119,300,000**		
Total All Debt	**$4,395,445,773**		

*Commercial Paper or Variable-Rate Note Program

Source: Texas Bond Review Board - Bond Finance Office.

Projected Issuances in Fiscal Year 2019

Texas state issuers expect to issue approximately $4.40 billion in bonds, CP and VRN during fiscal year 2019 *(Table 2.2)*, a projected decrease of $1.31 billion (22.9 percent) over the amount projected for fiscal year 2018.

General Obligation Debt Outstanding Decreases in Fiscal Year 2018

Texas General Obligation (GO) debt has a constitutional pledge of the full faith and credit of the state to repay the debt and requires passage of a proposition by a vote of two-thirds of both houses of the Texas Legislature and a majority of Texas voters.

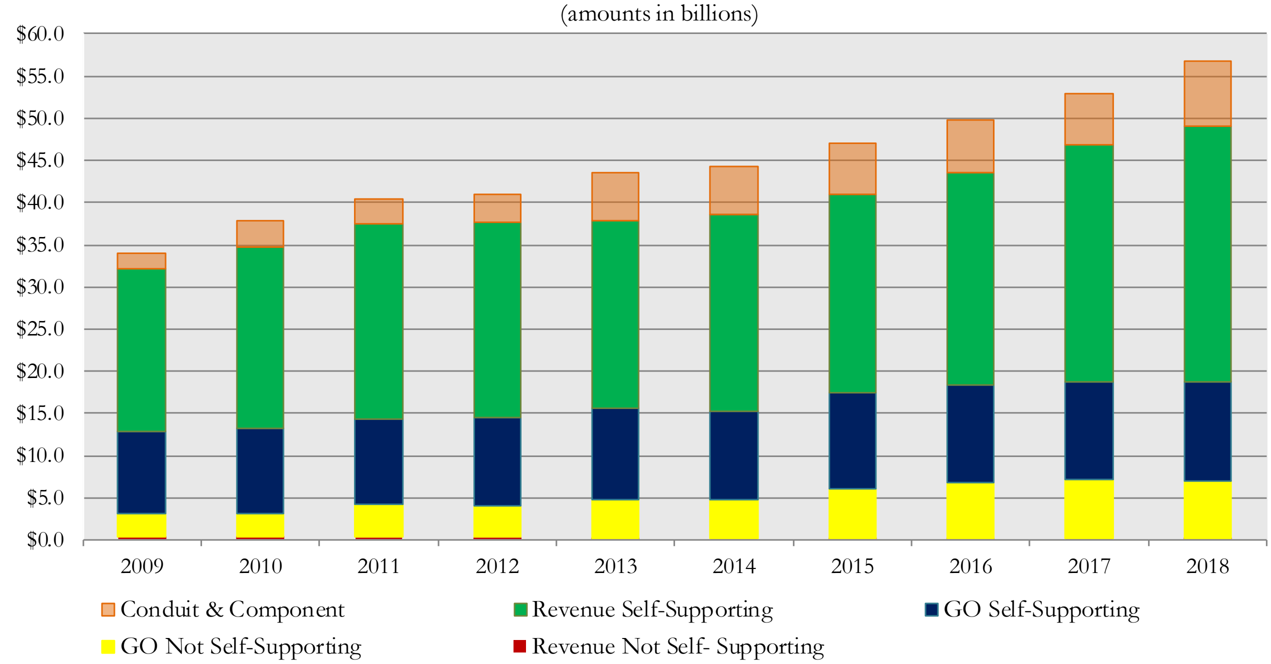
As of fiscal year-end 2018, $18.59 billion (32.7 percent) of the state's $56.83 billion in total debt outstanding was backed by the state's GO pledge, a decrease of $93.6 million (0.5 percent) from the $18.68 billion backed by the GO pledge at the end of fiscal year 2017 *(Figure 2.2 and Table 2.3)*. During the fiscal year, the Texas Higher Education Coordinating Board (THECB) issued $155.7 million of GO student loan bonds, VLB issued $250.0 million of GO housing bonds, and TWDB issued $61.2 million of GO water financial assistance bonds.

Governmental Revenue Debt Outstanding Increases in Fiscal Year 2018

The repayment of revenue debt is dependent on project revenue or revenue from a designated fund. The Constitution prohibits any pledge of state funds beyond the current biennium. Investors may require a higher rate of interest to compensate for the additional risks associated with revenue debt.

Excluding conduit and component debt, $30.47 billion (53.6 percent) of the state's $56.83 billion in total debt outstanding as of fiscal year-end 2018 was backed by non-GO revenue pledges, an increase of $2.38 billion (8.5 percent) from the $28.10 billion backed by non-GO revenue pledges at the end of fiscal year 2017 *(Figure 2.2 and Table 2.3)*.

Figure 2.2
STATE OF TEXAS DEBT OUTSTANDING
(amounts in billions)



Source: Texas Bond Review Board - Bond Finance Office

Colleges and universities are the largest issuer of revenue debt with $15.27 billion outstanding. See *Table 2.5* and *Table 2.6* for more detail on college and university debt outstanding.

Conduit Revenue and Component Debt

The state is authorized by statute to issue conduit debt for certain purposes including charter schools, transportation, single family mortgages, multifamily dwellings and economic development. Debt-service for conduit debt is typically provided by project revenue and is secured by a third party.

Although conduit revenue debt obligations bear the name of the agency as the issuer, the agency is not financially liable for the debt beyond the revenues provided by a lease or loan with the third party on whose behalf they are issued. For example, the Texas Department of Housing and Community Affairs (TDHCA) is not liable for debt service for issuances of its multifamily mortgage revenue bonds beyond the revenues it receives from the borrower that is acquiring, constructing or renovating the multifamily facility.

Component debt obligations are issued by legally separate units of the agency, and the agency is not financially liable for the debt. For example, the Texas Public Finance Authority (TPFA) is not liable for debt service for issuances of the Texas Public Finance Authority Charter School Finance Corporation.

Of the state's $56.83 billion in debt outstanding as of fiscal year-end 2018, $7.77 billion (13.7 percent) was state conduit and component debt which includes $4.49 billion of debt outstanding by Grand Parkway Transportation Corporation (GPTC) (*Table 2.3*). As conduit debt, GPTC debt service is payable solely from payments received from transportation projects it finances. The $7.77 billion of conduit and component debt outstanding represents an increase of $1.53 billion (24.4 percent) from the $6.24 billion outstanding at the end of fiscal year 2017.

General Revenue Supported Debt Decreases in Fiscal Year 2018

All debt does not have the same financial impact on the state's general revenue. Self-supporting debt relies on sources other than the state's general revenue to pay debt service; thus self-supporting debt does not directly impact state finances. Debt service for not self-supporting debt is primarily derived from the state's general revenue fund and thus draws on the same sources used by the legislature to finance state government.

As of August 31, 2018, Texas had a total of $6.97 billion in GO and non-GO not self-supporting debt outstanding to be repaid from the state's general revenue compared to $7.18 billion outstanding at fiscal year-end 2017. During fiscal year 2018 non-GO not self-supporting debt increased by $24.4 million, but GO not self-supporting debt decreased by $236.0 million for a net decrease in not self-supporting debt of $211.6 million (2.9 percent) *(Figure 2.3)*.

Variable Rate Debt Outstanding Increases in Fiscal Year 2018

State issuers and institutions of higher education have established variable-rate debt financing programs to provide financing for equipment and capital projects, provide loans to eligible entities, diversify their debt portfolio and take advantage of lower short-term interest rates.

Variable rate debt outstanding totaled $8.11 billion in fiscal year 2018. Of this amount, approximately $2.14 billion (26.4 percent) was short-term commercial paper (CP) or variable-rate notes (VRN), and the remaining $5.97 billion (73.6 percent) was long-term variable-rate debt. See *Table B1 in Appendix B* for more information regarding CP and VRN programs.

Table 2.3

STATE OF TEXAS DEBT OUTSTANDING

(amounts in thousands)

	8/31/2014	8/31/2015	8/31/2016	8/31/2017	8/31/2018
General Obligation Debt					
Self-Supporting					
Veterans' Land and Housing Bonds	$2,437,480	$2,672,253	$2,782,245	$2,875,515	$2,957,335
Water Development Bonds	1,127,385	1,090,430	1,308,360	1,259,490	1,229,720
Water Development Bonds - State Participation	119,825	118,340	113,080	104,350	102,035
Water Development Bonds - WIF	208,990	199,855	190,375	171,835	238,895
Economic Development Bank Bonds	45,000	45,000	45,000	45,000	45,000
College Student Loan Bonds	812,950	826,965	920,595	1,020,215	1,115,475
Texas Agricultural Finance Authority	9,000	6,750	5,250	0	0
Texas Mobility Fund Bonds	5,648,660	6,400,485	6,268,985	6,093,175	6,024,765
Texas Public Finance Authority - TMVRLF	36,370	35,220	34,015	25,420	24,175
Total, Self-Supporting	**$10,445,660**	**$11,395,298**	**$11,667,905**	**$11,595,000**	**$11,737,400**
Not Self-Supporting [1]					
Higher Education Constitutional Bonds [2]	$17,955	$6,521	$35,204	$25,986	$22,080
Texas Public Finance Authority Bonds	1,623,567	1,512,875	1,395,260	1,289,230	1,182,845
Cancer Prevention and Research Institute of Texas	486,595	716,440	966,520	1,143,710	1,301,455
Park Development Bonds	7,010	5,260	3,725	2,220	1,465
Water Development Bonds - EDAP [3]	195,240	216,210	236,830	213,425	192,535
Water Development Bonds - State Participation	0	0	0	0	0
Water Development Bonds - WIF	497,615	468,755	439,450	409,115	275,190
TTC GO Transportation Bonds	1,814,690	2,991,410	3,521,965	4,004,360	3,876,440
Total, Not Self-Supporting	**$4,642,671**	**$5,917,471**	**$6,598,954**	**$7,088,046**	**$6,852,010**
Total General Obligation Debt	**$15,088,332**	**$17,312,769**	**$18,266,859**	**$18,683,046**	**$18,589,410**
Non-General Obligation Debt					
Self-Supporting					
Permanent University Fund Bonds					
The Texas A&M University System	$810,430	$953,145	$968,675	$932,850	$1,233,095
The University of Texas System	1,960,470	2,169,085	2,615,155	2,695,035	2,922,895
College and University Revenue Bonds [4]	11,251,859	11,657,222	12,874,295	15,132,309	15,266,896
Texas Water Resources Finance Authority Bonds	0	0	0	0	0
TxDOT Toll Revenue Bonds [6]	2,478,721	2,402,352	2,401,472	2,721,029	2,714,721
Texas Department of Housing & Community Affairs - SF	694,365	567,675	521,460	533,325	471,578
Economic Development Program (Leverage Fund)	20,000	25,000	20,000	15,000	5,000
Veterans' Financial Assistance Bonds	0	0	0	0	0
Texas Workforce Commission Unemp Comp Bonds	926,435	628,355	298,625	0	0
State Highway Fund	4,460,525	4,461,105	3,972,595	4,417,980	4,202,305
Water Development Bonds - State Revolving Fund	774,178	670,115	609,935	164,010	288,395
Water Development Bonds - SWIRFT	0	0	810,410	1,392,700	3,251,740
Total, Self-Supporting	**$23,376,984**	**$23,534,055**	**$25,092,622**	**$28,004,238**	**$30,356,625**
Not Self-Supporting [1]					
Texas Public Finance Authority Bonds	$98,260	$68,175	$45,835	$45,470	$75,910
TPFA Master Lease Purchase Program	62,112	43,019	44,480	35,850	33,650
Texas Military Facilities Commission Bonds	10,585	8,640	7,680	6,740	5,765
Parks and Wildlife Improvement Bonds	14,770	11,150	8,375	5,575	2,710
Total, Not Self-Supporting	**$185,727**	**$130,984**	**$106,370**	**$93,635**	**$118,035**
Conduit, Component and Related Organizations [5]					
Texas Windstorm Insurance Association	$0	$500,000	$458,400	$414,600	$368,500
Texas Small Business I.D.C. Bonds	0	0	0	0	0
Texas Dept. of Housing and Community Affairs Bonds - MF	997,897	965,352	957,970	875,230	973,529
Texas State Affordable Housing Corporation	292,945	280,262	241,536	228,300	224,673
Texas Grand Parkway Transportation Corporation [6]	2,900,940	2,900,940	2,900,940	3,007,779	4,491,734
Texas PAB Surface Transportation Corporation	1,289,030	1,289,030	1,561,665	1,561,665	1,561,665
TPFA Charter School Finance Corporation	195,056	176,410	163,646	155,744	149,309
Total Conduit, Component and Related Organizations	**$5,675,867**	**$6,111,994**	**$6,284,157**	**$6,243,318**	**$7,769,410**
Total Non-General Obligation Debt	**$29,238,578**	**$29,777,033**	**$31,483,149**	**$34,341,191**	**$38,244,070**
Total Debt Outstanding	**$44,326,910**	**$47,089,802**	**$49,750,007**	**$53,024,237**	**$56,833,480**

1 Not self-supporting debt (general obligation and non-general obligation) depends solely on the state's general revenue fund for debt service.

2 While not explicitly a general obligation or full faith and credit bond, the revenue pledge in Constitutional Bonds has the same effect.

3 Economically Distressed Areas Program (EDAP) bonds depend on the state's general revenue fund for 90 percent of their debt service.

4 Tuition Revenue Bonds are included in these totals. See Table 2.5.

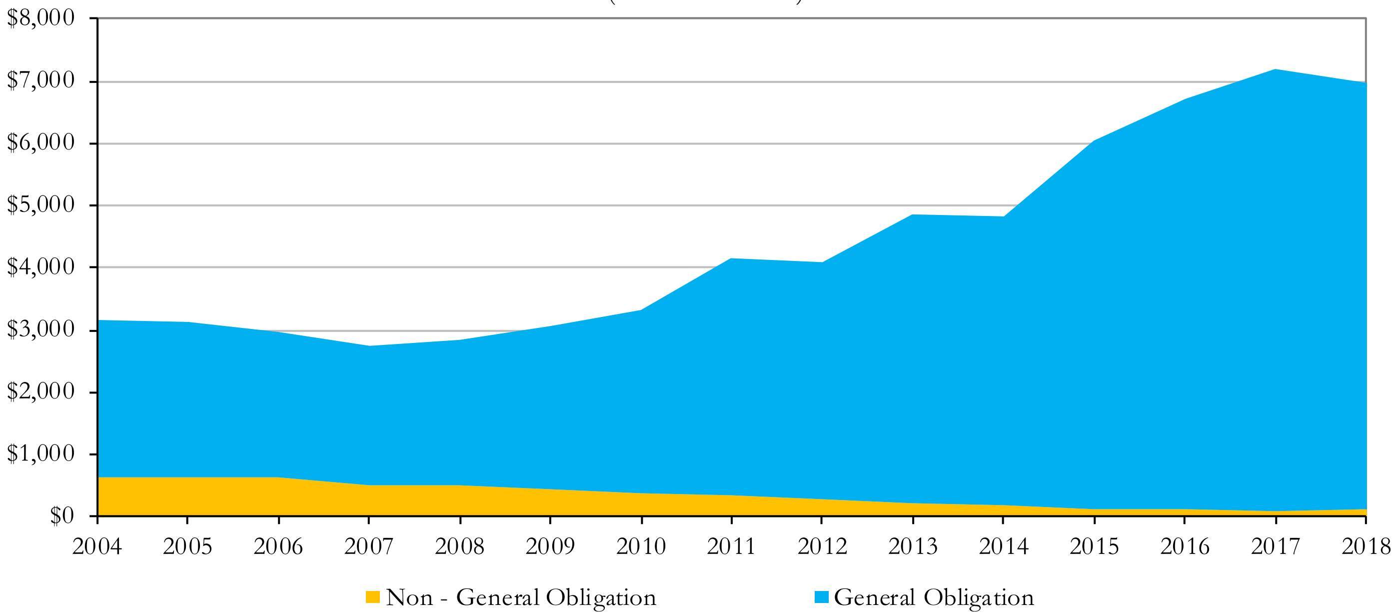
5 This section contains debt that is not a legal liability of the state but rather is backed by third party entities.

6 Includes TIFIA loan debt outstanding. Amortization schedule provided by TxDOT.

Note: Certain lease purchase, SECO LoanSTAR and other revolving loan program debt is not included.

Source: Texas Bond Review Board - Bond Finance Office.

Figure 2.3
TEXAS STATE DEBT OUTSTANDING
BACKED BY GENERAL REVENUE (NOT SELF-SUPPORTING)
(amounts in millions)



Source: Texas Bond Review Board - Bond Finance Office.

Variable-rate debt increased by approximately $293.1 million (3.8 percent) in fiscal year 2018 to $8.11 billion compared with $7.81 billion outstanding in fiscal 2017. Variable-rate GO debt accounted for $3.56 billion (43.9 percent) and revenue debt accounted for $4.55 billion (56.1 percent) of the total amount of variable-rate debt outstanding at the end of fiscal year 2018. Variable-rate GO debt increased by $299.2 million (9.2 percent) and variable-rate revenue debt decreased by $6.0 million (0.1 percent) from amounts outstanding at fiscal year-end 2017 (*Table 2.3A*).

The largest issuers of variable-rate debt are: VLB with $2.83 billion outstanding, UTS with $2.59 billion outstanding, TTC with $1.01 billion outstanding and TPFA with $447.9 million outstanding.

Scheduled Debt-Service Payments from General Revenue Decrease for Fiscal Year 2019

During fiscal years 2016, 2017 and 2018 scheduled debt service from general revenue was $656.2 million, $673.3 million, and $726.6 million, respectively. Scheduled debt-service payments from general revenue are expected to decrease by 1.4 percent to $716.6 million in fiscal year 2019 *(Figure 2.4)*. (See *Table 2.4* for debt-service requirements by fiscal year for Texas state bonds.) See the *State of Texas Annual Cash Report 2018* published by the Texas Comptroller of Public Accounts for actual debt-service paid by the state from General Revenue.

Debt service for tuition revenue bond (TRB) debt is not included in this analysis. Although college and university revenue debt is payable from a pledge of certain "revenue funds" of the applicable system or institution of higher education, pursuant to authorizations to individual institutions in Chapter 55, Texas Education Code, the legislature has historically appropriated funds in an amount equal to all or a portion of the debt service on tuition revenue debt issued. (For revenue debt outstanding and debt-service requirements for each system or

Table 2.3A

STATE OF TEXAS VARIABLE RATE DEBT OUTSTANDING

(amounts in thousands)

	8/31/2014	8/31/2015	8/31/2016	8/31/2017	8/31/2018
General Obligation Debt					
Texas Department of Agriculture	$9,000	$6,750	$5,250	$0	$0
Texas Department of Transportation	220,740	400,000	400,000	400,000	400,000
Texas Economic Development Bank	45,000	45,000	45,000	45,000	45,000
Texas Tech University[1]	4,456	0	7,642	1,540	855
Texas Public Finance Authority	22,500	321,460	284,760	11,600	255,550
Texas Water Development Board	0	51,140	74,925	57,960	25,475
Veterans Land Board	2,285,780	2,528,325	2,645,575	2,745,630	2,834,010
Total General Obligation Variable Rate Debt	**$2,587,476**	**$3,352,675**	**$3,463,152**	**$3,261,730**	**$3,560,890**
Revenue Debt					
Texas A&M University System	$118,753	$160,705	$178,962	$295,974	$325,461
Texas Department of Housing and Community Affairs	544,765	505,650	424,595	369,940	332,545
Texas Department of Transportation	775,000	975,000	625,000	614,370	614,370
Texas Economic Development Bank	20,000	25,000	20,000	15,000	5,000
Texas Grand Parkway Transportation Corporation	190,730	190,730	190,730	0	166,525
Texas State Affordable Housing Corporation	27,272	18,406	0	0	0
Texas State Technical College	1,989	3,524	3,194	2,878	2,535
Texas State University System	0	0	2,588	10,258	55,600
Texas Tech University System	110,507	22,483	44,454	41,713	51,830
Texas Water Development Board	48,683	0	0	0	0
Texas Public Finance Authority	127,810	128,992	150,650	154,358	192,389
TPFA Charter School Finance Corporation	4,556	4,311	4,046	3,756	0
University of Houston System	53,031	71,641	56,367	49,117	83,567
University of North Texas System	91,067	157,567	66,015	69,060	125,125
University of Texas System	2,397,830	2,748,487	3,093,790	2,924,768	2,590,228
Total Revenue Variable Rate Debt	**$4,511,993**	**$5,012,497**	**$4,860,391**	**$4,551,192**	**$4,545,176**
Total Variable Rate Debt	**$7,099,469**	**$8,365,172**	**$8,323,542**	**$7,812,922**	**$8,106,066**

1 While not explicitly a general obligation or full faith and credit bond, the revenue pledge in Constitutional Bonds has the same effect.

Includes Commercial Paper and Variable-Rate Notes

Source: Texas Bond Review Board - Bond Finance Office.

institution, see *Tables 2.5 and 2.6*, respectively.)

Authorized but Unissued Debt Decreases in Fiscal Year 2018

Authorized but unissued debt is defined as debt that may be issued without further legislative or voter action. As of August 31, 2018 Texas had $13.65 billion in authorized but unissued debt compared to $14.00 billion in fiscal year 2017 *(Table 2.7)*. Of the $13.65 billion, $10.48 billion (76.7 percent) was GO debt. Of the GO debt, $8.72 billion (83.3 percent) was self-supporting and $1.75 billion (16.7 percent) was not self-supporting. This is a decrease of $244.0 million compared to $2.00 billion in not self-supporting authorized but unissued GO debt at fiscal year-end 2017. The overall decrease resulted mainly from the issuance of CP in the amount of $222.2 million by TPFA for cancer research.

Authorized but unissued not self-supporting revenue debt totaled $942.9 million at the end of fiscal 2018 compared to $935.7 million at fiscal year-end 2017. The remaining authorized but unissued revenue debt was self-supporting

Table 2.4

DEBT-SERVICE REQUIREMENTS OF TEXAS STATE DEBT BY FISCAL YEAR

(amounts in thousands)

	2019	2020	2021	2022	2023	2024 & beyond
General Obligation Debt						
Self-Supporting						
Veterans' Land and Housing Bonds	$260,994	$269,442	$262,175	$253,973	$235,660	$2,291,485
Water Development Bonds	117,389	116,599	115,228	107,672	98,867	1,361,921
Water Development Bonds - State Participation	6,928	7,567	7,043	9,606	9,392	110,669
Water Development Bonds - WIF	33,067	31,757	32,899	32,906	32,860	141,317
Economic Development Bank Bonds	2,048	2,048	2,048	2,048	2,048	89,939
Park Development Bonds	0	0	0	0	0	0
College Student Loan Bonds	117,472	100,907	104,392	102,618	100,405	1,108,777
Texas Agriculture Finance Authority	0	0	0	0	0	0
Texas Mobility Fund Bonds	367,860	375,183	382,615	390,188	397,864	8,395,757
Texas Public Finance Authority - TMVRLF	2,140	2,138	2,138	2,136	2,132	20,173
Total Self-Supporting	**$907,898**	**$905,640**	**$908,538**	**$901,146**	**$879,228**	**$13,520,037**
Not Self-Supporting [1]						
Higher Education Constitutional Bonds [2]	$4,441	$3,227	$3,096	$3,090	$3,083	$9,413
Texas Public Finance Authority Bonds	184,438	155,402	150,599	145,696	140,247	752,057
Park Development Bonds	795	743	0	0	0	0
Agriculture Water Conservation Bonds	0	0	0	0	0	0
Cancer Prevention and Research Institute of Texas	120,250	119,416	117,448	115,292	112,983	1,166,617
Water Development Bonds - EDAP [3]	29,161	25,976	24,084	23,285	21,483	123,757
Water Development Bonds - State Participation	0	0	0	0	0	0
Water Development Bonds - WIF	36,376	35,268	34,163	33,030	31,898	193,067
TTC GO Transportation Bonds	316,300	311,852	307,377	302,880	298,363	4,957,976
Total Not Self-Supporting	**$691,760**	**$651,885**	**$636,767**	**$623,273**	**$608,057**	**$7,202,888**
Total General Obligation Debt Service	**$1,599,658**	**$1,557,525**	**$1,545,305**	**$1,524,419**	**$1,487,286**	**$20,722,925**
Non-General Obligation Debt						
Self-Supporting						
Permanent University Fund Bonds						
The Texas A&M University System	$94,912	$94,854	$97,057	$96,520	$96,211	$1,402,407
The University of Texas System	196,636	196,642	196,645	196,640	196,641	3,934,420
College and University Revenue Bonds	1,441,125	1,409,761	1,393,578	1,368,297	1,294,899	16,061,395
Texas Water Resources Finance Authority Bonds	0	0	0	0	0	0
TxDOT Toll Revenue Bonds [4]	127,416	133,766	143,531	156,538	169,597	4,924,116
Texas Dept of Housing & Community Affairs - SF	19,306	18,419	18,499	22,094	15,429	690,070
Economic Development Program (Leverage Fund)	399	402	399	400	402	5,994
Veterans' Financial Assistance Bonds	0	0	0	0	0	0
Texas Workforce Commission Unemp Comp Bonds	0	0	0	0	0	0
State Highway Fund	423,252	423,256	423,261	423,251	423,255	3,676,218
Water Development Bonds - State Revolving Fund	24,869	24,876	24,875	24,868	24,863	326,024
Water Development Bonds - SWIRFT	207,361	208,015	207,978	213,241	212,014	4,740,004
Total Self-Supporting	**$2,535,277**	**$2,509,993**	**$2,505,822**	**$2,501,851**	**$2,433,311**	**$35,760,648**
Not Self-Supporting [1]						
Texas Public Finance Authority Bonds	$11,629	$8,424	$6,513	$6,482	$5,455	$75,686
TPFA Master Lease Purchase Program	9,818	9,210	8,490	5,960	2,568	1,846
Texas Military Facilities Commission Bonds	1,253	1,256	1,259	917	920	926
Parks and Wildlife Improvement Bonds	2,090	723	0	0	0	0
Total Not Self-Supporting	**$24,790**	**$19,612**	**$16,262**	**$13,359**	**$8,943**	**$78,457**
Conduit, Component and Related Organizations						
Texas Windstorm Insurance Association	$80,301	$80,285	$80,330	$80,303	$80,381	$80,322
Texas Small Business I.D.C. Bonds	0	0	0	0	0	0
Texas Dept. of Housing & Community Affairs - MF	52,318	54,615	97,948	52,859	52,879	1,339,425
Texas State Affordable Housing Corporation	14,447	14,453	32,758	14,119	14,086	353,058
Texas Grand Parkway Transportation Corporation [4]	151,792	163,952	198,480	198,527	798,813	8,553,114
Texas PAB Surface Transportation Corporation	104,081	104,081	104,081	104,081	104,081	3,097,479
TPFA Charter School Finance Corporation	10,608	10,641	10,630	10,770	10,781	187,157
Total Conduit, Component and Related Organizations	**$413,547**	**$428,026**	**$524,226**	**$460,660**	**$1,061,020**	**$13,610,554**
Total Non-General Obligation Debt Service	**$2,973,614**	**$2,957,631**	**$3,046,310**	**$2,975,870**	**$3,503,275**	**$49,449,659**
Total Debt Service	**$4,573,272**	**$4,515,156**	**$4,591,615**	**$4,500,289**	**$4,990,560**	**$70,172,584**

[1] Bonds that are not self-supporting (general obligation and non-general obligation) depend solely on the state's general revenue for debt service.

[2] While not explicitly a general obligation or full faith and credit bond, the revenue pledge contained in Constitutional Bonds has the same effect. Debt service is paid from annual constitutional appropriation to qualified institutions of higher education from first monies coming into the state treasury not otherwise dedicated by the Constitution.

[3] Economically Distressed Areas Program (EDAP) bonds do not depend totally on the state's general revenue fund for debt service.

[4] Includes TIFIA loan debt outstanding. Amortization schedule provided by TxDOT.

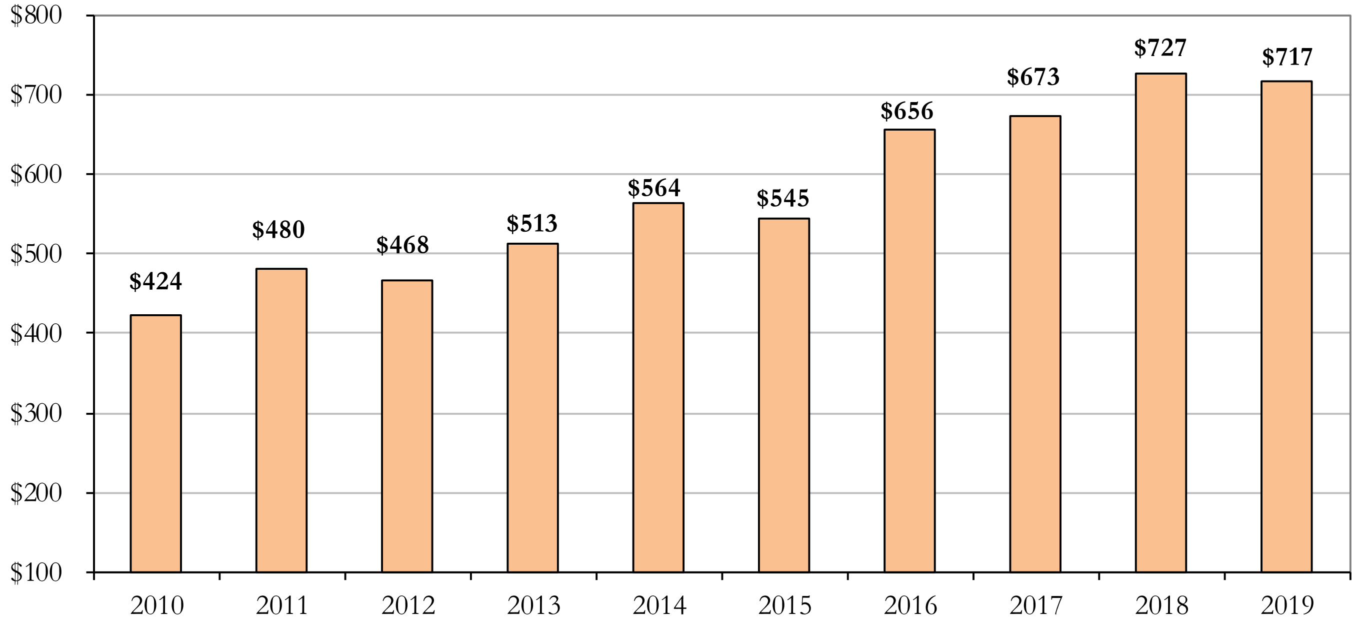
Notes: The debt-service figures do not include the early redemption of bonds under the state's various loan programs or cash defeasances after August 31, 2018, or the Build America Bond subsidy payments. Certain lease purchase, SECO LoanSTAR and other revolving loan program debt is not included.

Future debt-service payments for variable-rate bonds is calculated based on interest rates provided by the issuer. Future debt-service payments for commercial paper is calculated at 5 percent for a 20-year period.

Detail may not add to total due to rounding.

Source: Texas Bond Review Board - Bond Finance Office.

Figure 2.4
ANNUAL DEBT SERVICE SCHEDULED TO BE PAID FROM GENERAL REVENUE
(amounts in millions)



Source: Texas Bond Review Board - Bond Finance Office.

and increased from $2.13 billion to $2.23 billion.

85th Legislature – Regular Session and 1st Called Special Session

No new state debt authorizations were approved during the 85th Legislative Session. The 85th Legislature appropriated debt service for the 2018-19 biennium to the Cancer Prevention and Research Institute of Texas (CPRIT) to issue $600 million in GO debt under the $3 billion in authority approved by voters in 2007. In addition, TPFA is authorized to issue on behalf of the Texas Facilities Commission (TFC) the remainder of the $767.7 million of revenue bonds originally authorized during the 2016-17 biennium for the office buildings and utility infrastructure in the capital complex and the office building and parking structure in the North Austin complex.

Debt Authority – 84th Texas Legislature

In the General Appropriations Act, the 84th Legislature authorized the issuance of $767.7 million of revenue bonds and appropriated those bond proceeds in the General Appropriations Act to TFC for the North Austin and Capitol Complex projects. The bonds are anticipated to be repaid with lease payments from state agencies and are subject to biennial appropriation by the legislature of funds available for payment. Lease payments were appropriated to TFC for the 2016-17 biennium.

The legislature also authorized $3.10 billion in TRB debt with the passing of HB 100. Historically, the legislature has appropriated funds in an amount equal to all or a portion of the debt service on tuition revenue debt issued. As of August 31, 2018, remaining authorized but unissued TRB debt totaled $10.8 million for UHS.

Table 2.5

TEXAS COLLEGE AND UNIVERSITY REVENUE DEBT OUTSTANDING

(amounts in thousands)

College and University Revenue Debt	FY 2016 Non-TRB	FY 2016 TRB	FY 2016 Total	FY 2017 Non-TRB	FY 2017 TRB	FY 2017 Total	FY 2018 Non-TRB	FY 2018 TRB	FY 2018 Total
Midwestern State University	$91,135	$12,015	$103,150	$89,450	$59,150	$148,600	$86,775	$55,695	$142,470
Stephen F. Austin State University	101,518	33,360	134,878	93,090	64,544	157,634	85,508	59,945	145,453
Texas Southern University	114,930	56,200	171,130	108,253	102,860	211,113	101,364	95,320	196,684
Texas State Technical College System	50,110	43,125	93,235	47,454	40,565	88,019	51,175	38,500	89,675
Texas State University System	692,706	111,317	804,023	810,196	300,397	1,110,593	817,995	275,560	1,093,555
Texas Tech University System	460,976	141,603	602,579	501,725	355,868	857,593	481,629	324,576	806,205
Texas Woman's University	55,996	26,830	82,826	102,439	54,945	157,384	110,045	50,640	160,685
The Texas A&M University System	2,072,012	354,170	2,426,182	2,107,509	1,057,232	3,164,741	2,241,674	985,004	3,226,678
The University of Texas System	5,622,360	1,239,445	6,861,805	5,794,878	1,401,930	7,196,808	5,948,033	1,267,100	7,215,133
University of Houston System	811,501	243,891	1,055,392	861,367	422,105	1,283,472	1,015,751	403,516	1,419,267
University of North Texas System	431,024	108,070	539,094	430,587	325,764	756,351	468,189	302,903	771,092
Total Revenue Debt Outstanding	**$10,504,269**	**$2,370,026**	**$12,874,295**	**$10,946,949**	**$4,185,360**	**$15,132,309**	**$11,408,137**	**$3,858,759**	**$15,266,896**

Legend: TRB = Tuition Revenue Bonds

Notes: No capital appreciation bonds outstanding as of August 31, 2018. The debt outstanding figures include the accretion on capital appreciation bonds for prior years.
All college and university revenue bonds are equally secured by and payable from a pledge of all or a portion of certain "revenue funds" as defined in Chapter 55, Texas Education Code, as amended, of the applicable system or institution of higher education. Historically, however, the state has appropriated funds to the schools in an amount equal to all or a portion of the debt service on revenue bonds issued pursuant to certain specific authorizations to individual institutions in Chapter 55, Texas Education Code ("Tuition Revenue Bonds").

