

## Prepared by Texas Bond Review Board Staff

### Texas Local Government Capital Appreciation Bond Analysis

#### Overview

Capital appreciation bonds (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, and CABs can be more expensive than CIBs because of the compounding interest; however, CABs can be an effective financing tool if they are used moderately and with reasonable terms.

*Premium* CABs (PCABs) provide a lower initial stated par amount and are sold with a premium. PCABs are issued to: (1) raise additional proceeds, (2) preserve debt limits, and (3) help local governments reach tax-rate targets. Local governments issue more PCABs than non-premium CABs.

Over the past decade total CAB maturity amounts outstanding have decreased by 31.8 percent from \$15.95 billion in FY 2008 to \$10.88 billion in FY 2017. Additionally, CAB maturity amounts outstanding have decreased 11.2 percent from \$12.65 billion outstanding in FY 2016. (Table 4.4). The outstanding CAB maturities range from 2018 to 2053.

Heavy use of CABs can result in rating agency downgrades.

CABs are often used to refund existing CAB and CIB debt.

#### CABs Issued

The below table shows that the total CAB par issued for Texas local governments during fiscal 2017 was 0.17% of the total CAB and CIB debt issued. School districts issuances accounted for 74.7% of the total CABs issued for local governments during fiscal year 2017. Of the total par issued by school districts, 0.28% was issued as CAB par. CABs have been used by school districts to enable them to remain under the 50-cent debt ceiling that limits the property taxes assessed for debt service costs to 50 cents per \$100 of assessed value. CAB issuances by school districts are general obligation (tax) debt repaid with ad valorem taxes.

The state of California passed legislation in October 2013 restricting the use of CABs. The legislation reduces the maximum maturity of a CAB issuance from 40 years to 25 years and limits a school district's repayment ratio to no more than \$4 in interest and principal for every \$1 of principal borrowed. For CAB debt issued in fiscal year 2017, Texas local governments will owe \$7.92 in interest and principal for every \$1 of principal borrowed.

The 84<sup>th</sup> 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 85<sup>th</sup>

Legislature passed Senate Bill 295, which extends the allowed maturity date for CABs issued for refunding purposes and financing transportation projects.

The chart below shows CAB issued amounts and ratios for FY 2017.

Capital Appreciation Bonds Issued in Fiscal Year 2017							
Entity Type	Total Par Issued (CIB and CAB)	CAB Par	CAB Par/ Total Par	% of Total CAB Par Issued	CAB Premium	CAB Maturity Amount	% of Total CAB Maturity Amount
Comm Colleges / Junior Colleges	680,465,000	35,000	0.01%	0.07%	81,285	120,000	0.03%
Cities, Towns & Villages	8,026,548,938	1,238,787	0.02%	2.43%	1,583,948	3,085,000	0.76%
Counties	1,808,637,000	-	0.00%	0.00%	-	-	0.00%
Health & Hospitals	630,192,250	-	0.00%	0.00%	-	-	0.00%
Independent School Districts	13,656,417,525	38,051,525	0.28%	74.67%	144,279,993	378,747,790	93.81%
Other Special Districts	893,517,100	-	0.00%	0.00%	-	-	0.00%
Water Districts	4,280,587,843	11,634,843	0.27%	22.83%	2,052,173	21,775,000	5.39%
<b>Total</b>	<b>\$29,976,365,656</b>	<b>\$ 50,960,155</b>	<b>0.17%</b>	<b>100.00%</b>	<b>\$147,997,398</b>	<b>\$ 403,727,790</b>	<b>100.0%</b>

Excludes Commercial Paper & Conduit Debt  
Source: Texas Bond Review Board - Bond Finance Office

The chart below shows CAB issued amounts for the last five fiscal years.

