

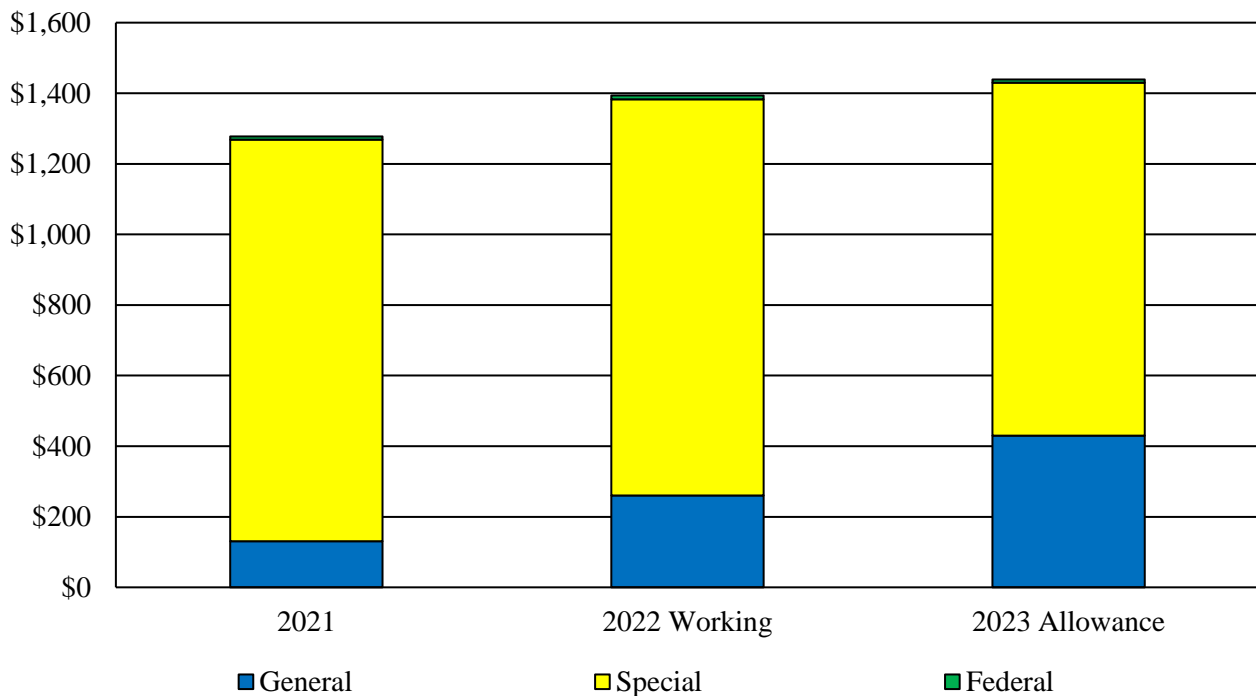
X00A00 Public Debt

Executive Summary

The Public Debt program appropriates funds for general obligation (GO) bonds' debt service principal and interest payments. GO bonds support the State's general construction program. GO bonds do not pledge specific revenues but rather pledge the State's full faith and credit. Debt service payments are supported by the Annuity Bond Fund (ABF), whose largest revenue source is the State property tax. At the current State property tax rate of \$0.112 per \$100 of assessable base, property tax revenues are insufficient to fully fund debt service, so general funds are also appropriated.

Operating Budget Summary

Fiscal 2023 Budget Increases \$45 Million, or 3.2%, to \$1,439 Million (\$ in Millions)



- Most of the increase in general fund appropriations in fiscal 2023 is attributable to reducing the reliance on bond sale premiums to support debt service. The fiscal 2023 capital budget includes \$210 million in bond sale premiums for capital projects. To avoid increasing State property taxes, additional general funds are appropriated to fund debt service costs.

Key Observations

- ***March GO Bond Sale Delayed after the Budget Bill Was Introduced:*** Instead of having a March 2022 and a July or August 2022 GO bond sale, the State will issue a single, larger sale in May or June 2022. This increases fiscal 2023 debt service costs and reduces fiscal 2038 debt service costs. Proposed appropriations are sufficient to pay these additional fiscal 2023 debt service costs.
- ***Bond Sale Premiums Support the State Capital Program:*** Unlike previous years, bond sale premiums are authorized to support capital projects instead of supporting debt service costs. Interest rates are expected to increase, which reduces available premiums. At this point, it appears that premiums will be sufficient to support capital budget authorizations, but that may not be the case if interest rates increase faster than anticipated.
- ***State Debt Is Affordable:*** The improved revenue outlook means that affordability ratios are well below limits.
- ***Maryland Is a High-debt State That Has Expanded Its Capital Program Beyond State Facilities but Maintains an AAA Bond Rating:*** Maryland’s net debt service to revenues is the eighth highest among the states, and net debt outstanding as a percent of personal income is the thirteenth highest among the states. Compared to AAA-rated states, Maryland has the highest debt service to revenues, and Maryland is highest behind Delaware with respect to debt outstanding to personal income. This additional debt is used to support capital projects for grants to local jurisdictions and nonprofit organizations, which accounts for 39% of the fiscal 2023 capital budget.

Operating Budget Recommended Actions

1. Concur with Governor’s allowance.

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Public Debt

Operating Budget Analysis

Program Description

The Public Debt program appropriates funds for GO bonds' debt service payments. This includes principal and interest payments. The Capital Debt Affordability Committee (CDAC) develops State debt policies and recommends limits on State debt. The Spending Affordability Committee (SAC) advises the legislature on debt policies. GO bonds support the State's general construction program, which includes grants to local public school construction, other grants to local jurisdictions and nonprofit organizations, higher education facilities, and State facilities. GO bonds do not pledge specific revenues but rather pledge the State's full faith and credit. Recent 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) that are 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) that 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 (QECCB) that are direct federal subsidy bonds that support energy efficiency capital expenditures in public buildings, renewable energy production, and other related projects.

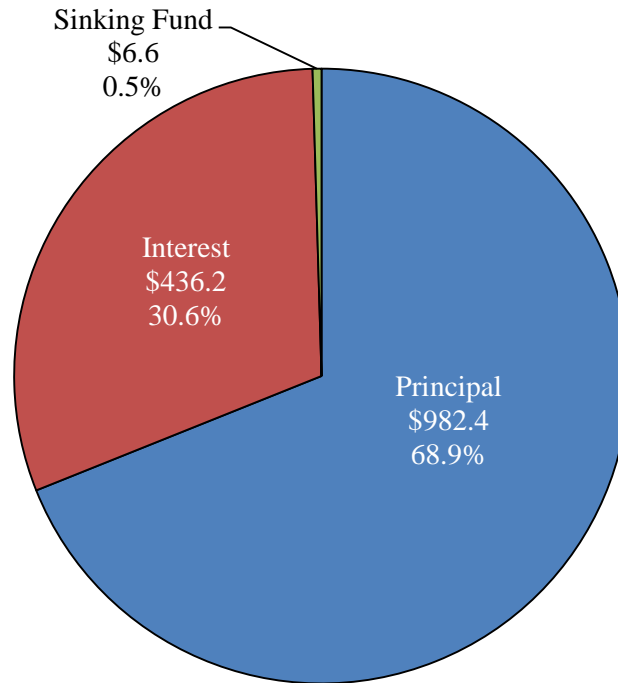
GO bond debt service payments are supported by the ABF. ABF revenues include State property tax revenues; federal subsidies; bond sale premiums; and repayments from certain State agencies, subdivisions, and private organizations. General funds may subsidize debt service if these funds are insufficient.

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

Fiscal 2023 Overview of Agency Spending

Exhibit 1 shows that over two-thirds of debt service costs are principal payments. This is an unusually high level of principal payments and is attributable to Maryland GO bonds' relatively short maturities. The State constitution does not allow for any State debts to mature in more than 15 years. To level out debt service payments, each issuance sells tranches of bonds that mature between 3 and 15 years with an average maturity of 10 years. This means that Maryland tends to have higher debt service payments for the level of debt that is outstanding and also retires debt more quickly.

Exhibit 1
Overview of Public Debt Spending
Fiscal 2023 Allowance
(\$ in Millions)



Source: Comptroller's Office; Department of Budget and Management; Department of Legislative Services

X00A00 – Public Debt

Exhibit 2 shows that most of the State’s debt is fixed-rate bonds sold to institutional investors. The State has also issued taxable bonds and has \$225 million taxable debt outstanding at the beginning of fiscal 2023, of which \$64.2 million will be retired during the year.¹ BABs, QZABs, QSCBs, and QECBs issuances are structured to take advantage of federal tax credits or subsidies. Debt service payments for these issuances are less than traditional GO bonds. At the beginning of fiscal 2023, \$477.3 million of the State’s GO debt outstanding is attributable to these bonds.

