

EFFECT OF LONG-TERM DEBT ON THE FINANCIAL CONDITION OF THE STATE



DEPARTMENT OF LEGISLATIVE SERVICES 2019

Effect of Long-term Debt on the Financial Condition of the State

**Department of Legislative Services
Office of Policy Analysis
Annapolis, Maryland**

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DEPARTMENT OF LEGISLATIVE SERVICES
OFFICE OF POLICY ANALYSIS
MARYLAND GENERAL ASSEMBLY

Victoria L. Gruber
Executive Director

Ryan Bishop
Director

December 2019

The Honorable Craig J. Zucker
Senate Chairman, Spending Affordability Committee

The Honorable Ben Barnes
House Chairman, Spending Affordability Committee


Dear Chairman Zucker and Chairman Barnes:

The Department of Legislative Services' annual report on the *Effect of Long-term Debt on the Financial Condition of the State* is presented. This report follows the format of previous reports and includes a review of the recommendations of the Capital Debt Affordability Committee, an independent affordability analysis, and independent policy recommendations to the Spending Affordability Committee.

The Capital Debt Affordability Committee complements the efforts of the Spending Affordability Committee in management of the State's bonded indebtedness. The Capital Debt Affordability Committee is required to submit a recommended level of debt authorization to the Governor and the General Assembly by October 20 of each year. The existence of the committee within the Executive Branch means that consideration of debt affordability will occur at the time of formulation of the State's capital program as well as the time of approval of the program by the General Assembly.

The statistical analysis and data used in developing the recommendations were prepared by Patrick Frank with assistance from Andrew Gray, Ian Klein, Matthew Klein, Jason Kramer, Steven McCulloch, and Robert Rehrmann. The manuscript was prepared by Katylee Cannon.

Respectfully submitted,


Victoria L. Gruber
Executive Director


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VLG:RB/kmc

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Chapter 1. Recommendations of the Department of Legislative Services

New General Obligation Bond Authorization

The Capital Debt Affordability Committee (CDAC) recommended a limit of \$1.095 billion for new authorizations of general obligation (GO) bonds for fiscal 2021. This recommendation is \$100 million more than was recommended for fiscal 2020. From fiscal 2016 to 2020, CDAC recommended that GO bond debt authorizations be limited to \$995 million. **The Department of Legislative Services (DLS) concurs with CDAC that limiting GO bond authorizations to \$1,095 million is affordable.**

State Should Consider Policies to Limit Use of Premiums to Pay Debt Service Costs

In recent years, bond premiums have been substantial. In every year since fiscal 2012, premiums have generated over \$100 million in Annuity Bond Fund (ABF) revenues except fiscal 2017 that had only one bond sale, instead of two. Although premiums are expected to diminish, DLS anticipates that bond sales will continue to generate premiums in fiscal 2020.

Although bond sale premiums generate substantial short-term revenues that reduce general fund appropriations into the ABF, there is an even greater out-year cost. Since Maryland issues about \$1 billion in bonds annually, a cautious estimate of 15 years of bond sales adds \$150 million in annual debt service costs.

In addition, these premiums exacerbate budgetary uncertainty. The State often does estimate premiums generated after the legislative session ends. After large premiums are realized, projected general fund appropriations for the following budget year are revised downward substantially.

The Administration and the General Assembly should consider options for reducing the reliance on bond proceeds to support GO bond debt service by resizing GO bond sales that generate large premiums. This involves reducing the par value of the bonds and using premiums to support capital projects. While the State's budgetary situation may make it difficult to eliminate all premiums in the short term, limiting premiums would reduce out-year debt service costs and reduce budget uncertainty. **DLS recommends that the Administration and the General Assembly study the fiscal impact of resizing bond sales.** This issue is discussed in more detail in Chapter 8.

Issuance of Taxable Debt

The State's capital program supports a number of different public policy initiatives, such as health, environmental, public safety, education, housing, and economic development objectives. 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 that the proceeds from tax-exempt bonds can support. 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.

In August 2019, the State sold \$50 million in taxable GO bonds to institutional investors with three- and four-year maturities. The issuance's interest rate paid by the State was 1.59% for the three-year bonds and 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 bonds sold at an interest rate of 0.94%. The difference between the four-year bonds was 0.67% (67 basis points). DLS estimates that the additional 67 basis points increased interest payments by \$1.13 million from fiscal 2020 to 2023. This issue is discussed in more detail in Chapter 8.

The Department of Budget and Management's (DBM) fiscal 2020 *Capital Improvement Plan* anticipates authorizing \$91 million in potential private loans requiring taxable debt in fiscal 2021. **To reduce debt service costs, DLS recommends that the State fund private loan projects and programs that do not qualify for tax-exempt bonds with cash in fiscal 2021. Insofar as the State's general fund balance is larger than expected and revenues have been unexpectedly revised upward, the State's cash position should be sufficient to appropriate general funds instead of authorizing taxable debt.**

Review of Capital Leases

The Governmental Accounting Standards Board (GASB) is an independent, nonpolitical organization dedicated to establishing rules that require state and local governments to report clear, consistent, and transparent financial information. In 2013, GASB initiated a project to reexamine issues associated with lease accounting. The objective of the project was to examine whether operating leases can meet the definitions of assets or liabilities that could result in new standards for capital leases. After much deliberation, GASB approved Statement 87 that redefines lease rules. The requirements of the proposed statement would be effective for reporting periods beginning after December 15, 2019, with earlier application permitted. This affects fiscal 2021.

The new rules require government lessees to recognize a lease liability and an intangible asset representing their right to use the leased asset, with limited exception. Lessees would

amortize the leased asset over the term of the lease and recognize interest expense related to the lease liability. The exposure draft provides exceptions for short-term leases lasting 12 months or less, along with financed purchases.

If CDAC were to adopt the new GASB standards for determining which leases are capital leases, debt service and debt outstanding would increase. But it is unclear to what extent. In response to narrative in the fiscal 2019 *Joint Chairmen's Report* (JCR), DBM, the Department of General Services, and the Maryland Department of Transportation (MDOT) prepared a preliminary estimate of debt service costs and debt outstanding under the new GASB guidelines. This estimate is that fiscal 2018 lease debt would total \$91 million and debt outstanding \$516 million. By contrast, capital lease expenditures reported by CDAC totaled \$27 million in fiscal 2018. If the estimate from the JCR report is correct, this adds approximately 0.25% to the debt service to affordability ratio.

DLS recommends that State agencies develop the systems to provide accurate leasing data under the new guidelines and that CDAC examine the effect of the new GASB guidelines in 2020.

Issuance of Transportation Debt

MDOT issues bonds supported by Transportation Trust Fund revenues. As State tax-supported bonds, these bonds compete with other State capital projects within debt affordability limits. Transportation debt capacity is limited by the constraints on debt outstanding, debt service coverage, the cash flow needs for projects in the capital program, and overall State debt affordability limits. Transportation debt is discussed in Chapter 3. **It is recommended that the General Assembly continue to set an annual limit on the level of State transportation debt to keep debt outstanding within the 4% of personal income debt affordability criterion and debt service within the 8% of revenues affordability criterion.**

Issuance of Bay Restoration Bond Debt

The Bay Restoration Fund was created in 2004 primarily to provide grants for enhanced nutrient removal pollution reduction upgrades at the State's 67 major wastewater treatment plants. In 2012, the General Assembly adopted legislation to increase funding for these projects. Current plans provide sufficient funding for this initiative. DLS projects that a program consistent with current laws and policies can be supported without issuing an additional \$100 million in fiscal 2020. Bay bonds are discussed in more detail in Chapter 3. **It is recommended that the General Assembly continue to limit Bay Restoration Fund revenue bond issuances at a level that maintains debt outstanding within the 4% of personal income debt affordability criterion and debt service within the 8% of revenues affordability criteria.**

Issuance of Higher Education Academic Debt

CDAC recommends limiting new debt authorization of the University System of Maryland (USM) academic revenue bonds (ARB) to \$32 million for the 2020 legislative session. This amount reflects a \$2 million decrease from the \$34 million authorized in the 2019 legislative session but is consistent with previously projected funding levels. USM anticipates that out-year funding will be \$30 million annually. Academic bond issuances are discussed in Chapter 7. **DLS concurs with the committee's assessment that issuing \$32 million in new USM ARBs is affordable.**

Chapter 2. Recommendations of the Capital Debt Affordability Committee

Chapter 43 of 1978 created the Capital Debt Affordability Committee (CDAC). The committee is required to recommend an estimate of State debt to the General Assembly and the Governor. The committee is chaired by the State Treasurer, and the other committee voting members are the Comptroller, the Secretary of Transportation, the Secretary of Budget and Management, and an individual appointed by the Governor. The chairs of the Capital Budget Subcommittee of the Senate Budget and Taxation Committee and the Capital Budget Subcommittee of the House Appropriations Committee serve as nonvoting members. The committee meets each summer to evaluate State debt levels and recommend prudent debt limits to the Governor and the General Assembly. The Governor and the General Assembly are not bound by the committee's recommendations.

When reviewing State debt, CDAC considers general obligation (GO) bonds, including various taxable, tax-exempt, and tax credit bonds authorized under the federal American Recovery and Reinvestment Act of 2009; consolidated transportation bonds; stadium authority bonds; bay restoration bonds; Grant Anticipation Revenue Vehicle revenue bonds; and capital leases supported by State revenues. Bonds supported by non-State revenues, such as the University System of Maryland's auxiliary revenue bonds or the Maryland Transportation Authority's revenue bonds, are examined but are not considered to be State-source debt and are not included in CDAC's debt affordability calculation.

New General Obligation Debt Authorization

GO bonds are backed by the full faith and credit of the State, and they support the State's capital program. For the 2020 session, CDAC recommends a \$1.095 billion limit on new GO debt authorization, which is a \$100 million increase over the \$995 million recommended by the committee in its 2018 recommendation but the same amount recommended by the Spending Affordability Committee (SAC) in its 2018 report and the same level planned in the Governor's *Capital Improvement Program* (CIP). CDAC's long-range plan recommends GO debt authorizations increase 1% annually on a year-over-year basis, which is a departure from the committee's recommendations in each of the three previous years to keep authorizations at \$995 million annually through the five-year planning period. CDAC's 2019 recommendation is consistent with the annual growth in new GO bond authorizations recommended by SAC in its 2018 report and planned in the 2018 CIP.

The recommendation to keep the amount of new GO bond authorizations at the higher level programmed in the 2019 CIP, including an increase in future authorization levels of 1% annually through the planning period, was made by the Secretary of Budget and Management and reflects the Administration's change in policy concerning GO bond authorization levels and the reliance on general funds for debt service. Prior to this change, the Administration supported keeping GO

bond authorizations level at \$995 million annually in order to lower out-year debt service expenditures.

Higher Education Academic Debt

CDAC recommends a new debt authorization of academic revenue bonds in the amount of \$32 million for the 2020 session. This amount reflects a \$2 million decrease from the \$34 million authorized in the 2019 session but is consistent with the amount programmed for the 2020 session in the 2019 CIP.

Chapter 3. State Debt

Maryland has authorized the issuance of the following types of State debt:

- tax-exempt general obligation (GO) bonds backed by the full faith and credit of the State, which include Qualified Zone Academy Bonds (QZAB), Qualified School Construction Bonds (QSCB), Qualified Energy Conservation Bonds (QECCB), and Build America Bonds (BAB);
- taxable GO bonds, which are issued in the place of tax-exempt debt and include private activity bonds;
- capital leases, annual payments subject to appropriation by the General Assembly;
- revenue bonds and notes issued by the Maryland Department of Transportation (MDOT), backed by operating revenues and pledged taxes of the department;
- Grant Anticipation Revenue Vehicles (GARVEE), pledging projected future federal transportation grants to support debt service payments. GARVEEs can be issued by MDOT and the Maryland Transportation Authority (MDTA);
- revenue bonds issued by the Maryland Stadium Authority (MSA), secured by a lease, which is supported by State revenues;
- bay restoration bonds issued by the Maryland Department of the Environment's (MDE) Water Quality Financing Administration, pledging revenues from the Bay Restoration Fund (BRF); and
- revenue or bond anticipation notes, which may be issued by the Treasurer and which must be repaid within 180 days of issuance. Currently, there are no anticipation notes outstanding.

General Obligation Bonds

GO bonds are authorized and issued to pay for the construction, renovation, or equipping of facilities for State, local government, and private-sector entities. Grants and loans are made to local governments and private-sector entities when the State's needs or interests have been identified. Projects funded with GO bonds include, but are not limited to, public and private colleges and universities, public schools and community colleges, prisons and detention centers, and hospitals. Agency GO bond requests for fiscal 2021 through 2025 are shown in **Appendix 1**. This illustrates that even with the higher recommended authorization levels agency requests are still \$500 million more than proposed for the 2020 session and \$3.95 billion over authorization levels proposed for the five-year planning period.

New General Obligation Bond Authorization Levels

The Capital Debt Affordability Committee (CDAC) recommended a limit of \$1.095 billion for new authorizations of GO bonds for the 2020 session. The CDAC long-range plan recommends that GO debt authorizations increase 1% annually on a year-over-year basis, which is consistent with the 2018 Spending Affordability Committee (SAC) recommended levels and the levels currently programmed in the 2019 *Capital Improvement Program* (CIP).

Exhibit 3.1 shows that the CDAC long-term forecast recommends a total of \$5,575 million in new GO bond authorizations for the 2020 through 2024 sessions. This is \$600 million more than what the committee's 2018 recommendation would provide, which kept authorization levels at \$995 million annually through the planning period but is consistent with the 2018 SAC recommendation and the amounts included in the Governor's 2019 CIP. The 1% annual increase in proposed authorization levels provides a moderate growth rate that limits increases in GO bond authorizations to below projected State property tax and general fund revenue increases, which reduces the ratio of debt service to revenues in the out-years. CDAC recommended authorization levels are within the debt affordability benchmarks, which limit State tax-supported debt outstanding to no more than 4% of State personal income and debt service to no more than 8% of revenues.

Exhibit 3.1 Proposed General Obligation Bond Authorizations 2020-2024 Legislative Sessions (\$ in Millions)

<u>Session</u>	<u>Proposed GO Authorizations 2018 CDAC</u>	<u>Proposed GO Authorizations 2018 SAC/2019 CIP</u>	<u>Proposed GO Authorizations 2019 CDAC</u>	<u>Difference from 2018 CDAC</u>
2020	\$995	\$1,095	\$1,095	\$100
2021	995	1,105	1,105	110
2022	995	1,115	1,115	120
2023	995	1,125	1,125	130
2024	995	1,135	1,135	140
Total	\$4,975	\$5,575	\$5,575	\$600

CDAC: Capital Debt Affordability Committee

CIP: *Capital Improvement Program*

GO: general obligation

SAC: Spending Affordability Committee

Source: *Report of the Capital Debt Affordability Committee on Recommended Debt Authorizations*, 2018 and 2019; *Spending Affordability Committee 2018 Interim Report*, December 2018; and Governor's 2019 CIP

General Obligation Bond Issuance Stream and Debt Service Costs

GO bonds authorized in a given year are not all issued the year in which they are authorized. The State Treasurer's Office (STO) reports that just over half of the GO bonds authorized in a year are typically issued within the first two fiscal years. Specifically, CDAC assumes that bonds authorized in a given year will be fully issued over five years (31% in the first year, 25% in the second year, 20% in the third year, 15% in the fourth year, and 9% in the fifth year). This delay in issuance results in a substantial lag between the time that GO bonds are authorized and the time that the bonds affect debt outstanding and debt service levels.

Exhibit 3.2 compares debt service projected with the 2018 CDAC flat \$995 million annual authorization level and current five-year issuance stream projections to the estimates based on the 2019 CDAC recommendation to increase annual authorizations by 1%.

Exhibit 3.2 Projected CDAC and SAC Debt Service Costs Fiscal 2021-2025 (\$ in Millions)

<u>Fiscal Year</u>	<u>2018 CDAC Debt Service Cost Estimate</u>	<u>2019 CDAC Debt Service Cost Estimate</u>	<u>Difference</u>
2021	\$1,342	\$1,342	\$0
2022	1,387	1,389	2
2023	1,421	1,426	5
2024	1,447	1,459	12
2025	1,466	1,487	21

CDAC: Capital Debt Affordability Committee

SAC: Spending Affordability Committee

Source: *Report of the Capital Debt Affordability Committee on Recommended Debt Authorizations*, 2018; Department of Legislative Services

Appendix 2 shows how the proposed authorizations for fiscal 2020 through 2028 would be issued by STO, based on the CDAC recommended annual authorization level and current five-year issuance stream projections.

General Obligation Bond Refunding

GO bonds recently issued by Maryland are callable after 10 years. In recent years, low interest rates provided the State with the opportunity to refund bonds. The bonds were financed by issuing new debt at lower interest rates. The new debt was placed in an escrow account from which debt service payments for the previously issued debt are made. This increases gross GO bond debt outstanding, but net debt remains constant. Refunding reduced debt service costs by over \$316 million since December 2009.

Federal Tax Cuts and Jobs Act Ends Advanced Refunding

STO, with advice from its financial advisor, continually monitors financial markets to determine if refinancing GO debt is advantageous. Should it be determined that market interest rates are sufficient to warrant a refunding, such action would be presented to the Board of Public Works (BPW) for its approval. However, the federal Tax Cuts and Jobs Act of 2017 ended advanced refunding.

The GO bonds that Maryland issues are callable. This means that the State can retire the bonds early. Callable bonds have a call date. This is the earliest date that a bond can be retired. For example, GO bonds from Maryland's most recent bond issuance are callable after 10 years, which is common.

The State can issue refunding bonds at a lower rate than bonds issued previously and then retire the principal that is callable. When doing this, the State replaces higher interest bonds with lower interest bonds.

Until January 1, 2018, federal tax law allowed the State one advanced refunding for every bond sale. Advanced refunding allowed the State to issue tax-exempt refunding bonds before the call date. The advantages were:

- ***Savings Can Be Realized Early:*** If the State has a 10-year call, the State cannot take advantage of lower interest rates until 10 years have passed. With advanced refunding bonds, the State can realize savings sooner. For example, at the last refunding sale in August 2017, the State issued refunding bonds to redeem \$884.5 million in previously issued bonds. The earliest call date for the redeemed bonds was fiscal 2019. Through refunding bonds, the State reduced debt service costs by \$9.1 million in fiscal 2018. Under the new law, the State can no longer realize these savings. Savings from fiscal 2019 to 2022 totaled \$25.4 million, most of which would not be achieved without advanced refunding.
- ***Advanced Refunding Bonds Provide a Hedge Against Increasing Interest Rates:*** In the most recent refunding bond sale, the State realized \$85.7 million in savings between fiscal 2018 and 2027. As previously mentioned, most of the \$34.5 million in savings prior to fiscal 2023 would not have been realized without the ability to issue advanced refunding

bonds. Advanced refunding allows states and municipalities to lock into savings if interest rates are low rather than waiting until the bonds are callable and risk a rise in interest rates.

- ***Issuances Can Be Bundled:*** In the most recent refunding sale, the State refunded bonds with call dates ranging from fiscal 2019 to 2023. Without the ability to combine all these callable tranches into one issuance, each tranche would need to be refunded individually, requiring nine refunding issuances. This adds to the transaction costs, which reduces savings, and requires additional staff work that could increase operating costs. Advanced refunding issuances are much more efficient.

Savings attributable to advanced refunding bonds are substantial. Advanced refundings have reduced debt service costs by over \$316 million since December 2009. The State can still refund and call tax-exempt bonds without advanced refunding bonds. But without the ability to realize savings early, lock into low interest rates, and bundle issuances, the savings attributable to refunding bonds are substantially less, and the process is much less efficient. Since interest rates are expected to rise in the near term, there may be no immediate impact on the rate as there will be little opportunity to generate savings through refunds.

Program Open Space Debt Service Payments

Program Open Space (POS) bonds totaling \$70 million were authorized as the POS Acquisition and Opportunity Loan of 2009 (Chapter 419). The bonds were intended to replace funds lost due to the transfer of up to \$70 million in POS State share unencumbered fund balance to the General Fund per the Budget Reconciliation and Financing Act (BRFA) of 2009 (Chapter 487). The Prior Authorizations of State Debt to Fund Capital Projects – Alterations Act of 2010 (Chapter 372) allows for the debt to be issued through GO bonds. In the end, POS bonds were not issued; the State issued GO bonds in place of POS bonds to reduce costs due to GO bonds' low interest rates.

The full \$70 million in GO bonds was issued as part of two State issuances, February and July 2010, as shown in **Exhibit 3.3**. The first purchases were in August 2010. The Department of Natural Resources (DNR) received \$65 million, and the Maryland Department of Agriculture (MDA) received the remaining \$5 million. Some of the debt was issued as BABs. The bonds include federal direct payment subsidies that were reduced by sequestration. The reduction is less than \$100,000.

Exhibit 3.3
Program Open Space GO Bond Issuances
(\$ in Thousands)

<u>Issue Date</u>	<u>GO Bond Issuance</u>	<u>Principal</u>
February 2010	First Series A, Build America Bonds	\$33,333
July 2010	2010 Second Series A, Tax-exempt (Retail Sale)	11,945
July 2010	2010 Second Series B, Tax-exempt (Competitive Sale)	18,472
July 2010	2010 Second Series C, Taxable Build America Bonds	6,250
Total		\$70,000

GO: general obligation

Source: Department of Budget and Management

Exhibit 3.4 shows that debt service costs are \$6.9 million in 2020. The debt service is deducted from transfer tax revenues allocated to DNR and MDA proportionately based on the share of the issuance each received. The debt is retired in fiscal 2026.

Exhibit 3.4
Program Open Space GO Bonds Debt Service Payment Schedule
Fiscal 2020-2025
(\$ in Millions)

	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
Debt Outstanding	\$33.5	\$27.5	\$21.4	\$15.0	\$8.4	\$1.6
Debt Service	6.9	6.9	6.9	7.0	7.0	7.0

GO: general obligation

Source: Department of Budget and Management

Federal Tax Credit and Direct Payment Bonds

In addition to tax-exempt GO bonds, the State has also taken advantage of federal programs that allow the State to issue bonds whereby the buyers can receive federal tax credits or the State will receive a direct payment to offset interest costs. These bonds are issued in the place of traditional tax-exempt GO bonds. To date, the State has issued QZABs, QSCBs, QECBs, and

BABs, QZABs, QSCBs, and QECCBs have been issued to support education capital projects. BABs support the same projects that tax-exempt bonds support.

To date, the State has issued \$209 million in QZABs, QSCBs, and QECCBs. **Exhibit 3.5** shows that the Department of Legislative Services (DLS) estimates that the lower costs associated with these bonds reduced total debt service payments by \$66 million. However, some of these bonds are affected by federal sequestration reductions, which reduces the savings by almost \$3 million.

Exhibit 3.5
Summary of Special Purpose Issuances

<u>Type</u>	<u>Date Issued</u>	<u>Amount Issued</u>	<u>Debt Service Payments</u>	<u>Payments</u>	<u>Similar GO Payments¹</u>	<u>Savings</u>	<u>Sequestration Reduction</u>	<u>Net Savings</u>
QZAB	Nov-01	\$18,098	\$0	\$12,432 ²	\$27,182	\$14,750	\$0	\$14,750
QZAB	Nov-04	9,043	0	7,356 ²	12,393	5,038	0	5,038
QZAB	Dec-06	4,378	0	3,609 ²	6,132	2,523	0	2,523
QZAB	Dec-07	4,986	0	4,089 ²	6,967	2,877	0	2,877
QZAB	Dec-08	5,563	6,142	6,142	7,606	1,464	0	1,464
QZAB	Dec-09	5,563	6,275	6,275	7,052	778	0	778
QSCB	Dec-09	50,320	0	49,570 ²	63,791	14,221	0	14,221
QSCB	Aug-10	45,175	0	44,497	52,731	8,234	-1,544	6,690
QZAB	Dec-10	4,543	0	4,474	5,302	828	-179	649
QZAB	Aug-11	15,900	15,900	15,900	20,267	4,367	-518	3,849
QECCB	Aug-11	6,500	7,080	7,080	8,285	1,206	-184	1,021
QZAB	Aug-12	15,230	15,230	15,230	18,303	3,073	-334	2,739
QZAB	Dec-13	4,549	4,549	4,549	5,875	1,326	0	1,326
QZAB	Dec-14	4,625	4,625	4,625	5,971	1,346	0	1,346
QZAB	Dec-15	4,625	4,625	4,625	5,971	1,346	0	1,346
QZAB	Dec-16	4,680	4,680	4,680	5,926	1,246	0	1,246
QZAB	Dec-17	4,823	4,823	4,823	5,922	1,099	0	1,099
Total		\$208,601	\$73,928	\$199,954	\$265,677	\$65,723	-\$2,760	\$62,963

GO: general obligation

QECCB: Qualified Energy Conservation Bond

QSCB: Qualified School Construction Bond

QZAB: Qualified Zone Academy Bond

¹ Similar GO payments vary over time because interest rates vary. The analysis uses the GO true interest cost at the time that the debt is issued.

