REVISED

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Public Debt

Operating Budget Data

($ in Thousands)

	FY 13 Actual	FY 14 Working	FY 15 Allowance	FY 14-15 Change	% Change Prior Year
General Fund	$0	$83,000	$195,000	$112,000	134.9%
Adjusted General Fund	**$0**	**$83,000**	**$195,000**	**$112,000**	**134.9%**
Special Fund	903,881	887,744	832,932	-54,812	-6.2%
Adjusted Special Fund	**$903,881**	**$887,744**	**$832,932**	**-$54,812**	**-6.2%**
Federal Fund	12,102	12,381	11,490	-891	-7.2%
Adjusted Federal Fund	**$12,102**	**$12,381**	**$11,490**	**-$891**	**-7.2%**
Adjusted Grand Total	**$915,982**	**$983,125**	**$1,039,422**	**$56,297**	**5.7%**

- Debt service costs continue to climb, reflecting increased authorizations, issuances, and debt outstanding.

Note: Numbers may not sum to total due to rounding.

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Analysis in Brief

Issues

Debt Service Costs Exceed State Property Tax Revenues: General obligation (GO) bond debt service costs are supported by the Annuity Bond Fund (ABF). The fund's largest revenue source is from the State property tax. Over the next few years, State property tax revenues are estimated to remain fairly flat. This contrasts with debt service costs, which are expected to increase steadily in the out-years. General funds or property tax increases will be needed to support debt service costs. **The State Treasurer should be prepared to respond to questions the committees have about the status of the ABF.**

GO Bond Authorization Policies Affect Debt Service Levels: Each year the State reevaluates its level of GO bond authorizations. In recent years, this has resulted in a consistent increase in authorizations. Since 2001, the State has increased a dozen times the GO bond authorizations over what was planned the previous year. Last legislative session, the Administration's budget added $150 million a year for five years. This year, the fiscal 2015 capital program is increased by $75 million, for a $1,160 million authorization. **The State Treasurer should be prepared to brief the committees on recent debt authorizations and their impact on debt service costs.**

Low Interest Rates and Bond Sale Premiums Are Expected to Continue and Can Provide Budget Relief: Since July 2002, State GO bond sales have generated substantial bond sale premiums. State bonds sell at a premium because interest rates are low and purchasing bonds at a premium protects investors against losses if interest rates increase. Although bonds sold in fiscal 2015 are expected to generate a premium, the Administration's budget plan does not assume a premium. Insofar as the budget includes substantial ($195 million in fiscal 2015) general fund debt service appropriations, there are major funding implications regarding when premiums are recognized. The two most cost effective proposals are to recognize premiums and reduce general fund expenditures or reduce GO bond authorizations. **The Department of Legislative Services (DLS) recommends that the State recognize $60 million in likely GO bond sale premiums. DLS also recommends that the general fund appropriation be reduced by $30 million. The bond sale premiums should be used to offset the reduction in general funds and provide fiscal 2015 with a larger end-of-year ABF balance. DLS also recommends that the ABF maintains a fund balance that is at least $30 million. This is equal to the first bond sale premium that is projected in fiscal 2015.**

Taxable Bonds Are More Expensive; Reliance Should Be Reduced as State Approaches Structural Balance: The federal government limits the amount of private activity projects in tax-exempt bonds. The State has been increasing its authorizations of private activity projects in the GO program. In fiscal 2013 and 2014, the State issued $63 million in taxable bonds. Data from the bond sale shows that taxable bonds are more expensive than tax-exempt bonds. **The Administration should brief the committees on any plans it has to return to the practice of supporting private activity capital projects with general funds.**

State Should Examine Costs and Benefits Associated with Modifying Bond Amortization Policies: The State can affect debt service costs by revising amortization policies and schedules. Two defining characteristics of the GO bonds' amortization schedule are the two-year principal grace period and the State Constitution's requirement that State debt matures in 15 years. The two-year grace period makes bonds inexpensive in the first few years while the short maturity results in high debt service costs once principal payment are being made. **Committee narrative requesting that the State Treasurer's office, the Department of Budget and Management, and the Department of Legislative Services examine GO bond amortization policies to determine if there are financial advantages to changing them is recommended.**

Recommended Actions

		Funds
1.	Reduce general fund appropriation to recognize anticipated bond sale premiums.	$ 30,000,000
2.	Add narrative requesting an analysis of GO bond amortization policies.	
	Total Reductions	**$ 30,000,000**

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Public Debt

Operating Budget Analysis

Program Description

The Public Debt program appropriates funds for general obligation (GO) bonds' debt service payments. This includes principal and interest payments. GO bonds support the State's general construction program, such as prisons, office buildings, higher education facilities, school construction, and mental health facilities. GO bonds do not pledge specific revenues but rather pledge the State's full faith and credit. Issuances include:

- tax-exempt bonds sold to institutional investors;
- tax-exempt bonds sold to retail investors;
- taxable bonds sold to institutional investors;
- Build America Bonds (BAB), which were taxable bonds for which the State receives a direct subsidy from the federal government;
- Qualified Zone Academy Bonds (QZAB) that support specific education projects. Depending on the date of issuance, these bonds have received federal tax credits or direct federal subsidies;
- Qualified School Construction Bonds (QSCB), which supported specific education projects. Depending on the date of issuance, these bonds have received federal tax credits or direct federal subsidies; and
- Qualified Energy Conservation Bonds (QECB), which are direct federal subsidy bonds that support energy efficiency capital expenditures in public buildings, renewable energy production, and other related projects.

GO bond debt service payments are supported by the Annuity Bond Fund (ABF). The ABF revenues include State property tax revenues, federal subsidies, bond sale premiums, and repayments from certain State agencies, subdivisions, and private organizations. General funds may subsidize debt service if these funds are insufficient.

The State usually issues tax-exempt GO bonds to institutional investors twice a year. Other bonds are issued as they become authorized (BABs, QZABs, QSCBs, and QECBs), as needed (taxable), or as they are in demand (retail bonds). The goal is to minimize the bonds' debt service costs.

Fiscal 2014 Actions

Effect of July 2013 Bond Sale on Fiscal 2014 Debt Service Costs

Exhibit 1 shows that debt service costs have been reduced by over $1.9 million since the fiscal 2014 budget was enacted. As anticipated in the budget, $475.0 million in bonds were sold. Savings were realized because the anticipated debt service costs were less than projected.

Exhibit 1
Effect of July 2013 Bond Sale on Fiscal 2014 Debt Service Costs
($ in Thousands)

Projected July Bond Sale Debt Service Costs	$11,875
Actual July Bond Sale Tax-exempt Debt Service Costs	9,716
Actual July Bond Sale Taxable Debt Service Costs	211
Difference (Savings)	**-$1,948**
Projected Fiscal 2014 Debt Service Costs	$983,125
Savings from July Bond Sale	-1,948
Revised Debt Service Costs	**$981,177**

Sources: Public Financial Management, Inc.; State Treasurer's Office; Department of Budget and Management

Proposed Budget

The fiscal 2015 allowance totals $1,039.4 million. This continues the steady increase in GO bond debt service costs experienced in recent years. These increases are attributable to higher GO bond authorizations and issuances in recent years. For example, the amount of new GO bonds issued increased from just over $400.0 million annually in fiscal 2001 and 2002, approximately $700.0 million from fiscal 2005 to 2008, and $1 billion from fiscal 2010 to 2014.

Most of the revenues supporting GO bond debt service are derived from State property taxes. **Exhibit 2** shows that State property taxes provide $722.0 million, which represents 69.5% of the appropriation. The Administration's fiscal 2015 forecast assumes that the March 2014 bond sale will be sold at a premium, which totals $40.8 million. The State also anticipates $11.5 million in federal revenues from BAB, QZAB, QSCB, and QECB issuances. Even with bond premiums and federal funds, the current State property tax rate (at $0.112 per $100 of assessable base) and ABF balance is insufficient to fully fund debt service costs. To support debt service without raising State property taxes, the allowance includes $195.0 million in general fund appropriations.

Exhibit 2
Annuity Bond Fund Revenues and General Obligation Bond Fund Debt Service Expenditures
Fiscal 2013-2015
($ in Thousands)

	2013 Actual Expenditures	2014 Working Appropriation	2015 Allowance
Annuity Bond Fund Activity			
Beginning Balance	$192,262	$175,193	$103,909
Property Tax Receipts	730,382	717,037	721,975
Interest and Penalties on Property Taxes	2,440	2,000	2,000
Other Repayments and Receipts	532	652	632
Bond Premium	151,898	89,689	0
Transfer to Reserve	-175,193	-103,909	-1,854
ABF Special Fund Appropriations	**$902,320**	**$880,662**	**$826,662**
General Fund Appropriations	$0	$83,000	$195,000
Transfer Tax Appropriations	1,561	6,109	6,270
Federal Fund Appropriations	12,102	11,406	11,490
Projected Total Debt Service Expenditures	**$915,982**	**$981,177**	**$1,039,422**
Fiscal 2014 Changes to the Legislative Appropriation			
Excess Appropriations (July 2013 Bond Sale Savings)	$0	$1,948	$0
Budgeted Debt Service Appropriations	**$915,982**	**$983,125**	**$1,039,422**

Sources: Public Financial Management, Inc; State Treasurer's Office; Department of Budget and Management

Exhibit 3 provides a breakdown of debt service costs projected in the fiscal 2015 allowance. The allowance includes $1,007.8 million in debt service from bonds that have already been issued and $19.8 million in debt service from issuances projected in March 2014. Bonds sold in summer 2014 will also have debt service payments in fiscal 2015. These payments include $11.5 million in previously proposed bonds and another $0.3 million for the $75.0 million increase in authorizations proposed by the Administration.

Exhibit 3
Fiscal 2015 Debt Service Costs
($ in Millions)

Type of Debt	Principal	Interest	Sinking Fund	Total
GO Bonds sold to institutional investors	$546.2	$294.0	$0.0	$840.2
Retail GO Bonds	110.7	17.7	0.0	128.4
Taxable Go Bonds	0.0	0.5	0.0	0.5
Build America Bonds	0.0	25.3	0.0	25.3
Qualified Zone Academy Bonds	1.1	1.4	2.2	4.8
Qualified School Construction Bonds	0.0	2.0	6.4	8.3
Qualified Energy Conservation Bonds	0.0	0.3	0.0	0.3
Subtotal	***$658.0***	***$341.2***	***$8.6***	***$1,007.8***
Debt Issued After Allowance Submitted				
March 2014 Bond Sale	$0.0	$19.8	$0.0	$19.8
Summer 2014 Bond Sale[1]	0.0	11.6	0.0	11.6
Additional $75.0 Million	0.0	0.3	0.0	0.3
Subtotal	***$0.0***	***$31.6***	***$0.0***	***$31.6***
Total	**$658.0**	**$372.9**	**$8.6**	**$1,039.4**

GO: general obligation

[1] Excludes $75.0 million proposed to be authorized in the fiscal 2015 capital budget.
Note: Numbers may not sum to total due to rounding.

Sources: Comptroller's Office, September 2013; Department of Budget and Management, January 2014

Prior to fiscal 2001, State debt service was comprised of traditional GO bonds (tax-exempt debt issued to institutional investors). The exhibit identifies debt service payments attributable to the new kinds of debt and methods of issuance that have been added since 2001.