Exhibit 2
Debt Service Costs
Fiscal 2023
(\$ in Millions)

<u>Type of Debt</u>	<u>Principal</u>	<u>Interest</u>	<u>Sinking Fund</u>	<u>Total</u>
Previously Issued Debt				
GO Bonds Sold to Institutional Investors	\$839.6	\$380.1	\$0.0	\$1,219.6
Taxable Bonds	64.2	1.6	0.0	65.9
Build America Bonds	76.6	10.9	0.0	87.5
Qualified Zone Academy Bonds	1.9	1.3	0.3	3.5
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	\$982.4	\$396.2	\$6.6	\$1,385.2
Debt Issued				
March 2022 Bond Sale	\$0.0	\$27.0	\$0.0	\$27.0
Summer 2022 Bond Sale	0.0	13.0	0.0	13.0
Subtotal	\$0.0	\$40.0	\$0.0	\$40.0
Total	\$982.4	\$436.2	\$6.6	\$1,425.2

GO: general obligation

Note: Since the budget was introduced, the State Treasurer’s Office has restructured the calendar 2022 bond sales so that there will be one large bond sale in May or June 2022 instead of the two sales in March and again in summer 2022. This change does not have any notable long-term effects, but it does change cash flows in the short term. The implications of this change are discussed in more detail in Issue 1.

Numbers may not sum to total due to rounding.

Source: Comptroller’s Office; State Treasurer’s Office; Department of Budget and Management; Department of Legislative Services

Operating Budget Annuity Bond Fund Projection

¹ Taxable debt is more expensive than tax-exempt debt, so taxable bonds are issued with shorter maturities. This minimizes the extra costs paid for taxable bonds. At the bond sale in August 2019, the State sold \$50 million in taxable GO bonds to institutional investors with three- and four-year maturities. The issuance’s yield was 1.61% for the four-year bonds. Thirty minutes later, the State also issued \$14.89 million in tax-exempt bonds to institutional investors. The tax-exempt bond sale had a true interest cost (TIC) of 0.94%. The difference between the four-year bonds was 0.67% (67 basis points). The Department of Legislative Services estimates that the additional 67 basis points paid for taxable three- and four-year bonds increased interest payments by \$1.13 million from fiscal 2020 to 2023.

Most of the revenues supporting GO bond debt service are derived from State property taxes. **Exhibit 3** shows that for fiscal 2023, State property taxes provide \$933 million, which represents 65% of the appropriation. The Department of Budget and Management (DBM) projects total fiscal 2022 premiums will be \$305 million. DBM also estimates \$230 million in fiscal 2023 premiums. The Administration proposes authorizing \$210 million in premiums for capital projects in 2023, leaving \$20 million in the ABF. To support debt service without raising State property taxes, which has a tax rate of \$0.112 per \$100 of assessable base, the allowance includes \$430 million in general funds.

Exhibit 3
Annuity Bond Fund Forecast
Fiscal 2021-2023
(\$ in Millions)

	<u>2021</u> <u>Expenditures</u>	<u>2022</u> <u>Appropriation</u>	<u>2023</u> <u>Allowance</u>
ABF Activity			
Beginning Balance	\$207.3	\$150.4	\$47.8
Property Tax Receipts ¹	892.2	914.0	933.3
Interest and Penalties on Property Taxes	2.7	2.5	2.5
Other Repayments and Receipts	0.4	0.1	0.1
Bond Premiums	314.2	305.0	230.0
Bond Premiums Supporting Capital Projects	-136.0	-222.9	-210.0
Transfer to Reserve	-150.4	-47.8	-23.9
ABF Special Fund Appropriations	\$1,130.4	\$1,101.4	\$979.8
General Fund Appropriations	\$131.0	\$260.0	\$430.0
Transfer Tax Special Fund Appropriations	6.9	6.9	7.0
Federal Fund Appropriations	9.3	10.4	8.4
Projected Total Debt Service Expenditures²	\$1,277.6	\$1,378.8	\$1,425.2

ABF: Annuity Bond Fund

¹ The Department of Legislative Services' (DLS) fiscal 2023 estimate varies from the Governor's Budget Books, which have \$6 million less in revenues. The DLS estimate is equivalent to the forecast the Department of Budget and Management (DBM) provided to DLS, but the Governor's Budget Books have a reduced estimate.

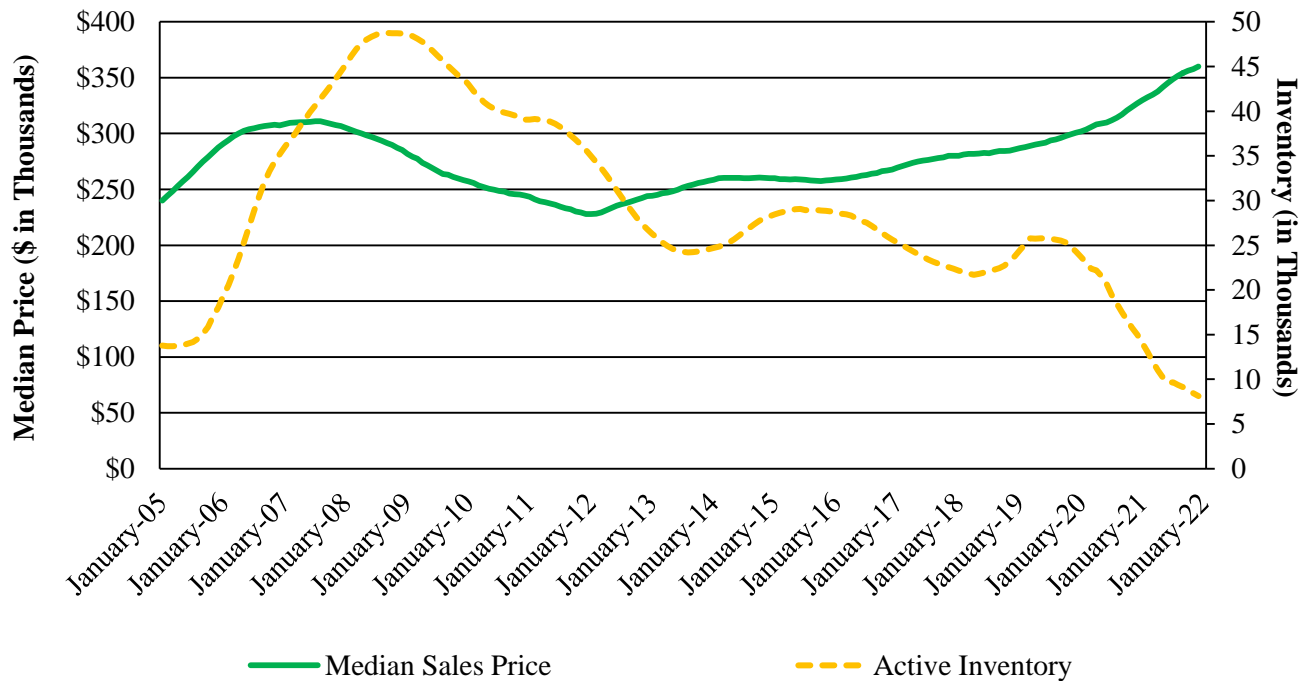
² DLS' fiscal 2022 debt service estimates are \$3.4 million less than DBM's, and DLS' fiscal 2023 debt service estimates are \$13.8 million less than DBM's.

Source: Department of Budget and Management; Department of Legislative Services

Annuity Bond Fund Six-year Forecast

In developing estimates of State property tax collections, understanding trends in the housing market is important. **Exhibit 4** shows that the median home price has increased steadily since 2012. This was preceded by a substantial increase in real estate values, which peaked in summer 2007, followed by a decline in values. Inventories went through a similar increase and decline. However, they have often lagged behind the pattern seen in home prices. Since the pandemic, home values have been increasing at a faster rate. The Department of Legislative Services (DLS) had anticipated 1% annual growth in State home values but has adjusted the forecast to reflect a 2% annual growth.

Exhibit 4
Maryland Housing – Median Prices and Inventory
12-month Moving Average
January 2005 to January 2022