² Sinking Fund payment.

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

Source: Comptroller of Maryland; State Treasurer's Office; Department of Legislative Services

Effect of Sequestration on Direct Payment Bonds

The federal Budget Control Act (BCA) of 2011 imposed caps on federal discretionary spending from federal fiscal 2012 to 2021. The Act also created a Joint Select Committee on Deficit Reduction to further reduce the federal deficit by at least \$1.2 trillion over 10 years. The BCA of 2011 established a backup process to achieve the reduction with automatic spending cuts, or “sequestration.” The committee did not reach any agreement on reductions, and mandatory reductions took effect January 2013. Sequestration cuts are spread equally over 9 years and divided equally between defense and non-defense spending, with some programs exempt from sequestration, such as Medicaid and Social Security. Legislation provided some relief to BCA caps in every fiscal year since federal fiscal 2013 (American Taxpayer Relief Act of 2012). In addition to providing short-term relief, prior legislation has also extended the period of sequestration. The most recent legislation, the Bipartisan Budget Act of 2019, increased spending caps and extended mandatory sequester spending to federal fiscal 2029.

Direct pay bonds are affected by mandatory reductions required through sequestration. STO advises that this reduces federal fund reimbursements for these bonds. Initially, in fiscal 2013, reimbursements were reduced by approximately \$51,000. **Exhibit 3.6** shows that in fiscal 2019, federal fund reductions peak at \$0.8 million, resulting in an \$11.6 million federal subsidy. Because exact reductions are influenced by the mismatch between federal and State fiscal years, the date bond payments are due, and the timing of the request for federal reimbursements, the amount that federal funds are reduced can vary from initial estimates.

Exhibit 3.6 Effect of Sequestration on Federal Fund Revenues Fiscal 2019-2021 (\$ in Thousands)

<u>Fiscal Year</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>Total</u>
July 2009 Build America Bonds	\$796	\$796	\$796	\$2,389
October 2009 Build America Bonds	942	942	942	2,825
February 2010 Build America Bonds	6,036	5,302	4,528	15,865
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
December 2010 Qualified Zone Academy Bonds	228	228	228	684
August 2011 Qualified Zone Academy Bonds	660	660	660	1,980
August 2011 Qualified Energy Conservation Bonds	234	234	234	703
August 2012 Qualified Zone Academy Bonds	426	426	426	1,279
<i>Less Sequestration</i>	-768	-687	-620	-2,075
Total	\$11,613	\$10,960	\$10,253	\$32,826

Source: State Treasurer’s Office; Department of Legislative Services; Internal Revenue Service; Congressional Budget Office

Qualified Zone Academy Bonds

QZABs were created under the federal Tax Reform Act of 1997 as a new type of debt instrument to finance specific education projects. In Maryland, the proceeds support the Aging Schools Program. QZABs are issued with the full faith and credit of the State. Consequently, QZABs are considered State debt. For purposes of calculating State debt affordability, QZABs are included in the State's GO bond debt outstanding and debt service.

Prior to 2008, the State did not pay interest on QZAB issuances. Instead, bondholders received a federal income tax credit for each year that the bond was held. The State was not required to make payments on the principal until the bonds were redeemed. For example, under its 2001 agreement with Bank of America, the State, through STO, made annual payments into a sinking fund invested into a guaranteed rate of interest. Since the funds were invested in interest-bearing accounts, the repayment of the principal by the State was less than the par value of QZABs, making QZABs less expensive than GO bonds.

In 2008, STO advised that the federal government amended rules regarding arbitrage that precluded the State from investing sinking funds. As a consequence, the State is no longer able to invest the sinking funds payments, interest earnings will no longer be generated, and the State will need to fully appropriate the principal borrowed. Costs also increased because the State cannot issue all QZABs at par but must instead offer a supplemental coupon. The December 2008 sale offered a 1.6% supplemental coupon. As Exhibit 3.5 shows, even with a supplemental coupon, QZABs are still less expensive than GO bonds.

Since 2011, the federal government authorized QZABs with a direct payment to the State. Because interest rates are quite low, the federal payment is sufficient to fully subsidize the interest costs. For example, the State issued \$15.2 million in August 2012. The winning bid was submitted by Morgan Stanley & Co., LLC with a true interest cost that is essentially 0.0% because State debt service costs are reimbursed by the federal government. The net interest cost for the winning bidder was 2.83%.

The federal Tax Cuts and Jobs Act eliminated the QZAB program, so no additional issuances are planned. The last QZAB issuance will mature in fiscal 2028.

Qualified School Construction Bonds

QSCBs were created under the federal American Recovery and Reinvestment Act of 2009 (ARRA) as a new type of debt instrument to finance the construction, rehabilitation, or repair of public school facilities. The bonds are issued with the full faith and credit of the State and are debt. For purposes of calculating State debt affordability, QSCBs are included in the State's GO bond debt outstanding and debt service. These bonds were issued in place of tax-exempt bonds. The net effect of the bonds was to reduce the State debt service payments.

QSCBs are tax credit bonds entitling the holder of the bond to a tax credit for federal income tax purposes in lieu of receiving current interest on the bonds, similar to QZABs.

The tax credit rate on QSCBs is set by the U.S. Treasury to allow for issuance of QSCBs at par and with no interest costs to the issuer. Unlike QZABs, tax credits may be stripped from bonds and sold separately, which could increase the marketability of the bonds.

Under ideal circumstances, the bonds sell at par without any interest payments (referred to as a supplemental coupon). Prior to December 2009, QSCBs were sold with supplemental coupon payments (such as the Baltimore County sale that included a 1.25% coupon) or at a discount (such as the Virginia Public School sale that generated proceeds equal to 91.0% of the bonds' principal).

In December 2009, the State sold \$50.3 million in QSCBs at par without a supplemental coupon. The bonds generate savings by replacing subsequent GO bond issuances that would have supported public school construction. Since there was no supplemental coupon, the State will not pay any interest on these bonds.

The State's second QSCB bond sale was in July 2010 when the State sold \$45.2 million in QSCBs. At the time of the sale, federal direct payments fully subsidized the \$29.4 million in debt service payments. Sequestration has reduced the federal subsidy by approximately \$1.7 million. The State is not authorized to issue any additional QSCBs. This final QSCB matures in fiscal 2026.

Qualified Energy Conservation Bonds

QECBs were created by the Tax Extenders and Alternative Minimum Tax Relief Act of 2008. The ARRA increased the allocation. The bonds are taxable bonds. The State will receive a direct federal subsidy for 70% of the federal tax credit rate. All the bonds mature in 15 years. The definition of qualified energy conservation projects is fairly broad and contains elements relating to energy efficiency capital expenditures in public buildings, renewable energy production, various research and development applications, mass commuting facilities that reduce energy consumption, several types of energy-related demonstration projects, and public energy efficiency education campaigns.

The State issued the full \$6.5 million allocated to the State in July 2011. The proceeds will support the construction of energy conservation projects at a school in St. Mary's County. The winning bid's interest cost was 0.62%. This low rate is attributable to the federal reimbursement. The winning bidders' net interest cost is 4.22%. Insofar as the federal tax credit rate at the day of the sale was 5.15%, and the State will be reimbursed 70.0% of that rate, the effective federal reimbursement is 86.0%. Annual interest payments are approximately \$273,000. The federal subsidy is \$234,000, requiring a net interest payment that is just over \$39,000 from the State. Sequestration reduces the annual federal subsidy by approximately \$13,000, resulting in a \$52,000 payment by the State. This issuance is retired in fiscal 2027.

Build America Bonds

The ARRA authorized the State to sell BABs. The bonds support the types of projects that traditional tax-exempt bonds support and are issued in place of tax-exempt bonds. The buyers of the bonds do not receive any federal tax credit and are subject to federal taxes. Instead, Maryland receives a 35% subsidy from the federal government. Unlike QZABs, QSCBs, and QECBs, these bonds can support any project that is eligible to be funded with tax-exempt bonds.

To minimize debt service payments, the State bid the first BABs issuance as both traditional tax-exempt bonds and BABs with the sale awarded to the lowest bid. Nine underwriters bid for BABs, and there were no bids for the tax-exempt bonds. In subsequent bond sales, the State bid them as BABs only.

The federal program expired on December 31, 2010. In 2009 and 2010, the State issued BABs four times: August 2009; October 2009; February 2010; and July 2010. These issuances totaled \$583 million. BABs are structured similarly to tax-exempt GO bonds. In January 2011, DLS estimated that BABs reduced State GO bond debt service costs by \$39 million over the life of the bonds. Since the estimate was prepared, sequestration has reduced the federal subsidy by \$6 million. Final BAB issuance matures in fiscal 2025.

Transportation Debt

MDOT issues 15-year, tax-supported consolidated transportation bonds. Bond proceeds support highway construction and other transportation capital projects. Revenues from taxes and fees and other funding sources accrue to the Transportation Trust Fund (TTF) to pay debt service, operating budget requirements, and to support the capital program. Debt service on consolidated transportation bonds is payable solely from the TTF.

In addition to issuing consolidated transportation bonds, MDOT also has debt referred to as nontraditional debt. Nontraditional debt currently includes Certificates of Participation and debt sold on MDOT's behalf by the Maryland Economic Development Corporation and MDTA. A portion of the financing for the Purple Line transit project will be provided through a federal Transportation Infrastructure Finance and Innovation Act loan, which will be considered MDOT nontraditional debt. The General Assembly annually adopts budget language that imposes a ceiling on MDOT's nontraditional debt.

Consolidated Transportation Bonds

The issuance of transportation bonds is limited by two criteria: an outstanding debt limit; and a coverage test. Section 3-202(b) of the Transportation Article establishes the maximum aggregate and unpaid principal balance of consolidated transportation bonds that may be outstanding at any one time. During the 2013 session, the maximum outstanding debt limit was increased to \$4.5 billion (from \$2.6 billion) in recognition of the enactment of an increase in motor fuel tax revenue.

Section 3-202(c) of the Transportation Article further requires the General Assembly to establish each year in the State budget the maximum unpaid principal balance in bonds that may be outstanding at the end of the forthcoming year. The fiscal 2020 Budget Bill set the maximum ceiling for June 30, 2020, at \$3,773,000,000. DLS estimates that as of June 30, 2019, debt outstanding will total \$3,692,190,000.

The bond revenue coverage test, which is established in MDOT's bond resolutions, establishes that the department will maintain net revenues and pledged taxes equal to at least twice (2.0) the maximum future debt service, or MDOT will not issue bonds until the 2.0 ratio is met. MDOT has adopted an administrative policy establishing a minimum coverage of 2.5. Based on projected bond sales, DLS estimates that as of June 30, 2020, MDOT will have net income coverage of 2.6 and pledged taxes coverage of 4.5.

As shown in **Exhibit 3.7**, MDOT has issued new (*e.g.*, nonrefunding) consolidated transportation bonds in 19 of the past 25 years.

Exhibit 3.7
Consolidated Transportation Bond Issuance¹
Fiscal 1995-2019
(\$ in Millions)

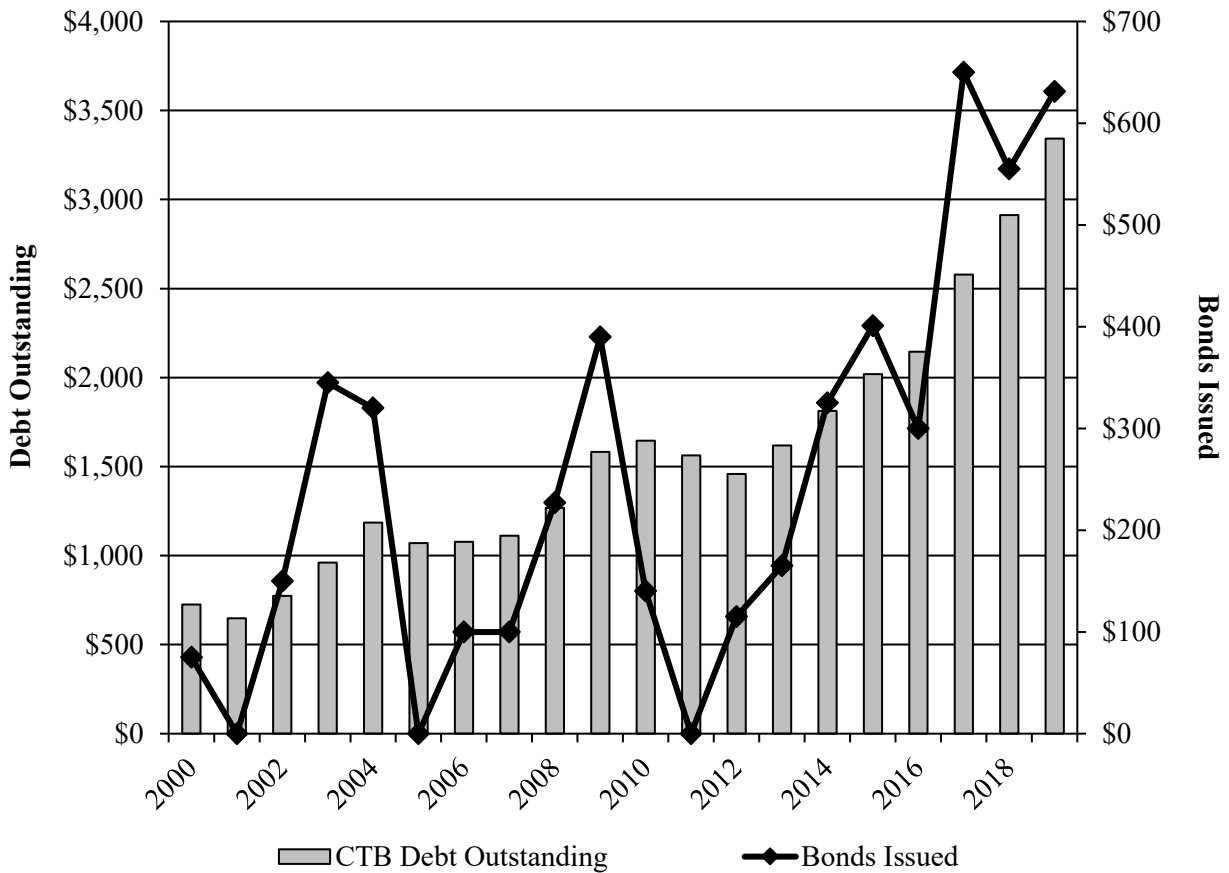
<u>Year</u>	<u>Bonds Issued</u>
1995	\$75
1996	0
1997	50
1998	0
1999	0
2000	75
2001	0
2002	150
2003	345
2004	320
2005	0
2006	100
2007	100
2008	227
2009	390
2010	140
2011	0
2012	115
2013	165
2014	325
2015	401
2016	300
2017	650
2018	555
2019	631
Total	\$5,114

¹ Exclusive of refunding. Seven refunding issuances were made from fiscal 1990 through 2017, including most recently in fiscal 2017, when refunding bonds totaling \$242.5 million were issued and used in conjunction with bond premiums to refund \$253.0 million in previously issued debt.

Source: Maryland Department of Transportation; Department of Legislative Services

Exhibit 3.8 illustrates annual bond sales and changes in debt outstanding from fiscal 2000 to 2019. In fiscal 2019, MDOT’s net debt outstanding was \$3.3 billion, well under the \$4.5 billion debt outstanding debt limit.

Exhibit 3.8
Maryland Department of Transportation
Bonds Issued and Net Debt Outstanding
Fiscal 2000-2019
(\$ in Millions)



CTB: consolidated transportation bonds

Source: Maryland Department of Transportation; Department of Legislative Services

Future Debt Issuance

Every fall, DLS prepares a TTF forecast that projects revenues, expenditures, and the amount of debt that may be issued to support the capital program. DLS estimates that revenues available to MDOT (after deductions to other agencies) will grow 5.5% and 2.0% in fiscal 2020 and 2021, respectively. The fiscal 2020 increase is due primarily to a law change in how transportation aid is provided to local governments (Chapters 330 and 331 of 2018). Beginning in fiscal 2020, transportation aid to local governments will be provided as mandated capital appropriations rather than as a share of transportation revenues. In fiscal 2020, this change increases revenues to MDOT by \$183.3 million. Absent this change, the fiscal 2020 increase would be 0.16%. Total revenues in the DLS six-year forecast are a net \$82 million lower than in the MDOT forecast with lower motor fuel tax estimates partially offset by higher titling tax revenue estimates. Over the six-year forecast period, DLS assumes an average annual increase in revenues of 1.9%. This is the same average annual rate of increase assumed in the MDOT forecast.

The TTF forecast assumes that capital funds are available after operating needs have been met. The DLS TTF forecast uses the DLS baseline estimate for operating expenditures in fiscal 2021, which is \$39 million above what is shown in the MDOT forecast. For fiscal 2022 through 2025, operating expenses are increased by 3.4%, which is the five-year average annual increase in MDOT operating expenses for the period ending with fiscal 2019, the most recently completed fiscal year. Over the six-year forecast, operating expenses are nearly \$403 million higher than assumed in the MDOT forecast.

Finally, the DLS forecast assumes that the MDOT administrative policy of maintaining a minimum debt service coverage ratio of 2.5 is followed throughout the forecast period with the assumed level of bond issuance adjusted as necessary to achieve this goal. The lower revenue estimates and higher operational spending assumptions in the DLS forecast result in the need to reduce bond issuances by \$208 million (13%) between fiscal 2021 and 2025, in order to maintain the net income debt service coverage ratio at the 2.5 minimum level. **Exhibit 3.9** compares the levels of bond issuances contained in the MDOT draft 2020 to 2025 forecast with the DLS forecast estimate.

Exhibit 3.9
Consolidated Transportation Bonds – MDOT vs. DLS Projected Issuances
Fiscal 2020-2025
(\$ in Millions)

<u>Year</u>	<u>MDOT</u>	<u>DLS</u>	<u>Difference</u>
2020	\$555	\$555	\$0
2021	365	318	-47
2022	290	252	-38
2023	305	265	-40
2024	435	378	-57
2025	205	178	-27
Total	\$2,155	\$1,947	-\$208

DLS: Department of Legislative Services

MDOT: Maryland Department of Transportation

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

Source: Maryland Department of Transportation; Department of Legislative Services

Debt Outstanding

Exhibit 3.10 shows the amount of estimated debt outstanding in the DLS forecast from fiscal 2020 to 2025. Over this period, debt outstanding fluctuates from a high of nearly \$3.8 billion in fiscal 2021 to a low of nearly \$3.6 billion in fiscal 2025. Debt outstanding in fiscal 2025 is projected to be \$121 million lower than in fiscal 2020 reflecting the reduced level of issuances projected in the forecast compared to recent years.

Exhibit 3.10
Consolidated Transportation Bonds – CTB Projected Debt Outstanding
Fiscal 2020-2025
(\$ in Millions)

<u>Year</u>	<u>Amount</u>
2020	\$3,692
2021	3,755
2022	3,710
2023	3,638
2024	3,711
2025	3,571

CTB: consolidated transportation bonds

Source: Department of Legislative Services

Debt Service

Exhibit 3.11 shows that debt service costs are projected to increase from \$354 million in fiscal 2020 to \$494 million in fiscal 2023 and decrease slightly to \$469 million in fiscal 2025. The growth reflects the high level of debt issuances in recent years with the lower debt service levels in the final two years of the forecast reflecting the reduced level of issuances in the current forecast.

Exhibit 3.11
Projected Transportation Debt Service
Fiscal 2020-2025
(\$ in Millions)

<u>Year</u>	<u>Projected Debt Service</u>
2020	\$354
2021	412
2022	455
2023	494
2024	457
2025	469
Total	\$2,641

Source: Department of Legislative Services

Conclusions and Recommendations on Transportation Debt

MDOT competes with other State capital projects within debt affordability limits. Transportation debt capacity is limited by the constraints on debt outstanding, debt service coverage, the cash flow needs for projects in the capital program, and overall State debt affordability limits. The relatively high level of consolidated transportation bonds issuances in recent years has reduced debt service coverage to near minimum acceptable levels for the entire forecast period and has resulted in lower projected issuances in the forecast compared to recent years. **It is recommended that the General Assembly continue to set an annual limit on the level of State transportation debt to keep debt outstanding within the 4% of personal income debt affordability criterion and debt service within the 8% of revenues affordability criteria.**

Grant Anticipation Revenue Vehicles

GARVEEs are transportation bonds that are issued by states and public authorities that are backed by future federal aid highway and transit appropriations. While the source of funds used to repay GARVEE issuances originates with the federal government, the federal government's agreement to the use of its funds in this manner does not constitute any obligation on the part of the federal government to make these funds available. If for any reason federal appropriations are not made as anticipated, the obligation to repay GARVEEs falls entirely to the state agency or authority that issued them. To increase the GARVEE bond rating and reduce borrowing costs, the State pledges TTF revenues should federal appropriations be insufficient to pay GARVEE debt service. Since paying the debt is an obligation of the State, and TTF revenues have been pledged, GARVEE bonds are considered State debt.

Chapter 472 of 2005 authorized the use of GARVEE bonds for the Intercounty Connector (ICC) project. The law stipulates that the State may issue no more than \$750 million in GARVEE bonds and that bond maturity may not exceed 12 years after date of issue. MDTA issued \$325 million in GARVEE bonds on May 22, 2007, with a net premium of \$16.9 million to support construction of the ICC. A second GARVEE debt issuance of \$425 million was issued on December 11, 2008, with a net premium of \$17.7 million. On August 9, 2017, the Series 2007 GARVEE bonds were refinanced through the issuance of a Series 2017 GARVEE Refunding Bond. GARVEE debt service payments were \$87.5 million annually from fiscal 2010 to 2017. Refunding savings reduce fiscal 2018 payments to \$86.1 million and fiscal 2019 payments to \$86.2 million. The 2008 issuance was refinanced with a bank loan on March 1, 2019. This reduced fiscal 2020 debt service payments by \$1.4 million for a total of \$49.9 million. This final tranche will mature on March 1, 2020, and no additional issuances are permitted.

Capital Leases Supported by State Revenues

Section 8-104 of the State Finance and Procurement Article requires that capital leases supported by State tax revenues be included in State debt affordability calculations. The law does

allow an exception for energy performance contract (EPC) leases, if the savings generated exceed the costs and they are properly monitored.

Beginning in 1987, the State's capital program began utilizing lease/leaseback financing for capital projects. These leases are used to acquire both real property and equipment. Since fiscal 1994, the State has operated a program involving equipment leases for energy conservation projects at State facilities to improve energy performance.

Sections 8-401 to 8-407 of the State Finance and Procurement Article regulate leases. The law requires that capital leases be approved by BPW and that the Legislative Policy Committee (LPC) has 45 days to review and comment on any capital lease prior to submission to BPW. Chapter 479 of 2008 further regulates capital leases by amending § 12-204 of the State Finance and Procurement Article to require capital leases that execute or renew a lease of land, buildings, or office space must be certified by CDAC to be affordable within the State's debt affordability ratios or must be approved by the General Assembly in the budget of the requesting unit prior to BPW approval.

