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

DEPARTMENT OF LEGISLATIVE SERVICES 2011

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

Department of Legislative Services
Office of Policy Analysis
Annapolis, Maryland

November 2011

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DEPARTMENT OF LEGISLATIVE SERVICES
OFFICE OF POLICY ANALYSIS
MARYLAND GENERAL ASSEMBLY

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November 2011

The Honorable James E. DeGrange, Sr.
Senate Chairman, Spending Affordability Committee

The Honorable John L. Bohanan, Jr.
House Chairman, Spending Affordability Committee

Dear Chairman DeGrange and Chairman Bohanan:

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, created by an Act of the 1978 General Assembly, is required to submit a recommended level of debt authorization to the Governor and the General Assembly by October 1 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 legislature.

The statistical analysis and data used in developing the recommendations were prepared by Patrick Frank with assistance from Flora Arabo, Andrew Gray, Richard Harris, Matthew Klein, Jonathan Martin, and Jody Sprinkle. The manuscript was prepared by Nancy Scaggs.

Respectfully submitted,

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WGD/ncs

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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 $925 million for new general obligation (GO) bond authorizations during the 2012 legislative session. The recommendation is equal to the amount authorized in the 2011 legislative session. This amount is necessary to keep debt service costs within the committee's affordability limit, which limits debt service costs to 8% of revenues. Another concern is that GO bond debt service costs are increasing at a higher rate than the State property tax revenues supporting them. Consequently, current projections require general fund subsidies to support debt service costs at a time when there is a substantial structural deficit.

Recently, policymakers have discussed increased infrastructure spending as a means of addressing critical needs and at the same time boosting employment and the State's economy. To the extent that these investments are debt financed, the schedule of authorizations envisioned by CDAC will need to be modified. An analysis performed by the Department of Legislative Services (DLS) indicates that as much as $700 million can be accelerated from years fiscal 2015 and 2016 to enhance fiscal 2013 and 2014 without violating CDAC criteria. However, this would reduce fiscal 2015 and 2016 authorizations by $800 million. This issue is discussed in more detail in Chapter 7. **DLS concurs with the CDAC recommendation to limit fiscal 2013 authorizations to $925 million. DLS also recognizes that there may be benefits to accelerating capital construction projects. It is recommended that any acceleration of capital construction projects be offset by reductions to the capital program in the out-years that are sufficient to maintain a debt program within affordability limits.**

Revenue Shortfall and Structural Budget Deficit

DLS is concerned that State property tax receipts, which support GO bond debt service, are declining while GO bond debt service costs are increasing. Based on current revenue and debt service estimates, the State will need to appropriate approximately $400 million in general funds in fiscal 2016 and 2017. This is a major component of the State's structural general fund deficit. Current estimates show this deficit stabilizing between $1.0 and $1.1 billion. By fiscal 2016, the general fund debt service subsidy represents over one-third of the structural deficit.

The State property tax law provides a dedicated revenue source for GO bond debt service costs. Based on current estimates, DLS projects that fully funding debt service with State property taxes in fiscal 2013 would require a $0.012 increase in the State property tax rate to $0.124 per $100 of assessable base. The Maryland Association of Realtors estimates that the median home sale price in October 2011 was $228,879. This tax increase would add $27.47 to

the median's homes State property tax bill. Failure to increase the rate will require a general fund appropriation be made for the difference between debt service cost and the yield under the present rate. This issue is discussed in more detail in Chapter 7. **DLS recommends that in fiscal 2013, the State continue the policy that State property taxes support GO bond debt service.**

Authorization of Transportation Debt

The Maryland Department of Transportation 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 debt affordability criterion.**

Authorization 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. Concerns have been raised that the revenues generated by the fund are insufficient to fully fund the upgrades by 2017. The current estimate is that another $383 million is needed.

In its January 2011 report to the legislature, the Bay Restoration Fund Advisory Committee recommended that the State enact a 100% fee increase (from $30 to $60 per year per equivalent dwelling unit). If no new revenue bonds were issued, this fee increase would reduce the shortfall to $87 million. This shortfall could be eliminated by issuing State debt. This issue is discussed in more detail in Chapter 5. **DLS recommends 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.**

Analysis of Bay Restoration Bond Sale Suggests That Cost of Debt Could Be Reduced through a Competitive Sale

In June 2008, Maryland issued the first $50 million in bay restoration bonds. The bonds received a AA bond rating. The bonds were issued through a negotiated sale. Competitive bond

sales tend to reduce the cost of debt. An analysis of the bay bonds suggests that a competitive bond sale may be appropriate. Other State debt, such as GO and transportation bonds, is competitively bid. This issue is discussed in more detail in Chapter 5. **Given that bay restoration bonds have successfully been issued, are highly rated, are supported by stable revenues, and do not have any particularly unique or complicated provisions, it is recommended that the future issuance of bay bonds be made on a competitive sale, instead of a negotiated sale basis.**

Maryland Stadium Authority Variable-rate Debt Refunding

In September 2011, the Maryland Stadium Authority (MSA) forwarded a 2011 Amendment to the Comprehensive Plan of Financing for the Camden Yards Sports Complex to the Legislative Policy Committee (LPC) and the fiscal committees of the General Assembly. The Amended Plan of Financing supports MSA's request for approval to undertake the refunding of the MSA Series 1998A Taxable Sports Facilities Lease Revenue Refunding Bonds (Series 1998A Bonds) and the MSA Series 1999 Sports Facilities Lease Revenue Refunding Bonds (Series 1999 Bonds). With these transactions, MSA plans to issue fixed-rate bonds to defease all outstanding variable rate Series 1998A and 1999 Bonds. As part of the refunding, MSA also plans to terminate the separate interest rate swap agreements associated with each series of bonds.

If approved, the total amount of MSA's indebtedness for sports facilities at Camden Yards would be $214.4 million as of closing these transactions, which remains within the $235.0 million debt limit set forth in Section 10-628 of the Economic Development Article. Section 10-644 of the Economic Development Article requires that MSA provide LPC and the fiscal committees its plans at least 90 days before issuing new bonds. MSA advises that, if approved by the LPC and fiscal committees, it plans on issuing the bonds in late 2011. DLS reviewed this proposal and recommended approval. This issue is discussed in more detail in Chapter 7.

DLS recommended that the budget committees advise MSA to proceed with the Board of Public Works review of the Amended Comprehensive Plan of Financing for capital improvements to the Camden Yards Sports Complex. DLS was concerned that negotiations with American International Group, Inc. (AIG) or market conditions may not be sufficiently favorable to generate the savings anticipated. MSA and their financial advisor should continue to carefully monitor this transaction and terminate the transaction, if necessary. Finally, DLS requested that MSA submit a copy of the financial advisors final report to DLS so that DLS can prepare a budget issue that outlines the transaction in the 2012 legislative session and in this report in 2012.

Higher Education Academic Debt

CDAC recommends limiting new debt authorization for academic facilities to $32 million for fiscal 2013. Academic bond issuances are discussed in Chapter 6. **DLS concurs with the committee's assessment that issuing $32 million in new University System of Maryland academic revenue bonds 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 other committee voting members are the Comptroller, Secretaries of the Department of Transportation and the Department 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. A discussion of GO bond authorizations, issuances, and costs is provided in Chapter 3. CDAC recommended a $925 million limit on new GO debt authorization for the 2012 session. Although this figure is the same as the 2011 session authorization level it also reflects the continued policy of downward adjustment in the long-range plan adopted by the committee prior to the 2010 session intended to keep future GO bond authorizations and issuances within affordability ratios.

Exhibit 2.1 illustrates the effect that continued reduced recommended authorization levels will have for the 2012 session as well as during the long-range forecast period. Overall, the amount recommended for the 2012 session is $125 million less than the level recommended by CDAC in its September 2009 report and $865 million less is recommended over the five-year long-range planning period. Furthermore, the long-range plan reflects constrained authorization levels that scale back inflationary increases that had been $30 million annually.

Exhibit 2.1
Effect of Proposed Capital Debt Affordability Committee
General Obligation Bond Authorizations
2012-2016 Legislative Sessions
($ in Millions)

Session	Proposed GO Authorizations 2011 CDAC	Change from 2010 CDAC Authorization	Change from 2009 CDAC Authorization
2012	$925	$0	-$125
2013	925	0	-155
2014	935	0	-175
2015	945	0	-195
2016	955	0	-215
Total	**$4,655**	**0**	**-$865**

Source: *Report of the Capital Debt Affordability Committee on Recommended Debt Authorizations*, October 2011

The committee's affordability analysis and long-range estimates and assumptions are predicated upon the debt authorization levels returning to levels proposed by CDAC in previous reports to the extent that the State's revenue and economic picture improves and constraints on tax-supported debt issuance lessen.

Because the State's affordability ratios are at the benchmarks and any change in State revenue estimates could directly impact the amount of future GO bond authorizations, the committee has advised that it intends to meet following the Board of Revenue Estimates' December forecast to make any necessary modifications to the committee's recommendations.

Higher Education Academic Debt to Be Authorized

CDAC recommends increasing new debt authorization of Academic Revenue Bonds (ARB's) to $32 million beginning in the 2012 legislative session. This is $5 million more than the amount authorized in the 2011 legislative session and $5 million more on an annual basis over what the committee recommended last interim. The increase stems from language included in the 2011 Maryland Consolidated Capital Bond Loan (MCCBL) which directed CDAC to evaluate the capacity of the University System of Maryland (USM) to increase ARB authorizations by $5 million annually with the intent of allocating the additional authorizations to support a long-term campus-wide infrastructure improvement program at the University of Maryland, College Park. Although the long-range plan adopted by CDAC increases the annual planned ARB authorization to $32 million for fiscal 2013-2017, the total annual level of USM debt planned remains at $115 million; only the allocation between

academic and auxiliary bonds has changed. CDAC notes that the proposed capital financing programs for the public higher education systems result in a debt burden level, measured as debt service as a percentage of operating revenues plus State appropriations that is within the 4.5% ratio. Academic bond issuances are discussed in Chapter 6.

Capital Debt Affordability Workgroup

During the 2011 interim, the committee requested the establishment of a workgroup to study and make recommendations on a variety of topics affecting State debt policy. The following is a summary of the key topics examined and workgroup recommendations.

Allocation of Bond Capacity to All Components of Tax-supported Debt

CDAC was asked by the chairs of the budget committees to evaluate the State's debt affordability process and consider the following:

- **CDAC Should Recommend an Aggregate Debt Limit Encompassing All Types of State Debt:** The committee reviews many issues and was created to provide a statewide perspective on debt. Since debt management begins with CDAC, reforming debt policies should also begin with CDAC.

- **The Administration Should Recommend a Specific Debt Limit for Each Type of State Debt:** Section 8-113 of the State Finance and Procurement Article requires that by November 1 of each year, the Governor determines total new authorizations that the Governor considers advisable. This has been interpreted to be limited to GO bonds and does not include other types of State debt. Consideration should be given to expanding the definition to include other forms of State debt (Maryland Department of Transportation bonds, GARVEEs bonds, Bay Restoration bonds, stadium authority bonds, and capital leases). This would set debt targets that the Spending Affordability Committee (SAC) could review each fall.

- **Each Year, the Governor Should Include Limits to All Types of State Debt in the Capital Budget Bill:** This would give each kind of State debt a statutory limit. The Governor should also include the details about the State's six-year debt plan with the documentation that is submitted with the budget each year. Submitting a bill that limits State debt would provide the legislature with an opportunity to review the various limits. The limits could be amended to reflect the legislature's priorities

- **A Process That Allows the Limits to Be Exceeded Under Clearly Defined Circumstances Should Be Developed:** Although planning is a critical component to a coherent and efficient budget process, all contingencies cannot be foreseen at all times. At times, there may be a compelling need for the State to increase debt issuances in a

particular year. Creating a process to increase limits gives the State additional flexibility. However, this process should have specific limits. The limits should define under what conditions debt could be increased (for example, responding to a natural disaster upon a declaration of emergency by the Board of Public Works) and should require that the Administration demonstrate the fiscal impact of additional debt.

The workgroup considered the items set forth by the committees and recommends the following process for establishing debt limits each year.

- As CDAC conducts its annual preliminary affordability analysis based on debt issuance, debt outstanding, and debt service leading up to and through the initial CDAC meeting, the Administration will finalize an allocation of debt capacity among all issuers of tax-supported debt.

- After CDAC updates the affordability analysis, the committee will make a final recommendation on the amount of authorized GO debt and an aggregate tax-supported debt limit for the next legislative session. The Administration shall set specific debt limits for tax-supported debt in a letter to the legislature as required by Section 8-113 of the State Finance and Procurement Article.

- With respect to legislative review, the workgroup recommended that there are already processes in place to facilitate legislative review and did not recommend any material changes to the current review process.

- In the event that unusual circumstances prompt consideration for exceeding the aggregate debt limit recommended by CDAC, the committee already may meet at any time to determine if changes are necessary and as such the workgroup made no recommendations to materially change current processes.

Exclusion of Energy Performance Leases from the Affordability Analysis

Chapter 163 of 2011 amended the State Finance and Procurement Article, Section 8-104 to exclude capital leases to finance energy performance contracts if the energy savings that are guaranteed by the contractor (1) equal or exceed the capital lease payments on an annual basis; and (2) are monitored in accordance with reporting requirements adopted by CDAC. The workgroup recommended the following guidelines for determining the inclusion of energy leases in the affordability analysis.

- All energy leases that do not have any guarantees should be included as tax-supported debt in the CDAC's affordability analysis.

- CDAC should annually monitor that guarantees are current and not expired and the amount of a guarantee is equal to or greater than the annual debt service on the lease for it to be excluded from the affordability analysis. For projects in construction, a lease will not be included as tax-supported debt if the amount of the surety bond that is to be posted is greater than to or equal to the future annal debt service on the lease.

Public-private Partnerships

Chapter 641 of 2010 requires that the committee analyze and report on the aggregate debt implications of public-private partnerships (P3s). Particular emphasis was placed on the classification of leases as capital or operating. Under current accounting principles, capital leases are considered debt of the State. While the committee currently includes capital leases in its affordability analysis, the State recently entered into a P3 development of the State Center complex and a lease for the construction of a new public health laboratory. Under current guidelines the phase I State Center redevelopment lease is not being scored as a capital lease and counted under the debt affordability evaluation process. State auditors reviewed the State Center project and determined that presently it was an operating lease but cautioned that a final determination would have to be made at the time the actual lease terms are finalized and estimated fair market value could be more accurately determined. The lease for the public health lab is, however, factored into the analysis as a capital lease. In accordance with Chapter 641 the committee was not presented with any P3 proposals to evaluate for debt affordability purposes and inclusion in the 2011 CDCA report to the legislature.

Chapter 3. State Debt

Maryland's statutes allow for the issuance of the following types of State debt:

- general obligation (GO) bonds backed by the full faith and credit of the State, which include Qualified Zone Academy Bonds (QZABs), Qualified School Construction Bonds (QSCBs), Qualified Energy Conservation Bonds (QECBs), and Build America Bonds (BABs);

- 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; 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 bonds that are supported by the full faith and credit of the issuer. The most common type of GO bond issued by the State are the tax-exempt bonds, which account for 95% of fiscal 2012 debt service costs. The following sections examine new bond authorizations and issuances of tax-exempt bond issuances. A later section examines QZABs, QSCBs, QECBs, and BABs, which are bonds receiving federal tax credits or direct subsidies to the State to offset borrowing costs. These bonds are also GO bonds, but are discussed separately because their structure is different in nature than tax-exempt GO 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. **Appendix 1** shows agency GO bond requests for fiscal 2012 through 2016.

New General Obligation Bond Authorizations: Reduced Out-year Authorizations

The Capital Debt Affordability Committee (CDAC) recommended a limit of $925 million for new authorizations of GO bonds during the 2012 session. The committee's recommendation represents the same level of new authorizations recommended for the 2011 session. Moreover, the recommended limit for the 2011 session continues the policy of reduced out-year authorization levels recommended by the committee in December 2009. The reduction to out-year authorizations continues to be necessary to keep the State debt within self-imposed debt affordability benchmarks which are State tax-supported debt outstanding should be no more than 4.0% of State personal income; and debt service on State tax-supported debt should require no more than 8.0% of revenues.

Exhibit 3.1 shows that the committee's long-term forecast for new GO bond authorization levels, as reflected in its 2011 report, recommends a total of $4.7 billion in authorizations from the 2012 through 2016 sessions. While the committee's recommendation is consistent with its revised 2009 recommendation made in December 2009, it is also $865 million less over the five-year planning period than what was initially recommended in the committees September 2009 report. While the current recommendation provides no further write-down from what was recommended in December 2009, the committee has advised that it intends to review the State's fiscal outlook and revenue estimates again in December 2011 when the Board of Revenue Estimates provides the next revenues estimate to determine if further adjustments and modifications to its recommendations are prudent.

Exhibit 3.1
Effect of New Policy on General Obligation Bond Authorizations
2012-2016 Legislative Sessions
($ in Millions)

Session	2009 Report September Recommended Authorizations	2011 Report Recommended Authorizations	Difference 2009 September and 2011 Reports
2012	$1,050	$925	-$125
2013	1,080	925	-155
2014	1,110	935	-175
2015	1,140	945	-195
2016	1,170	955	-215
Total	**$5,550**	**$4,685**	**-$865**

Source: *Report of the Capital Debt Affordability Committee on Recommended Debt Authorizations*, 2009 and 2011

General Obligation Bond Issuance Stream

GO bonds authorized in a given year are not all issued the year in which they are authorized. The State Treasurer's Office estimates that just over half of the GO bonds authorized in a year are typically issued within the first two fiscal years. CDAC assumes bonds authorized in a given year will be fully issued over five years; specific issuances are 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 GO bonds are authorized and the time the bonds affect debt outstanding and debt service levels.

Appendix 2 shows how the proposed authorizations for fiscal 2012 through 2021 would be issued. **Exhibit 3.2** compares the issuance stream projected by CDAC in its 2010 report and the 2011 CDAC estimate. The 2011 DLS projections show the State issuing $272 million less through fiscal 2020. The difference between the two projected issuance streams reflects the continued impact of reduced GO authorizations programmed for the out-years.

Exhibit 3.2
Proposed Issuance Stream
Fiscal 2012-2020
($ in Millions)

Fiscal Year	2010 Report	2011 Estimate	Difference
2012	$960	$960	$0
2013	945	950	5
2014	940	940	0
2015	935	930	-5
2016	940	930	-10
2017	1,130	945	-185
2018	1,020	1,020	0
2019	1,180	1,103	-77
2020	1,175	1,175	0
Total	**$9,225**	**$8,960**	**-$272**

Source: 2010 Report: *Report of the Capital Debt Affordability Committee on Recommended Debt Authorizations*, 2010; 2011 Estimate: Department of Legislative Services, October 2011

The table in Appendix 2 also indicates the expected issuances of current authorizations. At the beginning of fiscal 2012 approximately $2.36 billion in debt was authorized by the General Assembly but not issued. The CDAC report assumes that $960 million of this debt will be issued in fiscal 2012, $663 million in fiscal 2013, and the remainder issued between fiscal 2014 and 2019.

General Obligation Bond Debt Service Costs

Exhibit 3.3 shows that debt service costs are now expected to be $48 million less than projected in the 2010 report. Debt service costs are attributable to interest rate assumptions and issuance amounts. The forecast assumes that the interest rate on bonds issued in the out-years is 5.00% which is the same assumption made in the 2010 report. The difference in projected debt service costs is partly attributable to the reduced issuance stream which is a function of the lower GO bond authorizations recommended for the out-years; the 2010 report projected $9.2 billion of GO bond issuances from fiscal 2012 through 2020 while the 2011 report projects $8.9 billion over the same time period. In addition, a refunding of previously issued bonds, which took place in September 2011, yielded $12.6 million in debt service savings from fiscal 2012 to 2020. The State has also issued federal tax credit and direct subsidy bonds. These bond issuances are discussed in the subsequent sections.

Exhibit 3.3
Projected Debt Service Costs
Fiscal 2012-2020
($ in Millions)

Fiscal Year	2010 Report Estimated Debt Service Costs	2011 Report Estimated Debt Service Costs	Difference
2012	$887	$879	-$8
2013	928	921	-7
2014	994	990	-4
2015	1,045	1,041	-4
2016	1,130	1,127	-3
2017	1,186	1,181	-5
2018	1,243	1,238	-5
2019	1,274	1,268	-6
2020	1,327	1,321	-6
Total	**$10,014**	**9,966**	**-$48**

Note: Totals may not sum due to rounding.