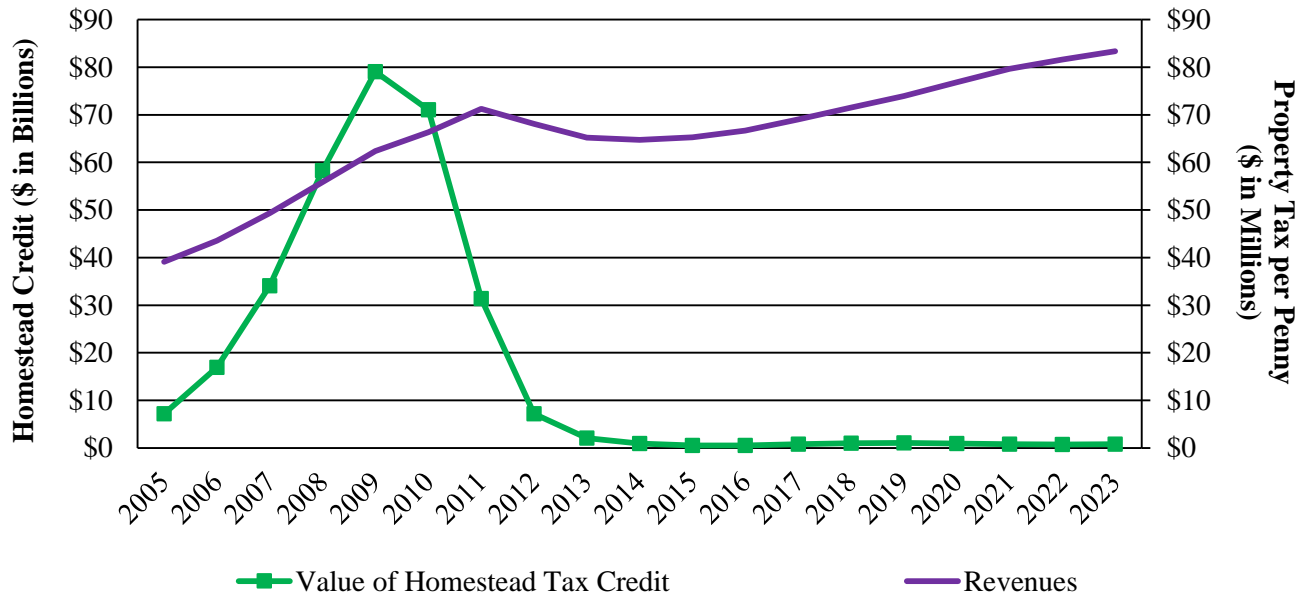
Note: There were some substantial revisions of calendar 2020 inventory data as some months increased by as much as 20%.

Source: Maryland Association of Realtors; Department of Legislative Services

Homestead Tax Credit

As expected, the rising property values prior to 2007 increased State property tax receipts. **Exhibit 5** shows how much revenue \$0.01 on the State property tax has generated since fiscal 2005. State property tax receipts generated by \$0.01 of revenues continued to increase from fiscal 2005 to 2011, even as home values peaked in fiscal 2007. Revenues declined from fiscal 2011 to 2014 and have generally increased since fiscal 2015. As the exhibit shows, this tax credit is large when prices are appreciating rapidly. Since recent increases in home values have been modest, the tax credit has been well below the high levels realized during the housing bubble.

Exhibit 5
State Property Tax Homestead Tax Credits and Property Tax Receipts
Fiscal 2005-2023



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

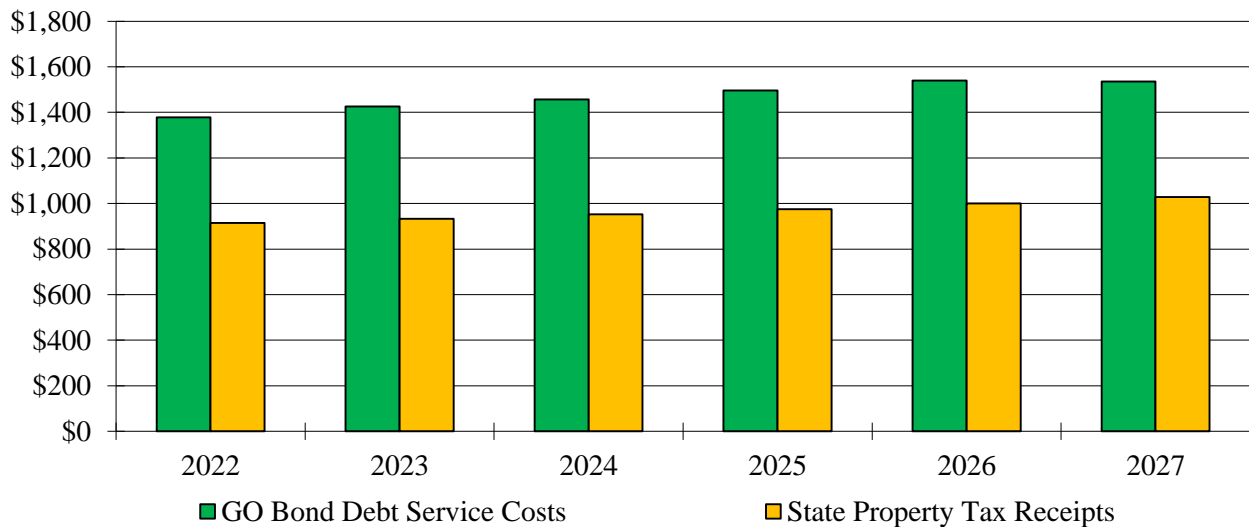
Assessment policies and the Homestead Tax Credit account for the lag between changes in the real estate market and tax receipts. Property values are assessed every three years, and increases are phased in over three years. The Homestead Tax Credit limits the annual increase in State property assessments subject to the property tax to 10%. If reassessing a resident’s assessed property value results in an increase that exceeds 10%, the homeowner receives a credit for any amount above 10%. This limits revenue growth when property values rise quickly. Taken together, the three-year assessment process and Homestead Tax Credit slowed the revenue increases during the real estate boom and delayed the peak until after the decline in property values.

The Homestead Tax Credit also provides the State a hedge against declining property values. As home values declined, the value of homestead credit declined, and revenues continued to increase slowly. 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 until fiscal 2011, which was four years after peak home prices. Exhibit 5 shows that State credits increased to \$79 billion in fiscal 2009 in response to increases in assessments. Since fiscal 2014, aggregate homestead credits have been about \$1 billion each year. Since the homestead credit is much smaller in 2020 than it was in 2008, a recession that leads to a reduction in home values could slow increases in property tax collections much sooner than during the Great Recession.

General Fund Appropriation Is Necessary to Avoid State Property Tax Increases

State property tax revenues are estimated to increase at a moderate rate of 2.4% annually from fiscal 2022 to 2027. Although this is more than debt service cost increases, which are expected to increase at a rate of 2.2% over the same period, revenues are so far below costs that general fund appropriations will be needed throughout the period. **Exhibit 6** shows that steady increases in State property tax revenues and debt service costs are projected. Unless State property tax rates are increased, the State will need to continue to subsidize the ABF with general funds, as shown in **Exhibit 7**.

Exhibit 6
GO Bond Debt Service Costs and State Property Tax Revenue Collections
Fiscal 2022-2027
(\$ in Millions)



GO: general obligation

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

Exhibit 7
Revenues Supporting Debt Service
Fiscal 2022-2027
(\$ in Millions)

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>Annual % Change</u>
Special Fund Revenues							
State Property Tax Receipts	\$914	\$933	\$953	\$975	\$1,000	\$1,028	2.4%
Bond Sale Premiums	305	230	180	150	0	0	-100.0%
Capital Authorizations	-223	-210	-180	-150	0	0	-100.0%
Other Revenues	3	3	3	3	3	3	0.0%
ABF Fund Balance Transferred from Prior Year	150	48	24	1	1	1	-65.4%
Subtotal Special Fund Revenues	\$1,149	\$1,004	\$979	\$979	\$1,004	\$1,031	-2.1%
General Funds	260	430	465	506	532	504	14.2%
Transfer Tax Special Funds	7	7	7	7	2	0	-100.0%
Federal Funds	10	8	7	5	2	1	-39.8%
Total Revenues	\$1,427	\$1,449	\$1,458	\$1,497	\$1,540	\$1,536	1.5%
Debt Service Expenditures	\$1,379	\$1,425	\$1,457	\$1,496	\$1,539	\$1,535	2.2%
End-of-year ABF Balance	\$48	\$24	\$1	\$1	\$1	\$1	

ABF: Annuity Bond Fund

Note: Out-year authorizations are consistent with the amounts recommended by the Spending Affordability Committee in December 2021. The fiscal 2024 authorization is \$1,205 million, and annual authorizations increase 4% annually, which is \$50 million annually.

Source: Department of Legislative Services

Issues

1. March Bond Sale Is Delayed: Some Short-term Cash Flow Impacts, but No Consequential Long-term Effects Anticipated

The size of each GO bonds issuance is determined by capital projects' and programs' cash flow needs. Generally, the State issues GO bonds twice a year, the first in February or March and the second in July or August. Since the budget bill was introduced, the State Treasurer's Office (STO) has delayed the March 2022 GO bond sale until May or June 2022. Delaying the winter sale happened most recently in 2016, when the winter sale was delayed until May and combined with the summer sale. That year, there was one large bond sale at the end of fiscal 2016 and no sale in the beginning of fiscal 2017. STO plans to do this again this year. STO notes that proceeds from prior bond sales are sufficient to support capital spending until May or June 2022, when the large sale will be.

Restructuring Sale Reduces Likelihood of Paying Arbitrage Rebates

Another consideration, regarding the size of bond sales, is arbitrage rebates. So that issuers do not issue tax-exempt bonds and then invest the proceeds in higher yield taxable securities, the Internal Revenue Service (IRS) requires that certain shares of bond proceeds are spent within specified time periods. If the issuer holds on to the proceeds too long, the IRS is due arbitrage rebates. Although it appears to be attractive to issue more than is needed when debt is cheap, keeping too much of the proceeds too long could result in payments to the IRS. While it does not appear that any arbitrage rebates will be due, it may be prudent for the State to issue debt later in the year if the proceeds are not needed in March 2022.