Effect of Federal Sequestration

The Budget Control Act (BCA) of 2011 included automatic across-the-board spending reductions if Congress and the President failed to enact a Joint Select Committee bill by January 15, 2012. The bill was required to reduce the federal budget deficit by at least $1.2 trillion over 10 years. Congress was unable to enact the bill, and the BCA required that automatic spending reductions, referred to as sequestration, take effect. A number of federal programs, such as Social Security, Medicaid, the Children's Health Insurance Program, Temporary Assistance for Needy

Families, Supplemental Nutrition Assistance Program, and Federal-Aid Highways Obligation Limitations were exempt from these reductions.

Federal subsidies on State and local bonds are not deemed to be exempt from sequestration. Consequently, the federal fiscal 2013 grants were reduced by 8.7%, and federal fiscal 2014 grants were reduced by 7.2%. Reductions to federal grants are also influenced by the timing of the transfer of the subsidy. Because much of the debt service for these bonds was paid before sequestration went into effect in State fiscal 2013, the fiscal 2013 reduction is a modest $51,000. **Exhibit 4** shows that the full force of sequestration is apparent in fiscal 2014, as the subsidy reduction increases to approximately $976,000. Sequestration is in effect through fiscal 2023. The federal fiscal 2014 omnibus budget does provide relief from sequestration for some programs, but sequestration reductions to federal debt subsidies remain.

Exhibit 4
Issuances Receiving Federal Fund Appropriations and Reductions Attributable to Federal Sequestration
($ in Thousands)

	2013	2014	2015	Total
July 2009 Build America Bonds	$796	$796	$796	$2,389
Oct. 2009 Build America Bonds	942	942	942	2,825
Feb. 2010 Build America Bonds	6,036	6,036	6,036	18,108
July 2010 Build America Bonds	1,094	1,094	1,094	3,281
July 2010 Qualified School Construction Bonds	1,965	1,965	1,965	5,895
Dec. 2010 Qualified School Construction Bonds	228	228	228	684
Aug. 2011 Qualified School Construction Bonds	660	660	660	1,980
Aug. 2011 Qualified Energy Conservation Bonds	234	234	234	703
Aug. 2012 Qualified Zone Academy Bonds	198	426	426	1,051
Less Sequestration	-51	-976	-891	-1,918
Total	**$12,102**	**$11,406**	**$11,490**	**$34,997**

Sources: Comptroller's Office; State Treasurer's Office

Budget Reconciliation and Financing Act of 2014

The State is replacing its Medevac helicopter fleet. The old helicopters are scheduled to be sold in fiscal 2015, after the new helicopters are in service. State law requires that the proceeds from the sale of the helicopters be deposited into the ABF. The Budget Reconciliation and Financing Act of 2014 proposes to amend State law so that the proceeds from the sale are deposited into the general fund, instead of the ABF. DBM estimates the sale will generate $17.6 million.

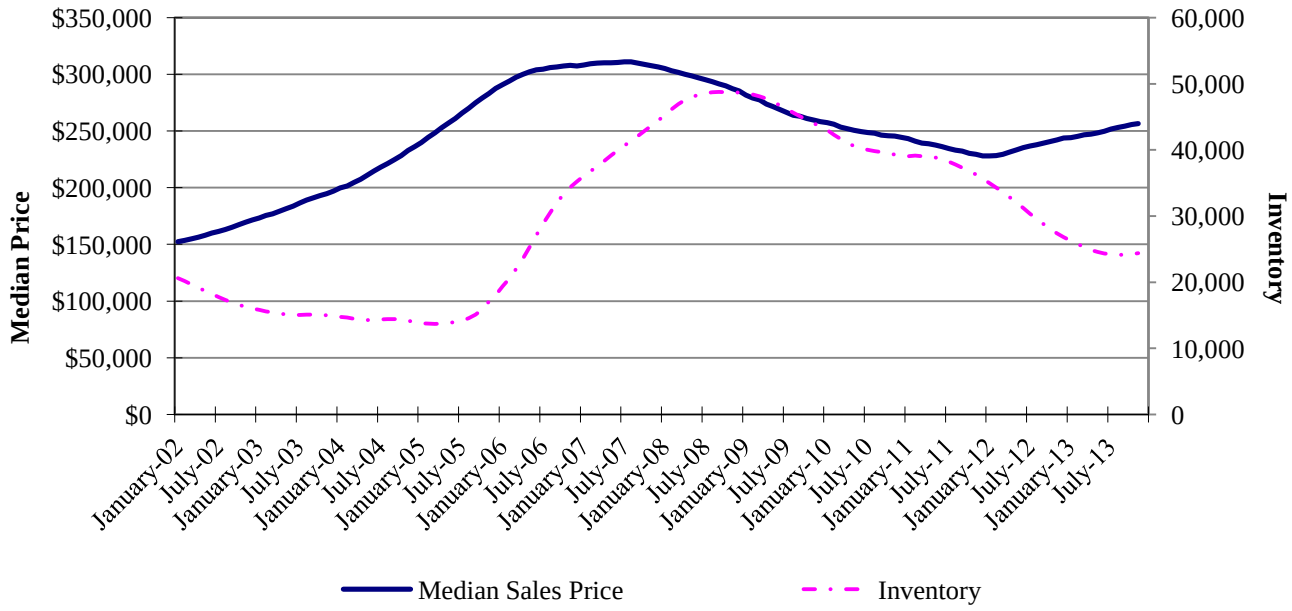
Issues

1. Debt Service Costs Exceed State Property Tax Revenues

GO bond debt service costs are supported by the ABF. The fund's largest revenue source is the State property tax. In April 2006, the State property tax rate was set at $0.112 per $100 of assessable base and has remained at that level. Other revenue sources include proceeds from bond sale premiums, interest and penalties on property taxes, and repayments for local bonds. When the ABF has not generated sufficient revenues to fully support debt service, general funds have subsidized debt service payments.

State property tax collections are influenced by trends in the housing market. **Exhibit 5** shows that this decade has seen a substantial increase in real estate values, which peaked in summer 2007, followed by a decline in values. The year-over-year decline began in July 2007 and continued until February 2012. Since February 2012, each month has seen a year-over-year increase in prices.

Exhibit 5
Maryland Housing – Median Prices and Inventory
12-month Moving Average
January 2002 to November 2013

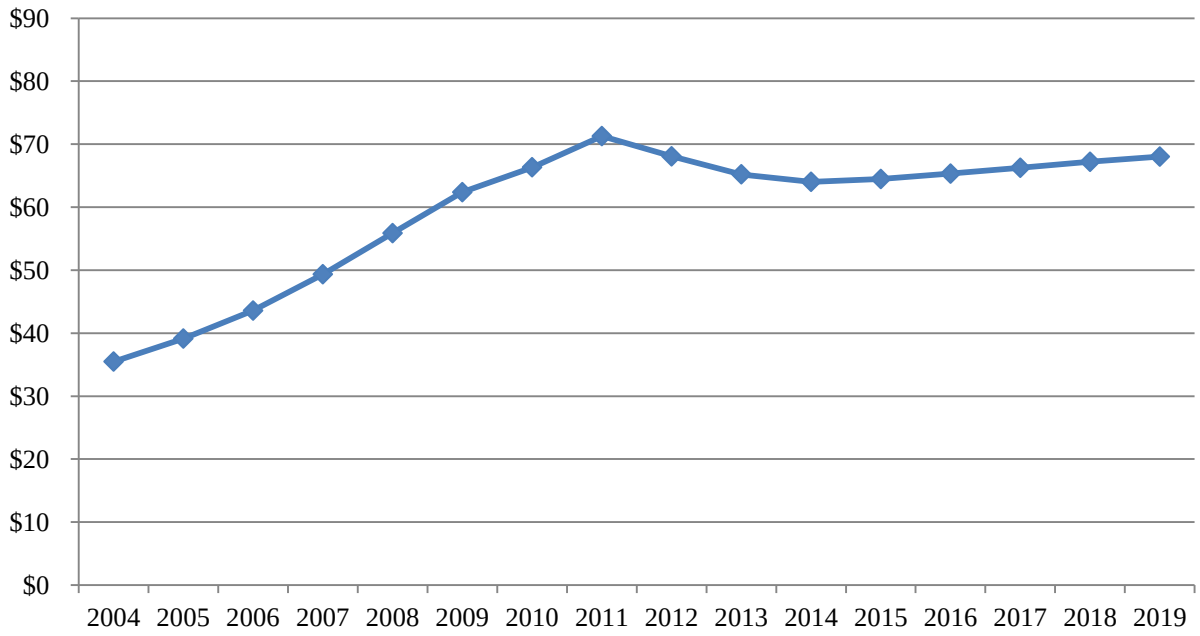


Source: Maryland Association of Realtors; Department of Legislative Services

Inventories went through a similar increase and decline. However, they lagged behind the pattern seen in home prices. Since the increase in home values in February 2012, inventories continued to decline through February 2013 and reached a nadir of approximately 21,300. In November 2013, inventories increased to approximately 26,000. This is more than inventories were in September 2000, which totaled about 25,000.

As expected, the rising property values from 2002 to 2007 increased State property tax receipts. **Exhibit 6** compares how much revenue one cent on the State property tax has generated since fiscal 2004. From fiscal 2004 to 2011 the increases were quite steep. Revenues declined from fiscal 2011 to 2014 and are expected to increase slightly in fiscal 2016.

Exhibit 6
Revenues Generated by One Cent of State Property Taxes
Fiscal 2004-2019
($ in Millions)

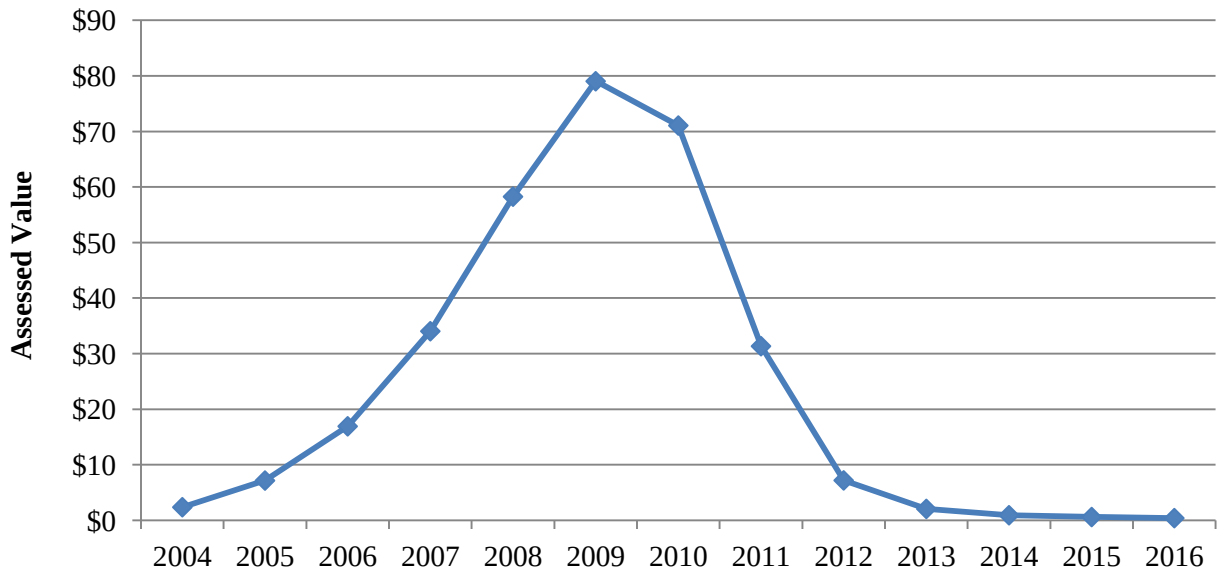


Source: State Department of Assessments and Taxation; Department of Budget and Management; Department of Legislative Services

Assessment policies also account for the lag between changes in real estate market and tax receipts. Property values are assessed every three years, and increases are phased in over three years. For example, if a value increases by 9%, the State increase would be 3% in the first year, 6% in the second year, and 9% in the third year. Taken together, the three-year assessment and Homestead Tax Credit slowed the revenue increases and delayed the peak.