All three types of leases (equipment, energy performance, and property) have advantages. Often, equipment leases involve data processing equipment or telecommunications equipment. Equipment leases offer the State more flexibility than purchases, since leases can be for less than the entire economic life of the equipment. Equipment leases are especially attractive in an environment where technology is changing very rapidly. Leases may also be written with a cancellation clause that would allow the State to cancel the lease if the equipment were no longer needed. Currently, the Treasurer's lease-purchase program consolidates the State's equipment leases to lower the cost by reducing the interest rate on the lease. The rate that the Treasurer receives for the State's equipment leases financed on a consolidated basis is less than the rates individual agencies would receive if they financed the equipment leases themselves.

For real property, the transaction generally involves an agreement in which the State leases property to a developer who in turn builds or renovates a facility and leases it back to the State. At the end of the lease period, ownership of the facility is transferred to the State. Equipment leases are generally for shorter periods of time, from three to five years. The primary advantages of property leases, when compared to GO bonds, are that they allow the State to act more quickly if an unanticipated opportunity presents itself. Because of the extensive planning and legislative approval process involved in the State's construction program, it often takes years to finance a project. Lease agreements are approved by BPW after they have been reviewed by the budget committees. Since BPW and the budget committees meet throughout the year, leases may be approved much more quickly than GO bonds, which must be approved by the entire General Assembly during a legislative session. Therefore, property leases give the State the flexibility to take advantage of economical projects that are unplanned and unexpected.

For energy performance projects, agencies make lease payments using the savings that result from implementation of the conservation projects. Using the savings realized in utility cost reductions to pay off energy performance project leases allows projects to proceed that otherwise might not be of high enough priority to be funded, given all of the other competing capital needs

statewide. Under the program, utility costs will decrease; as the leases are paid off, the savings from these projects will accrue to the State.

Exhibit 3.12 shows that projected tax-supported capital lease debt outstanding totals \$215 million as of June 30, 2019. Debt outstanding is projected to decrease to \$201 million on June 30, 2020.

Exhibit 3.12
Tax-supported Capital Lease Debt Outstanding
As of June 30, 2019, and Projected June 30, 2020
(\$ in Millions)

<u>State Agency/Facility</u>	<u>Amount Outstanding June 2019</u>	<u>Projected Amount Outstanding June 2020</u>	<u>Difference</u>
State Treasurer's Office			
Capital Equipment Leases	\$11.2	\$8.9	-\$2.3
Energy Performance Projects	11.2	9.0	-2.2
Maryland Department of Transportation			
Headquarters Office Building	7.7	5.2	-2.5
Airport Shuttle Buses	23.5	22.3	-1.2
Department of General Services			
Prince George's County Justice Center	13.3	12.3	-1.0
Maryland Transportation Authority			
Annapolis State Office Parking Garage	16.8	15.7	-1.1
Maryland Department of Health			
Public Health Laboratory	128.7	120.4	-8.3
<i>Subtotal – Current Leases</i>	<i>\$214.6</i>	<i>\$197.6</i>	<i>-\$16.9</i>
Proposed Leases			
New Capital Equipment Leases	\$0.0	\$3.8	\$3.8
Total	\$214.6	\$201.4	-\$13.2

Notes: Numbers may not sum to total due to rounding. Excludes Maryland Stadium Authority leases, since the authority includes them in their balance sheet and debt service calculations.

Source: State Treasurer's Office

Energy Performance Contracts

Chapter 163 of 2011 changed how the State classifies EPCs. Prior to the enactment of the legislation, § 8-104 of the State Finance and Procurement Article required that all capital leases supported by State tax revenues be included in State debt calculations. In 2010, CDAC reviewed this issue and determined that most of these EPC leases yielded savings that exceeded the lease payments. Consequently, these tend to reduce total State spending. STO also surveyed other states about their practices. It is common practice for other states to exclude capital leases that realize savings in excess of the capital cost.

The legislation that was passed allows CDAC to exclude capital leases if the savings they generate equal or exceed the lease payments. It also requires that EPCs are monitored in accordance with the reporting requirements adopted by CDAC. The Department of General Services (DGS) reviews these EPCs to determine if they do in fact generate savings. STO advises that two university projects, two MSA projects, a Department of Veterans Affairs project, and Maryland Port Administration projects, whose fiscal 2019 debt outstanding totals \$11.2 million, lack surety guarantees. The university projects are not State debt, the MSA projects are included in the MSA debt, and the two other projects are included in the leasing affordability calculation.

Changes to Lease Accounting Rules Are Being Examined

Under previous guidelines, leases that meet at least one of the following criteria are considered to be capital leases:

- the lease transfers ownership of the property to the lessee by the end of the lease term;
- the lease allows the lessee to purchase the property at a bargain price at a fixed point in the term of the lease for a fixed amount;
- the term of the lease is 75% or more of the estimated economic useful life of the property; or
- the present value of the lease payments is 90% or more of the fair value of the property.

Many leases that the State enters into are not considered to be capital leases. Even if the leases represent long-term commitments to make payments, no liabilities are reported. Similarly, no assets are reported on many leases even if the State has long-term rights to receive operating lease payments.

The Governmental Accounting Standards Board (GASB) is an independent, nonpolitical organization dedicated to establishing rules that require state and local governments to report clear, consistent, and transparent financial information. In 2013, GASB initiated a project to reexamine issues associated with lease accounting. The objective of the project was to examine whether operating leases can meet the definitions of assets or liabilities, which could result in new standards

for capital leases. A concern was that the current approach to operating leases undervalues liabilities. For example, there are a number of operating leases that include long-term commitments to make payments, but no liabilities are reported.

After much deliberation, GASB unanimously approved Statement 87 that redefines lease rules. The requirements of the proposed statement would be effective for reporting periods beginning after December 15, 2019, with earlier application permitted. This affects fiscal 2021.

The new rules require government lessees to recognize a lease liability and an intangible asset representing their right to use the leased asset with limited exception. Lessees would amortize the leased asset over the term of the lease and recognize interest expense related to the lease liability. The exposure draft provides exceptions for short-term leases lasting 12 months or less, along with financed purchases.

The new rules would increase the amount of capital leases, but it is unclear to what extent. In response to narrative in the fiscal 2019 *Joint Chairmen's Report (JCR)*, the Department of Budget and Management (DBM), DGS, and MDOT prepared a preliminary estimate of debt service costs and debt outstanding under the new GASB guidelines. This estimate is that fiscal 2018 lease debt would total \$91 million and debt outstanding \$516 million. While this a good first step in estimating lease costs, additional work is required to provide accurate costs under the new GASB rules. For example, State debt measures only include debt supported by State revenues. It is likely that some share of these leases are not supported by State revenues. State agencies should examine leases in detail to more accurately report leases under the GASB guidelines.

At any rate, adopting the new guidelines increases State debt service and debt outstanding. Under the guidelines in effect in fiscal 2018, capital lease expenditures reported by CDAC totaled \$27 million in fiscal 2018. If the estimate from the JCR report is correct, this adds approximately 0.25% to the debt service to affordability ratio. While this does not push the State over the ratio, it does bring the State closer to the limit.

Since changes in lease accounting standards could affect State debt affordability, State agencies have been asked to review how the new rules will affect State-supported capital leases. Presently, State databases do not have sufficient details to accurately determine the effect of the new guidelines. One issue is that the State has entered into hundreds of leases, many of which are 10 years, for which the State does not have systems in place to aggregate amortization tables.

In the 2019 interim, a study group that included STO, the Comptroller's Office, DBM, MDOT, and DLS, examined how the new guidelines would affect debt affordability. The group recognized that the State cannot accurately determine total debt service and debt outstanding under the new guidelines and recommended that the State maintain the current practice and reexamine this subject in 2020.

The new GASB guidelines are effective in fiscal 2021. To state correct opening balance information for the beginning of fiscal 2021, State agencies will need to determine accurate debt

outstanding and debt service data for leases in fiscal 2020. **DLS recommends that State agencies develop the systems to provide accurate leasing data under the new guidelines and that CDAC examine the effect of the new GASB guidelines in 2020.**

Bay Restoration Bonds

The BRF was created in 2004 to provide grants for enhanced nutrient removal (ENR) pollution reduction upgrades at the State's 67 major wastewater treatment plants (WWTP), which are defined as WWTPs with a design capacity of 0.5 million gallons per day or greater. The fund is administered by MDE's Water Quality Financing Administration. The fund is financed by a \$60 per year bay restoration fee on users of wastewater facilities (WWTP Fund) and septic systems and sewage holding tanks (Septic Fund). The fees on WWTP users (and users receiving public drinking water) took effect January 1, 2005, and are being collected through water and sewer bills. The fees on septic system and sewage holding tank owners took effect October 1, 2005, and are being collected by the counties. Fees were increased from \$30 per year to \$60 per year in 2012. The fund has several revenue sources and expends funds for both operating (MDE's operating expenses, operation and maintenance grants, bond expenses, and cost-effective nutrient load reductions) and capital (wastewater facility upgrades, sewer rehabilitation, and stormwater projects) purposes.

CDAC considered whether bay bonds are State debt in 2004. At the time, the committee agreed that the bonds are State debt. The Water Quality Financing Administration's bond counsel reviewed this issue and concurred with this opinion. The bond counsel noted that there is a substantial likelihood that, if challenged in court, the Maryland courts would consider bay bonds to be State debt, since the bonds are supported by an involuntary exaction that serves a general public purpose.

Large Fund Balance

The BRF is currently running a substantial fund balance based on current law and project schedules reported in the 2019 CIP. For instance, there is projected to be a closing fund balance of \$88.6 million in fiscal 2022, which increases to \$98.5 million in fiscal 2025. With the inclusion of the \$100 million fiscal 2022 revenue bond issuance, the projected fiscal 2022 closing balance increases to \$188.1 million and then slowly decreases to \$154.5 million in fiscal 2025. Therefore, based on current law and project schedules reported in the 2019 CIP, it does not appear necessary to issue the \$100 million in revenue bonds in fiscal 2022, and DLS does not forecast that these bonds will be issued under current laws and policies.

Revenue Bond Schedule

Based on the current priority list and estimated capital cost of ENR upgrades, **Exhibit 3.13** shows that there is no need to issue \$100 million of revenue bonds in fiscal 2022. Therefore, MDE retains the authorization of \$590 million in revenue bonds and will have a total of \$330 million of revenue bonds supported by the BRF. While the BRFA of 2017 (Chapter 23) expanded the eligible

uses of the BRF to include Biological Nutrient Removal (BNR)¹ projects and authorized the use of up to \$60 million of tax-supported BRF revenue bonds for this purpose, which increased the overall revenue bond authorization from \$530 million to \$590 million, as noted above, MDE's projected total issuance need is now \$330 million, which when combined with the fee revenues deposited into the fund is projected to be sufficient to cover fund expenses.

Exhibit 3.13
Bay Restoration Wastewater Treatment Fund
Fiscal 2019-2025
(\$ in Millions)

	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
Debt Outstanding	\$253.4	\$232.1	\$209.7	\$186.2	\$161.6	\$140.4	\$118.1
Debt Service	31.7	31.8	31.8	31.8	31.8	27.2	27.2

Source: Maryland Department of the Environment; Department of Legislative Services

Based on the current issuance stream, the debt outstanding peaked at \$301.6 million in fiscal 2016 and then has decreased steadily over the time period shown. Debt service costs increase to \$31.8 million in fiscal 2020. Overall, issuances are limited by the revenues generated by the WWTP share of the funds, overall State debt considerations, and limitations on uses. The current plan is to retire all debt by the end of fiscal 2030, when the fee is reduced to \$30 per year. This would limit the final issuance to an eight-year maturity if bonds are issued in fiscal 2022.

As noted above, MDE does not plan on issuing the full \$590 million authorization in revenue bonds. MDE has reported in the past that the decrease in overall revenue bond issuances from \$590 million to \$330 million and the shift in the timing of issuances is at least partially attributable to the fact that more cash has been used in place of debt as a result of changed assumptions about local government reimbursement schedules. The Septic Fund is operated on a pay-as-you-go basis and does not involve revenue bond proceeds.

Prioritization

As of fiscal 2021, the funding prioritization schedule, in order of priority, is as follows:

- funding an upgrade of a wastewater facility with a design capacity of 0.5 million gallons or more per day from no upgrade all the way to ENR per Chapters 368 and 369;

¹ The BRFA of 2017 (Chapter 23) authorized the use of up to \$60 million of tax-supported revenue bonds and the funds in the BRF to fund BNR projects. Chapters 368 and 369 of 2017 (Bay Restoration Fund – Eligible Uses – Expansion) permanently expanded the allowable uses of the BRF to include BNR projects.

- funding for the most cost-effective ENR upgrades at WWTP with a design capacity of less than 0.5 million gallons per day from no upgrade all the way to ENR per Chapters 368 and 369; and
- as determined by MDE and based on water quality and public health benefits for the following:
 - funding up to 100.0% for ENR upgrades at WWTPs that discharge into the Atlantic Coastal Bays or other waters of the State;
 - funding future upgrades of WWTPs to achieve additional nutrient removal or water quality improvement that is greater than ENR treatment levels;
 - funding up to 87.5% of the cost for combined sewer overflows abatement, rehabilitation of existing sewers, and upgrading conveyance systems, including pumping stations;
 - costs associated with upgrading septic systems and sewage holding tanks;
 - funding up to 50% for grants for local government stormwater control measures for jurisdictions that have implemented a specified system of charges under current authority, and
 - funding up to 100% for stormwater alternative compliance plans.

Outside of the prioritization schedule noted above, the BRF is authorized to purchase cost-effective nitrogen, phosphorus, or sediment load reductions in support of the State's efforts to restore the health of the Chesapeake Bay per Chapters 366 and 367 of 2017.

Unusual Revenue Fluctuations for a Stable Revenue Source

It was noted at the BRF Advisory Committee meeting on October 10, 2019, that the BRF wastewater fee revenue decreased from \$115.3 million in fiscal 2018 to \$107.5 million in fiscal 2019. The reason for the decrease was not readily apparent but may be due to the timing of revenues received as part of the property tax collection process. Therefore, the revenue collection may simply be shifted to fiscal 2020; revenue data for November 2019 is anticipated to shed light on this question.

It is recommended that the General Assembly continue to limit BRF revenue bond issuances at a level that maintains debt outstanding within the 4% of personal income debt affordability criterion and debt service within the 8% of revenues affordability criteria.

Maryland Stadium Authority

Chapter 283 of 1986 created MSA to construct and operate stadium sites for professional baseball and football in the Baltimore area. MSA is authorized to issue taxable and tax-exempt revenue bonds for property acquisition and construction costs related to two stadiums at Baltimore's Camden Yards. The authority may also participate in the development of practice fields, team offices, parking lots, garages, and related properties.

In subsequent years, MSA's role was expanded to include managing and issuing revenue bonds to renovate and expand convention centers in Baltimore and Ocean City, construct a conference center in Montgomery County, renovate the Hippodrome Performing Arts Center, and renovate Camden Station. Most recently, MSA's role has been expanded to issue up to \$1.1 billion in debt for the purpose of constructing and improving public school facilities in Baltimore City. The Baltimore City school debt is not considered a debt of the State. **Exhibit 3.14** lists MSA's current tax-supported authorized debt, debt outstanding, and annual debt service.

Exhibit 3.14
Maryland Stadium Authority
Revenue Debt Authorizations, Debt Outstanding, and Debt Service
(\$ in Millions)

<u>Project</u>	<u>Authorized</u>	<u>Outstanding as of July 1, 2019</u>	<u>Debt Service Fiscal 2020</u>
State Debt			
Baseball and Football Stadiums ¹	\$235.0	\$52.5	\$21.0
Montgomery County Conference Center	23.2	6.7	1.6
Ocean City Convention Center	24.5	0	0.5
Hippodrome Performing Arts Center	20.3	4.5	1.6
Camden Station ¹	n/a	4.1	0.7
Subtotal	\$302.9	\$67.8	\$25.4
Non-State Debt			
Baseball and Football Stadiums ¹	n/a	\$66.0	\$5.8
Baltimore City Public Schools	\$1,100.0	717.1	48.1
Subtotal	\$1,100.0	\$783.1	\$54.0
Total	\$1,402.9	\$850.9	\$79.3

¹ Authorization limit for Camden Complex includes the stadiums and Camden Station. The authorization does not specify between State and non-State debt. Total debt is limited to \$235 million.

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

Source: Maryland Stadium Authority

Camden Yards Sports Complex

Provisions of the Financial Institutions Article limit the amount of bonds that the authority may issue at the Camden Yards Sports Complex and the allocation of outstanding tax-supported debt. The authority may only exceed the limit with approval of BPW and notification to LPC. During the construction of the baseball and football stadiums, MSA remained within the statutory limit of \$235 million in outstanding debt; however, BPW has, on several occasions, reallocated the specific statutory project limits to meet the cash flow needs of the construction efforts. Debt service is supported by lottery revenues.

Non-State Debt Issued for the Camden Yards Sports Complex on Advice of Bond Counsel

Since 2010, MSA has issued Sports Facilities Taxable Lease Revenue Bonds to fund capital improvement projects at the Camden Yards Sports Complex. The most recent issuance was \$55 million in May 2019. The bonds have been secured by lottery revenues and, in the opinion of bond counsel, did not constitute tax-supported debt. An agreement with the Comptroller ensures that lottery proceeds are deposited with a trustee for the benefit of the holders of the bonds.

In 2012, MSA issued approximately \$105 million in fixed-rate lease revenue bonds that were used to refund the 1998 and 1999 variable-rate bonds. This transaction eliminated exposure risks and some annual fees associated with the current variable-rate debt. MSA also issued \$55 million in 2019 to support improvements to the M&T Bank Stadium and Camden warehouse.

Montgomery County Conference Center

In July 2003, MSA issued \$23.2 million in tax-supported bonds to support construction of the Montgomery County Conference Center. Of this amount, \$20.3 million represents the State's contribution to construction costs that totaled \$66.0 million. The remaining bond proceeds funded a capitalized interest account established as part of the financing plan to fund interest-only debt service payments beginning on June 15, 2003, and continuing through June 15, 2004. Debt service payments thereafter and continuing through June 15, 2024, are paid from funds subject to appropriation by the State. Montgomery County contributed \$13.7 million for construction and another \$2.5 million for project-related enhancements. The project opened in 2004. In 2012, MSA submitted an Amended Comprehensive Plan of Financing for the center to refund the existing issuance at a lower rate.

Ocean City Conference Center

In October 2019, MSA issued \$20.9 million in tax-supported bonds to support construction to expand the Ocean City Conference Center. The sale generated \$3.8 million in premiums and proceeds totaled \$24.7 million. To support the first two years of debt service interest payments, \$1.9 million was deposited into a capitalized interest fund. Principal payments begin in the third year, with the final debt service payment in fiscal 2040. The renovation project is also receives \$15 million from the Town of Ocean City and \$500,000 from the Maryland capital budget.

Hippodrome Performing Arts Center

On July 10, 2002, the authority issued \$20.25 million in taxable revenue bonds for the renovation of the Hippodrome Performing Arts Center in Baltimore City. The total cost of the Hippodrome project was \$63 million, excluding capitalized interest expense. Funding for the project was provided by the State, MSA revenue bonds, Baltimore City, Baltimore County, private contributions, the performing arts center's operator, historic tax credits, and interest earnings. The project was completed in February 2004.

The Hippodrome is leased to the State and, subsequently, leased back to MSA. The rent paid under the lease by the State is equivalent to the debt service on the revenue bonds and is derived from the State's General Fund. Debt service payments are subject to appropriation and were averaging \$1.8 million annually for the 20-year term of the bond. The debt service is partially offset by a \$2 per ticket surcharge for events at the Hippodrome that is required by legislation authorizing the project.

Camden Station

Section 13-708.1 of the Financial Institutions Article provides that MSA may develop any portion of Camden Yards to generate incidental revenues for the benefit of the authority subject to approval of BPW and LPC. MSA received LPC approval in January 2003 and BPW approval in December 2003 to renovate Camden Station, a historic four-story building next to the baseball stadium.

In February 2004, MSA issued \$8.7 million in 20-year taxable revenue bonds to renovate Camden Station. Of that amount, \$8 million is to pay for capital construction associated with the development of the project. The remaining bond proceeds were used to pay capitalized interest, costs of issuance, and bond insurance. The capital interest period covered biannual debt service payments through June 15, 2006.

Local Project Assistance and Feasibility Studies

The 1998 capital budget bill (as amended by Chapter 204 of 2003 and Chapter 445 of 2005) authorizes MSA to assist State agencies and local governments in managing construction projects. The budget committees must be notified, and funding must be provided entirely by the agency or local government requesting assistance unless funding is specifically provided in the budget for the project. The 1998 bill also authorizes the authority to conduct feasibility studies. The budget committees must give approval for the studies, and costs must add to no more than \$500,000 annually of MSA's nonbudgeted funds.

Several studies are currently in various stages of completion by the authority. Studies that MSA is currently conducting include master plan improvements to a minor league ballpark in Hagerstown, St. Mary's County Complex, and Wicomico Civic Center.

Feasibility studies represent projects still in the planning stages. Since the projects are in a planning stage and are quite speculative, they are excluded from the affordability analysis and long-term debt projections. However, if any of these projects were to be developed and funded by the State, it would add to the State debt load and reduce the State's debt capacity.

Baltimore City School Revitalization Program

In 2013, the General Assembly adopted HB 860 (Chapter 647) authorizing MSA to issue up to \$1.1 billion in debt for the purpose of constructing and improving public school facilities in Baltimore City. Any debt issued by MSA to finance construction or improvement of Baltimore City public school facilities is not a debt, liability, or pledge of the faith and credit or taxing power of the State. Sources of revenue to pay the debt service and other project costs are:

- all revenues generated by the Baltimore City beverage container tax;
- all of the city proceeds from table games at the video lottery facility located in Baltimore City that are dedicated to school construction and 10% of the participation rent paid by the video lottery facility operator to Baltimore City;
- \$20 million in State education aid due to the Baltimore City Board of School Commissioners;
- \$20 million in annual proceeds from the State lottery;
- proceeds from the sale of State bonds to finance improvements to Baltimore City public school facilities; and
- any other funds or revenues received from or dedicated by any public source to support the initiative.

MSA is responsible for managing all public school construction and improvement projects in Baltimore City that are financed under the Act. However, MSA may not use any of its own funds, whether appropriated or nonbudgeted, to pay for any costs or expenses related to its role as project manager.

In April 2016, MSA issued the first round of debt dedicated to the first phase (Year 1 schools) of the school construction program. The 30-year, tax-exempt revenue bonds totaled \$320.0 million and garnered a premium of \$66.1 million to be used for construction costs for 11 schools. The annual debt service is approximately \$20.8 million.

The second bond issuance supporting Year 2 schools was issued in February 2018. A total of \$426.4 million was issued. The sale generated a \$70 million premium that supports construction. The annual debt service costs total \$48.1 million. MSA anticipates a third sale totaling

\$200 million. After all three issuances, debt service costs are expected to be \$60 million, which is consistent with the amount of revenues supporting these projects.

Chapter 4. Affordability Analysis

The Capital Debt Affordability Committee's (CDAC) mission is to advise the Governor and the General Assembly regarding the maximum amount of debt that can prudently be authorized. To evaluate debt affordability, the committee has adopted these two criteria:

- State debt outstanding should be limited to 4% of Maryland personal income; and
- State debt service should be limited to 8% of revenues supporting the debt service.

These criteria compare debt to economic factors that relate to the wealth of Maryland citizens (personal income) and the resources of the State (revenues). Maintaining debt levels within the guidelines set by the committee allows the State to maintain its AAA bond rating and support a growing capital program that is sustainable.

The criteria are flexible enough to allow the State to adjust the program as the State's fiscal condition changes. The flexibility allowed the State to prudently increase the capital program when operating funds became scarce during the recession earlier this decade. The criteria also offer the State a predictable, stable, and transparent process.