Texas Local Government Capital Appreciation Bonds Par Amount Issued by Fiscal Year (\$ in millions)					
	2013*	2014	2015	2016	2017**
Public School Districts	\$218.7	\$471.9	\$214.1	\$70.5	\$38.1
Cities, Towns, Villages	-	-	0.3	0.7	1.2
Water Districts and Authorities	69.6	1.0	1.4	2.5	11.6
Community and Junior Colleges	2.2	1.0	-	-	0.0
Health/Hospital Districts	0.0	1.3	-	-	-
Other Special Districts and Authorities	0.0	-	-	-	-
Counties	-	1.4	-	-	-
<b>Total CAB Par Amount Issued</b>	<b>\$290.5</b>	<b>\$476.7</b>	<b>\$215.9</b>	<b>\$73.8</b>	<b>\$51.0</b>
<b>Total Par Amount Issued***</b>	<b>\$27,852.7</b>	<b>\$23,543.6</b>	<b>\$38,146.5</b>	<b>\$39,387.0</b>	<b>\$29,976.4</b>
<b>CAB Par Amount % of Total</b>	<b>1.0%</b>	<b>2.0%</b>	<b>0.6%</b>	<b>0.2%</b>	<b>0.2%</b>

\* HHDs issued \$30,000 and OSDs issued \$34,998 of CABs in 2013  
\*\* 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

Three ratios have been developed to compare CAB issuances. The first is the “Maturity Value/Par” ratio which is calculated by dividing the CAB maturity amount by the CAB par amount and represents the total amount to be repaid (principal plus interest) compared to the par amount borrowed. This ratio disregards premiums received on PCABs.