Restructuring Debt Service Increases Fiscal 2023 Debt Service Costs

By moving the summer 2022 bond sale into fiscal 2022, the State will pay a full year of debt service instead of half of a year, which is the amount of debt service due on GO bonds issued in the first half of a fiscal year. Moving this issuance forward increases fiscal 2023 debt service by \$13 million for total fiscal 2023 debt service payment of \$1,438 million.² Exhibit 7 shows that DLS estimates that the ABF will have a \$24 million fund balance at the end of fiscal 2023. This is sufficient to absorb a \$13 million increase in fiscal 2023 debt service costs.

2. State Capital Budget Supported by Bond Sale Premiums

The Administration estimates that bond sale premiums in fiscal 2023 will total \$230 million of which \$210 million will support capital projects and \$20 million will remain in the ABF. The par value of a bond is the principal due on the bonds. There are economic reasons that investors may choose to buy bonds at a premium. If interest rates are expected to increase, it is advantageous to buy bonds at a

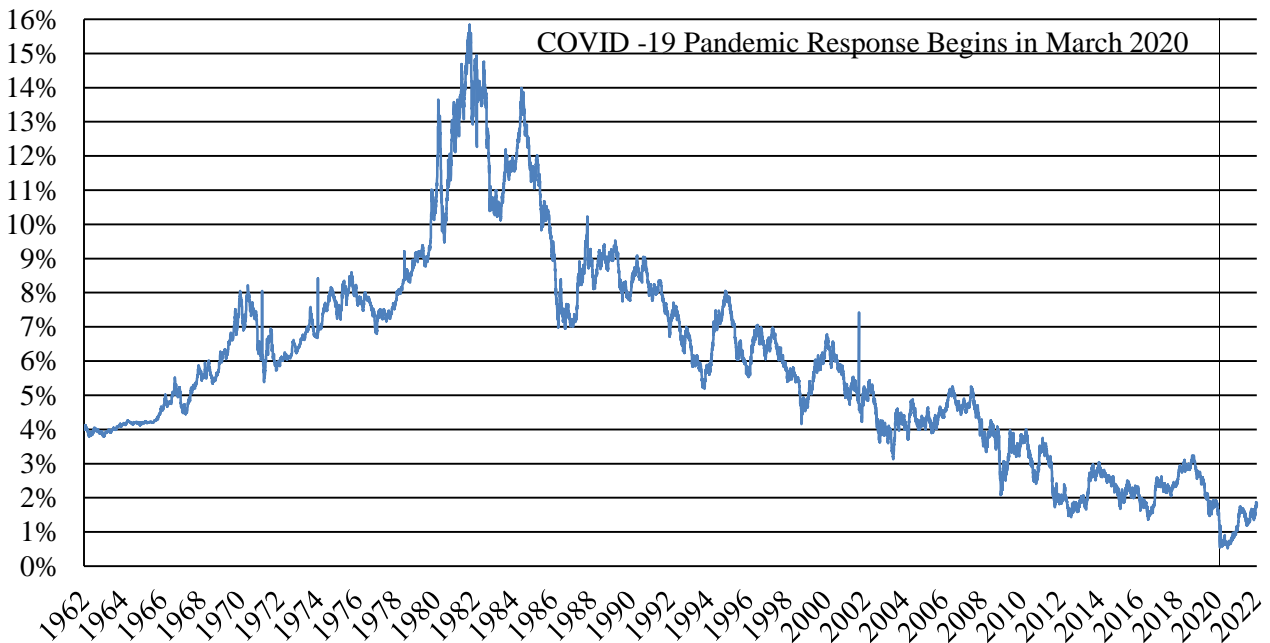
² Moving the summer 2022 sale forward does not affect the total cost of the bonds. The bonds will be retired in fiscal 2037 instead of in fiscal 2038, so this reduces fiscal 2038 debt service costs.

premium. This is done by paying more than the par value of the bond and receiving an interest rate that is greater than the market interest rate. This increases the lenders debt service payments in the short term. These bonds hold their value better if interest rates increase. Since interest rates have been low in recent years, bonds have been selling at a premium. **Appendix 1** provides more detail about the economics of premiums with an example from the July 2015 GO bond issuance.

Volatile Interest Rates are Heading in the Wrong Direction

In recent years, interest rates have been at historic lows. The TIC for the most recent tax-exempt GO bond sale on August 11, 2021, was 1.42%. These bonds were sold at a time when interest rates were as low as they had been in 60 years. That day, the rate for 10-year federal treasury notes was lower than all but 291 weekdays from January 1962 to January 2022. In other words, rates for federal notes were higher on 98.9% of weekdays. Interestingly, all of the days with lower rates were between February 25, 2020, and September 22, 2021. **Exhibit 8** shows that interest rates during the pandemic have been at historic lows. It seems unlikely that they will remain that low. Therefore, it is sensible for investors to buy fixed-rate bonds at a premium.

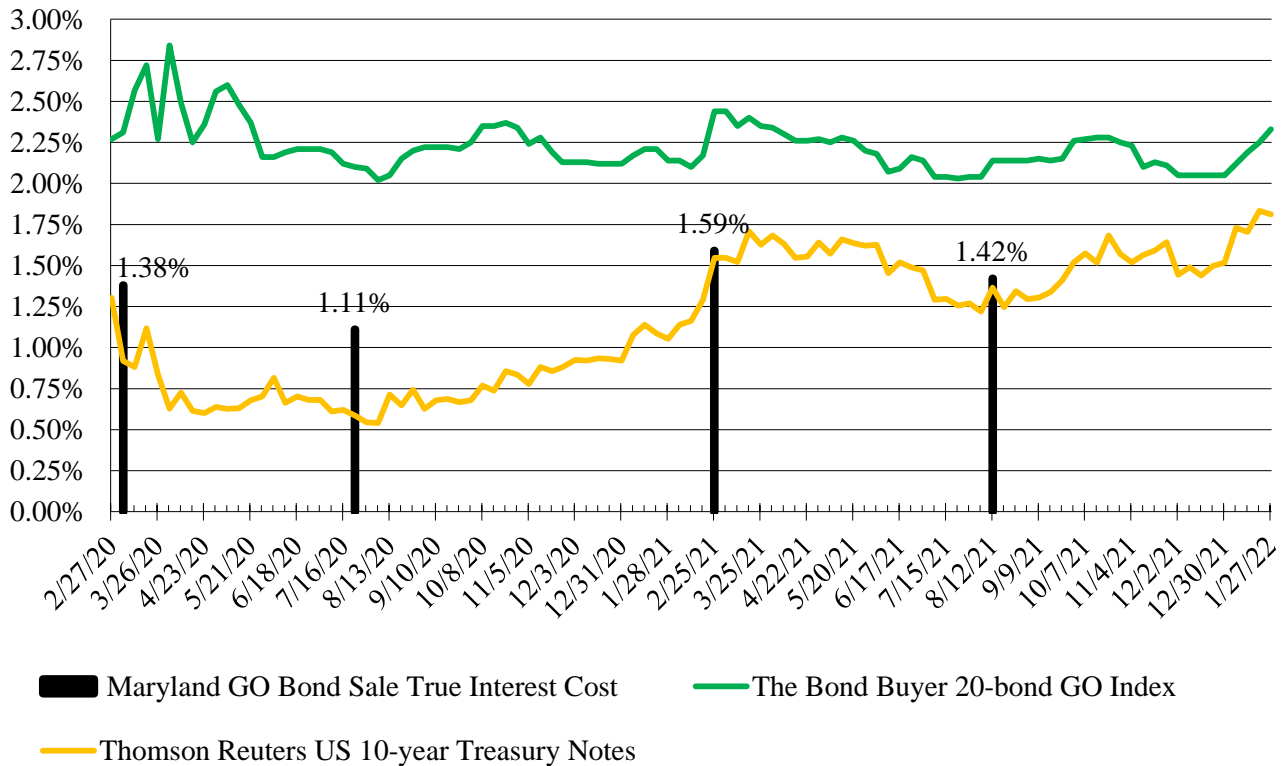
Exhibit 8
Interest Rates for 10-year U.S. Treasury Notes
January 1962 to January 2022



Source: Board of Governors of the Federal Reserve System

Exhibit 9 compares GO bond sales during the pandemic to indices for federal 10-year treasury notes and state and municipal bonds. It also shows the volatility early in the pandemic and recent increases in interest rates. Two factors that are contributing to the rising rates are increased inflation and the expectation that the Federal Reserve Board will increase short-term rates. These factors suggest that, barring an unforeseen change in the economy, the current period of low interest rates is coming to an end. This would reduce the amount of bond sale premiums that the State has realized in recent GO bond sales.