Source: *Report of the Capital Debt Affordability Committee on Recommended Debt Authorizations*, 2010 and 2011

General Obligation Bond Refunding

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. The following issuances refunded bonds:

- In the December 2009 bond sale, the State issued $602.8 million in GO bonds to refund $606.3 million in GO bonds. The refunding bonds yielded net present value savings totaling $24.9 million from fiscal 2010 to 2020.

- The February 2010 bonds sale issued $195.3 million in bonds and supported the advanced refunding of $200.4 million in previously issued bonds. The issuance generated $8.6 million in present value debt service savings.

- In September 2011, the State issued $254.9 million in tax-exempt GO bonds to advance refund $264.6 million in previously issued GO bonds. The sale realized $11.6 million in present value debt service savings.

These recent bond sale refunding issuances reduced GO bond debt service costs by a total of $45.1 million. The State Treasurer's Office, with advice from its financial advisor, is continually monitoring 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.

Program Open Space Debt Service Payments

Program Open Space (POS) bonds totaling $70 million were authorized as the Program Open Space Acquisition and Opportunity Loan of 2009 by Transfer Tax – Program Open Space Bonds – Land and Easement Acquisition (Chapter 419 of 2009). The bonds are intended to replace funds lost due to the transfer of up to $70 million in Program Open Space State share unencumbered fund balance per the Budget Reconciliation and Financing Act of 2009 (Chapter 487 of 2009). Prior Authorizations of State Debt to Fund Capital Projects – Alterations Act of 2010 (Chapter 372 of 2010) 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 general obligation bonds were issued as part of two State issuances, February and July 2010, as shown in **Exhibit 3.4.** By statute, the bond issuance had to occur before the first expenditures of general fund advances for property purchases. Since the first purchases were in August 2010, the statute has been met. The Department of Natural Resources (DNR) receives $65 million and the Maryland Department of Agriculture (MDA) receives $5 million of the $70 million issuance.

Exhibit 3.4
Program Open Space GO Bond Issuances
($ in Thousands)

Issue Date	GO Bond Issuance	Principal
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**

Source: Department of Budget and Management, January 2011

Exhibit 3.5 shows that debt service costs are $1.2 million from fiscal 2011 to 2013, when the debt service payment is limited to interest payments. Debt service costs increase to over $6.1 million when first principal is retired beginning in fiscal 2014. The debt service is deducted from transfer tax revenues allocated to DNR and MDA proportionately based on the share of the issuance each received.

Exhibit 3.5
Program Open Space GO Bonds Debt Service Payment Schedule
Fiscal 2011-2016
($ in Thousands)

	2011	2012	2013	2014	2015	2016
Debt Outstanding	$70,000	$70,000	$70,000	$65,438	$60,680	$55,718
Debt Service	1,209	1,561	1,561	6,109	6,270	6,422

Source: Department of Budget and Management, January 2011

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 Qualified Zone Academy Bonds (QZABs), Qualified School Construction Bonds (QSCBs), Qualified Energy Conservation Bonds (QECBs), and Build America Bonds (BABs). QZABs, QSCBs, and QECBs have been

issued to support education capital projects. BABs can support the same projects that tax-exempt bonds support.

To date, the State has issued $170 million in QZABs, QSCBs, and QECBs to support education construction projects. **Exhibit 3.6** shows that DLS estimates that the lower costs associated with these bonds reduced total debt service costs by $56 million. The State has also issued $583 million in BABs. DLS estimates that BABs reduced debt service costs by $39 million over the life of the bonds.

Exhibit 3.6
Federal Tax Credit and Direct Pay Issuances Supporting Public School Capital Projects
($ in Thousands)

Type	Date Issued	Amount Issued	Sinking Fund Payments	Debt Service Payments	Similar GO Payments[1]	Savings
QZAB	Nov-01	$18,098	$12,432	$0	$27,182	$14,750
QZAB	Nov-04	9,043	7,356	0	12,393	5,038
QZAB	Dec-06	4,378	3,609	0	6,132	2,523
QZAB	Dec-07	4,986	4,089	0	6,967	2,877
QZAB	Dec-08	5,563	0	6,142	7,606	1,464
QZAB	Dec-09	5,563	0	6,275	7,052	778
QSCB[2]	Dec-09	50,320	49,964	0	63,791	13,827
QSCB[2]	Aug-10	45,175	44,663	0	52,731	8,068
QZAB[2]	Dec-10	4,543	4,543	0	5,302	759
QZAB[2]	Aug-11	15,900	15,900	0	20,267	4,367
QECB	Aug-11	6,500	0	7,080	8,285	1,206
Total		**$170,069**	**$142,555**	**$19,496**	**$217,708**	**$55,657**

[1] Estimates the cost of issuing an equal amount of bond assuming the True Interest Cost of the most recent GO bond sale.
[2] Sinking fund payments are estimated and final amount may change when final arrangements are made.

QZAB: Qualified Zone Academy Bonds
QSCB: Qualified School Construction Bonds
QECB: Qualified Energy Conservation Bonds

Note: Subtotals and totals may not sum due to rounding.

Source: Comptroller, State Treasurer's Office, October 2011

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 receive a federal income tax credit for each year the bond is held. The State is not required to make payments on the principal until the bonds are redeemed. For example, under its 2001 agreement with Bank of America, the State, through the State Treasurer's Office, makes annual payments into a sinking fund invested into a guaranteed rate of interest. Since the funds are invested in interest bearing accounts, the repayment of the principal by the State is less than the par value of QZABs, making QZABs less expensive than GO bonds.

The Treasurer's Office advises that the federal government has approved new rules regarding arbitrage that preclude 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 1.60% supplemental coupon. As the exhibit showed, even with a supplemental coupon QZABs are still less expensive than GO bonds.

Qualified School Construction Bonds

QSCBs were created under the federal American Recovery and Reinvestment Act of 2009 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 the 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 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, QSCB were sold with supplemental coupon payments (such as the Baltimore County sale which included a 1.25% coupon) or at a discount (such as the Virginia Public School sale which generated proceeds equal to 91% of the bonds' principal).

In December 2009, the State sold $50.3 million in QSCBs at par without a supplemental coupon. The State's second QSCB bond sale was in July 2010, when the State sold $45.2 million in QSCBs. 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.

Qualified Energy Conservation Bonds

QECBs were created by the Tax Extenders and Alternative Minimum Tax Relief Act of 2008. The American Recovery and Reinvestment Act 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 proceeds will support the construction of energy conservation projects at a school in St. Mary's County.

The State issued the full $6.5 million allocated to the State in July 2011. 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% of that rate, the effective federal reimbursement is 86%. Annual interest payments are approximately $137,000. The federal subsidy is $117,000, requiring a net interest payment that is just over $19,000 from the State. Over the life of the bonds, payments will total $7.1 million.

Build America Bonds

The American Recovery and Reinvestment Act, which was enacted in February 2009, authorized the State to sell BABs. The bonds support the types of projects that traditional tax-exempt bonds support and are issued in the 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: in August 2009, October 2009, February 2010, and July 2010. These issuances totaled $583.2 million. The 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.

Transportation Debt

MDOT issues 15-year, tax-supported consolidated transportation bonds. Bond proceeds usually support highway construction. 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 issues debt referred to as nontraditional debt. Nontraditional debt currently includes Certificates of Participation, Maryland Economic Development Corporation debt, and debt sold on MDOT's behalf by MDTA. Of the nine outstanding issuances of nontraditional debt, two are tax-supported and are included in the State debt affordability analysis in the Capital Lease section. 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 2007 special session, the maximum outstanding debt limit was increased to $2.6 billion (from $2.0 billion) in recognition of the enactment of several revenue enhancements including transferring a portion of sales tax receipts to the TTF.

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 2012 budget bill set the maximum ceiling for June 30, 2012, at $1,888,995,000. DLS estimates that as of June 30, 2012, debt outstanding will total $1,459,240,000, due to smaller bond sales than originally estimated.

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, 2012, MDOT will have net income coverage of 2.6 and pledged taxes coverage of 5.7.

As shown in **Exhibit 3.7**, MDOT has issued new (*e.g.*, nonrefunding) consolidated transportation bonds in 16 of the past 22 years. MDOT did not issue any bonds in fiscal 2011 due to revenue growth and cash-flow needs.

Exhibit 3.7
Consolidated Transportation Bond Issuance*
($ in Millions)

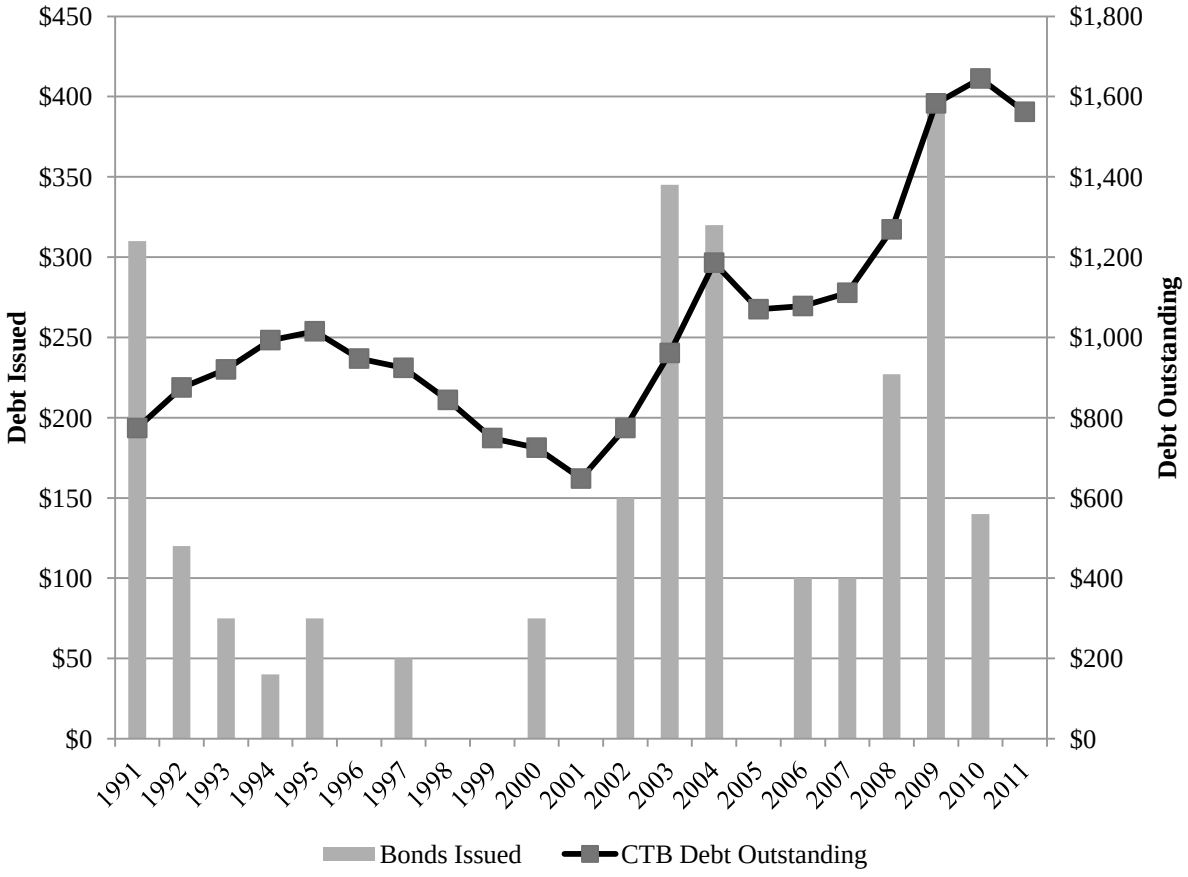
Fiscal Year	Bonds Issued
1990	260
1991	310
1992	120
1993	75
1994	40
1995	75
1996	0
1997	50
1998	0
1999	0
2000	75
2001	0
2002	150
2003	345
2004	320
2005	0
2006	100
2007	100
2008	227
2009	390
2010	140
2011	0
Total	**$2,777**

*Exclusive of refinancing. Five refinancing issuances were made from fiscal 1990 through 2011, including most recently in fiscal 2011, when a total of $238,000,000 was refinanced.

Source: Maryland Department of Transportation, September 2011

Exhibit 3.8 illustrates annual bond sales and changes in debt outstanding from fiscal 1991 to 2011. In fiscal 2011, MDOT's net debt outstanding was $1.6 billion, well under the $2.6 billion debt outstanding debt limit.

Exhibit 3.8
Maryland Department of Transportation
Bonds Issued and Net Debt Outstanding
Fiscal 1991-2011
($ in Millions)



CTB: consolidated transportation bond

Source: Maryland Department of Transportation

Future Debt Issuance

Every fall, DLS prepares a TTF forecast. The forecast projects revenues and expenditures and adjusts debt issuances accordingly. DLS estimates that revenues will grow slowly in fiscal 2013 and 2014 as the economy begins to recover and then even out in later fiscal years. MDOT's revenue estimates assume more robust growth in titling tax receipts. The TTF forecast assumes that capital funds are available after operating needs have been met. DLS' TTF forecast assumes greater operating expenditures, attributable to transit and winter maintenance costs, which reduces what is available for capital. Finally, the DLS forecast assumes that the

TTF will maintain its coverage ratio at 2.5 through 2021. The net result is that DLS estimates that bond sales will total $940 million over the six years compared to MDOT's estimate of $1,475 million. **Exhibit 3.9** shows that DLS estimates MDOT will be able to issue approximately $250 million in fiscal 2012 and $190 million in fiscal 2013.

Exhibit 3.9
Consolidated Transportation Bonds – MDOT Projected Issuances
Fiscal 2012-2017
($ in Millions)

Fiscal Year	Amount
2012	$250
2013	190
2014	140
2015	130
2016	120
2017	110
Total	**$940**

Source: Department of Legislative Services

Debt Outstanding

Exhibit 3.10 shows the amount of estimated debt outstanding from fiscal 2012 to 2017. From fiscal 2012 to 2017, debt outstanding is estimated to decline by $127 million. This decline is due to the amount of debt retired being greater than the amount of debt issued over this period.

Exhibit 3.10
Consolidated Transportation Bonds – MDOT Projected Debt Outstanding
Fiscal 2012-2017
($ in Millions)

Fiscal Year	Amount
2012	$1,459
2013	1,540
2014	1,549
2015	1,534
2016	1,449
2017	1,435

Source: Department of Legislative Services

Debt Service

Exhibit 3.11 shows that debt service costs are projected to increase steadily from $180 million in fiscal 2012 to $275 million in fiscal 2017. The growth is attributable to increased principal payments from prior issuances even though there are minimal new issuances of debt.

Exhibit 3.11
Projected Transportation Debt Service
Fiscal 2012-2017
($ in Millions)

Fiscal Year	Projected Debt Service
2012	$180
2013	193
2014	217
2015	238
2016	248
2017	275
Total	**$1,351**

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 DLS forecast constrains future debt issuances due to lower revenue estimates and higher operating budget spending reducing the level of net income. The impact of reduced bond sales is that MDOT's capital program is reduced. **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 authorizes the use of GARVEE bonds for the InterCounty Connector (ICC) project. The law stipulates that the State may issue no more than $750.0 million in GARVEE bonds and that bond maturity may not exceed 12 years after date of issue. MDTA issued $325.0 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 $425.0 million was issued on December 11, 2008, with a net premium of $17.7 million. GARVEE debt service payments are $87.5 million from fiscal 2010 to 2019 and $51.4 million in fiscal 2020, the last year of debt service payments.

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. Beginning in fiscal 1994, the State instituted 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 Section 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 high technology equipment, such as 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 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, which 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 $167 million as of June 30, 2011. Debt outstanding is projected to increase to $324 million on June 30, 2012. The $32 million decline in the amount outstanding on current leases is expected to be offset by a new $179 million lease for a Public Health Lab and $10 million in new equipment leases.

Changes to Lease Accounting Being Examined

Under current Generally Accepted Accounting Principles (GAAP) 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 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 are 90% or more of the fair value of the property.

The Governmental Accounting Standards Board (GASB) is the independent organization that establishes and improves standards of accounting and financial reporting for U.S. states and local governments. In 2011, GASB is examining changes to lease accounting so that all lease obligations and the related right-to-use are reported on balance sheets. The accounting change could substantially increase the amount of leases included in the debt affordability calculation. To date, no change has been made. The affordability analysis only includes debt under the currently applicable definition.

Exhibit 3.12

Tax-supported Capital Lease Debt Outstanding

As of June 30, 2011 and Projected June 30, 2012

($ in Millions)

State Agency/Facility	Amount Outstanding June 2011	Projected Amount Outstanding June 2012	Difference
State Treasurer's Office			
Capital Equipment Leases	$41.2	$24.1	-$17.1
Energy Performance Projects	9.0	7.7	-1.3
Maryland Department of Transportation			
Headquarters Office Building	24.4	22.6	-1.8
Maryland Aviation Administration Shuttle Buses	7.7	6.4	-1.3
Department of General Services			
St. Mary's County Multi-service Center	1.4	0.7	-0.7
Hilton Street Facility	1.5	1.3	-0.2
Prince George's County Justice Center	19.9	19.2	-0.7
Maryland State Lottery			
Ocean Downs and Perryville Video Lottery Equipment	40.9	33.0	-7.9
Maryland Transportation Authority			
Annapolis State Office Parking Garage	21.3	20.0	-0.7
Subtotal – Current Leases	**$166.6**	**$134.0**	**-$31.6**
Proposed Leases			
Department of Health and Mental Hygiene – Public Health Lab	$0.0	$179.0	$179.0
New Capital Equipment Leases	0.0	10.0	10.0
Total	**$166.6**	**$323.9**	**$157.4**

Note: Subtotals and totals may not sum due to rounding.

Source: State Treasurer's Office, September 2011

Legislature Adopts Changes to Energy Performance Contract Policies

Chapter 163 of 2011 changed how the State classifies EPCs. Prior to the enactment of the legislation, Section 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 leases yielded savings that exceeded the lease payments. Consequently, these tend to reduce total State spending. The State Treasurer's Office 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 enacted allows CDAC to exclude capital leases if the savings they generate equal or exceed the lease payments. It also requires that energy performance contracts are monitored in accordance with the reporting requirements adopted by CDAC. Also, the *Joint Chairmen's Report* requires that the Department of General Services (DGS) solicit a third-party to audit and verify EPC savings. DGS is required to submit a report of the findings by December 1, 2011, and annually thereafter.

CDAC advises that 19 EPCs can be excluded from CDAC's debt affordability calculation. This includes 15 completed projects with a fiscal 2011 debt service cost totaling $8.7 million and another four proposed projects with estimated annual surety bond amounts totaling $6.9 million. Five projects, whose fiscal 2013 debt service costs total $1.7 million, are included in the affordability calculation.

Out-year Lease Estimates

The State is expected to add new leases in the out-years. For the debt affordability analysis, DLS is making assumptions about new equipment and EPC leases, VLT equipment leases, and State Center Office leases.

New Equipment and EPC Leases

In the debt affordability forecast, an additional $10 million in equipment and EPC leases are assumed. Since EPC leases tend to generate savings in excess of costs, it is likely that most of the new leases will be equipment leases. However, these estimates may be low because of the State's fiscal condition. For example, equipment lease debt service payments exceeded $30 million annually in fiscal 2008, 2009, and 2010. Estimates decline to under $20 million in fiscal 2012 and $15 million in fiscal 2013. Much of this equipment supports information technology (IT), which could improve efficiency in State government. DLS' concern is that this amount may need to be increased in the out-years.

Video Lottery Terminal (VLT) Equipment Leases for Baltimore City and Rocky Gap Facilities

Chapter 4 of the 2007 special session authorized the use of VLTs in the State, subject to voter approval. The State Lottery Agency (SLA) is responsible for administering the VLT program including the procurement of the VLT machines. The statute requires that the State, not any contractors or licensees, own or lease the machines. VLT facilities are managed by private organizations. There are a total of five authorized VLT facilities in the State. CDAC has determined that these leases are State debt and should be included in the affordability calculation. The State has entered into leases for the Ocean Downs and Perryville facilities. A license has been awarded for the Arundel Mills facility and the CDAC's affordability estimate includes this lease. Licenses have not been awarded for the Baltimore City and Rocky Gap facilities. Because it is uncertain when the licenses will be awarded, CDAC is not including these leases in the calculation.

However, DLS is including leasing costs associated with Baltimore City and Rocky Gap facilities. Bids for these two facilities have been received and DLS' VLT revenue estimate includes revenues from these facilities. The VLT Location Commission plans to make licensing decisions on these bids in early 2012. So that the debt affordability calculation is consistent with operating budget revenue spending estimates, DLS is including these leases in the affordability calculation. DLS projects lease costs similar to the Ocean Downs and Perryville leases. The Baltimore City lease is estimated to total $67 million over five years with $15 million annual payments beginning in fiscal 2014. The Rocky Gap lease is projected to total $9 million over five years with $2 million annual payments beginning in fiscal 2014.