The second is the “Maturity Value/Proceeds” ratio which is calculated by dividing the CAB maturity amount by the total CAB proceeds including the additional proceeds received as premium on PCAB issuances. This ratio represents the total amount to be repaid at maturity (principal plus interest) compared to the total amount of proceeds received (par plus premium).

The third is the “Accreted Interest/Proceeds” ratio (AIPR) which is calculated by dividing the CAB maturity amount minus the original par amount by the total proceeds including the CAB premium. This ratio represents the total amount of interest to be paid at maturity compared to the total amount of proceeds received including premium (par plus premium).

The table below lists the top 20 most expensive CABs issued and outstanding as of fiscal-year end 2017 as defined by the “Maturity Value/Proceeds” ratio. CABs become increasingly more expensive as interest continues to compound with longer-term maturities. For comparison, the Maturity Value/Proceeds ratio for CIBs is generally less than 2.0 and the AIPR is generally less than 1.0. The decline in the Maturity Value/Proceeds ratio compared to the Maturity Value/Par ratio shows the effect of including the premiums on PCABs in the comparison.

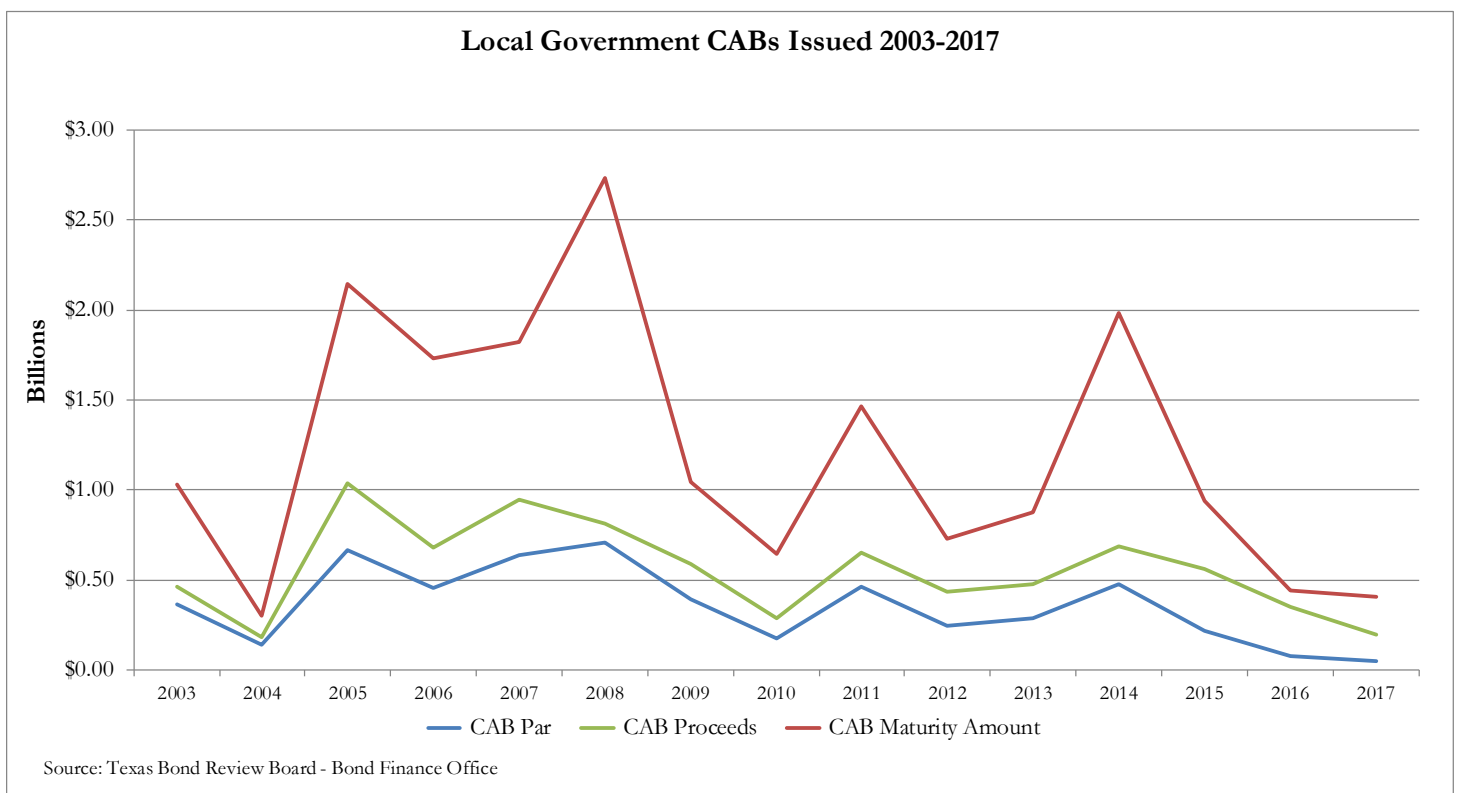
**Top 20 Most Expensive CABs Outstanding As of August 31, 2017**