When home values increased from 2001 to 2007, State property tax collections did not immediately increase at the same rate; similarly, the decline in home values since 2007 did not result in an immediate decline in revenues. One reason for this is the Homestead Tax Credit. This credit limits the annual increase in State property assessments subject to the property tax to 10%. If reassessing a resident's property results in an increase that exceeds 10%, the homeowner receives a credit for any amount above 10%. This limits growth in revenues when property values rise quickly, as well as providing the State a hedge should property values decline. The result was to smooth State revenues; State property tax revenue growth was slower as home values increased, and there was no decline in revenues when home values decreased. **Exhibit 7** shows that State credits increased to $79 billion in fiscal 2009 in response to increases in assessments. By fiscal 2014, the aggregate homestead credits are projected to be under $1 billion and are expected to remain low throughout the forecast period.

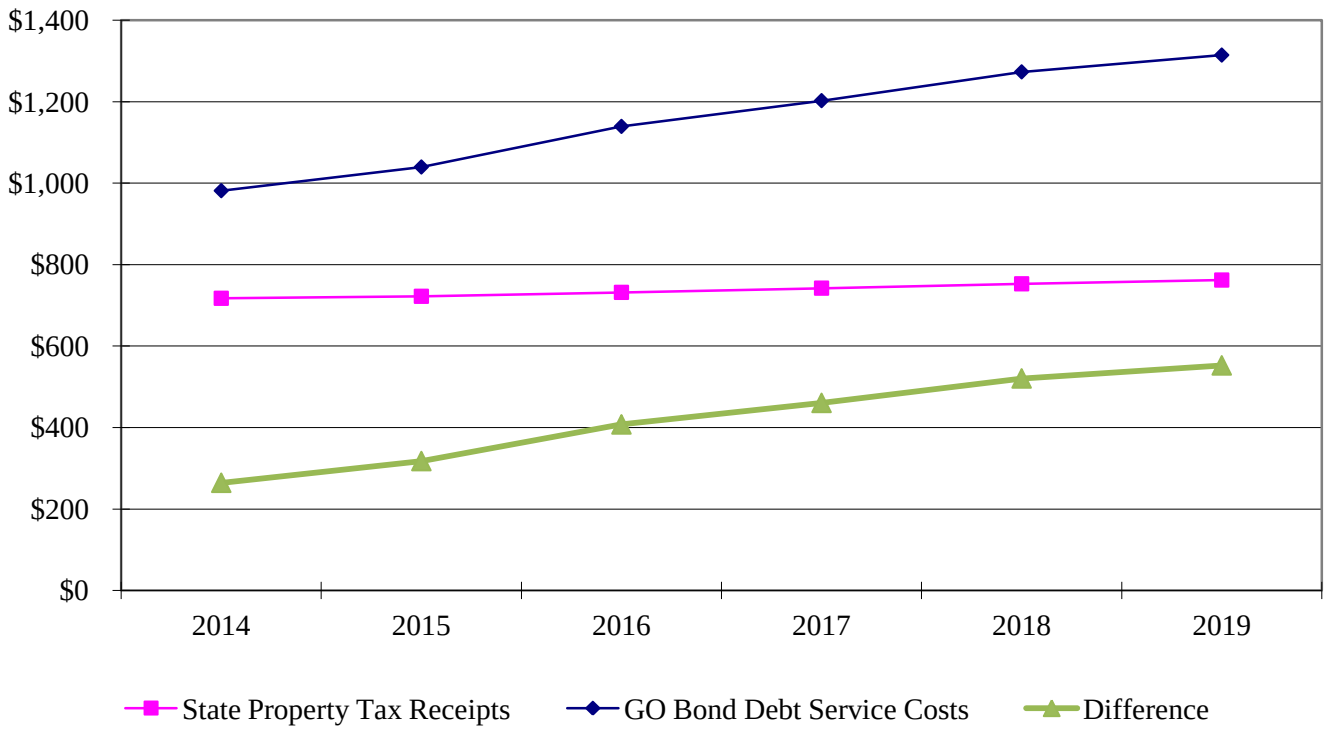
Exhibit 7
State Property Tax Homestead Tax Credits
Fiscal 2004-2016
($ in Billions)



Source: State Department of Assessments and Taxation

Over the next few years, State property tax revenues are estimated to remain fairly flat. This contrasts with debt service costs, which are expected to increase steadily in the out-years. **Exhibit 8** shows how State property taxes, which are $264 million less than debt service costs in fiscal 2014, are expected to be $546 million less than debt service costs in fiscal 2019.

Exhibit 8
GO Bond Debt Service Costs and State Property Tax Revenue Collections
Fiscal 2014-2019
($ in Millions)



GO: general obligation

Source: Department of Legislative Services, January 2014

In prior years, the shortfall in State property tax receipts was not a problem because the ABF had a large fund balance and did not need general fund appropriations. The State has benefited from the low interest rates offered for AAA-rated State and municipal bonds. These low rates have reduced GO bonds' TIC, which resulted in higher bond sale premiums. These premiums have been deposited into the ABF to support debt service costs. **Exhibit 9** shows that fiscal 2014 begins with $175.0 million in prior year fund balances, most of which are derived from bond sale premiums. The Department of Budget and Management's (DBM) forecast assumes that the March 2014 bond sale will generate a $40.8 million bond sale premium. Should the actual March premium be less than projected, the Administration will need to provide additional funds in a supplemental appropriation.

Exhibit 9
Revenues Supporting Debt Service
Fiscal 2014-2019
($ in Millions)

	2014	2015	2016	2017	2018	2019	Change 2014- 2019
Special Fund Revenues							
State Property Tax Receipts	$717	$722	$732	$742	$753	$762	$45
Bond Sale Premiums[1]	90	0	0	0	0	0	-90
Other Revenues	3	3	3	3	3	3	0
ABF Fund Balance Transferred from Prior Year	175	104	2	1	2	2	-173
Subtotal Special Fund Revenues	***$985***	***$829***	***$736***	***$746***	***$757***	***$766***	***-218***
General Funds	83	195	387	440	497	524	441
Transfer Tax Special Funds[2]	6	6	6	7	7	7	1
Federal Funds[3]	11	11	11	11	11	11	0
Total Revenues	**$1,085**	**$1,041**	**$1,141**	**$1,204**	**$1,272**	**$1,309**	**$224**
Debt Service Expenditures	**$981**	**$1,039**	**$1,140**	**$1,202**	**$1,271**	**$1,307**	**$326**
ABF End-of-year Fund Balance	**$104**	**$2**	**$1**	**$2**	**$2**	**$2**	**-$102**

ABF: Annuity Bond Fund

[1]Estimated bond sale premiums total $40.8 million in March 2014, $28.2 million in August 2014, $32.7 in March 2015, and $18.4 million in August 2015.

[2]This supports $70.0 million of general obligation bonds issued in 2010 for Program Open Space.

[3]This includes federal interest subsidies for Build America Bonds, Qualified Zone Academy Bonds, Qualified School Construction Bonds, and Qualified Energy Conservation Bonds.

Source: Department of Legislative Services, January 2014

Even with a premium assumed in March 2014, ABF revenues are insufficient to support debt service costs in fiscal 2015, and $195 million in general funds are provided. In the out-years, general fund appropriations increase to $524 million by fiscal 2019.

Instead of appropriating general funds, the State property tax rate could be increased. DLS estimates that raising the rate by 4.7 cents, from $0.112 per $100 of assessable base to $0.159 per $100 of assessable base, is sufficient to eliminate general fund appropriations in fiscal 2015. According to the Maryland Association of Realtors, the median home sale in November 2013 was

$257,000. Increasing the State property tax rate would add $121 to the property tax bill of the median home.

The State Treasurer should be prepared to respond to questions the committees have about the status of the ABF.

2. GO Bond Authorization Policies Affect Debt Service Levels

State policy on the amount of GO debt issued has changed substantially in the last 20 years. This is due to additional types of debt instruments, annual increases proposed by the last two governors, and a change in policy for standard annual increases in issuances.

New Types of Debt Instruments

Since the 2001 legislative session, the State has been regularly increasing debt authorizations to support a growing capital program. The State has added new kinds of State debt, such as Grant Anticipation Revenue Vehicles to fund the InterCounty Connector and Bay Restoration Bonds to support improvements to wastewater treatment plants. By the end of fiscal 2013, GO bond debt outstanding increased to $8.0 billion, and total State debt increased to $10.6 billion.

Additional Authorizations Proposed by Administrations

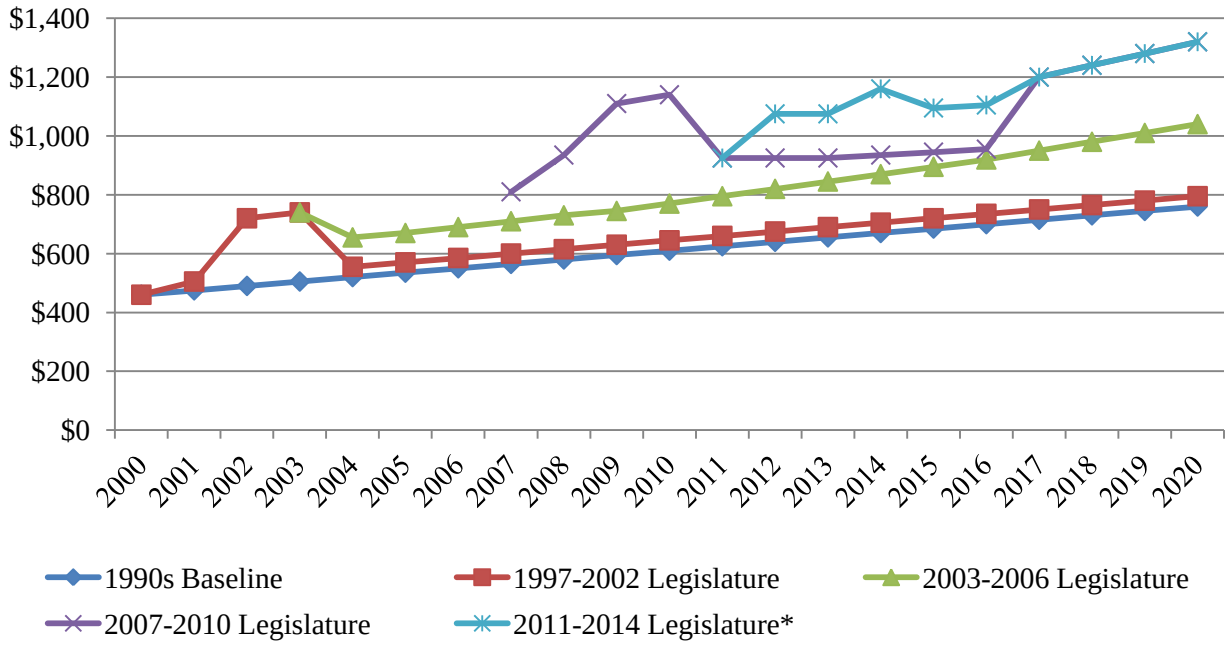
GO bond authorizations have been increased in each of the four most recent legislative terms. In all cases, the level of debt proposed was within the Capital Debt Affordability Committee's (CDAC) debt outstanding and debt service guidelines. Additional authorizations were proposed by the various administrations. **Exhibit 10** compares additional authorizations in the four most recent legislative terms. Key characteristics include:

- ***1990s Baseline:*** Through the late 1990s, debt was increased by $15 million annually, and no new forms of debt were approved.