This section examines the economic factors that measure debt affordability and evaluates the Spending Affordability Committee recommendation to determine affordability.

Personal Income

Exhibit 4.1 shows the Board of Revenue Estimates September 2019 personal income estimates. The average annual growth rate of personal income is 3.7% over the five-year period.

Exhibit 4.1
Maryland Personal Income
Calendar 2020-2025
(\$ in Billions)

<u>Year</u>	<u>Personal Income Estimate</u>	<u>% Change</u>
2020	\$411	3.64%
2021	426	3.71%
2022	442	3.88%
2023	459	3.83%
2024	476	3.58%
2025	494	3.74%

Source: Board of Revenue Estimates

Revenue Projections

Exhibit 4.2 shows that the Department of Legislative Services (DLS) out-year revenue projections are about the same as the CDAC projections through fiscal 2025. The differences between forecasts are minor. The most significant difference relates to Transportation Trust Fund revenues. DLS prepares a separate forecast, while CDAC uses the Maryland Department of Transportation (MDOT) forecast. Variations in motor fuel and motor vehicle excise taxes revenues account for the differences.

Exhibit 4.2
Comparison of DLS and CDAC Revenue Projections
Fiscal 2020-2025
(\$ in Millions)

<u>Fiscal Year</u>	<u>General Funds</u>	<u>Property Tax</u>	<u>Other ABF</u>	<u>ETF Slots</u>	<u>Transfer Taxes</u>	<u>TTF</u>	<u>GARVEE</u>	<u>Stadium</u>	<u>BRF¹</u>	<u>DLS Total</u>	<u>CDAC Estimate</u>	<u>Difference</u>
2020	\$18,695	\$862	\$112	\$551	\$214	\$3,561	\$549	\$28	\$115	\$24,689	\$24,653	\$36
2021	19,058	884	13	542	219	3,661	0	21	116	24,515	24,508	7
2022	19,590	900	12	548	228	3,750	0	9	118	25,155	25,159	-4
2023	20,259	918	11	556	236	3,839	0	9	119	25,946	25,964	-17
2024	20,967	936	9	564	245	3,878	0	9	120	26,729	26,726	2
2025	21,657	955	8	571	255	3,939	0	9	121	27,515	27,511	4

ABF: Annuity Bond Fund

BRF: Bay Restoration Fund

CDAC: Capital Debt Affordability Committee

DLS: Department of Legislative Services

ETF: Education Trust Fund (supported by video lottery terminals)

GARVEE: Grant Anticipation Revenue Vehicle

TTF: Transportation Trust Fund

¹ BRF revenues only include revenues for wastewater treatment and exclude septic revenues.

Source: Capital Debt Affordability Committee; Department of Legislative Services

Affordability Analysis

DLS has prepared a revised estimate of State debt outstanding to personal income and State debt service to revenues. **Exhibit 4.3** shows affordability calculation assumptions for general obligation (GO) bond authorizations. The Maryland Stadium Authority issuances are also consistent with CDAC estimates. As discussed in Chapter 3, bay restoration funds are sufficient to support the currently authorized projects, so no additional issuances are anticipated at this time. There are differences with respect to MDOT bonds since DLS prepared its own forecast. Since MDOT does not have the authority to issue Grant Anticipation Revenue Vehicles, no issuances are planned, and these bonds excluded from the table.

Exhibit 4.3
Projected New Debt Issuances
Fiscal 2020-2025
(\$ in Millions)

<u>Fiscal Year</u>	<u>GO Bond Authorizations</u>	<u>GO Bond Issuances</u>	<u>MDOT Bonds</u>	<u>Capital Leases</u>	<u>Stadium Authority Bonds</u>	<u>Bay Restoration Bonds</u>
2020	\$1,085	\$995	\$555	\$5	\$0	\$0
2021	1,095	1,050	318	8	0	0
2022	1,105	1,065	252	7	0	0
2023	1,115	1,075	265	8	0	0
2024	1,125	1,080	378	8	0	0
2025	1,135	1,130	178	8	0	0

GARVEE: Grant Anticipation Revenue Vehicle

GO: general obligation

MDOT: Maryland Department of Transportation

Source: Capital Debt Affordability Committee; Department of Legislative Services

CDAC policy is that tax-supported State debt outstanding not exceed 4% of personal income. **Exhibit 4.4** shows that for the forecast period, debt outstanding as a percent of personal income peaks at 3.38% in fiscal 2020, as the ratio steadily declines.

Exhibit 4.4
State Tax-supported Debt Outstanding
Components and Relationship to Personal Income
Fiscal 2020-2025
(\$ in Millions)

Fiscal Year	General Obligation Bonds	MDOT Bonds	GARVEE	Capital Leases	Stadium Authority Bonds	Bay Restoration Bonds	Total Tax-supported Debt
2020	\$9,698	\$3,692	\$0	\$197	\$67	\$232	\$13,886
2021	9,841	3,755	0	181	58	210	14,044
2022	9,957	3,710	0	163	49	186	14,066
2023	10,053	3,638	0	147	41	162	14,041
2024	10,135	3,711	0	133	33	140	14,153
2025	10,198	3,571	0	118	25	118	14,030

State Tax Supported Debt Outstanding as a Percent of Personal Income
(Affordability Criteria = 4.0%)

2020	2.36	0.90	0.00	0.05	0.02	0.06	3.38
2021	2.31	0.88	0.00	0.04	0.01	0.05	3.30
2022	2.25	0.84	0.00	0.04	0.01	0.04	3.18
2023	2.19	0.79	0.00	0.03	0.01	0.04	3.06
2024	2.13	0.78	0.00	0.03	0.01	0.03	2.97
2025	2.07	0.72	0.00	0.02	0.01	0.02	2.84

GARVEE: Grant Anticipation Revenue Vehicle
MDOT: Maryland Department of Transportation

Source: Capital Debt Affordability Committee; Department of Legislative Services

With respect to debt service, the policy is that State tax-supported debt service not exceed 8% of tax revenues supporting debt service. **Exhibit 4.5** shows that the debt service as a percent of revenues fluctuates between 7.3% and 7.7%, peaking in fiscal 2023.

Exhibit 4.5
State Tax-supported Debt Service
Components and Relationship to Revenues
Fiscal 2020-2025
(\$ in Millions)

<u>Fiscal Year</u>	<u>General Obligation Bonds</u>	<u>MDOT Bonds</u>	<u>GARVEE</u>	<u>Capital Leases</u>	<u>Stadium Authority Bonds</u>	<u>Bay Restoration Bonds</u>	<u>Total Tax-supported Debt Service</u>
2020	\$1,323	\$354	\$50	\$31	\$25	\$32	\$1,815
2021	1,342	412	0	33	12	32	1,831
2022	1,389	455	0	32	12	32	1,920
2023	1,427	494	0	30	11	32	1,993
2024	1,459	457	0	29	10	27	1,983
2025	1,487	469	0	27	9	27	2,019

State Tax Supported Debt Service as a Percent of Revenues
(Affordability Criteria = 8.0%)

2020	5.36	1.43	0.20	0.13	0.10	0.13	7.35
2021	5.48	1.68	0.00	0.13	0.05	0.13	7.47
2022	5.52	1.81	0.00	0.13	0.05	0.13	7.63
2023	5.50	1.90	0.00	0.12	0.04	0.12	7.68
2024	5.46	1.71	0.00	0.11	0.04	0.10	7.42
2025	5.40	1.70	0.00	0.10	0.03	0.10	7.34

GARVEE: Grant Anticipation Revenue Vehicle
MDOT: Maryland Department of Transportation

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

Source: Capital Debt Affordability Committee; Department of Legislative Services

Exhibit 4.6 shows that debt outstanding ratios estimated by DLS are slightly more favorable than the CDAC estimates. DLS anticipates that MDOT will issue less bonds than CDAC anticipates. DLS personnel income estimates are also higher than CDAC estimates.

Exhibit 4.6
State Debt to Personal Income
Comparison of DLS and CDAC Estimates
Fiscal 2020-2025

<u>Year</u>	<u>DLS</u>	<u>CDAC</u>
2020	3.38%	3.53%
2021	3.30%	3.45%
2022	3.18%	3.37%
2023	3.06%	3.25%
2024	2.97%	3.17%
2025	2.84%	3.04%

CDAC: Capital Debt Affordability Committee
DLS: Department of Legislative Services

Source: Capital Debt Affordability Committee; Department of Legislative Services

Exhibit 4.7 shows the debt service ratios based on the DLS forecast of revenues and those estimated by CDAC from fiscal 2020 to 2025. CDAC's estimates are slightly higher than DLS' estimates after fiscal 2021 with differences primarily attributable to transportation issuances.

Exhibit 4.7
State Debt Service to State Revenues
Comparison of DLS and CDAC Estimates
Fiscal 2020-2025

<u>Year</u>	<u>DLS</u>	<u>CDAC</u>
2020	7.35%	7.37%
2021	7.47%	7.49%
2022	7.63%	7.66%
2023	7.68%	7.77%
2024	7.42%	7.54%
2025	7.34%	7.48%

CDAC: Capital Debt Affordability Committee
DLS: Department of Legislative Services

Source: Capital Debt Affordability Committee; Department of Legislative Services

Affordability Risks

The objective of the debt affordability process is twofold: (1) the process should keep the State's debt at a level that is affordable; and (2) the process should provide reliable estimates for a stable capital program. This report shows that, based on current assumptions about the State's economy, revenue, interest rates, federal laws and accounting definitions, the State debt is prudently being authorized under CDAC's proposed GO bond authorization limits. It also shows that modest increases in authorizations are also prudent. While general fund appropriations are expected to increase, these increases are in line with historical levels of appropriations, as shown in Chapter 5.

However, the report makes a number of assumptions that, if violated, could result in the State exceeding its debt limit. This section examines these assumptions and the risks that the assumptions may be invalid because there are consequences if CDAC overestimates what is affordable. In the past, the State has reacted to potentially breaching the debt limits by limiting or even reducing authorizations. This can be disruptive to the capital budget process. Most recently, the fiscal 2012 capital budget was reduced by \$215 million in response to declining annual revenues during the Great Recession. The planned authorizations were not affordable, so authorizations were reduced.

For this analysis, risk is defined as the likelihood that the ratios will be breached, and the State will need to make reductions in planned capital spending or that substantial increases in general fund costs will be required. Risks are grouped into these two categories: (1) negligible or marginal risks that may affect ratios but should not affect affordability; and (2) risks that could potentially lead to a breach in affordability limits. There are sets of assumptions that are examined in this section:

- increases in interest rates that increase debt service costs;
- reduced personal income that could increase the State debt outstanding to personal income ratio;
- changes in issuances resulting in earlier or increased issuances;
- changes in definitions that could increase State debt service and debt outstanding; and
- reduced revenues that could increase the State debt service to revenue ratio.

Negligible or Marginal Risks to Affordability Over the Forecast Period

There are three sets of assumptions that could increase the affordability ratios but are unlikely to lead to a breach of the criteria: increases in interest rates that increase debt service

costs; reduced personal income that could increase the debt outstanding to personal income ratio; and changes in issuances resulting in earlier or increased issuances.

Interest Rate Risk Over the Forecast Period

Debt service costs are a function of the amount that is borrowed and the interest rate paid. As such, interest rates are a key affordability assumption. The amount borrowed is the par value, and the interest rate that the State pays bondholders is the coupon rate.

Market rates are still well below the coupon rate, so potential increases are unlikely to have any effect on affordability because of the State's cautious budgeting approach. When budgeting, the State assumes a 5% coupon rate, while average coupon rates have commonly been between 4% and 4.5%. Furthermore, market rates were 1.65% in August 2019 at the time of the most recent bond sale. For coupon rates to increase above 5%, substantial increases in interest rates would be required. Even if market rates rise above the coupon rate, there is still capacity in the debt service to revenues ratio.

Changes in Personal Income

One of the affordability criterion is that State debt outstanding cannot exceed 4% of personal income. Currently, the likelihood that the debt outstanding to personal income criterion will be breached is low because the ratio is well below the limit, as Exhibit 4.4 shows. The year with the highest ratio is fiscal 2020, in which debt outstanding is 3.54% of personal income. For this ratio to be breached, the 2020 personal income estimate would need to decline by more than 11.6%. The two sources of changes to personal income are:

- ***Adjustments to Prior and Current Estimates:*** The federal Bureau of Economic Analysis (BEA) provides estimates of personal income that the State Board of Revenue Estimates (BRE) uses. BEA collects and reviews data, and it is not uncommon for BEA to make after-the-fact revisions to estimates; sometimes, these revisions go back five or more years. As recently as 2017, BEA lowered its personal income estimates. While these revisions can be material, they are usually only a few percentage points and not near the 11.6% reduction required for debt to be unaffordable; and
- ***Overestimating Personal Income:*** In the out-years, BRE projects modest but steady increases in personal income. Should personal income decline, the ratio would increase even if no changes are made to State authorizations or issuances. Fortunately, personal income is fairly robust, and declines are uncommon. In the last 15 years, personal income declined only twice, and both declines were less than 1%. Even in 2009, during the deepest recession since World War II, Maryland personal income only declined 0.32%. The reason for this robustness is that personal income is less affected by recessions. BEA defines personal income as “[i]ncome that people get from wages and salaries, Social Security and other government benefits, dividends and interest, business ownership, and other sources.” This does not include capital gains, which are much more volatile. Much of personal

income is transfer payments, like Social Security, that are either unaffected by recession or countercyclical. Although a decline in personal income would reduce the debt outstanding to personal income ratio, it is unlikely that the State would see a decline substantial enough to result in the State breaching the ratio.

Changes in Issuances

Debt service payments and the amount of debt outstanding are influenced by the timing of issuances. The capital budget bill authorizes GO bonds but does not specify when the bonds will be issued and when debt service will be paid. When the bonds are issued is determined by the State Treasurer's Office based on capital projects' cash flow needs. The goal is to issue bonds and spend the proceeds shortly thereafter. There are federal arbitrage regulations that penalize issuers that spend bond proceeds too slowly.

There is often a multi-year delay between authorizations and issuances. Capital projects take years to plan and construct. The authorizations are needed to award multi-year construction contracts that will not need much funding in the current year. The GO bond program also funds grant programs for which the State is billed years after the bonds are authorized. Given the projects' long horizons, it is not uncommon for there to be delays in projects that slow spending so that the full amount of spending is not required in the year that the bonds are authorized.

Since the full authorization is not needed in the fiscal year that is authorized, CDAC has a policy to spread issuance over a five-year period that has been in place for decades. The policy assumes that 31% of authorized bonds are issued in the first year, 25% in the second year, 20% in the third year, 15% in the fourth year, and 9% in the fifth year. If more bonds are issued sooner, then the bonds debt service and debt outstanding will increase more rapidly than projected and estimates understate the cost of debt.

However, the effect of authorizing debt more quickly on the debt service is muted. State debt issuances do not begin to make principal payments until the third year, so the full impact of issuing bonds is not realized until the third year. Consequently, the initial effect is limited.

At this point, it does not appear that understating issuances is a risk that could result in the State breaching debt limits. The State should continuously review issuances so that estimates are accurate.

Changes in Definitions Could Increase the Debt Service Ratio So That It Is Close to the Affordability Criterion

CDAC has definitions for State debt and State revenues. BEA has defined personal income. While the definitions are quite static, they do change. Definitions that are currently evolving are capital leases and public-private partnerships (P3).

Capital Leases

An example of this change is discussed in Chapter 3. The Government Accounting Standards Board (GASB) has approved standards for capital leases. CDAC has adopted GASB's definitions. The GASB process is deliberative, so its standards tend to change slowly with substantial public comment.

As discussed in Chapter 3, GASB has approved Statement 87, which has a new standard that requires that all leases extending beyond the current fiscal year be accounted for as capital leases. This is effective beginning in State fiscal 2020. The new rules would increase the amount of capital leases, but it is unclear to what extent, since the State has not thoroughly reviewed leases. The Department of Budget and Management, the Department of General Services, and MDOT's preliminary estimate of the effect of the new GASB guidelines is that fiscal 2018 debt would total \$91 million and debt outstanding \$516 million. By contrast, capital lease expenditures reported by CDAC totaled \$27 million in fiscal 2018. Adding \$64 million to debt service increases the debt service to revenue ratio by 0.25%, which is currently affordable, but does bring the ratio closer to the limit.

Leases are reviewed in Chapter 3. DLS recommends that State agencies develop the systems to provide accurate leasing data under the new guidelines and that CDAC examine the effect of the new GASB guidelines in 2020.

Public-private Partnerships

A P3 is a contractual agreement between the State and a private-sector entity in which the skills and assets of each sector (public and private) are shared in delivering a service for facility to the public. Each party also shares in the risks and rewards. There is substantial variation in these projects since the kinds of assets, risks, and rewards can vary substantially from project to project. Risks not only include construction costs but also revenue, regulatory, and legal risks.

In 2013, the State adopted legislation that requires CDAC to review the affordability of P3 projects prior to the State entering into a contract with a P3 concessionaire. The legislation requires that CDAC review each project's debt to determine the extent to which proposed debt is State debt. This includes consulting with the State Comptroller's Office's General Accounting Division, bond counsel, and municipal market professionals.

To date, the State entered into two P3 arrangements with State Center in Baltimore City and the Purple Line transit project in Montgomery and Prince George's counties. The State entered into the State Center contract prior to the 2013 legislation and into the Purple Line after the legislation was enacted. For these two projects, CDAC excludes debt issued by concessionaires in the affordability calculation. DLS estimates that the State Center debt service costs range from \$20 million to \$30 million annually. Additional phases are anticipated to more than double these costs. For the Purple Line, debt service costs are projected to exceed \$60 million when the project is operational. Taken together, these P3 projects could require over \$100 million when all phases

are completed. These costs are substantial but are not sufficient to add to the debt service or debt outstanding to the point that the affordability ratios would be breached.

Currently, there is not consensus about what is State debt among the three large rating agencies (Fitch, Moody's, and Standard & Poor's). Fitch and Standard & Poor's have included debt issued by the concessionaire as debt of the government, which Maryland does not consider State debt, when calculating State debt. Moody's does not necessarily include concessionaire debt as public debt.

The State has reviewed P3s and determined that substantial amounts of debt are not State debt. The State's approach is not universally accepted because there are not commonly accepted definitions. In June 2019, GASB proposed new guidance to improve accounting and financial reporting for P3s and availability payment arrangements.

Deep Recession Could Lead to a Breach in the Debt Service to Revenues Ratio

The business cycle affects State revenues. When economic activity slows, the largest revenues sources, personal and corporate income taxes and sales taxes, either slow or decline. CDAC uses revenue estimates from BRE to calculate affordability ratios. These estimates increase as economic activity increases. When the economy goes into recession, actual revenues can decline instead of increase as projected. Consequently, reducing revenues can result in a substantially higher State debt service to revenues ratio even if the State makes no changes in policies. CDAC policy is that State debt service cost cannot exceed 8% of the revenues supporting the debt service costs. If the decline in revenues is deep enough, the ratio could be breached. To avoid exceeding this limit, the State has reduced GO bond authorizations. When the limit was reached in fiscal 2010, reductions were made to the capital budget.

Since fiscal 2010, general fund revenues have been increasing steadily so that the State has been able to increase authorizations and allow for some capacity in excess of authorizations. Although the State is comfortably within its affordability ratios, a deep recession with multiple years of revenue losses could increase the debt service to revenue ratio.

Exhibit 4.8 shows how much fiscal 2020 State revenues supporting debt service can decline over a two-year period and still stay within the 8% affordability ratio. If fiscal 2019 revenue, which totals \$24.7 billion, declines by more than 3% from fiscal 2020 to 2022, the affordability ratio drops below 8%. The two-year period was chosen because the most recent recessions have resulted in two-year declines in revenues. As the exhibit shows, revenues two years into these recessions were 4% and 3% less than peak revenues before the recession.

Exhibit 4.8
Revenues Required to Maintain Debt Service Above 8% of Revenues
(\$ in Millions)

	<u>Current Outlook</u>	<u>2007-2009 Recession</u>	<u>2001 Recession</u>
Base Year: State-supported Debt Total Revenues	\$24,689	\$16,735	\$11,707
Revenues Two Years After Base Year	23,957	16,061	11,353
Total Change in Revenues	-\$732	-\$674	-\$354
Percent Change	-3.0%	-4.0%	-3.0%

Note: Base year for current year is fiscal 2019. Base year for 2007 to 2009 recession is fiscal 2008. Base year for 2001 recession is fiscal 2001.

Source: Department of Legislative Services

This analysis is not meant to imply that a recession will undoubtedly result in a breach of the affordability criterion. There have been recessions without such substantial declines in revenues. Also, revenues are expected to strengthen in the out-years, so the later that the State goes into recession, the more robust the criterion could be. However, it is clear from the analysis that a deep recession could push debt service over 8% of revenues.

Chapter 5. Long-term Cost Forecasts

In the previous chapter, the affordability of bonds was examined utilizing the Capital Debt Affordability Committee's debt affordability criteria. The committee compares debt outstanding to personal income and debt service costs to revenues.

While this debt affordability approach is enlightening, it is not sufficient. This chapter provides an analysis of out-year costs and the effect of these costs on general fund spending. Specific issues examined are:

- the Annuity Bond Fund (ABF), which provides revenues that support general obligation (GO) bond costs;
- general fund spending on debt service since the affordability process began in fiscal 1979; and
- pension costs, which are the State's other large long-term liability that are also examined by rating agencies.

General Fund Appropriations Are Necessary to Support Debt Service

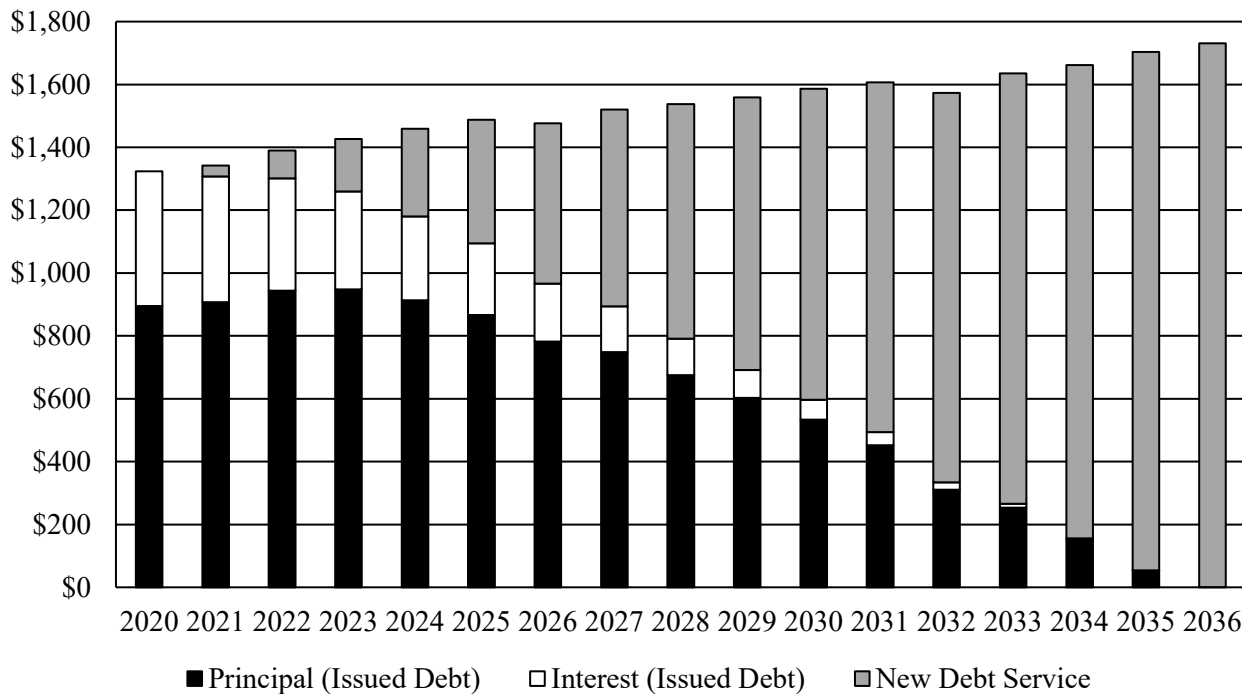
GO bond debt service is primarily supported by State property tax revenues and general funds. The State property tax rate is insufficient to support all debt service costs, so general funds are appropriated to subsidize the shortfall.