Exhibit 9
Interest Rate Indices and State Bonds' Yields
 February 2020 to January 2022



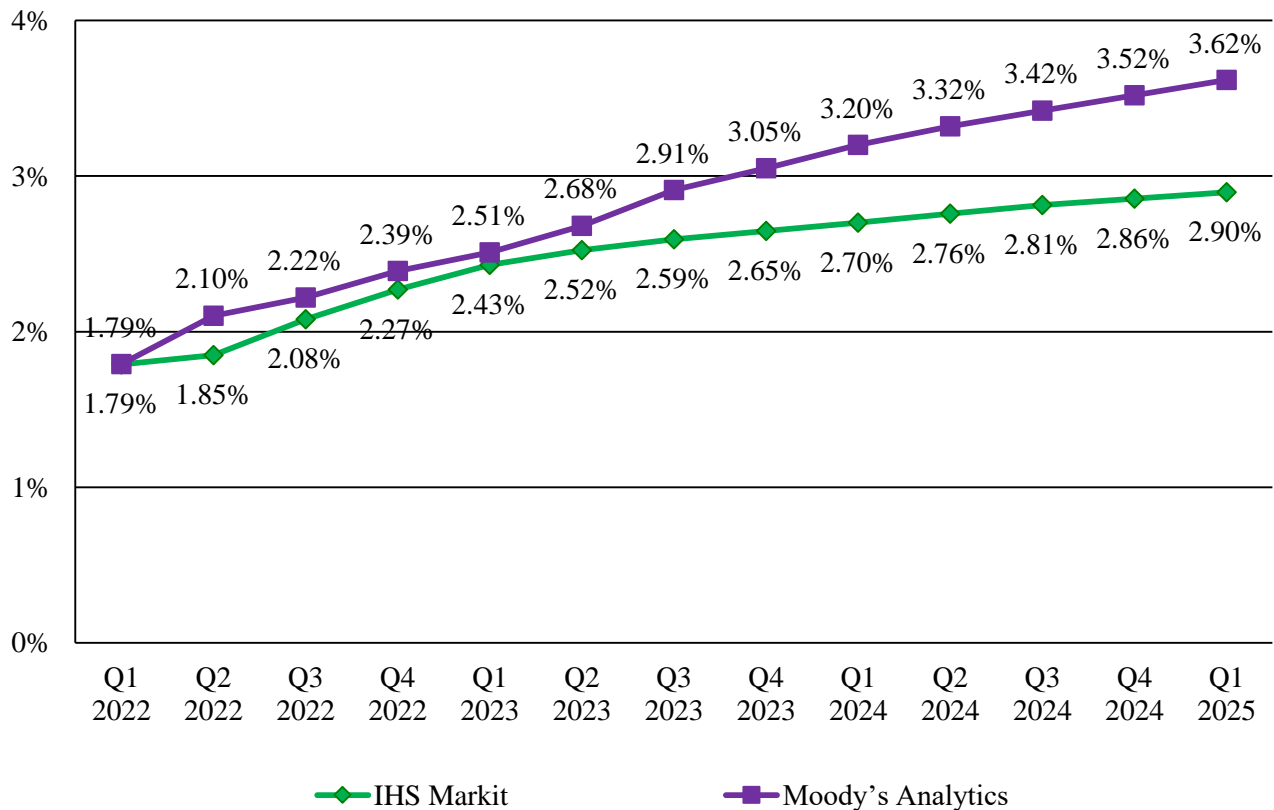
GO: general obligation

Source: *The Bond Buyer*; Public Resources Advisory Group

Interest Rate Forecasts Diverge Suggesting a Wide Range of Outcomes Are Possible

While interest rates are expected to increase, it is unclear how much and how fast rates will increase. DLS receives interest rates forecasts from two services, Moody’s Economy and IHS Markit. **Exhibit 10** shows that Moody’s expects interest rates to increase more and faster. Inflationary expectations are a key factor that explains the difference between these two forecasts. Moody’s is expecting higher inflation. The February forecasts are diverging less than the January forecasts. IHS has increased their forecast substantially throughout the forecast period. Moody’s has also increased rates in calendar 2022 and the first quarter of fiscal 2023, but out-year estimates have remained constant or changed by only a few basis points.

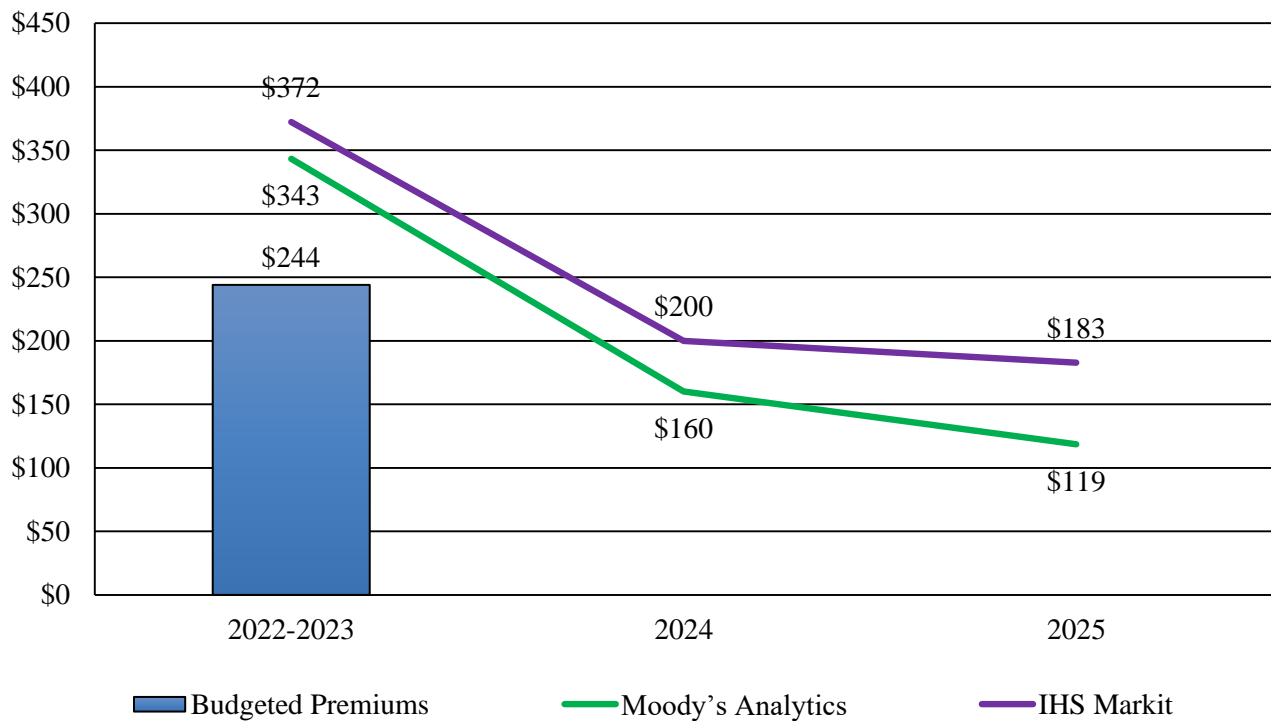
Exhibit 10
Diverging Interest Rate Forecasts
First Quarter 2022 to First Quarter 2025



Source: IHS Markit, February 8, 2022; Moody’s Analytics, February 8, 2022

From these interest rate forecasts, DLS has estimated bond sale premiums. DLS estimates assume that bond sales will remain large, with \$1 billion in par value issued in May or June 2022 and \$530 million in par value in winter 2023, and that the coupon rate at the bond sales will remain at 5.00%. **Exhibit 11** shows that these forecasts suggest that calendar 2022 and fiscal 2023 bond sale premiums should range between \$343 million and \$372 million in fiscal 2023, which is more than bond authorizations. However, in such a volatile environment, these forecasts could be obsolete soon.

Exhibit 11
Estimated Range of Bond Sale Premiums
Fiscal 2022-2025
(\$ in Millions)



Note: Fiscal 2022 premiums are from the May or June 2022 bond sale and budgeted premiums are projects authorized in the fiscal 2022 capital budget that are not funded from premiums realized at the August 2021 bond sale.

Source: IHS Markit, February 8, 2022; Moody's Analytics, February 8, 2022; Public Resources Advisory Group; Department of Legislative Services

Coupon Rates and the Par Value of the Sale Also Matter

While market interest rates are a key factor in determining the size of bond proceeds and bond sale premiums, the size of the sale and the coupon rate offered to investors also influences the amount

of proceeds and premiums realized. The 5.00% coupon rate is the highest rate that the State has realized in more than 20 years. Coupon rates around 4.50% are common, and the August 2019 sale had an average coupon rate of 3.70%. Traditionally, the coupon rate is set by the underwriter to maximize marketability and minimize debt service costs. In the last couple of sales, the State adopted the policy of requiring 5.00% coupons. In this environment, that has been effective at generating large premiums without any clear adverse effects on GO bond marketability or interest costs. However, should interest rates rise and investors lose interest in paying large premiums, this policy could affect marketability and increase debt service costs. This policy is unlikely to be sustainable in a higher interest rate environment.

The par value expected in upcoming bond sales is also high. How much is sold is determined by the cash flow needs of the State capital budget. With respect to the tax-exempt bonds issued by the State, there are federal arbitrage penalties if proceeds from bond sales are not spent within the federal guidelines. If capital project spending is slower than anticipated, the par value of bonds may need to be reduced. This would reduce the amount of bond proceeds and premiums realized.