Includes commercial paper notes outstanding. Excludes HEAF and PUF debt. Amounts do not include premium on capital appreciation bonds.

Source: Texas Bond Review Board - Bond Finance Office.

Additionally, the 84th Legislature passed HB 122 which limits the issuance of debt secured by the Texas Mobility Fund solely to refundings or issuances that replace variable-rate debt.

Debt Authority – 83rd Texas Legislature

The 83rd Legislature authorized up to $2.0 billion to be withdrawn from the Economic Stabilization Fund (ESF) to be used only in support of projects for the State Water Plan. While this created no new debt authority, the money may be used in conjunction with the TWDB debt programs to provide low-interest loans, credit enhancement agreements, deferral of interest obligations and funding for government entities that develop and manage water supplies under specific TWDB debt programs. Voters approved the proposed amendments to the Texas Constitution at the November 5, 2013, bond election.

Debt Authority – 83rd Texas Legislature, Special Session

No new state debt authorizations were approved during the 83rd Legislature, Special Session. SJR 1 of the 3rd Called Special Session proposed a constitutional amendment diverting half of the oil and gas tax revenues to be deposited into the ESF to the State Highway Fund to provide transportation funding for repairs and maintenance of public roads. Voters approved the proposed amendment to the Texas Constitution at the November 4, 2014, general election.

Long-Term Contracts and Lease Purchases

Long-term contracts and lease or installment-purchase agreements can serve as cost-effective financing alternatives to the issuance of bonds. Like bonds, these agreements are a method of financing capital purchases over time, and payments on these contracts and agreements are generally subject to biennial legislative appropriations.

The equipment lease purchases approved by the Bond Review Board are typically financed through the Texas Public Finance Authority's Master Lease Purchase Program and are included in the state's total debt outstanding.

Texas Swaps Outstanding

At the end of fiscal year 2018, three state issuers had swap agreements in place. VLB, UTS, and TDHCA entered the swap market in 1994, 1999 and 2004, respectively.

Table 2.6

DEBT-SERVICE REQUIREMENTS OF TEXAS COLLEGE AND UNIVERSITY REVENUE DEBT BY FISCAL YEAR

(amounts in thousands)

College and University Revenue Debt	2019	2020	2021	2022	2023	2024 & Beyond
The University of Texas System - Non-TRB	$452,427	$426,853	$423,060	$423,961	$409,129	$7,793,980
The University of Texas System - TRB	201,322	201,318	201,318	201,320	198,362	563,406
The University of Texas System - TOTAL*	$653,749	$628,171	$624,377	$625,281	$607,491	$8,357,386
The Texas A&M University System - Non-TRB	$188,474	$187,411	$182,308	$176,432	$170,399	$2,506,321
The Texas A&M University System - TRB	106,254	105,263	105,148	105,274	95,739	699,587
The Texas A&M University System - TOTAL	$294,728	$292,674	$287,456	$281,706	$266,137	$3,205,908
Texas Tech University System - Non-TRB	$50,463	$50,647	$47,866	$40,948	$40,935	$441,809
Texas Tech University System - TRB	40,754	41,191	41,148	37,408	32,340	199,731
Texas Tech University System - TOTAL	$91,217	$91,838	$89,015	$78,356	$73,275	$641,541
Texas State University System - Non-TRB	$77,927	$77,714	$75,948	$75,020	$71,244	$837,407
Texas State University System - TRB	35,679	35,659	34,788	35,390	27,513	203,973
Texas State University System - TOTAL	$113,606	$113,373	$110,736	$110,410	$98,757	$1,041,380
University of Houston System - Non-TRB	$89,123	$92,837	$92,283	$83,675	$81,182	$1,080,750
University of Houston System - TRB	42,373	39,987	40,024	39,804	33,188	372,422
University of Houston System - TOTAL*	$131,497	$132,824	$132,306	$123,479	$114,371	$1,453,172
The University of North Texas System - Non-TRB	$44,223	$43,011	$42,740	$42,691	$39,124	$509,863
The University of North Texas System - TRB	36,196	33,183	33,171	33,169	29,273	229,190
The University of North Texas System - TOTAL	$80,419	$76,194	$75,911	$75,860	$68,397	$739,054
Texas Woman's University - Non-TRB	$9,417	$9,410	$9,410	$9,406	$9,406	$108,194
Texas Woman's University - TRB	6,916	6,249	6,240	6,240	4,844	34,066
Texas Woman's University - TOTAL	$16,333	$15,659	$15,650	$15,646	$14,250	$142,260
Texas State Technical College System - Non-TRB	$5,769	$5,729	$5,474	$5,468	$5,390	$41,263
Texas State Technical College System - TRB	3,744	3,759	3,757	3,753	2,985	35,255
Texas State Technical College System - TOTAL	$9,513	$9,488	$9,231	$9,221	$8,374	$76,518
Stephen F. Austin State University - Non-TRB	$10,094	$11,109	$11,573	$11,598	$10,655	$44,607
Stephen F. Austin State University - TRB	7,440	6,440	5,388	5,384	5,383	53,921
Stephen F. Austin State University - TOTAL	$17,535	$17,549	$16,961	$16,981	$16,038	$98,528
Midwestern State University - Non-TRB	$6,290	$6,438	$6,469	$6,496	$6,528	$99,824
Midwestern State University - TRB	5,883	5,196	5,107	4,501	4,502	52,517
Midwestern State University - TOTAL	$12,173	$11,635	$11,577	$10,997	$11,030	$152,340
Texas Southern University - Non-TRB	$7,964	$7,964	$7,963	$7,964	$7,968	$82,398
Texas Southern University - TRB	12,392	12,392	12,395	12,394	8,811	70,910
Texas Southern University - TOTAL	$20,356	$20,356	$20,358	$20,359	$16,779	$153,309
Total College and University Revenue Debt	**$1,441,125**	**$1,409,761**	**$1,393,578**	**$1,368,297**	**$1,294,899**	**$16,061,395**

*Excludes Build America Bond subsidy payments.

Legend: TRB = Tuition Revenue Bonds

Notes: All college and university revenue bonds are equally secured by and payable from a pledge of all or a portion of certain "revenue funds" as defined in Chapter 55, Texas Education Code, as amended, of the applicable system or institution of higher education. Historically, however, the state has appropriated funds to the schools in an amount equal to all or a portion of the debt service on revenue bonds issued pursuant to certain specific authorizations to individual institutions in Chapter 55, Texas Education Code ("Tuition Revenue Bonds"). The table includes commercial paper, but excludes HEAF and PUF debt.

Source: Texas Bond Review Board - Bond Finance Office

Table 2.7

TEXAS DEBT AUTHORIZED BUT UNISSUED

(amounts in thousands)

	8/31/2014	8/31/2015	8/31/2016	8/31/2017	8/31/2018
General Obligation Debt					
Self-Supporting					
Veterans' Land and Housing Bonds	$1,551,634	$1,317,891	$1,208,929	$1,116,689	$1,035,813
Water Development Bonds	6,360,469	6,279,132	5,998,014	5,973,405	5,937,044
Farm and Ranch Loan Bonds [1]	300,000	300,000	300,000	300,000	300,000
College Student Loan Bonds	1,322,540	1,308,525	1,214,895	1,115,275	1,020,015
Texas Agricultural Finance Authority Bonds	221,000	223,250	224,750	230,000	230,000
Texas Public Finance Authority - TMVRLF	200,405	200,405	200,405	200,405	200,405
Texas Mobility Fund Bonds	*	*	*	*	*
Texas Rail Relocation and Improvement Fund	*	*	*	*	*
Total Self-Supporting	**$9,956,048**	**$9,629,203**	**$9,146,993**	**$8,935,774**	**$8,723,277**
Not Self-Supporting [2]					
Agricultural Water Conservation Bonds	$164,840	$164,840	$164,840	$164,840	$164,840
Higher Education Constitutional Bonds	***	***	***	***	***
Texas Public Finance Authority [3]	2,669,547	2,370,637	2,037,487	1,779,437	1,535,487
Transportation Commission GO Transportation Bonds	2,901,360	1,442,008	697,008	0	0
Water Development Bonds - EDAP [4]	151,976	101,748	53,492	53,492	53,492
Water Development Bonds - State Participation	0	0	0	0	0
Water Development Bonds - WIF	0	0	0	0	0
Total Not Self-Supporting	**$5,887,723**	**$4,079,233**	**$2,952,827**	**$1,997,769**	**$1,753,819**
Total General Obligation Debt	**$15,843,771**	**$13,708,436**	**$12,099,820**	**$10,933,543**	**$10,477,096**
Non-General Obligation Debt					
Self-Supporting					
Permanent University Fund Bonds [5]					
The Texas A&M University System	$567,111	$524,165	$548,407	$680,110	$589,676
The University of Texas System	794,612	785,535	419,009	530,885	722,647
College and University Revenue Bonds	**	**	**	**	**
Texas Turnpike Authority Bonds	**	**	**	**	**
Texas Water Resources Finance Authority Bonds	**	**	**	**	**
Texas Water Development Bonds (Water Resources Fund)	**	**	**	**	**
Texas Workers' Compensation Fund Bonds	**	**	**	**	**
Texas Workforce Commission Unemp Comp Bonds	***	***	***	***	***
Nursing Home Liability Insurance	75,000	75,000	75,000	75,000	75,000
FAIR Plan	75,000	75,000	75,000	75,000	75,000
Veterans' Financial Assistance Bonds	771,440	771,440	771,440	771,440	771,440
State Highway Fund Revenue Bonds	700,149	700,149	700,149	0	0
Water Development Board - State Revolving Fund	**	**	**	**	**
Total Self-Supporting	**$2,983,312**	**$2,931,289**	**$2,589,005**	**$2,132,435**	**$2,233,763**
Not Self-Supporting [2]					
Texas Public Finance Authority Bonds	$120,881	$888,551	$888,551	$871,551	$826,551
TPFA Master Lease Purchase Program	87,888	106,981	105,520	64,100	116,350
Texas Military Facilities Commission Bonds	**	**	**	**	**
Total Not Self-Supporting	**$208,769**	**$995,532**	**$994,071**	**$935,651**	**$942,901**
Conduit					
Texas Windstorm Insurance Association	***	***	***	***	***
Texas Small Business I.D.C. Bonds	**	**	**	**	**
Texas Department of Housing & Community Affairs	**	**	**	**	**
Texas State Affordable Housing Corporation	**	**	**	**	**
Total, Conduit	**$0**	**$0**	**$0**	**$0**	**$0**
Total Non-General Obligation Debt	**$3,192,081**	**$3,926,821**	**$3,583,076**	**$3,068,086**	**$3,176,664**
Total Debt	**$19,035,852**	**$17,635,257**	**$15,682,896**	**$14,001,629**	**$13,653,760**

* No bond issuance limit, but debt service on all bonds issued and proposed to be issued pursuant to the Article III, Section 49-k and 49-o of the Texas Constitution can not be greater than the Comptroller's certified projection that the amount of money dedicated to the fund is equal to at least 110 percent of the debt-service requirements for as long as the obligations are outstanding.

** No issuance limit has been set by the Texas Constitution. Bonds may be issued by the agency without further authorization by the legislature. However, university bonds rated lower than AA- or its equivalent may not be issued without the approval of the Bond Review Board. All bonds must be approved by the Attorney General.

*** No bond issuance limit, but HECB debt service may not exceed $196.88 million per year; TWIA has an annual limit of $500 Million in "Class 1," $250 Million of "Class 2," and $250 million of "Class 3" public securities.; and TWC may not exceed $2 billion per issuance.

1 Effective in November 1995, state voters authorized the use of $200 million of the existing $500 million Farm and Ranch Program authority for the purposes of the Texas Agricultural Finance Authority (TAFA). Of the $200 million, the Bond Review Board has approved an initial amount of $25 million for the Texas Agricultural Fund Program of TAFA.

2 Bonds that are not self-supporting depend solely on the state's general revenue for debt service.

3 Includes $3 billion for cancer prevention that was authorized by voters in November 2007 of which $1.48 billion remains unissued.

4 Economically Distressed Areas Program (EDAP) bonds do not depend totally on the state's general revenue fund for debt service.

5 Issuance of PUF bonds by A&M is limited to 10 percent, and issuance by UT is limited to 20 percent of the cost value of investments and other assets of the PUF, except real estate. The PUF value used is as of August 31, 2018.

Source: Texas Bond Review Board - Bond Finance Office

As of August 31, 2018, the aggregate notional amount of swaps outstanding at the state level was $5.11 billion. Interest rate swaps are primarily used as financial-management tools to reduce interest expense and hedge against interest rate, tax, basis and other risks. (See *Appendix C* for a background discussion of swaps and related data.)

State issuers are authorized to enter into swap agreements under the Texas Government Code, Section 1371 which grants special authority to enter into credit agreements. However, TDHCA and VLB have broad authority to enter into swaps under Section 2306.351 of the Texas Government Code and Sections 161.074, 162.052 and 164.010 of the Texas Natural Resources Code, respectively.

At the end of fiscal year 2018, VLB was a party to 54 pay-fixed, receive-variable rate (synthetic fixed-rate) swaps associated with its variable-rate demand bond issues. The total notional amount for these swaps was $2.54 billion at fiscal year-end 2018. UTS had six Revenue Financing System (RFS) swap agreements and two Permanent University Fund (PUF) swap agreements totaling $1.40 billion in notional amount. TDHCA had four such swaps on single-family bonds totaling $85.6 million in notional amount.

Additionally, at the end of fiscal year 2018 VLB had two outstanding basis rate (pay-variable, receive-variable) swaps with $58.9 million in notional amount. UTS had six Revenue Financing System and two PUF basis rate agreements totaling $1.02 billion in notional amount.

The Net Fair Values for the swap agreements in place at the end of fiscal year 2018 for the three state issuers were as follows: VLB, negative $87.9 million; UTS, negative $52.0 million; and TDHCA, negative $6.2 million. A negative fair value on a swap agreement indicates that the state issuer would owe its counterparty the amount indicated if the swaps were terminated. (See *Tables C1 and C2 in Appendix C* for details regarding Texas' interest rate swaps outstanding and fair value data at August 31, 2018.) VLB and TDHCA have the unilateral option to terminate their swap agreements. UTS has the unilateral option to terminate all of its swap agreements except for the Municipal Market Data (MMD) basis swap associated with its RFS 2016A bonds. Under this swap agreement Deutsche Bank has the right to optionally terminate the swap on or after February 15, 2030, provided the mark-to-market value of the swap is positive to UTS and Deutsche Bank agrees to pay this amount to UTS.

See *Table C3 and Table C4 in Appendix C* for debt-service requirements of variable-rate and fixed-rate debt outstanding and net interest rate swap payments. At fiscal year-end 2018, estimated variable rate debt-service requirements and net swap payments for VLB's pay-fixed, receive-variable swaps totaled $3.23 billion; and that of UTS totaled $2.05 billion. TDHCA had only synthetic fixed-rate swaps outstanding, the estimated variable rate debt-service requirements and net swap payments for which totaled $134.1 million. UTS had eight basis swaps outstanding, the estimated variable rate and fixed rate debt-service requirements and net swap payments for which totaled $1.36 billion. VLB had two basis swaps outstanding, the estimated variable rate debt-service requirements and net swap payments for which totaled $30.9 million.

Chapter 3
State Bond Issuance Costs

Excluding issuances of conduit and private placement debt, during fiscal year 2018 the weighted average of issuance costs for state bond issuers was $4.69 per $1,000 compared to $5.26 per $1,000 for fiscal year 2017. The issuances ranged in size from $4.1 million to $1.05 billion. Appendix A of this report details the issuance costs associated with each of these issues as well as the conduit and private placement issues.

Issuance Costs for Texas Bond Issuers

In fiscal year 2018 the average issue size for Texas' state issuers increased to $266.5 million from $256.1 million in fiscal year 2017 (*Table 3.1*). Excluding conduit and private placement issues, 14 (70.0 percent) of the 20 transactions completed in fiscal year 2018 were $100.0 million or greater in size compared to 22 (68.8 percent) of the 32 transactions completed in fiscal year 2017.

Underwriters' spreads began to increase after the financial downturn in fiscal year 2008 due to higher underwriting risk in the municipal bond market and higher issuance costs associated with the introduction of Build America Bonds

(BABs). The BABs program expired on December 31, 2010. Since 2009 underwriting spreads have declined to levels seen prior to the financial downturn.

In fiscal year 2018, the weighted average underwriting spread accounted for 71.9 percent of all issuance costs. As a result of a decrease in other underwriter's spread costs in fiscal year 2018, the weighted average underwriting spread per $1,000 of bonds issued decreased to $3.37 from $3.68 in fiscal year 2017 (*Figure 3.1*). *(See Comparison of Issuance Costs by Transaction Size below).*

During fiscal year 2018 fees per bond decreased overall compared to fiscal year 2017. Other Issuance Costs (bond counsel, financial advisor, rating agency, printing and other costs) per $1,000 decreased to an average of $1.32 ($351,013) compared to $1.58 ($405,107) in fiscal year 2017.

Table 3.1
WEIGHTED AVERAGE ISSUANCE COSTS FOR TEXAS BOND ISSUES
(Excludes Private Placement, Conduits and Remarketings)

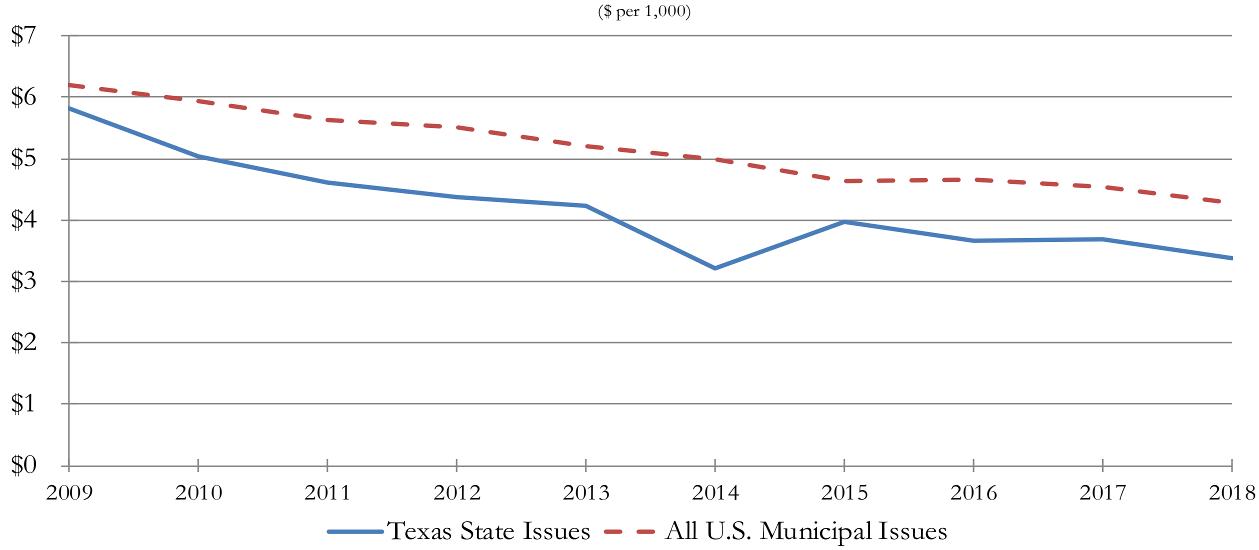
	Fiscal 2017			Fiscal 2018		
	Count	**Average Cost Per Bond Issue**	**Average Cost Per $1,000 of Bonds Issued**	**Count**	**Average Cost Per Bond Issue**	**Average Cost Per $1,000 of Bonds Issued**
Average Issue Size (In Millions)	32	$256.1		20	$266.5	
Costs of Issuance:						
Underwriter's Spread:						
Takedown	31	$859,131	$3.35	19	$878,734	$3.29
Spread Expenses	31	73,399	0.28	18	67,210	0.25
Underwriter's Counsel	29	44,988	0.17	16	31,898	0.11
Other Underwriter's Spread Costs*	8	157,360	1.10	3	17,018	0.41
Underwriter's Spread Subtotal	32	$942,729	$3.68	20	$897,839	$3.37
Other Issuance Costs:						
Bond Counsel	32	$105,485	$0.41	20	$107,924	$0.41
Financial Advisor	26	118,913	0.47	16	118,242	0.46
Printing	31	1,817	0.01	19	4,145	0.02
Other	32	79,181	0.31	20	40,180	0.15
Other Issuance Costs Subtotal	32	$282,260	$1.10	20	$246,635	$0.93
Rating Agencies:						
Moody's	31	$58,514	$0.24	14	$50,482	$0.23
Standard & Poor's	22	52,144	0.17	18	56,653	0.20
Fitch	15	64,667	0.23	8	45,130	0.14
Rating Agency Costs Subtotal	32	$122,847	$0.48	20	$104,378	$0.39
Total	32	$1,347,836	$5.26	20	$1,248,852	$4.69

Note: Figures exclude bond insurance premiums.

* Management Fee, Structuring Fee or Underwriter's Risk.

Source: Texas Bond Review Board

Figure 3.1
GROSS UNDERWRITING SPREADS: 2009 - 2018
TEXAS STATE BOND ISSUES vs. All U.S. MUNICIPAL BOND ISSUES
($ per 1,000)



Note: 2018 Municipal figures are through August 20, 2018. Amounts represent dollars per $1,000 face value of bond issues. Gross spreads include managers' fees, underwriting fees, average takedowns, and expenses. Private placements, conduits, short-term notes maturing in 12 months or less, and remarketings of variable-rate securities are excluded.

Sources: The Bond Buyer - 2018 in Statistics Midyear Review (08/18); Thomson Financial Securities; and Texas Bond Review Board - Bond Finance Office.

Underwriting Costs for Texas Bond Issuers Compared to National Costs

Excluding conduit and private placement issuances, during fiscal year 2018 Texas' state bond issuers paid lower average underwriting fees compared to the national averages *(Figure 3.1)*. This difference is primarily due to the generally higher credit quality of Texas issuers and the market's receptivity to Texas issues. Statistics published by Thomson Financial Securities Data show that underwriting spreads nationally averaged $4.28 per $1,000 compared to Texas' average of $3.37 per $1,000.

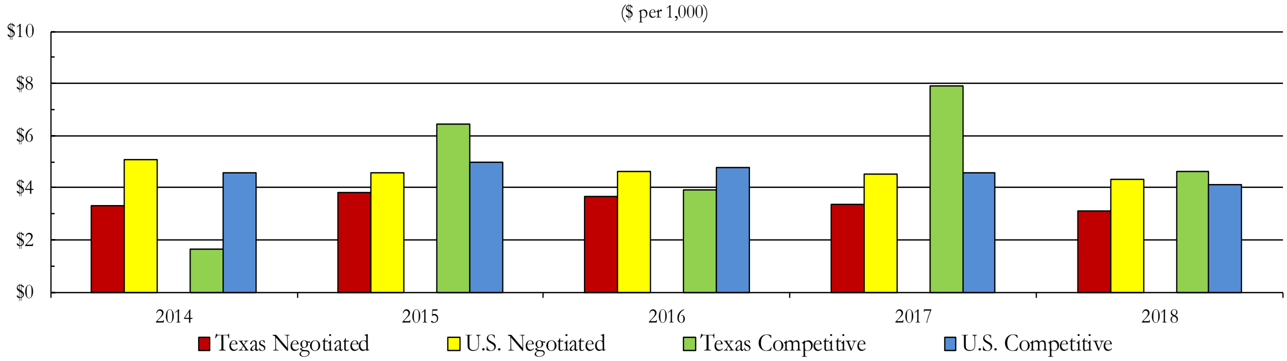
During fiscal year 2018 Texas issuers saw lower weighted average underwriting costs with negotiated transactions but not with competitive transactions when compared to the national averages as reported by Thomson Financial Securities (*Figure 3.2*). Texas' average of $3.12 per $1,000 for negotiated sales and $4.62 per $1,000 for competitively bid sales were 27.9 percent lower and 12.7 percent higher than the national averages, respectively.

Comparison of Issuance Costs by Transaction Size

Larger bond issues usually have a lower cost per $1000 because certain fixed costs of issuance, including some legal and financial advisory services and document drafting fees, do not vary proportionately with the size of the bond issue.

Texas' issuance costs decreased overall in fiscal year 2018 and were generally consistent with those experienced during fiscal year 2014-17 (*Figure 3.3*). Appendix A details the issuance costs for each transaction in fiscal year 2018.

Figure 3.2
GROSS UNDERWRITING SPREADS: 2014 - 2018
NEGOTIATED vs. COMPETITIVE MUNICIPAL ISSUES
(Excludes Private Placements, Conduits and Remarketings; weighted averages)
($ per 1,000)



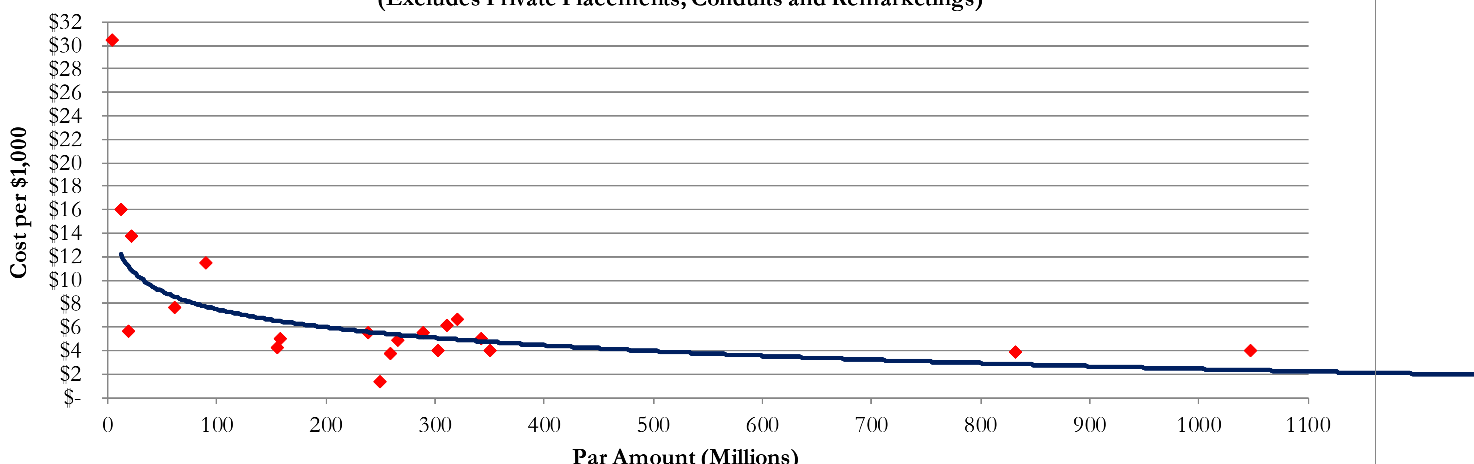
Note: 2018 U.S. figures are through August 20, 2018. Amounts represent dollars per $1,000 face value of bond issues. Gross spreads include manager's fees, underwriting fees, average takedowns, and expenses. Private placements, short-term notes maturing in 12 months or less, and remarketings of variable-rate securities are excluded.
Sources: The Bond Buyer - 2018 in Statistics Midyear Review (08/18); Thomson Financial Securities; and Texas Bond Review Board - Bond Finance Office.

Trends in State Bond Issuance Costs in 2018

The characteristics of 20 non-conduit bond transactions were reviewed to determine trends in issuance costs during fiscal year 2018. Of those, 16 were negotiated sales and four were competitive sales. Of the 16 negotiated sales, five were less than $100 million in size, six were from $101-$300 million, three were from $301-$500 million and two were greater than $700.0 million. The four competitive transactions were for $90.4 million, $155.7 million, $310.5 million and $320.6 million, respectively. The three non-conduit private placements issued during 2018 are excluded from this analysis.

As in the past, the cost per $1,000 in fiscal year 2018 generally decreased as transaction size increased (*Figure 3.3*).

Figure 3.3
COSTS OF ISSUANCE: FY 2014-2018
(Excludes Private Placements, Conduits and Remarketings)

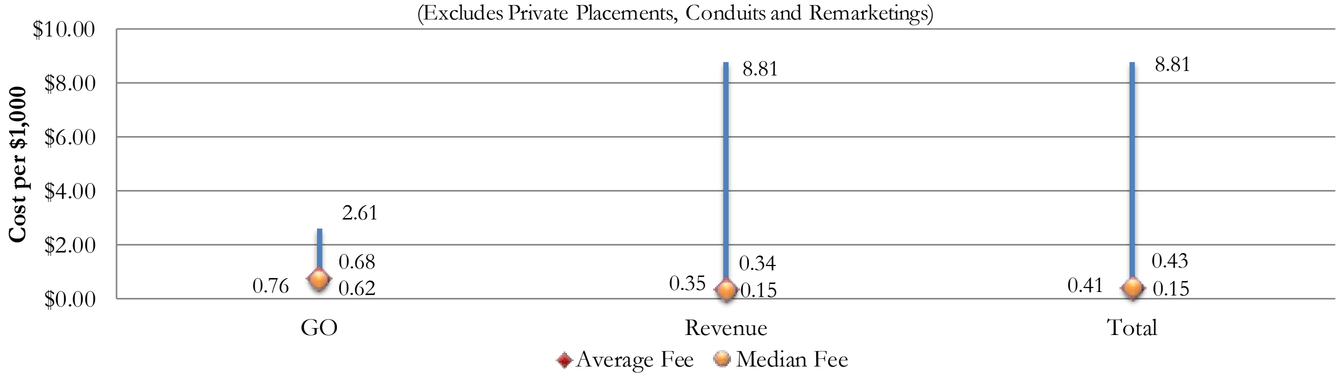


Note: Includes variable-rate demand bonds.
Source: Texas Bond Review Board - Bond Finance Office

Figure 3.4

Range of Bond Counsel Fees for Fiscal Year 2018

(Excludes Private Placements, Conduits and Remarketings)



Note: Includes Co-Bond Counsel Fees and variable-rate demand bonds.
Sources: Texas Bond Review Board - Bond Finance Office.

Issuance Costs for State General Obligation and Revenue Bonds in 2018

Four component fees comprise most of the costs of issuing bonds: bond counsel, financial advisor, underwriters' spread and credit rating agencies. To analyze these fees on a cost per $1,000 basis for state general obligation (GO) and revenue issues, data from fiscal year 2018 is shown graphically in *Figures 3.4, 3.5, 3.6 and 3.7*. Each cost of issuance component has been compared by bond type (general obligation vs. revenue) and by total bonds issued.

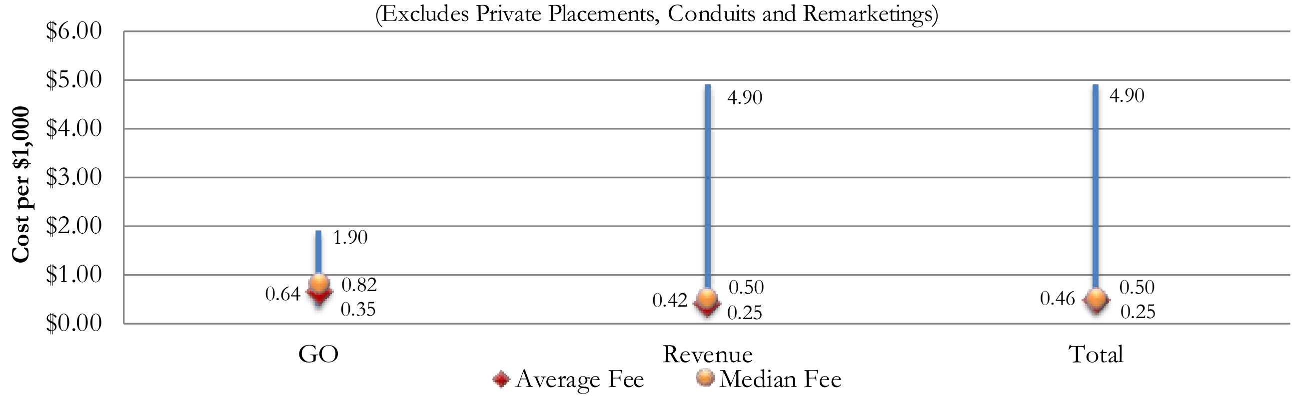
Cost of issuance data was obtained from five GO transactions and fifteen revenue transactions representing four state agencies and four institutions of higher education.

Figure 3.4 shows the bond counsel cost per $1,000 for bonds issued during 2018. The total weighted average cost for bond counsel fees remained at $0.41 per $1,000. GO bonds had higher costs per $1,000 than revenue bonds with a weighted average cost of $0.76 per $1,000 compared to $0.35 per $1,000 for revenue bonds. Additionally, the fees for revenue bonds had a larger variance than the

Figure 3.5

Range of Financial Advisor Fees for Fiscal Year 2018

(Excludes Private Placements, Conduits and Remarketings)

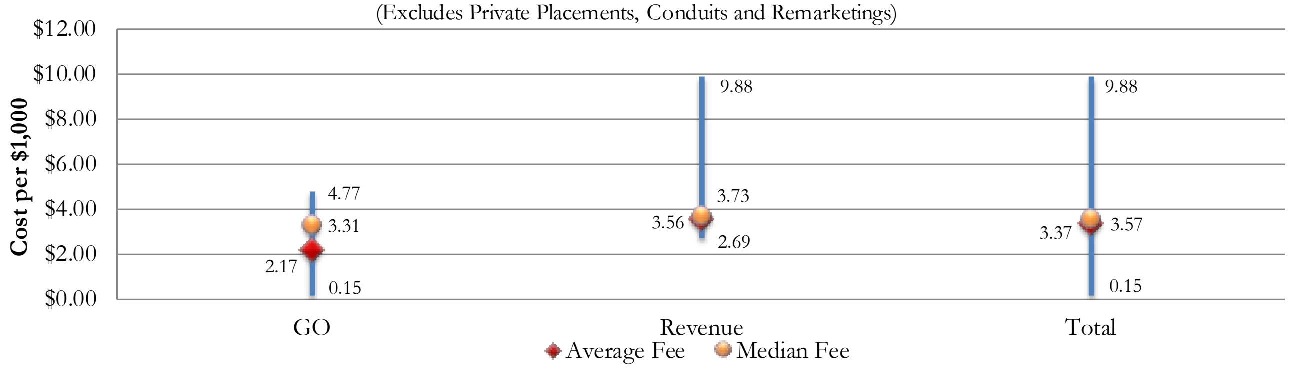


Note: Includes Co-Financial Advisor fees and variable-rate demand bonds.
Sources: Texas Bond Review Board - Bond Finance Office.

Figure 3.6

Range of Total Underwriter's Spread for Fiscal Year 2018

(Excludes Private Placements, Conduits and Remarketings)



Note: Includes variable-rate demand bonds. Total Underwriter's Spread includes Takedown, Spread Expenses, Management & Structuring Fees, Underwriting Risk and Underwriter's Counsel.
Sources: Texas Bond Review Board - Bond Finance Office.

fees for GO bonds. The fees for GO bonds ranged from $0.62 to $2.61 per $1,000 while the fees for revenue bonds ranged from $0.15 to $8.81 per $1,000.