Renewal of VLT Leases

Under current law, the VLTs must be owned by the State. The State recognizes these VLT leases as State debt. The State has entered into five-year leases for terminals at the Ocean Downs, Perryville, and Arundel Mills facilities. These leases are expected to begin expiring by fiscal 2017. SLA advises that the State will likely need to enter into new leases for new equipment when the leases expire. Since current law requires that the State own the equipment, DLS includes the costs associated with renewed leases in the debt affordability calculation. By fiscal 2018, renewed VLT leases are projected to add $46 million in debt service costs annually. This total includes leases from Baltimore City and Rocky Gap.

The State could change the law to require the VLT operators to own the equipment. If the operators purchase the equipment, the leases would no longer be considered State debt. However, this may require changes in the distribution of the income as well as the State's administration of the VLT program.

State Center Office Space

On July 28, 2010, BPW approved the ground and occupancy lease for the phase I redevelopment of the State Center complex in Baltimore City. This was the first step following the board's approval of the Master Development Agreement between the State of Maryland and

State Center LLC, which established the legal framework for a multi-year, multi-phase redevelopment of State Center leading ultimately to construction and rehabilitation of the site as a Transit-oriented Development to include commercial office space, market rate and low-income housing, retail space, and parking. The State parking garage is classified as State debt.

However, the office space for State agencies has not been classified as State debt and is not included in the debt affordability calculations. The State's external auditor advises that "the calculation to determine whether the lease would be an operating or capital lease would occur when the State actually enters into a lease." The calculation referred to by the auditor is an application of GAAP that a lease is a capital lease if the present value of the lease payments is 90% or more of the fair market value of the property. DLS' concern is that it is possible that this lease could be reclassified as a capital lease if the State enters into a lease agreement that meets the GAAP standard. DLS estimates that this increases capital lease debt service by $18 million. On the other hand, the case is currently being litigated and it is possible that the facility is never built. The bottom line is that this facility represents a potential liability that is currently not included in the debt affordability calculation.

Public-private Partnerships

Chapter 641 of 2010 defined public-private partnerships (P3) as a sale or lease agreement between the State and a private entity under which the private entity constructs, finances, or operates a facility and collects fees. A P3 also includes a sale or lease agreement under which the private entity assumes control of the operation and maintenance of an existing facility. The legislation also established a framework for P3 reporting requirements and oversight procedures. The Joint Legislative and Executive Commission on the Oversight of Public-Private Partnerships was established to make recommendations concerning broad policy parameters within which P3s should be negotiated and the appropriate manner of conducting ongoing legislative monitoring and oversight.

When the legislation was enacted, it was recognized that the State's budget would be constrained in the foreseeable future. P3s are an attempt to provide a process that allows a new source of revenues to create assets for the State. The law recognizes that some of these agreements may be State debt and requires that the State Treasurer's Office analyze each proposal to determine if it is State debt. CDAC is required to report on P3s.

At this point it is unclear to what extent the State will be entering into P3 agreements and to what extent those agreements will be State debt. The out-year forecast does not assume any new P3 agreements will be adding to State debt. However, it is quite possible that the State will be entering into these agreements and that some will involve State debt.

Total Future Costs

After accounting for costs associated with five ongoing VLT facilities, DLS estimates that annual leasing debt service costs will increase to approximately $80 million by fiscal 2014, compared to $38 million in fiscal 2012. This does not assume any lease costs associated with

the State Center offices, which could bring the total to almost $100 million if the payments are deemed to be a capital lease when the State enters into a lease. Even this amount may be low, since this estimate does not take into account additional costs for equipment leases or P3s.

In conclusion, it appears that leasing costs are likely to rise in the out-years. Because the State is now effectively at the debt limit, carefully monitoring leases will be even more important over the next few years.

Bay Restoration Bonds

The Bay Restoration Fund was created in 2004 primarily 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 wastewater treatment plants 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 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. The fund has several revenue sources and expends funds for both operating and capital 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 has reviewed this issue and concurs with this opinion. 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.

Based on the current priority list and estimated capital cost of ENR upgrades, **Exhibit 3.13** shows that the program projects issuing debt each year between fiscal 2012 and 2015 and that by fiscal 2015, debt outstanding will peak at $480.2 million. Debt service costs increase to $52.4 million in fiscal 2016. These issuances are limited by the revenues generated by the WWTP Fund.

Exhibit 3.13
Bay Restoration Fund – Current Law
Fiscal 2012-2018
($ in Millions)

	2012	2013	2014	2015	2016	2017	2018
Revenue Bonds Issued	$50.0	$170.0	$160.0	$100.0	$0.0	$0.0	$0.0
Debt Outstanding	88.8	253.8	400.9	480.2	453.9	426.3	397.2
Debt Service	4.6	9.6	26.5	42.5	52.4	52.4	52.4

Note: In fiscal 2008, $50 million in revenue bond debt was issued.

Source: Maryland Department of the Environment; Department of Legislative Services; October 2011

The debt issuances for the WWTP Fund have been delayed because projects have been delayed due to the magnitude of the projects and the number of years involved in design and construction. The Septic Fund is operated on a pay-as-you-go (PAYGO) basis and does not involve revenue bond proceeds.

Bay Restoration Funds Insufficient to Meet State Goal

The bay fund legislation developed clear goals. Current estimates indicate that the funding provided will not be able to meet these goals. Overall, the program plans to issue $530 million in revenue bonds through fiscal 2015. These revenue bonds, in addition to revenues expended from the fund as PAYGO special funds, would fund approximately $1,002 million of the $1,385 million upgrade cost, a shortfall of $383 million.[1]

At this point, it remains unclear how this funding gap will be resolved. A Bay Restoration Fund Advisory Committee (BRFAC) has been created to recommend options. The options are to increase the fee, reduce the 100% ENR grant, reprioritize projects by either delaying them or deleting them for upgrade, use local debt capacity to issue bonds with 30-year maturities, or eliminate annual operation and maintenance grants to local governments.

In its January 2011 report to the legislature, BRFAC recommended that the State enact a 100% fee increase (from $30 to $60 per year per equivalent dwelling unit). If no new revenue bonds were issued, this fee increase would reduce the shortfall to $87 million. This shortfall could be eliminated by issuing State debt. **It is recommended that the General Assembly continue to limit Bay Restoration Fund revenue bond issuances at a level that maintains**

[1]MDE estimates that the cost to upgrade the 67 major wastewater treatment plants has decreased from $1,482 million to $1,385 million since last year. This decrease is due to the delayed debt issuance noted above, a revised estimate for the Back River WWTP upgrade, and the change from three-years to four-years for estimated project cash payments.

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. **Exhibit 3.14** lists MSA's authorized debt, debt outstanding, and annual debt service.

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

Project	Authorized	Outstanding as of July 2011	Debt Service Fiscal 2012
Baseball and Football Stadiums	$235.0	$155.9	$21.0
Baltimore City Convention Center	55.0	17.6	5.1
Montgomery County Conference Center	23.2	17.0	1.8
Hippodrome Performing Arts Center	20.3	14.6	1.8
Ocean City Convention Center	17.3	6.6	1.4
Camden Station	8.7	7.6	0.7
Energy Leases	n/a	7.7	0.5
Total	**$359.5**	**$227.0**	**$32.5**

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 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 $235.0 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.

In 2010, MSA issued $10 million in Sports Facilities Taxable Lease Revenue Bonds in order to fund capital improvement projects at the Camden Yards Complex. The bonds will be secured by lottery revenues and, in the opinion of bond counsel, will 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. The bonds were sold as a private placement at a 2.9% interest rate and a 3.5-year term. Funds are being used primarily for the first phase of capital improvements to Oriole Park, including concrete restoration, seat renovation, waterproofing, roof replacement, electrical repairs, and some structural steel painting. This offering was done in conjunction with $4 million financed through the State Treasurer's Master Equipment Lease Program to replace video boards at the football stadium and $10 million financed through the State Treasurer's Energy Performance Contract Master Lease Program for various energy projects at the facilities.

In 2011, MSA submitted an Amended Comprehensive Plan of Financing to the Legislative Policy Committee for review. The plan calls for the issuance of approximately $105 million in fixed-rate lease revenue bonds that will be used to refund the 1998 and 1999 variable rate bonds. This transaction would eliminate exposure risks and some annual fees associated with the current variable rate debt. MSA would like to submit its plan for approval by the Board of Public Works no later than early January 2012.

Baltimore and Ocean City Convention Centers

MSA issued $55.0 million in revenue bonds for the Baltimore City Convention Center as authorized by 1993 legislation. Baltimore City issued $50.0 million in city bonds, and the State contributed another $58.0 million in GO bond funding toward the construction cost of the project, which was completed in 1997. The fiscal 2012 debt service cost for the revenue bonds is $5.1 million and subject to State appropriation. Chapter 320 of 2008 extended the date by which MSA is obligated to contribute two-thirds of the operating deficits of the Baltimore Convention Center to December 31, 2014. The State is also statutorily required to contribute $200,000 annually to a capital improvement fund.

MSA issued $17.3 million in revenue bonds for the Ocean City Convention Center (OCCC), which was authorized in 1995 and matched by a contribution from the Town of Ocean City. The fiscal 2012 debt service cost for these revenue bonds is $1.4 million and

subject to State appropriation. The State is also statutorily required to contribute one-half toward OCCC's annual operating deficit through fiscal 2015 and $50,000 annually to a capital improvement fund.

In December 2008, MSA and the Town of Ocean City released a feasibility study on the proposed expansion of the OCCC. The study recommended a moderate expansion and remodeling to the convention center to modernize audio-visual and technical amenities, provide more function space, and increase prime exhibit space. In December 2009, MSA submitted an Amended Comprehensive Plan of Financing for the OCCC expansion. The plan called for MSA to issue tax-exempt lease-revenue bonds to pay for the project. However, in order to realize a lower cost of capital, the expansion was ultimately funded with general obligation bonds through the fiscal 2011 capital budget bill. Construction should be completed in spring 2012.

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, which totaled $66.0 million. The remaining bond proceeds fund 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. The fiscal 2012 debt service costs for these revenue bonds are $1.8 million. Montgomery County contributed $13.7 million for construction and another $2.5 million for project-related enhancements. The project opened in 2004.

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 $63.0 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.

Debt service payments averaging $1.8 million annually for the 20-year term of the bond are derived from the State's general fund subject to appropriation. More specifically, 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. The debt service is partially offset by a $2 per ticket surcharge for events at the Hippodrome, which is required by legislation authorizing the project. The surcharge was originally expected to cover approximately half of the debt service; however lower than expected sales have led to greater contributions by MSA's financing fund. The authority is currently studying ways to help the profitability of the theater.

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, $8.0 million is to pay for capital construction associated with the development of the project. The remaining bond proceeds are used to pay capitalized interest, costs of issuance, and bond insurance. The capital interest period covered biannual debt service payments though June 15, 2006. The fiscal 2012 debt service costs for the authority's revenue bonds are about $740,000 subject to State appropriation.

Phase I of the project, involving the basement and first floor, was completed in March 2005. Phase II, involving the second and third floors, was completed in August 2006. The Babe Ruth Museum rents approximately 22,551 square feet in the basement and on the first floor, and Geppi's Entertainment Museum rents approximately 17,254 square feet on the second and third floor.

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. Currently, MSA is providing technical assistance in support of the State's interests in the redevelopment of State Center.

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. MSA and Baltimore City are sharing the costs of a market and economic study of an expanded convention center, a new arena and a new hotel in Baltimore. Also, MSA and Prince George's County are sharing the costs of a study to review the feasibility of a new Washington Redskins training facility if relocated to the county. Similarly, MSA and Howard County are sharing the costs of a market study of the Troy Park Tennis Complex to be located in Elkridge. Other studies to be conducted include the Wicomico Youth and Civic Center, the Maryland Horse Park, and the City of Frederick Conference 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 was to be developed and funded, it would add to the State debt load and reduce the State's debt capacity.

Chapter 4. Economic Factors and 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.

- 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. For example, 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 CDAC's recommendation to determine affordability.

Personal Income

The Department of Legislative Services' (DLS) estimates of personal income differ from those of CDAC. CDAC is using the Board of Revenue Estimates' (BRE) September 2011 personal income estimates, which **Exhibit 4.1** shows, are less than personal income estimates used by DLS. This is attributable to revisions to the 2010 data published after the BRE meeting. DLS' estimates reflect the revisions. Increased Maryland personal income adds to the amount of State debt outstanding that is affordable. In contrast, lower personal income results in higher ratios of debt outstanding for any given level of debt.

Exhibit 4.1
Maryland Personnel Income
Comparison of Department of Legislative Services and Capital Debt Affordability Committee Projections
Calendar 2011 to 2017
($ in Millions)

Calendar Year	DLS Personal Income Estimate	% Change	CDAC Personal Income Estimate	% Change	Difference
2011	$298,311		$297,084		$1,227
2012	309,368	3.71%	308,095	3.71%	1,273
2013	318,202	2.86%	316,842	2.84%	1,360
2014	333,567	4.83%	332,074	4.81%	1,493
2015	351,868	5.49%	350,310	5.49%	1,558
2016	370,040	5.16%	366,845	4.72%	3,195
2017	384,841	4.00%	381,518	4.00%	3,323

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

Source: *Capital Debt Affordability Committee Report*, September 2011; Department of Legislative Services, November 2011

Revenue Projections

Exhibit 4.2 shows that DLS' fiscal 2011 to 2021 revenue projections are less than CDAC's. The differences relate to the DLS estimate of transportation revenues and Education Trust Fund revenues generated by Video Lottery Terminals (VLT). As discussed in Chapter 3, DLS does not expect transportation revenues to increase as much as the CDAC estimates. With respect to Education Trust Fund (ETF) revenues, DLS' estimate anticipates fewer VLTs in operation. These differences peak in fiscal 2017, when DLS anticipates $196 million less. Lower revenues reduce debt service capacity.

Exhibit 4.2
Comparison of DLS and CDAC Revenue Projections
Fiscal 2011 to 2021
($ in Millions)

Fiscal Year	General Funds	Property Tax	Other ABF	Federal Funds	ETF Slots	Transfer Taxes	TTF	GARVEE	Stadium	Flush Tax	Total	CDAC Est.	Diff.
2011	$13,537	$801	$61	$9	$64	$114	$2,256	$540	$24	$55	$17,462	$17,501	-$39
2012	14,117	762	60	12	78	119	2,290	440	27	56	17,961	17,974	-13
2013	14,494	737	2	12	254	134	2,462	440	25	57	18,617	18,700	-82
2014	14,998	712	2	12	455	157	2,620	440	25	57	19,479	19,561	-82
2015	15,757	712	2	12	457	174	2,700	440	24	58	20,336	20,463	-127
2016	16,497	712	2	12	458	178	2,752	440	24	58	21,133	21,317	-185
2017	17,275	730	2	12	459	182	2,782	440	24	59	21,966	22,161	-196
2018	18,052	748	2	12	461	187	2,854	440	24	59	22,840	22,977	-138
2019	18,865	767	2	12	462	191	2,933	440	23	60	23,755	23,884	-128
2020	19,714	786	2	11	463	196	3,014	440	23	61	24,711	24,817	-106
2021	20,601	806	2	10	464	201	3,099	0	9	61	25,253	25,340	-86

ABF: Annuity Bond 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

Source: (1) General Fund, ETF Slots, and Maryland Department of Transportation: Department of Legislative Services, October 2011; and (2) State Property Tax, Other Annuity Bond Fund, Federal Funds, Transfer Taxes , Stadium Authority, GARVEE, Bay Restoration Fund, and Capital Debt Affordability Committee Revenues: *Capital Debt Affordability Committee Report*, September 2011.

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 DLS' debt issuance assumptions. The GO bond, GARVEE, Stadium Authority, and bay restoration bond issuances are consistent with CDAC estimates. There are differences with respect to Qualified Zone Academy Bonds (QZABs), MDOT bonds, and capital leases. With respect to QZABs, DLS is assuming that the State will issue the federal authorizations provided in 2010 and 2011 will be issued within two years of receiving the federal authorizations. DLS does not anticipate transportation revenues will be sufficient to support the program proposed by MDOT and has scaled back issuances. DLS is also anticipating additional VLT leases, which are classified as capital leases. These issues are discussed in more detail in Chapter 3.

Exhibit 4.3
Projected New Debt Issuances
($ in Millions)

Fiscal Year	GO Bond Auth.	GO Bond Issuances	QZABs	MDOT Bonds	GARVEE	Capital Leases	Stadium Authority	Bay Restoration Bonds
2012	$925	$960	$16	$250	$0	$179	$0	$50
2013	925	950	15	190	0	171	0	170
2014	925	940	5	140	0	43	0	160
2015	935	930	0	130	0	10	0	100
2016	945	930	0	120	0	51	0	0
2017	955	945	0	110	0	86	0	0
2018	1,200	1,025	0	0	0	86	0	0
2019	1,240	1,103	0	0	0	10	0	0
2020	1,280	1,175	0	0	0	10	0	0
2021	1,320	1,243	0	0	0	51	0	0

GARVEE: Grant Anticipation Revenue Vehicle
GO: General Obligation
MDOT: Maryland Department of Transportation
QZABs: Qualified Zone Academy Bonds

Source: (1) General Obligation, MDOT Bonds, QZAB, and Capital Leases: Department of Legislative Services, October 2011; and (2) Stadium Authority, GARVEE, and Bay Restoration Bonds: Capital Debt Affordability Committee, September 2011

Exhibit 4.4 shows that, for the forecast period, debt outstanding as a percent of personal income peaks at 3.37% in fiscal 2013. **Exhibit 4.5** shows that the debt service as a percent of revenues increases until fiscal 2017 as it reaches 7.76% and then declines to 6.81% in fiscal 2021.

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

Fiscal Year	General Obligation[1]	MDOT Bonds	GARVEE	Capital Leases	Stadium Authority	Bay Restoration Bonds	Total Tax-supported Debt	Fiscal Year
2011	$6,983	$1,562	$597	$167	$226	$42	$9,575	2011
2012	7,391	1,459	539	324	225	89	10,027	2012
2013	7,792	1,540	479	459	200	254	10,724	2013
2014	8,138	1,549	416	433	175	401	11,112	2014
2015	8,441	1,534	349	377	150	480	11,332	2015
2016	8,654	1,499	280	360	129	454	11,376	2016
2017	8,856	1,435	207	375	109	426	11,408	2017
2018	9,092	1,259	130	392	88	397	11,358	2018
2019	9,388	1,102	49	336	67	367	11,309	2019
2020	9,710	982	0	278	45	334	11,349	2020
2021	10,090	841	0	336	37	300	11,604	2021

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

2011	2.34	0.52	0.20	0.06	0.08	0.01	3.21	2011
2012	2.39	0.47	0.17	0.10	0.07	0.03	3.24	2012
2013	2.45	0.48	0.15	0.14	0.06	0.08	3.37	2013
2014	2.44	0.46	0.12	0.13	0.05	0.12	3.33	2014
2015	2.40	0.44	0.10	0.11	0.04	0.14	3.22	2015
2016	2.34	0.41	0.08	0.10	0.03	0.12	3.07	2016
2017	2.30	0.37	0.05	0.10	0.03	0.11	2.96	2017
2018	2.27	0.31	0.03	0.10	0.02	0.10	2.84	2018
2019	2.26	0.26	0.01	0.08	0.02	0.09	2.72	2019
2020	2.24	0.23	0.00	0.06	0.01	0.08	2.62	2020
2021	2.24	0.19	0.00	0.07	0.01	0.07	2.58	2021

GARVEE: Grant Anticipation Revenue Vehicle

[1] Includes Qualified Zone Academy Bonds

Source: (1) General Obligation, Maryland Department of Transportation Bonds, and Capital Leases: Department of Legislative Services, October 2011; and (2) Stadium Authority, GARVEE, and Bay Restoration Bonds: Capital Debt Affordability Committee, September 2011

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

Fiscal Year	General Obligation[1]	MDOT Bonds	GARVEE	Capital Leases	Stadium Authority	Bay Restoration Bonds	Total Tax-supported Debt Service	Fiscal Year
2011	835	156	87	35	32	5	1,151	2011
2012	879	180	87	38	36	5	1,224	2012
2013	921	193	87	44	33	10	1,289	2013
2014	990	217	87	79	33	27	1,434	2014
2015	1,041	238	87	81	32	42	1,522	2015
2016	1,127	248	87	81	27	52	1,623	2016
2017	1,181	275	87	82	26	52	1,704	2017
2018	1,238	272	87	80	26	52	1,756	2018
2019	1,268	233	87	80	25	52	1,746	2019
2020	1,321	203	51	79	25	52	1,733	2020
2021	1,359	218	0	79	11	52	1,720	2021

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

2011	4.78	0.89	0.50	0.20	0.19	0.03	6.59	2011
2012	4.89	1.00	0.49	0.21	0.20	0.03	6.82	2012
2013	4.95	1.04	0.47	0.24	0.18	0.05	6.92	2013
2014	5.08	1.11	0.45	0.41	0.17	0.14	7.36	2014
2015	5.12	1.17	0.43	0.40	0.16	0.21	7.48	2015
2016	5.33	1.17	0.41	0.38	0.13	0.25	7.68	2016
2017	5.38	1.25	0.40	0.38	0.12	0.24	7.76	2017
2018	5.42	1.19	0.38	0.35	0.11	0.23	7.69	2018
2019	5.34	0.98	0.37	0.33	0.11	0.22	7.35	2019
2020	5.35	0.82	0.21	0.32	0.10	0.21	7.01	2020
2021	5.38	0.86	0.00	0.31	0.04	0.21	6.81	2021

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

[1] Includes Qualified Zone Academy Bonds

Source: (1) General Obligation, Maryland Department of Transportation Bonds, and Capital Leases: Department of Legislative Services, October 2011; and (2) Stadium Authority, GARVEE, and Bay Restoration Bonds: Capital Debt Affordability Committee, September 2011

Exhibit 4.6 shows that debt outstanding ratios based on DLS' personal income estimates are lower than those estimated by CDAC from fiscal 2011 to 2020. The difference between the two ratios is attributable to MDOT and capital lease debt outstanding, which is less in the DLS estimate. DLS' personal income estimate is also slightly higher than CDAC's estimate.