Out-year Debt Service Costs Expected to Increase Steadily

The Maryland Constitution limits State debt maturities to 15 years. State policy is to pay interest only in the first 2 years and have level debt service payments from years 3 to 15. Because Maryland bonds have short maturities, debt is retired quickly, and all bonds issued in fiscal 2020 will be retired before fiscal 2036. **Exhibit 5.1** shows the principal and interest costs for bonds sold prior to October 2019, as well as the debt service costs for anticipated bond sales. From fiscal 2020 to 2036, debt service costs increase from \$1.34 billion to \$1.73 billion, an annual increase of 1.7%.

The short maturities mean that interest costs are more modest than if the State issued bonds with longer maturities. Fiscal 2020 interest costs total \$426 million, which is 32% of the \$1,323 million in total debt service. The share of interest costs to debt service payments decreases steadily throughout the forecast period for previously issued bonds.

Exhibit 5.1
General Obligation Bonds' Debt Service Costs
Fiscal 2020-2036
(\$ in Millions)



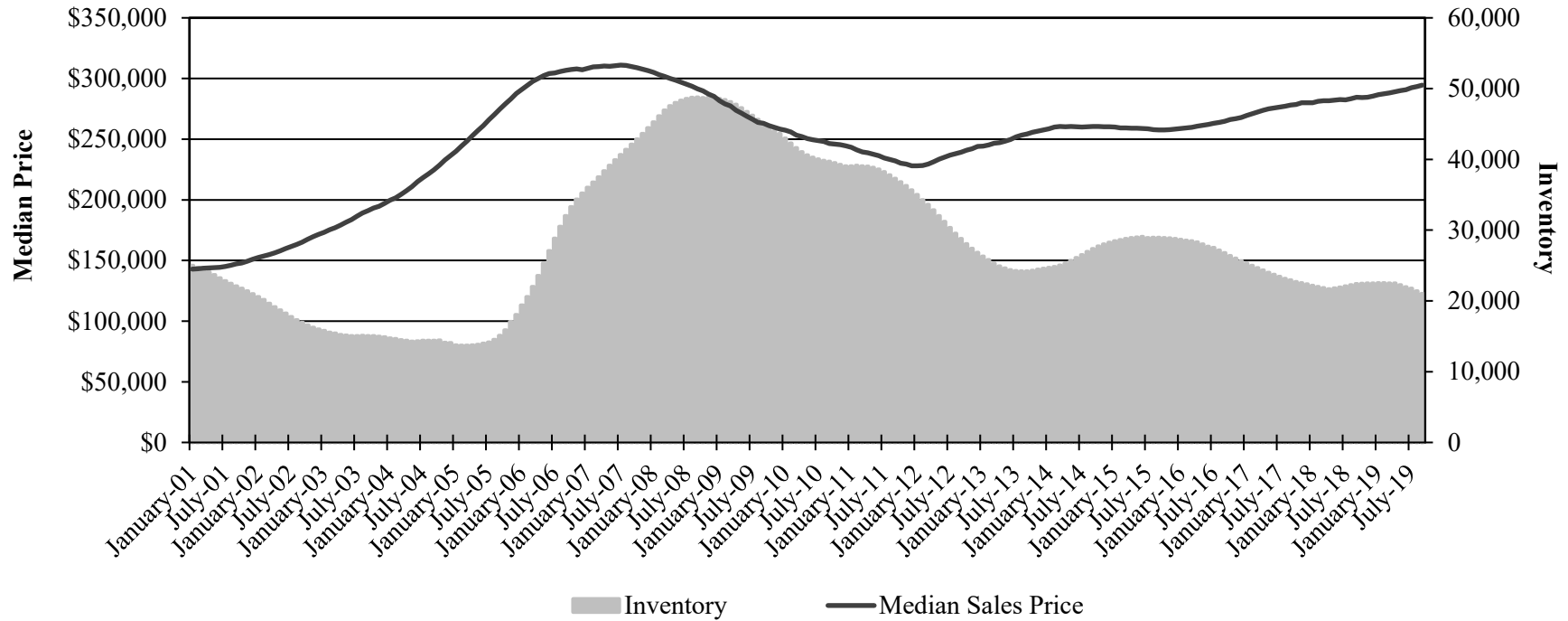
Source: State Treasurer's Office; Department of Legislative Services, October 2019

Home Values Have Increased Modestly and Steadily in Recent Years

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 since fiscal 2007. 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 5.2** 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.

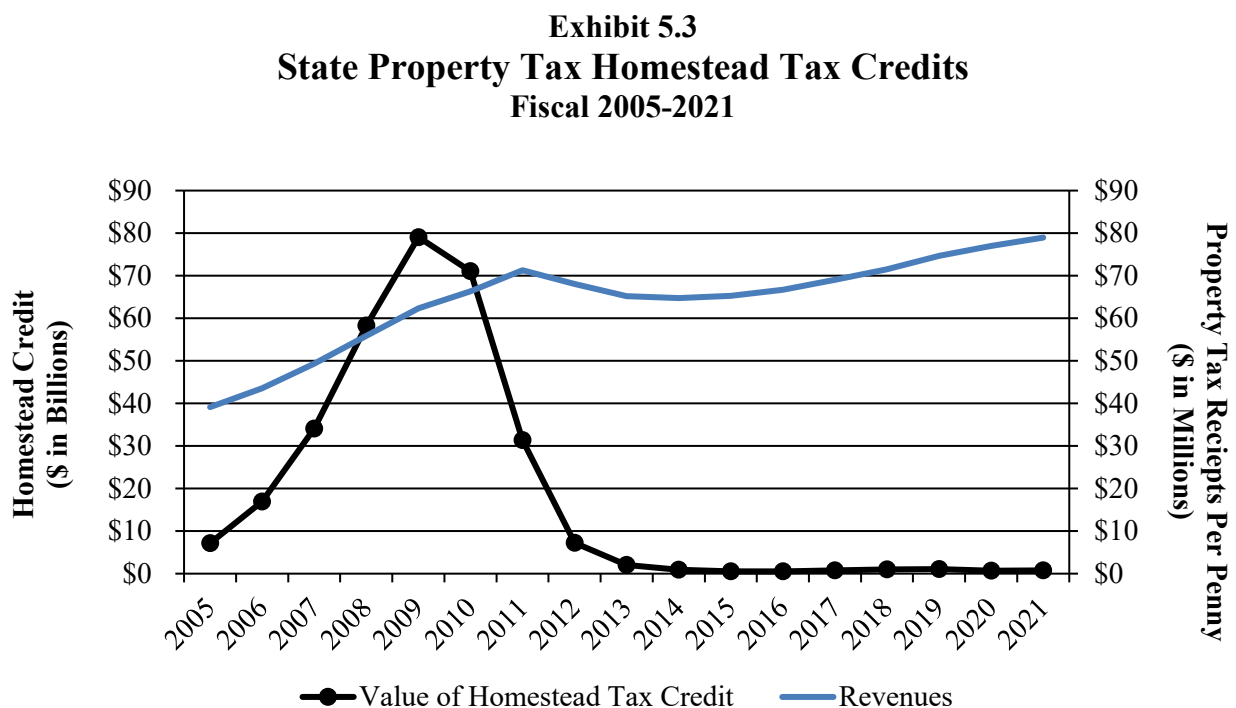
Exhibit 5.2
Maryland Housing – Median Prices and Inventory
12-month Moving Average
January 2001-September 2019



Source: Maryland Association of Realtors; Department of Legislative Services

Inventories went through a similar increase and decline. However, they have often lagged behind the pattern seen in home prices. Since the increase in home values in February 2012, inventories continued to decline through February 2013. Since November 2015, inventories have generally declined.

As expected, the rising property values from 2002 to 2007 increased State property tax receipts. **Exhibit 5.3** shows how much revenue one cent on the State property tax has generated since fiscal 2005. State property tax receipts generate by one cent of revenues continued to increase from fiscal 2004 to 2011, even as home values peaked in fiscal 2007. Revenues declined from fiscal 2011 to 2014 and generally increased since fiscal 2015.



Source: State Department of Assessments and Taxation; 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. 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.

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

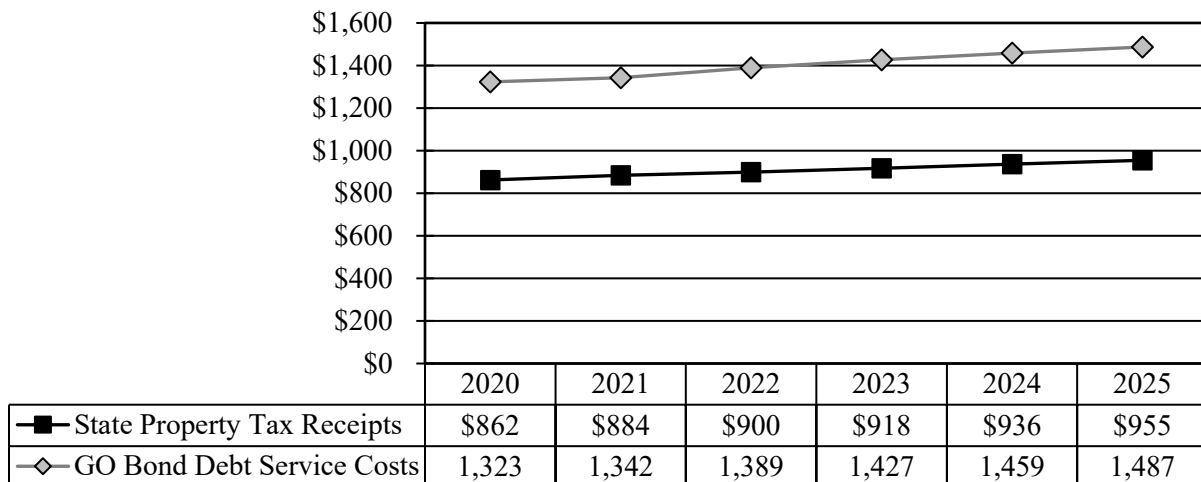
that exceeds 10%, the homeowner receives a credit for any amount above 10%. This limits revenue growth when property values rise quickly. Taken together, the three-year assessment process and Homestead Tax Credit slowed the revenue increases during the real estate boom and delayed the peak until after 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 5.3 shows that State credits increased to \$79 billion in fiscal 2009, in response to increases in assessments. From fiscal 2014 to 2017, the aggregate homestead credits are under \$1 billion each year.

General Funds Are Appropriated to Keep State Property Taxes Low

Over the next few years, State property tax revenues are estimated to increase at a moderate rate of 2.1% annually from fiscal 2020 to 2025. This contrasts with debt service costs, which are expected to increase at a rate of 2.4% over the same period. **Exhibit 5.4** shows how State property tax revenues, which are \$461 million less than debt service costs in fiscal 2020, are expected to be \$532 million less than debt service costs in fiscal 2025.

Exhibit 5.4
GO Bond Debt Service Costs and State Property Tax Revenue Collections
Fiscal 2020-2025
(\$ in Millions)



GO: general obligation

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

Exhibit 5.5 shows that general fund subsidies to the ABF are required from fiscal 2020 to 2025. The high level of bond sale premiums reduce general fund requirements from fiscal 2020 to 2022.

Exhibit 5.5
Revenues Supporting Debt Service
Fiscal 2020-2025
(\$ in Millions)

	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
Special Fund Revenues						
State Property Tax Receipts	\$862	\$884	\$900	\$918	\$936	\$955
Bond Sale Premiums ¹	157	89	21	0	0	0
Other Revenues	2	2	2	2	2	2
ABF Fund Balance Transferred from Prior Year	121	124	20	10	1	1
Subtotal Special Fund Revenues	\$1,142	\$1,099	\$943	\$930	\$940	\$958
General Funds	\$287	\$246	\$440	\$482	\$506	\$518
Transfer Tax Special Funds ²	7	7	7	7	7	7
Federal Funds ³	11	10	9	8	7	5
Total Revenues	\$1,447	\$1,362	\$1,399	\$1,428	\$1,460	\$1,488
Debt Service Expenditures	\$1,323	\$1,342	\$1,389	\$1,427	\$1,459	\$1,487
ABF End-of-year Fund Balance	\$124	\$20	\$10	\$1	\$1	\$1

ABF: Annuity Bond Fund

¹ Estimated bond sale premiums total \$57.6 million in March 2020, \$50.9 million in summer 2020, \$37.8 million in March 2021, and \$21 million in summer 2021.

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 discussed in Chapter 3.

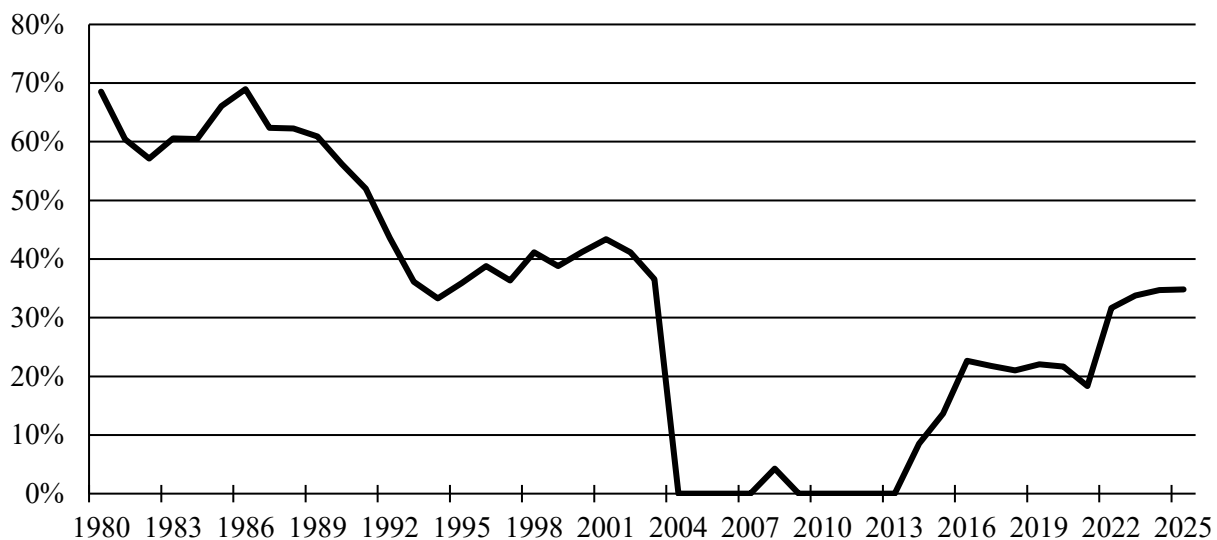
Source: Department of Legislative Services

General Fund Appropriations for Debt Service Since 1980

In most years, State policy has been to keep State property tax rates low. To fund debt service, the State has appropriated general funds in all but nine years since fiscal 1980.

Exhibit 5.6 shows that the Department of Legislative Services projects that general fund appropriations for debt service will exceed 30% of debt service appropriations by fiscal 2021. Since the affordability process began in fiscal 1979, the level of general fund support has varied considerably; general fund support peaked at 69% in fiscal 1986, while no support was provided from fiscal 2004 to 2007 and from fiscal 2009 to 2013.

Exhibit 5.6
General Fund Appropriations as a Percent of Debt Service Appropriations
Fiscal 1980-2025



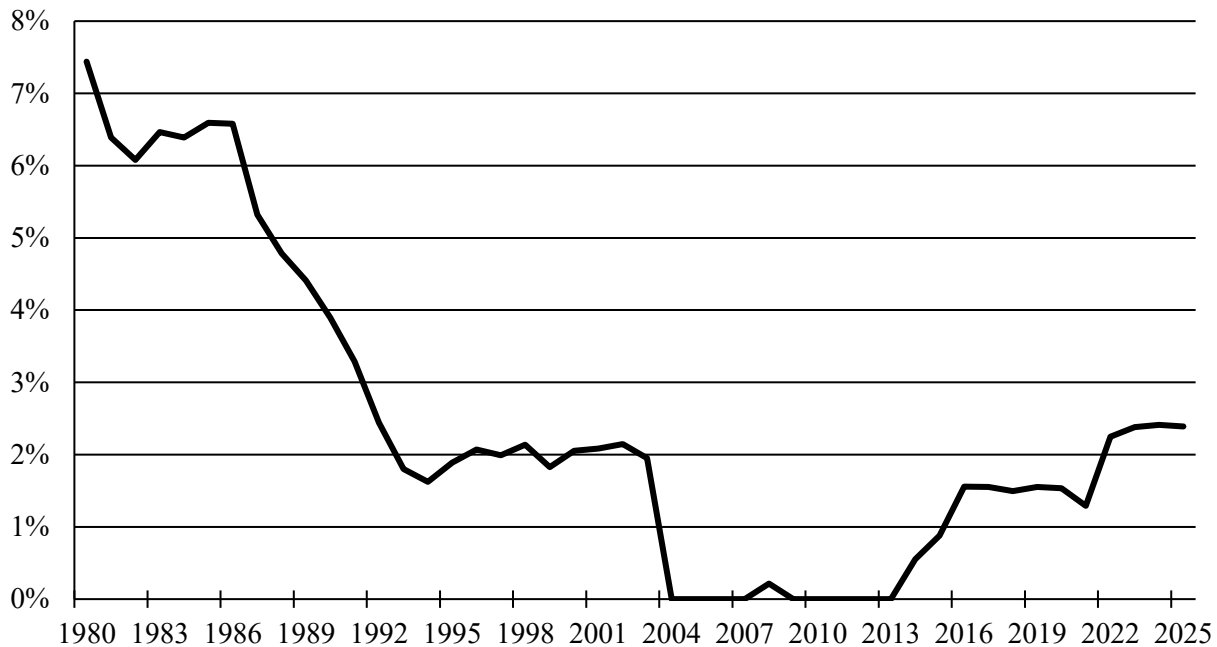
Note: Fiscal 1985 to 2003 includes general funds appropriated in the Maryland State Department of Education for capital school construction. Fiscal 2002 and 2003 are adjusted to remove proceeds from refunding bonds.

Source: Department of Budget and Management

Exhibit 5.7 shows that current estimates expect that the general fund costs for debt service will be 2.4% of total general fund revenues by fiscal 2023. This is about the same level as in the 1990s but well below the previous peaks in the 1980s. From fiscal 2004 to 2013, the State appropriated general funds only once. The State property tax rate was increased from \$0.084 to \$0.132 per \$100 of assessable base in fiscal 2004. The State also benefited from low interest rates, which generated large bond sale premiums that were used to support debt service payments. (Bond

sale premiums are discussed in more detail in Chapter 8.) The State property tax rate was reduced to its current rate, \$0.112 per \$100 of assessable base, in fiscal 2007.

Exhibit 5.7
General Fund Debt Service Appropriations as a
Percentage of General Fund Revenues
Fiscal 1980-2025



Note: Fiscal 1985 to 2003 includes general funds appropriated in the Maryland State Department of Education for capital school construction. Fiscal 2002 and 2003 are adjusted to remove proceeds from refunding bonds.

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

Rating Agencies Are Concerned about Pension and Other Post Employment Benefits Liabilities

Maryland's bonds are rated AAA from the three major rating agencies, and it has been State policy to maintain this rating. High ratings tend to reduce interest costs. The traditional estimate is that the AAA rating reduces interest rates by about 0.2% (20 basis points) compared to the AA+ rating. This reduction may be larger now. The interest cost analysis in Chapter 6 suggests that Maryland's bonds are 0.8% (or 80 basis points) less due to a flight to quality since the Great

Recession, which is \$400,000 per year for a typical \$500 million bond sale. A ratings downgrade also could reduce this advantage that Maryland bonds have over lesser rated bonds. When reviewing debt, rating agencies have commented on pension liabilities. Pension costs and debt service represent the State's two largest long-term liabilities. High pension liabilities are often cited when rating agencies downgrade a State or municipality's debt. For example, Standard & Poor's cited pension liabilities when the state of Illinois' debt rating was recently downgraded. Pension concerns were also cited when ratings for the city of Fort Worth, Texas and the state of Connecticut were downgraded.

This section examines trends in State pension and other post employment benefits (OPEB). The good news for Maryland is that all three rating agencies have acknowledged Maryland's efforts to achieve adequate pension funding.

Overview of Defined Benefit Pension Plans

The State provides defined benefit pension plans. These plans require the State to make annual payments that represent the normal cost (the cost of the annual increase in benefits earned by employees) and a share of the unfunded liability. These pension payments are made to employees for years after they retire and represent a long-term liability to the State. Pension costs are supported with general, special, and federal funds.

About 97% of the teachers' pension fund supports the staff of the local school boards. By statute, the local school boards pay the normal costs (which is the annual increase in the pension liability), and the State is responsible for any remaining costs (which is the unfunded liability).

Pension Costs Have Increased in Recent Years

Pension contributions increased from \$1.0 billion in fiscal 2010 to \$1.7 billion in fiscal 2020. The primary reason for the increased costs are market losses suffered in fiscal 2008 and 2009 when the pension fund lost 5.4% and 20%, respectively. This reduced the funded ratio from 80.4% at the beginning of fiscal 2008 to 65% at the end of fiscal 2009. To reduce the unfunded liability, higher appropriations are necessary from the State. The amount that the State appropriates each year is determined by the actuarial funding method. It is State practice for the Governor to propose and the General Assembly to appropriate the amount certified by the State Retirement and Pension System Board.

Pension Costs Contained in Response to Increasing Liabilities

In response to increasing liabilities, the State has reduced benefits, increased contributions, and required local jurisdictions to share in the costs of teacher pensions.

The most significant pension reform was enacted in 2011. Key provisions include:

- reducing cost-of-living adjustments earned after fiscal 2011;
- increasing employee contributions from 5.0% to 7.0% for most employees (judges, for example, were excluded);
- increasing the vesting period for employees hired after June 30, 2011, from 5 years to 10 years;
- reducing the multiplier for employees hired after June 30, 2011, to 1.5% of salary per year worked;¹ and
- appropriating a share of savings to overfund pension contributions.

The State also required local governments to begin sharing in teacher pension costs in fiscal 2013.

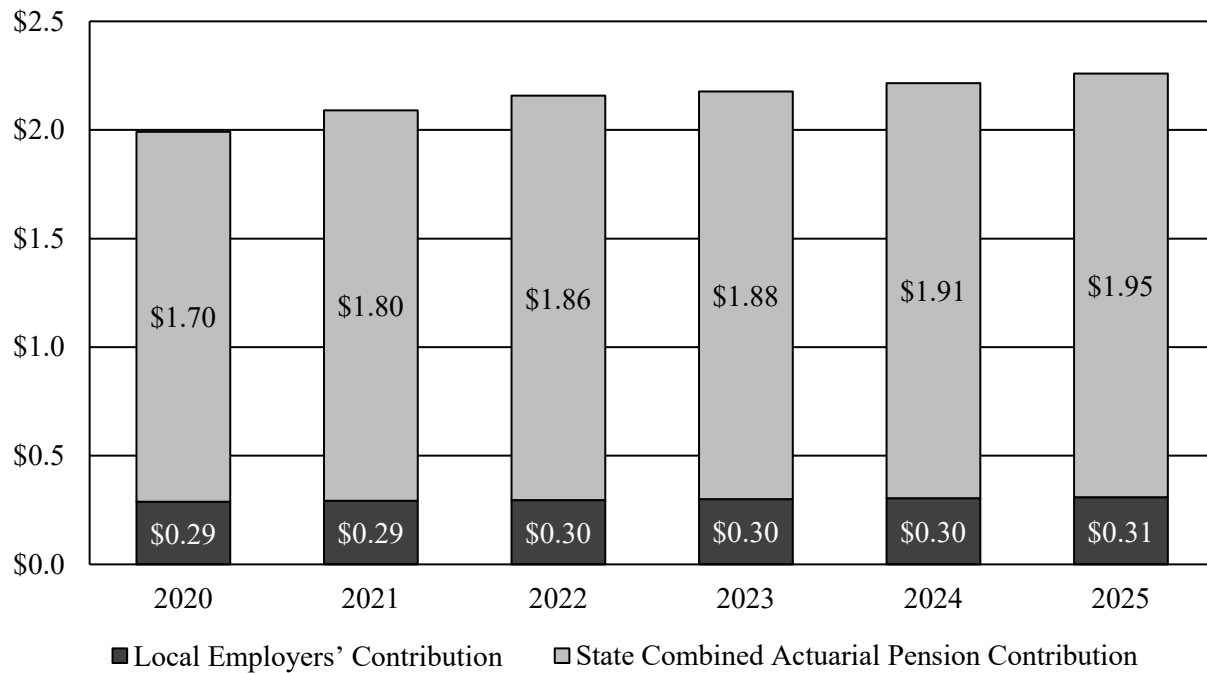
Current law requires supplemental pension contributions. The Administration is required to include \$75 million in supplemental contributions and to provide appropriate unassigned general fund balances of up to \$25 million. In fiscal 2019, unassigned general fund balance totaled \$351.4 million, of which \$25 million is to be appropriated in fiscal 2021. Taken together, these reforms reduce the State's out-year unfunded liabilities.