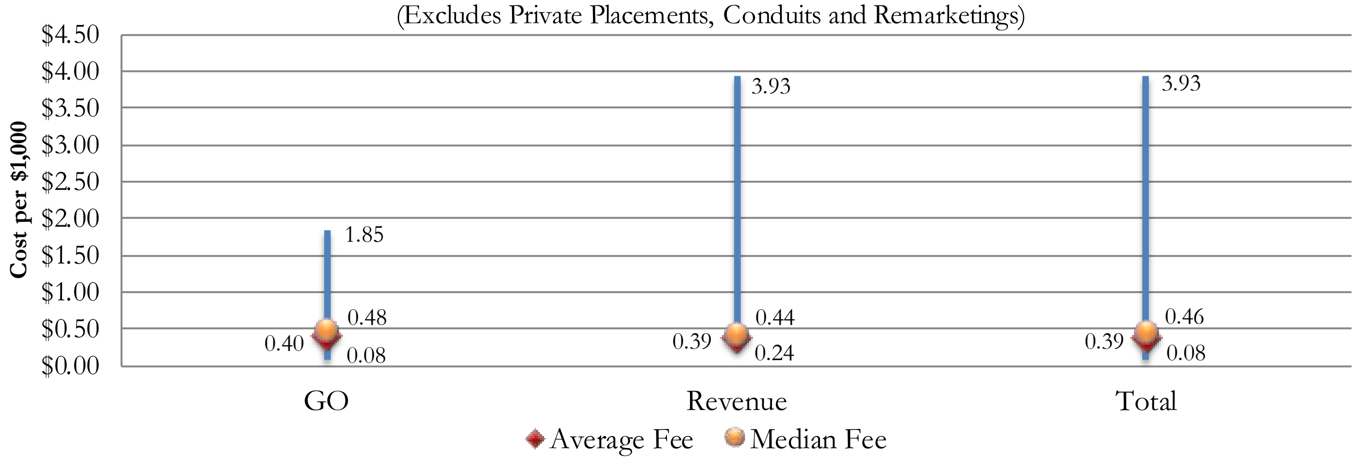
Figure 3.5 shows the cost per $1,000 for the sixteen transactions with a financial advisor fee. The total weighted average cost for financial advisor fees was $0.46 per $1,000, a decrease of $0.01 per $1,000 compared to $0.47 per $1,000 for fiscal year 2017. GO bonds had a weighted average cost of $0.64 per $1,000 compared to $0.42 per $1,000 for revenue bonds. The difference in the range of fees for financial advisor was greater for revenue bonds than GO bonds. GO transactions had a minimum fee of $0.35 and a maximum fee of $1.90 per $1,000 and revenue bonds had a minimum fee of $0.25 and a maximum fee of $4.90 per $1,000.

Figure 3.6 shows the total underwriters' spread for all transactions and includes the following: takedown, management and structuring fees, underwriting risk, spread expenses and underwriter's counsel. The total weighted average cost was $3.37 per $1,000, a decrease of $0.31 per $1,000 compared to $3.68 per

Figure 3.7

Range of Total Ratings Fees for Fiscal Year 2018

(Excludes Private Placements, Conduits and Remarketings)



Note: Includes variable-rate demand bonds. Total ratings fee may include ratings fees from Moody's, S&P and Fitch.
Sources: Texas Bond Review Board - Bond Finance Office.

$1,000 for fiscal year 2017. GO bonds had an average weighted cost of $2.17 and revenue bonds had an average weighted cost of $3.56 per $1,000. The fees for GO bonds had a narrow range from a minimum fee of $0.15 to a maximum fee of $4.77 per $1,000. Revenue bonds ranged from $2.69 to $9.88 per $1,000.

Figure 3.7 shows the cost per $1,000 for ratings agency fees. The total weighted average cost was $0.39 per $1,000, a decrease of $0.09 per $1,000 compared to $0.48 per $1,000 for fiscal year 2017. The average weighted cost for GO bonds was higher at $0.40 per $1,000 while the average weighted cost for revenue bonds was $0.39 per $1,000.

Chapter 4
Texas Private Activity Bond Allocation Program and Other Bonding Authority

Texas again experienced an increase in volume cap for the Program Year 2018 Private Activity Bond (PAB) Allocation Program. The 2018 volume cap was set at $2.97 billion, an increase of $185.7 million (6.7 percent) over the calendar 2017 cap. The total size of the PAB program including 2018 volume cap and carryforward was $6.28 billion, a 17.7 percent decrease from the 2017 total. As of November 15, 2018, $1.45 billion had been allocated and application requests totaled $5.31 billion, a decrease of 14.2 percent of the total application requests from Program Year 2017.

As of January 1, 2018, when the program was eliminated by Section 13404 of the Tax Cuts and Jobs Act of 2017, Texas had $175.2 million in unused Qualified Energy Conservation Bond (QECB) authority.

Volume Cap

Texas is second only to California in population and resulting volume cap. Texas experienced an increase in volume cap for the 2018 PAB Allocation Program. Based on its population, the 2018 volume cap was set at $2.97 billion, an increase of $185.7 million (6.7 percent) over the calendar 2017 cap of $2.79 billion.

The volume cap increase can be attributed not only to the growth of the state's population, but also to federal legislation that increased the per capita formula. On December 20, 2000, federal legislation was passed that accelerated the increase in private-activity volume cap, the first such increase since the Tax Reform Act of 1986. The cap phase-in began January 1, 2001 when the limit was increased from $50 per capita to $62.50 per capita. The second part of the plan occurred in January 2002 when the cap multiplier increased to $75 per capita or $225 million, whichever is greater. The multiplier was indexed to inflation beginning in 2003 resulting in increases in 2007, 2008, 2009, 2011, 2014 and 2018 to the current level of $105 per capita.

Including 2018 volume cap and carryforward, for Program Year 2018 the state had a total of $6.28 billion of volume cap available among the six subceilings of which $1.45 billion (23.1 percent) had been allocated as of November 15, 2018 *(Table 4.1)*.

Table 4.1
STATE OF TEXAS
PRIVATE ACTIVITY BOND ALLOCATION PROGRAM
2018 AVAILABLE VOLUME CAP vs. ALLOCATION AMOUNTS
(as of November 15, 2018)

SUBCEILING	AVAILABLE* VOLUME CAP	PERCENT OF TOTAL	ISSUED 2018 ALLOCATION	ISSUED CARRYFORWARD ALLOCATION	ISSUED PERCENT OF TOTAL
Single Family Housing	$ 2,136,257,618	34.0%	$ 15,000,000	$ 713,413,832	11.6%
State-Voted Issues	237,758,606	3.8%	-	-	0.0%
Small Issue IDBs	59,439,652	0.9%	-	-	0.0%
Multifamily Housing	1,873,210,876	29.8%	164,577,000	474,901,900	10.2%
Student Loan Bonds	362,058,171	5.8%	-	-	0.0%
All Other Issues	1,612,664,608	25.7%	46,430,000	37,115,000	1.3%
TOTAL	**$ 6,281,389,531**	**100.0%**	**$ 226,007,000**	**$ 1,225,430,732**	**23.1%**

*Includes carryforward amounts. Carryforward is reserved volume cap from the prior 3 years.
Source: Texas Bond Review Board - Private Activity Bond Program.

Table 4.2 **STATE OF TEXAS** **PRIVATE ACTIVITY BOND ALLOCATION PROGRAM** **2018 REQUESTED VOLUME CAP** (as of November 15, 2018)			
SUBCEILINGS	**AVAILABLE VOLUME CAP***	**REQUESTED ALLOCATION***	**REQUESTS AS A % OF AVAILABILITY**
Mortgage Revenue Bonds	$ 2,136,257,619	$ 2,384,260,316	111.6%
State-Voted Issue Bonds	237,758,606	200,000,000	84.1%
Industrial Development Bonds	59,439,652	-	0.0%
Multifamily Rental Project Bonds	1,873,210,876	2,223,400,000	118.7%
Student Loan Bonds	362,058,171	-	0.0%
All Other Bonds Requiring Allocation	1,612,664,608	507,000,000	31.4%
TOTALS	**$ 6,281,389,531**	**$ 5,314,660,316**	**84.6%**

*Includes carryforward amounts. Carryforward is reserved volume cap from the prior 3 years.
Source: Texas Bond Review Board - Private Activity Bond Program.

Total bonding authority demand decreased by $881.5 million (14.2 percent) during the 2018 Program Year compared to the 2017 Program Year. However, as of November 15, 84.6 percent had been requested in 2018 compared to 81.2 percent in 2017 *(Table 4.3)*.

Additionally, after the August 15, 2017, collapse, the Bond Review Board (BRB) received $2.49 billion in requests; after the August 15, 2018 collapse, the BRB received $2.70 billion in requests. Applications received for Program Year 2018, including carryforward requests, totaled $5.31 billion or 84.6 percent of the total available allocation of $6.28 billion *(Table 4.2),* a decrease of 14.2 percent from the $6.20 billion of the available allocation requested in 2017.

Current Allocation Trends

Excluding carryforward, as of November 15, 2018, $226.0 million (3.6 percent) of Program Year 2018 volume cap had been allocated. As of the same date in Program Years 2015, 2016 and 2017, $84.9 million (1.3 percent), $169.5 million (2.6 percent) and $975.4 million (12.8 percent), respectively, of total volume cap (excluding carryforward) had been allocated.

While most of the 2018 applications were for residential rental transactions and the amounts requested are limited by statute and scope, the number of applications increased for 2018 but the amount of volume cap requested decreased *(Table 4.3)*. Many issuers have been waiting for the spread between tax-exempt rates and taxable rates to widen before seeking volume cap, or they applied for volume cap with the intention of converting it to carryforward. Larger transactions provide economies of scale that may still take advantage of tax-exempt rates.

As of November 15, 2018, no mortgage revenue bonds (MRBs) had closed utilizing Program Year 2018 volume cap; however, issuers had converted $15.0 million of Program Year 2018 volume cap to mortgage credit certificate (MCC) programs.

Using carryforward volume cap, Texas Department of Housing and Community Affairs used approximately $713.4 million to close MCC programs. Multifamily issuers closed thirty projects as of November 15, 2018

Table 4.3
STATE OF TEXAS
PRIVATE ACTIVITY BOND ALLOCATION PROGRAM
2013 TO 2018 ISSUED ALLOCATION
(as of November 15, 2018)

YEAR	AVAILABLE ALLOCATION*	REQUESTED ALLOCATION*	ISSUED VOLUME CAP ALLOCATION	ISSUED CARRYFORWARD ALLOCATION	NUMBER OF APPLICATIONS RECEIVED	ISSUED AS A % OF AVAILABILITY
2013	4,717,858,332	1,940,837,372	439,286,597	372,573,787	56	17.2%
2014	5,276,952,525	2,776,186,213	240,066,000	811,211,000	47	19.9%
2015	6,461,406,313	4,355,040,098	84,850,000	1,071,125,213	71	17.9%
2016	6,561,415,029	3,403,690,252	169,538,280	681,068,500	104	13.0%
2017	7,634,459,758	6,196,133,141	975,357,669	2,440,916,606	92	44.7%
2018	6,281,389,532	5,314,660,316	226,007,000	1,225,430,732	128	23.1%

*Includes carryforward amounts. Carryforward is reserved volume cap from the prior 3 years.
Source: Texas Bond Review Board - Private Activity Bond Program.

using $474.9 million of carryforward and $164.6 million of volume cap compared to sixteen projects closing in 2017.

At the beginning of Program Year 2018, the carryforward amount of $3.31 billion was 111.4 percent of the 2018 Program Year volume cap of $2.97 billion, and many issuers that applied for a reservation were forced to use carryforward volume cap (as required by IRS Code) before using 2018 volume cap.

To date, much more carryforward ($1.23 billion) was allocated than actual 2018 volume cap ($226.0 million) during the Program Year (*Figure 4.1*). Project requests after the August 15th collapse date were not subject to subceiling limits, and because closing dates generally extend into the next program year, issuers were able to convert their reservations into carryforward. This cycle of issuers not using current year volume cap will likely continue for several years as issuers with carryforward must close that volume cap before using current year volume cap.

As of November 15, 2018, none of the state's 2018 PAB volume cap remained unencumbered. Any amounts returned will be converted to carryforward.

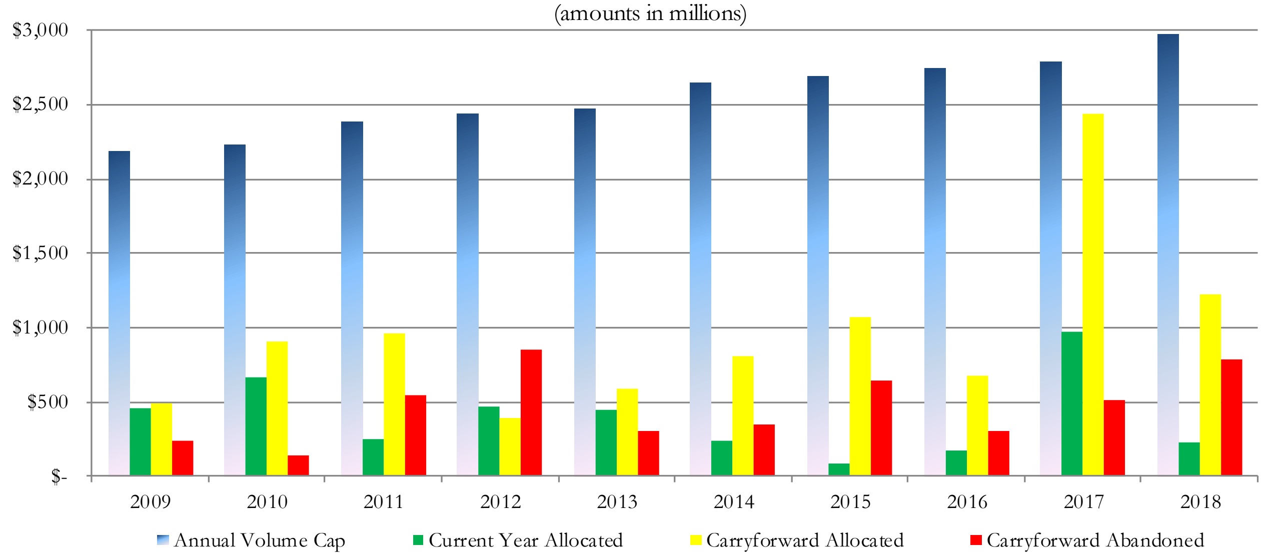
82nd Legislature Changes

House Bill (HB) 2911 simplified the reservation process for Higher Education Authorities (HEAs) in Subceiling #5. Prior to the change, HEAs were required to provide evidence of student loan need-based demand. HEAs which were able to show the greatest demand received weighted reservations and thus the largest allocations. HB 2911 redefined the assignment of student loan bond allocation to equal the total amount of the allocation for the student loan subceiling divided by the number of qualified HEAs thus removing the need-based provisions.

Prior Legislative Changes

The 81st Legislative Session (2009) passed Senate Bill (SB) 2064 to provide issuers using PAB authority with increased flexibility during difficult market conditions such as those experienced in fiscal year 2009, and to respond to the announcement of new federal bond programs and new federal guidelines for the existing Program.

Figure 4.1
STATE OF TEXAS
PRIVATE ACTIVITY BOND ALLOCATION PROGRAM
Current Year vs. Carryforward Allocated
as of November 15, 2018
(amounts in millions)



* 2009 and 2010 Carryforward numbers also include HERA cap
Source: Texas Bond Review Board - Private Activity Bond Program.

SB 2064 made the following changes both to the Program and to the responsibilities of the BRB:

- If designated by the applicable state official, the BRB is now authorized to administer other bond authority programs created by federal legislation;
- The BRB now has specific authority to administer and create rules for any additional state ceiling that may be created by federal legislation;
- Certain facilities including sewage facilities, solid waste disposal and qualified hazardous waste facilities are now permitted to include multiple projects on one application but are still required to pay an application fee for each facility;
- The project limit for single-family and multifamily issuers was increased to $40.0 million and $20.0 million, respectively;
- Issuers subject to a utilization percentage will not be penalized if in a previous Program Year less than 50 percent of volume cap dedicated to single-family issuers was not allocated for such purposes;
- The last day to apply for a reservation and to receive a reservation was changed from December 1 to November 15; and
- Any unencumbered volume cap at the end of the program year may be granted to any state agency that requests it.

The 80th Legislative Session (2007) gave the Texas Economic Development Bank priority over all other issuers within Subceiling #6 as well as all issuers with carryforward applications. HB 3552 made a number of changes within Subceiling #4 including a provision allowing applications for multiple-site multifamily projects.

The 79th Legislative Session (2005) raised the maximum cap per project on Subceiling #6 from $25.0 million to $50.0 million.

Legislation passed during the 76th, 77th and 78th Legislative Sessions shifted the distribution of the state's ceiling for the Program among the Subceilings.

Hurricane Ike Bond Authority

In October 2008 the Heartland Disaster Tax Relief Act (HDTRA) of 2008 created $1.86 billion in tax-exempt bonding authority for thirty-four counties affected by Hurricane Ike. The authority to issue bonds for areas affected by Hurricane Ike expired at the end of 2012.

Hurricane Ike bonds were used for: 1) the acquisition, construction, renovation and reconstruction of nonresidential real property; 2) the acquisition, construction, renovation and reconstruction of qualified residential rental property; 3) financing the repair or reconstruction of public utility property; 4) rehabilitation projects at certain existing facilities; and 5) the issuance of qualified mortgage bonds.

Borrowers using Hurricane Ike bond proceeds must have suffered an actual business loss or have received a designation that the business being replaced suffered a loss attributable to Hurricane Ike.

HDTRA required the Governor of Texas to designate projects "on the basis of providing assistance to areas in the order in which assistance is most needed."

On April 10, 2009 the Governor issued Proclamation 41-3177 designating projects in Brazoria, Chambers, Galveston, Jefferson and Orange counties as having priority for utilization of Hurricane Ike bonds. On the same date Proclamation 41-3178 allocated up to $300.0 million in authority to Jefferson County Industrial Development Corporation for use by Jefferson Refinery LLC.

The 81st Texas Legislature passed legislation authorizing the BRB to administer the qualified Hurricane Ike disaster area bond program under the direction of the Governor. On December 7, 2009, Governor Perry issued Proclamation 41-3232 providing for administration of the qualified Hurricane Ike disaster area bond program and naming priorities for the designation of such bonds. In February 2012, the Governor issued Proclamation 41-3293 that removed the group priorities and allowed all issuers to apply for any remaining bonding authority. As of the expiration of the program (January 1, 2013), approximately $1.86 billion of the total authority was allocated (99.6 percent).

Other Bonding Authority

In February 2009 the American Recovery and Reinvestment Act of 2009 (ARRA) created two new types of bonding authority: Build America Bonds (*see Chapter 2*) and Qualified School Construction Bonds (QSCB). In addition, ARRA expanded three existing authorities: Qualified Zone Academy Bonds, Qualified Energy Conservation Bonds (QECB) and Clean Renewable Energy Bonds (CREBs). All of these programs have expired except for the QECB Program which has no expiration date.

Texas was allocated $252.4 million in QECB authority to be used for qualified energy conservation purposes. Large cities and counties received an allocation based on population size. Other issuers seeking the remaining authority may request a reservation directly from the state.

As a result of Section 13404 of the Tax Cuts and Jobs Act of 2017 all new CREBs including QECBs were eliminated. As of the elimination of the program effective January 1, 2018, all allocated issuers in Texas had $166.2 million in unused QECB authority. Texas had $8.9 million remaining in state authority.

Appendix A – Summary of State Bonds Issued During Fiscal Year 2018

This appendix details the issuance costs associated with each state bond transaction issued during fiscal year 2018 and is automatically generated based on information reported to the Bond Review Board (BRB) by each state debt issuer. Historically Underutilized Business (HUB) status and transaction costs are reported to the BRB by the issuing agencies and entities. For the purposes of this appendix, to identify the controlling ownership of firms based on race, gender, and ethnicity, the businesses are classified as Asian-Pacific American (AP), Black American (BA), Hispanic American (HA), Native American (NA), Woman-Owned (WO), Disabled-Veteran (DV), or not belonging to one of these categories. Although "HUB" is used in this appendix, it does not imply that the firms listed as such are certified with the Texas Comptroller of Public Accounts.

STATE BONDS ISSUED

Issuance Name	Par Amount	Closing Date
Texas A&M University System Permanent University Fund Series 2017A Bonds	$90,365,000	10/31/2017
Texas A&M University System Permanent University Fund Taxable Series 2017B Bonds	$310,515,000	10/31/2017
Texas A&M University System Revenue Financing System Bonds, Series 2017D (Taxable)	$158,680,000	12/20/2017
Texas A&M University System Revenue Financing System Bonds, Series 2017E	$341,995,000	12/20/2017
Texas Department of Housing and Community Affairs Multifamily Crosby Plaza Apartments Series 2018	$7,000,000	6/27/2018
Texas Department of Housing and Community Affairs Multifamily Housing Revenue Bonds (Emli at Liberty Crossing), Series 2017	$17,600,000	12/20/2017
Texas Department of Housing and Community Affairs Multifamily Housing Revenue Bonds (FNMA MBS Pass-Through - Oaks on Lamar), Series 2018	$16,810,000	8/23/2018
Texas Department of Housing and Community Affairs Multifamily Housing Revenue Bonds (FNMA MBS Pass-Through - Riverside Townhomes), Series 2018	$19,200,000	8/23/2018
Texas Department of Housing and Community Affairs Multifamily Housing Revenue Bonds (Pass-Through - Vista on Gessner), Series 2018	$50,000,000	2/5/2018
Texas Department of Housing and Community Affairs Multifamily Housing Revenue Bonds (Pass-Through-Casa Brendan Apartments), Series 2017	$5,000,000	10/17/2017
Texas Department of Housing and Community Affairs Multifamily Housing Revenue Bonds (Pass-Through-Casa Inc Apartments), Series 2017	$24,000,000	10/17/2017
Texas Department of Housing and Community Affairs Multifamily Housing Revenue Bonds (Pass-Through-Nuestro Hogar Apartments), Series 2017	$5,700,000	10/17/2017
Texas Department of Housing and Community Affairs Multifamily Housing Revenue Bonds (Springs Apartments) Series 2018	$20,000,000	5/16/2018
Texas Department of Housing and Community Affairs Multifamily The Preserve at Hunters Crossing Series 2018	$13,000,000	5/3/2018
Texas Department of Housing and Community Affairs Single Family Series 2018 Issuer Note	$12,000,000	8/8/2018
Texas Higher Education Coordinating Board College Student Loan Bonds Series 2017	$155,720,000	12/21/2017
Texas Public Finance Authority Lease Revenue Refunding Bonds (THCP), Taxable Series 2017	$4,085,000	9/28/2017
Texas Public Finance Authority State of Texas General Obligation Refunding Bonds, Taxable Series 2017B	$21,070,000	10/3/2017
Texas State Affordable Housing Corporation Multifamily Housing Revenue Bonds (Palladium Glenn Heights Apartments) Series 2017	$18,500,000	12/7/2017
Texas Transportation Commission Grand Parkway Transportation Corporation Series 2018A, 2018B, and BANs	$1,483,955,000	5/30/2018
Texas Veterans Land Board Veterans Bonds Series 2018	$250,000,000	6/28/2018
Texas Water Development Board General Obligation Water Financial Assistance Refunding Bonds Series 2018B (Water Infrastructure Fund)	$238,895,000	8/2/2018
Texas Water Development Board State Revolving Fund Revenue Bonds, New Series 2018	$288,395,000	4/26/2018
Texas Water Development Board State Water Implementation Revenue Fund for Texas Revenue Bonds Series 2018A (Master Trust)	$832,065,000	5/9/2018
Texas Water Development Board State Water Implementation Revenue Fund for Texas Revenue Bonds, Series 2017A (Master Trust)	$1,046,970,000	10/12/2017
Texas Water Development Board State Water Implementation Revenue Fund for Texas Revenue Bonds, Taxable Series 2017B (Master Trust)	$18,935,000	10/12/2017
Texas Water Development Board Water Financial Assistance and Refunding Bonds, Series 2018A	$61,280,000	1/25/2018
Texas Woman's University Revenue Financing System Bonds, Series 2018	$12,375,000	4/24/2018
Texas Woman's University Revenue Financing System Refunding Bonds, Forward Delivery Series 2018	$25,625,000	6/1/2018

Issuance Name	Par Amount	Closing Date
University of Houston System Consolidated Revenue and Refunding Bonds Series 2017C	$320,635,000	12/21/2017
University of North Texas System Revenue Financing System Refunding Bonds, Forward Delivery Series 2018	$22,845,000	3/14/2018
University of Texas System Permanent University Fund Bonds, Taxable Series 2017A	$302,640,000	11/14/2017
University of Texas System Revenue Financing System Bonds, Series 2017B	$265,490,000	10/24/2017
University of Texas System Revenue Financing System Bonds, Taxable Series 2017A	$350,815,000	9/14/2017
University of Texas System Revenue Financing System Refunding Bonds, Series 2017C	$258,465,000	12/7/2017
Total	**$7,070,625,000**	

Issuer **Texas A&M University System**

Issuance Permanent University Fund Series 2017A Bonds

Purpose The proceeds from the sale of the Series 2017A Bonds will be used to (i) refund $30,000,000 in aggregate principal amount of the Board's outstanding Permanent University Fund Commercial Paper Notes secured by and payable from a lien on and pledge of the Available University Fund Share, junior and subordinate to the lien thereon and pledge thereof securing the Parity Obligations, (ii) refund $61,760,000 of the Permanent University Fund Bonds, Series 2011, and (iii) pay the costs of issuance for the Series 2017A Bonds.

Actual Par $90,365,000
Sale Type Competitive
Sale Date 10/11/2017
Closing Date 10/31/2017

Series Name	TIC	NIC	Is Variable
PUF Ser 2017A Bonds	2.87%	3.01%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.11
Bond Counsel	Winstead, PC	NO	$28,853	0.32
CUSIP	CUSIP Global Services	NO	$344	0.00
Disclosure Counsel	Winstead PC	NO	$6,763	0.07
Escrow Agent	UMB Bank, NA	NO	$1,350	0.01
Escrow Verification	Causey Demgen & Moore, PC	NO	$507	0.01
Financial Advisor	Hilltop Securities, Inc.	NO	$45,205	0.50
Miscellaneous	BOK Financial Securities, Inc.	NO	$68	0.00
Paying Agent/Registrar	UMB Bank, NA	NO	$2,150	0.02
Printing	Hilltop Securities, Inc.	NO	$171	0.00
Printing	Hilltop Securities, Inc.	NO	$789	0.01
	Total		**$95,700**	**1.06**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Fitch	AAA	$0	0.00
Rating Fee	Moody's	Aaa	$21,952	0.24
Rating Fee	S&P	AAA	$21,651	0.24
		Total	**$43,603**	**0.48**

Fee Name	Actual Fee	$ Per 1000
Management Fee	$30,179	0.33
Spread Expenses	$6,026	0.07
Takedown	$856,601	9.48
Total	**$892,806**	**9.88**

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
UBS Financial Services, Inc.	NO	98.95%	98.95%	$29,863	100.00%	$856,601
Wiley Brothers Aintree Capital, LLC	NO	1.05%	1.05%	$316		
		Total	**100%**	**$30,179**	**100%**	**$856,601**

Issuer **Texas A&M University System**

Issuance Permanent University Fund Taxable Series 2017B Bonds

Purpose The proceeds from the sale of the Series 2017B Bonds will be used to (i) provide funding for eligible projects, (ii) refund $69,350,000 in aggregate principal amount of the Board's outstanding Permanent University Fund Taxable Commercial Paper Notes secured by and payable from a lien on and pledge of the Available University Share, junior and subordinate to the lien thereon and pledge thereof securing the Parity Obligations, and (iii) refund $675,000 of the Permanent University Fund Bonds, Series 2011, and (iv) pay the costs of issuance for the Series 2017B Bonds.

Actual Par $310,515,000
Sale Type Competitive
Sale Date 10/11/2017
Closing Date 10/31/2017

Series Name	TIC	NIC	Is Variable
PUF Taxable Ser 2017B Bonds	3.69%	3.68%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.03
Bond Counsel	Winstead, PC	NO	$99,147	0.32
CUSIP	CUSIP Global Services	NO	$6,046	0.02
Disclosure Counsel	Winstead, PC	NO	$23,238	0.07
Escrow Agent	UMB Bank, NA	NO	$1,350	0.00
Escrow Verification	Causey Demgen & Moore, PC	NO	$1,743	0.01
Financial Advisor	Hilltop Securities, Inc.	NO	$155,335	0.50
Miscellaneous	BOK Financial Securities, Inc.	NO	$232	0.00
Paying Agent/Registrar	UMB Bank, NA	NO	$2,150	0.01
Printing	Hilltop Securities, Inc.	NO	$589	0.00
Printing	Hilltop Securities, Inc.	NO	$2,711	0.01
	Total		**$302,041**	**0.97**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Fitch	AAA	$0	0.00
Rating Fee	Moody's	Aaa	$57,048	0.18
Rating Fee	S&P	AAA	$74,399	0.24
		Total	**$131,447**	**0.42**

Fee Name	Actual Fee	$ Per 1000
Takedown	$1,474,946	4.75
Total	**$1,474,946**	**4.75**

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
Barclays Capital, Inc.	NO	100.00%			100.00%	$1,474,946
		Total			**100%**	**$1,474,946**

Issuer **Texas A&M University System**

Issuance Revenue Financing System Bonds, Series 2017D (Taxable)

Purpose The proceeds of the Bonds will be used for purposes of refunding a portion of the Board's outstanding commercial paper notes ($157,885,000).

Actual Par $158,680,000
Sale Type Negotiated
Sale Date 11/29/2017
Closing Date 12/20/2017

Series Name	TIC	NIC	Is Variable
RFS Bonds, Series 2017D (Taxable)	3.63%	3.65%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.06
Bond Counsel	Andrews Kurth, LLP	NO	$18,588	0.12
Co-Bond Counsel	Kassahan & Ortiz	**HA**	$21,346	0.13
Disclosure Counsel	Andrews Kurth, LLP	NO	$9,508	0.06
Financial Advisor	Hilltop Securities, Inc.	NO	$79,388	0.50
Miscellaneous		NO	$1,336	0.01
Paying Agent/Registrar	Bank of New York	NO	$1,625	0.01
Printing	Ipreo	NO	$241	0.00
Printing	Ipreo	NO	$792	0.01
		Total	**$142,324**	**0.90**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Fitch	AAA	$0	0.00
Rating Fee	Moody's	Aaa	$33,729	0.21
Rating Fee	S&P	AAA	$36,130	0.23
		Total	**$69,859**	**0.44**

Fee Name	Actual Fee	$ Per 1000
Spread Expenses	$47,729	0.30
Takedown	$535,089	3.37
Total	**$582,818**	**3.67**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Co-Underwriter's Counsel	LM Tatum, PLLC	**WO**	$7,650	0.05	Yes
Underwriter's Counsel	Norton Rose Fulbright US, LLP	NO	$18,900	0.12	Yes

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
Goldman Sachs & Co.	NO	40.00%			40.00%	$214,036
Estrada Hinojosa & Co., Inc.	**HA**	30.00%			30.00%	$160,527
Raymond James & Assoc., Inc.	NO	30.00%			30.00%	$160,527
		Total			**100%**	**$535,090**

Issuer	**Texas A&M University System**
Issuance	Revenue Financing System Bonds, Series 2017E
Purpose	The proceeds of the Bonds will be used for purposes of (i) providing construction funds for projects within the A&M System, and (ii) refunding certain currently outstanding long-term Parity Obligations of the Board

Actual Par	$341,995,000
Sale Type	Negotiated
Sale Date	11/29/2017
Closing Date	12/20/2017

Series Name	TIC	NIC	Is Variable
RFS Bonds, Series 2017E	3.17%	3.44%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.03
Bond Counsel	Andrews Kurth Kenyon, LLP	NO	$76,162	0.22
Co-Bond Counsel	Kassahan & Ortiz	**HA**	$9,904	0.03
Disclosure Counsel	Andrews Kurth Kenyon, LLP	NO	$20,492	0.06
Escrow Agent	UMB Bank, NA	NO	$2,500	0.01
Escrow Verification	Causey Demgen & Moore, PC	NO	$4,000	0.01
Financial Advisor	Hilltop Securities, Inc.	NO	$171,100	0.50
Miscellaneous	BOKF, NA	NO	$900	0.00
Miscellaneous	Regions Bank	NO	$500	0.00
Paying Agent/Registrar	Bank of New York	NO	$1,625	0.00
Printing	Ipreo	NO	$519	0.00
Printing	Ipreo	NO	$1,708	0.01
	Total		**$298,910**	**0.87**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Fitch	AAA	$0	0.00
Rating Fee	Moody's	Aaa	$59,271	0.17
Rating Fee	S&P	AAA	$77,870	0.23
		Total	**$137,141**	**0.40**

Fee Name	Actual Fee	$ Per 1000
Spread Expenses	$118,478	0.35
Takedown	$1,155,970	3.38
Total	**$1,274,448**	**3.73**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Co-Underwriter's Counsel	LM Tatum, PLLC	**WO**	$17,850	0.05	Yes
Underwriter's Counsel	Norton Rose Fulbright US, LLP	NO	$44,100	0.13	Yes

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
Barclays Capital, Inc.	NO	30.00%			39.93%	$461,584
RBC Capital Markets	NO	17.50%			18.14%	$209,692
Wells Fargo Securities	NO	17.50%			17.92%	$207,108

Loop Capital Markets, LLC	**BA**	17.50%			12.12%	$140,048
Ramirez & Co., Inc.	**HA**	17.50%			11.90%	$137,538
		Total			**100%**	**$1,155,970**

Issuer **Texas Department of Housing and Community Affairs Multifamily**

Issuance Crosby Plaza Apartments Series 2018

Purpose The bonds are issued for the purpose of providing funds to make a loan to Crosby Plaza 34, LLC to pay a portion of the cost of acquiring, rehabilitating and equipping an 86 unit multifamily residential rental facility located in Crosby, Texas.

Actual Par $7,000,000
Sale Type Negotiated
Sale Date 6/20/2018
Closing Date 6/27/2018

Series Name	TIC	NIC	Is Variable
Crosby Plaza Apartments Series 2018	2.53%	2.50%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	1.36
Bond Counsel	Bracewell, LLP	NO	$110,000	15.71
Disclosure Counsel	McCall Parkhurst & Horton, LLP	NO	$6,500	0.93
Financial Advisor	George K Baum & Co.	NO	$35,000	5.00
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$1,720	0.25
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$2,150	0.31
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$13,494	1.93
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$35,000	5.00
Miscellaneous	Texas Department of Housing & Community Affairs	NO	$16,381	2.34
Private Activity Fee		NO	$7,200	1.03
Trustee	Wilmington Trust, NA	NO	$5,000	0.71
Trustee Counsel	Naman Howell Smith & Lee, PLLC	NO	$6,000	0.86
	Total		**$247,945**	**35.42**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	S&P	AA+	$5,000	0.71
		Total	**$5,000**	**0.71**

Fee Name	Actual Fee	$ Per 1000
Management Fee	$72,600	10.37
Total	**$72,600**	**10.37**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Underwriter's Counsel	Tiber Hudson, LLC	NO	$36,500	5.21	No

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
Red Capital Markets, LLC	NO	100.00%	100.00%	$72,600		
		Total	**100%**	**$72,600**		

Issuer **Texas Department of Housing and Community Affairs Multifamily**

Issuance Multifamily Housing Revenue Bonds (Emli at Liberty Crossing), Series 2017

Purpose The Bonds are being issued for the purpose of providing funds to make a mortage loan to Emli at Liberty Crossing to pay a portion of the cost of acquiring, constructing and equipping a 240-unit residential rental housing development.