Exhibit 4.6
State Debt to Personal Income
Comparison of DLS and CDAC Estimates

Fiscal Year	DLS	CDAC
2012	3.24%	3.35%
2013	3.37%	3.47%
2014	3.33%	3.46%
2015	3.22%	3.35%
2016	3.07%	3.22%
2017	2.96%	3.13%
2018	2.84%	3.08%
2019	2.72%	3.04%
2020	2.62%	2.97%
2021	2.58%	2.92%

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

Sources: *Capital Debt Affordability Committee Report*, September 2011; Department of Legislative Services, October 2011

Similarly, **Exhibit 4.7** shows the debt service ratios based on the DLS' forecast of revenues and those estimated by CDAC from fiscal 2012 to 2021. The difference between the two ratios relate to both revenues and debt issuances. DLS estimates lower transportation and ETF revenues than CDAC. On the debt service side of the ratio, DLS anticipates reduced transportation bond issuances and additional VLT leases. In the end, both ratios are fairly close as DLS's are higher until fiscal 2018 and CDAC's ratios are higher thereafter.

Exhibit 4.7
State Debt Service to State Revenues
Comparison of DLS and CDAC Estimates

Fiscal Year	DLS	CDAC
2012	6.82%	6.82%
2013	6.92%	6.91%
2014	7.36%	7.28%
2015	7.48%	7.43%
2016	7.68%	7.63%
2017	7.76%	7.72%
2018	7.69%	7.65%
2019	7.35%	7.42%
2020	7.01%	7.17%
2021	6.81%	7.05%

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

Sources: *Capital Debt Affordability Committee Report*, September 2011; Department of Legislative Services, October 2011

Chapter 5. Analysis of Factors Influencing Bonds' Interest Cost

The interest rate that Maryland pays for the bonds it sells is referred to as the true interest cost (TIC). This rate is derived by calculating a bond 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 Maryland receives on general obligation (GO) bond sales. **Appendix 3** shows the data used in the analysis.

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

Financial theory suggests factors that could influence Maryland's GO bond's TIC. Research has confirmed a number of significant influences in other states and in national studies that include Maryland. To build the least squares regression equation, data was collected and analyzed for the 56 bond sales since March 1991 (refunding sales are excluded): 43 competitively bid, tax-exempt; 3 competitively bid, taxable GO bond sales; 4 competitively bid Build America Bonds (BABs); 5 negotiated, retail GO bond sales; and 1 negotiated bay bond sale. In previous years, we did not include the bay bonds. The data collected includes:

- true interest cost;
- Delphis Scale[1] for 10-year, tax-exempt bonds;
- date of the bond sale, fiscal year, and calendar years 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;

[1]Because of the tremendous size of the State and municipal bond market, there are independent companies that gather information about the yield on State and municipal bonds. One such independent company, the Delphis Hanover Corporation, prepares an index that measures the average yield on State and municipal bonds based on daily market activity (Delphis Scale). When collecting data, the Department of Legislative Services called the Delphis Hanover Corporation to discuss how they estimate bond yields. Corporate representatives advised that they have been estimating yields since 1963 and collect the yield for every bond issue over $10 million for competitive and negotiated sales, as well as secondary market data. With respect to the secondary market, they exclude any outliers. Maryland has collected the estimated 10-year yield for AAA bonds for every bond sale since 1991.

- Consumer Price Index to examine if inflation affected the market's perception of the amount of debt sold;

- 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 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 (TIC). The regression equation examines the variables previously listed and identifies six statistically significant variables at the 95% confidence level that affect the TIC. The seventh variable, credit watch, is significant at the 90% confidence interval. All the other previously identified statistics were not statistically significant at the 90% confidence level. **Exhibit 5.1** shows the data for the statistically significant variables.

- ***Delphis Scale:*** The key variable is the Delphis Scale. This is an estimate of the market rate for AAA-rated State and municipal bonds. The Delphis Hanover Corporation prepares an index that measures the average yield on State and municipal bonds based on daily market activity (Delphis Scale). DLS has collected the estimated yield for AAA bonds for every bond sale since 1991. The Delphis Scale reflects the rate of noncallable bonds, while Maryland bonds generally are callable. Consequently, Maryland's bonds are higher value bonds than the market ratio, since they give the issuer the opportunity to redeem the bonds early.

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

- ***Years to Maturity:*** Under normal economic conditions, bonds with shorter maturities have lower interest costs than bonds with longer maturities. This is referred to as a positive yield curve. The analysis estimates that every year adds 0.32% (32 basis points) to the TIC.

Exhibit 5.1

TIC Regression Equation – Evaluating the Independent Variables

Ind. Variable	Coefficient	Std. Error	Beta	t-test	Sig.	Tol.	Comment
Delphis Scale	0.96	0.04	0.78	27.162	0.000	0.59	Highest t-test suggests with confidence that the Delphis Scale is significant.
MD PI/US PI	-1.24	0.56	-0.06	-2.238	0.030	0.66	Negative coefficient suggests that as the Maryland economy strengthens, compared to the United States, the TIC declines.
Years to Maturity	0.32	.02	0.62	13.867	0.000	0.24	Positive coefficient means that longer maturities tend to have higher TICs.
Taxable Debt	2.45	0.16	0.53	15.603	0.000	0.42	Suggests taxable bonds are more expensive than traditional bonds.
Bay Bonds	0.45	0.18	0.06	2.586	0.013	0.98	Suggests bonds are more expensive than traditional bonds.
BABs	-1.67	0.15	-0.41	-11.322	0.000	0.37	Negative coefficient suggests BABs are less expensive.
Credit Review	0.23	0.14	0.04	1.696	0.096	0.84	Suggests credit watch increased TIC at the last sale.
Constant	-0.127						

BABs: Build America Bonds
Ind.: Independent
MD PI/US PI: Maryland Total Personal Income to United States Personal Income
Sig.: Significance or confidence interval
Std.: Standard
TIC: True interest cost
Tol.: Tolerance, a test of multicollinearity

Source: Department of Legislative Services, October 2011

- ***Taxable Debt:*** The State has also issued three taxable debt series. Since investors are required to pay federal income taxes on the interest earnings of taxable bonds, these bonds require a higher return and sell at a higher TIC. All the taxable bonds mature within seven years and are not callable. The analysis estimates that the TIC of taxable bonds is 2.45% (245 basis points) greater than the TIC for tax-exempt, 10-year bonds. The actual TIC of the bonds is in fact less because the Treasurer's Office issued taxable bonds in shorter maturities and small denominations, this taking advantage of the yield curve and the lower cost of smaller issuances.

- ***Bay Bonds:*** The Bay Restoration Fund was created in 2004 to provide grants for enhanced nutrient removal (ENR) pollution reduction upgrades at the wastewater treatment plants. The fund is administered by the Maryland Department of the Environment's Water Quality Financing Administration. The fund is financed by a bay restoration fee on users of wastewater facilities and septic systems and sewage holding tanks. Bay bonds are not considered to be GO bonds; unlike GO bonds, bay bonds are not supported by the full faith and credit of the State. However, they are considered to be State debt. 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. This year, bay bonds are included in the bond analysis. There has been one issuance of bay bonds totaling $50 million. The analysis estimates that bay bonds are 0.45% (45 basis points) more expensive than GO bonds. The high t-test implies that DLS is 98.0% confident that this result is statistically significant.

- ***Build America Bonds:*** In February 2009, the American Recovery and Reinvestment Act authorized the issuance of BABs. The bonds are taxable bonds that support the same types of projects that traditional tax-exempt bonds support. The difference is that the buyers do not receive any federal tax credits or deductions so that the interest earnings are subject to federal taxes. Instead, Maryland receives a subsidy equal to 35.0% of the interest costs from the federal government. In concept, the bonds expand the number of buyers of State and municipal debt since the bonds are also attractive to individuals and institutions that do not pay federal taxes. Because the tax-exempt bonds' benefit is greater for shorter maturities, the State issued tax-exempt bonds with shorter maturities and BABs with longer maturities. The analysis estimates that the TIC of BABs is 1.67% (167 basis points) less than the TIC for tax-exempt, 10-year bonds. Actual savings are less, since the State issued bonds with longer maturities.

- ***Credit Review:*** Maryland's GO bonds have been rated AAA since they were first rated. For example, Standard & Poor's has given Maryland a stable AAA rating since 1961. This changed in July 2011; at that time, Moody's announced that it will review the credit ratings of five AAA-rated states, including Maryland. In spite of the rating agency action, the competitive sales scheduled for July 27, 2011, proceeded as planned. Insofar as the sale received AAA ratings from all three rating agencies and the State has a reputation for timely budgets and strong financial management, the State concluded that

it was reasonable to expect a successful bond sale. The regression analysis provides evidence that Moody's action did have an effect on the bonds' TIC. The equation estimates that credit review added 0.23% (23 basis points) to the TIC. This is the only variable that does not meet the 95.0% confidence interval; instead the confidence interval is 90.0%. Insofar as this high level of confidence was achieved from only two issuances, the July 2011 retail and competitive sales, the results are reported and included in the model.

Statistical Analysis Suggests That the Equation Explains the TIC Extremely Well

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. **Exhibit 5.2** shows the equation's statistics.

Examining the Effectiveness of the Regression Equation – An Intuitive Approach

As previously noted, the appendices provide all the statistical data. This allows statisticians to examine DLS' least squares regression equation. In addition to the statistical data, a more intuitive analysis of the regression equation may be made.

In the past, DLS has compared the TIC to the Delphis Scale to examine the State's GO bond yields. The purpose of the exercise is to improve upon this approach and to determine what factors are statistically significant and to what extent they influence the TIC. For the regression equation to be useful, it should be able to better estimate the TIC than the Delphis Scale alone. While the Delphis Scale is an excellent proxy for general market conditions, it does not reflect any independent variables specific to Maryland's financial condition or a bond sale's attributes (such as issuing callable bonds).

Exhibit 5.2
TIC Regression Equation – Evaluating the Entire Equation

What Is Measured	Statistic Used to Measure	Value of Statistic	Explanation
Confidence in the equation	F Statistic	289.0	We are almost 100% confident that the independent variables influence the dependent variable.
Margin of error	Standard error of the estimate	0.172	We expect the actual TIC to be within 0.17% (17 basis points) of the estimate.
Estimate in relation to actual data	Adjusted R Square	0.973	The model's estimates explain 97.3% of the actual data.
Serial or autocorrelation	Durbin-Watson	2.119	The ideal value is 2.0. If the number deviates too far from 2.0, it suggests that there are patterns in the errors, and a key independent variable is missing.

TIC: True interest cost

Source: Department of Legislative Services, October 2011

Exhibit 5.3 compares the DLS regression equation and the Delphis Scale to the actual TIC and shows that the DLS regression equation is more often closer to the TIC than the Delphis Scale. Because the Delphis Scale value was calculated for bonds maturing in 10 years, the analysis only includes bonds with maturities that are greater than 8 and less than 12. This eliminates bonds issued with short maturities (such as the 2-year issuance from March 2, 2005) and long maturities (such as the 15-year issuance from August 5, 2009). Of the 44 bond sales analyzed, the DLS estimate is closer to the actual TIC than the Delphis Scale 29 times (66%). The Delphis Scale is closer 14 times (32%) and they produce the same estimate 1 time (2%). The total error of the DLS regression equation is 306 basis points, compared to 493 basis points for the Delphis Scale.

This comparison shows that including variables, such as Maryland personal income to U.S. personal income, provides an estimate that is quite close to the actual TIC and provides an estimate that is usually closer than the Delphis Scale alone.

Exhibit 5.3

Comparison of the DLS Regression Equation and Delphis Scale to Actual TIC

Bond Sale Date	TIC	DLS Model	Delphis Scale	Difference Between TIC and DLS	Difference Between TIC and Delphis	Closer Estimate
03/13/91	6.31	6.14	6.15	0.17	0.16	Delphis Scale
07/10/91	6.37	6.50	6.50	0.13	0.13	Same
10/09/91	5.80	5.73	5.70	0.07	0.10	DLS Equation
05/13/92	5.80	5.79	5.75	0.01	0.05	DLS Equation
01/13/93	5.38	5.43	5.40	0.05	0.02	Delphis Scale
05/19/93	5.10	5.16	5.10	0.06	0.00	Delphis Scale
10/06/93	4.45	4.54	4.45	0.09	0.00	Delphis Scale
02/16/94	4.48	4.59	4.50	0.11	0.02	Delphis Scale
05/18/94	5.36	5.42	5.35	0.06	0.01	Delphis Scale
10/05/94	5.69	5.56	5.50	0.13	0.19	DLS Equation
03/08/95	5.51	5.45	5.35	0.06	0.16	DLS Equation
10/11/95	4.95	4.91	4.80	0.04	0.15	DLS Equation
02/14/96	4.51	4.48	4.35	0.03	0.16	DLS Equation
06/05/96	5.30	5.23	5.10	0.07	0.20	DLS Equation
10/09/96	4.97	5.04	4.90	0.07	0.07	Delphis Scale
02/26/97	4.90	4.85	4.70	0.05	0.20	DLS Equation
07/30/97	4.64	4.66	4.50	0.02	0.14	DLS Equation
02/18/98	4.43	4.44	4.25	0.01	0.18	DLS Equation
07/08/98	4.57	4.58	4.40	0.01	0.17	DLS Equation
02/24/99	4.26	4.26	4.10	0.00	0.16	DLS Equation
07/14/99	4.83	4.91	4.80	0.08	0.03	Delphis Scale
07/19/00	5.05	4.98	4.85	0.07	0.20	DLS Equation
02/21/01	4.37	4.41	4.28	0.04	0.09	DLS Equation
07/11/01	4.41	4.48	4.39	0.07	0.02	Delphis Scale
03/06/02	4.23	4.20	4.17	0.03	0.06	DLS Equation
07/31/02	3.86	3.94	3.89	0.08	0.03	Delphis Scale
02/19/03	3.69	3.82	3.77	0.13	0.08	Delphis Scale
07/16/03	3.71	3.62	3.56	0.09	0.15	DLS Equation
07/21/04	3.89	3.94	3.89	0.05	0.00	Delphis Scale
03/02/05	3.81	3.77	3.72	0.04	0.09	DLS Equation
07/20/05	3.79	3.67	3.63	0.12	0.16	DLS Equation
03/01/06	3.87	3.95	3.89	0.08	0.02	Delphis Scale
07/26/06	4.18	4.13	4.09	0.05	0.09	DLS Equation
02/28/07	3.86	3.84	3.77	0.02	0.09	DLS Equation
08/01/07	4.15	4.09	4.02	0.06	0.13	DLS Equation

Bond Sale Date	TIC	DLS Model	Delphis Scale	Difference Between TIC and DLS	Difference Between TIC and Delphis	Closer Estimate
02/27/08	4.14	3.99	3.90	0.15	0.24	DLS Equation
07/16/08	3.86	3.83	3.76	0.03	0.10	DLS Equation
03/04/09	3.39	3.31	3.51	0.08	0.12	DLS Equation
03/02/09	3.63	3.61	3.47	0.02	0.16	DLS Equation
08/05/09	2.93	2.95	3.17	0.02	0.24	DLS Equation
08/03/09	3.20	2.96	3.16	0.24	0.04	Delphis Scale
03/09/11	3.49	3.59	3.29	0.10	0.20	DLS Equation
06/12/08	4.03	4.03	3.92	0.00	0.11	DLS Equation
07/27/11	3.08	3.25	2.87	0.17	0.21	DLS Equation
Total Error				**3.06**	**4.93**	

DLS: Department of Legislative Services
TIC: True Interest Cost

Source: Department of Legislative Services, October 2011

Policy Implications

Analysis Provides Evidence That Credit Review Increases Borrowing Costs

Unlike recent bond sales, July 2011 GO bonds were sold at a time of uncertainty in the financial markets stemming from the federal government reaching its debt ceiling. Further complicating matters, two days before the State was scheduled to begin selling retail bonds, Moody's announced that it will review the credit ratings of five AAA-rated states, including Maryland. Moody's believes these states to be especially vulnerable to a downgrade of the U.S. government's credit (or actions possibly taken to preserve it).

In response to Moody's announced pending re-evaluation, Maryland officials consulted the Treasurer's financial advisor, bond council, and underwriters to determine the appropriate course of action. The decision was made to delay the start and condense the retail bond sale and continue with the competitive sale as scheduled.

The retail sale was initially scheduled to begin on Friday, July 22, 2011, and end on Monday, July 25, 2011. In hopes that a federal debt agreement could be brokered over the weekend, the sale was condensed to Monday, July 25, 2011. Notwithstanding the absence of a deal, the sale went forward.

The three competitive sales scheduled for Wednesday, July 27, 2011, proceeded as planned. Insofar as the sale received AAA ratings from all three rating agencies and the State has a reputation for timely budgets and strong financial management, the State concluded that it was reasonable to expect a successful bond sale. In the end, the sale was considered to be successful. The State issued $512.3 million in GO bonds with a TIC of 2.82%. Market conditions were such that the interest cost was among the lowest over the last 20 years. It was also lower than the most recent sale in March 2011, which had a TIC of 3.33%.

Nonetheless, the regression analysis provides evidence that Moody's action did have an effect on the bonds' TIC. The equation estimates that credit review added 0.23% (23 basis points) to the TIC. Based in these results, DLS calculates that being under credit watch added $11.1 million to debt service costs, assuming similar maturities and retail bond issuances. From fiscal 2015 to 2026, when debt service costs are approximately $51 million annually, credit watch is estimated to add an average of over $800,000 to annual debt service costs.

Build America Bonds Are Less Expensive Than Tax-exempt GO Bonds

The DLS analysis suggests that savings were realized by issuing BABs; the equation estimates that the yield on BABs (after adjusting for the federal subsidy) is 1.67% (167 basis points) less than the yield for 10-year tax-exempt bonds. The Treasurer's Office surmised that BABs with longer maturities would be less expensive than tax-exempt bonds with longer maturities. Consequently, BABs were issued with longer maturities, which must be taken into account when analyzing the cost of BABs. DLS estimates that each year adds approximately 0.32% onto the TIC and that the BABs maturities were an average of 14 years (4 years more than the 10-year rate). Since this adds approximately 1.28% to the cost of BABs, which is less than the 1.67% savings, the statistical analysis suggests that BABs did reduce State debt service costs. In January 2011, DLS estimated that BABs reduced State borrowing costs by $39 million.

However, the future of the BABs program is unclear. Under current federal law, BABs expired on January 1, 2011. Most proposals have reduced the federal interest subsidy below 35%. It is possible that a lower subsidy rate no longer makes BABs attractive for Maryland. If BABs are reauthorized by the federal government, the State should consider issuing BABs again.