Exhibit 12 shows that DLS estimates that coupon rates that are 50 basis points (0.50%) lower than what is estimated in Exhibit 11 reduce fiscal 2023 premiums by \$67 million to \$69 million, while reducing the par value by \$50 million reduces premiums by \$22 million to \$26 million. Taken together, the range of coupon rates is between \$254 million and \$278 million.

Exhibit 12
Effect of Lower Par Value and Lower Coupon Rates on Bond Sale Premiums
Fiscal 2022-2023
(\$ in Millions)

	<u>Moody's Analytics</u>	<u>IHS Markit</u>
Effect of Coupon Rates That Are 0.50% Lower Than Estimated	\$66.8	\$68.5
Effect of Reducing Bond Sale Par Value by \$50 Million	22.3	25.5
Total	\$89.1	\$94.0
Range with Lower Par Value and Coupon Rates	\$254.2	\$278.2

Source: Department of Legislative Services

3. Overview of Debt Affordability Ratios

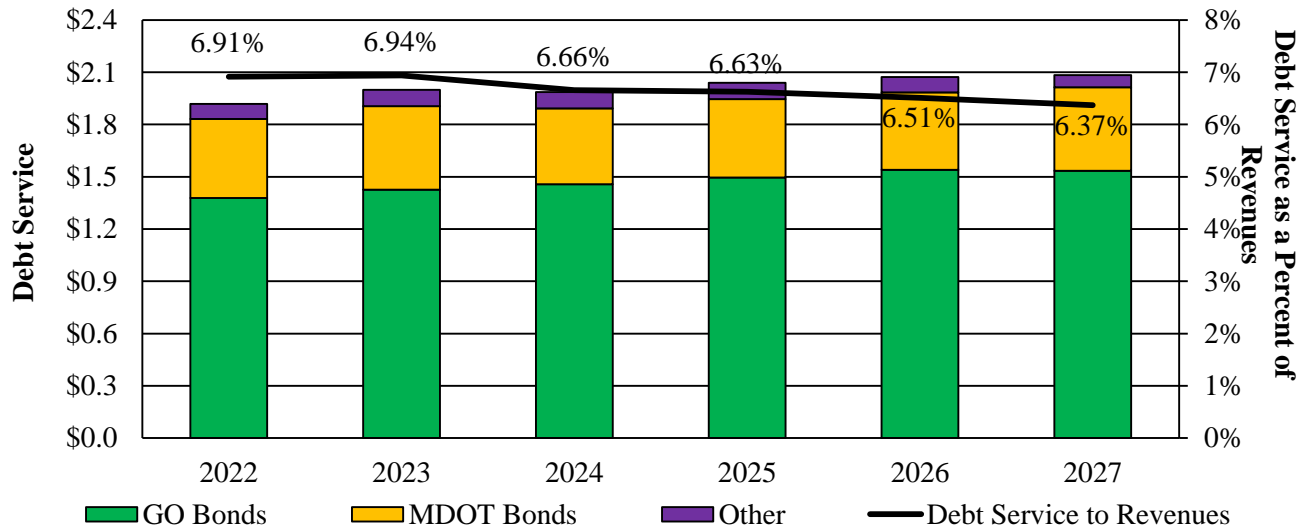
State debt includes GO bonds, Maryland Department of Transportation's transportation bonds, Grant Anticipation Revenue Vehicles capital leases supported by State revenues, Maryland Stadium Authority (MSA) bonds supported by State revenues, and bay restoration bonds. To manage this State

debt, CDAC was created in 1978. The committee sets limits on GO bond issuances. The committee also evaluates the affordability of all State debt. CDAC has two affordability criteria: State debt outstanding cannot exceed 4% of State personal income; and State debt service cannot exceed 8% of State revenues.

State Debt Is Affordable

The ratio that the State is closest to breaching in recent years is debt service to revenues. Maryland nearly exceeded this ratio after the Great Recession. To avoid exceeding the ratio, the State reduced the fiscal 2012 GO bond authorization to \$925 million, which was \$215 million less than the fiscal 2011 GO bond authorization. The State has also limited debt in recent years as SAC has recommended limiting annual increases in GO bond authorizations to 1% since 2015. This level was chosen because it is less than anticipated increases in revenues, which reduces the debt service to revenues ratio. The improved economic outlook has substantially reduced this ratio. **Exhibit 13** shows that State debt service to revenues is expected to peak in fiscal 2023 and decline thereafter.

Exhibit 13
Total State Debt Service and Debt Service as a Percent of Revenues
Fiscal 2022-2027
(\$ in Billions)



GO: general obligation

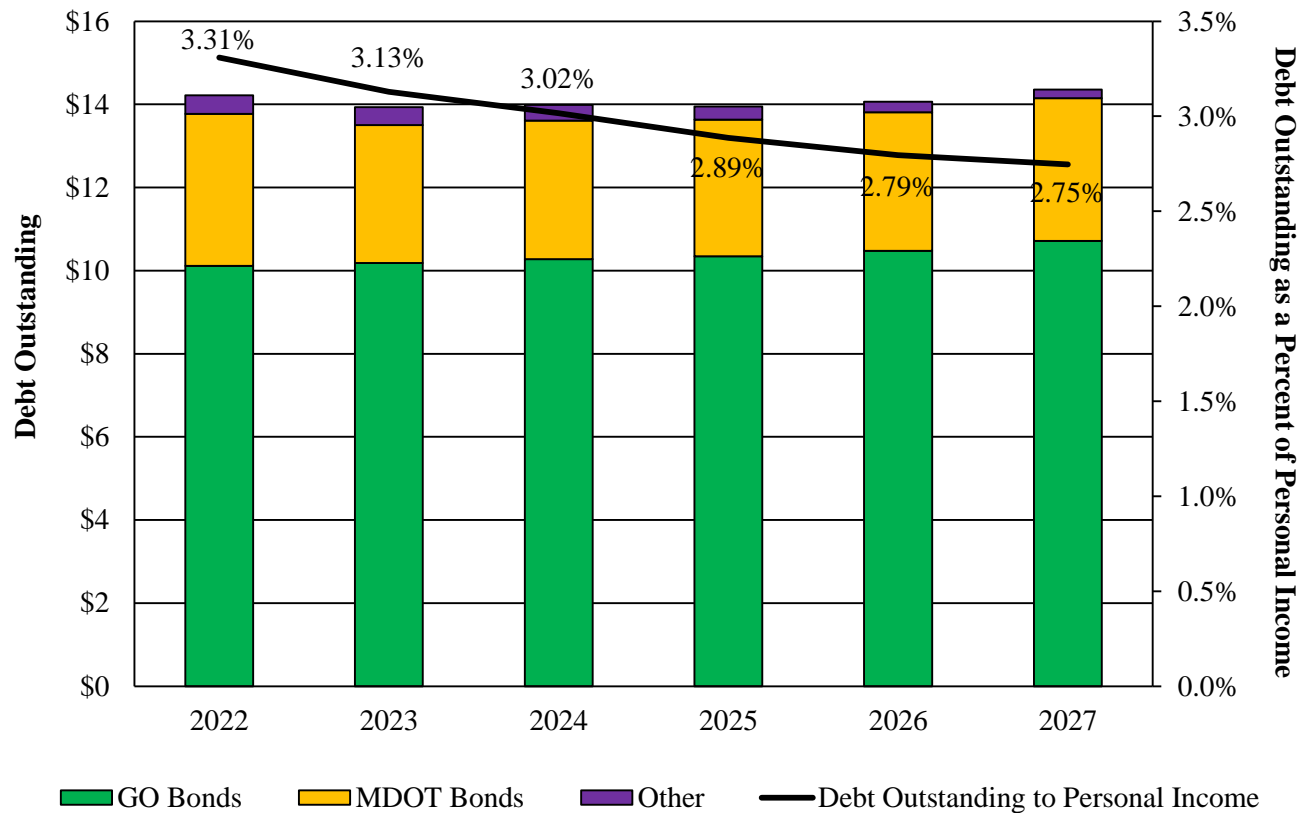
MDOT: Maryland Department of Transportation

Note: Other debt is capital leases, Bay Restoration Bonds, and certain Maryland Stadium Authority issuances.

Source: State Treasurer’s Office; Department of Budget and Management; Bureau of Revenue Estimates; Maryland Department of Transportation; Maryland Stadium Authority; Maryland Department of the Environment; Department of Legislative Services

Maryland’s other affordability criterion, debt outstanding not exceed 4% of personal income, is expected to decline steadily through fiscal 2027. **Exhibit 14** shows that State debt outstanding is fairly flat over the six-year forecast period, while personal income is expected to increase.

Exhibit 14
State Debt Outstanding and
Debt Outstanding as a Percent of Personal Income
Fiscal 2022-2027
(\$ in Billions)



GO: general obligation
MDOT: Maryland Department of Transportation

Note: Other debt is capital leases, bay restoration bonds, and certain Maryland Stadium Authority issuances.