Actual Par $17,600,000
Sale Type Negotiated
Sale Date 12/6/2017
Closing Date 12/20/2017

Series Name	TIC	NIC	Is Variable
Multifamily Housing Rev Bonds (Emli at Liberty Crossing), Ser 2017	2.01%	2.01%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.54
Bond Counsel	Bracewell, LLP	NO	$150,000	8.52
Disclosure Counsel	McCall Parkhurst & Horton, LLP	NO	$6,500	0.37
Escrow Verification	Causey Demgen & Moore, PC	NO	$2,000	0.11
Financial Advisor	George K Baum & Co.	NO	$35,000	1.99
Issuer Fees	Dallas Morning News Media	NO	$2,136	0.12
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$6,000	0.34
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$11,000	0.63
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$35,200	2.00
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$49,981	2.84
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$88,000	5.00
Miscellaneous	Shackelford Bowen McKinley & Norton, LLP	NO	$63,750	3.62
Printing	ImageMaster, LLC	NO	$2,500	0.14
Private Activity Fee		NO	$9,500	0.54
Trustee	Bank of Texas	NO	$8,500	0.48
Trustee Counsel	Schulman Lopez Hoffer & Adelstein, LLP	NO	$13,755	0.78
	Total		**$493,322**	**28.03**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	S&P	AA+	$5,000	0.28
		Total	**$5,000**	**0.28**

Fee Name	Actual Fee	$ Per 1000
Management Fee	$32,492	1.85
Total	**$32,492**	**1.85**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Underwriter's Counsel	Norris George & Ostrow, PLLC	NO	$75,000	4.26	No

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
Raymond James & Assoc., Inc.	NO	100.00%	100.00%	$32,492	100.00%	
		Total	**100%**	**$32,492**	**100%**	

Issuer **Texas Department of Housing and Community Affairs Multifamily**

Issuance Multifamily Housing Revenue Bonds (FNMA MBS Pass-Through - Oaks on Lamar), Series 2018

Purpose The proceeds of the bonds will be used for the acquisition and rehabilitation of Oaks on Lamar, an existing 176-unit multifamily residential rental development in Austin, Travis County.

Actual Par $16,810,000
Sale Type Negotiated
Sale Date 8/15/2018
Closing Date 8/23/2018

Series Name	TIC	NIC	Is Variable
MF HRB (FNMA MBS Collateralized Pass-Through - Oaks on Lamar), Series 2018	3.65%	3.61%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.57
Bond Counsel	Bracewell LLP	NO	$77,740	4.62
Disclosure Counsel	McCall, Parkhurst & Horton L.L.P	NO	$3,000	0.18
Financial Advisor	George K Baum & Co.	NO	$10,000	0.59
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$4,400	0.26
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$11,000	0.65
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$32,826	1.95
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$77,610	4.62
Miscellaneous	Texas Department of Housing & Community Affairs	NO	$39,941	2.38
Private Activity Fee		NO	$20,000	1.19
Trustee	Wilmington Trust, N.A	NO	$4,500	0.27
Trustee Counsel	Naman Howell Smith & Lee PLLC	NO	$5,000	0.30
	Total		**$295,517**	**17.58**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	S&P	AA+	$5,000	0.30
		Total	**$5,000**	**0.30**

Fee Name	Actual Fee	$ Per 1000
Management Fee	$110,552	6.58
Total	**$110,552**	**6.58**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Underwriter's Counsel	Tiber Hudson LLC	NO	$30,000	1.78	No

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
Wells Fargo Securities	NO	100.00%	100.00%	$110,552		
		Total	**100%**	**$110,552**		

Issuer **Texas Department of Housing and Community Affairs Multifamily**

Issuance Multifamily Housing Revenue Bonds (FNMA MBS Pass-Through - Riverside Townhomes), Series 2018

Purpose The proceeds of the bonds will be used for the acquisition and rehabilitation of Riverside Townhomes, an existing 128-unit multifamily residential rental development in Austin, Travis County, Texas.

Actual Par $19,200,000
Sale Type Negotiated
Sale Date 8/15/2018
Closing Date 8/23/2018

Series Name	TIC	NIC	Is Variable
MF HRB (FNMA MBS Pass-Through - Riverside Townhomes), Ser 2018	3.64%	3.60%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.49
Bond Counsel	Bracewell LLP	NO	$91,260	4.75
Disclosure Counsel	McCall Parkhurst & Horton L.L.P	NO	$3,500	0.18
Financial Advisor	George K Baum & Co.	NO	$35,000	1.82
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$3,200	0.17
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$11,000	0.57
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$37,493	1.95
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$88,440	4.61
Miscellaneous	Texas Department of Housing & Community Affairs	NO	$41,752	2.17
Private Activity Fee		NO	$20,000	1.04
Trustee	Wilmington Trust, N.A	NO	$4,500	0.23
Trustee Counsel	Naman Howell Smith & Lee PLLC	NO	$5,000	0.26
	Total		**$350,645**	**18.26**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	S&P	AA+	$5,000	0.26
		Total	**$5,000**	**0.26**

Fee Name	Actual Fee	$ Per 1000
Management Fee	$124,494	6.48
Total	**$124,494**	**6.48**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Underwriter's Counsel	Tiber Hudson LLC	NO	$40,000	2.08	No

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
Wells Fargo Securities	NO	100.00%	100.00%	$124,494		
		Total	**100%**	**$124,494**		

Issuer **Texas Department of Housing and Community Affairs Multifamily**

Issuance Multifamily Housing Revenue Bonds (Pass-Through - Vista on Gessner), Series 2018

Purpose The Bonds are being issued to finance the cost of the acquisition and rehabilitation of an 805-unit residential rental housing development known as Vista on Gessner in Houston, TX.

Actual Par $50,000,000
Sale Type Negotiated
Sale Date 1/25/2018
Closing Date 2/5/2018

Series Name	TIC	NIC	Is Variable
MF Housing Revenue Bonds (Pass-Through - Vista on Gessner), Series 2018	4.55%	4.49%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.19
Bond Counsel	Bracewell, LLP	NO	$120,000	2.40
Disclosure Counsel	McCall Parkhurst & Horton, LLP	NO	$6,500	0.13
Financial Advisor	George K Baum & Co.	NO	$35,000	0.70
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$11,000	0.22
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$20,125	0.40
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$99,444	1.99
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$140,749	2.82
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$250,000	5.00
Printing	ImageMaster, LLC	NO	$1,500	0.03
Private Activity Fee		NO	$17,500	0.35
Trustee	Wilmington Trust, NA	NO	$6,000	0.12
Trustee Counsel	Petruska & Assoc., LLC	NO	$6,500	0.13
	Total		**$723,818**	**14.48**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Moody's	Aaa	$23,000	0.46
		Total	**$23,000**	**0.46**

Fee Name	Actual Fee	$ Per 1000
Management Fee	$280,000	5.60
Total	**$280,000**	**5.60**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Underwriter's Counsel	Norris George & Ostrow, PLLC	NO	$45,000	0.90	No

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
RBC Capital Markets	NO	100.00%	100.00%	$280,000		
		Total	**100%**	**$280,000**		

Issuer **Texas Department of Housing and Community Affairs Multifamily**

Issuance Multifamily Housing Revenue Bonds (Pass-Through-Casa Brendan Apartments), Series 2017

Purpose The Bonds are being issued to help acquire and renovate an 86-unit residential rental housing facility known as Casa Brendan, consisting of 11 residential buildings and located at 1300 Hyman Street in Stephenville, Texas.

Actual Par $5,000,000
Sale Type Negotiated
Sale Date 10/5/2017
Closing Date 10/17/2017

Series Name	TIC	NIC	Is Variable
MF Housing Rev Bonds (Pass-Through-Casa Brendan Apartments), Series 2017	3.88%	3.83%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$6,000	1.20
Bond Counsel	Bracewell, LLP	NO	$25,000	5.00
Disclosure Counsel	McCall Parkhurst & Horton, LLP	NO	$5,000	1.00
Financial Advisor	George K Baum & Co.	NO	$10,000	2.00
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$2,150	0.43
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$10,000	2.00
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$11,000	2.20
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$12,988	2.60
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$25,000	5.00
Private Activity Fee		NO	$6,500	1.30
Trustee	Wilmington Trust, NA	NO	$2,875	0.58
Trustee Counsel	Naman Howell Smith & Lee, PLLC	NO	$4,125	0.83
	Total		**$120,638**	**24.13**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Moody's	Aaa	$0	0.00
		Total	**$0**	**0.00**

Fee Name	Actual Fee	$ Per 1000
Management Fee	$32,492	6.50
Total	**$32,492**	**6.50**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Underwriter's Counsel	Norris George & Ostrow, PLLC	NO	$12,968	2.59	No

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
Jefferies & Co., Inc.	NO	100.00%	100.00%	$32,492		
		Total	**100%**	**$32,492**		

Issuer **Texas Department of Housing and Community Affairs Multifamily**

Issuance Multifamily Housing Revenue Bonds (Pass-Through-Casa Inc Apartments), Series 2017

Purpose The Series 2017 Bonds are being issued to help acquire and renovate a 200-unit residential rental housing facility known as Casa Inc, consisting of one building located at 3201 Sondra Drive in Fort Worth, Texas.

Actual Par $24,000,000
Sale Type Negotiated
Sale Date 10/5/2017
Closing Date 10/17/2017

Series Name	TIC	NIC	Is Variable
MF Housing Rev Bonds (Pass-Through-Casa Inc Apartments), Series 2017	3.86%	3.81%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.40
Bond Counsel	Bracewell & Giuliani, LLP	NO	$102,808	4.28
Disclosure Counsel	McCall Parkhurst & Horton, LLP	NO	$6,000	0.25
Financial Advisor	George K Baum & Co.	NO	$35,000	1.46
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$5,000	0.21
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$11,000	0.46
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$40,501	1.69
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$48,000	2.00
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$120,000	5.00
Printing	ImageMaster, LLC	NO	$2,000	0.08
Private Activity Fee		NO	$11,250	0.47
Trustee	Wilmington Trust, NA	NO	$7,250	0.30
Trustee Counsel	Naman Howell Smith & Lee, PLLC	NO	$8,250	0.34
	Total		**$406,559**	**16.94**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Moody's	Aaa	$29,260	1.22
		Total	**$29,260**	**1.22**

Fee Name	Actual Fee	$ Per 1000
Management Fee	$155,959	6.50
Total	**$155,959**	**6.50**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Underwriter's Counsel	Norris George & Ostrow, PLLC	NO	$62,248	2.59	No

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
Jefferies & Co., Inc.	NO	100.00%	100.00%	$155,959		
		Total	**100%**	**$155,959**		

Issuer **Texas Department of Housing and Community Affairs Multifamily**

Issuance Multifamily Housing Revenue Bonds (Pass-Through-Nuestro Hogar Apartments), Series 2017

Purpose The Series 2017 Bonds are being issued to help acquire and renovate a 65-unit residential rental housing facility known as Nuestro Hogar, consisting of one building and located at 709 Magnolia Street in Arlington, Texas.

Actual Par $5,700,000
Sale Type Negotiated
Sale Date 10/5/2017
Closing Date 10/17/2017

Series Name	TIC	NIC	Is Variable
MF Housing Rev Bonds (Pass-Through-Nuestro Hogar Apartments), Series 2017	3.88%	3.83%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$6,000	1.05
Bond Counsel	Bracewell & Giuliani, LLP	NO	$25,000	4.39
Disclosure Counsel	McCall Parkhurst & Horton, LLP	NO	$2,000	0.35
Financial Advisor	George K Baum & Co.	NO	$10,000	1.75
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$1,625	0.29
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$8,530	1.50
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$11,000	1.93
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$11,400	2.00
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$28,500	5.00
Private Activity Fee		NO	$6,500	1.14
Trustee	Wilmington Trust, NA	NO	$2,875	0.50
Trustee Counsel	Naman Howell Smith & Lee, PLLC	NO	$4,125	0.72
	Total		**$117,555**	**20.62**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Moody's	Aaa	$0	0.00
		Total	**$0**	**0.00**

Fee Name	Actual Fee	$ Per 1000
Management Fee	$37,040	6.50
Total	**$37,040**	**6.50**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Underwriter's Counsel	Norris George & Ostrow, PLLC	NO	$14,784	2.59	No

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
Jefferies & Co., Inc.	NO	100.00%	100.00%	$37,040		
		Total	**100%**	**$37,040**		

Issuer **Texas Department of Housing and Community Affairs Multifamily**

Issuance Multifamily Housing Revenue Bonds (Springs Apartments) Series 2018

Purpose Proceeds of the bonds will be loaned to LDG Springs Apartments, LP, a Texas limited partnership to enable the borrower to pay a portion of the cost of acquiring, constructing and equipping a 221-unit multifamily residential rental facility located in Balch Springs, Dallas County, Texas.

Actual Par $20,000,000
Sale Type Negotiated
Sale Date 5/9/2018
Closing Date 5/16/2018

Series Name	TIC	NIC	Is Variable
Multifamily Housing Revenue Bonds (Springs Apartments) Series 2018	2.47%	2.46%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.48
Bond Counsel	Bracewell, LLP	NO	$140,000	7.00
Disclosure Counsel	McCall Parkhurst & Horton, LLP	NO	$6,500	0.33
Financial Advisor	George K Baum & Co.	NO	$35,000	1.75
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$5,525	0.28
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$11,000	0.55
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$39,111	1.96
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$100,000	5.00
Miscellaneous	Texas Department of Housing & Community Affairs	NO	$59,338	2.97
Private Activity Fee		NO	$10,000	0.50
Trustee	BOKF, NA	NO	$4,000	0.20
Trustee Counsel	Naman Howell Smith & Lee, PLLC	NO	$7,000	0.35
	Total		**$426,974**	**21.35**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	S&P	AA+	$5,000	0.25
		Total	**$5,000**	**0.25**

Fee Name	Actual Fee	$ Per 1000
Management Fee	$105,000	5.25
Total	**$105,000**	**5.25**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Underwriter's Counsel	Gilpin Givhan, PC	NO	$30,000	1.50	No

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
Stifel Nicolaus & Co., Inc.	NO	100.00%	100.00%	$105,000		
		Total	**100%**	**$105,000**		

Issuer **Texas Department of Housing and Community Affairs Multifamily**

Issuance The Preserve at Hunters Crossing Series 2018

Purpose The proceeds of the Note will be used for site acquisition and new construction of The Preserve at Hunters Crossing. Situated on 11.985 acres, the new construction consists of 14 two-story garden style residential buildings providing 140 units, with a stand-alone clubhouse and pool.

Actual Par $13,000,000
Sale Type Private Placement
Sale Date 5/3/2018
Closing Date 5/3/2018

Series Name	TIC	NIC	Is Variable
The Preserve at Hunters Crossing Ser 2018	5.14%	5.14%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.73
Bond Counsel	Bracewell, LLP	NO	$130,000	10.00
Disclosure Counsel	McCall Parkhurst & Horton, LLP	NO	$6,500	0.50
Financial Advisor	George K Baum & Co.	NO	$35,000	2.69
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$3,500	0.27
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$11,000	0.85
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$26,181	2.01
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$26,761	2.06
Issuer Fees	Texas Department of Housing & Community Affairs	NO	$65,000	5.00
Private Activity Fee		NO	$8,250	0.63
Trustee	BOKF, NA	NO	$6,000	0.46
Trustee Counsel	Naman Howell Smith & Lee, PLLC	NO	$6,500	0.50
	Total		**$334,192**	**25.71**

Issuer **Texas Department of Housing and Community Affairs Single Family**

Issuance Series 2018 Issuer Note

Purpose Proceeds of the Note will be used to make and acquire second lien mortgage loans made to qualifying borrowers in the Department's SFMRB Program to provide down payment and closing cost assistance to such borrowers.

Actual Par $12,000,000
Sale Type Private Placement
Sale Date 8/8/2018
Closing Date 8/8/2018

Series Name	TIC	NIC	Is Variable
Series 2018 Issuer Note	3.52%	3.50%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.79
Bond Counsel	Bracewell, LLP	NO	$29,023	2.42
Financial Advisor	George K Baum & Co.	NO	$18,000	1.50
Miscellaneous	Norton Rose Fulbright US, LLP	NO	$50,000	4.17
Miscellaneous	Woodforest National Bank	NO	$50,000	4.17
	Total		**$156,523**	**13.04**

Issuer **Texas Higher Education Coordinating Board**

Issuance College Student Loan Bonds Series 2017

Purpose Proceeds from the sale of the Bonds will be used to fund an ongoing student loan program which provides low interest loans to eligible students at institutions of higher education in the State.

Actual Par $155,720,000
Sale Type Competitive
Sale Date 12/1/2017
Closing Date 12/21/2017

Series Name	TIC	NIC	Is Variable
College Student Loan Bonds Ser 2017	3.11%	3.27%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Bond Counsel	McCall Parkhurst & Horton, LLP	NO	$105,056	0.67
Escrow Agent	Wells Fargo Bank, NA	NO	$1,000	0.01
Financial Advisor	First Southwest Co., LLC	NO	$77,860	0.50
Paying Agent/Registrar	Wells Fargo Bank, NA	NO	$1,000	0.01
	Total		**$184,916**	**1.19**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Moody's	Aaa	$25,000	0.16
Rating Fee	S&P	AAA	$25,000	0.16
		Total	**$50,000**	**0.32**

Fee Name	Actual Fee	$ Per 1000
Takedown	$435,491	2.80
Total	**$435,491**	**2.80**

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
Merrill Lynch Pierce Fenner & Smith, Inc	NO	100.00%			100.00%	$435,491
		Total			**100%**	**$435,491**

Issuer **Texas Public Finance Authority**

Issuance Lease Revenue Refunding Bonds (THCP), Taxable Series 2017

Purpose The Bonds are being issued to refund certain outstanding bonds of the Authority. (TPFA Tax Lease Rev Bonds THCP, Ser 2006)

Actual Par $4,085,000
Sale Type Negotiated
Sale Date 9/13/2017
Closing Date 9/28/2017

Series Name	TIC	NIC	Is Variable
Lease Rev Ref Bonds (THCP), Taxable Series 2017	2.64%	2.74%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$4,085	1.00
Bond Counsel	Escamilla & Poneck, LLP	**HA**	$36,000	8.81
Disclosure Counsel	McCall Parkhurst & Horton, LLP	NO	$26,000	6.36
Escrow Agent	TTSTC	NO	$500	0.12
Financial Advisor	Hilltop Securities, Inc.	NO	$20,000	4.90
Miscellaneous		NO	$380	0.09
Printing	ImageMaster, LLC	NO	$1,278	0.31
	Total		**$88,243**	**21.60**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Fitch	AA+	$12,000	2.94
Rating Fee	S&P	AA+	$4,062	0.99
		Total	**$16,062**	**3.93**

Fee Name	Actual Fee	$ Per 1000
Spread Expenses	$7,092	1.74
Takedown	$12,850	3.15
Total	**$19,942**	**4.88**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Underwriter's Counsel	Bickerstaff Heath Delgado Acosta, LLP	NO	$5,000	1.22	Yes

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
George K Baum & Co.	NO	100.00%			100.00%	$12,850
		Total			**100%**	**$12,850**

Issuer **Texas Public Finance Authority**

Issuance State of Texas General Obligation Refunding Bonds, Taxable Series 2017B

Purpose Proceeds of the Bonds will be used to refund certain outstanding general obligation and refunding bonds of the State issued by the Authority. (TPFA GO and Ref Bonds Ser 2008A)

Actual Par $21,070,000
Sale Type Negotiated
Sale Date 9/13/2017
Closing Date 10/3/2017

Series Name	TIC	NIC	Is Variable
State of Texas GO Ref Bonds, Taxable Series 2017B	2.59%	2.64%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.45
Bond Counsel	Bracewell, LLP	NO	$55,000	2.61
Disclosure Counsel	Mahomes Bolden, PC	**BA**	$39,158	1.86
Escrow Agent	TTSTC	NO	$500	0.02
Escrow Verification	Grant Thornton, LLP	NO	$2,000	0.09
Financial Advisor	Hilltop Securities, Inc.	NO	$40,000	1.90
Miscellaneous		NO	$1,496	0.07
Printing	ImageMaster, LLC	NO	$1,293	0.06
	Total		**$148,947**	**7.07**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Fitch	AAA	$18,000	0.85
Rating Fee	S&P	AAA	$20,940	0.99
		Total	**$38,940**	**1.85**

Fee Name	Actual Fee	$ Per 1000
Management Fee	$8,500	0.40
Spread Expenses	$18,586	0.88
Takedown	$73,438	3.49
Total	**$100,524**	**4.77**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Underwriter's Counsel	Bickerstaff Heath Delgado Acosta, LLP	NO	$13,000	0.62	Yes

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
George K Baum & Co.	NO	70.00%	100.00%	$8,500	70.00%	$51,406
Blaylock Beal Van, LLC	**DV**	30.00%		$0	30.00%	$22,031
		Total	**100%**	**$8,500**	**100%**	**$73,437**

Issuer **Texas State Affordable Housing Corporation Multifamily**

Issuance Multifamily Housing Revenue Bonds (Palladium Glenn Heights Apartments) Series 2017

Purpose The Bonds are being issued for the purpose of funding a loan to Palladium Glenn Heights. Proceeds of the Loan will be used to finance a portion of the costs of the acquisition, construction and equipping of a 270-unit multifamily rental housing development.

Actual Par $18,500,000
Sale Type Negotiated
Sale Date 11/30/2017
Closing Date 12/7/2017

Series Name	TIC	NIC	Is Variable
MF Housing Rev Bonds (Palladium Glenn Heights Apartments) Series 2017	2.17%	2.16%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.51
Bond Counsel	Norton Rose Fulbright US, LLP	NO	$85,500	4.62
Escrow Verification	Causey Demgen & Moore, PC	NO	$2,000	0.11
Financial Advisor	Hilltop Securities, Inc.	NO	$57,000	3.08
Issuer Counsel	Mahomes Bolden, PC	**BA**	$18,500	1.00
Issuer Fees	Texas State Affordable Housing Corp.	NO	$1,500	0.08
Issuer Fees	Texas State Affordable Housing Corp.	NO	$12,150	0.66
Issuer Fees	Texas State Affordable Housing Corp.	NO	$18,500	1.00
Printing	ImageMaster, LLC	NO	$1,500	0.08
Private Activity Fee		NO	$9,750	0.53
Trustee	Wilmington Trust, NA	NO	$6,000	0.32
Trustee Counsel	Bracewell, LLP	NO	$6,500	0.35
	Total		**$228,400**	**12.35**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	S&P	AA+	$5,000	0.27
		Total	**$5,000**	**0.27**

Fee Name	Actual Fee	$ Per 1000
Management Fee	$25,000	1.35
Structuring Fee	$4,415	0.24
Takedown	$69,375	3.75
Total	**$98,790**	**5.34**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Underwriter's Counsel	Norris George & Ostrow, PLLC	NO	$45,000	2.43	No

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
RBC Capital Markets	NO	100.00%	100.00%	$25,000	100.00%	$69,375
		Total	**100%**	**$25,000**	**100%**	**$69,375**

Issuer **Texas Transportation Commission Grand Parkway Transportation Corporation**

Issuance Series 2018A, 2018B, and BANs

Purpose Proceeds of the 2018 Bonds and the 2018 BANs will be used to finance and refinance the costs of the Grand Parkway H and I projects.

Actual Par $1,483,955,000
Sale Type Negotiated
Sale Date 5/16/2018
Closing Date 5/30/2018

Series Name	TIC	NIC	Is Variable
GPTC Bond Anticipation Notes, Series 2018			No
GPTC Subordinate Tier Toll Revenue Bonds, Series 2018A (TELA Supported)	3.54%	4.44%	No
GPTC Subordinate Tier Toll Revenue Put Bonds, Series 2018B (TELA Supported)			Yes

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$28,500	0.02
Bond Counsel	McCall Parkhurst & Horton, LLP	NO	$1,609,214	1.08
Disclosure Counsel	Bracewell, LLP	NO	$1,390,894	0.94
Financial Advisor	Estrada Hinojosa & Co., Inc.	**HA**	$430,000	0.29
Miscellaneous	Mayer Brown, LLP	NO	$314,245	0.21
Printing	ImageMaster, LLC	NO	$10,000	0.01
Trustee	US Bank, NA	NO	$7,000	0.00
Trustee Counsel	Locke Lord, LLP	NO	$20,000	0.01
		Total	**$3,809,853**	**2.57**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Fitch	AA	$275,000	0.19
Rating Fee	S&P	AA+	$270,000	0.18
		Total	**$545,000**	**0.37**

Fee Name	Actual Fee	$ Per 1000
Spread Expenses	$410,739	0.28
Takedown	$5,419,013	3.65
Total	**$5,829,752**	**3.93**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Co-Underwriter's Counsel	Mahomes Bolden, PC	**BA**	$60,000	0.04	Yes
Underwriter's Counsel	Winstead, PC	NO	$140,000	0.09	Yes

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
Morgan Stanley & Co., Inc.	NO	32.50%			37.45%	$2,029,678
Goldman Sachs & Co.	NO	32.50%			37.42%	$2,028,040
Siebert Cisneros Shank & Co., LLC	**BA**	4.37%			3.14%	$170,232
Mesirow Financial	NO	4.37%			3.14%	$170,232
Loop Capital Markets, LLC	**BA**	4.37%			3.14%	$170,232
Jefferies & Co., Inc.	NO	4.37%			3.14%	$170,232

Frost Bank	NO	4.37%			3.14%	$170,232
Bank of America Merrill Lynch	NO	4.37%			3.14%	$170,232
Citigroup Global Markets, Inc.	NO	4.37%			3.13%	$169,717
Piper Jaffray & Co.	NO	4.37%			3.12%	$169,088
Fidelity Capital Markets	NO				0.02%	$1,100
		Total			**100%**	**$5,419,015**

Issuer **Texas Veterans Land Board**

Issuance Veterans Bonds Series 2018

Purpose The proceeds of the bonds will be deposited in the Veterans' Housing Assistance Fund II, a fund administered by the Veterans' Land Board, and made available to make Home Loans to eligible Texas veterans.

Actual Par $250,000,000
Sale Type Negotiated
Sale Date 6/27/2018
Closing Date 6/28/2018

Series Name	TIC	NIC	Is Variable
Veterans Bonds Series 2018			Yes

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.04
Bond Counsel	Bracewell LLP	NO	$125,000	0.50
Co-Bond Counsel	Lannen & Oliver, PC	**BA**	$30,346	0.12
Financial Advisor	George K Baum & Co.	NO	$87,500	0.35
Liquidity Provider's Counsel	Squire Patton Boggs, LLP	NO	$12,000	0.05
Printing	Island Printing	NO	$818	0.00
		Total	**$265,164**	**1.06**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Moody's	Aaa	$20,000	0.08
		Total	**$20,000**	**0.08**

Fee Name	Actual Fee	$ Per 1000
Spread Expenses	$37,000	0.15
Total	**$37,000**	**0.15**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Co-Underwriter's Counsel	Mahomes Bolden, PC	**BA**	$5,000	0.02	Yes
Underwriter's Counsel	Norton Rose Fulbright US, LLP	NO	$25,000	0.10	Yes

Issuer **Texas Water Development Board**

Issuance General Obligation Water Financial Assistance Refunding Bonds Series 2018B (Water Infrastructure Fund)

Purpose The bonds are being issued for the purpose of conserving and developing the water resources of the State by (i) providing funds for the refunding of the Refunded Bonds and (ii) to pay costs of issuance of the bonds.

Actual Par $238,895,000
Sale Type Negotiated
Sale Date 7/11/2018
Closing Date 8/2/2018

Series Name	TIC	NIC	Is Variable
GO WFA Refunding Bonds Ser 2018B (Water Infrastructure Fund)	2.75%	2.96%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.04
Bond Counsel	Norton Rose Fulbright US, LLP	NO	$163,500	0.68
Disclosure Counsel	Bracewell, LLP	NO	$35,000	0.15
Financial Advisor	Hilltop Securities, Inc.	NO	$196,454	0.82
Miscellaneous	Texas Water Development Board	NO	$2,629	0.01
Paying Agent/Registrar	Bank of New York	NO	$1,275	0.01
Printing	Hilltop Securities, Inc.	NO	$7,500	0.03
	Total		**$415,858**	**1.74**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Fitch	AAA	$48,039	0.20
Rating Fee	Moody's	Aaa	$36,000	0.15
Rating Fee	S&P	AAA	$30,000	0.13
		Total	**$114,039**	**0.48**

Fee Name	Actual Fee	$ Per 1000
Spread Expenses	$86,872	0.36
Takedown	$704,914	2.95
Total	**$791,786**	**3.31**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Underwriter's Counsel	Mahomes Bolden, PC	**BA**	$45,000	0.19	Yes

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
Piper Jaffray & Co.	NO	48.00%			49.85%	$351,413
Barclays Capital, Inc.	NO	13.00%			16.16%	$113,880
Siebert Cisneros Shank & Co., LLC	**BA**	13.00%			12.52%	$88,253
BOK Financial Securities, Inc.	NO	13.00%			10.91%	$76,881
Loop Capital Markets, LLC	**BA**	13.00%			10.57%	$74,487
		Total			**100%**	**$704,914**

Issuer **Texas Water Development Board**

Issuance State Revolving Fund Revenue Bonds, New Series 2018

Purpose The Series 2018 Bonds are being issued to provide funds to the CWSRF and the DWSRF to finance the acquisition of Political Subdivision Bonds, including State Match requirements.

Actual Par $288,395,000
Sale Type Negotiated
Sale Date 4/11/2018
Closing Date 4/26/2018

Series Name	TIC	NIC	Is Variable
State Revolving Fund Revenue Bonds, New Series 2018	3.24%	3.55%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.03
Bond Counsel	McCall Parkhurst & Horton, LLP	NO	$156,000	0.54
Disclosure Counsel	Bracewell, LLP	NO	$35,000	0.12
Financial Advisor	Hilltop Securities, Inc.	NO	$203,217	0.70
Miscellaneous		NO	$5,249	0.02
Paying Agent/Registrar	The Bank of New York Mellon Trust Co.	NO	$575	0.00
Printing	Hilltop Securities, Inc.	NO	$7,500	0.03
Printing	ImageMaster, LLC	NO	$5,200	0.02
	Total		**$422,241**	**1.46**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Fitch	AAA	$80,000	0.28
Rating Fee	S&P	AAA	$112,500	0.39
		Total	**$192,500**	**0.67**

Fee Name	Actual Fee	$ Per 1000
Spread Expenses	$105,819	0.37
Takedown	$865,898	3.00
Total	**$971,717**	**3.37**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Underwriter's Counsel	Orrick Herrington & Sutcliffe, LLP	NO	$52,500	0.18	Yes

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
RBC Capital Markets	NO	50.00%			50.05%	$433,413
Wells Fargo Securities	NO	10.00%			16.01%	$138,635
Jefferies & Co., Inc.	NO	10.00%			10.60%	$91,767
Mesirow Financial	NO	10.00%			10.26%	$88,808
Stern Brothers & Co.	NO	10.00%			6.65%	$57,580
Frost Bank	NO	10.00%			6.43%	$55,695
		Total			**100%**	**$865,898**

Issuer **Texas Water Development Board**

Issuance State Water Implementation Revenue Fund for Texas Revenue Bonds Series 2018A (Master Trust)

Purpose The proceeds from the sale of the Bonds will be used to finance projects to implement the State Water Plan.

Actual Par $832,065,000
Sale Type Negotiated
Sale Date 4/24/2018
Closing Date 5/9/2018

Series Name	TIC	NIC	Is Variable
SWIRFT Revenue Bonds Series 2018A	3.68%	3.89%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.01
Bond Counsel	McCall Parkhurst & Horton, LLP	NO	$156,000	0.19
Disclosure Counsel	Bracewell, LLP	NO	$35,000	0.04
Financial Advisor	Hilltop Securities, Inc.	NO	$259,237	0.31
Paying Agent/Registrar	The Bank of New York Mellon Trust Co.	NO	$2,563	0.00
Printing	Hilltop Securities, Inc.	NO	$7,500	0.01
Printing	ImageMaster, LLC	NO	$5,156	0.01
Travel		NO	$8,168	0.01
Trustee	The Bank of New York Mellon Trust Co.	NO	$3,274	0.00
	Total		**$486,398**	**0.58**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Fitch	AAA	$85,000	0.10
Rating Fee	S&P	AAA	$131,750	0.16
		Total	**$216,750**	**0.26**

Fee Name	Actual Fee	$ Per 1000
Spread Expenses	$147,163	0.18
Takedown	$2,421,104	2.91
Total	**$2,568,267**	**3.09**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Underwriter's Counsel	Orrick Herrington & Sutcliffe, LLP	NO	$59,000	0.07	Yes

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
JP Morgan Securities	NO	50.00%			51.15%	$1,238,186
Citigroup Global Markets, Inc.	NO	6.25%			8.59%	$208,061
Morgan Stanley & Co., Inc.	NO	6.25%			8.54%	$206,875
Bank of America Merrill Lynch	NO	6.25%			8.49%	$205,590
RBC Capital Markets	NO	6.25%			6.28%	$152,151
Siebert Cisneros Shank & Co., LLC	**BA**	6.25%			5.16%	$124,823
Ramirez & Co., Inc.	NO	6.25%			4.78%	$115,716
Fidelity Capital Markets	NO	6.25%			3.70%	$89,462
SAMCO Capital Markets, Inc.	NO	6.25%			3.31%	$80,240
		Total			**100%**	**$2,421,104**

Issuer **Texas Water Development Board**

Issuance State Water Implementation Revenue Fund for Texas Revenue Bonds, Series 2017A (Master Trust)

Purpose The Series 2017 Bonds of each series are being issued (i) to fund financial assistance through the purchase of or entering into Political Subdivision Obligations the proceeds of which will be used to finance State Water Plan projects, and (ii) to pay the costs of issuance of the Series 2017 Bonds of such series.