Issuer	Issue	Closing Date	CAB Maturity Date	Maturity Value/Par	Maturity Value/Proceeds	Accreted Interest / Proceeds Ratio
Forney ISD	Unl Tax Ref Bonds Txbl Ser 2014A	2/18/2014	8/15/2053	12.69	10.87	10.01
Forney ISD	Unl Tax Ref Bonds Ser 2014	2/18/2014	8/15/2053	10.17	8.34	7.52
North Texas Tollway Authority	Spec Proj Sys First Tier CAB Rev Bds Ser 2011B	4/28/2011	9/1/2043	6.91	6.91	5.91
Forney ISD	Unl Tax Ref Bonds Txbl Ser 2013B	8/27/2013	8/15/2043	7.94	6.89	6.03
Lake Worth ISD	Unl Tax Ref Bonds Ser 2015A	3/19/2015	2/15/2019	133.29	6.77	6.72
Hutto ISD	Unl Tax Ref Bonds Ser 2012A	5/3/2012	8/1/2045	249.18	6.71	6.68
Austin	Combined Util Sys Rev Ref Bonds Ser 1990B	3/15/1990	11/15/2017	6.59	6.59	5.59
Anna ISD	Unl Tax School Bldg Bonds Ser 2010A	9/21/2010	8/15/2046	3,819.06	6.25	6.25
Anna ISD	Unl Tax School Bldg Bonds Ser 2011	6/23/2011	2/15/2051	6.17	5.87	4.92
Anna ISD	Unl Tax School Bldg Bonds Ser 2010	4/8/2010	8/15/2043	12.00	5.82	5.33
Forney ISD	Unl Tax Ref Bonds Ser 2013A	8/27/2013	8/15/2043	9.35	5.49	4.90
Lake Worth ISD	Unl Tax Ref Bonds Ser 1995	9/21/1995	2/15/2024	8.25	5.31	4.66
Robstown ISD	Unl Tax School Bldg & Ref Bonds Ser 1994	1/4/1995	2/15/2022	13.16	5.26	4.86
Anna ISD	Unl Tax School Bldg Bonds Ser 2009	10/15/2009	8/15/2042	7.57	5.26	4.56
Galena Park ISD	Unl Tax School Bldg & Ref Bonds Ser 1996	8/20/1996	8/15/2031	6.09	5.11	4.27
Crowley ISD	Unl Tax Ref & School Bldg Bonds Ser 1993	5/19/1993	8/1/2023	9.87	5.04	4.53
Central Texas Regional Mobility Auth	Sr Lien Rev Bonds Ser 2010	3/11/2010	1/1/2040	5.03	5.03	4.03
Hillsboro ISD	Unl Tax School Bldg & Ref Bonds Ser 2001	2/15/2001	8/15/2031	75.90	4.94	4.88
Frisco ISD	Unl Tax School Bldg & Ref Bonds Ser 2002	9/24/2002	8/15/2034	11.65	4.79	4.37
Crowley ISD	Unl Tax School Bldg & Ref Bonds Ser 2002	2/19/2002	8/1/2031	47.10	4.78	4.67