Source: State Treasurer’s Office; Department of Budget and Management; Bureau of Revenue Estimates; Maryland Department of Transportation; Maryland Stadium Authority; Maryland Department of the Environment; Department of Legislative Services

4. Maryland Is a High Debt State

Maryland is a high-debt State that uses debt to support non-State capital assets. Large new bond issuances have been authorized in recent years. The demand for new debt may increase as the State considers renewing leases with the Baltimore Orioles and Ravens. The State’s aging infrastructure may also add to the demand for debt.

Maryland’s Large Capital Program Also Supports Local Jurisdictions and Nonprofit Organizations

Maryland authorizes and issues higher levels of debt than most states, including most AAA-rated states. Maryland has used these high levels of debt to expand its capital program beyond only supporting State agency facilities. More than half of Maryland’s capital program supports non-State programs and projects, the largest of which support public education and health.

Each year, Moody’s Investors Service compares State debt levels. Two of the measures estimated by Moody’s are measures that the State uses when evaluating debt: debt outstanding to personal income; and debt service to revenues. Maryland has the first or second highest ratios among the AAA-rated states for these measures.

Exhibit 15 shows that Moody’s ranked Maryland the thirteenth highest State with respect to debt outstanding, which is 3.5% of personal income. This is the second highest level among AAA-rated states. Altogether, there are 19 states above the mean and 31 below the mean. The mean is skewed because there are states with exceptionally high levels of debt outstanding. For example, the state with the highest ratio, Hawaii at 10.1%, has a ratio that is almost three times more than Maryland’s ratio.

Exhibit 15
Ranking AAA-rated States
Net Debt Outstanding as a Percent of Personal Income
Fiscal 2020

<u>Rank</u>	<u>State</u>	<u>Ratio</u>
5	Delaware	6.0%
13	Maryland	3.5%
17	Virginia	2.8%
20	Mean	2.5%
25	Georgia	1.9%
29	Utah	1.7%
30	Florida	1.3%
32	North Carolina	1.2%
39	South Dakota	0.9%
41	Missouri	0.8%
43	Texas	0.7%
44	Tennessee	0.5%
45	Indiana	0.5%
47	Iowa	0.3%

Note: Moody’s estimate of net tax-supported debt outstanding excludes non-State debt supported by revenues other than State taxes. Moody’s includes all lottery bonds, while Maryland excludes some lottery bonds. Consequently, Moody’s estimates are usually higher than Maryland’s estimates.

Source: Moody’s Investors Services

Exhibit 16 shows that Maryland’s debt service to revenues is the highest among AAA-rated states, at 6.8%. Maryland bonds have relatively short maturities since the State constitution limits State debt to 15 years. The average maturity for each issuance is 10 years. This increases debt service costs since principal is retired earlier. Rating agencies consider this advantageous; the State retires debt more quickly and is burdened less by prior issuances. However, this leads to higher debt service payments in the short term, which is reflected in this ratio.

Exhibit 16
Ranking AAA-rated States
Net Debt Service as a Percent of Revenues
Fiscal 2020

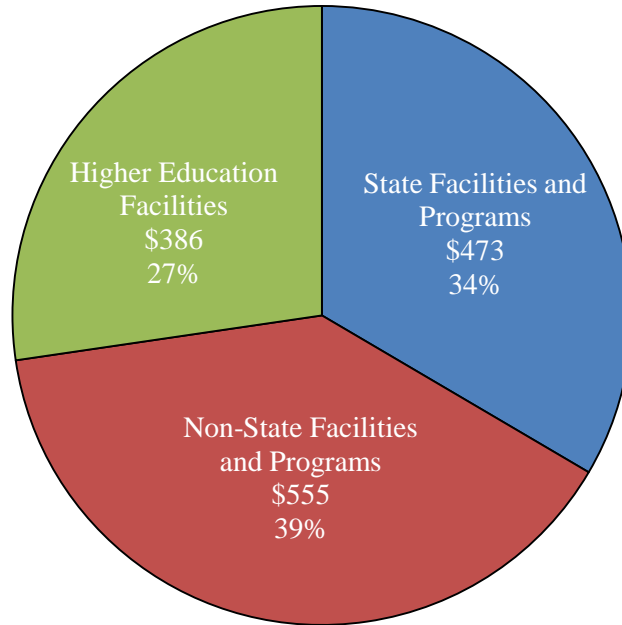
<u>Rank</u>	<u>State</u>	<u>Ratio</u>
8	Maryland	6.8%
11	Delaware	5.6%
15	Georgia	5.4%
19	Virginia	4.5%
20	Utah	4.5%
21	Florida	4.3%
22-23	Mean	4.1%
32	North Carolina	3.0%
33	Missouri	2.7%
34	Texas	2.6%
47	Iowa	0.7%
40	South Dakota	1.7%
44	Tennessee	1.1%
45	Indiana	1.0%

Note: Moody's estimate of net tax-supported debt outstanding excludes non-State debt supported by revenues other than State taxes. Moody's includes all lottery bonds, while Maryland excludes some lottery bonds. Consequently, Moody's estimates are usually higher than Maryland's estimates.

Source: Moody's Investors Services

Maryland's bond program supports various State and non-State projects and programs. **Exhibit 17** shows that 39% of proposed fiscal 2023 GO bond authorizations support non-State projects and programs.

Exhibit 17
Uses of General Obligation Bond Proceeds
Fiscal 2023
(\$ in Millions)



Note: The capital budget bill authorizes funding for \$1,414 million in projects, which includes \$1,165 million in par value bonds, \$210 million in bond sale premiums, and deauthorizes \$39 million.

Source: Department of Budget and Management; Department of Legislative Services

The State Has Authorized a Substantial Amount of Revenue Bonds to Supplement Capital Needs Not Funded with General Obligation Bonds

In addition to the GO bond program, the State authorizes revenue bonds to support various non-State assets. Since 2013, the General Assembly has authorized over \$3.8 billion to support school construction, horse racing and community development, sports and multi-use facilities, and convention centers. **Exhibit 18** shows that the State authorized \$3.7 billion in revenue bonds for non-State debt. This non-State debt is supported by revenues from the lottery, the Education Trust Fund, and MSA.

Exhibit 18
Revenue Bond Authorizations
Calendar 2013-2021
(\$ in Millions)

<u>Project</u>	<u>Revenues Supporting Debt</u>	<u>Authorized</u>	<u>Outstanding as of June 30, 2021</u>	<u>Debt Service Fiscal 2021</u>
State Debt				
Baseball and Football Stadiums	Lottery and MSA	\$235,000	\$78,901	\$12,268
Hagerstown Multi-Use Sports and Events Facility	General Fund	59,500	0	0
Montgomery County Conference Center	General Fund	23,185	4,240	1,556
Baltimore City Convention Center ¹	General Fund	55,000	0	0
Ocean City Convention Center ²	General Fund	24,500	20,915	918
Hippodrome Performing Arts Center	General Fund and Ticket Surcharge	20,250	1,545	1,579
Camden Station ¹	Lottery and MSA	n/a	2,870	757
Subtotal		\$417,435	\$108,471	\$17,079
Non-State Debt				
Baseball and Football Stadiums ¹	Lottery and MSA	n/a	\$7,095	\$2,081
Baltimore City Public Schools ³	Lottery, Baltimore City, State grants to Baltimore City	\$1,100,000	978,525	59,998
Built to Learn ⁴	ETF	2,200,000	0	0
Horse Racing Facilities	Lottery	375,000	0	0
Supplemental Facilities Fund	MSA	25,000	0	0
Subtotal		\$3,700,000	\$985,620	\$62,080
Total		\$4,117,435	\$1,094,091	\$79,158

ETF: Education Trust Fund

MSA: Maryland Stadium Authority

¹ Ocean City Convention Center debt service costs are shared between the State, which pays 60%, and Ocean City, which pays 40%. The city's debt service costs are not included in the debt service.

² Baltimore City Convention Center debt service costs are shared between the State, which pays two-thirds, and Baltimore City, which pays one-third. The city's debt service costs are not included in the debt service.

³ Baltimore City School Construction is supported annually by \$20 million in State lottery revenues and \$40 million from Baltimore City resources.

⁴ Built to Learn Act provides \$125 million of debt service annually beginning in fiscal 2024 and includes an option whereby Prince George's County could enter into a public-private partnership (P3) for its school construction. In which case, the amount for debt service is reduced to \$100 million, and \$25 million supports Prince George's County's P3.

Source: Maryland Stadium Authority; Department of Legislative Services

X00A00 – Public Debt

Prior to 2010, MSA bonds supported by lottery revenues were classified as State debt. Bond Counsel advised in 2010 that this debt can be structured so that it is not State debt if the Comptroller’s Office deposits the lottery funds with a trustee for the bondholders. Subsequent bond sales were structured as non-State sales. However, the interpretation that this is not State debt is not universally accepted. For example, Moody’s considers bonds supported by lottery revenues to be State debt. Often, lottery revenues support activities that are commonly supported by the General Fund, and states offer lotteries so that general fund revenues can be kept lower. In Maryland, lottery revenues are deposited into the General Fund. Lottery revenues can look a lot like general fund revenues, so it is common for bonds supported by lottery revenues to be included in State debt.