- ***1997 to 2002 Legislative Term:*** This was the first term to increase authorizations. In fiscal 2001, $30 million was added to the GO bond authorizations for all subsequent years. In fiscal 2002, the legislature approved $200 million to fund pay-as-you-go (PAYGO) capital projects in fiscal 2003 and 2004.

- ***2003 to 2006 Legislative Term:*** This term added $100 million annually to the budget, beginning in fiscal 2005. The growth rate was also increased, from $15 million annually to 3% annually. Since fiscal 2006, debt service authorization growth rates have been compounded. For example, GO bond authorizations increase by $30 million ($1.11 billion to $1.14 billion) from fiscal 2010 to 2011. Under the 1990s rule, the increase would have only been $15 million.

Exhibit 10
Increases in General Obligation Bond Authorizations by Legislative Session
Fiscal 2000-2020
($ in Millions)



* Includes the Administration's plan to add $75 million in the 2014 legislative session.

Source: Capital Debt Affordability Committee Reports

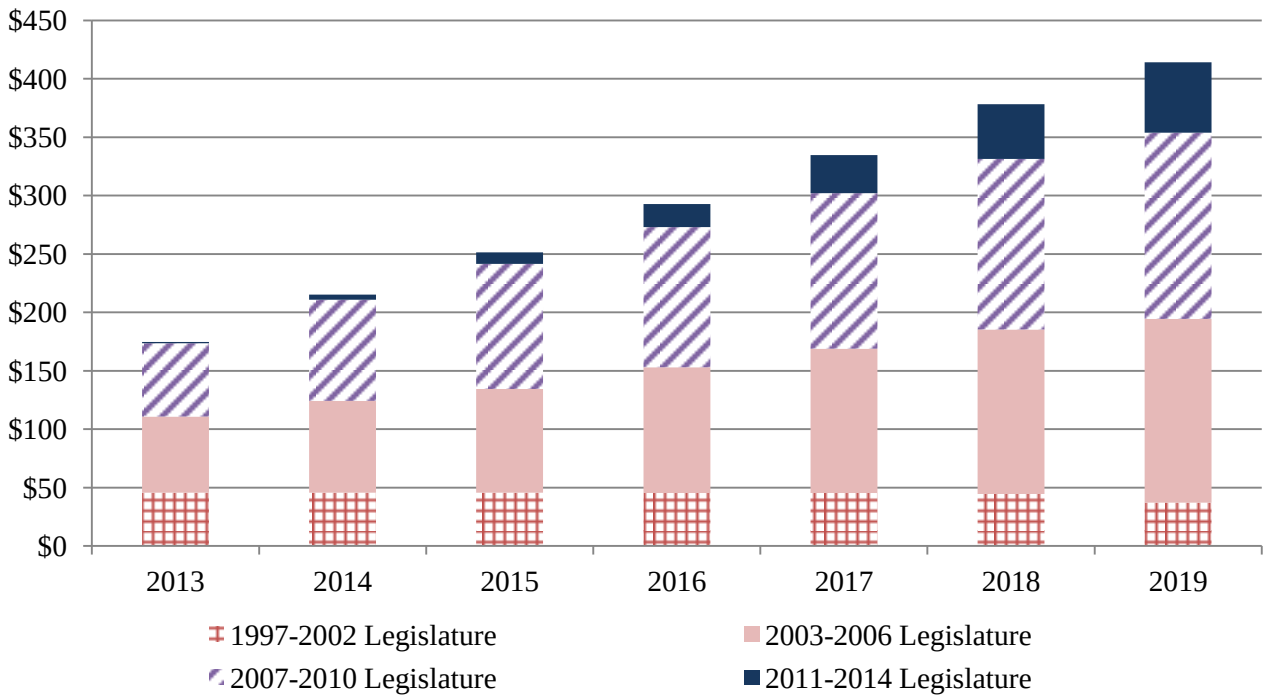
- ***2007 to 2010 Legislative Term:*** This term was affected by the Great Recession. The first two years were characterized by substantial GO bond authorization increases; in both years an additional $100 million was added in perpetuity. However, the severe recession reduced revenues, and CDAC reduced capital spending from fiscal 2011 to 2016. As Exhibit 11 shows, the authorizations decline sharply in fiscal 2011 and remain fairly flat until fiscal 2017.

- ***2011 to 2014 Legislative Term:*** This term began without any increases in authorizations; the fiscal 2012 capital program declined by $215 million (compared to fiscal 2011) and was at the level planned at the end of the prior legislative session. However, additional revenues have provided debt capacity in the last two years of the term. In the 2013 session, the Administration proposed, and the legislature approved, increasing fiscal 2014 to 2018 by $150 million annually, for a $750 million total increase. This year, CDAC supports increasing authorizations by $75 million annually from fiscal 2015 to 2019, for a $375 million

total increase. However, the Spending Affordability Committee (SAC) only approved adding $75 million to the 2014 session's authorization and did not approve expanding the program in the out-years. The Administration adhered to the SAC recommendation. These additional authorizations fill the hole that was carved into the program by the Great Recession.

Authorizing more debt has resulted in increased debt service costs. Based on issuance trends and interest rates, DLS estimates that fiscal 2015 GO bond debt service costs would have been $788 million if the State had kept the debt service authorization policies in effect during the 1990s. However, policy changes that led to additional authorizations resulted in increased debt service costs. **Exhibit 11** shows that fiscal 2015 debt service costs are $251 million more than the amount required if the State had not increased authorizations since fiscal 2001. By fiscal 2019, increased authorizations add $414 million to debt service costs.

Exhibit 11
Additional Debt Service Costs Attributable to Increasing Bond Authorizations
Fiscal 2013-2019
($ in Millions)



* Includes the Administration's plan to add $75 million in the 2014 legislative session.

Source: Department of Legislative Services, January 2014

Debt service costs are now increasing at a greater annual rate. Without increasing authorizations, debt service costs would have increased at a rate of approximately 3.2% annually, as seen in **Exhibit 12**. By authorizing more bonds, the rate is increased to 5.9%.

Exhibit 12
Out-year Debt Service Growth Rates
Fiscal 2015-2019
($ in Millions)

	Fiscal 2015	Fiscal 2019	Change	Annual Percent Change
1990s Base	$788	$893	$105	3.2%
1997-2002 Legislature	45	37	-8	-5.0%
2003-2006 Legislature	89	157	68	15.3%
2007-2010 Legislature	107	159	53	10.5%
2011-2014 Legislature*	10	60	50	56.8%
Total	**$1,039**	**$1,307**	**$268**	**5.9%**

* Includes the Administration's plan to add $75 million in the 2014 legislative session.

Source: Department of Legislative Services, January 2014

Comparing the rate increases attributable to the various legislative terms shows how State policies affect debt service costs. Although a substantial amount of debt is proposed to be authorized in fiscal 2013 and 2014 ($225 million annually), this debt has little impact in fiscal 2015. This is because actual debt issuance is delayed due to the length of time it takes to construct capital projects. State policy to only pay interest costs in the first two years (and delay principal payments to years 3 to 15) also reduces initial debt service costs. As projects move forward, high levels of debt are issued. Debt service costs attributable to authorizations made between fiscal 2011 and 2014 are expected to increase by more than 62% annually over the four years.

Change in Policy Regarding Annual Issuance Growth

In 2006 the State adopted a policy to increase authorizations at a rate of 3% annually, instead of $15 million per year. This has two implications:

- ***Since the State's Annual Authorizations Are Well Above $500 Million, an Annual Increase of 3% Is Well Above $15 Million:*** For example, if the total authorization is $1.000 billion, next year's increase is $30 million, instead of $15 million, if the State adheres to the 3% standard; and

- ***By Using a Percentage Instead of a Constant Amount, Increases Are Compounded:*** For example, a policy to increase authorizations 3% results in $1.0 billion in authorizations increasing to $1.345 billion in authorizations in 10 years. Without compounding, the increase would only be $1.300 billion after 10 years. This is $15 million more in authorizations than just applying a flat policy of increasing authorizations by $30 million each year.

Adopting a policy to increase authorizations 3% annually has substantially increased authorizations. Consequently, policy changes made between fiscal 2003 and 2006 led to 15% annual debt service growth through fiscal 2019.

State Continues to Manage Debt Levels within Affordability Criteria

While the State has substantially increased authorizations in recent years, the State has taken action to keep debt within affordability limits. In the 2010 legislative session, GO bond authorizations were reduced by $960 million. This has slowed the growth in debt service costs. The fiscal 2007 to 2010 term began with substantially increasing authorizations. However, the debt levels were not sustainable and needed to be reduced. While 11% annual growth is quite high, it is much less than it would have been if the level of authorizations had been maintained.

The past 13 years have been characterized by continually and aggressively increasing the State's capital program. This includes a dozen separate increases in the level of GO bond authorizations. Consequently, debt service costs are now substantially more than they otherwise would have been. Significantly, the period also includes a substantial reduction in authorizations. This reduction demonstrates the State's commitment to a debt affordability process that limits State debt. All of these actions suggest that we have entered a period in which the State will be adjusting authorizations annually in an attempt to maximize the capital program within the constraints of the affordability process.

The State Treasurer should be prepared to brief the committees on recent debt authorizations and their impact on debt service costs.

3. Low Interest Rates and Bond Sale Premiums Are Expected to Continue and Can Provide Budget Relief

Prior to the July 2002 bond sale, bond sale TICs were consistently over 4.00%, with some over 5.00%. Since July 2002, interest rates have declined. While this reduced the bond sale's TIC, the coupon interest rate paid by the State did not decline correspondingly. The result was a substantial bond sale premium in July 2002; the $225 million bond sale generated a $28 million premium. Since July 2002, interest rates have remained low, and the State has realized $882 million in bond sale premiums in this low interest rate environment.