Excludes Commercial Paper & Conduit Debt

Source: Texas Bond Review Board - Bond Finance Office

The chart below illustrates the total CAB par amount issued, the total proceeds received (including premiums on PCABs) and CAB maturity amount (total debt-service owed at maturity) since 2003.



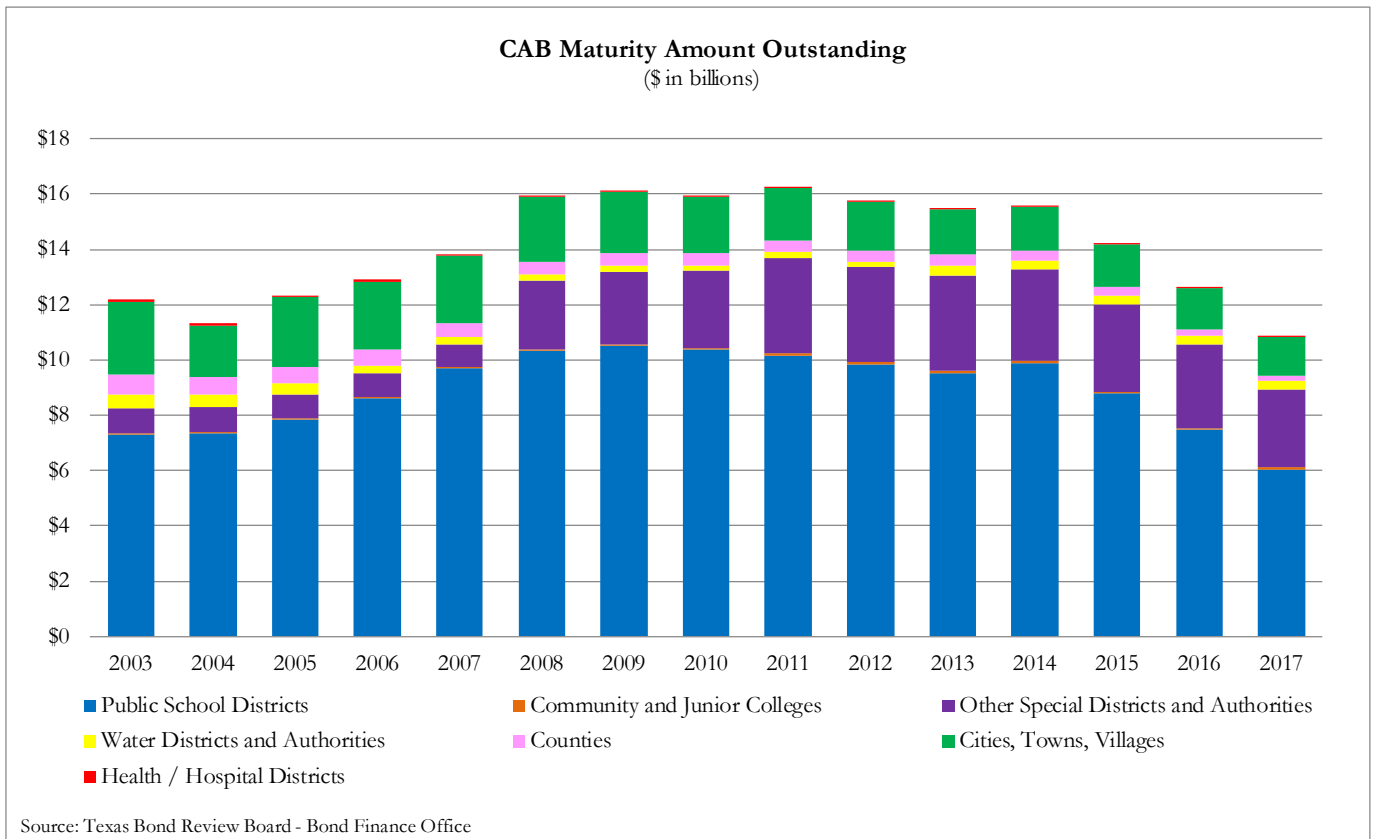
### **CABs Outstanding**

The table below provides a comparison between the total CAB debt outstanding and total CIB and CAB debt outstanding for each local government entity. The CAB debt service (principal plus interest) is 3.22% of total debt-service owed by local governments. School districts owe the most CAB debt service at 55.60% of total CAB debt-service owed among all local governments. While CAB par was 1.23% of total CIB and CAB par outstanding at fiscal-year end 2017, CAB interest accounted for 6.77% of total interest owed.

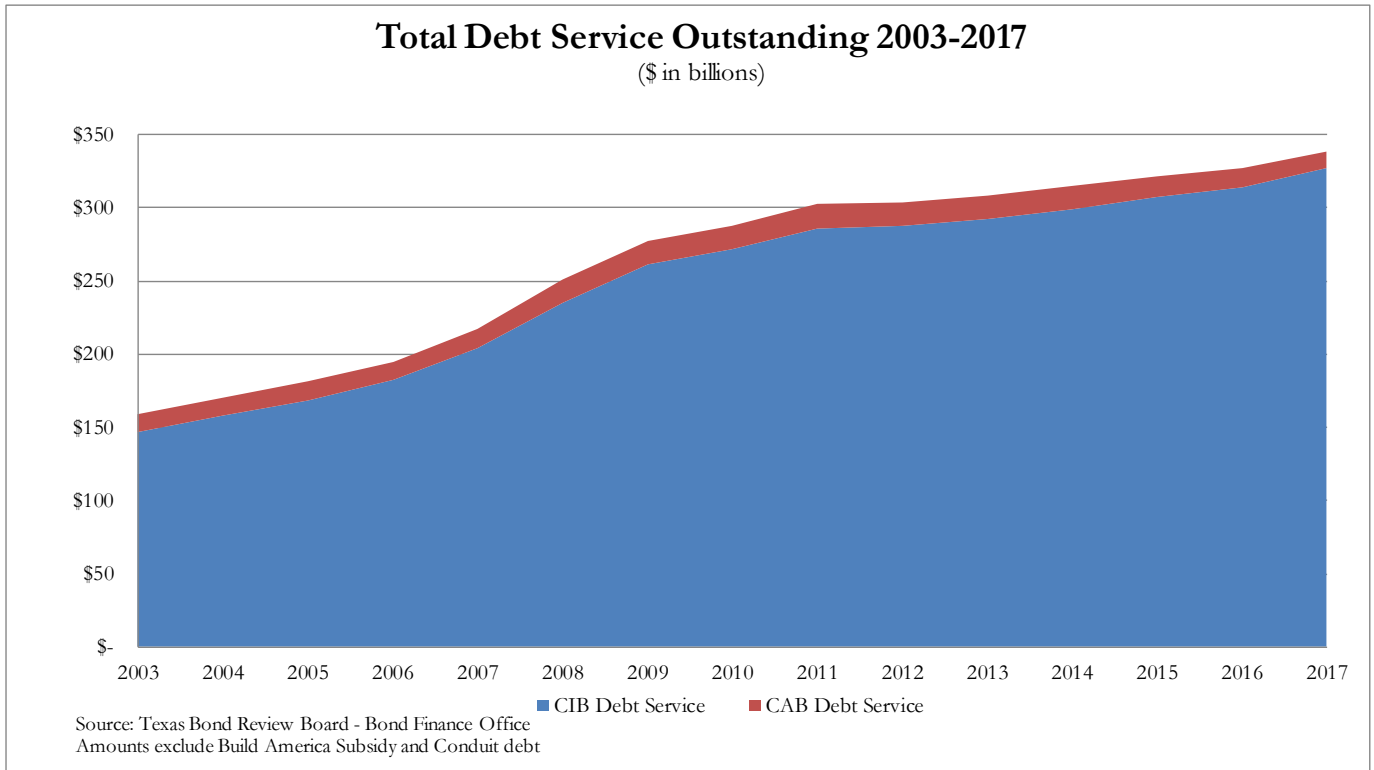
Capital Appreciation Bonds Outstanding as of August 31, 2017											
Entity Type	Total Par Outstanding (CIB+CAB)	CAB Par Outstanding	CAB Par/Total Par	Total Interest Outstanding (CIB+CAB)	CAB Interest	CAB Interest/Total Interest	Total Debt Service (CIB+CAB)	CAB Maturity Amount Outstanding	CAB Maturity Amount/Total Debt Service	% of Total CAB Par Outstanding	% of Total CAB Maturity Amount Outstanding