Regression Analysis Suggests That Bay Restoration Bonds Are More Expensive Than General Obligation Bonds

On June 12, 2008, the Maryland Water Quality Financing Administration (MWQFA) issued $50 million in bay restoration bonds. This was the first issuance of bay bonds. MWQFA estimates that another $480 million in bay bonds will be issued through fiscal 2012. The bonds were rated AA and were issued through a negotiated sale. The regression analysis estimates that bay bonds are 0.45% (45 basis points) more expensive than GO bonds with a standard deviation of 0.18% (18 basis points). Also important is the t-test, which measures the reliability of the result. The t-test result is 2.586, which suggests that the test is in the 98.0% confidence level.

Because bay bonds have a number of unique features, it is unclear exactly what accounts for the difference. Some of the differences include a lower bond rating (bay bonds were rated AA instead of AAA), the new introduction to the market (this was the initial bay bond sale while GO bonds have been issued regularly for decades), and a negotiated bond sale (GO bonds issued to institutional investors are issued through competitive sales).

At best, DLS can only partially quantify the various factors that influence bay bonds' costs. At the time that bay bonds were issued, the Delphis Scale estimates that the difference between AAA and AA bonds was 0.16% (16 basis points); AAA rate was 3.92% and the AA rate was 4.08. This suggests that 0.29% (29 basis points) of the additional interest is attributable to other factors, such as the newness of the bonds and the negotiated sale. With respect to any costs that may be attributable to the newness of the sale, these may decline as the State continues to issue bay bonds.

Part of the bay bonds' additional costs may be attributable to the negotiated sale. While it may make sense to structure the initial issuance of a bond that has a new revenue source as a negotiated sale, it also makes sense to reconsider this after the bonds have been successfully marketed. The Government Finance Officers Association has prepared an analysis of the benefits of both negotiated and competitive sales.

Most bonds are sold through either a negotiated or competitive sale. In a negotiated sale, the underwriter is selected well in advance of the bond sale. After the underwriter has been chosen, the issuer and underwriter determine the cost of the sale. In a competitive sale, the issuer solicits bids from underwriters at a specified date and time and awards the bond sale when the bids are opened.

Competitive sales have the following advantages:

- ***Costs of Competitive Bond Sales Tend to Be Lower:*** The nature of the bid process provides an incentive for underwriters to provide the lowest bids. Securities Data Company estimates that the cost of competitive sales was $0.81 per $1,000 bond less than negotiated sales. Because costs tend to be lower, Maryland's GO and MDOT's transportation bonds are sold in competitive bond sales.

- ***Competitive Sales Promote the Appearance of an Open, Fair Process:*** The very nature of Maryland's competitive sales is to have all bids opened in public at the same time.

Negotiated sales have the following advantages:

- ***Greater Incentive for the Underwriter to Pre-market the Bond Sale:*** Bonds that have complicated structures, are not sold frequently, or are sold by issuers experiencing financial difficulties may be difficult for underwriters to sell. Negotiated sales provide

opportunities for underwriters to begin marketing the bonds well in advance of the bond sale.

- ***Flexibility:*** It is less complicated to change the timing or structure of an issue in a negotiated sale.

The State's initial bay bond sale was a negotiated sale. For the next bond sale, a competitive sale may be warranted. The consensus is that competitive sales reduce costs, which is why Maryland GO and transportation bonds are generally bid competitively. Arguments supporting a competitive sale are that:

- ***Bay Bonds Benefit from State's Financial Strength and High Credit Rating:*** Bay bonds benefit from Maryland's financial strength and good credit. Negotiated sales are often advantageous if an issuer has been downgraded. This is not a concern with bay bonds.

- ***Bay Bonds Are No Longer New and the First Issuance Was Received Favorably:*** Because it is often difficult to gauge how well a new issuance will be received, the first bond sale of a new issuance is often a negotiated sale, which gives the underwriter more time to market the bonds. Insofar as the first bond sale was favorably received, a negotiated sale may not be necessary.

- ***Bay Bond Provisions Are Not Particularly Unique or Complex:*** Bonds that have complicated or unique provisions often require additional effort for underwriters to sell, so they are offered in a negotiated sale. This is not the case with bay bonds.

- ***Bay Bonds Are Highly Rated:*** Bonds that are rated less than A can be more difficult to market. As a consequence, the bonds are often issued through a negotiated sale. Since bay bonds are rated AA, this is not a concern.

- ***Revenues Supporting Bay Bond Debt Service Are Stable:*** Bay bonds are supported by the Bay Restoration Fee, which charges users of wastewater treatment plants and septic systems. The fee is largely based on the number of users and is quite stable, which reduces the bonds' risk and makes them easier to market.

Since bay restoration bonds have successfully been issued, are highly rated, are supported by stable revenues, and do not have any particularly unique or complicated provisions, it is recommended that the Maryland Water Quality Financing Administration examine the feasibility of issuing bay bonds through a competitive sale, instead of a negotiated sale basis.

Chapter 6. Non-tax-supported Debt

In addition to the tax-supported debt that Maryland issues, there are various forms of non-tax-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.

Non-tax-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 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 primarily as conduit issuers include the Maryland Economic Development Corporation (MEDCO), the Maryland Health and Higher Educational Facilities Authority, and the Maryland Industrial Development Financing Authority.

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 United States' 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, presently $85 per capita, adjusted annually for inflation. Maryland's 2011 allocation totaled $549 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 Sections 13-801 through 13-807 of the Financial Institutions Article. The Secretary of the Department of Business and Economic Development 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 of Business and Economic Development and pursuant to the goals listed under Section 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 can be accomplished by any individual jurisdiction. The debt belongs to the county that received the initial allocation and is not backed by CDA. State issuers, such as the Maryland Industrial Development Financing Authority 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 Business and Economic Development (DBED) on September 30 of each year. DBED 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.

Exhibit 6.1 provides the calendar 2007 through 2011 figures for the amount of available tax-exempt bond authority and the level of issuances made under the volume cap limits. Since 2007, total issuances under the volume cap have been relatively low. A reduction in single-family housing issuances has primarily driven the decrease, although other issuances have decreased as well. Also, the Secretary's Reserve abandoned a large amount of prior-year carry forward in 2009 and expects to do so again in 2011. Nevertheless, total carry forward continues to grow because it has outpaced annual issuances for the time being. In 2010, for instance, the CDA did not issue any single-family housing issuances. Moreover, in some years, such as 2008, CDA does not issue any debt directly against that year's allocation if prior year carry forwards are sufficient to support the activity for its single- and multifamily programs.

Exhibit 6.1
Allocation of Private Activity Bonds
Calendar 2007-2011
($ in Millions)

	2007	2008	2009	2010	Est. 2011
Fund Sources					
Annual Cap	$477.3	$477.6	$507.0	512.9	548.5
2008 Special Housing Allocation	-	$175.9	-	-	-
Carry Forward from Prior Years	698.7	617.7	950.9	1,043.4	1,283.2
Total Capacity Available	**$1,176.0**	**$1,271.2**	**$1,457.9**	**$1,556.3**	**$1,831.7**
Issuances					
Single-family Housing	$369.7	$98.7	$235.2	-	293.60
Multifamily Housing	37.8	106.0	35.2	90.2	72.5
Housing – Other	90.0	21.2	-	65.6	19.4
Industrial Development Bonds	48.3	38.6	9.1	17.9	20.0
Exempt Facilities[1]	-	-	-	-	-
Total Issuances	**$545.8**	**$264.5**	**$279.5**	**$173.7**	**$405.5**
Prior Year Carry Forward Abandoned	12.5	55.8	135.00	99.40	100.0
Carry Forward	$617.7	$950.9	$1,043.4	$1,283.2	$1,326.2

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

Source: Bond Market Association; Department of Business and Economic Development; Department of Housing and Community Development

A portion of the CDA's debt also represents refinancing prior issuances and issuing taxable bonds. Debt issued for these purposes are not subject to the federal volume cap. The issuances reflected above nonetheless mark a sizable decrease in CDA bond activity as demand for mortgage products dropped off in 2008. While CDA did not issue any single-family program bonds in 2010, it expects to issue $294 million in 2011.

The federal Housing and Economic Recovery Act (HERA) of 2008 includes several funding provisions to help states address rising foreclosures. As part of this package, Maryland received an additional $175.9 million in Mortgage Revenue Bond funds, allowing DHCD to refinance existing mortgages for the first time. This separate, one-time allocation is above and beyond the annual cap and has special restrictions. The bonds could be issued under either the single-family or multifamily bond programs and, unlike the annual federally mandated volume

cap, any unused portion of this authorization had to be abandoned after two years, not three. Therefore, this one-time authorization to issue bonds expired in 2010. Refinancing assistance under this authorization adhered to CDA's established income and purchase price limits.

The HERA also created the New Issue Bond Program (NIBP) to assist housing finance agencies (HFA) that were facing challenges in providing affordable financing due to difficulties with liquidity and credit downgrades. The program temporarily eases the rules pertaining to bond issuances to make borrowing easier and more affordable. Under NIBP, the U.S. Treasury purchases up to 60% of each bond issue, providing HFAs such as CDA with the ability to make affordable interest rates available to homeowners by lowering CDA's borrowing costs. CDA received approximately $92 million under NIBP which will allow it to make roughly $150 million in loans. NIBP also provides HFAs with the ability to issue bonds to refund taxable variable rate debt as tax-exempt variable rate debt. All loans under NIBP will close in 2010 and 2011 in accordance with federal law, after which the temporary easing of the rules will be suspended.

Debt Outstanding

Containing the amount of non-tax-supported agency debt has been a consistent concern of both the General Assembly and the Capital Debt Affordability Committee. During the 1989 session, the General Assembly passed Senate Bill 337 in an attempt to establish a measure of control over agency debt. This legislation was vetoed by the Governor who addressed the issue through the issue of Executive Order 01.01.1989.13 that established a procedure whereby the Governor set a revenue bond debt ceiling each year and allocated the debt allowance among the State agencies.

The Department of Budget and Management (DBM) was tasked with administering the process and was required to submit a report annually on the amount of agency debt outstanding. During the 1997 interim, a workgroup comprised of DBM staff and staff from agencies that issue revenues bonds, met to review the provisions of the 1989 executive order and make recommendations for improvement. The workgroup recommended removing higher education institutions from the process because their levels of debt are already limited by statute. Additionally, the CDA Infrastructure Program was recommended for removal from the process because the program's debt is issued on behalf of local governments and is not a debt of the State. Finally, the workgroup recommended changes in reporting dates and notification requirements. It was decided that prior notification of issuances need to be made only for issuances of $25 million or more. On February 10, 1998, the Governor instituted the recommendations of the workgroup by signing Executive Order 01.01.1998.07, superseding the 1989 process.

Exhibit 6.2 summarizes the increase in debt outstanding for various categories between fiscal 2001 and 2011. A table containing debt outstanding by year for the individual agencies is included as **Appendix 4**.

Exhibit 6.2
Debt Outstanding as of June 30
Fiscal 2001 and 2011
($ in Millions)

	2001	2011	Total Change	Annual % Change
Agency debt subject to State regulatory cap	$466	$3,395	$2,929	22.0%
Agency debt not subject to State regulatory cap	4,423	5,226	803	1.7%
Tax-supported debt	4,586	9,576	4,989	7.6%
Authorities and corporations without caps	4,516	11,128	6,611	9.4%
Total	**$13,992**	**$29,323**	**$15,332**	**7.7%**

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

Source: Department of Budget and Management

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 only, and Chapter 213 of 2009 extended its authority to include academic revenue bonds (ARBs) as well. Academic facilities are primarily used for instruction of students while auxiliary facilities are those that produce income from fees charged for 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 Academic Facilities Bonding Authority listing the specific academic projects requiring authorization. Legislation may also increase the total debt limit for institutions when warranted. The current debt limits are $1.4 billion for USM, $88 million for MSU, $65 million for BCCC, and $60 million for SMCM.

University System of Maryland

USM's debt management policies aim to reassure investors and the rating agencies of the system's financial stability and control over debt. USM aims for debt service to be less than

4.5% 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.

Since the economic downturn, the ratings of many higher education institutions were downgraded due to their weaker financial positions. For USM, reassuring investors and rating agencies is of particular importance. With a stable debt management policy, USM expects to maintain the current credit rating of AA from Moody's and Fitch as well as AA+ from Standard and Poor's.

Exhibit 6.3 shows that USM will be under the 4.5% debt service goal for fiscal 2012-2017. Including debt issued in fiscal 2012, total debt service will be approximately $136.4 million, or 4.1% of fiscal 2012 operating revenues plus State appropriations including grants and contracts. The forecast indicates the ratio will stay between 4.0% and 4.2% over the next five years, with fiscal 2016 projected to be 4.2%. This is slightly higher than fiscal 2008-2011 but still below the 4.5% target maximum.

Exhibit 6.3
University System of Maryland Debt Service as Related to Unrestricted Funds
Fiscal 2008-2017
($ in Millions)

Fiscal Year	Total Debt Outstanding	Total Debt Service	Unrestricted Expenditures	Ratio of Debt Service to Unrestricted Expenditures
2008	$970	$105	$2,980	3.5%
2009	1,029	112	3,123	3.6%
2010	1,083	111	3,157	3.5%
2011	1,129	120	3,262	3.7%
2012 Estimated	1,163	136	3,360	4.1%
2013 Estimated	1,196	140	3,461	4.1%
2014 Estimated	1,232	142	3,564	4.0%
2015 Estimated	1,264	149	3,671	4.1%
2016 Estimated	1,288	159	3,781	4.2%
2017 Estimated	1,310	164	3,895	4.2%

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 55% of total debt outstanding. **Exhibit 6.4** shows USM's expendable resources to debt outstanding ratio for fiscal 2008 to 2017. It has exceeded the target minimum throughout the entire period, indicating some capacity to issue more debt under the criterion.

Exhibit 6.4
Summary of Expendable Resources to Debt Outstanding for the University System of Maryland
Fiscal 2008-2017
($ in Millions)

Fiscal Year	Available Resources	Debt Outstanding	Ratio of Expendable Resources to Debt Outstanding
2008	$1,044	$970	107.6%
2009	1,130	1,029	109.9%
2010	1,187	1,083	109.6%
2011	1,432	1,129	126.9%
2012 Estimated	1,270	1,163	109.1%
2013 Estimated	1,267	1,196	105.9%
2014 Estimated	1,269	1,232	103.0%
2015 Estimated	1,301	1,264	103.0%
2016 Estimated	1,333	1,288	103.5%
2017 Estimated	1,365	1,310	104.2%

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

Source: University System of Maryland

Plan to Address Facility Renewal Needs

USM's total facility renewal backlog is roughly $1.5 billion. The University of Maryland, College Park (UMCP) makes up the majority of the backlog, where the routine maintenance of aging buildings and infrastructure has cut into spending in other areas. Although the USM Board of Regents has a policy for campuses to spend 2% of the value of capital assets on facility renewal, few have reached that goal.

Recognizing the facility renewal needs that exists at UMCP, the Governor's 2011 *Capital Improvement Program* (CIP) included for that college $5 million in GO bonds annually from fiscal 2013-2016. The General Assembly chose to begin funding the program in fiscal 2012 and requested the Capital Debt Affordability Committee to evaluate USM's ability to match the State's $5 million by increasing the system's annual ARB issuance.

USM currently issues $27 million in ARBs annually. Of that amount, $10 million helps to fund projects on the State's CIP and $17 million addresses system-wide facility renewal needs. To match the State's $5 million in GO bonds, USM must increase its issuance from $27 million to $32 million in ARBs.

The exhibits show that USM has the ability to issue an additional $5 million in ARBs without pushing against its self-imposed ratios or risking its bond rating. In addition, the system is authorized to issue up to $1.4 billion in academic and auxiliary debt but will have $1.2 billion outstanding at the end of fiscal 2012. Although the CIP has the program running through fiscal 2016, it is expected to continue with $5 million in GO bonds and $5 million in ARBs until UMCP's facility renewal costs are at a more manageable level.

Morgan State University

As shown in **Exhibit 6.5**, MSU estimates $60.9 million of total debt in fiscal 2012. This figure includes academic, auxiliary, and capital lease debt. Auxiliary debt is the largest of the three, totaling $47.7 million. The ratio of debt service to unrestricted expenditures is estimated to be 4.3% in fiscal 2012, below the State's 5.5% goal ratio. The ratio is expected to stay between 4.6% and 4.0% through fiscal 2017.

Exhibit 6.5
Morgan State University Debt Service as Related to Unrestricted Funds
Fiscal 2008-2017
($ in Thousands)

Fiscal Year	Total Debt Outstanding	Total Debt Service	Unrestricted Expenditures	Ratio of Debt Service to Unrestricted Expenditures
2008	$68,430	$7,322	$152,655	4.8%
2009	67,825	7,700	161,907	4.8%
2010	64,354	8,015	166,262	4.8%
2011	59,556	8,034	169,964	4.7%
2012 Estimated	60,865	7,429	174,691	4.3%
2013 Estimated	55,591	8,285	179,580	4.6%
2014 Estimated	50,350	8,016	184,730	4.3%
2015 Estimated	48,460	7,633	191,155	4.0%
2016 Estimated	45,783	8,278	197,370	4.2%
2017 Estimated	44,058	8,951	203,891	4.4%

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

Source: Morgan State University

St. Mary's College of Maryland

SMCM's outstanding debt consists of auxiliary and capital lease debt. SMCM does not have any outstanding academic debt. The total debt in fiscal 2012 is estimated to be $38.3 million and is expected to decrease to $29.8 million by fiscal 2017. The college's ratio of debt service to unrestricted expenditures is also expected to decline further in fiscal 2012 to 5.1%. From fiscal 2008 to 2010, SMCM exceeded the 5.5% debt ratio goal in order to construct additional residential buildings to house increasing enrollment. As shown in **Exhibit 6.6**, the debt ratio is expected to further decline to 4.3% by fiscal 2017.

Exhibit 6.6
St. Mary's College of Maryland Debt Service Related to Unrestricted Funds
Fiscal 2008-2017
($ in Thousands)

Fiscal Year	Total Debt Outstanding	Total Debt Service	Unrestricted Expenditures	Ratio of Debt Service to Unrestricted Expenditures
2008	$48,199	$3,452	$60,781	5.7%
2009	46,790	3,517	62,787	5.6%
2010	45,333	3,522	63,883	5.5%
2011	41,753	3,500	65,187	5.4%
2012 Estimated	38,313	3,416	66,817	5.1%
2013 Estimated	36,722	3,346	68,487	4.9%
2014 Estimated	35,076	3,344	70,199	4.8%
2015 Estimated	33,376	3,342	71,954	4.6%
2016 Estimated	31,610	3,255	73,753	4.4%
2017 Estimated	29,770	3,260	75,597	4.3%

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

Baltimore City Community College

Although it currently has no auxiliary or academic debt, BCCC reports that it is considering issuing debt in coming years. The college has a maximum debt authorization of $65 million. BCCC expects to initiate the bond rating process in fiscal 2013 and to issue debt the following year. Although the amount of the potential issuance has not been determined, BCCC reports it could support a parking garage, capital equipment, or other facility needs that cannot be accommodated by the State's capital budget.

To support debt repayment, BCCC is growing a capital reserve. It is funded by a Facilities Capital Fee charged to students and totaled $0.9 million at the end of fiscal 2011. The college reports that the fee will generate about $0.2 million annually. BCCC's capital reserve is held in the college's fund balance, which totaled $26.9 million at the end of fiscal 2011. The fund balances of USM, MSU, and SMCM support each institution's bond rating.

Chapter 7. State Debt Outlook

Maryland has a large debt program. The State ended fiscal 2011 with $7.0 billion of general obligation (GO) bond debt outstanding and $9.6 billion in State debt outstanding. GO bond debt service was $835 million in fiscal 2011, while total debt service is under $1.2 billion. This section examines the following State debt issues:

- 2011 session capital budget reverses State policy to expand the capital program;
- State property tax revenues are projected to be insufficient to support debt service in the out-years;
- the Administration is considering accelerating capital spending;
- federal budget actions may affect State debt;
- Stadium Authority proposes to refund variable-rate bonds; and
- State may need to issue taxable bonds again.

2011 Session Capital Budget Reverses State Policy to Expand Capital Program

In 2000, the State began expanding debt. By December 2009, the State had reached the limit, and the Capital Debt Affordability Committee (CDAC) reduced GO bond authorizations.

Expansion of Debt Provides Short-term Operating Budget Relief, Increases Debt Service Costs, and Brings State to Affordability Limit

Since the 2000 legislative session, State debt has been increased by authorizing additional GO and transportation debt and authorizing new kinds of State debt. The State has expanded debt authorizations in 17 separate actions: 11 actions increase GO bond authorizations; 3 actions increase transportation bond authorizations; Grant Anticipation Revenue Vehicles are authorized; Program Open Space bonds are authorized (which are issued as GO bonds in 2010, as discussed in Chapter 3); and bay restoration bonds are authorized. **Appendix 5** lists all the actions that were taken to increase debt.