As required by State law, the bond sale premiums were deposited into the ABF and supported debt service costs. Over this period, the State has generally had sufficient ABF revenues to support

debt service costs, and the ABF has been able to fully fund debt service costs. The premiums were added to the fund, and large fund balances accumulated, peaking in fiscal 2012 at $192.26 million. This fund balance was used by the State to defer general fund subsidies, as State property tax revenues declined, and debt service costs increased. By fiscal 2014, the fund balance was exhausted and general funds were required.

The State's large ABF balances masked a difficult issue the State faces when using premiums to support debt service. The problem is that two of the variables used to estimate premiums, TIC and coupon interest rate, are very volatile and have an outsized influence on the estimate. For example, an interest rate swing (either the TIC or the coupon rate) of one quarter percentage point (25 basis points) changes the estimate by $12 million. If the actual TIC for March 2014 is 0.25% higher than projected, and the coupon rate is 0.25% lower than projected, the premium will be $24 million less than assumed in the forecast. Insofar as the forecast assumes $41 million, the premium would be less than half as much as estimated. In today's environment, interest rates are volatile and difficult to forecast. When the ABF had a large fund balance, this was not an immediate problem because the State was not counting on the premium to fund debt service in the allowance. This is no longer the case, so the uncertainty surrounding these estimates needs to be addressed.

It appears that the low interest rate environment is likely to continue. In December 2013, the Board of Governors of the Federal Reserve System issued a press release that noted that, "[c]onsistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability." To do this, the committee reaffirmed its view that low interest rates will remain for a while, and that it is likely that they will "maintain the current target range for the federal funds rate well past the time that the unemployment rate declines below 6-1/2 percent, especially if projected inflation continues to run below the Committee's 2% long-run goal."

Since low interest rates and bond sale premiums are here to stay, the State has the following policy options:

- ***Do Not Recognize Any Unearned Premiums:*** With this approach, the budget does not recognize any premiums expected for bond sales after January 2014, so no premiums would be recognized for the March 2014, summer 2014, or winter 2015 bond sales. This requires that the Administration include a higher level of general fund appropriations in the allowance, which the legislature can reduce if a bond sale premium is realized in the winter bond sale.

- ***Recognize Premiums Realized Before the End of the Current Legislative Session and Use Them to Support Debt Service:*** This is the approach adopted by DBM in this budget. The Administration's budget assumes a $40.8 million premium, which results in a corresponding reduction in general fund appropriations. Should the premium be more, the General Assembly can reduce general funds. The Administration will need to provide additional general funds in a supplemental budget if the actual premium is less than budgeted.

- ***Estimate Fiscal 2015 Premiums and Use Them to Support Debt Service:*** The budget could also recognize premiums generated in fiscal 2015. DLS estimates that $60.8 million in premiums will be realized during fiscal 2015 bond sales, and $18.8 million will be realized in fiscal 2016. This estimate is based on December 2013 federal reserve board policy to maintain low interest rates through summer 2015. Recognizing these two premiums allows the General Assembly to reduce the general fund appropriation by $60.8 million. Although DLS prepares cautious bond sale premium estimates, the volatile nature of premiums suggests that it is quite possible that the actual premiums are less than projected. If this is the case, a deficiency appropriation in fiscal 2015 would be required, and the budget bill would need to be enacted on time. The Treasurer's Office also notes that most debt service payments are generally made before the end of the legislative session.

- ***Estimate Fiscal 2015 Premiums and Use Them to Support Debt Service, but Also Maintain a Larger Fund Balance:*** In the fiscal 2015 allowance, the Administration assumes a $2.0 million fund balance at the end of the fiscal year. Increasing this fund balance would provide a cushion in case actual bond sale premiums are less than projected.

- ***Estimate Premiums and Use Them to Support the Capital Program:*** The premiums are bond sale proceeds in excess of the par value assigned to the bonds. When issuing bonds, the par value is equivalent to the funds needed to support capital budget expenditures until the next bond sale. Since the par value is sufficient for the capital program, the State has been using the premium to support debt service costs. The premiums could also be used to support other capital projects by authorizing the use of bond sale premiums for other projects and reducing the amount of net new debt that is authorized. For example, the capital program could be reduced by $60.0 million, and the premiums could support the projects whose funds are reduced. This would also require a change to Section 8-132 of the State Finance and Procurement Article, which only authorizes the use of premiums for debt service.

- ***Have the State Set Coupon Rates to Minimize Premiums:*** The source of the premiums is the difference between the coupon rate and the TIC. Current State policy is to let the underwriters determine the coupon rate. If the coupon rate were essentially the same as the TIC, there would not be a premium. While this approach would eliminate premiums, it is also likely to increase State debt costs. Underwriters are purchasing bonds at a premium because of current market conditions. Eliminating the premium would make Maryland bonds less attractive. **Appendix 4** discusses why investors prefer buying bonds at a premium. Anecdotal evidence suggests that this would add millions in additional debt service costs.

In this session's budget, the legislature is facing two challenges that can be addressed with recognizing premiums:

- ***Low General Fund Balance:*** The Administration's proposal leaves the State with a $30 million general fund balance. From fiscal 2011 to 2013, annual general fund budget deficiencies have averaged $145 million. This low fund balance does not leave a sufficient cushion; and

- ***GO Bond Authorizations Are Increased by $75 Million:*** At a time when debt service costs exceed the revenues that are dedicated to support them, the capital budget is expanded by $75 million. If a 5.00% interest rate is assumed, this adds $111 million (including $36 million in interest payments) to debt service costs.

The Administration's budget proposal only realizes bond sale premiums that are realized before the end of the current legislative session but does not recognize any premiums that are anticipated in fiscal 2015.

DLS is projecting just over $60 million in bond sale premiums. This is a cautious estimate that assumes future premiums will be less than past premiums. Since the summer of 2008, there have been 10 tax-exempt bond sales to institutional investors. The average bond sale has generated $13 million in premiums for every $100 million issued. The smallest premium, from March 2011, was $7 million per $100 million issued. If market conditions for the two fiscal 2015 bond sales are consistent with market conditions in March 2011, the State would generate $75 million in premiums. This is $15 million more than the DLS estimate.[1]

The $60 million in premiums anticipated could be used to address either the low fund balance or the additional GO bond authorizations. The two approaches are:

- ***Fund Balance Option:*** The $60 million in estimated premiums could reduce the general fund appropriation and also increase the ABF balance. If general funds are reduced by $30 million, premiums from the first bond sale would be dedicated to supporting debt service payments. Since there is already the legal authority to do this, no law changes would be required. Proceeds from the second bond sale, would remain in the ABF, and the fund would end the year with a $30 million fund balance. **Exhibit 13** shows that that the ABF fund balance increases to $33 million, and general fund appropriations total $165 million, which is $30 million less than the Governor's allowance proposes. Should the first bond sale generate less than $30 million, proceeds from the second sale could be used to support debt service. This option is not only based on cautious premium estimates, but also provides additional reserves for the ABF.

[1] DLS estimates also tend to be more cautious than the Administration's. The allowance assumes that the $500.0 million bond sale in March 2014 will generate a $40.8 million bond sale premium. For SAC, DLS estimated that the State would realize a $29.8 million premium. The most significant difference is that DLS assumed a lower coupon rate (4.00% for DLS compared to 4.38% that the Administration assumed).

Exhibit 13
Recognizing Bond Sale Premiums in the Annuity Fund Balance
Fiscal 2014-2019
($ in Millions)

	2014	2015	2016	2017	2018	2019	Change 2014- 2019
Special Fund Revenues							
State Property Tax Receipts	$717	$722	$732	$742	$753	$762	$45
Bond Sale Premiums	90	61	18	0	0	0	-90
Other Revenues	3	3	3	3	3	3	0
ABF Fund Balance Transferred from Prior Year	175	104	33	31	31	31	-144
Subtotal Special Fund Revenues	***$985***	***$889***	***$785***	***$775***	***$786***	***$796***	***-189***
General Funds	83	165	367	440	497	524	441
Transfer Tax Special Funds	6	6	6	7	7	7	1
Federal Funds	11	11	11	11	11	11	0
Total Revenues	**$1,085**	**$1,072**	**$1,170**	**$1,233**	**$1,302**	**$1,338**	**$253**
Debt Service Expenditures	**$981**	**$1,039**	**$1,140**	**$1,202**	**$1,271**	**$1,307**	**$326**
ABF End-of-year Fund Balance	**$104**	**$33**	**$31**	**$31**	**$31**	**$31**	**-$73**

Source: Department of Legislative Services, January 2014

- ***Reduced Debt Option:*** Bonds are sold to generate proceeds that support capital construction. The amount needed is the par value of the bonds. Amounts in excess of par value could also be used for new projects. The State could then reduce bond authorizations. If the General Assembly could find another $15 million in reductions, the General Assembly could reduce authorizations the full $75 million that was added by the Administration. Since neither the ABF nor the general fund recognize the premium, applying the premium and reducing GO bond authorizations would neither increase the general fund subsidy to the ABF nor increase the general fund deficit. In fact, reducing authorizations would reduce debt service by $111 million, which would result in a corresponding reduction in general fund appropriations. If interest rates remain low, the State could continue to reduce authorizations through the use of bond premiums in the out-years.

DLS recommends that the State recognize $60 million in likely GO bond sale premiums. DLS also recommends that the fiscal 2015 general fund allowance be reduced by $30 million. The bond sale premiums should be used to offset the reduction in general funds and provide fiscal 2015 with a larger end-of-year ABF balance. DLS also recommends that the ABF maintains a fund balance that is at least $30 million. This is equal to the first bond sale premium that is projected in fiscal 2015.

4. Taxable Bonds Are More Expensive; Reliance Should Be Reduced as State Approaches Structural Balance

The State's capital program supports a number of different public policy areas, such as health, environmental, public safety, education, housing, and economic development. Federal government regulations allow the State to issue debt that does not require the buyer to pay federal taxes on interest earnings. In cases where investors do not pay federal income taxes, they are willing to settle for lower returns. Investors in taxable debt require higher returns to offset their tax liabilities. Consequently, the State can offer lower interest rates on tax-exempt bonds.