Pension Cost Outlook

Exhibit 5.8 shows that the State's annual actuarially required contribution is expected to increase from \$1.7 billion in fiscal 2019 to \$1.95 billion in fiscal 2025. Total pension costs, which include local contributions, increase from \$1.99 billion in fiscal 2020 to \$2.26 billion in fiscal 2025. Total costs increase by 2.56% annually.

¹ The multiplier remains at 1.8% per year worked for employees hired before June 30, 2011.

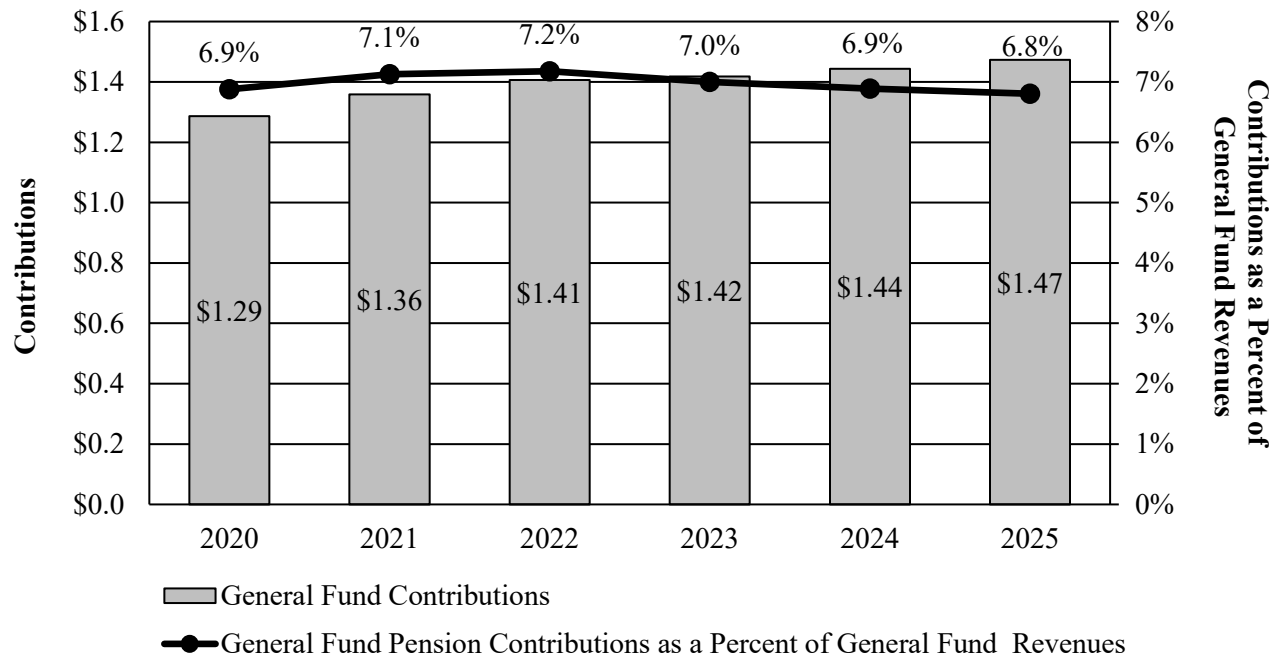
Exhibit 5.8
Total State Pension Costs
Fiscal 2020-2025
(\$ in Billions)



Source: Gabriel, Roeder, Smith and Company; Department of Legislative Services, October 2019

Exhibit 5.9 shows that general fund costs for pensions hover near 7% of general fund revenues over the forecast period. General fund pension contributions are expected to increase 2.76% annually from fiscal 2020 to 2025, which is less than in prior years. Increases in pension costs have slowed, in large part due to pension reforms. Rapid turnover in system membership has accelerated the benefits of pension reform. The turnover has resulted in nearly one-third of teachers and employees participating in the reformed pension plan.

Exhibit 5.9
General Fund Pension Costs as a
Percentage of General Fund Revenues
Fiscal 2020-2025
(\$ in Billions)



Source: Gabriel, Roeder, Smith and Company; Department of Legislative Services, October 2019

Other Post Employment Benefits Outlook

The State also offers retirees subsidized health care. Retirees participate in the same plan as active employees. Retirees can also participate in Medicare. These plans are not subject to the same benefit protections as pension plans, which have a defined benefit formula that cannot be reduced retroactively and that determines the liability. Instead, retirees participate in a plan that the State can, and does, regularly modify. Retirees pay premiums, copayments, and coinsurance that offset the State's costs. In recent years, there have been changes to all these retiree costs. In addition, medical and pharmaceutical inflation rates change from year to year.

2010 Public Employees' and Retirees' Benefit Sustainability Commission Recommendations and 2011 Legislative Action

In 2004, the Governmental Accounting Standards Board (GASB) issued new accounting standards that required State and municipal governments to recognize OPEB liabilities on their

balance sheets as they accrue, rather than on a pay-as-you-go (PAYGO) basis. In effect, the new standards required public employers to account for OPEB liabilities in a manner similar to the way pension liabilities were treated. While GASB does not have the authority to enforce these standards, State compliance is considered by bond rating agencies.

In 2010, the Public Employees' and Retirees' Benefit Sustainability Commission, tasked to study and make recommendations with respect to State-funded health care and pension benefits, identified the State's high unfunded OPEB liability, which totaled \$15.9 billion, as an issue that the State should address. The commission expressed concern that failure to reduce the high unfunded OPEB liability could endanger the State's AAA bond rating and result in higher costs to borrow money for State projects and needs. The commission specifically recommended that the State establish a goal of reducing its unfunded liability for OPEB by 50% and commit to fully funding its OPEB liabilities within 10 years.

Medicare-eligible retirees' prescription drug cost was determined to be a primary contributor to the State's OPEB liability. The commission proposed fully transitioning Medicare-eligible retirees onto the Medicare Part D prescription drug program and eliminating State prescription drug coverage to these retirees. The recommendation was intended to reduce the OPEB liability substantially while still ensuring that retirees had access to prescription drug coverage through Medicare. Fiscal 2020 was chosen as the effective date of transition to align with a provision in the 2010 Patient Protection and Affordable Care Act, that eliminated the Medicare Part D coverage gap by calendar 2020. Aligning the transition with the elimination of the Medicare Part D coverage gap was intended to mitigate the financial impact on State retirees. Chapter 397 of 2011 (Budget Reconciliation and Financing Act), as enacted, included the planned transition recommended by the commission. As a result, the State's unfunded OPEB liability decreased from \$15.9 billion to \$9.5 billion.

State Does Not Provide Full Actuarial Funding

The State has not met the commission's recommendation regarding payments to prefund the OPEB liability. The State provided payments from fiscal 2007 to 2009 but eliminated payments in fiscal 2010 for budgetary reasons. The State has not provided OPEB liability payments since fiscal 2010. In fiscal 2019, the State's net OPEB liability was \$14.6 billion, representing a funded ratio of 2% (\$351 million in assets). The fiscal 2018 actuarial report noted that prefunding the OPEB liability on an annual basis required a \$522 million appropriation in fiscal 2019. By contrast, fiscal 2019 appropriations for health insurance totaled \$382 million.

Cost Estimates Complicated by 2018 Lawsuit and 2019 Legislation

In September 2018, a lawsuit was filed in the Circuit Court for Baltimore City challenging the planned transition of prescription drug coverage required by Chapter 397. In October 2018, a federal judge granted a temporary restraining order and preliminary injunction, delaying the transition until the lawsuit is resolved. As a result, there was no change in coverage for Medicare-eligible retirees in calendar 2019. The timeframe for when the lawsuit will be resolved is indeterminate.

In response to concerns raised by retirees about the cost of prescription drugs, Chapter 767 of 2019 establishes prescription drug out-of-pocket reimbursement or catastrophic coverage programs for specified State retirees, dependents, or surviving dependents who are enrolled in a Medicare prescription drug benefit plan. State employees hired after June 30, 2011, remain ineligible for prescription drug coverage from the State when they reach Medicare eligibility.

The actuary estimates that changes in the benefit terms from June 30, 2018, to June 30, 2019, including the prolonged coverage due to the injunction and the enactment of the reimbursement and catastrophic coverage programs, increase the OPEB liability by \$2.5 billion. The increase in the actuarially determined contribution, from \$522 million in fiscal 2019 to \$645 million in fiscal 2020, is almost entirely attributable to changes in benefits.

Rating Agency Comments

To date, rating agencies have not downgraded Maryland in response to underfunding OPEB. The agencies are aware of the State's effort to reduce unfunded OPEB and pension liabilities. Agencies regularly comment that actions that increase liabilities, either by reducing funding or increasing benefits without increasing appropriations, would be viewed as a credit weakness that could result in a credit downgrade. Rating agencies do not provide specificity as to how much an unfunded liability can be increased without resulting in a credit downgrade. Instead, agencies react after actions are taken.

Chapter 6. Analysis of Factors Influencing Bonds' Interest Cost

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

The financial literature provides information about factors that influence the TIC of State and municipal bond sales. Since 2006, the Department of Legislative Services (DLS) has prepared a statistical analysis to evaluate these financial factors. In this chapter, the sum of least squares regression is used to evaluate what factors influence the TIC that Maryland receives on general obligation (GO) bond sales.

Financial Theory and Research Identifies Factors That Influence the True Interest Cost

Financial theory suggests factors that could influence Maryland's GO bonds' TIC. Research has confirmed a number of significant influences in other states and in national studies that include Maryland. To build the sum of least squares regression equation, data was collected and analyzed for the 69 bond issuances since March 1991 (refunding sales are excluded): 61 competitively bid, tax-exempt bond issuances; and 8 negotiated, retail bond issuances. The data collected includes:

- the TIC;
- *The Bond Buyer* 20-bond index;¹
- date of the bond sale, fiscal year, and calendar years that the bonds were sold;
- if the bond sale includes one of the various call provisions offered since 1991;
- average years to maturity;
- amount of debt sold;
- Consumer Price Index to examine if inflation affected the market's perception of the amount of debt sold;

¹ *The Bond Buyer* is a trade publication that gathers data about the yield on State and municipal bonds. The 20-bond index includes 20 GO State and municipal bonds maturing in 20 years. These bonds have an average rating equivalent to AA by Standard & Poor's and Aa2 by Moody's Investors Service, Inc. The data is reported weekly every Friday and reflects the yields from the previous day.

- use of a financial advisor;
- ratio of Maryland personal income to U.S. personal income; and
- ratio of Maryland gross State product to U.S. gross domestic product, both nominal and adjusted for inflation.

The Equation Identifies Statistically Significant Factors Influencing Interest Costs

The sum of least squares regression analysis dependent variable is the TIC. All the other variables are independent variables that are included to control the factors that could influence the TIC. The question that the regression equation addresses is which of the independent variables influence the dependent variable, which is the TIC. The regression equation examines the variables previously listed and identifies four statistically significant variables at the 95% confidence level that affect the TIC. **Exhibit 6.1** shows the data for the statistically significant variables.

- ***Bond Buyer 20-bond Index:*** The key variable is the 20-bond index. This rates 20 different State and municipal issuances with 20-year maturities that have an average rating equivalent to AA. DLS has collected the estimated yields since 1991.
- ***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 the financial crisis of 2008. The financial press has noted a “flight to quality” since the crisis. Statistical data from Maryland bond sales suggests that there has been a flight to quality with respect to bonds sold after March 2008. This date may be related to the collapse of Bear Stearns, which resulted in a Federal Reserve bailout and sale to JPMorgan Chase. The equation estimates that Maryland bond yields are 0.8% (80 basis points) less than *The Bond Buyer* 20-bond index since the financial crisis.

Exhibit 6.1
TIC Regression Equation – Evaluating the Independent Variables

<u>Independent Variable</u>	<u>Coefficient</u>	<u>Std. Error</u>	<u>t-test</u>	<u>Sig.</u>	<u>Tol.</u>	<u>Comment</u>
<i>The Bond Buyer</i> 20-bond Index	0.891	0.045	19.869	0.000	0.500	Highest t-test suggests that this is a most significant independent variable.
Years to Maturity	0.210	0.021	9.826	0.000	0.952	Positive coefficient means that longer maturities tend to have higher TICs.
Post-financial Crisis	-0.803	0.086	-9.335	0.000	0.483	Maryland bonds' yields are reduced since the crisis.
Constant	-2.191					

Sig.: significance or confidence interval

Std.: standard

TIC: true interest cost

Tol.: tolerance, a test of multicollinearity

Source: Department of Legislative Services

The statistical analysis of the equation suggests that the equation explains GO bond sales' true interest costs very well. **Appendix 3** provides a summary of the data.

Analysis of the Effect of the Federal Tax Cuts and Jobs Act on the True Interest Cost Is Inconclusive

On December 22, 2017, President Donald J. Trump signed the federal Tax Cuts and Jobs Act (TCJA). This new law enacts broad changes to federal tax laws that were effective on January 1, 2018. The new law has some provisions that will impact GO bonds and the cost of the State's capital program.

Advanced Refunding: Less Savings and Also Reduced Issuances

Prior federal tax law allowed State and local governments one advanced refunding for tax-exempt bonds. Advanced refunding allowed Maryland to issue refunding bonds before the call date and place the previously issued bonds in escrow accounts that retire the bonds on the call date. This gave the State the opportunity to issue bonds at lower interest rates before the call date. The new tax law ended this practice, which substantially reduces the State's ability to take advantage of lower interest rates by eliminating the ability to lock into savings before bonds are callable. Consequently, refunding bond issuances have declined. For example, the State has not refunded

any GO bonds in two years and does not have any plans to issue refunding bonds in the near term. Such a drought has not happened in over 10 years. From December 2009 to August 2017, the State issued over \$4 billion in refunding bonds.

Countervailing Forces

When the TCJA was enacted, it was unclear if the law would tend to increase or decrease interest rates because the new law influences countervailing forces that affect tax-exempt bonds' interest rates. On the one hand, ending advanced refunding reduces the amount of debt that is issued, which reduces the supply and lowers interest rates.

On the other hand, a feature of the TCJA is to reduce tax rates. By reducing taxes, the new law reduces the value of tax-exempt bonds. Since a feature of the bonds is to avoid taxes on interest earnings, lower taxes reduce the amount of taxes avoided by purchasing tax-exempt bonds. This tends to increase the interest rates. When the bill was enacted, a research and consulting firm estimated that reducing the corporate income tax rate to 20% would increase tax-exempt interest rates by 0.50% to 0.75% (50 to 75 basis points) without considering the effect of other provisions in the bill.

Analysis of the True Interest Cost Is Inconclusive

Since the TCJA became effective, the State has had four bond sales issuing seven groups of bonds. DLS has used the sum of least squares regression analysis to estimate the net effect of tax law changes by adding a dummy variable that identifies which issuances have been after the tax law change to the regression equation. DLS estimates that the coefficient for a tax reform variable is -0.13%, which suggests a reduction in interest rates by 13 basis points. However, the low t-test (-1.155) is well below the 95% threshold. Another concern is that the standard error is 0.11%, which is almost as much as the coefficient. Since DLS does not have sufficient confidence in these results, they are deemed inconclusive. DLS will continue to examine the effects of tax laws, as well as other factors, on interest rates and report any findings.

While the analysis is inconclusive, it appears that if the tax law changes reduce interest costs, the reduction is modest (this analysis suggests approximately 0.1%). If there are savings, the savings are much less than potential savings from advanced refunding bonds, which saved the State \$316 million in debt service costs from December 2009 to August 2019.

Chapter 7. Nontax-supported Debt

In addition to the tax-supported debt that Maryland issues, there are various forms of nontax-supported debt that are issued by State agencies and non-State public purpose entities. While this debt is not backed by the full faith and credit of the State and is not included within the tax-supported debt limits, concerns have been raised that a default in payment of debt service on this debt could negatively impact other Maryland debt.

Nontax-supported debt generally takes the form of either a project/program revenue debt or conduit debt, as discussed below:

- **Revenue Bonds:** Revenue bonds are bonds issued to raise funds for a specific project or program. The debt service on these bonds is generally repaid using revenues generated through the operation of the project or program for which the bonds were sold. For example, the Maryland Transportation Authority (MDTA) issues project revenue bonds to finance the cost of constructing revenue-generating transportation facilities, and MDTA then repays the bonds using the revenues generated through the tolls charged to drivers for the use of the facilities.
- **Conduit Debt:** Conduit debt is debt that agencies or authorities issue on behalf of clients. Clients could include local governments, nonprofit organizations, or private companies. When an agency or authority serves as a conduit issuer, the bonds that it issues may not be obligations of the issuing entity. Should the client for whom the bonds are issued be unable to meet debt service obligations on their bonds, the issuing entity is not necessarily obligated to make the debt payments. In such circumstances, the issuing agency may take the client's property into receivership or exercise other contractual provisions to meet the debt service. Agencies and authorities in the State that serve as conduit issuers include MDTA, the Maryland Economic Development Corporation (MEDCO), the Maryland Health and Higher Educational Facilities Authority, and the Maryland Industrial Development Financing Authority (MIDFA).

Debt Outstanding

Exhibit 7.1 summarizes the change in debt outstanding for different types of debt between fiscal 2009 and 2019:

- **Agency Debt Subject to State Regulatory Cap:** This category includes debt held by State agencies on which the State sets limits. The debt is not backed by State taxes.
- **Agency Debt Not Subject to State Regulatory Cap:** This type of debt is held by State agencies that do not have limits set by the State. The debt is not backed by State taxes.

- **Tax-supported Debt:** State debt that is supported by taxes.
- **Authorities and Corporations:** Debt held by non-State agencies that is not subject to any debt ceiling or allocation caps.

Exhibit 7.1
Debt Outstanding as of June 30
Fiscal 2009 and 2019
(\$ in Millions)

	<u>2009</u>	<u>2019</u>	<u>Total Change</u>	<u>Annual %</u> <u>Change</u>
Agency Debt Subject to State Regulatory Cap	\$2,407	\$1,590	-\$817	-2.3%
Agency Debt Not Subject to State Regulatory Cap	4,946	4,452	-495	-1.1%
Tax-Supported Debt	8,730	13,574	4,844	5.9%
Authorities and Corporations without Caps	10,582	11,277	695	0.9%
Total	\$26,665	\$30,893	\$4,228	1.5%

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

Source: Department of Budget and Management

A table containing debt outstanding by year for individual agencies is included as **Appendix 4**.

Revenue and Private Activity Bonds

Debt service on revenue bonds is generally paid from the revenue generated from facilities built with the bond proceeds. The Department of Housing and Community Development's (DHCD) Community Development Administration (CDA) makes housing loans with revenue bond proceeds, and the mortgage payments help pay debt service. Likewise, MDTA constructs toll facilities with bond proceeds, and the tolls collected pay off the bonds. Other State agencies issue bonds for various purposes. This agency debt is funded through what are referred to as private activity bonds.

The U.S. Tax Reform Act of 2006 established an annual limit on the amount of tax-exempt private activity bonds that may be issued by any state in any calendar year. This limit is based on a per capita limit adjusted annually for inflation. Maryland's 2019 allocation totaled \$634.5 million.

The federal Tax Reform Act of 1986 specifically allows states to set up their own allocation procedures for use of their individual bond limit. Bond allocation authority in Maryland is determined by §§ 13-801 through 13-807 of the Financial Institutions Article. The Secretary of Commerce is the responsible allocating authority. Each year's bond issuing ability is initially allocated in the following manner: 50.0% to all counties (35.0% for housing bonds allocated to each county based on population and 15.0% for bonds other than housing allocated to each county based on average bond issuances); 2.5% to the Secretary for the purpose of reallocating the cap to municipalities; 25.0% to CDA for housing bonds; and 22.5% to what is referred to as the Secretary's Reserve. This reserve may be allocated to any State or local issuer as determined at the sole discretion of the Secretary and pursuant to the goals listed under § 13-802(4)(iii).

In practice, most localities transfer much of their allocation authority to CDA because CDA can more efficiently and cost effectively issue mortgage revenue and multifamily housing bonds than any individual jurisdiction. The debt belongs to the county that received the initial allocation and is not backed by CDA. State issuers, such as MIDFA and MEDCO, as well as counties who need bond allocations in excess of their initial allocation, may request allocations from the Secretary's Reserve.

Private activity bonds are subject to the unified volume cap set by Congress in the Tax Reform Act of 1986. Allocations, however, may be carried forward by eligible users and for specific purposes but expire at the end of three years if not issued. Unused cap, other than that which has been allocated to CDA or transferred to CDA by local governments, reverts back to the Department of Commerce (Commerce) on September 30 of each year. Commerce then determines what amount to carry forward in support of existing projects or endeavors. Historically, any remaining nonhousing allocations have been reallocated to CDA at year end for carry-forward purposes.

Reporting of Bond Activity

As the State's single allocating authority agency, Commerce is required to collect and submit allocation and issuance data annually to the Internal Revenue Service. Statute requires each agency that issues private activity bonds to annually submit to Commerce by September 15 the following information:

- the amount of the total allocation of the Maryland State ceiling allocated in that year to the issuer;
- the amount and type of bonds issued in that year pursuant to the total allocation to the issuer in that year;
- the amount and type of bonds not issued but anticipated to be issued on or before September 30 of that year pursuant to the total allocation to the issuer in that year; and
- any other information that the Secretary may request.

Allocation of Private Activity Bonds

Exhibit 7.2 provides the calendar 2015 through 2019 figures for the amount of available tax-exempt bond authority and the level of issuances made under the volume cap limits. Total carry forward remains high because it has outpaced annual issuances recently; in some years, CDA does not issue any debt directly against that year's allocation if sufficient amounts of carry forwards are available to support program activity.

Exhibit 7.2 Allocation of Private Activity Bonds Calendar 2015-2019 (\$ in Millions)

	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>YTD 2019</u>
Fund Sources					
Annual Cap	\$597.6	\$600.6	\$601.6	\$635.5	\$634.5
Carry Forward from Prior Years	1,576.0	1,596.5	1,632.2	1586.1	1,668.7
Total Capacity Available	\$2,173.6	\$2,197.1	\$2,233.8	\$2,221.6	\$2,303.2
Issuances					
Single-family Housing	\$24.7	\$19.5	\$16.4	\$204.6	\$691.3
Mortgage Credit Certificates ¹	202.3	236.4	262.1	72.0	0.0
Multifamily Housing	250.7	228.9	227.5	265.6	262.4
Industrial Development Bonds	25.6	8.0	6.5	0.0	0.0
Total Issuances	\$503.3	\$492.8	\$512.5	\$542.2	\$953.7
Prior Year Carry Forward Abandoned	\$87.07	\$71.2	\$135.1	\$10.8	\$0.00
Carry Forward	\$1,596.5	\$1,632.2	1586.1	\$1,668.7	\$1,349.5

YTD: year to date

¹ Mortgage Credit Certificates are not debt issuances. However, federal rules require that they be counted against the State's private activity bond allocation cap.