Actual Par $1,046,970,000
Sale Type Negotiated
Sale Date 9/26/2017
Closing Date 10/12/2017

Series Name	TIC	NIC	Is Variable
SWIRFT Revenue Bonds, Series 2017A	3.40%	3.68%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.01
Bond Counsel	McCall Parkhurst & Horton, LLP	NO	$153,216	0.15
Disclosure Counsel	Bracewell, LLP	NO	$34,375	0.03
Financial Advisor	Hilltop Securities, Inc.	NO	$262,514	0.25
Printing	Hilltop Securities, Inc.	NO	$7,366	0.01
Printing	ImageMaster, LLC	NO	$1,479	0.00
Travel		NO	$18,108	0.02
Trustee	BNY Capital Markets, Inc.	NO	$66,564	0.06
		Total	**$553,122**	**0.53**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Fitch	AAA	$93,304	0.09
Rating Fee	S&P	AAA	$153,952	0.15
		Total	**$247,256**	**0.24**

Fee Name	Actual Fee	$ Per 1000
Spread Expenses	$206,138	0.20
Takedown	$3,129,284	2.99
Total	**$3,335,422**	**3.19**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Underwriter's Counsel	Andrews Kurth Kenyon, LLP	NO	$63,840	0.06	Yes

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
Morgan Stanley & Co., Inc.	NO	50.00%			49.78%	$1,557,722
Citigroup Global Markets, Inc.	NO	5.00%			8.58%	$268,398
Bank of America Merrill Lynch	NO	5.00%			6.82%	$213,300
JP Morgan Securities	NO	5.00%			5.99%	$187,345
Siebert Cisneros Shank & Co., LLC	**BA**	5.00%			4.54%	$142,017
Jefferies & Co., Inc.	NO	5.00%			4.38%	$137,098
Raymond James & Assoc., Inc.	NO	5.00%			4.27%	$133,621
Piper Jaffray & Co.	NO	5.00%			4.19%	$131,186

BOK Financial Securities, Inc.	NO	5.00%			3.96%	$123,940
Ramirez & Co., Inc.	**HA**	5.00%			3.77%	$117,857
FTN Financial Capital Markets	NO	5.00%			3.73%	$116,802
		Total			**100%**	**$3,129,286**

Issuer **Texas Water Development Board**

Issuance State Water Implementation Revenue Fund for Texas Revenue Bonds, Taxable Series 2017B (Master Trust)

Purpose The Series 2017 Bonds of each series are being issued to fund financial assistance through the purchase of or entering into Political Subdivision Obligations the proceeds of which will be used to finance State Water Plan projects.

Actual Par $18,935,000
Sale Type Negotiated
Sale Date 9/26/2017
Closing Date 10/12/2017

Series Name	TIC	NIC	Is Variable
SWIRFT Bonds, Taxable Series 2017B	3.51%	3.53%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.50
Bond Counsel	McCall Parkhurst & Horton, LLP	NO	$2,784	0.15
Disclosure Counsel	Bracewell, LLP	NO	$625	0.03
Financial Advisor	Hilltop Securities, Inc.	NO	$4,771	0.25
Printing	Hilltop Securities, Inc.	NO	$134	0.01
Printing	ImageMaster, LLC	NO	$27	0.00
Travel		NO	$329	0.02
Trustee	BNY Capital Markets, Inc.	NO	$5,187	0.27
		Total	**$23,357**	**1.23**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Fitch	AAA	$1,696	0.09
Rating Fee	S&P	AAA	$2,798	0.15
		Total	**$4,494**	**0.24**

Fee Name	Actual Fee	$ Per 1000
Spread Expenses	$5,893	0.31
Takedown	$72,471	3.83
Total	**$78,364**	**4.14**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Underwriter's Counsel	Andrews Kurth Kenyon, LLP	NO	$1,160	0.06	Yes

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
Morgan Stanley & Co., Inc.	NO	50.00%			47.30%	$34,276
FTN Financial Capital Markets	NO	5.00%			7.06%	$5,116
BOK Financial Securities, Inc.	NO	5.00%			6.21%	$4,499
Citigroup Global Markets, Inc.	NO	5.00%			5.50%	$3,986
JP Morgan Securities	NO	5.00%			5.34%	$3,874
Raymond James & Assoc., Inc.	NO	5.00%			5.32%	$3,854
Siebert Cisneros Shank & Co., LLC	**BA**	5.00%			4.66%	$3,374
Ramirez & Co., Inc.	**HA**	5.00%			4.66%	$3,374

Piper Jaffray & Co.	NO	5.00%			4.66%	$3,374
Jefferies & Co., Inc.	NO	5.00%			4.66%	$3,374
Bank of America Merrill Lynch	NO	5.00%			4.66%	$3,374
		Total			**100%**	**$72,475**

Issuer **Texas Water Development Board**

Issuance Water Financial Assistance and Refunding Bonds, Series 2018A

Purpose The bonds are being issued for the purpose of conserving and developing the water resources of the State by (i) providing funds for the Financial Assistance Account for Water Assistance Projects, including state matching funds for federal funds provided to any state revolving fund administered by the Board under provisions of the Texas Water Code; (ii) providing funds for the refunding of the Refunded Bonds; and (iii) paying costs of issuance of the bonds.

Actual Par $61,280,000
Sale Type Negotiated
Sale Date 1/10/2018
Closing Date 1/25/2018

Series Name	TIC	NIC	Is Variable
WFA and Ref Bonds, Ser 2018A	2.26%	2.51%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.16
Bond Counsel	Norton Rose Fulbright US, LLP	NO	$71,960	1.17
Disclosure Counsel	Bracewell, LLP	NO	$35,000	0.57
Financial Advisor	Hilltop Securities, Inc.	NO	$63,159	1.03
Paying Agent/Registrar	The Bank of New York Mellon Trust Co., NA	NO	$1,050	0.02
Printing	Hilltop Securities, Inc.	NO	$7,500	0.12
Printing	ImageMaster, LLC	NO	$1,284	0.02
	Total		**$189,453**	**3.09**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Fitch	AAA	$23,000	0.38
Rating Fee	Moody's	Aaa	$21,250	0.35
Rating Fee	S&P	AAA	$25,000	0.41
		Total	**$69,250**	**1.13**

Fee Name	Actual Fee	$ Per 1000
Spread Expenses	$40,739	0.66
Takedown	$172,304	2.81
Total	**$213,043**	**3.48**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Underwriter's Counsel	Andrews Kurth Kenyon, LLP	NO	$30,000	0.49	Yes

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
Ramirez & Co., Inc.	**HA**	49.00%			49.90%	$85,985
Piper Jaffray & Co.	NO	17.00%			26.77%	$46,134
UMB Bank, NA	NO	17.00%			12.93%	$22,281
Academy Securities	**DV**	17.00%			10.39%	$17,903
		Total			**100%**	**$172,303**

Issuer **Texas Woman's University**

Issuance Revenue Financing System Bonds, Series 2018

Purpose The proceeds from the sale of the Bonds will be used for the following purposes: (i) acquiring, purchasing, constructing, improving, renovating, enlarging or equipping property, buildings, structures, activities, services, operations or other facilities of the University and (ii) paying costs of issuance of the Bonds.

Actual Par $12,375,000
Sale Type Negotiated
Sale Date 3/27/2018
Closing Date 4/24/2018

Series Name	TIC	NIC	Is Variable
RFS Bonds, Ser 2018	3.39%	3.53%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.77
Bond Counsel	McCall Parkhurst & Horton, LLP	NO	$18,500	1.49
Financial Advisor	RBC Capital Markets	NO	$47,129	3.81
Paying Agent/Registrar	BOKF, NA	NO	$400	0.03
Printing	Clements Printing Co., LLC	NO	$700	0.06
Printing	MuniHub	NO	$750	0.06
Travel		NO	$8,946	0.72
	Total		**$85,925**	**6.94**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Moody's	Aa3	$26,500	2.14
		Total	**$26,500**	**2.14**

Fee Name	Actual Fee	$ Per 1000
Management Fee	$12,375	1.00
Spread Expenses	$17,665	1.43
Takedown	$56,463	4.56
Total	**$86,503**	**6.99**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Underwriter's Counsel	Orrick Herrington & Sutcliffe, LLP	NO	$12,375	1.00	Yes

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
Hilltop Securities, Inc.	NO	100.00%	100.00%	$12,375	100.00%	$56,463
		Total	**100%**	**$12,375**	**100%**	**$56,463**

Issuer **Texas Woman's University**

Issuance Revenue Financing System Refunding Bonds, Forward Delivery Series 2018

Purpose Proceeds of the Bonds will be used for refunding Texas Woman's University Revenue Financing System Bonds, Series 2008 and Series 2009

Actual Par $25,625,000
Sale Type Private Placement
Sale Date 7/21/2016
Closing Date 6/1/2018

Series Name	TIC	NIC	Is Variable
RFS Ref Bonds, Forward Delivery Ser 2018	2.52%	2.52%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.37
Bond Counsel	McCall Parkhurst & Horton, LLP	NO	$40,500	1.58
Escrow Agent	The Bank of New York Mellon Trust Co.	NO	$1,200	0.05
Financial Advisor	RBC Capital Markets	NO	$67,419	2.63
Miscellaneous		NO	$11,981	0.47
Paying Agent/Registrar	The Bank of New York Mellon Trust Co.	NO	$600	0.02
Private Placement Counsel	Kelly Hart & Hallman, LLP	NO	$22,500	0.88
	Total		**$153,700**	**6.00**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Moody's	Aa3	$0	0.00
		Total	**$0**	**0.00**

Fee Name	Actual Fee	$ Per 1000
Spread Expenses	$30,000	1.17
Total	**$30,000**	**1.17**

Issuer **University of Houston System**

Issuance Consolidated Revenue and Refunding Bonds Series 2017C

Purpose The Bonds are being issued to (i) refund and defease certain outstanding notes and bonds of the System, (ii) finance the acquisition, purchase, construction, improvement, enlargement, and equipping of property buildings, structures, activities, services, operations and other facilities, roads, or related infrastructure for or on behalf of the System, including individual campuses of the System

Actual Par $320,635,000
Sale Type Competitive
Sale Date 12/13/2017
Closing Date 12/21/2017

Series Name	TIC	NIC	Is Variable
Consolidated Rev and Ref Bonds Ser 2017C	3.30%	3.47%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.03
Bond Counsel	Norton Rose Fulbright US, LLP	NO	$375,000	1.17
Disclosure Counsel	Andrews Kurth Kenyon, LLP	NO	$50,000	0.16
Escrow Agent	Wells Fargo Bank, NA	NO	$1,000	0.00
Escrow Verification	Grant Thornton, LLP	NO	$5,000	0.02
Financial Advisor	Hilltop Securities, Inc.	NO	$179,000	0.56
Paying Agent/Registrar	Wells Fargo Bank, NA	NO	$2,000	0.01
Printing	Hilltop Securities, Inc.	NO	$4,000	0.01
Printing	Ipreo	NO	$760	0.00
Trustee	Wells Fargo Bank, NA	NO	$1,000	0.00
	Total		**$627,260**	**1.96**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Moody's	Aa2	$145,000	0.45
Rating Fee	S&P	AA	$101,000	0.32
		Total	**$246,000**	**0.77**

Fee Name	Actual Fee	$ Per 1000
Spread Expenses	$106,015	0.33
Takedown	$1,139,971	3.56
Total	**$1,245,986**	**3.89**

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
JP Morgan Securities	NO	100.00%			100.00%	$1,139,971
		Total			**100%**	**$1,139,971**

Issuer **University of North Texas System**

Issuance Revenue Financing System Refunding Bonds, Forward Delivery Series 2018

Purpose Proceeds of the Bonds will be used for refunding University of North Texas System Revenue Financing System Bonds, Series 2009

Actual Par $22,845,000
Sale Type Private Placement
Sale Date 5/20/2016
Closing Date 3/14/2018

Series Name	TIC	NIC	Is Variable
RFS Ref Bonds, Forward Delivery Series 2018	2.40%	2.40%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.42
Bond Counsel	McCall Parkhurst & Horton, LLP	NO	$39,194	1.72
Escrow Agent	BOKF, NA	NO	$1,050	0.05
Escrow Verification	BOKF, NA	NO	$1,500	0.07
Financial Advisor	Hilltop Securities, Inc.	NO	$15,500	0.68
Issuer Fees		NO	$3,493	0.15
Private Placement Fee	Hutchinson Shockey Erley & Co.	NO	$5,000	0.22
	Total		**$75,237**	**3.29**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Fitch	AA	$0	0.00
Rating Fee	Moody's	Aa2	$0	0.00
		Total	**$0**	**0.00**

Issuer **University of Texas System**

Issuance Permanent University Fund Bonds, Taxable Series 2017A

Purpose Proceeds from the sale of the Bonds will be used for the purpose of refunding $81,000,000 in aggregate principal amount of the Tax-Exempt CP Notes and $220,000,000 in aggregate principal amount of the Taxable CP Notes that are outstanding.

Actual Par $302,640,000
Sale Type Negotiated
Sale Date 11/7/2017
Closing Date 11/14/2017

Series Name	TIC	NIC	Is Variable
Permanent University Fund Bonds, Taxable Ser 2017A	3.39%	3.39%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.03
Bond Counsel	Bracewell, LLP	NO	$102,363	0.34
Paying Agent/Registrar	US Bank	NO	$3,300	0.01
Printing	ImageMaster, LLC	NO	$3,716	0.01
Travel		NO	$433	0.00
		Total	**$119,312**	**0.39**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Fitch	AAA	$0	0.00
Rating Fee	Moody's	Aaa	$87,000	0.29
Rating Fee	S&P	AAA	$55,920	0.18
		Total	**$142,920**	**0.47**

Fee Name	Actual Fee	$ Per 1000
Spread Expenses	$51,080	0.17
Takedown	$907,920	3.00
Total	**$959,000**	**3.17**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Underwriter's Counsel	Andrews Kurth, LLP	NO	$27,500	0.09	Yes

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
JP Morgan Securities	NO	65.00%			65.00%	$590,148
Hilltop Securities, Inc.	NO	5.00%			5.00%	$45,396
Blaylock Beal Van, LLC	**BA**	5.00%			5.00%	$45,396
George K Baum & Co.	NO	5.00%			5.00%	$45,396
Drexel Hamilton, LLC	**VO**	5.00%			5.00%	$45,396
Raymond James & Assoc., Inc.	NO	5.00%			5.00%	$45,396
Citigroup Global Markets, Inc.	NO	5.00%			5.00%	$45,396
Stifel Nicolaus & Co., Inc.	NO	5.00%			5.00%	$45,396
		Total			**100%**	**$907,920**

Issuer **University of Texas System**

Issuance Revenue Financing System Bonds, Series 2017B

Purpose The Bonds are being issued for the purpose of (i) refunding a portion of the Board's Revenue Financing System Commercial Paper Notes, Series A and the Board's Revenue Financing System Taxable Commercial Paper Notes, Series B in the aggregate principal amount of $279,119,000 and (ii) paying the costs of issuance of the Bonds.

Actual Par $265,490,000
Sale Type Negotiated
Sale Date 9/14/2017
Closing Date 10/24/2017

Series Name	TIC	NIC	Is Variable
RFS Bonds, Ser 2017B	3.51%	3.66%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.04
Bond Counsel	McCall Parkhurst & Horton, LLP	NO	$110,881	0.42
Disclosure Counsel	McCall Parkhurst & Horton, LLP	NO	$17,500	0.07
Paying Agent/Registrar	US Bank	NO	$3,500	0.01
Printing	ImageMaster, LLC	NO	$1,774	0.01
Travel		NO	$671	0.00
	Total		**$143,826**	**0.54**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Fitch	AAA	$0	0.00
Rating Fee	Moody's	Aaa	$41,000	0.15
Rating Fee	S&P	AAA	$40,000	0.15
		Total	**$81,000**	**0.31**

Fee Name	Actual Fee	$ Per 1000
Spread Expenses	$84,488	0.32
Takedown	$989,431	3.73
Total	**$1,073,920**	**4.05**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Underwriter's Counsel	Andrews Kurth, LLP	NO	$27,500	0.10	Yes

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
Bank of America Merrill Lynch	NO	58.00%			62.81%	$621,462
Morgan Stanley & Co., Inc.	NO	6.00%			15.51%	$153,462
Loop Capital Markets, LLC	**BA**	6.00%			6.16%	$60,958
Piper Jaffray & Co.	NO	6.00%			4.28%	$42,329
Ramirez & Co., Inc.	**HA**	6.00%			3.62%	$35,828
Fidelity Capital Markets	NO	6.00%			3.03%	$29,991
FTN Financial Capital Markets	NO	6.00%			2.39%	$23,623
Frost Bank	NO	6.00%			2.20%	$21,779
		Total			**100%**	**$989,431**

Issuer **University of Texas System**

Issuance Revenue Financing System Bonds, Taxable Series 2017A

Purpose The Bonds are being issued for the purpose of (i) refunding a portion of the Board's Revenue Financing System Taxable Commercial Paper Notes, Series B in the aggregate principal amount of $349,000,000 and (ii) paying the costs of issuance of the Bonds.

Actual Par $350,815,000
Sale Type Negotiated
Sale Date 9/7/2017
Closing Date 9/14/2017

Series Name	TIC	NIC	Is Variable
RFS Bonds, Taxable Series 2017A	3.37%	3.36%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.03
Bond Counsel	McCall Parkhurst & Horton, LLP	NO	$128,505	0.37
Disclosure Counsel	McCall Parkhurst & Horton, LLP	NO	$27,500	0.08
Miscellaneous	Mohanty Gargiulo, LLC	**WO**	$15,000	0.04
Paying Agent/Registrar	Bank of Texas	NO	$3,500	0.01
Printing	ImageMaster, LLC	NO	$1,743	0.01
Travel		NO	$1,081	0.00
	Total		**$186,829**	**0.53**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Fitch	AAA	$0	0.00
Rating Fee	Moody's	Aaa	$58,000	0.17
Rating Fee	S&P	AAA	$56,000	0.16
		Total	**$114,000**	**0.32**

Fee Name	Actual Fee	$ Per 1000
Spread Expenses	$65,990	0.19
Takedown	$1,052,444	3.00
Total	**$1,118,434**	**3.19**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Underwriter's Counsel	Andrews Kurth Kenyon, LLP	NO	$27,500	0.08	Yes

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
Goldman Sachs & Co.	NO	58.00%			58.00%	$610,418
Wells Fargo Securities	NO	7.00%			7.00%	$73,671
Siebert Cisneros Shank & Co., LLC	**BA**	7.00%			7.00%	$73,671
RBC Capital Markets	NO	7.00%			7.00%	$73,671
Jefferies & Co., Inc.	NO	7.00%			7.00%	$73,671
Estrada Hinojosa & Co., Inc.	**HA**	7.00%			7.00%	$73,671
Barclays Capital, Inc.	NO	7.00%			7.00%	$73,671
		Total			**100%**	**$1,052,444**

Issuer **University of Texas System**

Issuance Revenue Financing System Refunding Bonds, Series 2017C

Purpose The Bonds are being issued for the purpose of refunding certain long-term Parity Debt obligations; RFS Series 2009D, RFS Series 2012A, RFS Series 2012B

Actual Par $258,465,000
Sale Type Negotiated
Sale Date 11/28/2017
Closing Date 12/7/2017

Series Name	TIC	NIC	Is Variable
RFS Ref Bonds, Series 2017C	2.54%	2.73%	No

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000
Attorney General		NO	$9,500	0.04
Bond Counsel	McCall Parkhurst & Horton, LLP	NO	$114,377	0.44
Disclosure Counsel	McCall Parkhurst & Horton, LLP	NO	$17,500	0.07
Escrow Agent	UMB Financial Corp.	NO	$2,500	0.01
Escrow Verification	Causey Demgen & Moore, PC	NO	$3,250	0.01
Paying Agent/Registrar	US Bank	NO	$1,500	0.01
Paying Agent/Registrar	Wells Fargo Bank, NA	NO	$500	0.00
Printing	ImageMaster, LLC	NO	$3,753	0.01
	Total		**$152,880**	**0.59**

Fee Name	Rating Agency	Assigned Rating	Actual Fee	$ Per 1000
Rating Fee	Fitch	AAA	$0	0.00
Rating Fee	Moody's	Aaa	$75,000	0.29
Rating Fee	S&P	AAA	$50,790	0.20
		Total	**$125,790**	**0.49**

Fee Name	Actual Fee	$ Per 1000
Spread Expenses	$57,013	0.22
Takedown	$639,347	2.47
Total	**$696,360**	**2.69**

Fee Name	Firm Name	HUB	Actual Fee	$ Per 1000	UW Paid
Underwriter's Counsel	Andrews Kurth, LLP	NO	$27,500	0.11	Yes

Firm Name	HUB	% of Risk	Mgmt Fee %	Mgmt Fee $	Take Down %	Take Down $
Barclays Capital, Inc.	NO	65.00%			57.54%	$367,896
Mesirow Financial	NO	5.00%			13.70%	$87,608
Siebert Cisneros Shank & Co., LLC	**BA**	5.00%			12.04%	$77,002
Fidelity Capital Markets	NO	5.00%			6.97%	$44,543
US Bancorp	NO	5.00%			3.33%	$21,319
TD Securities	NO	5.00%			3.21%	$20,508
Estrada Hinojosa & Co., Inc.	**HA**	5.00%			2.71%	$17,304
Academy Securities	**VO**	5.00%			0.50%	$3,167
		Total			**100%**	**$639,347**

Several state agencies and institutions of higher education have established variable-rate debt financing programs that provide financing for equipment or capital projects or provide loans to eligible entities.

As of August 31, 2018, a total of $6.83 billion was authorized for state commercial paper or variable-rate note programs. Of this amount, $2.14 billion was outstanding as of the end of fiscal year 2018 *(Table B1),* approximately $146.7 million more than the amount outstanding at fiscal year-end 2017.

A summary of each commercial paper or variable-rate debt program is provided below.

Texas Department of Agriculture

In 1991, the Texas Agricultural Finance Authority (TAFA), a public authority within the Texas Department of Agriculture, was authorized to establish a taxable commercial paper note program. TAFA issues commercial paper to purchase and guarantee loans made to businesses involved in the production, processing, marketing and exporting of Texas agricultural products. The commercial paper notes are a general obligation of the state; however, the program is designed to be self-supporting.

During fiscal year 1995, TAFA established a second general obligation taxable commercial paper note program to make funds available for the Farm and Ranch Finance Program. The program was established to provide loans and other financial assistance through local lending institutions to eligible borrowers for the purchase of farm or ranch land.

Texas Department of Housing and Community Affairs

The Texas Department of Housing and Community Affairs (TDHCA) established a single-family mortgage revenue commercial paper program in 1994. The program enables TDHCA to capture mortgage payments and prepayments and recycle them into mortgage loans. By issuing commercial paper notes to satisfy the mandatory redemption provisions of outstanding single-family mortgage revenue bonds instead of using the payments and prepayments to redeem bonds, TDHCA is able to preserve the private activity volume cap and generate new mortgage loans.

While still legislatively authorized, the program was terminated in July 2009. TDHCA has no plans to use the authority, and reauthorization from the Bond Review Board (BRB) would be required to reestablish the program.

Texas Department of Transportation

In July 2005, the Texas Transportation Commission (the Commission), the governing body of the Texas Department of Transportation, authorized a commercial paper program to issue up to $500.0 million in commercial paper to carry out transportation functions.

In June 2013, the Commission suspended the commercial paper program and created the State Highway Fund Revenue Flexible Rate Revolving Notes Program. As of August 31, 2018, the authorized amount under the program was $250.0 million to carry out transportation functions and no notes are currently outstanding.

Texas Economic Development and Tourism Office

In 1992, the Department of Commerce, subsequently the Texas Economic Development and Tourism Office (the Office) was granted $300.0 million of authority to issue commercial paper to fund loans to Texas businesses under three programs. Under the first program marketed as the Texas Leverage Fund, the Office approves loans to local industrial development corporations. Revenues from an optional local half-cent sales tax for economic development secure these loans. The second program provides for the purchase of small business loans which are fully guaranteed by the U.S. Small Business Administration. A third program may make loans directly to businesses from program reserves. The program is designed to be self-supporting, and the commercial paper issued by the Office is taxable. The BRB has authorized a

Table B1

TEXAS COMMERCIAL PAPER AND VARIABLE-RATE NOTE PROGRAMS

as of August 31, 2018

ISSUER	TYPE OF PROGRAM	AMOUNT AUTHORIZED	AMOUNT ISSUED FISCAL YEAR 2018	AMOUNT OUTSTANDING
Texas Department of Agriculture (1)				
TAFA	Commercial Paper - Series A	$ 50,000,000	$ -	$ -
Farm and Ranch Loans	Commercial Paper - Series B	25,000,000	-	-
Texas Dept. of Housing & Community Affairs	Commercial Paper	-	-	-
Texas Department of Transportation				
State Highway Fund	Flexible-Rate Notes - Series B	250,000,000	-	-
Texas Economic Dev & Tourism Office (2)	Commercial Paper	25,000,000	-	5,000,000
Texas Public Finance Authority				
Revenue	Commercial Paper - 2003	150,000,000	5,400,000	33,650,000
Revenue	Commercial Paper - 2016A	767,670,000	45,000,000	62,000,000
General Obligation	Commercial Paper - 2002A	850,000,000	-	-
General Obligation	Commercial Paper - 2002B	175,000,000	-	-
General Obligation	Commercial Paper - 2008	1,000,000,000	21,750,000	33,350,000
General Obligation - Cancer Prevention	Commercial Paper - Series A	450,000,000	222,200,000	222,200,000
Research Institute of Texas (3)	Commercial Paper - Series B		-	-
Texas State University System	Commercial Paper	240,000,000	305,360,000	55,600,000
Texas Tech University System				
Revenue Financing System	Commercial Paper	150,000,000	30,800,000	52,685,000
The Texas A&M University System				
Permanent University Fund	Flexible-Rate Notes	125,000,000	-	-
Permanent University Fund	Commercial Paper		123,350,000	57,650,000
Revenue Financing System	Commercial Paper	300,000,000	229,600,000	267,811,000
The University of Texas System				
Permanent University Fund (3)	Commercial Paper - Series A	750,000,000	200,000,000	300,000,000
Permanent University Fund (3)	Commercial Paper - Series B		-	155,000,000
Revenue Financing System (3)	Commercial Paper - Series A	1,250,000,000	249,703,000	458,388,000
Revenue Financing System (3)	Commercial Paper - Series B		72,000,000	272,480,000
University of Houston System				
Revenue Financing System	Commercial Paper - Series A-1	125,000,000	6,000,000	6,000,000
Revenue Financing System	Commercial Paper - Series A-2		60,100,000	77,567,000
University of North Texas System				
Revenue Financing System	Commercial Paper - Series A	75,000,000	22,900,000	35,200,000
Revenue Financing System	Commercial Paper - Series B	75,000,000	35,425,000	48,400,000
Total		**$ 6,832,670,000**	**$ 1,629,588,000**	**$ 2,142,981,000**

Source: Texas Bond Review Board - Bond Finance Office.

(1) Represents the maximum amount authorized by the Bond Review Board; however, the Texas Agricultural Finance Authority (Department of Agriculture) has approved a $100 million program amount.

(2) Represents the maximum amount authorized by the Bond Review Board; however, the program has a $300 million program amount.

(3) Represents cumulative total amount for Series A (tax-exempt) & B (taxable) with no limitation on the amount issued in each series, provided that the total outstanding amount will not exceed the maximum authorization.

maximum authority of $25.0 million for the Texas Leverage Fund.

Texas Public Finance Authority

In 1992, the Texas Public Finance Authority (TPFA) established a Master Lease Purchase Program (MLPP) that is funded through commercial paper. The commercial paper issued to date has primarily been used to finance the purchase of equipment with shorter useful lives such as computers and telecommunications equipment. TPFA also has the authority to use the commercial paper to provide interim financing for capital projects undertaken on behalf of state agencies. The MLPP commercial paper is a special revenue obligation of the state, payable only from legislative appropriations to the participating agencies for lease payments.

During fiscal year 1993, TPFA established a variable-rate financing program that is secured by the state's general obligation pledge. The proceeds are used to provide interim financing for capital projects that are authorized by the legislature and financed through general obligation bonds. In 2002, TPFA established a commercial paper program that is also secured by the state's general obligation pledge to provide financial assistance to border counties for roadways in colonias.

In 2008, TPFA established another commercial paper program that is also secured by the state's general obligation pledge to: (i) provide interim financing for maintenance, improvement, repair, construction and equipment-acquisition projects for state agencies, (ii) refund and refinance the Notes and (iii) pay the costs of issuance of the Notes.

In the November 2007 general election, Texas voters authorized TPFA to issue $3.00 billion of general obligation debt over ten years to finance cancer research. During fiscal year 2009, TPFA established a commercial paper program that is also secured by the state's general obligation pledge to provide financing of certain projects for the Cancer Prevention and Research Institute of Texas. The first issuance occurred in September 2009.

Texas State University System

On May 22, 2014, the Texas State University System adopted the Eighteenth Supplemental Resolution to the Master Resolution Establishing the Texas State University System Revenue Financing System (RFS) Commercial Paper Program, Series A. The aggregate principal amount of commercial paper outstanding authorized by the resolution may not exceed $240.0 million.

Texas Tech University System and Texas Tech University Health Sciences Center

In November 1997, the Board of Regents of Texas Tech University System (the "TTU System") authorized a RFS commercial paper program to provide interim financing for capital projects, including construction, acquisition, renovation and equipment for facilities of the TTU System. The commercial paper is secured by a pledge of all legally available revenues of the TTU System, including pledged tuition fees, general fees and other revenue sources.

The Texas A&M University System

The Texas A&M University System (the A&M System) has authorized three variable-rate financing programs: a flexible-rate note program and a commercial paper program, both secured by the Permanent University Fund (PUF), as well as a commercial paper program secured by the A&M System revenues. The A&M System's PUF flexible-rate note program and the PUF commercial paper program were established in 1988 and 2008, respectively, to provide interim financing and equipping of facilities for eligible construction projects. The A&M System's total outstanding PUF commercial paper notes and flexible-rate notes may not exceed $125.0 million in principal amount at any time.

The A&M System's RFS Commercial Paper Program was established in 1992 to provide interim financing for capital projects, including construction, acquisition and renovation or equipping of facilities throughout the A&M System. Outstanding RFS commercial paper may not exceed $300.0 million in principal amount at any time and is secured by a pledge of all legally available revenues to the A&M System, including pledged tuition revenue and fees, general fees and other revenue sources. The A&M System has a self-liquidity facility for this program.

The University of Texas System

The University of Texas System (the "UT System") has two primary interim financing programs: a RFS commercial paper program and a PUF commercial paper note program, both of which feature taxable and tax-exempt commercial paper options.

The UT System's RFS commercial paper note program was established in 1990 to provide interim financing for capital projects, including construction, acquisition and renovation or equipping of facilities. RFS commercial paper notes are secured by a pledge of all legally available revenues of the UT System, including pledged tuition fees, general fees and other revenue sources. The UT System's aggregate amount of outstanding RFS commercial paper notes may not exceed $1.25 billion in principal amount at any time.

The UT System's PUF commercial paper note program was established in 2008 to replace a previously authorized $400 million PUF flexible-rate note program. The UT System expects to utilize the PUF commercial paper note program as its primary short-term financing vehicle for PUF-related projects. PUF commercial paper notes provide interim financing for eligible capital projects, including construction, acquisition and renovation or equipping of facilities. PUF commercial paper notes are secured by the UT System's share of distributions from the total return on all PUF investments. The UT System's outstanding PUF commercial paper notes may not exceed $750 million in principal amount at any time.

University of Houston System
In August 2006, the Board of Regents of the University of Houston System (the UH System) authorized a RFS commercial paper program. The program was established to provide interim financing for capital projects, including construction, acquisition, renovation and equipment for facilities of the UH System. The commercial paper is secured by a pledge of all legally available revenues of the UH System, including pledged tuition fees, general fees and other revenue sources.

University of North Texas System
In May 2004, the Board of Regents of the University of North Texas System (the UNT System) authorized a RFS commercial paper program in an initial amount not to exceed $50.0 million. The program was established to provide interim financing for capital projects, including construction, acquisition, renovation and equipment for facilities of the UNT System. The commercial paper is secured by a pledge of all legally available revenues of the UNT System, including pledged tuition fees, general fees and other revenue sources.

In fiscal year 2008, the commercial paper program was increased to an amount not to exceed $100.0 million of which $25.0 million may be issued as taxable notes. In fiscal year 2017, the commercial paper program was again increased to an amount not to exceed $150.0 million with a maximum authorized amount limited to $75.0 million for each of its Series A and Series B notes, respectively.

Other State Issuers of Variable-Rate Debt
Several other state issuers have the authority to issue debt in variable-rate form. State issuers may utilize variable-rate debt in order to diversify their debt portfolio and to take advantage of lower short-term interest rates as available.

The Veterans Land Board is one example of a state issuer that has issued variable-rate housing assistance bonds to diversify its debt portfolio. Similarly, the Texas Water Development Board is authorized to issue subordinate-lien variable-rate demand revenue bonds as part of the State Revolving Fund program.

Comptroller of Public Accounts Liquidity Facility Provider Duties
The 73rd Legislature passed legislation that authorized the Comptroller of Public Accounts to enter into agreements to provide liquidity for obligations issued for governmental purposes by an agency of the state. Pursuant to Section 404.027 of the Texas Government Code, the Comptroller may enter into agreements to provide liquidity for agency obligations issued for governmental purposes if it does not conflict with the Treasury's liquidity needs. Eligible obligations include commercial paper, variable-rate demand obligations and bonds. At fiscal year-end 2018, the Comptroller of Public Accounts provided daily liquidity commitments totaling $629.4 million out of a total of $828.1 million in such commitments for state obligations.

Appendix C
State Issuers' Use of Swaps

Interest rate swaps are part of a larger class of financial instruments called derivatives whose value is based on the performance of an underlying financial asset, index or other investment. While a variety of derivative products are available, Texas issuers most often use interest rate swaps. Swaps are primarily used as tools for financial management to reduce interest expense and hedge against interest-rate, tax, basis and other risks described below. Swaps can also increase financial flexibility and are used to achieve objectives consistent with the issuer's overall program goals and financial policies.

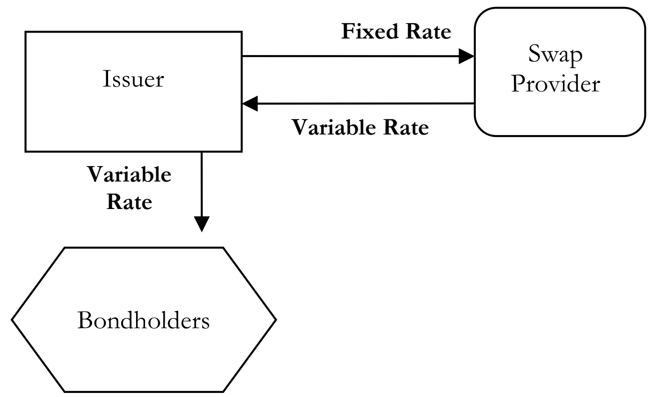
Swaps Used by State Issuers

An interest rate swap is created when a debt issuer and a financial institution, each referred to as a counterparty, enter into a contract to exchange interest payments. The types of swaps most often utilized by Texas issuers are pay-fixed, receive-variable and pay-variable, receive-variable (basis) interest rate swaps. As of August 31, 2018, pay-fixed, receive-variable swaps comprised approximately 78.9 percent ($4.03 billion) of the state's $5.11 billion in total notional amount of swaps outstanding. The balance were basis swaps. See *Table C1* for the total number of swaps outstanding by issuer at August 31, 2018.

<u>Pay-fixed, receive-variable swap (synthetic fixed-rate swap)</u>

By accepting certain risks with pay-fixed, receive-variable swaps, issuers may be able to lower their borrowing costs compared to issuing traditional, fixed-rate bonds. Under this arrangement which creates *synthetic fixed-rate debt,* the issuer agrees to make fixed-rate payments to the swap counterparty and the swap counterparty agrees to pay the issuer variable, index-based rate payments that are expected to be comparable to the rates payable on the variable-rate debt associated with the swap agreement. This swap program is illustrated below.