Potential Demand for Additional Debt Authorizations

While the State has committed a substantial amount of revenue to support capital spending, there are other potential needs that the State may fund in the upcoming years. Baltimore has two major sports franchises whose long-term leases are expiring, and State infrastructure is aging and in need of maintenance and renovation.

Increasing Debt Capacity at the Sports Facilities at Camden Yards

The Orioles lease for Camden Yards ended in 2021, and the Orioles signed a two-year extension taking the lease through 2023. The Ravens lease for M&T Bank Stadium ends after the 2027-2028 season in February 2028. MSA advises that the authority intends to introduce departmental legislation to increase MSA’s bonding capacity for Camden Yards.

MSA will be negotiating with the teams to extend these leases. By law, a negotiated lease, renewal, or extension of a lease cannot terminate prior to the maturity date or payoff of any bonds issued for the stadium. MSA expects that the teams will not renew leases without improvements to the stadiums. To fund these improvements, the legislation increases the bonding authority for the Camden Yards stadiums by \$965 million, for a total limit of \$1.2 billion. Debt for each stadium is limited to \$600 million. The revenues supporting debt service continues to be State lottery revenues. The legislation also increases the maximum annual debt service payment for both stadiums from \$20 million to \$90 million.

Creation of the Sports Entertainment Facilities Financing Fund

MSA also plans to introduce legislation that would add sports entertainment facilities to the list of facilities for which MSA can issue debt. A sports entertainment facility is a structure or other improvements in the State at which minor league games or other sporting events are held. The stadiums at Camden Yards are excluded from the definition of sports entertainment facility.

The Sports Entertainment Facilities Financing Fund is created. The fund pays expenses incurred that are related to a sports entertainment facility. This includes construction and debt service costs as well as any necessary reserves under a trust agreement, reasonable costs related to borrowing, and reasonable costs related to MSA’s administration of the fund. The fund’s total debt outstanding is limited to \$200 million. The legislation requires that, beginning in fiscal 2023, \$25 million in lottery

funds be deposited into the Sports Entertainment and Facilities Financing Fund in two installments in November and June of each fiscal year.

All bond issuances must be approved by the Board of Public Works (BPW). Prior to any issuance, MSA must have a written agreement with the county in which a proposed facility is located. The county must agree to either own or contract to market, promote, and operate the proposed facility. MSA must also describe, and BPW must approve, the source of funding for debt service and the order in which funds will be spent.

Moody’s Depreciation Ratio: Another Indicator of Maryland’s Aging Capital Assets

Moody’s has estimated how depreciated each states’ capital assets are. The value of states’ capital assets, which include buildings, roads, and other infrastructure, is compared to those assets’ accumulated depreciation. A higher ratio suggests higher depreciation. Moody’s notes that states with higher capital asset depreciation ratios may have increased demand for investments in capital assets. A high ratio means that there are excessive levels of unfunded maintenance. This is a liability, like underfunded pension costs, that the State will need to address at some point.

Exhibit 19 shows that Maryland’s capital assets are among the most depreciated. Maryland is second among AAA-rated states and ninth when compared to all states. The State capital budget that was introduced by the Administration is addressing this need by providing \$150 million for facility renewal at State parks and facilities maintained by the Department of General Services and \$136 million for facility renewal at higher education facilities. This is less than was recommended by SAC, which recommended a total of \$500 million for facility renewal.

Exhibit 19
AAA-rated States Capital Asset Depreciation Ratios
Fiscal 2019

<u>Rank</u>	<u>State</u>	<u>Ratio</u>
1	Indiana	66.1%
9	Maryland	57.3%
15	Georgia	52.9%
21	Iowa ¹	50.9%
22	Missouri	50.7%
28	Florida	49.2%
39	Delaware	45.5%
40	Utah	44.8%
41	Tennessee	44.0%
44	South Dakota	41.4%
47	Virginia	39.9%
49	Texas	34.8%
50	North Carolina	33.9%

¹ Fiscal 2020 data was not available as of publication, so fiscal 2019 data is shown.

Source: Moody's Investors Services

Operating Budget Recommended Actions

1. Concur with Governor’s allowance.

Appendix 1 Economics of Bond Sale Premiums

When bonds are sold, they have a par value (principal) and a coupon rate (interest rate paid to the bondholder based on par value). When the bonds are bid, STO determines how many bonds are sold (par value of the bonds) and when the bonds mature. The underwriter determines the coupon rate (interest rate the issuer pays) and the sale price of the bonds, which is awarded to the underwriter with the lowest interest cost. If the coupon rate is greater than the market rate, the bonds sell at a premium, and the State's bond proceeds exceed the par value of the bonds.

For example, at the bond sale in July 2015, the State issued \$450 million in tax-exempt GO bonds (par value). The average coupon rate was 3.92%, and the TIC (market interest rate) was 2.83%. Since the coupon rate exceeded the market interest rate, the bonds sold at premium, and total bond proceeds totaled \$494 million (after deducting the underwriters discount and cost of issuance expenses). This additional \$44 million is the bond premium.

Why Do Bonds Sell at a Premium?

Economic theory tells us that in a world without uncertainty, there will be no difference in value between bonds selling at a high coupon rate or bonds selling at a low coupon rate. If bonds sell at a high coupon rate, the seller receives a large premium that offsets the high interest cost.

However, we do live in an uncertain world. Investors may see advantages in purchasing bonds at a premium. For investors of Maryland bonds, the primary risk is that the bonds will lose value if interest rates rise. Since Maryland bonds offer a fixed interest rate, the value of Maryland bonds decline if interest rates rise.

How investors value bonds are relative and depends on what interest rates the market offers. If low-risk rates such as U.S. government bonds are low, the State will be able to issue bonds at a lower rate than if these interest rates are high. In other words, a 2% interest rate can be a good deal if everyone else is offering less than 2%, but it is not such a good deal if everyone else is offering 3% or more.

In the current environment, interest rates are more likely to increase than decrease. Current interest rates are historically low. According to data from the Federal Reserve Board, the yield on 10-year treasury notes on Friday, August 3, 2018 (the time of the most recent bond sale), was among the lowest since 1962. In fact, only 400 out of 2,952 weeks had lower interest costs; 86% of the time, interest rates were higher than at the time of the last bond sale. 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.

The table examines a tranche of \$36,125,000 in bonds sold with an eight-year maturity in the July 2015 bond sale. The top half of the exhibit compares the return if an investor buys bonds at par and at a premium. It shows that paying \$6,080 and getting a 5.0% interest rate yields the same return as paying \$5,000 and getting a 2.06% interest rate, since the TIC for both is 2.06%. The bottom half

shows what happens if market interest rates increase. In both examples, the bonds are worth less. The difference is that bonds sold at a premium lost 17.8% of their value, while bonds selling at par lost 19.2% of their value. For investors that are intent on preserving wealth or cash, this matters.

Effect of Higher Interest Rates on the Value of Bonds

Data from Bond Sale from July 2015 Bond Sale

	<u>Premium Bonds</u>	<u>Sold at Par</u>	<u>Explanation</u>
Par Value of Bonds	\$5,000	\$5,000	This is the principal you get back.
Coupon Rate	5.00%	2.06%	This is the interest rate on the bond's par value.
Premium	\$1,080	\$0	This is what you pay extra for the higher rate.
Value at Sale	\$6,080	\$5,000	This is what you pay.
Yield or TIC	2.06%	2.06%	This is what matters, rate of return.

If the Market Interest Rate Increases to 5%

Value at Sale	\$6,080	\$5,000	This is what you paid for the bonds.
Value after Interest Rates Increase	5,000	4,038	This is what your bonds are now worth.
Total Loss	-1,080	-962	This is how much you lose due to rate change.
Percent Loss	-17.8%	-19.2%	This is what matters, value lost.

TIC: true interest cost

Source: Public Financial Management, July 2015; Department of Legislative Services, November 2015

In conclusion, why do bonds sell at a premium? Because buying bonds at a premium is a hedge against increasing interest rates, and it looks like interest rates are going to increase.

**Appendix 2
Fiscal Summary
Public Debt**

<u>Program/Unit</u>	<u>FY 21 Actual</u>	<u>FY 22 Wrk Approp</u>	<u>FY 23 Allowance</u>	<u>Change</u>	<u>FY 22 - FY 23 % Change</u>
01 Redemption and Interest on State Bonds	\$ 1,277,616,197	\$ 1,394,000,000	\$ 1,439,000,000	\$ 45,000,000	3.2%
Total Expenditures	\$ 1,277,616,197	\$ 1,394,000,000	\$ 1,439,000,000	\$ 45,000,000	3.2%
General Fund	\$ 131,000,000	\$ 260,000,000	\$ 430,000,000	\$ 170,000,000	65.4%
Special Fund	1,137,313,705	1,123,000,000	1,000,000,000	-123,000,000	-11.0%
Federal Fund	9,302,492	11,000,000	9,000,000	-2,000,000	-18.2%
Total Appropriations	\$ 1,277,616,197	\$ 1,394,000,000	\$ 1,439,000,000	\$ 45,000,000	3.2%

X00A00 – Public Debt