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

Source: Department of Commerce

Due to the decrease in interest rates as well as increased marketing of DHCD's mortgage programs, CDA has drastically increased its single-family housing private activity debt issuances, going from just \$16.4 million in calendar 2017 to \$697.3 million in calendar 2019 through early

October. This has driven down the agency's issuances of credit certificates, as the reduced rates made possible by CDA's private activity bond subsidy are more attractive to home buyers.

Debt Service on University Academic and Auxiliary Revenue Bonds

Chapter 93 of 1989 gave Morgan State University (MSU), St. Mary's College of Maryland (SMCM), and the University System of Maryland (USM) the authority to issue bonds for academic and auxiliary facilities. Chapter 208 of 1992 gave Baltimore City Community College (BCCC) the authority to issue bonds for auxiliary facilities, and Chapter 213 of 2009 extended its authority to include academic revenue bonds (ARB) as well. Academic facilities are primarily used for the instruction of students, while auxiliary facilities are those that produce income from fees charged for the use of the facility. A residential dormitory is an example of an auxiliary facility. Debt service on auxiliary and academic debt may be paid from auxiliary and academic fees; a State appropriation expressly authorized for that purpose; or revenues from contracts, gifts, and grants.

Statute specifies that academic facilities must be expressly approved by an act of the General Assembly that determines both the project and bond issue amount. Each year, USM introduces legislation entitled the Academic Facilities Bonding Authority, listing the specific academic projects requiring authorization. Legislation may also increase the total debt limit for institutions when warranted. Section 13-102 of the Education Article limits debt outstanding to \$1.4 billion for USM, \$88 million for MSU, \$65 million for BCCC, and \$60 million for SMCM.

University System of Maryland

USM issues 20-year bonds with serial maturities and level debt service payments. The first year is interest only, and the principal is retired in the remaining 19 years. USM's debt management policies aim to reassure investors and the rating agencies of the system's financial stability and control over debt. The policy was revised in April 2018 to reflect the current planning metrics used by USM. USM aims for debt service that includes payments on capital lease obligations, but not operating lease payments, to be less than 4.0% of operating revenues plus State appropriations including grants and contracts. This ratio was developed after discussions with its financial advisor (Public Financial Management's Higher Education Office), rating agencies, and investors.

USM reports that it expects to maintain the current rating of AA1 (stable) from Moody's and the equivalent AA+ from both Fitch (stable) and Standard & Poor's (which removed the system from negative watch). The most recent credit reviews by the rating agencies were in August (Moody's) and September 2019.

Exhibit 7.3 shows that USM will be under the 4.0% debt service goal for fiscal 2019 to 2025. Including debt issued in fiscal 2019, total debt service will be approximately \$154 million, or 3.1%, of fiscal 2019 operating revenues plus State appropriations including grants and contracts. The forecast indicates that the ratio will stay at or below 3.1% through the fiscal 2025 projection.

Exhibit 7.3
University System of Maryland Debt Service as Related to
Operating Funds Plus State Appropriations
Fiscal 2011-2025 Estimated
(\$ in Millions)

<u>Year</u>	<u>Total Debt Outstanding</u>	<u>Total Debt Service</u>	<u>Operating Revenues Plus State Appropriations</u>	<u>Ratio of Debt Service to Operating Revenues Plus State Appropriations</u>
2011	\$1,129	\$127	\$4,065	3.1%
2012	1,170	124	4,204	3.0%
2013	1,217	139	4,256	3.3%
2014	1,290	130	4,478	3.0%
2015	1,199	141	4,472	3.2%
2016	1,270	146	4,644	3.1%
2017	1,298	142	4,811	3.0%
2018	1,286	145	4,931	2.9%
2019	1,304	154	4,929	3.1%
2020 Estimated	1,196	156	5,027	3.1%
2021 Estimated	1,174	151	5,128	3.0%
2022 Estimated	1,187	132	5,230	2.5%
2023 Estimated	1,201	135	5,336	2.5%
2024 Estimated	1,250	135	5,442	2.5%
2025 Estimated	1,273	126	5,551	2.3%

Note: Total debt outstanding and total debt service include academic, auxiliary, and capital lease debt.

Source: University System of Maryland

USM also has a goal for the ratio of expendable resources (defined as unrestricted assets of USM and the affiliated foundation with adjustments for certain long-term liabilities) to debt outstanding. With advice from its financial advisor, USM's goal is for expendable resources to be no less than 90% of total debt outstanding, adjusted for outstanding commitments.

Exhibit 7.4 shows USM's expendable resources to debt outstanding ratio for fiscal 2011 to 2025. USM also makes adjustments to this ratio in its internal cash management analysis. Adjustments include expanding debt outstanding to include anticipated issuances for projects that the system is committed to completing. This reduces the ratio of available resources to debt outstanding by increasing the denominator of the fraction. USM advises that after adjustments are made, the fiscal 2019 ratio is 132%. USM has exceeded the target minimum 90% throughout the entire period. The ratio has grown in recent years, indicating capacity to issue more debt under the criterion. In the 2020 session, the system will seek authorization for a total of \$32 million in ARBs to provide facility renewal and capital project funding for USM institutions for fiscal 2021. Future

legislative requests to issue ARBs are expected to be \$30 million per year for fiscal 2022 through 2025.

Exhibit 7.4
Summary of Available Resources to Debt Outstanding for the
University System of Maryland
Fiscal 2011-2025 Estimated
(\$ in Millions)

<u>Year</u>	<u>Available Resources</u>	<u>Debt Outstanding</u>	<u>Ratio of Available Resources to Debt Outstanding</u>
2011	\$1,432	\$1,129	126.9%
2012	1,622	1,170	138.6%
2013	1,752	1,217	144.0%
2014	1,748	1,290	135.5%
2015	1,902	1,199	158.6%
2016	2,067	1,270	162.8%
2017	2,178	1,298	167.8%
2018	2,384	1,286	185.5%
2019	2,576	1,304	197.6%
2020 Estimated	2,557	1,196	213.7%
2021 Estimated	2,512	1,174	214.4%
2022 Estimated	2,471	1,187	208.7%
2023 Estimated	2,417	1,201	201.7%
2024 Estimated	2,363	1,250	192.7%
2025 Estimated	2,274	1,248	182.2%

Note: Debt outstanding includes auxiliary, academic, and capital lease debt.

Source: University System of Maryland

St. Mary's College of Maryland

SMCM's outstanding debt consists of auxiliary and capital lease debt. SMCM has no outstanding academic debt. The total debt in fiscal 2020 is estimated to be \$25.8 million and is expected to decrease to \$13.0 million by fiscal 2025. As shown in **Exhibit 7.5**, the college's ratio of debt service to unrestricted expenditures is also expected to decline from an estimated 6.1% in fiscal 2019 to 3.66% in fiscal 2025. In fiscal 2010, SMCM was at its 5.5% debt ratio goal in order to construct additional residential buildings to house increasing enrollment. The college breaches the limit in fiscal 2019 but expects that the ratio will decline in fiscal 2020.

Exhibit 7.5
St. Mary's College of Maryland Debt Service Related to Unrestricted Funds
Fiscal 2011-2025 Estimated
(\$ in Thousands)

<u>Year</u>	<u>Total Debt Outstanding</u>	<u>Total Debt Service</u>	<u>Unrestricted Expenditures</u>	<u>Ratio of Debt Service to Unrestricted Expenditures</u>
2011	\$41,753	\$3,500	\$65,187	5.4%
2012	38,313	3,416	66,817	5.1%
2013	38,311	3,211	63,082	5.1%
2014	36,387	3,208	61,031	5.3%
2015	34,268	3,200	65,858	4.9%
2016	33,904	3,436	70,310	4.9%
2017	31,735	3,682	68,414	5.4%
2018	31,390	3,516	64,059	5.5%
2019	25,760	4,044	66,490	6.1%
2020 Estimated	24,340	2,504	67,739	3.7%
2021 Estimated	22,135	3,035	66,521	4.6%
2022 Estimated	19,865	3,024	67,851	4.5%
2023 Estimated	17,535	3,000	69,208	4.3%
2024 Estimated	15,115	2,995	70,593	4.2%
2025 Estimated	12,965	2,637	72,004	3.7%

Note: Total debt outstanding and total debt service includes auxiliary and capital lease debt only. St. Mary's College of Maryland does not have any academic debt.

Source: St. Mary's College of Maryland

In August 2019, SMCM's bond rating was affirmed by Moody's at A2 with a negative outlook. In spite of a history of strong State support to the college, there are concerns about declining enrollment. Because the college's bonds are issued at a fixed rate, there is no effect on existing bonds.

Morgan State University

As shown in **Exhibit 7.6**, MSU estimates \$33.6 million of debt in fiscal 2020. This figure includes academic, auxiliary, and capital lease debt. Auxiliary debt is the largest of the three, totaling \$22.6 million. The ratio of debt service to unrestricted expenditures is estimated to be 3.8% in fiscal 2020, below MSU's 5.5% goal ratio. MSU is not planning to issue more debt in the next five years, and the college's projected debt ratio is expected to stay between 1.6% and 3.8% through

fiscal 2025. Like USM, MSU issues 20-year bonds with serial maturities and level debt service payments. The first year is interest only, and the principal is retired in the remaining 19 years. MSU was most recently rated A1 Stable by Moody's in December 2018 and A+ (stable) by Standard & Poor's in November 2018. MSU advises that the large decline in its debt service in fiscal 2021 is due to the maturation of its 1993 series bonds and that this is in line with the institution's financial planning.

Exhibit 7.6
Morgan State University Debt Service as Related to Unrestricted Funds
Fiscal 2011-2025 Estimated
(\$ in Thousands)

<u>Year</u>	<u>Total Debt Outstanding</u>	<u>Total Debt Service</u>	<u>Unrestricted Expenditures</u>	<u>Ratio of Debt Service to Unrestricted Expenditures</u>
2011	\$59,556	\$8,034	\$150,429	5.3%
2012	55,165	7,429	157,647	4.7%
2013	47,761	5,776	165,502	3.5%
2014	43,770	6,422	164,211	3.9%
2015	43,145	6,078	177,568	3.4%
2016	54,409	7,100	183,346	3.9%
2017	48,481	8,312	198,116	4.2%
2018	46,465	8,332	204,057	4.1%
2019	40,188	8,329	211,507	3.9%
2020 Estimated	33,629	8,314	217,853	3.8%
2021 Estimated	26,963	5,027	224,388	2.2%
2022 Estimated	23,261	4,376	231,120	1.9%
2023 Estimated	19,887	4,065	238,053	1.7%
2024 Estimated	16,696	4,067	245,195	1.7%
2025 Estimated	14,432	4,065	252,551	1.6%

Note: Total debt outstanding and total debt service include academic, auxiliary, and capital lease debt.

Source: Morgan State University

Baltimore City Community College

To date, BCCC has not taken advantage of its ability to issue auxiliary or academic debt but is authorized to issue up to \$65 million. Since both the amount and eligible uses of its debt authorization were expanded in the 2009 session, BCCC has not initiated the bond rating process to issue debt. The college has more recently decided to assess its position to issue debt before pursuing the rating process. This position will be reviewed by its Board of Trustees, which was reformed by legislation (Chapter 848 of 2017) in fiscal 2018 and is tasked with reviewing the institution's capital planning needs.

Chapter 8. Issues

Key issues examined in this chapter are:

- how Maryland's State debt compares to other states;
- why the State is realizing large bond sale premiums and what to do when premiums are large. **The Department of Legislative Services (DLS) recommends that the State study resizing bond sales to reduce out-year debt service costs;** and
- the difference in the cost of taxable and tax-exempt bonds. **DLS recommends that the State consider appropriating general funds to support programs that are not eligible for tax-exempt bonds to reduce out-year debt service costs.**

Maryland Is a High Debt State That Has Expanded Its Capital Program Beyond State Facilities

Maryland authorizes and issues higher levels of debt than most states and also 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.

Maryland's Debt Ratios Are Well Above the Average

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 is among the highest debt states for both measures.

Exhibit 8.1 shows that Moody's ranked Maryland the thirteenth highest State with respect to debt outstanding, which is 3.8% of personal income. This is the second highest level among AAA-rated states. Altogether, there are 20 states above the mean and 30 below the mean. The mean is skewed because there are states with exceptionally high levels of debt outstanding. For example, the state with highest ratio, Hawaii at 10.3%, has a ratio that is almost three times Maryland's ratio.

Exhibit 8.1
Ranking AAA-rated States
Net Debt Outstanding as a Percent of Personal Income
Fiscal 2017

<u>Rank</u>	<u>State</u>	<u>Ratio</u>
4	Delaware	6.5%
13	Maryland	3.8%
Between 20 and 21	Mean	2.8%
21	Virginia	2.7%
25	Georgia	2.3%
28	Utah	1.9%
30	Florida	1.7%
36	South Dakota	1.3%
39	North Carolina	1.2%
40	Missouri	1.1%
42	Texas	0.8%
44	Tennessee	0.7%
45	Indiana	0.6%
46	Iowa	0.4%

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 a few tenths of a percent higher than Maryland's estimates.

Source: Moody's Analytics

Exhibit 8.2 shows that Maryland's debt service to revenues is the highest among AAA-rated states at 7.1%. 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 8.2
Ranking AAA-rated States
Debt Service as a Percent of Revenues

<u>Rank</u>	<u>State</u>	<u>Ratio</u>
8	Maryland	7.1%
10	Delaware	6.6%
12	Georgia	5.9%
20	Virginia	4.5%
22	Florida	4.4%
At 23	Mean	4.3%
25	Utah	4.1%
31	Missouri	3.4%
33	North Carolina	3.1%
34	Texas	2.6%
35	South Dakota	2.4%
43	Tennessee	1.2%
46	Indiana	1.1%
47	Iowa	0.7%

Note: Moody's estimate of debt service excludes non-State debt supported by revenues other than taxes. Moody's does include all lottery bonds, while Maryland excludes some lottery bonds. Consequently, Moody's estimates are a few tenths of a percent higher than Maryland's estimates.

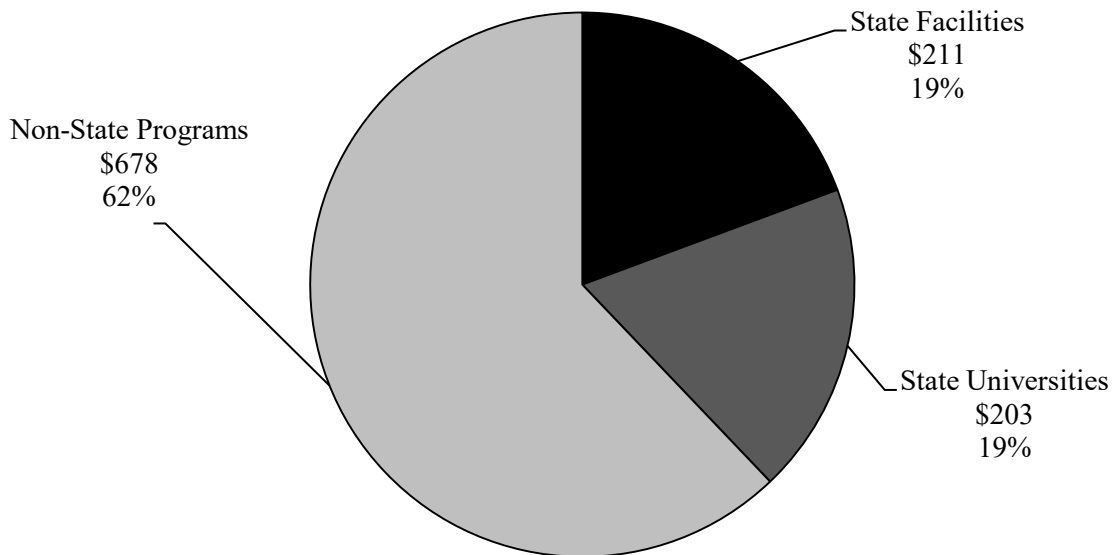
Source: Moody's Analytics

Maryland's Bond Program Supports Non-State Programs

Maryland's bond program supports various State and non-State projects and programs. **Exhibit 8.3** shows 62% of fiscal 2020 general obligation (GO) bond authorizations support non-State projects and programs. The three largest areas of support receive \$449 million, which is 44% of total authorizations, and is more than the entire State facility allocation. These areas are:

- public school construction that receives \$330 million, or 30.2%, of total authorizations;
- community colleges that receive \$78 million, or 7.1%, of total authorizations; and
- hospitals that receive \$71 million, or 6.5%, of total authorizations.

Exhibit 8.3
Uses of General Obligation Bonds' Proceeds
Fiscal 2020
(\$ in Millions)



Source: *90 Day Report*, Department of Legislative Services, April 2019

Bond Sale Premiums: Why We Get Them, Why We Must Be Careful, and What We Can Do About Them

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, the State Treasurer's Office determines how many bonds are sold (par value of the bonds) and when the bonds mature.¹ The underwriter determines the coupon rate (interest rate that the issuer pays) and the sale price of the bonds, which is awarded to the underwriter with the lowest interest cost.² If the coupon rate is greater than the market rate, the bonds sell at a premium, and the State's bond proceeds exceed par value of the bonds.

¹ Section 34 of Article III of the Constitution of Maryland limits State debt to 15 years.

² Chapter 6 of this report includes a discussion of factors that influence the true interest cost of Maryland's GO bonds.

For example, at the most recent bond sale in August 2019, the State issued \$500 million in tax-exempt GO bonds (par value). The average coupon was 3.94%, and the true interest cost (TIC) (market interest rate) was 1.65%. Since the coupon rate exceeded the market interest rate, the bonds sold at a premium, and total bond proceeds totaled \$591 million (after deducting the underwriters discount and cost of issuance expenses). This additional \$91 million is the bond premium.

Why Do Bonds Sell at a Premium

Economic theory suggests 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 is relative and depends on what interest rates the market offers. If rates on low-risk bonds, 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 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 Wednesday, August 14, 2019 (the time of the most recent bond sale), was among the lowest since January 2, 1962. In fact, only 75 out of 15,032 weekdays had lower interest costs; 99.5% 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.

Exhibit 8.4 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 you buy 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.

Exhibit 8.4
Effect of Higher Interest Rate on the Value of Bonds
Data from July 2015 Bond Sale

<u>Description</u>	<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; Department of Legislative Services

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.

Interest Rates Are Difficult to Predict, So Bond Sale Premium Estimates Are Inherently Unreliable

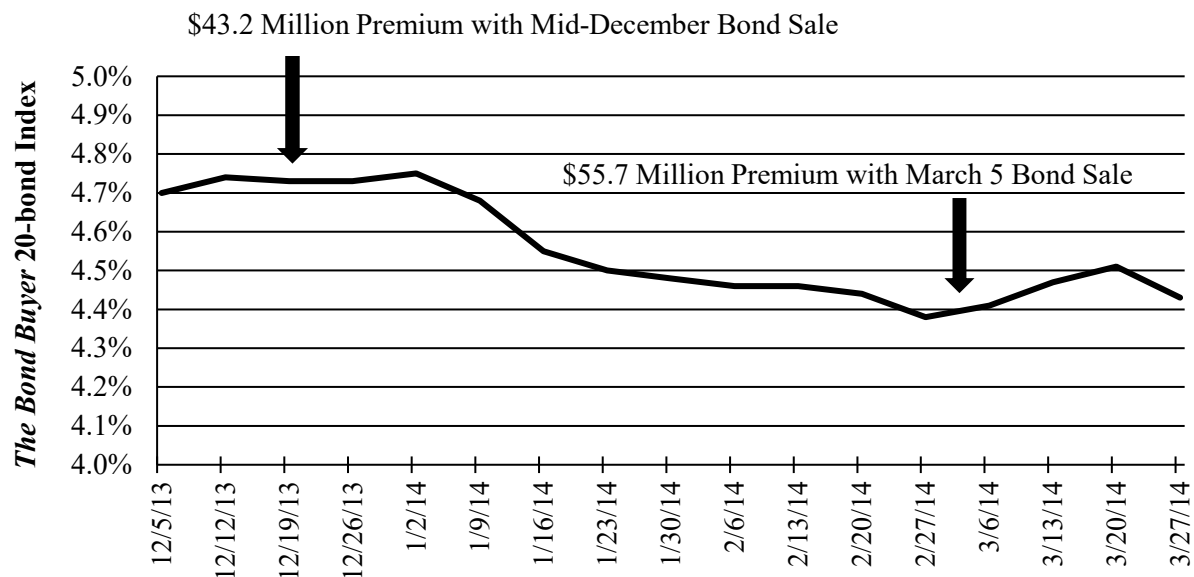
In recent years, bond premiums have been substantial. In every year since fiscal 2012, premiums have generated over \$100 million in Annuity Bond Fund (ABF) revenues except fiscal 2017, which had only one bond sale, instead of two. Although premiums are expected to diminish, DLS anticipates that bond sales will continue to generate premiums in fiscal 2020.

A concern with budgeting premiums is that small changes in interest rates can generate substantial changes in the amount of premiums realized. Interest rates have been highly volatile, and rates have climbed or plummeted in a matter of weeks. For example, from April 9 to May 7, 2015, *The Bond Buyer* 20-bond index increased from 3.49% to 3.74%. Such an increase substantially decreases a bond sale premium.

Most of this volatility cannot be foreseen. This means that the key variables used to estimate premiums cannot be predicted with any precision. An example of this is the March 6, 2014 bond sale. The State projected a \$40.8 million premium. This forecast was prepared in December 2013 and was used in the Governor's fiscal 2015 budget. Using interest rates from December 2013, DLS forecasted a \$43.2 million premium. DLS' conclusion was that the premium in the budget was entirely reasonable, based on the data that was available when the budget was prepared.

However, the actual bond sale premium for the March 2014 sale was \$55.7 million. This is \$14.9 million more than the Department of Budget and Management projected. The reason for this difference is a sudden decline in interest rates. **Exhibit 8.5** shows that *The Bond Buyer* 20-bond index declined from over 4.7% in December 2013 to approximately 4.4% in early March 2014. In the short term, the State benefited from the change by receiving a larger premium.

Exhibit 8.5
Timing of Bond Sales Influences Interest Rates and Premiums
December 2013-March 2014



Note: The mid-December bond sale premium is estimated based on the interest rate generated using the statistical equation in Chapter 6 of this report. The amount of bonds sold and the coupon rate are assumed to be the same as the March sale.

Source: Department of Legislative Services

This volatility goes both ways. For example, the State issued bonds on July 24, 2013. There was a sharp increase in interest rates during July 2013. From July 3 to July 25, 2013, the index

interest rates increased from 4.39% to 4.77%. This increase of 38 basis points could have substantially decreased a forecasted premium. At the time, premiums were not forecast beyond the spring sale, so it cannot be determined to what extent the higher rates resulted in a smaller premium or higher debt service costs. But the lesson is that large changes in interest rates can happen suddenly.

In conclusion, why should we budget premiums carefully? Because interest rates in this environment are volatile, and even estimates prepared weeks before a bond sale are routinely off by tens of millions of dollars.