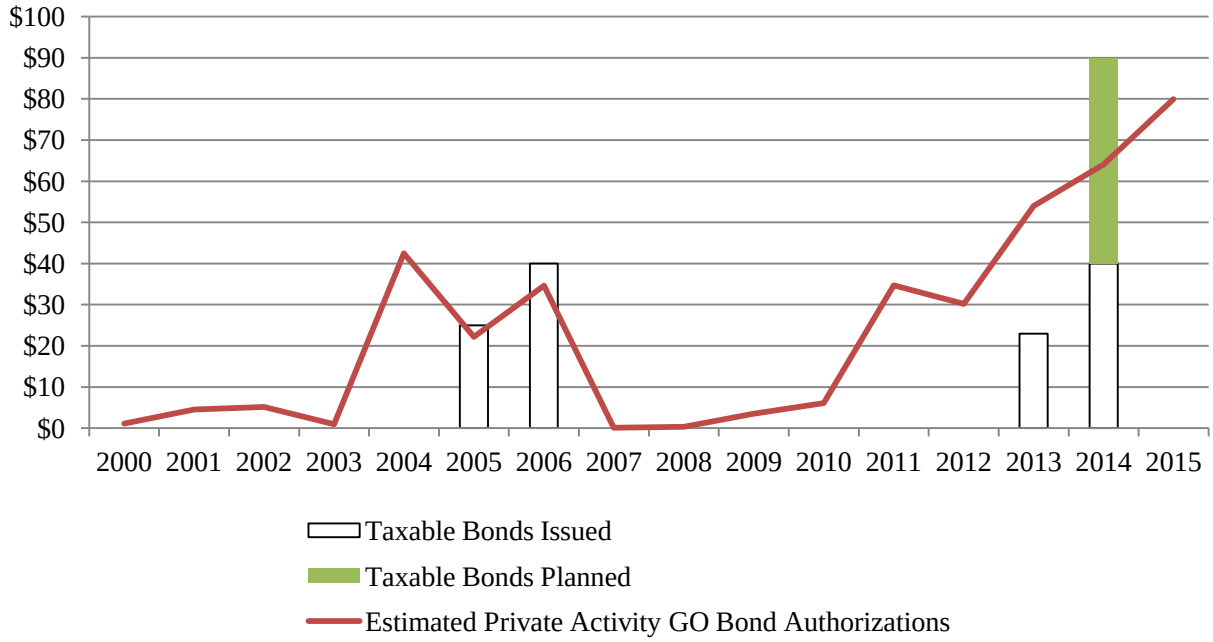
Federal laws and regulations limit the kinds of activities the proceeds from tax-exempt bonds can support. One such requirement limits private activities or private purposes of the bond proceeds to 5% of the bond sales proceeds. Another requirement limits the bonds to $15 million for business use projects and $5 million for business loans. Examples of programs that support private activities or uses include the Partnership Rental Housing and Neighborhood Business Development programs of the Department of Housing and Community Development (DHCD), the Hazardous Substance Cleanup Program of the Maryland Department of the Environment, the Public Safety Communications program of the Department of Information Technology (DoIT), and the Physical Sciences Complex at the University of Maryland, College Park.

To avoid exceeding the private activity limits imposed in the federal regulations, the State has previously appropriated funds in the operating budget instead of issuing debt for private purpose programs and projects. Recent years' fiscal constraints have limited the amount of operating funds available for capital projects. To continue these programs, the State authorized GO bonds. In fiscal 2011, the State began migrating private purpose programs from the operating budget into the capital budget. **Exhibit 14** shows that the State has authorized over $250 million in private activity bonds annually since fiscal 2011 and issued $46 million in taxable debt in fiscal 2013 and 2014, and plans $50 million in the March 2014 bond sale..

Taxable Bonds Cost More and Taxable Bonds' Costs Are Expected to Increase

In August 2012, the State sold $23 million in taxable GO bonds to institutional investors. The issuance's TIC was 0.45%, and the State did not realize a premium. At the same bond sale, the State also issued $4 million in tax-exempt bonds to institutional investors. The tax-exempt bond sale had a TIC of 0.33%. In other words, the difference between the two bonds, which were both issued on the same day, was 0.12% (12 basis points). DLS estimates that if the taxable issuance had sold at a TIC of 0.33%, instead of 0.45%, the bonds would have generated a premium totaling approximately $500,000.

Exhibit 14
Private Activity Authorizations and Taxable Bond Issuances
Fiscal 2000-2015
($ in Millions)



GO: general obligation

Source: Department of Budget and Management's *Capital Improvement Program*; Financial Advisor's *Report on Bond Sales*

In the out-years, the additional costs for issuing taxable debt are likely to increase. The current low interest rate environment is probably suppressing the additional costs paid by issuers of taxable debt. For example, the State issued taxable debt in fiscal 2005 and 2006. At the time, interest rates were higher, and DLS estimates that taxable bonds added $2.8 million in debt service costs for the $65.0 million issued. This is roughly twice the cost differential of the August 2012 bond sale.

Another factor that is likely to add to the cost of taxable debt is increased tax rates for higher income earners and corporations. The value of tax-exempt bonds is greatest when tax rates are highest. Recently enacted federal tax rate increases may well have an effect on the spread between taxable and tax-exempt bonds.

The bottom line is that there is a measurable difference between the cost of taxable and tax-exempt debt. The additional price paid by issuers of taxable debt is more likely to increase than decrease when compared to tax-exempt debt.

Reliance on GO Bonds for Private Use and Activities Continues After Budget Improves

It is not unusual for the State to move PAYGO capital projects and programs into the GO bond program when State finances deteriorate. Usually, the projects and programs are moved back out of the GO bond program after finances have improved. For example, Exhibit 15 shows this pattern after the rise in private use authorizations from fiscal 2004 to 2006. In fiscal 2007, there is a decline in private activity authorizations.

This is not the case in the current *Capital Improvement Program*. The fiscal 2015 allowance has private activity authorizations increasing to $79 million. This is the highest level in years. **Exhibit 15** shows that out-year private activity authorizations range from $42 million in fiscal 2016 to $31 million in fiscal 2019. Though there is a decline in authorizations, there is still a substantial reliance on GO bond funds to support projects and programs that are traditionally supported in the PAYGO capital funding. It also appears as though there is no attempt to reduce the reliance of GO bonds and appropriate general funds instead for DHCD programs.

As previously mentioned, federal regulations allow for some private activity in tax-exempt bonds. This allows some flexibility if there are minor changes in the use of infrastructure built or if there are some projects or programs that have a limited private activity component. Most of the agencies that have some private activity in their projects have exposure that can be managed within the federal guidelines.

The concern is that there are large private activity authorizations in MDE and DHCD. These large authorizations are likely to result in taxable bonds in the out-years. In the fiscal 2014 budget bill, the General Assembly added language expressing concerns about the amount of private activity bonds in the capital program. The language expressed the intent that the Administration reduces its reliance on private activity bonds. **The Administration should brief the committees on any plans it has to return to the practice of supporting private activity capital projects with general funds.**

In the previous issue relating to the use of bond sale premiums, DLS examined the use of the premiums to reduce GO bond authorizations. Since the General Assembly has expressed concerns about authorizing private activity bonds, the budget committees could consider reducing these authorizations if a plan to substitute premiums for new bond authorizations is adopted. Insofar as these private activity bonds are more expensive, this approach would further reduce debt service costs.

Exhibit 15
Private Activity Authorizations by Department
Fiscal 2015-2019
($ in Thousands)

	2015	2016	2017	2018	2019
Private Business Use					
Department of Information Technology	$3,915	$4,493	$4,275	$5,198	$0
State Department of Education	121	259	247	242	0
Morgan State University	30	0	0	0	0
University System of Maryland	1,439	1,187	0	0	0
Johns Hopkins University	750	0	0	0	0
Total Estimated Private Funds	**$6,254**	**$5,938**	**$4,522**	**$5,440**	**$0**
Private Loans*					
Department of Housing and Community Development	$64,450	$29,800	$26,100	$25,200	$24,300
Department of the Environment	9,073	6,500	6,500	6,500	6,500
Department of Planning	150	150	150	150	150
Total Estimated Private Funds	**$73,673**	**$36,450**	**$32,750**	**$31,850**	**$30,950**
Grand Total	**$79,927**	**$42,388**	**$37,272**	**$37,290**	**$30,950**
Out-year Total without Housing or Environment		**$6,088**	**$4,672**	**$5,590**	**$150**

* Excludes $600,000 from the Department of Housing and Community Development Community Legacy Program loan in which the private loan is less than 10% of the total.

Note: Numbers may not sum to total due to rounding.

Source: Department of Budget and Management, *Capital Improvement Program*, January 2014

5. State Should Examine Costs and Benefits Associated with Modifying Bond Amortization Policies

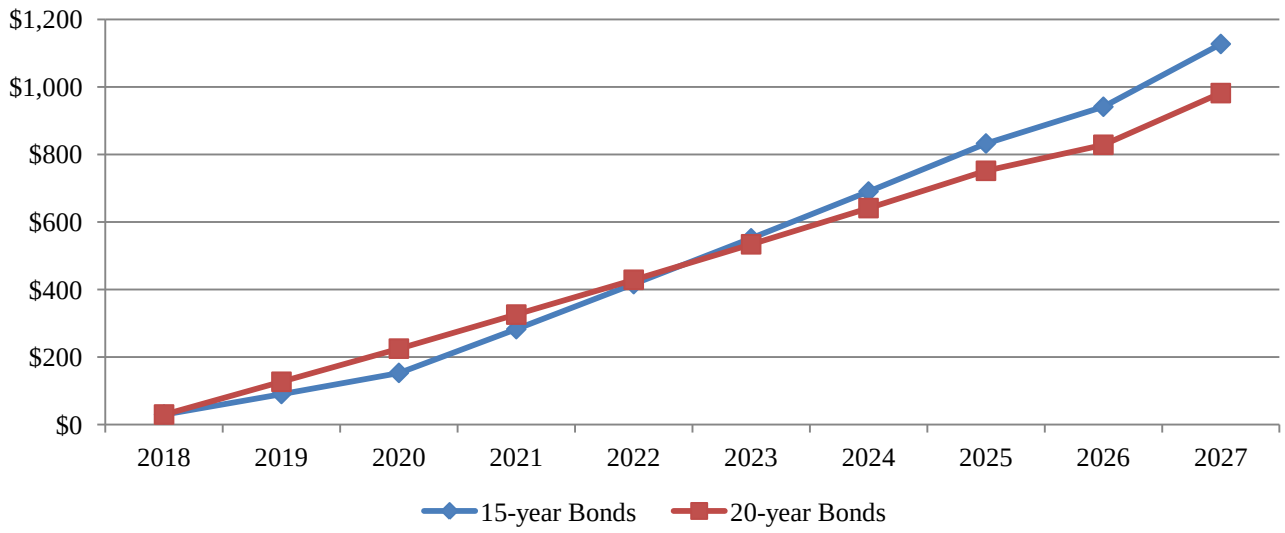
The State can affect debt service costs by revising amortization policies and schedules. Two defining characteristics of the GO bonds' amortization schedule are the 2-year principal grace period (for the first 2 years the State only pays interest costs and principal payments begin in the third year) and the State Constitution's requirement that State debt matures in 15 years. The 2-year grace period makes bonds inexpensive in the first few years, while the short maturity results in high debt service costs once principal payments are being made (since the debt is retired in 13 years).

As has been pointed out earlier in the analysis, the two-year grace period understates the cost associated with increasing bond authorizations. For example, increasing the fiscal 2015 GO bond authorization by $75.0 million is estimated to add only $1.7 million to fiscal 2015 and 2016 debt service costs. Total debt service costs are $111.4 million. Requiring bonds to pay principal payment beginning in the first year, reduces total debt service costs and would no longer understate the initial costs of authorizing more debt.

The State's policy to have all bonds mature in 15 years is required by the State Constitution, so any change would require a Constitutional amendment. Nonetheless, it may be worthwhile to consider the implications of increasing GO bond maturities. The debt service costs of bonds increase sharply in the first few years after bonds are issued and (under current market conditions) the bonds' annual cost is about one-tenth of the principal (after the second year). This is attributable to the 15-year amortization schedule. A 20-year maturity would reduce these average debt service costs to approximately one-twelfth of the cost of the principal.