These new and expanded authorizations increased the amount of debt outstanding. At the end of fiscal 1999, State debt outstanding totaled $4.7 billion. By the end of fiscal 2011, total debt outstanding increased to $9.6 billion (an increase of 6.1% annually). In 1999, GO bond authorizations totaled $4.5 billion of which $3.5 billion was issued and $1.0 billion was

authorized but unissued. By the end of fiscal 2011, GO bond authorizations increased to $9.3 billion of which $7.0 billion was issued and $2.3 billion was authorized but unissued.

Debt Expansion Supported Capital Projects Funded in the Operating Budget

Adding debt does not just expand capital spending. A smaller, but also important, share of the additional debt supports capital projects previously funded in the operating budget. GO bond authorizations provided operating budget relief for the State as general fund revenues declined during the 2001 and 2007 through 2009 recessions. New authorizations supporting the operating budget include:

- Chapter 290 of 2002 authorizing an additional $200 million in GO bonds. These funds supported pay-as-you-go (PAYGO) capital commitments for which operating budget funds were no longer available.

- Chapter 204 of 2003 authorized an additional $200 million in GO bonds. These funds supported PAYGO capital commitments for which operating budget funds were no longer available.

- Chapter 203 of 2003 authorized the transfer of $315 million from the Transportation Trust Fund to the general fund. In response, the Maryland Department of Transportation issued additional debt to maintain its capital program. The transfer corresponds with a sharp increase in transportation bonds outstanding.

- Chapter 485 of 2009 authorized an additional $150 million to support PAYGO capital projects. The projects and programs funded include Program Open Space, the InterCounty Connector, Medevac helicopter replacement, and public safety communications systems.

- Chapter 483 of 2010 authorized an additional $150 million to support PAYGO capital projects. The projects and programs funded include the Rural Legacy Program, Program Open Space, InterCounty Connector, Department of Housing and Community Development revolving loan programs, and the Maryland Department of the Environment water quality and drinking water loan program.

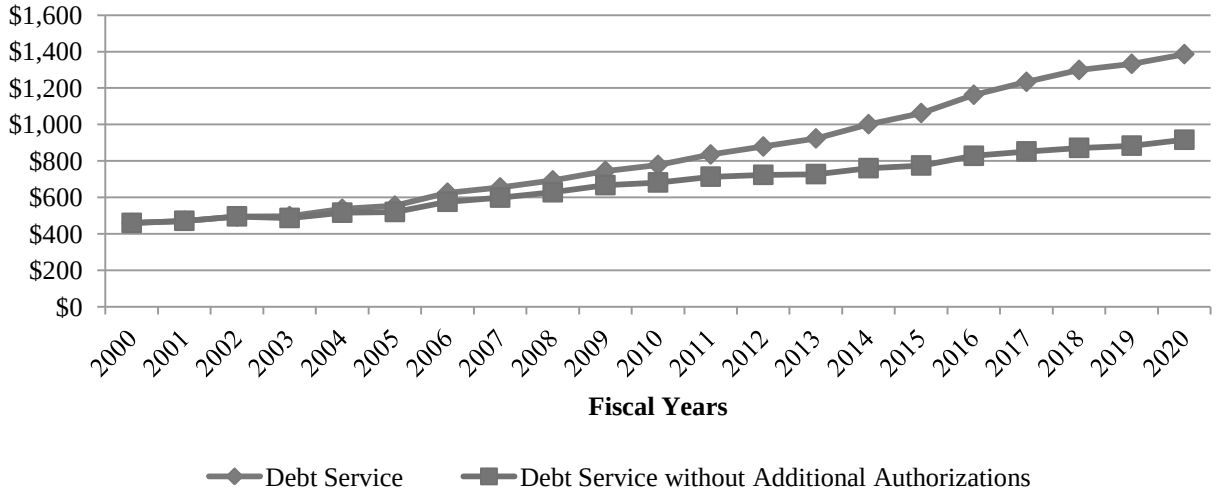
- Chapter 396 of 2011 authorized $314 million to support PAYGO capital projects, such as Medevac helicopter replacement, InterCounty Connector construction, Rural Legacy Program, Program Open Space, Department of Housing and Community Development revolving loan programs, and the Maryland Department of the Environment water quality and drinking water loan program.

Debt Service Costs Increase in Response to New Authorizations

These increased authorizations result in higher debt service costs. DLS estimates that fiscal 2012 debt service costs would have been $723 million without the additional

authorizations, as shown in **Exhibit 7.1**. This is $156 million less than the current projection, which totals $879 million. From fiscal 2010 to 2020, debt service costs are projected to increase by 5.9% annually. Without the increased authorizations, the growth rate for GO bond debt service costs would have been 2.4% annually. By fiscal 2020, increased authorizations add over $400 million to debt service costs with debt service costs exceeding $1.3 billion.

Exhibit 7.1
Effect of Increased GO Bond Authorizations on Debt Service Costs
Fiscal 2000-2020
($ in Millions)



GO: general obligation

Source: Department of Legislative Services, November 2011

State Debt Authorizations Are Reduced as the State Reaches the Affordability Limit

Since the State began expanding its capital program in 2000, the State has been through two recessions. The 2007 through 2009 recession was especially deep and resulted in lower out-year income and revenue estimates, which have reduced the State's debt capacity.

In December 2009, CDAC met to revise its recommended GO bond authorization. Since the committee had made its recommendation in September 2009, the Board of Revenue Estimates (BRE) had substantially reduced the State's general fund revenue projections. The revised revenue projections were low enough to reduce the State debt service to revenues ratio to the point that it exceeded the CDAC's 8% limit. In response to these lower revenues, the committee reduced the out-year GO bond authorizations so that the debt service to revenues ratio is below the limit. The fiscal 2012 authorization was reduced to $925 million, $215 million less

than peak spending in fiscal 2011, which totaled $1,140 million. The September 2011 recommendation maintains GO bond authorizations at the level that was proposed in December 2009.

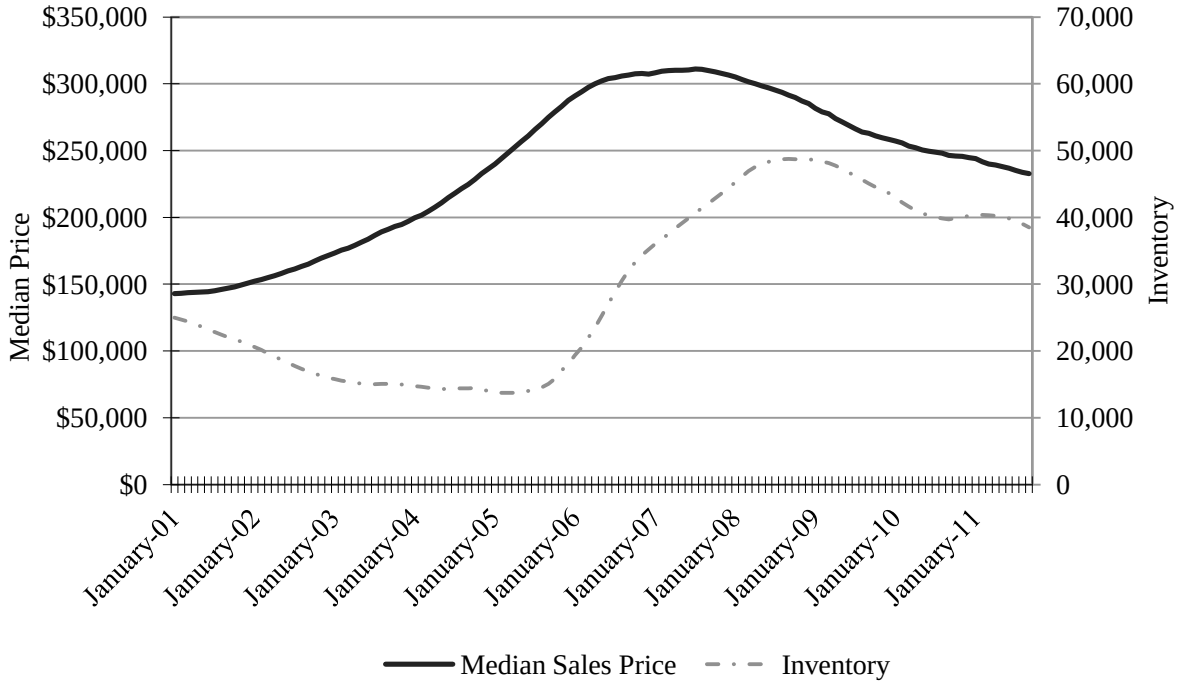
State Property Tax Revenues Are Projected to Be Insufficient to Support Debt Service in the Out-years

GO bond debt service costs are supported by the Annuity Bond Fund (ABF). The fund's largest revenue sources include State property tax revenues and proceeds from bond sale premiums. Other revenue sources include 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. In April 2006, the State property tax rate was set at $0.112 per $100 of assessable base.

The major revenue source supporting debt service payments is the State property tax. State property tax collections are influenced by trends in the housing market. **Exhibit 7.2** shows that this decade has seen a substantial increase in real estate values followed by a decline in values. It also appears that inventories remain high, even though they have declined since peaking in 2008. The recent declines in property values are expected to lead to declining State property tax receipts. In its most recent State property tax estimates, released in November 2010, the State Department of Assessments and Taxation's (SDAT) reduced estimates. Considering recent real estate trends, it is likely that the November 2011 estimate will further reduce projected State property tax receipts.

Another concern about the November 2010 SDAT estimates is the steep decline of the projected Homestead Tax Credit. This credit limits the increase in State property assessments subject to the property tax to 10%. If reassessing a resident's property results in an increase that exceeds 10%, the homeowner receives a credit for any amount above 10%. This limits growth in revenues when property values rise quickly. As home values declined, the homestead credit declined and revenues continued to slowly increase. 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. It also provides the State a hedge should property values decline. **Exhibit 7.3** shows that State credits increased to $79 billion in fiscal 2009, in response to increases in assessments. By fiscal 2013, the aggregate homestead credits are projected to be $2 billion. In subsequent years, declining home values will no longer be hedged and revenues are likely to decline also.

Exhibit 7.2
Maryland Housing – Median Prices and Inventory
12-month Moving Average
January 2001 to September 2011



Source: Maryland Association of Realtors

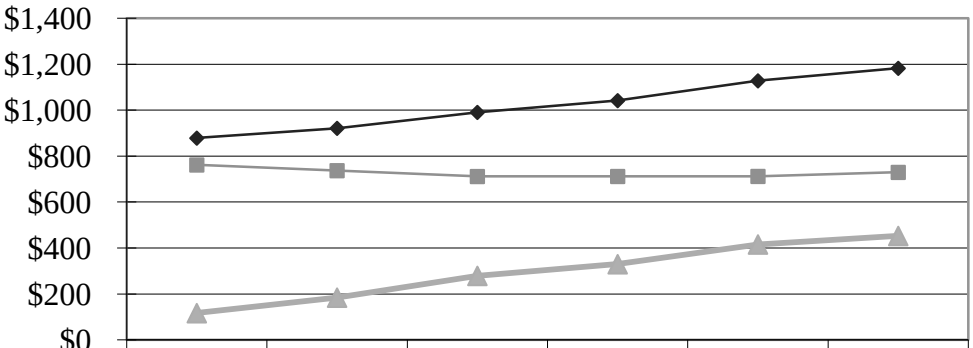
Exhibit 7.3
State Property Tax Homestead Tax Credits
Fiscal 2005-2013
($ in Billions)

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Homestead Tax Credit	$7	$17	$34	$58	$79	$71	$32	$7	$2

Source: State Department of Assessments and Taxation

DLS notes that State property tax receipts, which support GO bond debt service, are declining while GO bond debt service costs are increasing. Since the 2000 legislative session, State debt has been increased by authorizing additional GO debt. There have been 11 actions to increase GO bond authorizations. (**Appendix 5** lists all the actions that were taken to increase debt.) Consequently, annual debt service costs are expected to increase by over 6%, while annual State property tax receipts are expected to decline. **Exhibit 7.4** shows how State property taxes, which are $117 million less than debt service costs in fiscal 2012, are expected to be $453 million less than debt service costs in fiscal 2017. At the end of November 2011, SDAT will update its State property tax revenue estimates. If assessable base estimates are reduced, this gap between debt service and State property tax receipts will increase.

Exhibit 7.4
GO Bond Debt Service Costs and State Property Tax Revenue Collections
Fiscal 2012-2017
($ in Millions)



	2012	2013	2014	2015	2016	2017
State Property Tax Receipts	$762	$737	$712	$712	$712	$730
GO Bond Debt Service Costs	$879	$921	$991	$1,042	$1,128	$1,182
Revenue Shortfall at Current Rates	$117	$184	$279	$330	$416	$453

GO: general obligation

Source: Department of Legislative Services, November 2011

In fiscal 2012, the shortfall in State property tax receipts is not a problem because the ABF has a large fund balance. In recent years, the State has benefited from the low interest rates offered for AAA-rated State and municipal bonds. These low rates have reduced GO bond's true interest cost (TIC), which resulted in higher bond sale premiums. These premiums have been deposited into the ABF to support debt service costs. **Exhibit 7.5** shows that fiscal 2012 has $131 million in prior year fund balances, most of which are derived from bond sale premiums. This provides sufficient funds to support debt service in fiscal 2012. Current SDAT estimates of ABF revenues are insufficient to fund fiscal 2013 debt service costs; therefore, general funds will be required.

The general fund appropriation could be less if interest rates remain low. DLS estimates a $35 million bond premium for the proposed February 2012 bond sale and a $37 million premium at the proposed summer 2012 bond sale if rates remain low. However, DLS is also concerned that declining property values will result in a write down of State property tax revenues that could require the State to appropriate additional general fund revenues. SDAT will release the revised State property tax estimate, which includes data from the most recent assessments, at the end of November 2011.

Exhibit 7.5
Estimated Annuity Bond Fund Activity
Fiscal 2012-2017
($ in Millions)

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Special Fund Revenues						
State Property Tax Receipts	$762	$707	$712	$712	$712	$730
Bond Sale Premiums	63	0	0	0	0	0
Other Revenues	2	2	2	2	2	2
ABF Fund Balance Transferred from Prior Year	131	92	0	1	1	1
Subtotal Special Fund Revenues Available	$958	$831	$714	$715	$715	$732
General Fund Appropriations	0	78	259	310	396	433
Transfer Tax Special Fund Revenues[1]	2	2	6	6	6	7
Federal Fund Appropriations[2]	11	11	11	11	11	11
Total Revenues	**$971**	**$922**	**$991**	**$1,042**	**$1,128**	**$1,183**
Projected Debt Service Expenditures	**$879**	**$921**	**$991**	**$1,042**	**$1,128**	**$1,182**
ABF End-of-year Fund Balance	**$92**	**$1**	**$1**	**$1**	**$1**	**$1**

ABF: Annuity Bond Fund

[1]Supports $70 million of GO bonds issued in 2010 to support Program Open Space.
[2]Federal interest subsidies for Build America Bonds, Qualified Zone Academy Bonds, Qualified School Construction Bonds, and Qualified Energy Conservation Bonds.

Source: Department of Legislative Services, November 2011

Based on current revenue and debt service estimates, the State will need to appropriate approximately $400 million in general funds in fiscal 2016 and 2017. This is a major component of the State's structural general fund deficit. Current estimates show this deficit stabilizing between $1.0 and $1.1 billion. By fiscal 2016, the general fund debt service subsidy represents over one-third of the structural deficit.

Since fiscal 2004, State policy has been to provide a dedicated revenue source for GO bond debt service costs. This policy has provided a stable funding source and reduced the State's general fund deficit. Based on current estimates, DLS projects that fully funding debt service with State property taxes in fiscal 2013 would require a $0.012 increase in the State property tax rate to $0.124 per $100 of assessable base. The Maryland Association of Realtors estimates that the median home sale price in October 2011 was $228,879. This tax increase would add $27.47 to the median home's State property tax bill. **DLS recommends that in fiscal 2013, the State continue the policy that State property taxes support GO bond debt service.**

Administration Considers Accelerating Capital Spending

Recently, policymakers have discussed increased infrastructure spending as a means of addressing critical needs and at the same time boosting employment and the State's economy. To the extent that these investments are debt financed, the schedule of authorizations envisioned by CDAC will need to be modified. An analysis performed by DLS indicates that as much as $700 million can be accelerated from years fiscal 2015 and 2016 to enhance fiscal 2013 and 2014 without violating CDAC criteria. However, this would reduce fiscal 2015 and 2016 authorizations by $800 million. **Exhibit 7.6** shows the effect on GO bond authorizations.

Exhibit 7.6
Effect of Accelerating General Obligation Bond Authorizations
($ in Millions)

Fiscal Year	CDAC Program Size	Change in Authorizations	Revised Program Size
2013	$925	$500	$1,425
2014	925	200	1,125
2015	935	-500	435
2016	945	-300	645
2017	955	0	955
2018	1,200	0	1,200
2019	1,240	0	1,240
2020	1,280	0	1,280
2021	1,320	0	1,320

Note: Assumes transportation capital spending proposed by the Maryland Department of Transportation in September 2011.

Source: Department of Legislative Services, November 2011

Exhibit 7.7 shows that accelerating debt authorizations increases debt service costs between fiscal 2013 and 2020. Additional costs peak in fiscal 2017 at $29.5 million. By fiscal 2021, there is a decline is debt service costs.

Exhibit 7.7
Effect of Accelerating Capital Program on Affordability Ratios and Debt Service

Fiscal Year	CDAC Debt Service to Revenues	Revised Debt Service to Revenues	Additional Debt Service ($ in Millions)
2013	6.92%	6.93%	$1.8
2014	7.38%	7.43%	10.0
2015	7.54%	7.62%	16.8
2016	7.74%	7.86%	24.0
2017	7.87%	8.00%	29.5
2018	7.89%	8.00%	24.0
2019	7.66%	7.71%	12.9
2020	7.40%	7.41%	3.3
2021	7.28%	7.26%	-4.1

Note: Assumes transportation capital spending proposed by the Maryland Department of Transportation in September 2011.

Source: Department of Legislative Services, November 2011

Another approach to accelerating debt authorizations is to gear up the program in fiscal 2013 and maximize construction in fiscal 2014. **Exhibit 7.8** shows that this results in a smaller capital program reduction in fiscal 2015 and avoids the $100 million net reduction in the capital program. This approach also results in additional debt service costs through fiscal 2020. However, they are somewhat less and peak at $26.4 million in fiscal 2017.

Exhibit 7.8
Alternative Capital Construction Acceleration Schedule
($ in Millions)

Fiscal Year	CDAC Program Size	Change in Authorizations	Revised Program Size
2013	$925	$200	$1,125
2014	925	500	1,425
2015	935	-400	535
2016	945	-300	645
2017	955	0	955
2018	1,200	0	1,200
2019	1,240	0	1,240
2020	1,280	0	1,280
2021	1,320	0	1,320

Note: Assumes transportation capital spending proposed by the Maryland Department of Transportation in September 2011.

Source: Department of Legislative Services, November 2011

While DLS recognizes that there may be some benefits to accelerating construction spending at a time that private industry is holding back on construction spending, DLS does have some concerns about accelerating construction spending, specifically:

- Accelerating the capital program will bring the State even closer to the debt affordability limit. If revenues are reduced, the capital program may need to be substantially reduced in fiscal 2015 to stay within the affordability ratios. This also leaves the State with less of an ability to manage cost overruns or unforeseen capital needs.

- In 2009, CDAC reduced out-year debt service authorizations. This prepared agencies for a smaller capital program in the out-years. It is unclear how quickly the State will be able to wind capital spending up again. Consequently, the State may not have as many shovel-ready projects as is needed to have the anticipated effect.

DLS concurs with the CDAC recommendation to limit fiscal 2013 authorizations to $925 million. DLS also recognizes that there may be benefits to accelerating capital construction projects. It is recommended that any acceleration of capital construction projects be offset by reductions to the capital program in the out-years that are sufficient to maintain a debt program within affordability limits.

Federal Budget Actions May Affect State Debt

For much of 2011, the U.S. Congress has been debating federal government budget deficit reduction. After months of negotiations on raising the federal debt ceiling, Congress passed and the President signed the Budget Control Act of 2011 (BCA) on August 2, 2011. BCA provides for increases in the debt ceiling and puts in place a process for deficit reduction. BCA imposed caps on discretionary spending that is estimated to save $917 billion over 10 years. In addition, it created a Joint Select Committee (often referred to as the "Super Committee") to make recommendations to further reduce the deficit over 10 years by at least $1.2 trillion. Should the committee fail to recommend or Congress and the President fail to enact legislation that reduces the deficit by at least $1.2 trillion, automatic cuts to discretionary spending (split evenly between defense and nondefense accounts) occur beginning in federal fiscal 2013. BCA also requires Congress to vote on a balanced budget amendment to the Constitution.