What Can We Do with Bond Sale Premiums

Bonds are sold at a premium because investors want to buy them at a premium. If the State were to dictate the coupon rate (instead of the underwriters), the State could eliminate the premium by offering low coupon rates. However, if the State were to set the coupon rate instead of the underwriter, the TIC would be expected to increase. Underwriters are purchasing bonds at a premium because of current market conditions. Eliminating the premium would make Maryland bonds less attractive, which increases borrowing costs and State spending. To keep costs down, the State has accepted that it will receive premiums. With respect to premiums, here are three options:

- ***Deposit Premiums in the ABF to Pay Debt Service Costs:*** This approach has been taken with most of the premiums realized. The State is paying higher interest costs for these premiums. Depositing the premium into the ABF reduces the short-term general fund requirements at the expense of greater long-term debt service costs.
- ***Support Capital Programs:*** Premiums are bond sale proceeds. Bonds are sold so that the proceeds support capital projects. The State has authorized premiums for capital projects in the past. For example, premiums supported capital projects in fiscal 2016 and 2019. Sections 8-125 and 8-132 of the State Finance and Procurement Article require that premiums be deposited into the ABF, so any authorization for capital projects would require capital budget bill authorization. This approach increases capital spending but does not lead to any short- or long-term savings.
- ***Resize the Bond Sale:*** If the objective is to generate a specific level of bond proceeds, the amount of bonds sold can be reduced, and bond sale premiums can be used to support capital projects. This is referred to as resizing the bond sale. This has been done by the Maryland Department of Transportation as recently as its October 2018 bond sale. For example, if the State determines that \$500 million in bond proceeds are needed and a \$45 million premium is anticipated, the State could reduce the par value of the bonds by \$40 million and use any premiums to support projects. This would need to be authorized in the State's capital budget. Bond documents, such as the Preliminary Official Statement, would need to clarify that bonds could be resized prior to opening the bids. This approach minimized total costs but does not provide any short-term cost relief.

What Is the Out-year Cost of Bond Sale Premiums

As discussed in the previous section, generating a high premium provides short-term budget relief at the expense of higher out-year costs. In August 2019, the State issued \$500 million in new tax-exempt GO bonds. The bonds generated a \$99 million premium. **Exhibit 8.6** estimates how a resized bond sale would have performed and compares this to the actual bond sale. Instead of issuing the full \$500 million, the resized bond sale issues \$420 million. Assuming the same TIC as the actual sale, the resized issuance generates an \$82 million premium so that proceeds total \$502 million. If \$500 million of the sale supports the capital program, another \$2 million is available to reduce debt service costs.

Exhibit 8.6 Comparing the Sources and Uses of Actual and Resized Bond Sale August 2019 (\$ in Millions)

	<u>Actual Bond Sale</u>	<u>Resized Bond Sale</u>	<u>Difference</u>
Sources of Proceeds			
Principal Issued	\$500.0	\$420.0	-\$80.0
Bond Sale Premium ¹	99.1	82.4	-15.9
Total Proceeds	\$599.1	\$502.4	-\$95.9
Uses of Proceeds			
Total Capital Program	\$500.0	\$500.0	\$0.0
Premium Available for Debt Service	99.1	2.4	-95.9
Total Proceeds	\$599.1	\$502.4	-\$95.9

¹ After deducting issuance costs.

Source: Public Resources Advisory Group; Department of Legislative Services

The larger \$500 million issuance's advantage is that it offers a large amount of cash in the short term; this brings \$99 million into the ABF and reduces fiscal 2020 general fund appropriation correspondingly. However, the resized bonds reduce debt service costs over the 15 years until the bonds mature. **Exhibit 8.7** shows how the resized sale reduces costs. From fiscal 2020 to 2035, resizing reduces debt service costs by \$110 million. In the peak debt service cost years, fiscal 2023 to 2035, resizing saves over \$7 million annually.

Exhibit 8.7
Out-year Costs of August 2019 Bond Sale Premium
(\$ in Millions)

	<u>Actual Bond Sale</u>	<u>Resized Bond Sale</u>	<u>Difference</u>
Total Principal Payments	\$500.0	\$420.0	-\$80.0
Total Interest Payments	187.9	157.8	-30.1
Total Debt Service Payments	\$687.9	\$577.8	-\$110.1
Annual Peak Debt Service	\$49.3	\$41.9	-\$7.4

Source: Public Resources Advisory Group; Department of Legislative Services

State Should Consider Resizing GO Bond Sales

Although bond sale premiums generate substantial short-term revenues that reduce general fund appropriations into the ABF, there is an even greater out-year cost. The State pays both principal and interest on the premium.

In addition, these premiums exacerbate budgetary uncertainty. The State often does estimate premiums generated after the legislative session ends. After large premiums are realized, projected general fund appropriations for the following budget year are revised downward substantially. For example, the fiscal 2021 general fund estimate for debt service has been reduced from \$444 million in March 2019 to \$246 million in October 2019. Most of this change is attributable to the realizing of additional bond sale premiums after the State budget was enacted. Resizing bond sales would substantially reduce the revenue volatility.

The Administration and the General Assembly should consider options for reducing the reliance on bond proceeds to support GO bond debt service by resizing GO bond sales that generate large premiums. The benefits would be reduced out-year debt service costs and lessened budgetary uncertainty. While the State's budgetary situation may make it difficult to eliminate all premiums in the short term, limiting premiums would reduce out-year debt service costs and reduce budget uncertainty. **DLS recommends that the Administration and the General Assembly study resizing bond sales.**

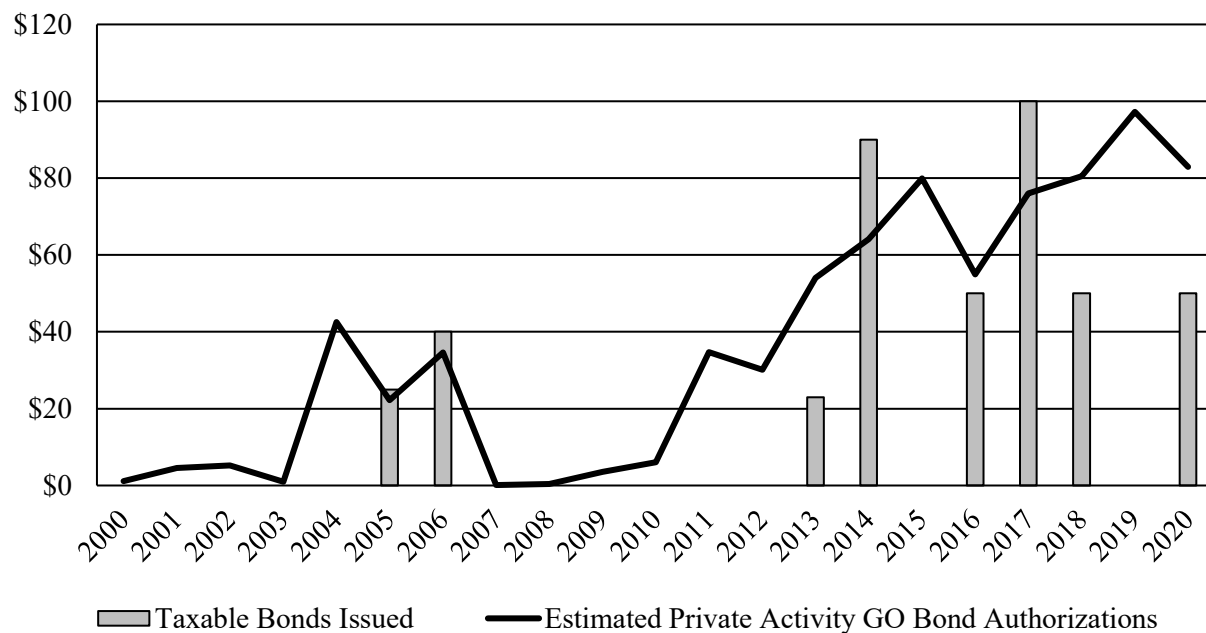
Reducing Taxable Debt Authorizations to Reduce Interest Costs

Federal laws and regulations limit the kinds of activities that 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 and the Water Quality Revolving Loan Fund of the Maryland Department of the Environment.

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 8.8** shows that the State has authorized \$655 million in potential private activity projects since fiscal 2011. To support these projects, the State issued \$363 million in taxable debt over the same period. Insofar as the State has recently authorized GO bonds for additional private activity projects, additional taxable bond sales are expected, even if they have not yet been planned.

Exhibit 8.8
Private Activity Authorizations and Taxable Bond Issuances
Fiscal 2000-2020
(\$ in Millions)



GO: general obligation

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

Taxable Bonds Cost More

In August 2019, the State sold \$50 million in taxable GO bonds to institutional investors with three- and four-year maturities. The issuance's TIC 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 TIC of 0.94%. The difference between the four-year bonds was 0.67% (67 basis points). DLS estimates that the additional 67 basis points increased interest payments by \$1.13 million from fiscal 2020 to 2023.

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

Exhibit 8.9 shows that out-year private activity authorizations planned in the 2020 *Capital Improvement Program* range from \$79 million in fiscal 2024 to \$92 million in fiscal 2022. Even without authorizing more taxable bonds, the State is still likely to issue substantial levels of taxable bonds. From fiscal 2011 to 2020, potential taxable authorizations exceeded taxable issuances by as much as \$292 million. There is still a substantial reliance on GO bond funds to support projects and programs that are traditionally supported in pay-as-you-go capital funding. These large authorizations are likely to result in the issuance of taxable bonds in the out-years.

Exhibit 8.9
Potential Private Activity Authorizations by Department
Fiscal 2020-2024
(\$ in Millions)

	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>Total</u>
Private Business Use						
Maryland Public Television	\$8.2	\$0.0	\$0.0	\$0.0	\$0.0	\$8.2
Private Loans						
Department of Housing and Community Development	\$68.9	\$79.6	\$79.8	\$79.3	\$67.6	\$375.2
Maryland Department of the Environment	14.1	11.9	11.9	11.9	11.9	61.5
Subtotal	\$82.9	\$91.4	\$91.7	\$91.2	\$79.4	\$436.7
Total	\$91.1	\$91.4	\$91.7	\$91.2	\$79.4	\$444.9

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

Source: Department of Budget and Management, 2018 *Capital Improvement Program*

To reduce debt service costs, DLS recommends that the State fund private loan projects and programs that do not qualify for tax-exempt bonds with cash in fiscal 2021. Insofar as the State's general fund balance is larger than expected and revenues have been unexpectedly revised upward, the State's cash position should be sufficient to appropriate general funds instead of authorizing taxable debt.

Appendix 1
General Obligation Bond Requests
Fiscal 2021-2025
(\$ in Millions)

	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>Total</u>	Category Totals
State Facilities							\$506.9
Board of Public Works	\$55.0	\$102.5	\$96.1	\$73.3	\$83.5	\$410.3	
Veterans Affairs	\$0.0	\$1.6	\$10.4	\$11.3	\$0.0	\$23.2	
Military	5.3	12.7	7.9	0.0	0.0	25.9	
Disabilities	2.0	1.6	1.6	1.6	1.6	8.4	
Maryland Public Broadcasting	0.9	0.0	0.0	0.0	0.0	0.9	
Information Technology	15.0	5.3	5.5	6.8	5.5	38.1	
Health and Social Services							\$420.2
Health	\$9.8	\$24.3	\$30.0	\$9.0	\$14.8	\$87.9	
University of Maryland Medical System	10.5	30.0	29.0	29.0	40.0	138.5	
Senior Citizen Activity Center	0.3	1.6	1.6	1.6	1.6	6.7	
Juvenile Services	7.4	35.8	49.1	5.1	52.1	149.5	
Private Hospital Grant Program	6.6	7.0	7.5	8.0	8.5	37.6	
Environment							\$297.9
Natural Resources	\$23.0	\$12.8	\$14.7	\$12.6	\$8.6	\$71.6	
Agriculture	9.7	9.0	9.0	9.0	9.0	45.7	
Environment	24.0	24.8	24.8	24.8	24.8	123.2	
Maryland Environmental Service	10.5	15.6	10.1	10.9	10.3	57.4	
Education							\$4,038.6
Education Other	\$7.4	\$5.0	\$5.0	\$5.0	\$5.0	\$27.4	
Maryland School for the Deaf	2.0	11.9	0.7	0.8	5.3	20.7	
Public School Construction ¹	606.1	706.1	826.1	926.1	926.1	3,990.5	
Higher Education							\$2,314.2
University System of Maryland ²	\$240.2	\$236.4	\$229.4	\$148.2	\$212.6	\$1,066.7	
Baltimore City Community College	30.2	21.8	11.7	14.5	24.6	102.8	
St. Mary's College of Maryland	38.8	25.6	5.8	5.1	12.1	87.4	
Morgan State University	25.2	53.8	89.6	117.5	91.1	377.3	
Community Colleges	119.1	118.0	81.3	107.3	180.8	606.4	
Private Facilities Grant Program	12.0	12.0	16.0	17.5	16.0	73.5	

	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>Total</u>	<u>Category Totals</u>
Public Safety							\$755.1
Public Safety	\$62.0	\$82.0	\$142.0	\$180.0	\$201.6	\$667.6	
State Police	5.6	11.1	17.9	11.6	11.4	57.5	
Local Jails	12.7	8.7	8.5	0.2	0.0	30.0	
Housing and Economic Development							\$742.8
Housing and Community Development	\$150.2	\$145.7	\$143.7	\$127.7	\$137.7	\$704.9	
Historic St. Mary's City	3.3	8.7	3.6	0.0	0.6	16.2	
Planning	10.3	6.2	1.8	1.8	1.8	21.7	
							\$450.0
Legislative Initiatives³	\$30.0	\$30.0	\$30.0	\$30.0	\$30.0	\$150.0	
Miscellaneous⁴	60.0	60.0	60.0	60.0	60.0	300.0	
<i>Subtotal Request</i>	<i>\$1,594.9</i>	<i>\$1,827.6</i>	<i>\$1,970.4</i>	<i>\$1,956.2</i>	<i>\$2,176.7</i>	<i>\$9,525.7</i>	<i>\$9,525.7</i>
Debt Affordability Limits 2019 CDAC	\$1,095.0	\$1,105.0	\$1,115.0	\$1,125.0	\$1,135.0	\$5,575.0	
Debt Affordability Limits 2018 CDAC	\$995.0	\$995.0	\$995.0	\$995.0	\$995.0	\$4,975.0	
Variance 2019 CDAC	\$499.9	\$722.6	\$855.4	\$831.2	\$1,041.7	\$3,950.7	
Variance 2018 CDAC	\$599.9	\$832.6	\$975.4	\$961.2	\$1,181.7	\$4,550.7	

CDAC: Capital Spending Affordability Committee
SAC: Spending Affordability Committee

¹ Figures represent general obligation (GO) bond funding and revenue bond funding through the proposed Building Opportunity Fund planned for the Public School Construction Program in the Governor's 2019 *Capital Improvement Program*.

² In addition to the GO bond request, the University System of Maryland has requested academic revenue bond funding of \$32.0 million for fiscal 2021 and \$30.0 million annually for fiscal 2022 through fiscal 2025.

³ Figures represent the average total funding requests received through local legislative bond initiatives (fiscal 2018 through 2020).

⁴ Figures represent the average total funding for miscellaneous projects sponsored by the Governor (fiscal 2018 through 2020).

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

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

Appendix 2
Estimated General Obligation Issuances
Fiscal 2020-Post 2029
(\$ in Millions)

Fiscal Year	Proposed Auth.	Estimated Issuances During Fiscal Year (a) =====>										Post 2029	Total Issued		
		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029				
2021	\$1,095	\$0	\$339	\$274	\$219	\$164	\$99								\$1,095
2022	1,105		0	343	276	221	166	\$99							1,105
2023	1,115			0	346	279	223	167	\$100						1,115
2024	1,125				0	349	281	225	169	\$101					1,125
2025	1,135					0	352	284	227	170	\$102				1,135
2026	1,145						0	355	286	229	172	\$103			1,145
2027	1,155							0	358	289	231	277			1,155
2028	1,165								0	361	291	513			1,165
2029	1,175									0	364	811			1,175
Total New Authorization		\$0	\$339	\$617	\$841	\$1,013	\$1,121	\$1,130	\$1,140	\$1,150	\$1,160	\$1,704			
Previously Authorized GO Bonds	\$2,483	\$995	\$711	\$448	\$234	\$67	\$9	\$5	\$5	\$5	\$4	\$0			\$2,483
Total Issuances		\$995	\$1,050	\$1,065	\$1,075	\$1,080	\$1,130	\$1,135	\$1,145	\$1,155	\$1,164	\$1,704			\$12,698
Percentage Issuance Assumptions by Fiscal Year															
Fiscal Year Following Year of Authorization						1st	2nd	3rd	4th	5th					
Percent of Authorization Issued						31%	25%	20%	15%	9%					

GO: general obligation

Appendix 3

Department of Legislative Services' True Interest Cost Equation Model Summary

The Department of Legislative Services' sum of least squares regression equation is discussed in Chapter 6. The equation's dependent variable is a bond sale's true interest cost (TIC) and the independent variables are *The Bond Buyer* 20-bond Index, a sale's years to maturity, and variable identifying of the sale was before or after the beginning of the Great Recession. In addition to estimating and evaluating the specific variables, a proper statistical analysis must also incorporate an analysis of the equation as a whole, such as:

- how confident are we in the equation (confidence interval);
- what is the equation's margin of error;
- how close are the equation's estimates to the actual data; and
- is there a dependence between successive dependent variables (serial or autocorrelation).

The regression equation has a high level of explanatory power and suggests that the determinants of Maryland's TIC are well understood and account for almost all of the variations that are seen in the TIC. The following exhibit shows the equation's statistics.

TIC Regression Equation – Evaluating the Equation

<u>What Is Measured</u>	<u>Statistic Used to Measure</u>	<u>Value of Statistic</u>	<u>Explanation</u>
Confidence in the equation	F Statistic	569.111	We are over 99.9% confident that the independent variables influence the dependent variable.
Margin of error	Standard error of the estimate	0.248	We expect the actual TIC to be within 0.25% (25 basis points) of the estimate.
Estimate in relation to actual data	Adjusted R Square	0.962	The model's estimates explain 96% of the actual data.
Serial or autocorrelation	Durbin-Watson	1.286	The ideal value is 2.0. If the number deviates too far from 2.0, it suggests that there are patterns in the errors, such as missing a key independent variable.

TIC: true interest cost

Source: Department of Legislative Services

Appendix 4
Agency Debt Outstanding
Fiscal 2009-2019
(\$ in Millions)

	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Change</u> <u>2009-19</u>	<u>Average</u> <u>Annual</u> <u>% Change</u> <u>2009-19</u>
<u>Agency Debt Subject to Ceiling and Allocation Caps</u>													
Maryland Environmental Service	\$19.8	\$28.5	\$31.2	\$27.5	\$25.2	\$27.9	\$26.4	\$24.8	\$23.1	\$21.4	\$19.6	-\$0.2	0.5%
Maryland Wholesale Food Center Authority	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n/a
Maryland Transportation Authority	2,247.1	2,708.2	3,292.9	3,279.7	3,303.2	3,179.3	3,176.4	3,062.0	2,928.4	1,588.6	1,552.8	-694.3	-1.9%
Maryland Water Quality Financing Administration ¹	140.0	126.3	112.0	57.7	47.2	36.7	33.2	29.2	24.7	20.3	17.8	-122.2	-16.3%
Revenue Cap Total	\$2,406.9	\$2,863.0	\$3,436.1	\$3,364.9	\$3,375.6	\$3,243.9	\$3,235.9	\$3,116.0	\$2,976.2	\$1,630.3	\$1,590.2	-\$816.7	-2.3%
% Change/Prior Year	20.3%	18.9%	20.0%	-2.1%	0.3%	-3.9%	-0.2%	-3.7%	-4.5%	-45.2%	-2.5%		
<u>Agency Debt Not Subject to Ceiling and Allocation Caps</u>													
Baltimore City Community College	\$0.7	\$0.7	\$1.2	\$1.0	\$0.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-\$0.7	-100.0%
Department of Housing and Community Development ²	3,177.5	3,345.9	3,238.7	3,106.5	2,979.0	2,783.2	2,557.0	2,535.9	2,445.4	2,295.9	2,601.2	-576.3	-2.2%
Local Government Infrastructure (CDA)	121.6	109.7	127.2	122.8	129.6	137.1	164.1	156.1	167.8	184.0	191.9	70.2	3.6%
Maryland Industrial Development Financing Authority	344.9	375.7	484.8	492.6	347.7	335.1	312.6	288.3	286.4	265.8	237.0	-107.9	-4.7%
MDOT – County Revenue Bonds	98.5	95.1	89.1	82.9	101.7	94.9	87.9	120.2	108.8	97.0	128.0	29.5	8.5%
MDOT – Nontax-supported Issuances	59.9	57.3	54.2	51.1	47.7	44.7	41.5	38.2	33.4	29.8	26.1	-33.8	-8.6%
Morgan State University	67.8	64.4	59.6	55.2	47.8	44.3	43.5	58.3	51.8	46.5	45.0	-22.8	-4.1%
St. Mary’s College of Maryland	46.8	45.3	41.8	38.3	36.1	34.3	34.6	32.5	32.0	29.6	25.8	-21.0	-6.1%
University System of Maryland	1,028.5	1,082.9	1,129.2	1,170.0	1,195.0	1,269.0	1,128.5	1,178.7	1,202.0	1,186.8	1,196.7	168.2	2.1%
Noncap Total	\$4,946.2	\$5,177.0	\$5,225.8	\$5,120.4	\$4,885.5	\$4,742.7	\$4,369.7	\$4,408.2	\$4,327.5	\$4,135.5	\$4,451.6	-\$494.6	-1.1%
% Change/Prior Year	-0.8%	4.7%	0.9%	-2.0%	-4.6%	-2.9%	-7.9%	0.9%	-1.8%	-4.4%	1.0%		

	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Change</u> <u>2009-19</u>	<u>Average</u> <u>Annual</u> <u>% Change</u> <u>2009-19</u>
<u>Tax-supported Debt</u>													
Transportation Debt	\$1,582.6	\$1,645.0	\$1,561.8	\$1,562.6	\$1,618.0	\$1,813.0	\$2,020.3	\$2,146.1	\$2,578.4	\$2,911.7	\$3,342.9	\$1,760.3	10.2%
Grant Anticipation Revenue Vehicles	704.4	651.8	596.9	539.4	479.0	415.8	349.4	279.8	206.6	129.7	48.9	-655.5	-16.6%
Capital Leases	266.8	242.5	166.4	310.3	286.2	260.3	242.2	236.0	216.7	223.6	199.2	-67.6	-2.1%
Maryland Stadium Authority	256.0	243.6	225.7	218.3	193.0	175.4	151.0	130.5	110.4	88.6	122.8	-133.2	-7.6%
Bay Restoration Bonds	46.8	44.2	41.6	38.8	36.0	133.1	130.0	301.6	292.9	273.6	253.4	206.6	17.6%
General Obligation Debt	5,873.6	6,523.2	6,982.8	7,541.1	8,005.8	8,362.3	8,677.2	9,465.3	9,334.2	9,479.4	9,606.9	3,733.3	5.7%
Tax-supported Debt Total	\$8,730.2	\$9,350.3	\$9,575.2	\$10,210.5	\$10,618.0	\$11,160.0	\$11,570.1	\$12,559.2	\$12,739.1	\$13,106.6	\$13,574.2	\$4,844.0	5.9%
% Change/Prior Year	14.4%	7.1%	2.4%	6.6%	4.0%	5.1%	3.7%	8.5%	1.4%	2.9%	8.1%		
<u>Authorities and Corporations Not Subject to Ceiling and Allocation Caps</u>													
Health/Higher Education Facilities Authority	\$8,466.8	\$8,660.7	\$8,656.4	\$8,913.1	\$8,835.3	\$8,837.2	\$8,779.5	\$8,664.0	\$9,042.8	\$9,063.4	\$8,903.8	\$437.0	0.8%
Maryland Economic Development Corporation	2,115.1	2,329.9	2,471.2	2,471.2	2,376.7	2,244.8	2,192.7	2,426.6	2,311.0	2,301.9	2,373.0	257.9	1.3%
Authorities and Corporations Total	\$10,581.9	\$10,990.6	\$11,127.6	\$11,384.3	\$11,212.0	\$11,082.0	\$10,972.2	\$11,090.6	\$11,353.8	\$11,365.3	\$11,276.8	\$694.9	0.9%
% Change/Prior Year	2.7%	3.9%	1.2%	2.3%	-1.5%	-1.2%	-1.0%	1.1%	2.4%	0.1%	1.7%		

CDA: Community Development Administration
MDOT: Maryland Department of Transportation

¹ Excludes bay restoration bonds.

² Excludes local government infrastructure.