Taken together, paying principal in the first year and selling bonds with long maturities would increase payments in the short-term and reduce them in the medium term. To compare the effect of these changes, DLS estimated the cost of issuing bonds from fiscal 2018 to 2027 with 20-year maturities and principal payments starting in the first year. The debt service of these bonds was compared to the traditional 15-year bonds. **Exhibit 16** shows that the debt service costs of the 20-year bonds are somewhat higher soon after they are issued but then are less after the fifth year. By the ninth year, 20-year bond costs are $140 million less than 15-year bonds. This approach provides medium-term relief. After 15 years, the traditional bonds are retired; however, the State would continue to pay costs associated with 20-year bond for another 5 years.

Exhibit 16
General Obligation Bond Policy Changes
Effect of Paying Principal in the First Year and Increasing Maturities to 20 Years
Fiscal 2018-2027
($ in Millions)



Source: Department of Legislative Services, January 2014

DLS recommends the following committee narrative:

Analysis of General Obligation Bond Amortization Policies: Each year, the Board of Public Works issues approximately $1 billion in GO Bonds. The fiscal 2015 GO bond debt service appropriation is $1.039 billion. Out-year costs are expected to increase 6% annually. A key goal of the State is to manage costs as effectively as possible. Debt service costs are influenced by its amortization policies. Two defining characteristics of the GO bonds' amortization schedule are the two-year principal grace period (for the first two years the State only pays interest costs and principal payments begin in the third year) and the State Constitution's requirement that State debt matures in 15 years. Taken together, paying principal in the first year and selling bonds with long maturities would increase payments in the short-term and reduce them in the medium term. To determine if there are advantages associated with modifying amortization policies, the committees request that the State Treasurer's Office, the Department of Budget and Management, and the Department of Legislative Services review amortization policies. This should include a review of policies concerning the timing of principal payments, as well as examining costs and benefits associated with modifying GO bonds' maturities. The review should address relevant legal issues and examine if advanced refunding callable bonds that have already been issued is financially advantageous. The report should be submitted by October 1, 2014.

Recommended Actions

		Amount Reduction	Position Reduction
1.	Reduce general fund appropriation to recognize anticipated bond sale premiums. The budget plan does not recognize any bond sale premiums that are expected in fiscal 2015. Since July 2002, the State has been realizing substantial premiums when issuing tax-exempt bonds to institutional investors. The Department of Legislative Services (DLS) estimates that $60.8 million in premiums will be realized in fiscal 2015. The department's approach is more cautious than historical trends or the administration's March 2014 estimate. DLS recommends that the State recognize $60 million in likely GO bond sale premiums. The bond sale premiums should be used to offset the $30 million reduction in general funds and provide fiscal 2015 with a $30 million end-of-year Annuity Bond Fund balance.	$ 30,000,000 GF	
2.	Adopt the following narrative:		

Analysis of General Obligation (GO) Bond Amortization Policies: Each year, the Board of Public Works issues approximately $1 billion in general obligation (GO) bonds. The fiscal 2015 GO bond debt service appropriation is $1.039 billion. Out-year costs are expected to increase 6% annually. A key goal of the State is to manage costs as effectively as possible. Debt service costs are influenced by its amortization policies. Two defining characteristics of the GO bonds' amortization schedule are that the two-year principal grace period (for the first two years the State only pays interest costs and principal payments begin in the third year) and the State Constitution's requirement that State debt matures in 15 years. Taken together, paying principal in the first year and selling bonds with long maturities would increase payments in the short-term and reduce them in the medium term. To determine if there are advantages associated with modifying amortization policies, the committees request that the State Treasurer's Office (STO), the Department of Budget and Management (DBM), and the Department of Legislative Services (DLS) review amortization policies. This should include a review of policies concerning the timing of principal payments, as well as examining costs and benefits associated with modifying GO bonds' maturities. The review should address relevant legal issues and examine if advanced refunding callable bonds that have already been issued are financially advantageous. The report should be submitted by October 1, 2014.

Information Request	Authors	Due Date
Analysis of GO bond amortization policies	STO DBM DLS	October 1, 2014

Total General Fund Reductions **$ 30,000,000**

Appendix 1

Current and Prior Year Budgets

Current and Prior Year Budgets
Public Debt
($ in Thousands)

	General Fund	Special Fund	Federal Fund	Reimb. Fund	Total
Fiscal 2013					
Legislative Appropriation	$0	$910,514	$11,955	$0	$922,469
Deficiency Appropriation	0	0	198	0	198
Budget Amendments	0	0	0	0	0
Reversions and Cancellations	0	-6,633	-51	0	-6,684
Actual Expenditures	**$0**	**$903,881**	**$12,102**	**$0**	**$915,982**
Fiscal 2014					
Legislative Appropriation	$83,000	$887,744	$12,381	$0	$983,125
Budget Amendments	0	0	0	0	0
Working Appropriation	**$83,000**	**$887,744**	**$12,381**	**$0**	**$983,125**

Note: The fiscal 2014 working appropriation does not include deficiencies or contingent reductions. Numbers may not sum to total due to rounding.

Fiscal 2013

Fiscal 2013 actual Public Debt spending was $6.5 million less than the appropriation. Special fund spending was $6.6 million less than anticipated, and federal fund spending was approximately $147,000 more than anticipated. Major changes include:

- the August 2012 refunding reduced special fund debt service costs by approximately $3,170,000;

- debt service payments for the August 2012 bond sale were almost $3,316,000 less than budgeted, reducing special fund spending;

- special funds were reduced approximately $198,000 to reflect federal direct payments for QZABs;

- an additional $51,000 in special fund needed to be appropriated to reflect a loss of direct payments attributable to federal sequestration; and

- federal sequestration resulted in a loss of federal appropriations for direct payment bonds totaling $51,000.

Fiscal 2014

To date, no budget amendments have been approved in fiscal 2014.

Fiscal Summary
Public Debt

Program/Unit	FY 13 Actual	FY 14 Wrk Approp	FY 15 Allowance	Change	FY 14 - FY 15 % Change
01 Redemption and Interest on State Bonds	$ 915,982,443	$ 983,125,071	$ 1,039,422,002	$ 56,296,931	5.7%
Total Expenditures	**$ 915,982,443**	**$ 983,125,071**	**$ 1,039,422,002**	**$ 56,296,931**	**5.7%**
General Fund	$ 0	$ 83,000,000	$ 195,000,000	$ 112,000,000	134.9%
Special Fund	903,880,862	887,743,989	832,932,357	-54,811,632	-6.2%
Federal Fund	12,101,581	12,381,082	11,489,645	-891,437	-7.2%
Total Appropriations	**$ 915,982,443**	**$ 983,125,071**	**$ 1,039,422,002**	**$ 56,296,931**	**5.7%**

Note: The fiscal 2014 appropriation does not include deficiencies. The fiscal 2015 allowance does not include contingent reductions.

Appendix 3

Analysis of GO Bonds' True Interest Cost

The interest rate that Maryland pays for the bonds it sells is referred to as the true interest cost (TIC). This rate is derived by calculating a bond's internal rate of return. The TIC is calculated at each competitive bond sale, and the bidder with the lowest TIC is awarded the bid.

Financial theory suggests factors that could influence Maryland's GO bond's TIC. Research has confirmed a number of significant influences in other states and in national studies that include Maryland. To build the least squares regression equation, data was collected and analyzed for the 54 bond sales since March 1991 (refunding sales are excluded): 47 competitively bid, tax-exempt bond sales; and 7 negotiated retail bond sales. The complete analysis is provided in the *Effect of Long-term Debt on the Financial Condition of the State,* prepared by the Department of Legislative Services (DLS).

The sum of least squares regression analysis is used to evaluate the factors that could influence the TIC. In all, over 30 independent variables were tested, including Maryland gross State product to United States gross domestic product, State budget growth, average years to maturity, and use of a financial advisor.

There are 5 independent variables which are statistically significant factors that influence the TIC:

- ***Bond Buyer 20-bond Index[2]:*** The key variable is the 20-bond index. This is an estimate of the market rate for 20-year, AA-rated State and municipal bonds. DLS has collected the estimated yields since 1991.

- ***Ratio of Maryland Total Personal Income to the United States Total Personal Income:*** One perspective on interest rates is to consider them as a return for risk. The higher the risk, the higher interest rate investors will expect. One factor of risk is the fiscal health of the entity selling the debt. In the DLS regression equation, State personal income is used as a proxy for fiscal health. The equation uses a ratio that compares State personal income to U.S. personal income. If the ratio increases, Maryland is doing relatively better than the rest of the United States, and a GO bond issuance's TIC tends to decline.

- ***Years to Maturity:*** Under normal economic conditions, bonds with shorter maturities have lower interest costs than bonds with longer maturities. This is referred to as a positive yield curve. The analysis estimates that every year adds 0.21% (21 basis points) to the TIC.

- ***Post-financial Crisis:*** This is a variable that indicates if a bond was sold before or after Lehman Brothers collapsed in September 2008. The equation estimates that Maryland bond yields are

[2]This is the first year that the bond buyer 20-bond index is used. In past years, an index of 10-year, AAA-rated bonds prepared by the Delphis-Hanover Corporation was used. The firm, which priced bonds daily since 1963, closed in April 2012 because its founder, Austin C. Tobin, became ill.

0.65% (65 basis points) less since September 2008. This is consistent with the "flight to quality" that some believe has resulted since the financial crisis of 2008. The average bond in the index is a lower quality bond than Maryland bonds. The negative coefficient projects that the yield on higher rated bonds has been reduced when compared to AA-rated bonds. This variable was not necessary in previous years. The analysis used an index of AAA-rated bonds, which would not identify an increasing spread between higher and lower rated bonds. Now that a AA-rated index is used, a variable measuring the increasing spread between AAA and AA bonds results in an improved equation.

- ***Inclusion of a Call Provision:*** A call is an option that allows the seller to retire debt early. This may be advantageous if interest rates decline below the rate the seller is paying. Consequently, buyers often require higher interest rates if an issuance includes a call provision. Maryland usually issues callable bonds.

In a separate analysis, DLS also analyzed the cost of issuing retail bonds. The analysis estimated that retail bonds add 0.18% (18 basis points) to the TIC. However, this result is not within the 95% confidence interval, so it is not included in the final equation. (It is merely in the 90% confidence interval.) The statistical analysis also measures how effective the equation is. The F Statistic, which measures the equation's confidence interval, is over 99.9% confident. DLS also uses the Durbin-Watson test to determine if different variables interact with one another or if a key variable is missing. The ideal is 2.0, and the result is 1.8, which is reasonable. The equation's margin of error is 0.19% (19 basis points). Finally, DLS compared the equation's estimates to actual data; the R^2 statistic shows that 97.4% of the actual interest rates are replicated by the equation.