Synthetic Fixed-Rate Swap



To structure such a transaction, issuers must analyze the impact of issuing either natural or synthetic fixed-rate debt. If the spread between the two is sufficient to compensate the issuer for accepting certain risks associated with synthetic fixed-rate debt, the issuer will execute the swap and issue the associated variable-rate debt. The issuer remains obligated to make debt-service payments to the variable-rate bond holders, even if the variable-rate payment received from the swap counterparty does not cover the variable-rate payment due on the associated bonds (see discussion on Basis Risk).

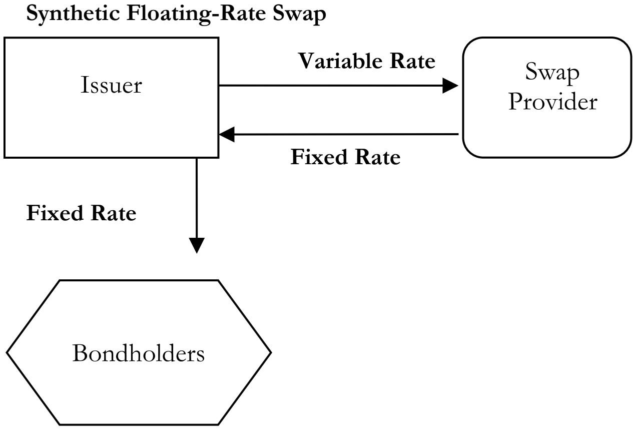
The variable rates received under most of the state's pay-fixed, receive-variable interest rate swaps are based on the London Interbank Offered Rates (LIBOR) taxable rate index. Certain other of the state's pay-fixed, receive-variable interest rate swaps are based on the tax-exempt Securities Industries and Financial Market Association (SIFMA) Swap Index, formerly known as the BMA Swap Index produced by Municipal Market Data (MMD).

During fiscal 2009 two pay-fixed, receive-variable swap contracts, associated with the Veterans Land Board (VLB) Veterans' Housing Assistance Program, Fund II Series 2004A and 2005B Bonds were terminated as a result of the bankruptcy of Lehman Brothers and are now classified as variable-rate debt. No swap contracts were terminated in fiscal 2010, but during fiscal 2011 VLB exercised its option to terminate its only synthetic floating rate swap due to the contract's favorable fair market value. During fiscal 2018, VLB added a pay-fixed, receive-variable swap to its Series 2018 bonds with an initial notional amount of $250.0 million.

Pay-variable, receive-fixed swap (synthetic floating-rate swap)

Conversely, *synthetic floating-rate debt* is created when the issuer sells fixed-rate debt and enters into a fixed-to-floating rate swap. The issuer agrees to pay variable-rate payments to the counterparty and in exchange receives a fixed-rate payment from the swap counterparty. As with synthetic fixed-rate debt, the rate to be paid is tied to an underlying reference index such as the *taxable* LIBOR or the *tax-exempt* SIFMA Index. This swap program is illustrated below.

Synthetic Floating-Rate Swap



As of August 31, 2018, no synthetic floating-rate swaps were outstanding.

Pay-variable, receive-variable swap (basis swap)

The pay-variable, receive-variable swaps (called *basis* swaps) are LIBOR-to-SIFMA basis swaps that effectively convert the variable rate on the associated taxable variable-rate bond issues from a *taxable* LIBOR-based rate to a *tax-exempt* SIFMA-based rate.

On January 31, 2013, Texas Department of Transportation terminated its three basis swap agreements with JP Morgan, Goldman Sachs and Morgan Stanley.

As of August 31, 2018, basis swaps comprised approximately 21.1 percent ($1.08 billion) of the state's total notional amount of swaps outstanding. During fiscal 2017, the University of Texas System added a municipal market data (MMD) basis swap to its Series 2016A bonds which will provide a fixed spread on the notional amount outstanding of $255.8 million.

Risk Analysis

State issuers considering entering into an interest-rate swap agreement must assess the risks associated with the transaction. Some issuers include contractual limitations or options that assist in reducing those risks. For example, the VLB has the option to terminate its swap agreements at any time. Generally, the risks associated with interest rate swaps fall into the following categories:

Termination Risk – the risk that an interest rate swap could be terminated prior to its scheduled termination date as a result of any of several events relating to either the issuer or its counterparty. The issuer or the counterparty may terminate a swap if the other party fails to perform under the terms of the swap agreement. If a swap has a negative fair value, the issuer would owe the respective counterparty a termination payment equal to the swap's fair value at the time of termination (see discussion on Fair Value).

Credit Risk – the risk that either the counterparty or the issuer will not fulfill its obligations specified by the terms of the swap agreement. State issuers mitigate this risk by entering into transactions with highly rated counterparties. The issuers also mitigate concentrations of credit risk by diversifying their swap portfolios among different counterparties. Credit risk also includes the risk of the occurrence of an event that would modify the credit rating of an issuer or its counterparty.

Basis Risk – the risk of a shortfall between the interest payment received and the interest payment paid on the related debt issue. An issuer mitigates this risk by: 1) matching the swap's notional amount and amortization schedule to the associated bond issue's principal amount and amortization schedule and 2) selecting a variable-rate leg for the swap that is reasonably expected to match the interest rate on the associated variable-rate bonds over the life of the bond issue.

Rollover Risk – the risk associated with the counterparty's option to terminate the swap. If the swap is terminated by the counterparty, the associated variable-rate bonds would no longer have a synthetic fixed rate and would be subject to interest-rate risk to the extent the variable-rate bonds were not hedged with another swap or with variable-rate assets on the issuer's balance sheet.

Tax Risk – the risk associated with potential changes in the taxation of the issuer's tax-exempt, variable-rate bonds as a result of changes in marginal income tax rates and other changes in the federal and state tax systems.

Fair Value – the value of a swap estimated by using market-standard practice that includes a calculation of future net settlement payments required by the swap based on market expectations implied by the current yield curve for interest rate transactions. For a swap with embedded options, additional calculations are made to determine the value of the options.

When the fair value of a swap is positive, the counterparty is liable to the issuer for the fair value in the event of termination of the swap. In this instance the issuer is exposed to counterparty credit risk; however, issuer swap agreements contain varying collateral agreements and insurance policies with counterparties to mitigate credit risk.

Due to the general reduction in interest rates over the last several years, the net fair value of the state's outstanding swaps was negative at August 31, 2018, indicating that Texas swap issuers would be liable for payments to the counterparty for the fair values of the swaps in the unlikely event of termination. However, it is important to note that issuers have achieved significant savings in interest costs by use of interest rate swaps. (See *Table C2* for the terms, counterparty credit ratings and fair values for the state's swaps outstanding by issuer at August 31, 2018.)

Additional Derivative Products

In addition to interest rate swaps, additional derivative products used by Texas issuers include the following:

Options on Swaps – sale or purchase of options to commence or cancel interest rate swaps. Several of the VLB swaps contain embedded options called barrier options that provide for the VLB to be "knocked out" of the swaps by the respective counterparties for varying periods of time upon the breach of certain predetermined barriers. In each of these cases, the respective counterparties paid the VLB an up-front premium for the option.

Interest Rate Caps – financial contracts called caps, collars or floors limit or bound exposure to interest rate volatility.

Rate Locks – rate locks are often based on interest rate swaps and may be used to hedge against a rise in interest rates for an upcoming fixed-rate bond issue.

Management Policy

State issuers with swap transactions outstanding or those issuers contemplating entering into swap agreements have adopted derivative or swap-management policies outlining the objectives, management, oversight, monitoring, selection and restrictions for their derivative or swap agreements.

With the passage of Senate Bill 1332 during the 80th Legislature, the Bond Review Board's (BRB) statutes were modified to add a definition of interest rate management (derivative) agreements and to require the BRB to develop a related policy. In fiscal 2009 the BRB engaged a swap advisor to assist with the development of a state interest rate management policy and analysis of interest rate management agreements. This policy can be found on the agency's website.

In fiscal 2010 the BRB amended its administrative rules to require issuers that enter into derivative agreements to submit additional information for staff review including a copy of all schedules to the Master Agreement and/or the Credit Support Annex and transaction confirmations. Additionally, issuers must notify the Bond Review Board within 10 days of material adverse changes involving the parties to derivative agreements.

Table C1

NOTIONAL AMOUNTS - INTEREST RATE SWAPS

As of August 31, 2018 (Unaudited)

(amounts in thousands)

	Original Notional Amount	Current Notional Amount	Current Fair Value	Total # of Swaps
Veterans Land Board				
Pay-Fixed, Receive-Variable Total	$3,507,050	$2,542,790	-$88,915	54
Pay-Variable, Receive-Variable Total	71,630	58,870	987	2
TOTAL VLB	**$3,578,680**	**$2,601,660**	**-$87,928**	**56**
Texas Department of Housing and Community Affairs				
Pay-Fixed, Receive-Variable Total	$331,005	$85,610	-$6,153	4
TOTAL TDHCA	**$331,005**	**$85,610**	**-$6,153**	**4**
The University of Texas System				
Pay-Fixed, Receive-Variable Total	$1,681,851	$1,404,360	-$128,286	8
Pay-Variable, Receive-Variable Total	1,037,508	1,018,575	76,316	8
TOTAL UTS	**$2,719,359**	**$2,422,935**	**-$51,970**	**16**
Totals				
Pay-Fixed, Receive-Variable	$5,519,906	$4,032,760	-$223,354	66
Pay-Variable, Receive-Variable	1,109,138	1,077,445	77,303	10
TOTAL INTEREST RATE SWAPS	**$6,629,044**	**$5,110,205**	**-$146,051**	**76**

Source: Texas Bond Review Board - Bond Finance Office.

Table C2

VETERANS LAND BOARD - INTEREST RATE SWAPS

As of August 31, 2018 (Unaudited)

(amounts in thousands)

PAY-FIXED, RECEIVE VARIABLE (Synthetic Fixed Rate) Bond Issue	**Original Notional Amount**	**Current Notional Amount**	**Effective Date**	**Swap Termination Date**	**Fixed-Rate Paid**	**Variable-Rate Received**	**Counterparty Credit Ratings**	**Current Fair Value**
Vet Land Ref Bds Ser '99A	$40,025	$3,700	06/01/1999	12/01/2018	5.11%	68% of 6M LIBOR	BBB+/Baa1	-63
Vet Hsg Fund II Bds Ser 2001A-2	20,000	20,000	03/22/2001	12/01/2029	4.26%	68% of 1M LIBOR	BBB+/Baa1	-3,084
Vet Hsg Fund II Bds Ser 2001C-2	25,000	23,875	12/18/2001	12/01/2033	4.37%	68% of 1M LIBOR	AA-/Aa2	-5,321
Vet Land Bds Ser 2002	20,000	13,215	02/21/2002	12/01/2032	4.14%	68% of 1M LIBOR	BBB+/A3	-2,085
Vet Hsg Fund II Bds Ser 2002A-2	38,300	23,225	07/10/2002	06/01/2033	3.87%	68% of 1M LIBOR	A+/Aa3	-4,073
Vet Hsg Fund II Bds Ser 2003A	50,000	21,305	03/04/2003	06/01/2034	3.30%	68% of 1M LIBOR	A+/Aa3	-1,939
Vet Hsg Fund II Bds Ser 2003B	50,000	22,525	10/22/2003	06/01/2034	3.40%	64.5% of 1M LIBOR	AA-/Aa2	-2,101
Vet Hsg Fund II Bds Ser 2004B	50,000	24,965	09/15/2004	12/01/2034	3.68%	68% of 1M LIBOR	A+/Aa3	-3,015
Vet Hsg Fund II Bds Ser 2005A	50,000	24,585	02/24/2005	06/01/2035	3.28%	68% of 1M LIBOR	AA-/Aa2	-2,325
Vet Hsg Fund II Bds Ser 2006A	50,000	27,110	06/01/2006	12/01/2036	3.52%	68% of 1M LIBOR	AA/Aa3	-3,277
Vet Hsg Fund II Bds Ser 2006D	50,000	28,470	09/20/2006	12/01/2036	3.69%	68% of 1M LIBOR	Aa3/A1	-3,824
Vet Hsg Fund II Bds Ser 2007A	54,160	28,730	02/22/2007	06/01/2037	3.65%	68% of 1M LIBOR	AA-/Aa2	-3,971
Vet Hsg Fund II Bds Ser 2007B	50,000	30,160	06/26/2007	06/01/2038	3.71%	68% of 1M LIBOR	A+/Aa3	-4,227
Vet Hsg Fund II Bds Ser 2008A	50,000	30,255	03/26/2008	12/01/2038	3.19%	68% of 1M LIBOR	AA/Aa3	-3,096
Vet Hsg Fund II Bds Ser 2008B	50,000	31,360	09/11/2008	12/01/2038	3.23%	68% of 1M LIBOR	AA-/Aa2	-3,448
Vet Hsg Ser 2010C	74,995	54,905	08/20/2010	12/01/2040	2.31%	68% of 3M LIBOR	BBB+/A3	-1,471
Vet Hsg Ser 2011A	74,995	54,600	03/09/2011	06/01/2041	2.68%	68% of 3M LIBOR	BBB+/A3	-3,176
Vet Hsg Ser 2011B	74,995	55,710	08/25/2011	12/01/2041	2.37%	68% of 3M LIBOR	BBB+/A3	-1,802
Vet Hsg Ser 2011C	74,995	56,745	12/15/2011	06/01/2042	1.92%	68% of 3M LIBOR	AA-/Aa2	115
Vet Hsg Ser 2012A	74,995	56,690	05/23/2012	12/01/2042	1.69%	68% of 3M LIBOR	AA-/Aa2	1,176
Vet Hsg Ser 2012B	100,000	75,210	11/01/2012	12/01/2042	1.45%	68% of 3M LIBOR	AA-/Aa2	3,019
Vet Hsg Ser 2013A	99,995	80,375	03/20/2013	06/01/2043	1.70%	68% of 3M LIBOR	AA-/Aa2	1,742
Vet Hsg Ser 2013B	149,995	121,755	08/22/2013	12/01/2043	2.15%	68% of 1M LIBOR	AA-/Aa2	-2,356
Vet Hsg Tax Ref Bds Ser 2013C	39,560	30,795	12/01/2006	12/01/2026	5.46%	100% of 1M LIBOR	A+/Aa3	-3,792
Vet Hsg Tax Ref Bds Ser 2013C	50,000	24,360	12/01/2007	06/01/2029	4.66%	100% of 1M LIBOR	A+/Aa3	-4,266
Vet Hsg Tax Ref Bds Ser 2013C	16,950	6,885	12/01/2009	12/01/2021	6.22%	100% of 6M LIBOR	A+/Aa3	-449
Vet Hsg Tax Ref Bds Ser 2013C	65,845	51,365	12/01/2009	06/01/2031	5.45%	100% of 6M LIBOR	A+/Aa3	-8,500
Vet Hsg Ser 2014A	150,000	125,950	03/03/2014	06/01/2044	2.18%	68% of 1M LIBOR	A+/Aa2	-2,847
Vet Hsg Fund I Tax Ref Bds Ser 2014B-1	47,865	18,090	12/01/2003	06/01/2021	5.19%	100% of 6M LIBOR	AA-/Aa2	-662
Vet Hsg Fund I Tax Ref Bds Ser 2014B-1	50,000	12,645	06/01/2004	12/01/2024	5.45%	100% of 6M LIBOR	A+/Aa3	-1,118
Vet Hsg Fund II Tax Ref Bds Ser 2014B-1 & B-2	43,870	12,730	12/01/2004	06/01/2020	5.35%	100% of 1M LIBOR	A+/Aa3	-330
Vet Hsg Fund I Tax Ref Bds Ser 2014B-1	19,860	8,600	12/01/2005	12/01/2023	4.93%	100% of 1M LIBOR	A+/Aa3	-573
Vet Hsg Fd I / II Tax Ref Bds Ser 2014B-1 & C-2D	24,885	16,420	12/01/2005	06/01/2026	5.15%	100% of 1M LIBOR	A+/Aa3	-1,640
Vet Land Tax Ref Bds Ser 2014B-3	39,960	14,980	12/01/2000	12/01/2020	6.11%	100% of 6M LIBOR	AA-/Aa2	-744
Vet Land Tax Ref Bds Ser 2014B-3	22,795	14,395	12/01/2005	12/01/2026	6.52%	100% of 6M LIBOR	A+/Aa3	-2,205
Vet Hsg Fund I Tax Ref Bds Ser 2014C-1	22,605	11,060	12/01/2002	06/01/2023	4.91%	100% of 6M LIBOR	AA-/Aa2	-608
Vet Hsg Fund I Tax Ref Bds Ser 2014C-1	21,795	18,645	08/01/2012	12/01/2033	3.76%	68% of 1M LIBOR	AA/Aa3	-2,937
Vet Hsg Fund II Tax Ref Bds Ser 2014C-2	38,570	29,875	06/01/2006	12/01/2026	5.83%	100% of 1M LIBOR	A+/Aa3	-3,984
Vet Hsg Fund II Tax Ref Bds Ser 2014C-2	22,325	14,000	06/01/2006	12/01/2027	5.79%	100% of 6M LIBOR	A+/Aa3	-1,908
Vet Hsg Fund II Tax Ref Bds Ser 2014C-2	66,720	53,685	06/01/2010	12/01/2031	5.40%	100% of 1M LIBOR	A+/Aa3	-10,158
Vet Hsg Fund II Tax Ref Bds Ser 2014C-2	49,995	27,240	12/01/2010	06/01/2032	2.79%	100% of 1M LIBOR	AA-/Aa2	-35
Vet Land Tax Ref Bds Ser 2014C-3	50,000	19,200	06/01/2006	12/01/2027	6.54%	100% of 6M LIBOR	A+/Aa3	-3,419
Vet Land Tax Ref Bds Ser 2014C-3	16,480	12,680	12/01/2010	12/01/2030	5.21%	100% of 1M LIBOR	A+/Aa3	-2,018
Vet Land Tax Ref Bds Ser 2014C-4	27,685	16,205	12/01/2002	12/01/2021	4.94%	100% of 6M LIBOR	BBB+/A3	-818
Vet Land Tax Ref Bds Ser 2014C-4	50,000	12,085	12/01/2003	12/01/2023	5.12%	100% of 1M LIBOR	A+/Aa3	-824
Vet Land Tax Ref Bds Ser 2014C-4	24,755	14,240	12/01/2004	12/01/2024	5.46%	100% of 6M LIBOR	BBB+/A3	-1,253
Vet Land Tax Ref Bds Ser 2014C-4	31,030	15,500	06/01/2006	12/01/2026	4.61%	100% of 6M LIBOR	AA-/Aa2	-1,139
Vet Land Tax Ref Bds Ser 2014C-4	41,050	25,350	12/01/2006	12/01/2027	6.51%	100% of 1M LIBOR	A+/Aa3	-4,625
Vet Hsg Ser 2014D	100,000	85,805	09/10/2014	06/01/2045	1.94%	68% of 1M LIBOR	AA-/Aa2	-307
Vet Hsg Ser 2015A	125,000	108,025	02/11/2015	06/01/2045	1.51%	68% of 1M LIBOR	BBB+/A3	3,044
Vet Hsg Ser 2015B	125,000	113,600	07/22/2015	06/01/2046	1.77%	68% of 1M LIBOR	A+/Aa2	1,033
Vet Hsg Ser 2016	250,000	227,090	12/01/2016	12/01/2046	1.56%	68% of 1M LIBOR	A+/Aa2	4,682
Vet Hsg Ser 2017	250,000	242,090	08/01/2017	12/01/2047	1.18%	68% of 1M LIBOR + 0.085%	A+/A1	12,864
Vet Hsg Ser 2018	250,000	249,730	04/01/2019	12/01/2049	2.07%	72% of 1M LIBOR	AA-/Aa2	-777
Pay-Fixed, Receive-Variable Total	**$3,507,050**	**$2,542,790**						**-$88,915**

PAY-VARIABLE, RECEIVE-VARIABLE (Basis Swap) Bond Issue	**Original Notional Amount**	**Current Notional Amount**	**Effective Date**	**Swap Termination Date**	**Variable-Rate Paid**	**Variable-Rate Received**	**Counterparty Credit Ratings**	**Current Fair Value**
Vet Land Tax Ref Bds Ser 2014C-3	$40,000	$27,240	08/05/2002	12/01/2032	131.25% of SIFMA	100.00% of 1M LIBOR	BBB+ / A3	-43
Vet Hsg Fund II Bds Ser '09A	31,630	31,630	03/10/2009	12/01/2023	100.00% of SIFMA	94.35% of 3M LIBOR	AA- / Aa2	1,030
Pay-Variable, Receive-Variable Total	**$71,630**	**$58,870**						**$987**
TOTAL VLB INTEREST RATE SWAPS	**$3,578,680**	**$2,601,660**						**-$87,928**

Source: Texas Bond Review Board - Bond Finance Office.

Table C2 (continued)

TEXAS DEPARTMENT OF HOUSING AND COMMUNITY AFFAIRS - INTEREST RATE SWAPS
As of August 31, 2018 (Unaudited)
(amounts in thousands)

PAY-FIXED, RECEIVE VARIABLE (Synthetic Fixed Rate) Bond Issue	Original Notional Amount	Current Notional Amount	Effective Date	Swap Termination Date	Fixed-Rate Paid	Variable-Rate Received	Counterparty Credit Ratings	Current Fair Value
TDHCA SF Variable Rate Ref MRB Ser 2004B	$53,000	$23,035	09/01/2004	09/01/2034	3.67%	65.5% of LIBOR + .20%	AA-/Aa2/AA	-1,052
TDHCA SF Variable Rate MRB Ser 2004D	35,000	15,765	01/01/2005	03/01/2035	3.08%	*	A/A1/A+	-501
TDHCA SF Variable Rate Ref MRB Ser 2005A	100,000	22,060	08/01/2005	09/01/2036	4.01%	*	A+/Aa3/AA-	-2,572
TDHCA SF Variable Rate Ref MRB Ser 2007A	143,005	24,750	06/05/2007	09/01/2038	4.01%	*	A+/Aa3/AA-	-2,028
TOTAL TDHCA INTEREST RATE SWAPS	**$331,005**	**$85,610**						**-$6,153**

* Lesser of (a) or (b) where (a) equals the greater of (i) 65% X LIBOR or (ii) 56% X LIBOR + .45% and b) equals 1M LIBOR.

Note: TDHCA is not a party to the Multifamily swap agreements and therefore is not required to report market value on financial statements.

Source: Texas Bond Review Board - Bond Finance Office.

THE UNIVERSITY OF TEXAS SYSTEM - INTEREST RATE SWAPS
As of August 31, 2018 (Unaudited)
(amounts in thousands)

PAY-FIXED, RECEIVE VARIABLE (Synthetic Fixed Rate) Bond Issue	Original Notional Amount	Current Notional Amount	Effective Date	Swap Termination Date	Fixed-Rate Paid	Variable-Rate Received	Counterparty Credit Ratings	Current Fair Value
UT RFS Refunding Bonds, Series 2007B-1	$172,730	$163,170	12/20/2007	08/01/2034	3.81%	SIFMA	A+/Aa3	-22,122
UT RFS Refunding Bonds, Series 2007B-2	172,730	163,170	12/20/2007	08/01/2034	3.81%	SIFMA	A+/Aa2	-22,122
UT RFS Bonds, Series 2008B-1	155,000	115,645	03/18/2008	08/01/2036	3.90%	SIFMA	A+/Aa3	-17,618
UT RFS Bonds, Series 2008B-2	375,485	238,370	03/18/2008	08/01/2039	3.61%	SIFMA	A+/Aa3	-28,028
UT RFS Bonds, Series 2008B-3	155,000	115,645	03/18/2008	08/01/2036	3.90%	SIFMA	BBB+/A3	-17,618
UT PUF Bonds, Series 2008A-1	200,453	179,180	11/03/2008	07/01/2038	3.70%	SIFMA	A+/Aa2	-29,317
UT PUF Bonds, Series 2008A-2	200,453	179,180	11/03/2008	07/01/2038	3.66%	SIFMA	A+/A1	-28,529
UT RFS Bonds, Series 2016G	250,000	250,000	12/01/2016	08/01/2045	2.00%	100% of 1M LIBOR	A+/A1	37,068
Pay-Fixed, Receive-Variable Total	**$1,681,851**	**$1,404,360**						**-$128,286**

PAY-VARIABLE, RECEIVE-VARIABLE (Basis Swap) Bond Issue	Original Notional Amount	Current Notional Amount	Effective Date	Swap Termination Date	Variable-Rate Paid	Variable-Rate Received	Counterparty Credit Ratings	Current Fair Value
UT PUF Bonds, Series 2008A-3	$198,113	$179,180	11/1/2011	07/01/2038	SIFMA	93.40% of 3M LIBOR	A+/Aa2	7,844
UT RFS Bonds, Series 2008B-4	90,270	90,270	08/01/2009	08/01/2039	SIFMA	102.5% of 3M LIBOR	AA-/Aa2	8,524
UT RFS Bonds, Series 2008B-5	92,045	92,045	08/01/2009	08/01/2030	SIFMA	96% of 3M LIBOR	AA-/Aa2	4,455
UT RFS Bonds, Series 2008B-6	117,190	117,190	08/01/2009	08/01/2035	SIFMA	103% of 3M LIBOR	AA-/Aa2	9,209
UT PUF Bonds, Series 2006B	284,065	284,065	01/01/2009	07/01/2035	SIFMA	82.04% of 1M LIBOR	A+/Aa3	1,752
UT RFS Bonds, Series 2016A-1*	255,825	255,825	04/15/2017	08/15/2046	2.43%	2.90%	A3/BBB+	11,361
UT RFS Bonds, Series 2016A-2*	0	0	06/15/2017	08/15/2046	2.62%	3.17%	A3/BBB+	16,577
UT RFS Bonds, Series 2016A-3*	0	0	12/15/2017	08/15/2046	2.31%	3.01%	A3/BBB+	16,594
Pay-Variable, Receive-Variable Total	**$1,037,508**	**$1,018,575**						**$76,316**
TOTAL UTS INTEREST RATE SWAPS	**$2,719,359**	**$2,422,935**						**-$51,970**

* MMD Basis Swap - For the 2016A-1, 2016A-2, and 2016A-3 swaps, UTS receives fixed spread on $255.825 million of fixed-rate bonds outstanding.

Source: Texas Bond Review Board - Bond Finance Office.

Table C3

ESTIMATED DEBT-SERVICE REQUIREMENTS OF DEBT OUTSTANDING WITH SWAPS AND NET INTEREST RATE SWAP PAYMENTS

[EXCLUDES PAY-VARIABLE, RECEIVE-VARIABLE (BASIS) SWAPS]

As of August 31, 2018 (Unaudited)

(amounts in thousands)

Texas Department of Housing and Community Affairs

Fiscal Year Ending 8/31/18	Variable-Rate Bonds* Principal	Interest	Interest Rate Swaps, Net	Total
2019	$0	$1,295	$1,707	$3,002
2020	0	1,370	1,707	3,077
2021	0	1,363	1,707	3,070
2022	0	1,367	1,707	3,074
2023	0	1,367	1,707	3,074
2024-2028	2,680	6,831	8,530	18,041
2029-2033	29,450	5,719	7,238	42,407
2034-2038	52,880	2,080	2,775	57,735
2039-2043	600	5	7	612
Total Debt Service and Net Interest Rate Swap Payments	**$85,610**	**$21,397**	**$27,085**	**$134,092**

*Does not include multifamily bonds outstanding.

Source: Texas Department of Housing and Community Affairs

The University of Texas System

Fiscal Year Ending 8/31/18	Variable-Rate Bonds Principal	Interest (1)	Interest Rate Swaps, Net (2)	Total
2019	$28,155	$22,114	$25,031	$75,299
2020	27,065	21,695	24,420	73,180
2021	28,055	21,293	22,836	73,183
2022	46,425	20,875	23,229	90,530
2023	48,185	20,179	22,211	90,575
2024-2028	278,925	89,292	94,104	462,321
2029-2033	313,440	67,215	61,752	442,407
2034-2038	374,870	44,153	27,979	447,003
2039-2043	9,240	23,886	-759	32,367
2044-2048	250,000	9,500	-379	259,121
Total Debt Service and Net Interest Rate Swap Payments	**$1,404,360**	**$340,202**	**$300,424**	**$2,045,986**

(1) As required by GASB Statement No. 38, annual debt-service requirements are computed using the System's interest rates in effect on August 31, 2018 on its Series 2008A Bonds, Series 2007B Bonds, Series 2008B Bonds, and Series 2016G Bonds.

(2) Reflects net payments on pay-fixed, receive-variable interest rate swaps based on interest rates in effect at August 31, 2018, applied on the respective notional amounts of the swaps through their respective termination dates.

Source: The University of Texas System

Veterans Land Board

Fiscal Year Ending 8/31/18	Variable-Rate Bonds Principal	Interest	Interest Rate Swaps, Net	Total
2019	$172,495	$49,207	$26,328	$248,030
2020	180,390	47,393	24,565	252,348
2021	178,030	43,626	22,250	243,906
2022	172,180	39,971	20,082	232,233
2023	158,020	36,543	18,072	212,635
2024-2028	686,150	136,186	61,136	883,472
2029-2033	487,700	74,815	25,493	588,008
2034-2038	288,950	34,813	7,497	331,260
2039-2043	177,270	11,646	1,852	190,768
2044-2048	40,640	868	51	41,559
2049-2053	965	7	4	976
Total Debt Service and Net Interest Rate Swap Payments	**$2,542,790**	**$475,075**	**$207,330**	**$3,225,195**

Source: Veterans Land Board

Table C4

ESTIMATED DEBT-SERVICE REQUIREMENTS OF DEBT OUTSTANDING WITH SWAPS AND NET INTEREST RATE SWAP PAYMENTS

[PAY-VARIABLE, RECEIVE-VARIABLE (BASIS) SWAPS ONLY]

As of August 31, 2018 (Unaudited)

(amounts in thousands)

The University of Texas System

Fiscal Year Ending 8/31/18	Variable Rate Bonds (1) Principal	Interest (2)	Interest Rate Swaps, Net (3)	Total
2019	$3,110	$7,144	-$3,378	$6,876
2020	3,225	7,097	-3,359	6,963
2021	3,340	7,047	-3,340	7,047
2022	3,463	6,996	-3,319	7,140
2023	3,590	6,943	-3,299	7,234
2024-2028	70,135	33,489	-15,992	87,632
2029-2033	133,920	25,390	-12,341	146,969
2034-2038	248,662	13,423	-6,326	255,759
2039-2043	9,240	136	-75	9,301
Total Debt Service and Net Interest Rate Swap Payments	**$478,685**	**$107,665**	**-$51,429**	**$534,921**

(1) Includes principal and interest due on certain related bonds, which are also included in Table C3.

(2) As required by GASB Statement No. 38, annual debt-service requirements are computed using the System's interest rates in effect on August 31, 2018 on its Series 2008A Bonds and Series 2008B Bonds.

(3) Reflects net payments on pay-variable, receive-variable interest rate swaps based on interest rates in effect at August 31, 2018, applied on the respective notional amounts of the swaps through their respective termination dates.

Source: The University of Texas System

The University of Texas System

PUF Bonds, Series 2006B

Fiscal Year Ending 8/31/18	Fixed Rate Bonds (1) Principal	Interest	Interest Rate Swaps, Net (2)	Total
2019	$0	$14,852	-$406	$14,446
2020	24,740	14,852	-406	39,186
2021	25,980	13,615	-371	39,224
2022	27,335	12,251	-334	39,252
2023	25,660	10,816	-295	36,181
2024-2028	62,670	44,219	-1,205	105,684
2029-2033	71,120	17,870	-487	88,503
2034-2038	46,560	3,698	-101	50,157
Total Debt Service and Net Interest Rate Swap Payments	**$284,065**	**$132,171**	**-$3,605**	**$412,631**

(1) Reflects scheduled principal and interest of Permanent University Fund Bonds, Series 2006B.

(2) Reflects net payments on pay-variable, receive-variable interest rate swaps based on interest rates in effect at August 31, 2018, applied on the respective notional amounts of the swaps through their respective termination dates.

Source: The University of Texas System

Table C4 (continued)

ESTIMATED DEBT-SERVICE REQUIREMENTS OF DEBT OUTSTANDING WITH SWAPS AND NET INTEREST RATE SWAP PAYMENTS

[PAY-VARIABLE, RECEIVE-VARIABLE (BASIS) SWAPS ONLY]

As of August 31, 2018 (Unaudited)

(amounts in thousands)

The University of Texas System

RFS 2016A MMD Basis Swap

Fiscal Year	Fixed Rate Bonds		Interest Rate	
Ending 8/31/18	**Principal**	**Interest**	**Swaps, Net**	**Total**
2019	$0	$9,854	-$4,413	$5,441
2020	0	9,854	-4,413	5,441
2021	0	9,854	-4,413	5,441
2022	0	9,854	-4,413	5,441
2023	0	9,854	-4,413	5,441
2024-2028	0	49,272	-22,065	27,207
2029-2033	0	49,272	-22,065	27,207
2034-2038	0	49,272	-22,065	27,207
2039-2043	0	49,272	-22,065	27,207
2044-2048	255,825	39,418	-17,652	277,591
Total Debt Service and Net Interest Rate Swap Payments	**$255,825**	**$285,776**	**-$127,977**	**$413,624**

Source: The University of Texas System

Veterans Land Board

Fiscal Year	Variable-Rate Bonds		Interest Rate	
Ending 8/31/18	**Principal**	**Interest**	**Swaps, Net**	**Total**
2019	$1,280	$687	-$234	$1,733
2020	1,365	652	-223	1,794
2021	1,445	616	-210	1,851
2022	1,535	578	-197	1,916
2023	1,635	537	-183	1,989
2024-2028	9,825	1,975	-674	11,126
2029-2033	10,155	574	-196	10,533
2034-2038	0	0	0	0
Total Debt Service and Net Interest Rate Swap Payments	**$27,240**	**$5,619**	**-$1,917**	**$30,942**

Source: Veterans Land Board

Appendix D
Debt Issuance Costs

Issuance costs are composed of the professional fees and expenses paid to service providers and underwriters to market bonds to investors. Professional services commonly used in the marketing of all types of municipal securities are listed below:[1]

• Underwriter – The underwriter or underwriting syndicate acts as a dealer that purchases a new issue of municipal securities from the issuer for resale to investors. The underwriter may acquire the securities either by negotiation with the issuer or by award on the basis of competitive bidding.

The largest portion of the costs associated with the issuance of bonds is the fee paid to the underwriter (or underwriting syndicate), known as the "underwriting spread." The spread is the underwriter's compensation for purchasing the bonds from the issuer and reselling them in the bond market. It consists of four components:

- Takedown – Represents the discount that the members of the syndicate receive when they purchase the bonds from the issuer;
- Management fee – Compensation to the underwriters for creating and implementing the financing package;
- Underwriting fee – A risk premium to compensate the underwriters for market risk of the underwriting; and
- Expenses – Costs associated with the marketing of the bonds such as CUSIP, travel, printing and underwriter's legal fees.