Comm Colleges / Junior Colleges	4,870,465,597	26,909,597	0.55%	2,391,584,328	27,880,403	1.17%	7,262,049,924	54,790,000	0.75%	1.01%	0.50%
Cities, Towns & Villages	71,028,163,478	268,369,474	0.38%	35,737,606,928	1,121,102,738	3.14%	106,765,770,406	1,389,472,212	1.30%	10.11%	12.77%
Counties	13,751,842,460	61,719,950	0.45%	6,285,477,218	141,925,050	2.26%	20,037,319,678	203,645,000	1.02%	2.33%	1.87%
Health & Hospitals	3,355,067,698	11,149,367	0.33%	2,431,545,589	26,756,617	1.10%	5,786,613,287	37,905,984	0.66%	0.42%	0.35%
Independent School Districts	79,762,562,383	1,356,290,976	1.70%	46,843,798,969	4,691,191,868	10.01%	126,606,361,352	6,047,482,844	4.78%	51.11%	55.60%
Other Special Districts	16,974,656,620	829,975,862	4.89%	15,350,565,438	2,018,939,180	13.15%	32,325,222,059	2,848,915,042	8.81%	31.28%	26.19%
Water Districts	26,865,352,886	99,048,744	0.37%	12,482,396,074	195,392,975	1.57%	39,347,748,960	294,441,719	0.75%	3.73%	2.71%
<b>Total</b>	<b>\$216,608,111,122</b>	<b>\$2,653,463,970</b>	<b>1.23%</b>	<b>\$121,522,974,544</b>	<b>\$8,223,188,831</b>	<b>6.77%</b>	<b>\$338,131,085,666</b>	<b>\$10,876,652,802</b>	<b>3.22%</b>	<b>100.00%</b>	<b>100.00%</b>