True Interest Cost Regression Equation Independent Variables
Bond Sales from 1991-2013

Independent Variable	Coefficient	Standard Error	Beta	t-test	Sig.	Tol.	Comment
Bond Buyer 20-bond Index	0.875	0.038	0.65	23.285	0.000	0.64	Highest t-test suggests with confidence that the index is significant.
MD PI/US PI	-1.595	0.683	-0.08	-2.336	0.024	0.48	Negative coefficient suggests that as the Maryland economy strengthens, compared to the United States, the TIC declines.
Years to Maturity	0.208	0.032	0.19	4.407	0.000	0.58	Positive coefficient means that longer maturities tend to have higher TICs.
Post-financial Crisis	-0.651	0.094	-0.27	-6.961	0.000	0.33	Maryland bonds yields are reduced since the crisis.
Call	0.259	0.083	0.08	3.107	0.003	0.74	Callable bonds increase interest costs.
Constant	1.197						

MD PI/US PI: Maryland Total Personal Income to United States Personal Income
Sig.: significance or confidence interval
TIC: true interest cost
Tol.: tolerance, a test of multicollinearity

Source: Department of Legislative Services, October 2013

Maryland General Obligation Bond Debt True Interest Cost Analysis
Statistically Significant Variables

Bond Sale Date	TIC	20-Bond Index	MD/US PI	YTM	Post-crisis	Call
03/13/91	6.31%	7.32%	2.261	9.84	No	Yes
07/10/91	6.37%	7.21%	2.240	9.85	No	Yes
10/09/91	5.80%	6.66%	2.230	9.80	No	Yes
05/13/92	5.80%	6.54%	2.220	9.80	No	Yes
01/13/93	5.38%	6.19%	2.221	9.73	No	Yes
05/19/93	5.10%	5.77%	2.212	9.73	No	Yes
10/06/93	4.45%	5.30%	2.206	9.73	No	Yes
02/16/94	4.48%	5.42%	2.208	9.74	No	Yes
05/18/94	5.36%	6.14%	2.199	9.74	No	Yes
10/05/94	5.69%	6.50%	2.191	9.72	No	Yes
03/08/95	5.51%	6.18%	2.184	9.78	No	Yes
10/11/95	4.95%	5.82%	2.163	9.65	No	Yes
02/14/96	4.51%	5.33%	2.159	9.65	No	Yes
06/05/96	5.30%	5.94%	2.144	9.69	No	Yes
10/09/96	4.97%	5.73%	2.144	9.70	No	Yes
02/26/97	4.90%	5.65%	2.136	9.68	No	Yes
07/30/97	4.64%	5.23%	2.135	9.68	No	Yes
02/18/98	4.43%	5.07%	2.119	9.68	No	Yes
07/08/98	4.57%	5.12%	2.128	9.68	No	Yes
02/24/99	4.26%	5.08%	2.134	9.60	No	Yes
07/14/99	4.83%	5.36%	2.146	9.60	No	Yes
07/19/00	5.05%	5.60%	2.157	9.72	No	Yes
02/21/01	4.37%	5.21%	2.178	9.71	No	No
07/11/01	4.41%	5.22%	2.201	9.68	No	No
03/06/02	4.23%	5.19%	2.233	9.61	No	No
07/31/02	3.86%	5.00%	2.241	9.66	No	No
02/19/03	3.69%	4.79%	2.235	9.60	No	No
07/16/03	3.71%	4.71%	2.250	9.67	No	Yes
07/21/04	3.89%	4.84%	2.254	9.70	No	Yes
03/02/05	3.81%	4.50%	2.259	9.70	No	Yes
07/20/05	3.79%	4.36%	2.268	9.69	No	Yes
03/01/06	3.87%	4.39%	2.242	9.68	No	Yes
07/26/06	4.18%	4.55%	2.238	9.64	No	Yes
02/28/07	3.86%	4.10%	2.228	9.64	No	Yes
08/01/07	4.15%	4.51%	2.218	9.65	No	Yes

Bond Sale Date	TIC	20-Bond Index	MD/US PI	YTM	Post-crisis	Call
02/27/08	4.14%	5.11%	2.208	9.64	No	Yes
07/16/08	3.86%	4.65%	2.213	9.60	Yes	Yes
03/04/09	3.39%	4.96%	2.287	9.01	Yes	Yes
03/02/09	3.63%	4.87%	2.287	10.04	Yes	Yes
08/05/09	2.93%	4.65%	2.303	8.96	Yes	Yes
08/03/09	3.20%	4.69%	2.303	9.01	Yes	Yes
10/21/09	2.93%	4.31%	2.242	7.91	Yes	Yes
07/28/10	1.64%	4.21%	2.259	5.34	Yes	No
07/28/10	1.91%	4.21%	2.259	6.20	Yes	Yes
03/07/11	2.69%	4.90%	2.286	6.86	Yes	No
03/09/11	3.49%	4.91%	2.286	10.51	Yes	Yes
07/25/11	1.99%	4.46%	2.299	5.65	Yes	No
07/27/11	3.08%	4.47%	2.299	10.05	Yes	Yes
03/02/12	2.18%	3.72%	2.306	8.33	Yes	Yes
03/07/12	2.42%	3.84%	2.306	9.71	Yes	Yes
07/27/12	2.52%	3.61%	2.277	9.10	Yes	Yes
08/01/12	2.17%	3.66%	2.277	9.71	Yes	Yes
03/06/13	2.35%	3.86%	2.288	9.61	Yes	Yes
07/24/13	3.15%	4.77%	2.284	10.20	Yes	Yes

BABs: Build America Bonds
MD/US PI: Ratio of Maryland personal income to US personal income
TIC: True Interest Cost
YTM: Years to maturity

Source for 20-bond Index: The Bond Buyer
Source for Personal Income: Federal Bureau of Economic Analysis
Remaining Sources: Bond Sale Official Statements

Appendix 4

Investors Are Purchasing Maryland Bonds at a Premium to Protect Against a Loss in the Value of Their Bonds If Interest Rates Increase

When bonds are sold, they have a par value (cost of the bond as shown in the Official Statement) and a coupon rate (interest rate paid to the bondholder). When the bonds are bid, the Treasurer's Office determines the value of the bonds sold and when the bonds mature. The market determines the coupon rate and the sale price of the bonds.

In the current low-interest rate climate, the coupon rate has been substantially higher than the market interest rate, as measured by the true interest cost (TIC). If the TIC is less than a bond's coupon rate, the markets bid up the price of the bonds to a level that is higher than par value. The difference between the par value and the sale price of the bonds is a premium. Conversely, when the TIC is above the coupon rate, the bonds cannot sell at par value and sell for less. This difference is referred to as a discount.

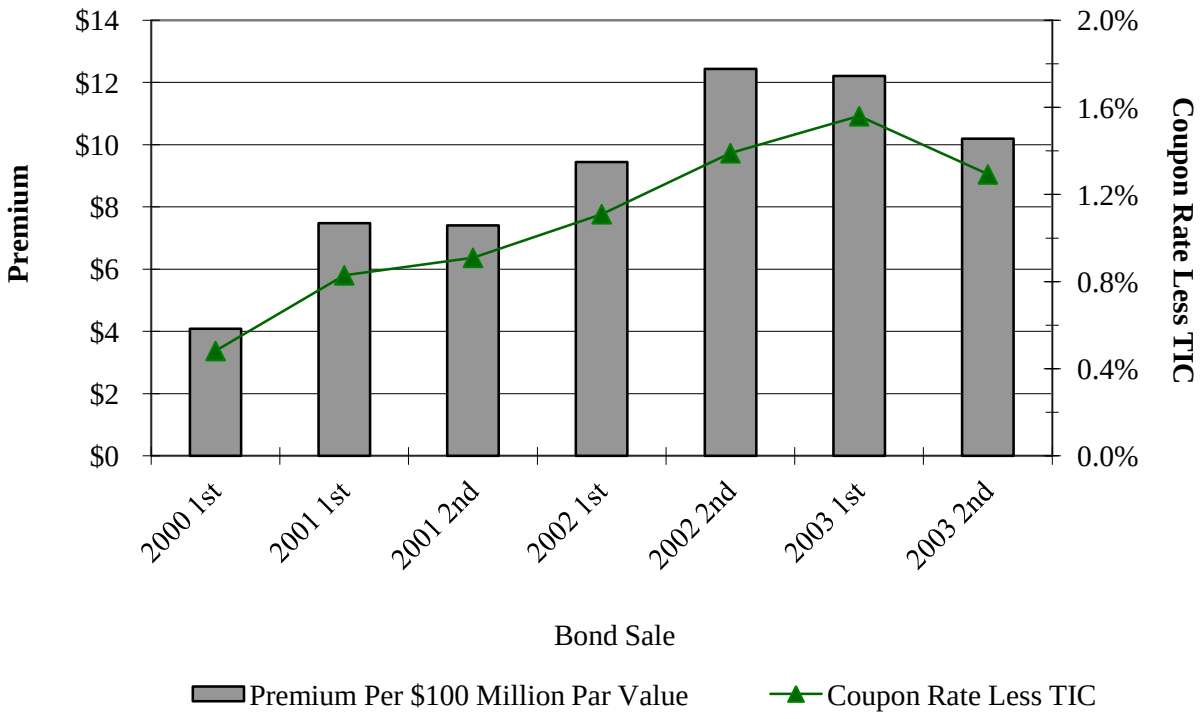
For most bond sales before 2001, the TIC was slightly below the coupon rate. This generated a small premium and provided sufficient funds for the capital program. Since 2001, interest rates have declined, while coupon rates have remained constant. The result has been substantial premiums. This relationship was examined by the Department of Legislative Services in calendar 2003 in the *Effect of Long-term Debt on the Financial Condition of the State*.

The increases in premiums are attributable to the difference between the bonds' coupon rates and the TIC. The coupon rates have declined less than market interest rates (as measured by the TIC) in recent years. **Table 1** shows how the spread between the coupon rate and the TIC affects bond sale premiums in bond sales from 2000 to 2003, when the State began realizing large premiums. Over the same period, bond sale premiums increased from $4 million per sale to $12 million per $100 million of bonds sold. The actual premium realized is even more stunning, as the total amount of bonds sold increased. The first 2000 bond sale generated an $8 million premium, while the first 2003 bond sale generated a $61 million premium.

Bond Sale Premiums Protect Investors against Rising Interest Rates

The return an investor receives for purchasing a bond is referred to as the yield. When bonds are sold, the yield is the TIC. At the July 2011 bond sale, the State competitively sold $29 million of general obligation bonds with 15-year maturities. The coupon rate of the bonds was 5.0%, and the yield was 3.3%. The value of each $5,000 bond with a 5.0% coupon rate was $5,999. The additional $999 was the premium investors paid to increase the coupon rate from 3.3 to 5.0%. At the time of the bond sale, the value of a $5,000 bond with a 3.3% coupon rate is the same as a $5,999 bond with a 5.0% coupon rate.

Table 1
Differences between Coupon Rates and True Interest Cost Affect Premiums
2000-2003 Bond Sales
($ in Millions)



TIC: true interest cost

Source: Department of Legislative Services, November 2003

Even though the two bonds in the previous example are worth the same on the day of the sale, investors prefer to purchase bonds at a premium under current market conditions. The reason for this is that bonds sold at a premium hold their value better than bonds sold at par if interest rates rise. If interest rates increase from 3.3% to 4.3%, the value of bonds sold for $5,999 decline 10.3%, while the value of bonds sold at par ($5,000) decline 11.0%.

Current interest rates are historically low. According to data from the Federal Reserve Board, the yield on 10-year treasury bills on the Friday after the most recent bond sale was among the lowest since 1962. In fact, only 3 out of 2,663 weeks had lower yields. In this environment, it certainly makes sense for investors to protect themselves against rising interest rates, and this is done by purchasing bonds at a premium.