• Bond Counsel – Bond counsel is retained by the issuer to provide legal advice and a legal opinion that: 1) the issuer is authorized to issue the proposed securities; 2) the issuer has met all legal requirements necessary for issuance; and 3) if appropriate, the interest on the proposed securities is exempt from federal income taxation and where applicable, from state and local taxation. Bond counsel prepares and/or reviews documentation and advises the issuer regarding: 1) authorizing resolutions or ordinances; 2) trust indentures; 3) official statements; 4) validation proceedings; 5) disclosure requirements; and 6) litigation.

• Financial Advisor – The financial advisor advises the issuer on matters pertinent to a proposed issue such as structure, timing, marketing, pricing, terms and bond ratings. A financial advisor may also be employed to provide advice on subjects unrelated to a new issue of securities such as advising on cash flow and investment matters as well as the issuer's overall debt-management policies.

• Disclosure Counsel – An attorney or law firm retained by the issuer to provide advice on issuer disclosure obligations and to prepare the official statement and/or continuing disclosure agreement.

• Credit Rating Agencies – Credit rating agencies provide public or private ratings on the credit quality of securities issues to help investors assess the probability of timely repayment of principal and interest on municipal securities. Ratings are initially released before issuance and are reviewed periodically after issuance and may be amended to reflect changes in the issuer's creditworthiness.

• Paying Agent/Registrar – The paying agent is responsible for transmitting payments of principal and interest from the issuer to the security holders and maintaining records of the owners of registered bonds on behalf of the issuer.

• Printer – The printer produces the official statement, notice of sale and any bonds required to be transferred between the issuer and purchasers of the bonds.

Choosing the Method of Sale: Negotiated versus Competitive

Selecting the method of sale is one of the most important decisions an issuer of securities must make. Both negotiated and competitive sales have distinct advantages and disadvantages described below.

[1] Definitions adapted from the Municipal Securities Rulemaking Board's *Glossary of Municipal Securities Terms.*

In a negotiated sale an underwriter is chosen in advance of the sale and agrees to buy the bonds at a mutually-agreed future date for resale. As part of the preparation for the underwriting at that future date, the underwriter actively markets the bonds to potential buyers to ensure a successful resale at the time of the underwriting. In more complicated financings, pre-sale marketing can be crucial to obtaining the lowest possible interest cost. In addition, the negotiated method of sale offers issuers greater timing and structural flexibility than competitive sales, as well as more influence in directing bond distribution to selected underwriting firms and investors.

Disadvantages of negotiated sales are a lack of competition in pricing and the possible appearance of favoritism. These factors can result in wider fluctuations in underwriting spreads for negotiated transactions than for comparable competitive transactions.

Conditions that suggest a negotiated sale are market volatility and securities for which market demand is difficult to ascertain. Often called "story bonds," these include securities issued by an infrequent issuer or an issuer with weak or declining credit rating(s) or securities that contain innovative structuring, derivatives or other complexities.

In a competitive sale, sealed or electronic bids from several underwriters are opened on a predetermined sale date and time. The bonds are then awarded to the underwriter submitting the lowest bid that meets the terms and conditions of the sale. Generally, underwriters that bid competitively perform less pre-sale marketing because they will not know if they have been awarded the underwriting contract until the day the bids are opened.

Advantages of the competitive bid include: 1) bids are developed in a competitive environment where market forces determine the price; 2) spreads are typically lower; and 3) the winning bid is developed in an open process among underwriters. Disadvantages of the competitive sale include: 1) limited flexibility in timing the sale and structuring the transaction; 2) limited pre-sale marketing; 3) minimum control over the distribution of bonds; and 4) the likelihood that underwriters' bids will include a risk premium to compensate for uncertainty regarding market demand.

Conditions that suggest a competitive sale are a stable, predictable market in which market demand for the securities can be relatively easily determined. Stable market conditions lessen the underwriters' risk of holding unsold balances.

Market demand is generally easier to assess for securities that: 1) are issued by well-known, highly-rated issuers that regularly access the debt market; 2) are conventionally structured, such as serial and term coupon bonds; and 3) have a strong source of repayment and thus a high credit rating. These conditions will generally lead to aggressive bidding resulting in lower costs of issuance since the underwriters will be able to more easily assess market demand without extensive pre-marketing activities.

In determining the method of sale, factors such as size, complexity, market conditions and time frame most influence the issuer's decision. Issuers should focus primarily on how their bonds are being priced in the market and focus secondarily on the underwriting spread. For example, reducing the takedown (selling) component of the underwriters' spread to reduce costs may result in reducing the sales effort needed to successfully place the issue which in turn could result in a lower price (higher yield) for the issue in aftermarket trading.

COLLEGE STUDENT LOAN BONDS

Statutory/Constitutional Authority: Article III, Sections 50b, 50b-1, 50b-2, 50b-3, 50b-4, 50b-5, 50b-6 and 50b-7 of the Texas Constitution, adopted in 1965, 1969, 1989, 1991, 1995, 1999, 2007 and 2011, respectively, authorize the issuance of general obligation bonds by the Texas Higher Education Coordinating Board (THECB). Sections 50b, 50b-1, 50b-2, 50b-3, were subsequently repealed in 1999. Section 50b-7 authorizes the THECB to issue College Student Loan Bonds in an aggregate principal amount of outstanding bonds that at all times may not exceed $1.86 billion.

Chapter 52 of the Texas Education Code (the Act) authorizes the administration of various student loan programs and the related issuance of private activity bonds. Pursuant to the Act, the THECB administers the State of Texas College Student Loan Bonds Interest and Sinking Fund, which was established by the Act as a fund in the State Treasury. Money received by the Board in each fiscal year as repayment of student loans granted under the Act and interest thereon must first be deposited in the Interest and Sinking Fund in an amount sufficient to pay the interest on and principal of previously issued bonds, and any additional bonds coming due during the ensuing fiscal year.

The THECB is required to obtain the approval of the Attorney General's Office and the Bond Review Board prior to issuance and to register its bonds with the Comptroller of Public Accounts.

Purpose: Proceeds from the sale of bonds are used to make College Access Loans (CAL) to eligible students attending public or private colleges and universities in Texas. The CAL loan is an alternative educational loan that may be used to cover the amount of the student's cost of attendance that is not covered by other resources.

CAL loans are extended under this program by authority of the Act and the administrative rules of the THECB, found at Title 19 Texas Administrative Code, Chapter 22, Subchapter C.

Security: The first monies coming into the Comptroller of Public Accounts - Treasury Operations, not otherwise dedicated by the Constitution, are pledged to pay debt service on the general obligation bonds.

Dedicated/Project Revenue: Principal and interest repayments on the loans are pledged to pay debt service on the bonds issued by the Coordinating Board and related administrative costs. No draw on general revenue is anticipated.

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COLLEGE AND UNIVERSITY REVENUE BONDS

Statutory Authority: Section 55.13 of the Texas Education Code authorizes the governing boards of institutions of higher education to issue revenue bonds to provide funds to acquire, construct, improve, enlarge and equip property, buildings, structures or facilities.

The Texas Public Finance Authority (TPFA) acts as the exclusive issuer of revenue debt for Midwestern State University and Texas Southern University. Stephen F. Austin State University, Texas State Technical College System as well as general academic teaching institutions as defined by Section 61.003 of the Texas Education Code have the option to use TPFA as the issuer.

The governing boards are required to obtain the approval of the Bond Review Board unless exempted under Sec. 1231.041 of the Texas Government Code. Approval by the Attorney General's Office prior to issuance is required on all transactions and college and university revenue bond issuers are required to register their bonds with the Comptroller of Public Accounts.

Purpose: Proceeds are used to acquire, purchase, construct, improve, enlarge and/or equip property, buildings, structures, activities, services, operations or other facilities.

Security: The revenue bonds issued by the institutions' governing boards are secured by the income of the institutions and are not an obligation of the state of Texas. Neither the state's full faith and credit nor its taxing power is pledged toward payment of the bonds.

Dedicated/Project Revenue: Debt service is payable from the institution's pledged revenues. Pledged revenues include the pledged tuition and any or all of the revenues, funds and balances lawfully available to the governing boards and derived from or attributable to any member of the Revenue Financing System.

Contact:
Individual colleges and universities.

FARM AND RANCH LOAN BONDS

Statutory/Constitutional Authority: Article III, Section 49-f, of the Texas Constitution, adopted in 1985, authorizes the issuance of general obligation bonds by the Veterans Land Board. The program was transferred in 1993 from the Veterans Land Board to the Texas Agricultural Finance Authority with the passage of HB 1684 by the 73rd Legislature. In 1995, a constitutional amendment was approved that expanded the use of existing bond authority and allows no more than $200 million of the authority to be used for the purposes defined in Article III, Section 49-i, of the Texas Constitution and for other rural economic development programs. In 1997, HB 2499, 75th Legislature increased the maximum loan amount available through the program to $250,000. In 2001, SB 716, 77th Legislature authorized the Authority to provide a guarantee to a local lender for an eligible applicant.

Purpose: Proceeds from the sale of the general obligation bonds may be used to make loans of up to $250,000 to each eligible Texan for the purchase of farms and ranches.

Security: The bonds are general obligations of the state of Texas. The first monies coming into the Comptroller of Public Accounts - Treasury Operations, not otherwise dedicated by the Constitution, are pledged to pay debt service on the bonds.

Dedicated/Project Revenue: Principal and interest payments on the farm and ranch loans are pledged to pay debt service on the bonds issued by the Texas Agricultural Finance Authority. The program is designed to be self-supporting; therefore, no draw on general revenue is anticipated.

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HIGHER EDUCATION CONSTITUTIONAL BONDS

Statutory/Constitutional Authority: Article VII, Section 17, of the Texas Constitution, adopted in 1985, authorizes the issuance of constitutional appropriation bonds (generally referred to as Higher Education Fund or HEF bonds) by institutions of higher education not eligible to issue bonds payable from and secured by the income of the Permanent University Fund (PUF). Legislative approval of bond issues is not required; however, approval of the Bond Review Board and the Attorney General is required and the bonds must be registered with the Comptroller of Public Accounts.

Purpose: Proceeds from the sale of bonds are used by qualified institutions for library materials, land acquisition, new construction, major repairs and renovations or equipment.

Security: The first $175 million coming into the Comptroller of Public Accounts - Treasury Operations, not otherwise dedicated by the Constitution, goes to qualified institutions of higher education to fund certain land acquisition, construction and repair projects. In 2005, the 79th Legislature increased the total allocation to qualified institutions to $262.5 million beginning in fiscal year 2008. In 2015, the 84th Legislature increased the total allocation to $393.8 million beginning in fiscal year 2017. Fifty percent of this amount may be pledged to pay debt service on any bonds or notes issued. While not explicitly a general obligation or full-faith and credit bond, the stated pledge has the same effect.

Dedicated/Project Revenue: Debt service is payable solely from state General Revenue Fund appropriations to institutions of higher education.

Contact:
Individual colleges and universities.

PERMANENT UNIVERSITY FUND BONDS

Statutory/Constitutional Authority: Article VII, Section 18, of the Texas Constitution, initially adopted in 1947, as amended in November 1984, authorizes the Boards of Regents of The University of Texas and The Texas A&M University Systems to issue revenue bonds payable from and secured by the income of the Permanent University Fund (PUF). The constitutional amendment approved by voters on November 2, 1999, allows for distributions from the PUF to be based on the "total return" on all PUF investment assets, including current income as well as capital gains. Neither legislative approval nor Bond Review Board approval is required. Approval of the Attorney General is required and the bonds must be registered with the Comptroller of Public Accounts.

Purpose: Proceeds are used for acquiring land either with or without permanent improvements, constructing and equipping buildings or other permanent improvements, major repair and rehabilitation of buildings and other permanent improvements, acquiring capital equipment and library books and library materials and refunding PUF bonds or PUF notes.

Security: Bonds are equally and ratably secured by and payable from a first lien on and pledge of the interest of the UT System or the A&M System in the Available University Fund. The total amount of PUF bonds is subject to the constitutional limitation in that the aggregate amount of bonds payable from the Available University Fund cannot, at the time of issuance, exceed 30 percent of the cost value of investments and other assets of the PUF, exclusive of real estate.

The PUF bonds do not constitute general obligations of the UT Board or A&M Board, the Systems, the state of Texas or any political subdivision of the state of Texas. Neither the UT Board nor the A&M Board have taxing power, and neither the credit nor the taxing power of the state of Texas or any political subdivision thereof is pledged as security for the bonds.

Dedicated/Project Revenue: Bonds are repaid from the Available University Fund which consists of distributions from the "total return" on all investment assets of the PUF including the net income attributable to the surface of PUF land, in amounts determined by the UT Board.

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TEXAS AGRICULTURAL FINANCE AUTHORITY BONDS

Statutory/Constitutional Authority: The Texas Public Finance Authority (the "Authority") is authorized to issue general obligation and revenue bonds on behalf of the Texas Agricultural Finance Authority ("TAFA") pursuant to Agriculture Code Section 58.041. This authority was transferred from TAFA to the Authority effective September 1, 2009. The issuance of general obligation debt for TAFA programs is authorized by the Texas Constitution, Article III, Sections 49-f and 49-i.

Purpose: Chapter 58 of the Texas Agriculture Code created TAFA under the Texas Agricultural Finance Act and authorizes TAFA to establish programs to support agricultural business in Texas. Under the Agricultural Finance Act, TAFA is authorized to use bond proceeds for loans and other financing assistance for the purchase of farm and ranch land. In addition, proceeds may be used to establish a Texas Agricultural Fund for rural economic development programs and to establish a Rural Microenterprise Development Fund to fund programs that foster and stimulate the creation and expansion of small businesses in rural areas. TAFA may use the proceeds to provide loan guarantees, insurance, coinsurance, loans and indirect loans or purchases or acceptances of assignments of loans or other obligations.

Security: In addition to general obligation bonds, TAFA may issue up to $500 million in revenue bonds for the purpose of providing money to carry out its programs. Before authorizing the issuance of any general obligation bonds for programs funded by the Texas Agricultural Development Fund or the Rural Microenterprise Development Fund, the TAFA board must determine that the issuance of revenue bonds is not an economically advisable alternative. TAFA's revenue bonds are secured by pledged revenues and liens on TAFA's property, revenues, income or other resources of the authority, including mortgages or other interests in property financed with bond proceeds.

Dedicated/Project Revenue: Debt service on revenue debt issued by TAFA is not an obligation of the state and is payable solely from any loan repayments and other pledged revenue and assets of TAFA. Debt service on general obligation debt is payable from pledged repayments on loans made under a financial assistance program funded by bond proceeds, or state general revenue if income is insufficient to make debt-service payments.

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Statutory Authority: The Texas Low-Level Radioactive Waste Disposal Authority (the "Authority") was created in 1981 (Texas Health and Safety Code, Chapter 402), and authorized to issue revenue bonds in 1987 to finance certain costs related to the creation of a radioactive waste disposal site. The Authority was required to obtain the approval of the Attorney General's Office and the Bond Review Board prior to issuance and to register its bonds with the Comptroller of Public Accounts. In 1997, HB 1077, 75th Legislature authorized the Texas Public Finance Authority to issue the bonds on behalf of the Texas Low-Level Radioactive Waste Disposal Authority.

The 76th Legislature abolished the Authority effective September 1, 1999 and transferred all of its duties, responsibilities and resources to the Texas Natural Resource Conservation Commission ("the Commission") that has since been renamed the Texas Commission on Environmental Quality.

Although the statutory authority remains, it is unlikely that any such bonds will be issued.

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TEXAS DEPARTMENT OF HOUSING AND COMMUNITY AFFAIRS BONDS

Statutory Authority: The Texas Department of Housing and Community Affairs (the "Department") was created pursuant to Chapter 762, 1991 Tex. Sess. Law Serv. 2672, the Act, codified as Chapter 2306, Texas Government Code. The Department is the successor agency to the Texas Housing Agency (THA) and the Texas Department of Community Affairs, both of which were abolished by the Act with their functions and obligations transferred to the Department.

Pursuant to the Act, the Department may issue bonds, notes or other obligations to finance or refinance residential housing and to refund bonds previously issued by the THA, the Department or certain other quasi-governmental issuers. The Act specifically provides that the revenue bonds of the THA become revenue bonds of the Department. Legislative approval of bond issues is not required; however, the Department is required to obtain the approval of the Bond Review Board and the Attorney General's Office prior to issuance and to register its bonds with the Comptroller of Public Accounts.

Purpose: Proceeds from the sale of bonds are used to provide assistance to individuals and families of low, very low and moderate income and persons with special needs to obtain decent, safe and sanitary housing.

Security: Any bonds issued are obligations of the Department and are payable solely from the revenues and funds pledged for the payment thereof. The Department's bonds are not an obligation of the state of Texas, and neither the state's full faith and credit nor its taxing power is pledged toward payment of the Department's bonds.

Dedicated/Project Revenue: Revenue received by the Department from the repayment of loans and investment of bond proceeds is pledged to the payment of principal and interest on bonds issued.

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TEXAS DEPARTMENT OF TRANSPORTATION BONDS

Statutory/Constitutional Authority: The Texas Transportation Commission ("Commission"), the governing body of the Texas Department of Transportation ("TxDOT") is authorized to issue both revenue and general obligation bonds.

In 1997, the Texas Turnpike Authority ("TTA") was established by SB 370, 75th Legislature (Texas Transportation Code, Chapter 361). Effective November 6, 2001, SB 342, 77th Legislature abolished the TTA board and assigned all duties, including authority to issue bonds for toll projects to the Commission, which provides for all the management of the TTA's affairs as a division of TxDOT. The Commission's authority to issue toll revenue bonds is provided by Subchapter C of Chapter 228, Texas Transportation Code.

In 2001, voters approved Article III, Section 49-k of the Texas Constitution, and Subchapter M of Chapter 201, Texas Transportation Code, which established the Texas Mobility Fund within the state treasury and authorized the Commission to issue general obligation bonds payable from the revenues of the fund.

In 2003, voters approved Proposition 14 that added Article III, Section 49-n of the Texas Constitution which, along with the enabling legislation, Section 222.003, Texas Transportation Code, authorized the issuance of $3 billion in securities payable from the revenues of the State Highway Fund. In 2005 the program capacity was increased to $6 billion with a maximum annual issuance of $1.5 billion.

In 2007, voters approved Proposition 12 that added Article III, Section 49-p to the Texas Constitution. In 2009, HB 1, 81st Legislature, 1st Called Session ratified Section 222.004 to the Texas Transportation Code that authorized the issuance of $5 billion in highway improvement general obligation bonds.

Purpose: Proceeds from the sale of toll revenue bonds may be used to pay for all or part of the cost of a toll project provided that they are only used to pay costs of the project for which they are issued. In 2002, the Commission issued the Central Texas Turnpike System Revenue Obligations to finance a portion of the planning, design, engineering and construction of the initial phase of the Central Texas Turnpike System (SH 130 Segments 1 through 4, SH 45 North, and Loop 1).

Revenues and obligations secured by the Texas Mobility Fund may be used for acquisition, construction, maintenance, reconstruction and expansion of state highways and the participation by the state in the costs of constructing publicly owned toll roads and other public transportation projects.

State Highway Fund Revenue bonds (Proposition 14 Bonds) may be used to finance state highway improvement projects that are eligible for funding with constitutionally dedicated revenues. Of the $6 billion currently authorized, $1.2 billion must be used to fund projects that improve highway safety.

Highway improvement general obligation bonds (Proposition 12 Bonds) may be used to pay all or part of the costs of highway improvement projects.

Security: Project revenue bonds issued pursuant to Chapter 228, Texas Transportation Code (including Central Texas Turnpike System bonds) are not an obligation of the Commission, TxDOT, nor the state and are payable solely from the revenues of the project for which the securities are issued or other eligible sources.

Obligations of the Texas Mobility Fund (the "Fund") are secured by and payable from a pledge of revenues dedicated to and on deposit in the Fund. Pledged revenues of the Fund primarily consist of driver's license fees, driver record information fees, motor vehicle inspection fees and certificate of title fees. Bonds secured by the Fund may also carry the state's full faith and credit, pledging the state's taxing power toward payment of the bonds if the dedicated revenues in the Fund are insufficient for repayment of the bonds.

State Highway Fund Revenue bonds are payable from a lien on pledged revenues consisting primarily of certain fees and reimbursements deposited to the credit of the State Highway Fund. Major sources of revenue for the State Highway Fund consist of state motor fuels tax receipts, state motor vehicle registration fees and federal reimbursements.

Highway improvement general obligation bonds carry the state's full faith and credit, pledging the state's taxing power toward payment of the bonds.

Dedicated/Project Revenue: Project revenue bonds are repaid from revenue of the project for which the bonds were issued. Debt service on Texas Mobility Fund bonds and State Highway Fund Revenue bonds is payable from the revenues dedicated to each fund except that Texas Mobility Fund bonds also carry the state's general obligation pledge. Highway improvement general obligation bonds issued pursuant to Section 222.004, Texas Transportation Code are payable from the state's general revenues including Proposition 7 deposits to the State Highway Fund. In 2015, voters approved Proposition 7 that added Article VIII, Section 7-c to the Texas Constitution and directs the Comptroller of Public Accounts to deposit in the State Highway Fund $2.5 billion of the net revenue from the state sales and use tax that exceeds the first $28 billion of that revenue coming into the state treasury in that fiscal year, beginning in FY 2018.

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TEXAS PRIVATE ACTIVITY BOND SURFACE TRANSPORTATION CORPORATION BONDS

Statutory Authority: The Texas Transportation Commission ("Commission") is authorized pursuant to the authority in the Texas Transportation Code, Chapter 431, Subchapters A through C ("Chapter 431"), to create transportation corporations to assist and act on behalf of the Commission to promote and develop new and expanded public transportation facilities and systems. Such transportation corporations are authorized to issue bonds for the same purpose for which they were created including issuance of private activity bonds for public transportation facilities and systems to be developed pursuant to comprehensive development agreements entered into by the Texas Department of Transportation ("TxDOT") as authorized by Subchapter E of Chapter 223, Texas Transportation Code. Pursuant to Chapter 431, the Commission created the Texas Private Activity Bond Surface Transportation Corporation ("Corporation") as a conduit issuer of private activity bonds in 2008.

Purpose: Proceeds from the sale of the Corporation's revenue bonds may be used to carry out the purposes for which the Corporation was created, including the development and expansion of public transportation projects, provided that obligations are only used to pay costs of the project for which they are issued.

Security: Bonds issued are payable solely from the revenues, funds and other sources pledged for the payment thereof. The Corporation's bonds are not obligations of the state, and neither the state's full faith and credit nor its taxing power is pledged toward the payment of the Corporation's bonds.

Dedicated/Project Revenue: Revenue received by the Corporation from the repayment of loans and investment of bond proceeds is pledged to the payment of principal and interest on the bonds issued.

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GRAND PARKWAY TRANSPORTATION CORPORATION BONDS

Statutory Authority: The Texas Transportation Commission ("Commission") is authorized pursuant to the authority in the Texas Transportation Code, Chapter 431, Subchapters A through C ("Chapter 431"), to create transportation corporations to assist and act on behalf of the Commission to promote and develop new and expanded public transportation facilities and systems. Such transportation corporations are authorized to issue bonds for the same purpose for which they were created including issuance of bonds for public transportation facilities and systems to be developed pursuant to comprehensive development agreements entered into by the Texas Department of Transportation ("TxDOT") as authorized by Subchapter E of Chapter 223, Texas Transportation Code. Pursuant to Chapter 431, the Commission created the Grand Parkway Transportation Corporation ("Corporation") in 2012 to develop, finance, refinance, design, construct, reconstruct, expand, operate or maintain some or all of the segments of the State Highway 99 (Grand Parkway) toll project that are to be developed by TxDOT.

Purpose: Proceeds from the sale of the Corporation's toll revenue bonds may be used to carry out the purposes for which the Corporation was created, in particular developing, financing, refinancing, designing, constructing, reconstructing, expanding, operating or maintaining some or all of the segments of the Grand Parkway toll project to be developed by TxDOT.

Security: Bonds issued are secured by the Trust Estate created and pledged pursuant to the Master Trust Agreement, as supplemented, which includes the toll revenues, funds, and other sources pledged as part of the Trust Estate. The Corporation and TxDOT have entered into a Toll Equity Loan Agreement, as amended, ("TELA") that makes support available for eligible costs of the Grand Parkway through advances by TxDOT if toll revenues and certain fund balances are insufficient to pay certain expenses including debt service on TELA supported bonds. The Corporation's bonds are not obligations of the state, and neither the state's full faith and credit nor its taxing power is pledged toward the payment of the Corporation's bonds.

Dedicated/Project Revenue: Corporation bonds are supported by the Trust Estate pursuant to the Master Trust Agreement, as supplemented, including tolls and other revenues of the Grand Parkway System (currently comprised of Segment D in Harris County and Segments E, F-1, F-2 and G in Harris and Montgomery Counties) and certain other funds held by the trustee under the Master Trust Agreement. The Corporation is in the process of issuing additional obligations for paying the costs of extending, expanding and improving the Grand Parkway System including the H and I Project.

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TEXAS ECONOMIC DEVELOPMENT AND TOURISM BONDS

Statutory/Constitutional Authority: In 1989, specific authority was provided by Section 71, Article XVI of the Texas Constitution to fund the Product Development and Small Business Incubator (PDSBI) program. As the successor office to the Texas Department of Economic Development, the Economic Development and Tourism Office (the "Office") within the Office of the Governor was created by SB 275, 78th Legislature, which authorizes the Office to issue both general obligation and revenue bonds. This legislation also provided the statutory authority for the Texas Economic Development Bank to issue bonds to fund the PDSBI Program.

Purpose: Proceeds from the sale of bonds are used to fund the PDSBI program. The money from these funds provides financial assistance to promote domestic business development through loans to finance the commercialization of new and improved products and processes and foster the development of small businesses in the state.

Security:
The full faith and credit of the state is pledged for the payment of the bonds.

Dedicated/Project Revenue: Revenue of the Office, primarily from the repayment of loans and the disposition of debt instruments, is pledged to the payment of principal and interest on bonds issued.

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TEXAS MILITARY DEPARTMENT BONDS

Statutory Authority: The Texas Military Facilities Commission (the "Commission") was created in 1997 by SB 352, 75th Legislature, as the successor agency to the National Guard Armory Board, which was created as a state agency in 1935 (Texas Government Code, Chapter 435) and authorized to issue long-term debt. Legislative approval of bond issues is not required; however, the Commission is required to obtain the approval of the Bond Review Board and the Attorney General's Office prior to issuance and to register its bonds with the Comptroller of Public Accounts.

In 1991, SB 3, 72nd Legislature, authorized the Texas Public Finance Authority (the "Authority") to issue bonds on behalf of the Texas Military Facilities Commission (Texas Government Code, Section 435.041).

SB 1724, Acts of the 80th Legislature (2007) abolished the Commission and transferred all its duties, responsibilities, property and assets to the Adjutant General's Department. To preserve the pledged revenue stream and meet the state's obligations under the bonds, the Commission's title to facilities, the rental and other income of which is pledged to the bonds, was transferred to the Texas Public Finance Authority effective September 1, 2007. The Authority will continue leasing the facilities to the Adjutant General's Department which is obligated to continue making rental payments until the bonds are retired after which the Authority will transfer title to the facilities to the Adjutant General.

Name changed from Adjutant General's Department to Texas Military Department and recodified under Texas Government Code, Section 437 by SB 1536, 83rd Leg., R.S.

Purpose: Proceeds from the sale of bonds are used to acquire land, to construct, remodel, repair or equip buildings for the Texas National Guard.

Security: Any bonds issued are obligations of the Authority and are payable from "rents, issues, and profits" of the facilities leased to the Texas Military Department. The bonds are not general obligations of the state of Texas and neither the state's full faith and credit nor its taxing power is pledged toward payment of the bonds.

Dedicated/Project Revenue: The rent payments used to retire the bonds are paid by the Texas Military Department primarily with general revenue funds appropriated by the legislature. Independent project revenue, in the form of other income from properties owned by the Texas Military Department, is also used to pay a small portion of debt service.

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TEXAS PARKS AND WILDLIFE DEPARTMENT BONDS

Statutory/Constitutional Authority: Article III, Section 49-e, of the Texas Constitution, adopted in 1967, authorized the Texas Parks and Wildlife Department (the "Department") to issue general obligation bonds to acquire and develop state parks. In 1991, SB 3, 72nd Legislature, authorized the Texas Public Finance Authority (the "Authority") to issue bonds on behalf of the Department. In 1997, HB 3189, 75th Legislature, codified in the Texas Parks and Wildlife Code, Section 13.0045, authorized the Authority to issue revenue bonds or other revenue obligations not to exceed $60.0 million in the aggregate on behalf of the Department for construction and renovation projects for parks and wildlife facilities.

Purpose: Proceeds from the sale of general obligation bonds are used to purchase and develop state park lands. Proceeds from the sale of revenue bonds are used to finance the repair, renovation, improvement and equipping of parks and wildlife facilities.

Security: General obligation debt issued on behalf of the Department is payable from revenues and income of the Department. In the event that such income is insufficient to repay the debt, the first monies coming into the Comptroller of Public Accounts - Treasury Operations, not otherwise dedicated by the Constitution, are pledged to pay debt service on the bonds.

Revenue obligations issued on behalf of the Department are to be repaid from rent payments made by the Department to the Authority. The Department may receive legislative appropriations of general revenue for its required rental payments.

Dedicated/Project Revenue: Debt service on general obligation park development bonds is payable from entrance fees to state parks. Additionally, sporting goods sales tax revenue may also be used to pay debt service on general obligation park development bonds.

The Department's lease obligations to the Authority for revenue bonds are repaid from the Department's general revenue appropriation for lease payments.

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TEXAS PUBLIC FINANCE AUTHORITY BONDS

Statutory/Constitutional Authority: The Texas Public Finance Authority (the "Authority") is authorized to issue both revenue and general obligation bonds.

The Authority was initially created by the legislature in 1983, by Texas Revised Civil Statutes Ann., Article 601d (now Chapter 1232, Texas Government Code) and was authorized to issue revenue bonds to finance state office buildings.

Article III, Section 49-h, of the Texas Constitution, adopted in 1987, authorized the Authority to issue general obligation bonds for correctional and mental health facilities.

In 1989, the Authority was authorized to establish a Master Lease Purchase Program. This program was created to finance the purchase of equipment on behalf of various state agencies at tax-exempt interest rates.

In 1991, the Authority was given the responsibility of issuing revenue bonds for the Texas Workers' Compensation Fund under Subchapter G, Chapter 5, of the Texas Insurance Code.

The 73rd Legislature authorized the Authority, effective January 1, 1992, to issue bonds on behalf of the Texas Military Facilities Commission, Texas National Research Laboratory Commission, Texas Parks and Wildlife Department and the Texas State Technical College. In 1993, the Authority was authorized to issue bonds or other obligations to finance alternative fuels equipment and infrastructure projects for state agencies, institutions of higher education and political subdivisions.

The 74th Legislature authorized the Authority to issue building revenue bonds on behalf of the Texas Department of State Health Services (formerly the Texas Department of Health) for financing a Public Health Laboratory in Travis County and to issue general obligation bonds on behalf of the Texas Juvenile Probation Commission (now the Texas Juvenile Justice Department).

The 75th Legislature authorized the Authority to issue bonds on behalf of the Texas Low-Level Radioactive Waste Disposal Authority (see Texas Commission on Environmental Quality), Midwestern State University, Texas Southern University and Stephen F. Austin State University. Other legislation passed by the 75th Legislature authorized the Authority to issue revenue bonds on behalf of the Texas Health and Human Services Commission and the Texas Parks and Wildlife Department. The legislature also authorized the Authority to issue bonds to finance the Texas State History Museum on behalf of the State Preservation Board.

The 76th Legislature authorized the Authority to issue revenue obligations to finance automated information systems for the Texas Department of Human Services' electronic benefits transfer (EBT) and integrated eligibility (TIERS) programs.

In 2001, constitutional amendments were adopted authorizing the issuance of: 1) up to $850 million of general obligation bonds to finance construction, renovation and equipment acquisitions for thirteen state agencies (Texas Constitution, Article III, Section 50-f); and 2) up to $175 million of general obligation bonds to finance assistance to border counties for roadways in colonias (Texas Constitution, Article III, Section 49-l). Additionally, the 77th Legislature authorized the Authority to issue bonds to finance nursing home liability insurance and to establish a corporation to issue bonds for charter schools. Bonds issued for charter schools do not constitute state debt.

In 2003, the 78th Legislature authorized the Authority to issue revenue bonds on behalf of the Texas Workforce Commission to fund the unemployment compensation program. (See the Texas Labor Code, Chapter 203, Subchapter F.) The 78th Legislature also authorized: 1) the Authority's issuance of general obligation bonds to finance assistance to local governments for economic development projects to enhance the military value of military facilities. Texas voters approved SJR 55 on September 13, 2003 and amended the Texas Constitution, Article III, Section 49-n and Texas Government Code, Chapter 436; and 2) the Authority's issuance of up to $75 million of revenue bonds to fund the FAIR Plan which provides residential property insurance of last resort.

The 79th Legislature authorized the Authority to issue revenue bonds to finance building improvements for the Texas Department of Transportation and to refinance certain of the Texas Building and Procurement Commission's lease-purchase agreements (now the Texas Facilities Commission).

The 80th Legislature authorized the Authority to issue $3.00 billion of general obligation debt to finance cancer research (Texas Constitution, Article III, Section 67) and $1.00 billion to finance capital projects for certain state agencies (Texas Constitution, Article III Section 50-g).

In 2011, the Sunset Advisory Commission conducted a review of the Authority pursuant to the Texas Government Code Chapter 325. HB 2251, 82nd Legislature, Regular Session (2011) became effective June 17, 2011, authorizing the continuation of the Authority for another twelve years. The legislation also authorized Stephen F. Austin State University to issue debt on its own (under prior law the Authority was the exclusive issuer of debt for that university) and authorized Texas State Technical College System and other general academic teaching institutions to contract with the Authority to issue or refund debt on their behalf.

The Authority is required to obtain the approval of the Bond Review Board and the Attorney General's Office prior to issuance and to register its bonds with the Comptroller of Public Accounts. The issuance of not self-supporting debt for Proposition 4 and Proposition 8 constitutional authorizations also requires Legislative Budget Board approval.

Purpose: Proceeds from the sale of general obligation bonds issued under Article III, Section 49-h are used to finance the cost of constructing, acquiring and/or renovating prison facilities, youth correction facilities and mental health/mental retardation facilities. Proceeds of obligations issued under Article III, Section 50-f are used for state agency renovation, construction and equipment acquisition projects. Proceeds of obligations issued under Article III, Section 49-l are used to provide assistance to border counties for colonia roadway projects. Proceeds from the sale of general obligation bonds issued under Article III, Section 67 are used to finance grants for cancer research and the operation of the Cancer Prevention and Research Institute of Texas. Proceeds from the sale of building revenue bonds are used to purchase, construct, renovate and maintain state buildings. Proceeds of bonds issued under Article III, Section 49-n are used to fund the Texas Military Value Revolving Loan Fund to make loans to certain defense communities for improved military value or economic development projects. Proceeds from the sale of bonds for the Workers' Compensation Fund were used to fund the Workers' Compensation Insurance Fund. Proceeds from the issuance of commercial paper under the Master Lease Purchase Program are used to finance equipment purchases of state agencies. (For a description of the use of funds for bonds issued on behalf of the Texas Military Facilities Commission (now the Texas Military Department), the Texas Parks and Wildlife Department and the Texas state colleges and universities that are clients of the Authority, see the applicable sections in this Appendix.) Proceeds of bonds issued on behalf of the Texas National Research Laboratory Commission were used to finance costs of the Superconducting Super Collider; however, the project was canceled in 1995. The revenue bonds issued for the project were defeased in 1995, and the general obligation bonds were economically defeased in November 1999.