Excludes Commercial Paper, Conduit Debt & Build America Bond subsidies.  
Source: Texas Bond Review Board - Bond Finance Office

The chart below shows the maturity amount (principal plus interest) for each local government entity with CABs outstanding since 2003.

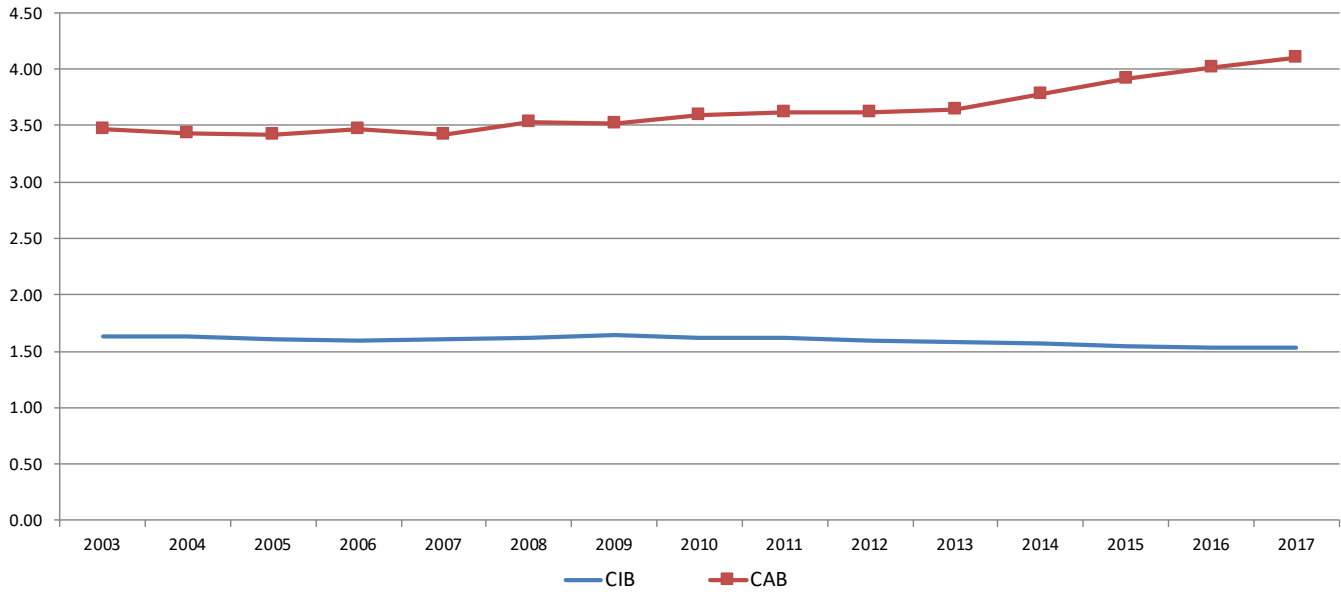


The chart below shows CIB debt-service and CAB debt-service for all local governments since 2003. In FY 2017 CAB maturity amounts accounted for 3.22% (\$10.88 billion) of the total debt service outstanding.



The chart below compares the ratio of total debt service to total par outstanding for CIB and CAB debt for all local governments. On average, issuers of CAB debt paid \$3.54 in principal and interest for every \$1 of principal borrowed since 2003 compared to \$1.61 for CIB debt.

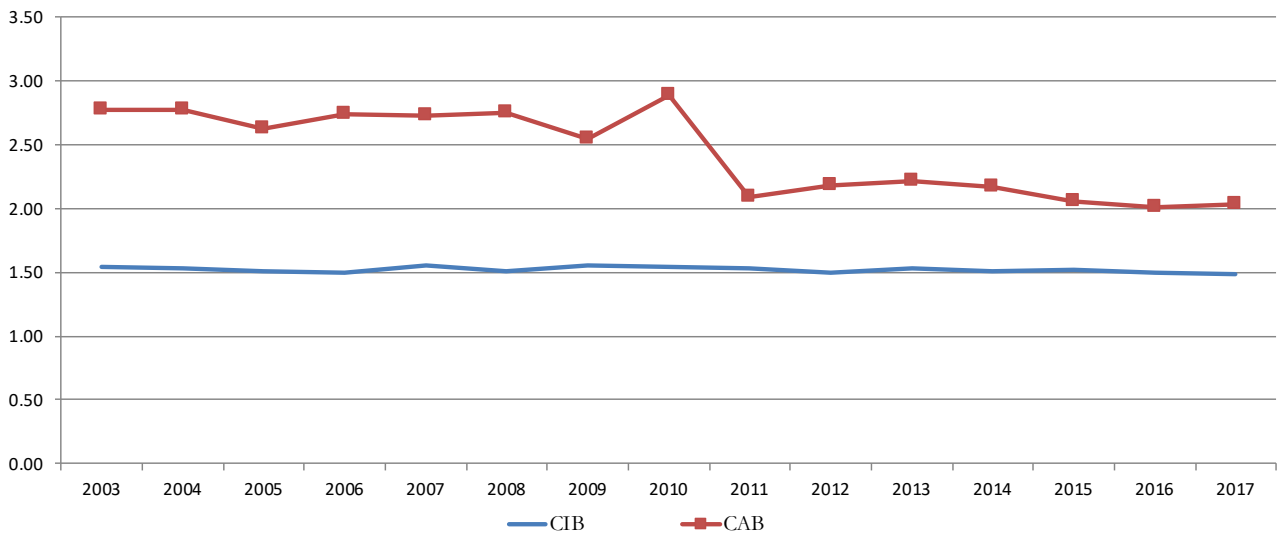
### Ratio of Total Debt Service/Total Par for Debt Outstanding



Source: Texas Bond Review Board - Bond Finance Office

The chart below compares the ratio of ISD debt service to ISD debt outstanding for CIB and CAB debt. On average, school districts paid \$3.56 in principal and interest for every \$1 of principal borrowed since 2003 for CAB debt compared to \$1.62 for CIB debt.

### Ratio of ISD Debt Service/Par for ISD Debt Outstanding



Source: Texas Bond Review Board - Bond Finance Office