Deficit reduction can be accomplished through spending cuts, revenue increases, or any combination of the two. If automatic spending cuts are triggered, the difference between any deficit reduction actions taken and $1.2 trillion will be divided equally over nine years with the annual reduction split evenly between defense and nondefense accounts. Automatic spending cuts, if triggered, will be based on federal fiscal 2012 spending levels which have not yet been set by Congress. If the full $1.2 trillion reduction is made through the automatic reduction process, total discretionary spending would decrease in 2013 but would increase each year thereafter but at a lower rate than assumed in the current Congressional Budget Office baseline forecast.

At this point the Joint Select Committee has not made any recommendations and most meetings have not been public, so it is unclear exactly what actions the federal government may take. However, there are some actions being discussed that could substantially affect State debt and the programs it supports. Items being discussed in public include:

- ***Eliminating State Bonds' Federal Tax Exemption:*** As discussed in Chapter 3, most State capital projects are supported by tax-exempt bonds. There are proposals to end the tax-exempt status of state and municipal bonds. This could substantially increase debt service costs for the State. The additional costs can be estimated by comparing the cost of BABs and competitive tax-exempt bonds issued in July 2010. BABs maturing in 2022 had a TIC of 4.00% and tax-exempt bonds maturing in 2020 had a TIC of 2.50%. This additional 1.50% adds $15 million in total debt service to a $100 million bond issuance, which is $1 million more each year. Should the State maintain the debt affordability criterion that debt service not exceed 8.00% of revenues, eliminating state bonds' tax-exempt status would result in a smaller capital program.

- ***Reducing Federal Fund Support for Transportation Capital Projects:*** The fiscal 2012 appropriation includes $440 million in federal funds for surface transportation projects. The amount of federal aid distributed to states is greater than the amount collected from

the federal motor fuel tax. Since 2009, $34.5 billion in federal general funds have been used to support federal aid to states. The remainder is supported by the federal government's general fund. One federal deficit reduction option being discussed is to eliminate this general fund subsidy and reduce federal transportation capital support. Since federal highway capital funds support GARVEEs, these funds are included as State revenues when determining how much debt is affordable. Reducing these funds would reduce how much debt is affordable. The loss of federal funds could also put pressure on the State to issue more debt if the State were unwilling to reduce the transportation capital program.

Stadium Authority Proposes Refunding Variable-rate Bonds

In September 2011, the Maryland Stadium Authority (MSA) forwarded a 2011 Amendment to the Comprehensive Plan of Financing for the Camden Yards Sports Complex to the Legislative Policy Committee (LPC) and the fiscal committees of the General Assembly. The Amended Plan of Financing supports MSA's request for approval to undertake the refunding of the MSA Series 1998A Taxable Sports Facilities Lease Revenue Refunding Bonds (Series 1998A Bonds) and the MSA Series 1999 Sports Facilities Lease Revenue Refunding Bonds (Series 1999 Bonds). With these transactions, MSA planned to issue fixed-rate bonds to defease all outstanding variable-rate Series 1998A and 1999 Bonds. As part of the refunding, MSA also planned to terminate the separate interest rate swap agreements associated with each series of bonds.

If approved, the total amount of MSA's indebtedness for sports facilities at Camden Yards would be $214.4 million as of closing these transactions, which remains within the $235.0 million debt limit set forth in Section 10-628 of the Economic Development Article. Section 10-644 of the Economic Development Article requires that MSA provide LPC and the fiscal committees its plans at least 90 days before issuing new bonds. MSA advises that, if approved by LPC and the fiscal committees, it plans on issuing the bonds in late 2011. DLS reviewed this proposal and recommended approval.

Background

Variable-rate Bond Market

Most State debt issued is fixed-rate debt. For this debt, the State pays a constant interest rate until the bonds mature. Variable-rate bonds do not have fixed interest rates throughout the life of the bond. Instead, variable-rate bonds are issued with long maturities that are constantly resold to lenders paying short-term interest rates.

Variable-rate bonds have a remarketing agent that manages this process. Each week, the remarketing agent resets the interest rate. On any business day, the bondholders have the option

to tender the bonds by giving seven days notice. If the bonds are tendered, the remarketing agent must find a buyer of the bonds.

If the remarketing agent cannot find a buyer of the bonds, the bonds are tendered to a liquidity provider and become bank bonds. This is referred to as a "failed remarketing." Bank bonds have a higher interest rate than successfully remarketed variable-rate bonds. If bank bonds cannot be remarketed over a specified period (often 180 days), principal payments accelerate. This can create liquidity problems for the issuer.

Swap Agreement with American International Group, Inc. (AIG)

In 1993, MSA entered into a forward interest rate swap agreement with AIG. Under the agreement, MSA pays a fixed interest rate to AIG, and AIG reimburses MSA with a variable rate based on the London Interbank Offered Rate (LIBOR). MSA also elected to receive an upfront payment on projected interest savings, which was estimated to be at least $15 million at the time. The deal would require MSA to call previously issued fixed-rate debt and issue variable-rate debt. Federal regulations required that the bonds could not be sold until later in the decade.

At the time the agreement was made, MSA estimated that the deal had some advantages. Under the agreement, MSA would replace higher-interest fixed rate debt with lower-interest variable debt. The authority also realized projected cash savings when the bonds were issued, instead of having to wait for them in smaller increments as the debt service payments are made. The cash was used for the Ravens football stadium financing.

In concept, the swap with AIG also acted as a hedge that limited MSA's exposure to increases in interest rates. This did leave the authority vulnerable to risks that do not affect fixed-rate bonds. For example, the State was now vulnerable to counterparty risk (the risk that swap provider, AIG in this case, will not be able to make timely payments). At the time, AIG was a AAA-rated insurance company with $80 billion in assets. It was generally perceived to be one of the strongest financial institutions in the world, and it was not anticipated that this risk would adversely affect MSA.

In 1998 and 1999, the State issued the variable-rate bonds. MSA is proposing to refund and defease the Series 1998A Bonds and also the Series 1999 Bonds. Each of these bonds is structured uniquely and, therefore, is discussed separately.

Series 1998A Bonds

In 1998, MSA issued $16.3 million in variable-rate bonds to refund previously issued Series 1989C Notes. At the time, the remarketing agent was Bear Stearns, and the liquidity provider was Nationsbank, who merged with Bank of America. For providing liquidity, the State was charged 5.0 basis points (0.05%). In 2007, Dexia Credit Local became the liquidity provider and charged a rate of 8.25 basis points (0.0825%). In 2008, Bear Stearns was absorbed by J.P. Morgan, who is now the remarketing agent.

Consistent with the 1993 agreement, MSA also has a swap agreement with AIG. MSA received a $2.6 million payment. The authority is required to pay a 7.51% fixed rate to AIG. In return, AIG pays the one-month LIBOR rate. As discussed earlier, the swap was included in the transaction to provide a hedge against rising interest rates. However, the debt service payments made by the authority (weekly variable-bond interest rates) are not exactly the same as the payments received from AIG (one-month LIBOR rate).

Series 1999 Bonds

In 1999, MSA issued $121.4 million in variable-rate bonds to refund previously issued Series 1989D Bonds. At the time, the remarketing agent was Bear Stearns, and the liquidity provider was Nationsbank, who merged with Bank of America. For providing liquidity, the State was charged 5.0 basis points (0.05%). In 2007, Dexia became the liquidity provider and charged a rate of 8.25 basis points (0.0825%). In 2008, Bear Stearns was absorbed by J.P. Morgan, who is now the remarketing agent.

Consistent with the 1993 agreement, MSA also has a swap agreement with AIG. MSA received a $13.7 million payment. MSA pays between 7.36% and 8.5% to AIG. In return, AIG pays the rate that MSA pays for the variable-rate bonds. The agreement allows AIG to pay a lower alternative rate if they are adversely affected by an event, such as downgrading the credit rating of the liquidity provider. As discussed earlier, the swap was included in the transaction to provide a hedge against rising interest rates.

Other Variable-rate Debt

In addition to these issuances, MSA has two other variable-rate bond issuances. The authority issued $31.6 million in 2006 and $73.5 million in 2007. These bonds will not be refunded. The 2006 bonds will mature in December 2014. Since the 2006 bonds will mature fairly soon, the exposure is limited. The 2007 bonds mature in 2026, but MSA estimates the cost of refunding to exceed the benefits.

Risks Associated with Variable-rate Bonds and Swaps

By moving from fixed-rate bonds to variable-rate bonds with a swap, the authority has introduced new kinds of risks in its portfolio. These risks include:

- ***Remarketing Risk:*** As previously mentioned, variable-rate bonds are remarketed weekly. Under certain conditions, there is a risk that no investors will purchase the bonds. When this occurs, the bonds are tendered to the liquidity provider, and the issuer pays a higher interest rate than successfully remarketed bonds. This occurred a number of times during the liquidity crisis in 2008 and, more recently, in June of this year.

- ***Acceleration Risk:*** If tendered bonds cannot be remarketed in a specified period (180 days with MSA bonds), MSA can be forced to retire the principal early. This can

create a liquidity problem for the authority. For example, MSA estimates that if these two issuances were accelerated in December 2011, the bonds would mature by the end of fiscal 2017, instead of fiscal 2020. This would increase annual debt service costs about $1 million annually for the Series 1998A Bonds and $7 million annually for the Series 1999 Bonds. Though this has not yet occurred, given the frequency that bonds are tendered and the risk of a liquidity crisis, accelerating maturity is certainly not out of the question.

- ***Rollover or Renewal Risk:*** Variable-rate bonds require a liquidity provider. Typically, these agreements last one to three years, which is much less than the maturity of the bonds. Consequently, MSA must renew the agreements periodically. This runs the risk of substantially increasing costs when the agreement is renewed. In the case of the Series 1998A Bonds, the costs have increased from 5.0 basis points (0.05%) to 8.25 basis points (0.0825%). Recently, the 2006 and 2007 bonds' liquidity costs have increased to 45.0 basis points (0.45%). According to data provided by MSA, increasing the liquidity fee from 8.25 to 45.0 basis points increases fiscal 2013 costs by approximately $300,000. MSA's analysis of this transaction assumes that liquidity costs are increased to 50.0 basis points (0.50%).

- ***Counterparty and Credit Risk:*** As previously mentioned, including a swap agreement makes MSA vulnerable to counterparty risk, which is the risk that a swap provider will not be able to make timely payments. A related risk is credit risk. This is not a concern because the State does not have any credit exposure to AIG. If interest rates rise above the amount paid by MSA, credit risk could become an issue.

- ***Basis Risk:*** This is the risk that offsetting investments in a hedging strategy will not experience price changes similarly. MSA estimates that basis risk added approximately $667,000 to the cost of the Series 1998A Bonds from June 2008 to October 2011. These costs are attributable to divergence of the remarketing rate paid by the bonds and the one-month LIBOR rate received by MSA. Ideally, the two would be affected similarly by the liquidity crisis in 2008, but this did not occur. Instead, payments received from AIG that were indexed to LIBOR were considerably less than the variable rate paid by MSA. With respect to the Series 1999 Bonds, AIG pays the same rate that MSA pays to bondholders, so there were no losses attributable to basis risk during the 2008 liquidity crisis. However, Dexia's (the liquidity provider) recent credit problems have added basis risk costs. The agreement allows AIG to pay a lower alternative rate if they are adversely affected by an event. In this case, the downgrading of Dexia's credit rating allows them to pay a lower alternative rate. MSA estimates that this has increased interest costs by at least $600,000 since June of 2011. With respect to the agreement with AIG, although the swap provides a hedge against increasing interest rates, basis risk shows that this hedge does not eliminate all risk.

Conditions Are Favorable for Refunding

MSA advises that there are costs associated with defeasing the variable-rate bonds and replacing them with fixed-rate bonds. The most significant of which is the swap termination fee with AIG, which totals $24 million, based on current interest rate estimates without a discount. Until recently, these costs and market conditions have made refunding and defeasing the Series 1998A and 1999 Bonds uneconomical. However, recent events may make this economical. These events are:

- ***AIG Wants to Reduce Its Swap Portfolio:*** Public Financial Management, Inc. (PFM), MSA's financial advisor, suggests that AIG also wants to reduce its swap portfolio. This makes it easier to reach an agreement to terminate the swap at costs favorable to MSA.

- ***AIG Downgrade Is a Collateral Event:*** As previously mentioned, MSA must reimburse AIG if the swap is terminated. MSA is looking to terminate now because AIG has been downgraded below AA-, which gives MSA the ability to negotiate a lower termination fee and interest rates on the refunding debt would create enough savings that issuing new debt for the termination fee will not have a significant impact on the debt service. PFM estimates that the discount will be approximately 15%.

- ***Reduced Long-term Bond Interest Rates:*** Since 2007, long-term interest rates for bonds have declined substantially. In 2007, the State was issuing general obligation bonds with a true interest cost (TIC) that was approximately 4%. At the most recent bond sale in July, the TIC was about 3%. Lower interest rates lower the cost of fixed-rate bonds, thus making them more attractive.

Structure of the New Issuance

Because this transaction involves issuing bonds and terminating a swap, MSA will proceed with a negotiated sale, instead of a competitive sale. Since negotiated sales require more flexibility, which is required with this sale, this approach is reasonable.

The amount issued depends on the market conditions at the time of the sale and the swap termination discount received from AIG.

Based on current market conditions, the authority estimates that between $103.9 million and $105.2 million will need to be issued to fully refund the bonds. **Exhibit 7.9** shows that the transaction is expected to reduce debt service costs by approximately $353,000 from fiscal 2012 to 2020. Although the transaction shows savings, $353,000 is razor thin savings in a $103.9 million transaction with as many variables as this transaction.

Exhibit 7.9
Debt Service Cost Comparison
Based on Current Market Conditions
Fiscal 2012-2020
($ in Thousands)

Fiscal Year	Existing Debt Service	December 2012 Debt Service Payment	Refunding Debt Service	Cost (Savings)
2012	$12,993	$7,170	$5,856	$33
2013	14,071	0	13,850	-221
2014	14,028	0	13,849	-179
2015	13,979	0	13,849	-130
2016	13,944	0	13,853	-91
2017	13,884	0	13,845	-39
2018	13,823	0	13,848	25
2019	13,767	0	13,849	82
2020	13,686	0	13,853	167
Total	**$124,175**	**$7,170**	**$116,652**	**-$353**

Source: Maryland Stadium Authority, September 2011

The authority anticipates issuing bonds with debt service payments that roughly correspond with the Series 1998A and 1999 Bonds debt service payments. This preserves the relative budget neutrality of the proposed transaction, since the combined amortization schedules for the respective issuances will not require a significant adjustment in the amount of lottery proceeds appropriated to the authority for annual debt service payments than is currently required. To achieve this budget neutrality, the individual issuances will not have even annual debt service payments, but when combined, they will. The bonds will be making principal payments each year until they are retired in fiscal 2020. MSA anticipates that the debt will be taxable and Alternative Minimum Tax bonds, depending on the tax status of the refunded bonds. The issuance will terminate the AIG swap agreement and replace the variable-rate debt with fixed-rate debt.

Financial markets are quite fluid now, therefore, it is difficult to predict the cost of this transaction with much precision. MSA recognizes that market conditions can change and that AIG may not offer a 15% swap termination discount. To illustrate what effect these changes can have on the transaction, MSA has prepared a "conservative" forecast. This assumes that interest rates will increase by 25 basis points (0.25%) and that AIG's swap termination discount is only 10%, instead of 15%. **Exhibit 7.10** shows that these adverse conditions is expected to result in

additional costs totaling $2.3 million. In fact, any one of these adverse conditions, which are independent of each other, is estimated to result in the transaction costing more than the cost of not refunding the variable-rate bonds.

Exhibit 7.10
Debt Service Cost Comparison
Current Market Condition Savings Compared to Conservative Estimates
Fiscal 2012-2020
($ in Thousands)

Fiscal Year	Market Cost (Savings)	Cost Due to Increased Interest Rates	Costs Due to 10% Swap Discount	Conservative Cost (Savings)
2012	$33	$122	$131	$286
2013	-221	150	154	83
2014	-179	152	152	125
2015	-130	147	156	173
2016	-91	147	153	209
2017	-39	146	160	267
2018	25	153	152	329
2019	82	147	152	381
2020	167	150	153	469
Total	**-$353**	**$1,313**	**$1,363**	**$2,323**

Source: Maryland Stadium Authority, September 2011

Potential Cost of Not Refunding

MSA has estimated the potential cost of refunding. If their assumptions about current market conditions are correct and these conditions remain when the bonds are issued, it is possible that the transaction will generate some small savings. There is also a fair possibility that this transaction will cost more than is projected now under current market conditions.

However, there are also potential costs associated with not refunding. One area of concern is that financial companies' balance sheets are no longer as strong as they were when the bonds were issued. Ambac, who was the swap counterparty for the 2007 bonds, has gone bankrupt. AIG has received government bailouts and has been downgraded. Dexia has also been downgraded and received a government bailout. Under current market conditions, the variable-rate bonds are risky.

A related concern is that the risks associated with variable-rate bonds, which were considered unlikely when the bonds were issued, are expected to continue to pose a risk over the next few years. In times of financial stress, many investors are often reluctant or unable to commit their cash to the bond market, which increases remarketing and acceleration risk. As previously mentioned, accelerating both series could add as much as $8 million to debt service costs through fiscal 2017. AIG has received government bailouts and has been downgraded to Baa1 by Moody's. This raises concerns about counterparty risk. PFM has suggested that the number of liquidity providers is more likely to decrease than increase, which implies that rollover or renewal risk will continue to be a concern. Problems with liquidity providers imply that basis risk will also continue, which can quickly drive up the costs of bonds. For example, the problems with Dexia, from June to October 2011, have increased the cost of the Series 1999 Bonds by over $600,000.

Conclusion

DLS recommended that the budget committees advise MSA to proceed with the Board of Public Works review of the Amended Comprehensive Plan of Financing for capital improvements to the Camden Yards Sports Complex. Although proceeding did not guarantee that the transaction will ultimately reduce MSA debt service costs, the collateral event relating to the AIG swap and current market conditions suggest that there is a fairly good likelihood that the transaction will reduce costs. **DLS was concerned that negotiations with AIG or market conditions may not be sufficiently favorable to generate the savings anticipated. MSA and their financial advisor should continue to carefully monitor this transaction and terminate the transaction, if necessary. Finally, DLS requested that MSA submit a copy of the financial advisors final report to DLS so that DLS can prepare a budget issue that outlines the transaction in the 2012 legislative session and in this report in 2012.**

State May Need to Issue Taxable Bonds Again

The State's capital program supports a number of different public policy objectives 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 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, Hazardous Substance Cleanup Program of the Maryland Department of the Environment, Public Safety

Communications program of the Department of Information Technology, and the Physical Sciences Complex at the University of Maryland, College Park.

To avoid exceeding the private activity limits imposed in the federal regulations, the State has previously appropriated funds in the operating budget instead of issuing debt for private purpose programs and projects. Recent years' fiscal constraints have limited the amount of operating funds available for capital projects. To continue these programs, the State authorized GO bonds. In fiscal 2011, the State began migrating private purpose programs from the operating budget into the capital budget.

Bond Sale Data Shows That Taxable Bonds Are More Expensive

This is not the first time that the State has funded private purpose projects with GO bonds. After the 2001 recession, the State also moved capital projects from the operating budget to the capital budget. In 2005, the State reached its limit with respect to private activity exemptions in tax-exempt issuances, and the State was forced to sell taxable debt. These sales provide data from actual bond sales that can be used to test the hypothesis that taxable debt is more expensive than tax-exempt debt.

The State has had three taxable bond sales. After the sales, DLS prepared an analysis of the costs of the taxable bond sales and compared those costs with tax-exempt bond sales. **Exhibit 7.11** shows that $65.0 million in taxable bond sales increased debt service costs by an estimated $2.8 million.