Security: Issued building revenue bonds are obligations of the Authority and are payable from "rents, issues, and profits" resulting from leasing projects to the state. These sources of revenue come primarily from legislative appropriations. The general obligation bonds pledge the first monies not otherwise appropriated by the Constitution that come into the state treasury each fiscal year to pay debt service on the bonds. Revenue debt issued for the Unemployment Compensation Insurance Fund was secured by a special obligation assessment imposed on Texas employers by the Texas Workforce Commission. Revenue bonds issued for the Master Lease Purchase Program are secured by lease payments from state agencies which come from state appropriations.

Dedicated/Project Revenue: Debt service on all general obligation bonds, except the park development bonds and military value revolving program bonds is payable solely from the state's General Revenue Fund. Debt service on the general obligation bonds for park development is paid first from department revenues as described in the applicable section of this appendix. Debt service in the form of loan repayments is paid by participating defense communities to the Military Preparedness Commission to pay debt on the outstanding bonds. Debt service on the revenue bonds is payable from lease payments which are primarily general revenue funds appropriated to the respective agencies and institutions by the legislature. The legislature, however, has the option to appropriate lease payments to be used for debt service on the bonds from any other source of funds that is lawfully available. For example, debt service on the bonds issued on behalf of the Texas Department of State Health Services which were paid in full in February 2018, were appropriated from lab fees collected by the Department. Bonds issued on behalf of the Workers' Compensation Fund which are fully economically defeased and were paid in full in December 2006, were payable solely from maintenance tax surcharges authorized in Article 5.76 of the Texas Insurance Code. Issued university revenue bonds are repaid from pledged revenue such as tuition and fees. The university bonds are self-supporting, and the state's credit is not pledged for their repayment.

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TEXAS PUBLIC FINANCE AUTHORITY/TEXAS WINDSTORM INSURANCE ASSOCIATION BONDS

Statutory/Constitutional Authority: In the event of catastrophe, the Texas Public Finance Authority (the "Authority") is authorized to issue revenue obligations for the Texas Windstorm Insurance Association (the "Association") pursuant to Subchapters B-1 and M, Chapter 2210, of the Texas Insurance Code (the "Act").

The Authority and the Association are required to obtain the approval of the State Insurance Commissioner, the Bond Review Board and the Attorney General's Office prior to issuance and to register its bonds with the Comptroller of Public Accounts.

Purpose: Proceeds from the sale of revenue bonds issued may be used to pay incurred claims and operating expenses of the Association; to pay for the purchase of reinsurance for the Association; to provide a reserve fund; and to pay capitalized interest and principal on the public securities for the period determined necessary by the Association.

Security: The bonds are special obligations of the Authority and the Association equally and ratably secured solely by and payable solely from a pledge of and lien on the Pledged Revenues. Pledged Revenues consist of revenues received by the Association from the assessment of the surcharges pursuant to the Authorizing Law, amounts on deposit in the Obligation Revenue Fund and accounts created therein and in the Program Fund and accounts created therein, including all derived investment income.

Dedicated/Project Revenue: Debt service on bonds issued by the Association is payable from any one or a combination of the following: premiums and other revenue of the Association, assessments on Association members and premium surcharges on property insurance policies in the catastrophe area.

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TEXAS PUBLIC FINANCE AUTHORITY CHARTER SCHOOL FINANCE CORPORATION

Statutory/Constitutional Authority: The Texas Public Finance Authority Charter School Finance Corporation (the "Corporation" or "Issuer") is a public, non-profit corporation created by the Texas Public Finance Authority (the "Authority" or "Sponsoring Entity") and exists as an instrumentality of the state pursuant to Texas Education Code, Section 53.351 as amended (the "Act"). The Corporation is required to obtain the approval of the Bond Review Board and the Attorney General's Office prior to issuance and to register its bonds with the Comptroller of Public Accounts.

Purpose: Pursuant to the Act, the Issuer is authorized to issue revenue bonds and to lend the proceeds thereof to any authorized charter schools for the purpose of aiding such schools in financing or refinancing "educational facilities" (as such term is defined in the Act) and facilities which are incidental, subordinate or related thereto or appropriate in connection therewith.

Security: The bonds are special and limited obligations of the Issuer, payable solely from revenues to be derived under the loan agreement, the Issuer Master Notes, and in certain circumstances, out of amounts secured through the exercise of remedies provided in the Indenture, the loan agreement, the deed of trust and the Issuer Master Notes. The bonds are not obligations of the state of Texas or any entity other than the Issuer. The Issuer has no taxing power.

Dedicated/Project Revenue: The Issuer issues the bonds and loans the proceeds to the Borrower (an eligible open-enrollment charter school) to finance education facilities of the Borrower. The Borrower's obligations under the Loan Agreement are expected to be paid primarily from the state general revenue allocation the Borrower receives as a charter school, pursuant to Chapter 12 of the Texas Education Code.

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TEXAS SMALL BUSINESS INDUSTRIAL DEVELOPMENT CORPORATION BONDS

Statutory Authority: The Texas Small Business Industrial Development Corporation (TSBIDC) was created as a private non-profit corporation in 1983 (Title 83, Article 5190.6, Sections 4-37, Tex. Rev. Civ. Stat. Ann. as codified in the Local Government Code, Chapter 503) pursuant to the Development Corporation Act of 1979, and was authorized to issue revenue bonds. The authority of TSBIDC to issue bonds was repealed by the legislature, effective September 1, 1987. HB 2667, as an act of the 84th Legislature, repealed Chapter 503 of the Texas Local Government Code and Subchapter N, Chapter 481, Texas Government Code which terminated the program.

Purpose: Proceeds from the sale of the TSBIDC bonds were used to provide financing to state and local governments and to businesses and non-profit corporations for the purchase of land, facilities, and equipment for economic development.

Security: The bonds were obligations of the Corporation. The Corporation's bonds were not an obligation of the state of Texas or any political subdivision of the state. All Texas Small Business Industrial Development Corporation Bonds have been defeased as of January 2014.

Dedicated/Project Revenue: Debt service on bonds issued by the TSBIDC were payable from the repayment of loans made from bond proceeds and investment earnings on bond proceeds.

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TEXAS STATE AFFORDABLE HOUSING CORPORATION

Statutory Authority: Chapter 2306, Subchapter Y of the Texas Government Code, authorizes the Texas State Affordable Housing Corporation (the "Corporation") to issue bonds. In accordance with the Texas Government Code, as amended, the Corporation is authorized to issue statewide 501(c)(3) bonds, qualified residential rental project bonds, and qualified mortgage revenue bonds under Section 2306.553 and Section 2306.555. The 77th Legislature established the Professional Educators Home Loan Program under Section 2306.562. The 78th Legislature authorized the Fire Fighter, Law Enforcement or Security Officer, and Emergency Medical Services Personnel Home Loan Program under Section 2306.5621. The 83rd Legislature reauthorized both of the Corporation's profession-specific single family programs by adding all eligible occupations under the Professional Educators Home Loan Program to the Homes for Texas Heroes (formerly known as the Fire Fighter, Law Enforcement or Security Officer, and Emergency Medical Services Personnel) Home Loan Program, creating a single program under Section 2306.5621.

The Corporation is required to obtain the approval of the Bond Review Board and the Attorney General's Office prior to issuance and to register its bonds with the Comptroller of Public Accounts.

Purpose: The Corporation's primary public purpose is to facilitate the provision of housing and the making of affordable loans to individuals and families of low, very low and extremely low income for eligible participants under its programs. The Corporation is required to perform such activities and services that will promote and facilitate the public health, safety and welfare through the provision of adequate, safe and sanitary housing for individuals and families of low, very low and extremely low income.

Security: Any bonds issued are payable solely from the revenues and funds pledged for the payment thereof. The Corporation's bonds are not obligations of the state of Texas, and neither the state's full faith and credit nor its taxing power is pledged toward the payment of the Corporation's bonds.

Dedicated/Project Revenue: Revenue received by the Corporation from the repayment of loans and investment of bond proceeds is pledged to the payment of principal and interest on the bonds issued.

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TEXAS WATER DEVELOPMENT BONDS

Statutory/Constitutional Authority: The Texas Water Development Board (the "Board") is authorized to issue both revenue and general obligation bonds.

General Obligation: The Board issues self-supporting general obligation bonds for the Development Fund and Rural Water Assistance Programs. The Board may issue not self-supporting general obligation bonds for the State Participation (SP), Water Infrastructure Fund (WIF), Economically Distressed Areas Program (EDAP) and the Agricultural Water Conservation Loan Program.

General Obligation Authority: Article III, Sections 49-c, 49-d, 49-d-1, 49-d-2, 49-d-4, 49-d-6, 49-d-7, 49-d-8, 49-d-9, 49-d-10, 49-d-11 and 50-d of the Texas Constitution, initially adopted in 1957, contain the authorization for the issuance of general obligation bonds by the Board.

The 71st Legislature (1989) passed comprehensive legislation that established the EDAP. Article III, Section 49-d-7(b), provides for subsidized loans and grants from the proceeds of bonds authorized by this section. The 80th Legislature authorized an additional $250 million in general obligation bonds for the EDAP detailed in Article III, Section 49-d-10.

General Obligation Approval: Legislative appropriation and voter approval are required for the issuance of general obligation debt. Legislative appropriation is required for not self-supporting debt while no further legislative action is required for self-supporting debt. The issuance of not self-supporting debt also requires Legislative Budget Board review. The Board is required to obtain the approval of the Bond Review Board and the Attorney General's Office prior to issuance and to register its bonds with the Comptroller of Public Accounts.

General Obligation Purpose: Proceeds from the sale of the general obligation bonds are used to make loans (and grants under the EDAP) to political subdivisions of Texas for the performance of various projects related to water conservation, transportation, storage and treatment.

General Obligation Security: The general obligation bonds are secured by program revenues and the first monies coming into the Comptroller of Public Accounts - Treasury Operations not otherwise dedicated by the Constitution. The Development Fund Program is designed to be self-supporting. No general revenue draw has been made on this program since 1980. All outstanding series of the SP Program are considered self-supporting. No general revenue draw has been made on this program since 2010.

The EDAP is anticipated to have general revenue draws. The WIF Program includes certain series that are self-supporting and others that are not self-supporting. The not self-supporting series are anticipated to have general revenue draws.

Revenue Debt Authority: The Texas Water Resources Fund administered by the Board was created in 1987 by the 70th Legislature (Texas Water Code, Section 17.853), to issue revenue bonds that facilitate the conservation of water resources.

The State Water Implementation Revenue Fund for Texas (SWIRFT), administered by the Board, was created in 2013 by the 83rd Legislature (Texas Water Code, Chapter 15, Subchapter H), to issue revenue bonds to provide financing or refinancing for projects included in the state water plan. Constitutional related provisions applicable to the SWIRFT are detailed in Article III Section 49-d-13 of the Texas Constitution.

Revenue Debt Approval: Further legislative approval of specific bond issues is not required; however, the Board is required to obtain the approval of the Bond Review Board and the Attorney General's Office prior to issuance and to register its bonds with the Comptroller of Public Accounts. For the SWIRFT, the Texas Constitution requires that the Board provide written notice to the Legislative Budget Board for approval before issuing a revenue bond.

Revenue Debt Purpose: Proceeds from the sale of revenue bonds authorized under Texas Water Code, Section 17.853, are used to provide funds to the State Water Pollution Control Revolving Fund (also known as the Clean Water State Revolving Loan Fund) or any other state revolving fund that is created under Subchapter J, Chapter 15 of the Texas Water Code, including Drinking Water State Revolving Fund, and to provide financial assistance to local government jurisdictions through the acquisition of their obligations.

SWIRFT bond proceeds will be used to provide financial assistance to local government jurisdictions through acquisition of their obligations for the purpose of financing state water plan projects.

Revenue Debt Security: Any revenue bonds issued are obligations of the Board and are payable solely from the income of the program including the repayment of loans to political subdivisions. Principal and interest payments on the loans to political subdivisions for projects are pledged to pay debt service on the revenue debt issued by the Board.

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TEXAS WATER RESOURCES FINANCE AUTHORITY BONDS

Statutory Authority: The Texas Water Resources Finance Authority (the "Authority") was created in 1987 (Texas Water Code, Chapter 20) and given the authority to issue revenue bonds. The Authority is required to obtain the approval of the Bond Review Board and the Attorney General's Office prior to issuance and to register its bonds with the Comptroller of Public Accounts. No such bonds are currently outstanding.

Purpose: Proceeds from the sale of bonds are used to finance the acquisition of the bonds of local government jurisdictions including local jurisdiction bonds that are owned by the Texas Water Development Board.

Security: Issued bonds are obligations of the Authority and are payable from funds of the Authority. The Authority's bonds are not an obligation of the state of Texas, and neither the state's full faith and credit nor its taxing power is pledged toward payment of Authority bonds.

Dedicated/Project Revenue: Revenue from the payment of principal and interest on local jurisdiction bonds acquired is pledged to the payment of principal and interest on bonds issued.

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VETERANS' LAND AND HOUSING ASSISTANCE BONDS

Statutory/Constitutional Authority: Article III, Section 49-b, of the Texas Constitution, initially adopted in 1946, authorized the issuance of general obligation bonds to finance the Veterans Land Program. Article III, Section 49-b-1, of the Texas Constitution, adopted in 1983, authorized additional land bonds and created the Veterans' Housing Assistance Program and established the Veterans' Housing Assistance Fund within the program. Article III, Section 49-b-2, of the Texas Constitution, adopted in 1993, authorized additional land bonds and the issuance of general obligation bonds to finance the Veterans' Housing Assistance Program, Fund II. Article III, Section 49-b, amended in 2001 and 2003, also authorizes the Veterans Land Board to use assets from the Veterans' Land Fund, the Veterans' Housing Assistance Fund or the Veterans' Housing Assistance Fund II in connection with veterans' cemeteries and veterans' long-term care facilities. Chapter 164 of the Texas Natural Resources Code authorized the Veterans Land Board to issue revenue bonds for its programs including the financing of veterans' long-term care facilities.

Purpose: Proceeds from the sale of the general obligation bonds are loaned to eligible Texas veterans for the purchase of land, housing and home improvements. Proceeds from the sale of revenue bonds are used to make land loans to veterans, to make home mortgage loans to veterans or to provide for veterans' skilled nursing-care homes. Additionally, funds are used to provide cemeteries for veterans.

Security: In addition to program revenues, the general obligation bonds pledge the first monies coming into the Comptroller of Public Accounts - Treasury Operations not otherwise dedicated by the Constitution. The revenue bonds issued under Chapter 164 are special obligations of the Board and are payable only from and secured by the revenue and assets pledged to secure payment of the bonds under the Texas Constitution and Chapter 164. The revenue bonds do not create or constitute a pledge, gift or loan of the full faith, credit or taxing authority of the state.

Dedicated/Project Revenue: Debt service on the general obligation bonds is payable from principal and interest payments on the underlying loans to veterans. Debt service for the revenue bonds is paid from all available revenue from the projects financed which is pledged as security for the bonds. The programs are designed to be self-supporting and have never had to rely on the General Revenue Fund.

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Appendix F
The Private Activity Bond Program

Since the passage of the Tax Reform Act of 1986 (the "Tax Act"), federal law has limited the use of tax-exempt financing for private activities. Tax-exempt private activity bonds may be used to finance certain privately owned projects that serve a public purpose and meet the following tests: 1) Private Business Use Test - more than 10 percent of the proceeds are to be used for any private business use; 2) Private Security or Payment Test - payment on principal or interest of more than 10 percent of the proceeds is to be directly or indirectly secured by, or payments are to be derived from a private business use; and 3) Private Loan Financing Test - proceeds are to be used to make or finance loans to persons other than governmental units.

The Tax Act authorizes the issuance of six types (subceilings) of private activity bond issues: 1) single-family housing projects permitted to issue qualified mortgage revenue bonds (MRB) or mortgage credit certificates (MCC); 2) Certain state-voted bond issues; 3) Qualified small-issue industrial development bonds (IDBs) or enterprise zone bonds (EZBs); 4) Multifamily residential rental projects; 5) Student loan bonds; and 6) All other issues that include a variety of exempt facilities such as sewage facilities, solid and hazardous waste disposal facilities. In recent years a widening variety of projects have been permitted to utilize tax-exempt private activity bonds including transportation facilities, environmental enhancements to hydroelectric generating facilities and qualified public educational facilities.

In addition, the Tax Act imposes a volume ceiling (or cap) on the aggregate principal amount of tax-exempt private activity bonds that may be issued within each state during any calendar year. The current volume cap is the greater of $105 per capita or $311.4 million. Based on the per capita amount, the state's volume cap for calendar year 2018 was $2.97 billion.

Section 146(e) of the Internal Revenue Code provides for each state to devise an allocation formula or a process for allocating the state's volume cap. This provision gives each state the ability to allocate this limited resource in a manner consistent with its own specific needs.

Chapter 1372 of the Texas Government Code mandates the allocation process for the state of Texas. The Private Activity Bond Allocation Program (PAB or Program) regulates the volume cap and monitors the amount of demand and use of private activity bonds each year. The BRB has administered this program since January 1, 1992.

The federal government determines the state's private activity ceiling, but historically the demand for financing for qualified private activities outstrips the supply of available volume cap. In an effort to address the excess demand over supply for most types of PAB financing, the legislature devised a lottery system that ensures an allocation opportunity for each eligible project type.

Reservations of state ceilings are initially allocated by lottery for applications received from October 5 through October 20 of the preceding program year, and thereafter on a first-come, first-served basis. Single-family housing and student loan bonds have a separate priority system based on prior applications and prior bond issues. This system is in place from January through August 14th of each year. On August 15th (the collapse date) all unreserved allocation from all the subceilings are combined and redistributed by lottery number or on a first-come, first-served basis if all applicants from the lottery have received a reservation.

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Appendix G
Glossary

Advance Refunding – A refunding in which the refunded obligation remains outstanding for a period of more than 90 days after the issuance of the refunding issue. The Tax Cuts and Jobs Act of 2017 eliminated the option of issuing a tax-exempt advanced refunding of a tax-exempt municipal debt after December 31, 2017.

Allocation – The amount of private activity bond authority obtained from the state ceiling and assigned to a bond issuer that is using the issuance proceeds for a private activity that qualifies for exemption from federal income tax under the IRS Code.

Allotment – Amount of securities distributed to each member of the underwriting syndicate to fill orders.

Authorized but unissued – Debt that has been authorized for a specific purpose by the voters and/or the legislature but has not yet been issued. Authorized but unissued debt can be issued without the need for further legislative action.

Bond – A debt instrument in which an investor loans money to the issuer that specifies: when the loan is due ("term" or "maturity" such as 20 years), the interest rate the borrower will pay (such as 5 percent), when the debt-service payments will be made (such as monthly, semi-annually, annually) and the revenue source pledged to make the payments.

Bond Counsel – Attorney retained by the issuer to give a legal opinion that the issuer is authorized to issue the proposed securities, the legal requirements necessary for issuance have been met and the proposed securities will be exempt from federal income taxation and state and local taxation where applicable.

Bond Insurance – A legal commitment by an insurance company to make timely payments of principal and interest in the event that the issuer of the debt is unable to make the payments.

Build America Bonds (BABs) – A debt instrument created by the American Recovery and Reinvestment Act of 2009 (ARRA) that could be issued as Tax Credit BABs or Direct-Payment BABs. Tax Credit BABs provide a tax credit to investors equal to 35 percent of the interest payable by the issuer. Direct–Payment BABs provide a direct federal subsidy payment to state and local governmental issuers equal to 35 percent of the interest payable. With the implementation of the Budget Control Act of 2011, the BAB subsidies have been reduced. Authority to issue BABs expired in December 2010.

Federal Fiscal Year (October 1 thru September 30)	Sequestration Rate Reduction	Effective BAB Federal Subsidy Payment Percentage
2019	6.2%	32.83%
2018	6.6%	32.69%
2017	6.9%	32.59%
2016	6.8%	32.62%
2015	7.3%	32.45%

2014	7.2%	32.48%
2013	8.7%	31.96%

Capital Appreciation Bonds (CABs) – A municipal security on which the investment return (interest) on an initial principal amount is reinvested at a stated compounded rate until maturity. At maturity the investor receives a single payment (the "maturity value") representing both the initial principal amount and the total investment return.

CAB Maturity Amount – The single payment for a capital appreciation bond an investor receives at maturity representing both the initial principal amount and interest. For capital appreciation bonds compound accreted values are calculated as interest in the year of maturity.

CAB Par Amount – The face amount assigned to a capital appreciation bond at issuance and paid to the investor at maturity.

CAB Premium – The amount by which the price paid for a (CAB) security exceeds par value.

Carryforward – A private activity bond term for the three types of state ceiling that can be carried over for use by an issuer in the subsequent three years. The three types are:

1) Traditional Carryforward - The amount of the state ceiling not reserved before November 15 and any amount previously reserved that becomes available on or after that date because of a reservation cancellation.
2) Non-Traditional Carryforward - The amount of state ceiling reserved by an issuer for a specific purpose and for which the closing date extends beyond the year in which the reservation was granted.
3) Unencumbered Carryforward - The amount of state ceiling at the end of the year that is not reserved, nor designated as carryforward, and for which no application for carryforward is pending.

Certificate of Obligation (CO) – A bond issued by a city, county or certain hospital districts without the approval of voters to finance public projects. Although voter approval is not required, the sale can be stopped if 5 percent of the total voters in the taxing area sign a petition and submit it prior to approval of the ordinance to sell such certificates.

Certificate of Participation (COP) – A tax-exempt lease-financing agreement used by a municipality or local government in which an investor buys a share or participation in the revenue generated from the lease-purchase of the property or equipment to which the COP is tied. COPs do not require voter approval.

Charter School – Charter schools were created by the Texas Legislature in 1995 as part of the public-school system. Under Texas Education Code Chapter 12, the purpose of charter schools is to improve student learning, to increase the choice of learning opportunities within the public-school system, to create professional opportunities that will attract new teachers to the public-school system, to establish a new form of accountability for public schools and to encourage different and innovative learning methods.

Commercial Paper – Short-term, unsecured promissory notes that mature within 270 days and are backed by a liquidity provider (usually a bank) that stands by to provide liquidity in the event the notes are not remarketed or redeemed at maturity.

Competitive Sale – A sale in which the issuer solicits bids from underwriting firms and sells the securities to the underwriter or syndicate offering the most favorable bid that meets the specifications of the notice of sale.

Component Unit (CU) – A legally separate entity for which the elected officials of the primary government (PG) are financially accountable. The nature and significance of the CUs relationship with the PG is such that exclusion from the PG's financial reports would be misleading or create incomplete financial statements.

Conduit Issuer – An issuer, usually a government agency, that issues municipal securities to finance revenue-generating projects in which the funds generated are used by a third party (known as the "conduit borrower" or "obligor") for debt-service payments.

Costs of Issuance – The expenses associated with the sale of a new issue of municipal securities including underwriting costs, legal fees, rating agency fees and other fees associated with the transaction.

Coupon – The interest rate paid on a security.

Counterparty Risk – The risk to each party in a swap contract that the counterparty will not fulfill its contractual obligations.

Current Interest Bond (CIB) – A bond in which interest payments are made on a periodic basis throughout the life of the bond as opposed to a bond such as a capital appreciation bond that pays interest only at maturity. This term is most often used in the context of a combination issuance of bonds that includes both capital appreciation bonds and current interest bonds.

Current Refunding – A refunding transaction in which the municipal securities being refunded will mature or be redeemed within 90 days or less from the date of issuance of the refunding issue.

CUSIP – A unique nine-character identification for each class of security approved for trading in the U.S. CUSIPs are used to facilitate clearing and settlement for market trades.

Dealer Fee – Cost of underwriting, trading or selling securities.

Debt Outstanding – The amount of unpaid principal on a debt that will continue to generate interest until paid off.

Debt per Capita – A measurement of the value of a government's debt expressed in terms of the amount attributable to each citizen under the government's jurisdiction. The formula is the debt outstanding as of August 31 divided by the estimated residential population of the issuer.

Debt Service – The amount that is required to cover the repayment of principal and interest on a debt for a particular period.

Defeasance – A provision that voids a debt when the borrower sets aside cash, securities or investments sufficient to service the borrower's debt.

Derivative – A financial instrument whose value is based on one or more underlying assets. An example is a swap contract between two counterparties that specifies conditions (especially the dates, underlying variables and notional amounts) under which payments are to be made between the parties.

Disclosure – The act of releasing accurately and completely all material information to investors and the securities markets for outstanding or to be issued securities.

Disclosure Counsel – An attorney or law firm retained by the issuer to provide advice on issuer disclosure obligations and to prepare the official statement and/or continuing disclosure agreement.

Discount – The amount by which the price paid for a security is less than its par value.

Escrow – Fund established to hold monies or securities pledged to pay debt service.

Escrow Agent – Commercial bank or trust company retained to hold the investments purchased with the proceeds of an advance refunding and to use the invested funds to pay debt service on the refunded debt.

Financial Advisor – A securities firm that assists an issuer on matters pertaining to a proposed issue such as structuring, timing, marketing, fairness of pricing, terms and debt ratings.

Fiscal Year – Information is sorted on the fiscal year of the state, September 1 through August 31. Debt-service adjustments have been made for local governments with different fiscal years. Information is provided on cash, not accrual basis.

Fixed Rate – An interest rate that does not change during the entire term of the obligation.

General Obligation (GO) Debt – Debt legally secured by a constitutional pledge of the first monies coming into the State Treasury not otherwise constitutionally dedicated for another purpose. General obligation debt must be approved by a 2/3 vote of both houses of the Texas Legislature and by a majority of the voters.

General Revenue (GR) – The amount of total state tax collections and federal monies distributed to the state for its operations.

Higher Education Fund (HEF) – Appropriations that became available beginning in 1985 through Constitutional Amendment to fund permanent capital improvements for certain public higher education institutions. This term may refer either to Higher Education Assistance Fund (HEAF) Treasury Funds (funds reimbursed from the State HEAF appropriation for university expenditures) or HEAF Bond Funds (monies received through the issuance of bonds and secured by HEAF Treasury Funds).

Indenture – Deed or contract which may be in the form of a resolution that sets forth the legal obligations between the issuer and the securities holders. The indenture also names the trustee that represents the interests of the securities holders.

Issuer – A legal entity that sells securities for the purpose of financing its operations. Issuers are legally responsible for the obligations of the issue and for reporting financial conditions, material developments and any other operational activities.

Lease Purchase – Financing the purchase of an asset over time through lease payments that include principal and interest. Lease purchases can be financed through a private vendor or through one of the state's pool programs such as the Texas Public Finance Authority's Master Lease Purchase Program.

Lease-Revenue Bonds – Bonds issued by a non–profit corporation or government issuer which are secured by lease payments made by the government or third-party borrower for use of specified property.

Letter of Credit – A credit enhancement used by an issuer to secure a higher rating for its securities. A Letter of Credit is usually a contractual agreement between a major financial institution and the issuer consisting of an unconditional pledge of the institution's credit to make debt-service payments in the event of a default.

Liquidity – The relative ability of a security to be readily traded or converted into cash without substantial transaction costs or loss in value.

Liquidity Provider – A financial institution that facilitates the trading of a security by insuring that it will be purchased if tendered to the issuer or its agent because it cannot be immediately remarketed to new investors.

Management Fee – A component of the underwriting spread that compensates the underwriters for assistance in creating and implementing the financing.

Maturity Date – The date principal is due and payable to the security holder.

Mortgage Credit Certificate – A certificate issued by certain state or local governments that allows a taxpayer to claim a tax credit for some portion of the mortgage interest paid during a given tax year.

Municipal Bond – A debt security issued to finance projects for a state or local government issuer. Municipal securities are exempt from federal taxes and from most state and local taxes.

Negotiated Sale – A sale in which an issuer selects an underwriting firm or syndicate to assist with the issuance process. At the time of sale, the issuer negotiates a purchase price for its securities with that underwriting firm or syndicate.

Not Self-Supporting Debt – Either general obligation or revenue debt intended to be repaid with state general revenues.

Notice of Sale – Publication by an issuer describing the terms of sale of an anticipated new offering of municipal securities.

Official Statement – The document published by the issuer which provides complete and accurate material information to investors on a new issue of municipal securities including the purposes of the issue, repayment provisions and the financial, economic and social characteristics of the issuing government.

Par – The face value of a security that is due at maturity. A "par bond" is a bond selling at its face value.

Paying Agent – The entity responsible for processing debt-service payments from the issuer to the security holders.

Permanent School Fund (PSF) – The PSF was created in 1854 by the 5th Legislature expressly for the benefit of public schools. In addition, the Constitution of 1876 stipulated that certain lands and proceeds from the sale of those lands would also be dedicated to the PSF. The Constitution requires that distributions from the returns on the PSF be made to the Available School Fund to be used for the benefit of public and charter schools, and allows the PSF to be used to guarantee bonds issued by public and charter schools.

Permanent School Fund Bond Guarantee Program (BGP) – The BGP was created in 1983 as an alternative for school districts to avoid the cost of private bond insurance by obtaining a PSF guarantee for voter-approved public-school bond issuances. To qualify for the BGP guarantee, school districts and charter schools must be accredited by the state, have investment grade bond ratings (but below AAA) and have their applications approved by the Commissioner of Education. Bonds guaranteed by the BGP are rated AAA.

Permanent University Fund (PUF) – The PUF is a state endowment contributing to the support of twenty-one institutions and certain agencies of The University of Texas System and The Texas A&M University System. The PUF was established by the Texas Constitution in 1876 with land grants ultimately totaling 2.1 million acres primarily in West Texas (PUF Lands).

Premium – The amount by which the price paid for a security exceeds par value.

Premium Capital Appreciation Bond (PCAB) – A type of CAB that has a stated yield or accretion rate that is higher than its actual current yield to investors. This difference results in a lower initial stated par amount which preserves debt capacity.

Principal – The face value of a bond, exclusive of interest.

Printer – A business that produces the official statement, notice of sale and any bonds required to be transferred between the issuer and purchasers of the bonds. The costs associated with a printer are typically rolled into the Costs of Issuance.

Private Activity Bond (PAB) – A tax-exempt bond issued by or on behalf of local or state government for the purpose of financing the project of a private user, and generally, the government does not pledge its credit.

Private Placement – A securities sale in which an issuer sells its securities directly to investors through a placement agent without a public offering.

Proceeds – The amount received by the seller from the sale of an asset or debt.

Put Bond – A bond that allows the holder to force the issuer to repurchase the security at specified dates before maturity. The repurchase price is set at the time of issue and is usually par value.

Qualified Energy Conservation Bonds (QECB) – A bond that enables qualified government issuers to borrow money to fund energy conservation projects. The U.S. Department of the Treasury subsidizes the issuer's borrowing costs.

Rating Agency – An entity that provides publicly available ratings of the credit quality of securities issuers, measuring the probability of the timely repayment of principal and interest on municipal securities.

Refunding Bond – Bonds issued to retire or defease all or a portion of outstanding bonds.

Registrar – An entity responsible for maintaining ownership records on behalf of the issuer.

Remarketing Fee – Compensation to an agent for remarketing a secondary offering of short-term securities, usually for a mandatory or optional redemption or put (return of the security to the issuer).

Reservation – The notice given by the BRB to a private activity bond issuer reserving a specific amount of the state ceiling for a specific issue of bonds for 120 to 180 days, depending on the type of bond issuance.

Revenue Debt – Debt that is legally secured by a specified revenue source(s). Revenue debt does not require voter approval and usually has a maturity based on the life of the project to be financed.

Self-Supporting Debt – Debt that is designed to be repaid with revenues other than state general revenues. Self-supporting debt can be either general obligation debt or revenue debt.

Selling Group – Group of municipal securities brokers and dealers that assist in the distribution of a new issue of securities.

Serial Bond – A bond issue in which a portion of the outstanding bonds matures at regular intervals until all of the bonds have matured.

Spread Expenses – A component of the underwriting spread representing the costs of operating the syndicate such as financial advisors, legal counsel, travel, printing, day loans, wire fees and other associated fees.

State Ceiling – The amount of private activity bond authority granted to a state under the IRS Code to issue tax-exempt private activity bonds during a calendar year.

Structuring Fee – A component of the underwriting spread that compensates the underwriters for assistance with developing a marketable securities offering within the issuer's legal and financial constraints.

Swap – A derivative in which counterparties exchange cash flows of one party's financial instrument for those of the other party's financial instrument.

Syndicate – A group of underwriters formed to purchase a new issue of securities from the issuer and offer it for resale to investors.

Takedown – A component of the underwriting spread representing the discount that the members of the syndicate receive when they purchase the securities from the issuer. Takedown is also known as the selling concession.

Tax and Revenue Anticipation Notes (TRAN) – Short-term loans that the state uses to address cash flow needs created when expenditures must be incurred before tax revenues are received.

Term Bond – A bond issue in which all or a large part of the issue comes due in a single maturity. Term bond issuers make periodic payments into a sinking fund for mandatory redemption of term bonds before maturity or for payment at maturity.

Trustee – A bank or trust company designated by the issuer or borrower under the indenture or resolution as the custodian of funds. The trustee represents the interests of the security holders including making debt-service payments.

Tuition Revenue Bonds (TRB) – Revenue bonds issued by the revenue finance systems of institutions of higher education or the Texas Public Finance Authority (on behalf of certain institutions) for new building construction or renovation. The legislature has to authorize the projects in statute, and the TRBs cannot be used for auxiliary space, such as dormitories. All college and university revenue bonds are equally secured by and payable from a pledge of all or a portion of certain "revenue funds" as defined in the Texas Education Code, Chapter 55. Though legally secured through an institution's tuition and fee revenue, historically the state has used general revenue to reimburse the universities for debt service for these bonds.

Unrestricted General Revenue (UGR) – The net amount of general revenue remaining after deducting all constitutional allocations and other restricted revenue from total general revenue.

Underwriter – An investment banking firm that purchases securities directly from the issuer and resells them to investors.

Underwriting Spread – The amount representing the difference between the price at which securities are bought from the issuer by the underwriter and the price at which they are re-offered to the investor. The underwriting spread generally includes the takedown, management fee, expenses and underwriting risk fee.

Underwriting Risk Fee – A portion of the underwriting spread designed to compensate the underwriter for the risk associated with market shifts and interest rate fluctuations.

Underwriter's Counsel – Attorney who prepares or reviews the issuer's offering documents on behalf of the underwriter and prepares documentation for the underwriting agreement and the agreement among underwriters.

Underwriter's Risk – The underwriter's risk of resale.

Variable Rate – An interest rate that fluctuates based on market conditions or a predetermined index or formula. (Fixed rates do not change during the life of the obligation.)

Years to Maturity – The period of time for which a financial instrument remains outstanding. Maturity refers to a finite time period at the end of which the financial instrument will cease to exist, and the principal is repaid with interest.

Yield – The investor's rate of return.

Zero Coupon Bond – A bond that is issued at a deep discount to its face value but pays no interest.

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