Exhibit 7.11
Cost of Taxable Debt Issuances
($ in Millions)

Date of Issuance	Years to Maturity	Amount Issued	Total Debt Service	Additional Cost
March 2, 2005	3	$25.0	$26.9	$0.5
July 20, 2005	7	20.0	24.5	1.1
March 1, 2006	7	20.0	25.0	1.2
Total		**$65.0**	**$76.4**	**$2.8**

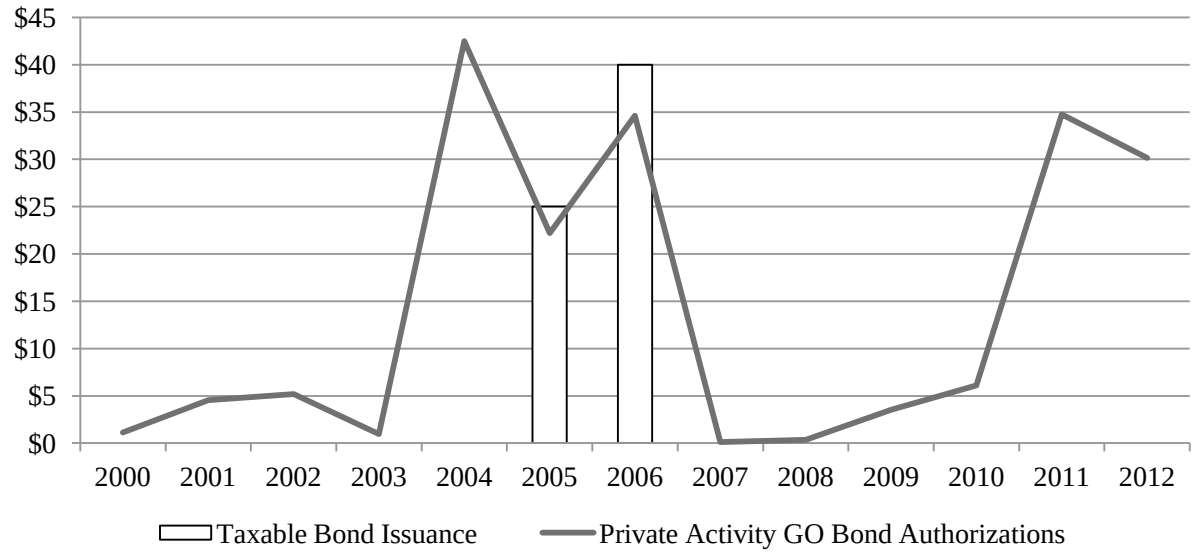
Source: Department of Legislative Services, January 2011

Recent Increase in Private Purpose Authorizations Is Similar to Actions Taken Prior to 2005 Taxable Bond Issuances

A number of capital projects contain some private purpose components. For example, a State building could have a cafeteria that is operated by a private vendor. In that case, there is private activity in the building, but it is only a small share of the building's operations. To allow some flexibility in public buildings financed with tax-exempt debt, federal regulations provide room for some small portion of private activity. However, this limit is small and cannot indefinitely support large private purpose projects.

Each year, when the Department of Budget and Management puts together its capital budget, it acknowledges that there are projects that have a private activity component. **Exhibit 7.12** shows that in most years, private purpose projects are $5 million or less. In fiscal 2004, private purpose projects increased to approximately $43 million and remained at a high level through fiscal 2006. As a result of this high level of private purpose projects, the State issued $65 million in taxable bonds in fiscal 2005 and 2006.

Exhibit 7.12
Private Activity Authorizations and Taxable Bond Issuances
Fiscal 2000-2012
($ in Millions)



GO: general obligation

Source: Department of Budget and Management's *Capital Improvement Plans*, Fiscal 2000 to 2012; *Joint Chairmen's Report*, 2010

The fiscal 2011 and 2012 GO bond programs authorized a substantial amount of private purpose debt; approximately $65 million is authorized over the two years. Considering the strict limits that federal regulations place on private activity projects in tax-exempt debt, it appears as though there is a good chance that the State will need to issue taxable bonds again soon.

Appendix 1
General Obligation Bond Requests: Fiscal 2013-2017
($ in Millions)

	Fiscal Years						Category
	2013	**2014**	**2015**	**2016**	**2017**	**Total**	**Totals**
State Facilities							**$759.7**
Board of Public Works	$47.8	$230.6	$43.1	$107.5	$84.2	$513.1	
Military	7.0	10.9	0.0	0.0	0.0	17.9	
Dept. Disabilities	1.6	1.6	1.6	1.6	1.6	8.0	
Dept. Information Technology*	30.3	36.2	32.2	15.7	106.5	220.8	
Health and Social Services							**$477.6**
Health and Mental Hygiene	$6.6	$28.1	$34.4	$9.9	$56.4	$135.4	
University of MD Medical System	14.0	7.0	5.0	5.0	5.0	36.0	
Senior Citizen Activity Center	1.8	2.0	2.0	2.0	2.0	9.8	
Juvenile Justice	35.5	51.8	73.4	57.2	53.7	271.5	
Private Hospital Grant Program	5.0	5.0	5.0	5.0	5.0	25.0	
Environment							**$543.3**
Natural Resources	$68.0	$33.7	$17.0	$17.0	$15.0	$150.7	
Agriculture	6.5	11.0	8.5	8.5	8.5	43.0	
Environment	63.9	56.6	57.7	60.1	56.4	294.7	
MD Environmental Service	12.2	13.0	13.1	10.6	5.9	54.8	
Education							**$2,865.7**
Education	$22.2	$39.6	$35.0	$5.0	$5.0	$106.8	
MD School for the Deaf	2.4	0.0	0.0	0.0	0.0	2.4	
Public School Construction	477.4	551.6	665.6	541.9	520.0	2,756.6	
Higher Education							**$2,382.9**
University System of MD**	$182.6	$176.4	$201.3	$241.0	$411.8	$1,213.1	
Baltimore City Comm. College	3.2	0.0	24.0	25.7	0.0	52.9	
St. Mary's College	0.0	5.4	16.7	14.0	4.4	40.4	
Morgan State University	41.1	98.3	73.1	91.7	100.9	405.1	
Community Colleges	66.7	99.5	172.5	113.2	164.7	616.6	
Southern MD Higher Educ. Center	11.0	0.0	0.0	0.8	0.0	11.8	
Private Facilities Grant Program	11.0	8.0	8.0	8.0	8.0	43.0	
Public Safety							**$402.4**
Public Safety	$50.7	$27.4	$34.3	$65.4	$95.7	$273.5	
State Police	36.2	15.4	13.6	26.2	0.3	91.5	
Local Jails	6.4	10.0	1.0	10.0	10.0	37.4	
Housing and Economic Development							**$192.7**
Housing and Comm. Development	$46.3	$30.3	$29.7	$28.9	$28.1	$163.3	
Historic St. Mary's City	0.0	0.0	0.0	8.5	4.0	12.5	
Planning	1.9	2.2	6.8	4.9	1.3	16.9	
Legislative Initiatives* **	$50.0	$50.0	$50.0	$50.0	$50.0	$250.0	
Miscellaneous	47.5	51.1	35.0	37.4	33.5	204.5	
Subtotal Request	**$1,356.5**	**$1,652.6**	**$1,659.3**	**$1,572.6**	**$1,837.9**	**$8,079.0**	**$8,079.0**
Debt Affordability Limits	**$925.0**	**$935.0**	**$935.0**	**$945.0**	**$945.0**	**$4,685.0**	
Variance	**$431.5**	**$717.6**	**$724.3**	**$627.6**	**$892.9**	**$3,394.0**	

*Funding request reflects estimated cost to build out Phase I at the "public safety" level only. The estimated cost of completing subsequent phases is not included.

**In addition to the GO bond request, the University System of Maryland has requested academic revenue bond funding of $32.0 million annually for fiscal 2013-2017.

***These figures represent an estimated average of the total funding requests received through legislative local bond bills.

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

Source: Department of Budget and Management

Appendix 2
Estimated General Obligation Issuances
($ in Thousands)

Legislative Session	Proposed Auth.	Estimated Issuances During Fiscal Year (a) ====> 2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Post 2021	Total Issued
2012	$925,000	$0	$287,000	$231,000	$185,000	$139,000	$83,000						$925,000
2013	925,000		0	287,000	231,000	185,000	139,000	$83,000					925,000
2014	935,000			0	290,000	234,000	187,000	140,000	$84,000				935,000
2015	945,000				0	293,000	236,000	189,000	142,000	$85,000			945,000
2016	955,000					0	296,000	239,000	191,000	143,000	$86,000		955,000
2017	1,200,000						0	372,000	300,000	240,000	180,000	$108,000	1,200,000
2018	1,240,000							0	384,000	310,000	248,000	298,000	1,240,000
2019	1,280,000								0	397,000	320,000	563,000	1,280,000
2020	1,320,000									0	409,000	911,000	1,320,000
2021	1,360,000										0	1,360,000	1,360,000
Total New Authorization		**$0**	**$287,000**	**$518,000**	**$706,000**	**$851,000**	**$941,000**	**$1,023,000**	**$1,101,000**	**$1,175,000**	**$1,243,000**	**$3,240,000**	
Previously Authorized GO Bonds	$2,357,041	$960,400	$663,000	$422,000	$224,000	$79,000	$4,000	$2,000	$2,000	$0	$0	$0	$2,356,400
Total Issuances		**$960,400**	**$950,000**	**$940,000**	**$930,000**	**$930,000**	**$945,000**	**$1,025,000**	**$1,103,000**	**$1,175,000**	**$1,243,000**	**$3,240,000**	

Percentage issuance assumptions by fiscal year:

Fiscal year following year of authorization	1st	2nd	3rd	4th	5th
Percent of authorization issued	31.0%	25.0%	20.0%	15.0%	9.0%

Appendix 3
Maryland State Debt True Interest Cost Analysis
Statistically Significant Variables

Sale Date	TIC	Delphis Rate	MD/US PI	Years to Maturity	Taxable	Bay Bonds	BABs	Credit Watch
March 13, 1991	6.31%	6.15%	2.261	9.84	No	No	No	No
July 10, 1991	6.37%	6.50%	2.240	9.85	No	No	No	No
October 9, 1991	5.80%	5.70%	2.230	9.80	No	No	No	No
May 13, 1992	5.80%	5.75%	2.220	9.80	No	No	No	No
January 13, 1993	5.38%	5.40%	2.221	9.73	No	No	No	No
May 19, 1993	5.10%	5.10%	2.212	9.73	No	No	No	No
October 6, 1993	4.45%	4.45%	2.206	9.73	No	No	No	No
February 16, 1994	4.48%	4.50%	2.208	9.74	No	No	No	No
May 18, 1994	5.36%	5.35%	2.199	9.74	No	No	No	No
October 5, 1994	5.69%	5.50%	2.191	9.72	No	No	No	No
March 8, 1995	5.51%	5.35%	2.184	9.78	No	No	No	No
October 11, 1995	4.95%	4.80%	2.163	9.65	No	No	No	No
February 14, 1996	4.51%	4.35%	2.159	9.65	No	No	No	No
June 5, 1996	5.30%	5.10%	2.144	9.69	No	No	No	No
October 9, 1996	4.97%	4.90%	2.144	9.70	No	No	No	No
February 26, 1997	4.90%	4.70%	2.136	9.68	No	No	No	No
July 30, 1997	4.64%	4.50%	2.135	9.68	No	No	No	No
February 18, 1998	4.43%	4.25%	2.119	9.68	No	No	No	No
July 8, 1998	4.57%	4.40%	2.128	9.68	No	No	No	No
February 24, 1999	4.26%	4.10%	2.134	9.60	No	No	No	No
July 14, 1999	4.83%	4.80%	2.146	9.60	No	No	No	No
July 19, 2000	5.05%	4.85%	2.157	9.72	No	No	No	No
February 21, 2001	4.37%	4.28%	2.178	9.71	No	No	No	No
July 11, 2001	4.41%	4.39%	2.201	9.68	No	No	No	No
March 6, 2002	4.23%	4.17%	2.233	9.61	No	No	No	No
July 31, 2002	3.86%	3.89%	2.241	9.66	No	No	No	No
February 19, 2003	3.69%	3.77%	2.235	9.60	No	No	No	No
July 16, 2003	3.71%	3.56%	2.250	9.67	No	No	No	No
July 21, 2004	3.89%	3.89%	2.254	9.70	No	No	No	No
March 2, 2005	3.81%	3.72%	2.259	9.70	No	No	No	No
July 20, 2005	3.79%	3.63%	2.268	9.69	No	No	No	No
March 1, 2006	3.87%	3.89%	2.242	9.68	No	No	No	No
July 26, 2006	4.18%	4.09%	2.238	9.64	No	No	No	No
February 28, 2007	3.86%	3.77%	2.228	9.64	No	No	No	No
August 1, 2007	4.15%	4.02%	2.218	9.65	No	No	No	No

Sale Date	TIC	Delphis Rate	MD/US PI	Years to Maturity	Taxable	Bay Bonds	BABs	Credit Watch
March 2, 2005	3.87%	3.68%	2.259	2.02	Yes	No	No	No
July 20, 2005	4.43%	3.65%	2.268	5.08	Yes	No	No	No
March 1, 2006	4.98%	3.92%	2.242	5.10	Yes	No	No	No
February 27, 2008	4.14%	3.90%	2.208	9.64	No	No	No	No
July 16, 2008	3.86%	3.76%	2.213	9.60	No	No	No	No
March 4, 2009	3.39%	3.51%	2.287	9.01	No	No	No	No
March 2, 2009	3.63%	3.47%	2.287	10.04	No	No	No	No
August 5, 2009	2.93%	3.17%	2.303	8.96	No	No	No	No
August 3, 2009	3.20%	3.16%	2.303	9.01	No	No	No	No
August 5, 2009	3.02%	3.17%	2.303	14.99	No	No	Yes	No
October 21, 2009	2.93%	3.19%	2.242	7.91	No	No	No	No
October 21, 2009	3.06%	3.19%	2.242	14.03	No	No	Yes	No
February 24, 2010	2.85%	3.18%	2.262	12.09	No	No	Yes	No
July 28, 2010	1.64%	3.46%	2.259	5.34	No	No	No	No
July 28, 2010	1.91%	3.46%	2.259	6.20	No	No	No	No
July 28, 2010	2.74%	3.46%	2.259	13.51	No	No	Yes	No
March 7, 2011	2.69%	3.31%	2.286	6.86	No	No	No	No
March 9, 2011	3.49%	3.29%	2.286	10.51	No	No	No	No
June 12, 2011	4.03%	3.92%	2.213	8.34	No	Yes	No	No
July 25, 2011	1.99%	2.87%	2.299	5.65	No	No	No	Yes
July 27, 2011	3.08%	2.87%	2.299	10.05	No	No	No	Yes

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

Source for Delphis Rate: The Bond Buyer

Source for Personal Income: Federal Bureau of Economic Analysis

Remaining Sources: Bond Sale Official Statements

Appendix 4
Debt Outstanding
Fiscal 2001-2011
($ in Millions)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total Change 01-11	Annual Percent Change 01-11[1]
Agency Debt Subject to Ceiling and Allocation Caps													
Maryland Environmental Service	$34.4	$36.5	$33.7	$30.5	$30.5	$24.5	$19.6	$18.7	$19.8	$28.5	$31.2	-$3.2	-1.0%
Maryland Wholesale Food Center Authority	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-6.7	-100.0%
Maryland Transportation Authority	300.6	668.8	575.6	627.2	763.6	765.1	1,055.3	1,877.4	2,247.1	2,708.2	3,292.9	2,992.3	27.0%
Maryland Water Quality Financing Administration[2]	124.3	115.9	105.6	96.6	88.2	73.9	65.7	104.9	123.1	82.1	70.5	-53.8	-5.5%
Revenue Cap Total	**$466.0**	**$821.2**	**$714.9**	**$754.3**	**$882.2**	**$863.5**	**$1,140.6**	**$2,001.0**	**$2,390.0**	**$2,818.7**	**$3,394.5**	**$2,928.5**	**22.0%**
% Change/Prior Year	**-4%**	**76%**	**-13%**	**6%**	**17%**	**-2%**	**32%**	**75%**	**19%**	**18%**	**20%**		
Agency Debt Not Subject to Ceiling and Allocation Caps													
Baltimore City Community College	$1.2	$1.1	$1.0	$0.9	$0.9	$0.8	$0.8	$0.7	$0.7	$0.7	$1.2	$0.0	-0.4%
Dept. of Housing and Community Development[3]	2,692.1	2,705.8	2,672.8	2,415.1	2,194.6	2,248.1	3,204.3	3,259.4	3,177.5	3,345.9	3,238.7	546.6	1.9%
Local Government Infrastructure (CDA)	87.7	91.7	105.6	114.6	122.5	117.0	122.0	135.1	121.6	109.7	127.2	39.5	3.8%
Maryland Energy Financing Administration	379.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-379.8	-100.0%
Maryland Industrial Development Financing Auth.	311.6	581.4	568.4	411.1	395.0	409.6	387.1	382.0	344.9	375.7	484.8	173.2	4.5%
MDOT – County Revenue Bonds	19.0	12.9	7.9	4.5	31.8	30.0	58.4	56.8	98.5	95.1	89.1	70.1	16.7%
MDOT – Nontax-supported Issuances	74.3	65.2	57.7	54.0	49.7	72.6	68.5	64.2	59.9	57.3	54.2	-20.1	-3.1%
Morgan State University	26.8	33.4	72.2	70.0	68.6	67.7	69.6	68.4	67.8	64.4	59.6	32.8	8.3%
St. Mary's College of Maryland	27.8	27.5	40.6	39.7	40.6	43.8	49.5	48.2	46.8	45.3	41.8	14.0	4.2%
University System of Maryland	802.7	797.0	960.0	973.0	1,012.8	934.8	954.8	969.9	1,028.5	1,082.9	1,129.2	326.5	3.5%
Noncap Total	**$4,422.9**	**$4,316.1**	**$4,486.1**	**$4,082.8**	**$3,916.3**	**$3,924.4**	**$4,915.0**	**$4,984.8**	**$4,946.2**	**$5,176.9**	**$5,225.7**	**$802.8**	**1.7%**
% Change/Prior Year	**5%**	**-2%**	**4%**	**-9%**	**-4%**	**0%**	**26%**	**1%**	**-1%**	**5%**	**1%**		
Tax-supported Debt													
Transportation Debt	$651.9	$717.3	$963.7	$1,187.3	$1,070.8	$1,078.5	$1,111.1	$1,268.8	$1,582.6	$1,645.0	$1,561.8	$910.0	9.1%
Grant Anticipation Revenue Vehicles[1]	0.0	0.0	0.0	0.0	0.0	0.0	325.0	300.7	704.4	651.8	596.9	596.9	16.4%
Capital Leases	197.7	186.2	193.1	198.6	175.1	226.9	247.9	247.4	266.8	242.6	166.6	-31.1	-1.7%
Maryland Stadium Authority	286.0	278.0	323.2	321.0	309.2	296.8	283.1	271.6	256.0	251.9	225.7	-60.2	-2.3%
Bay Restoration Bonds[1]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	46.8	44.2	41.6	41.6	-6.0%
General Obligation Debt	3,450.9	3,544.2	3,932.5	4,102.3	4,511.8	4,868.5	5,142.2	5,493.8	5,873.6	6,523.2	6,982.8	3,531.9	7.3%
Tax-supported Debt Total	**$4,586.5**	**$4,725.7**	**$5,412.6**	**$5,809.2**	**$6,066.9**	**$6,470.7**	**$7,109.2**	**$7,632.3**	**$8,730.2**	**$9,358.7**	**$9,575.5**	**$4,989.1**	**7.6%**
% Change/Prior Year	**2%**	**5%**	**13%**	**7%**	**5%**	**7%**	**5%**	**7%**	**14%**	**7%**	**2%**		
Authorities and Corporations Not Subject to Ceiling and Allocation Caps													
Health/Higher Education Facilities Authority	$3,660.8	$4,265.4	$4,619.5	$5,316.9	$5,544.3	$6,181.1	$7,262.0	$8,204.8	$8,466.8	$8,660.7	$8,656.4	$4,995.6	9.0%
Maryland Economic Development Corp.	855.6	1,077.7	1,485.9	1,593.9	1,642.6	1,872.4	1,894.2	2,094.0	2,115.1	2,329.9	2,471.2	1,615.6	11.2%
Authorities and Corporations Total	**$4,516.4**	**$5,343.1**	**$6,105.4**	**$6,910.8**	**$7,186.9**	**$8,053.5**	**$9,156.2**	**$10,298.8**	**$10,581.9**	**$10,990.6**	**$11,127.6**	**$6,611.2**	**9.4%**
% Change/Prior Year	**8%**	**18%**	**14%**	**13%**	**4%**	**12%**	**14%**	**12%**	**3%**	**4%**	**1%**		

CDA: Community Development Administration
MDOT: Maryland Department of Transportation
[1] Average annual growth calculation begins in year that debt was issued for Grant Anticipation Revenue Vehicles and Bay Restoration Bonds, which were first issued after fiscal 2001.
[2] Excludes bay restoration bonds.
[3] Excludes local government infrastructure.
Source: Department of Budget and Management; State Treasurer's Office; University System of Maryland; St. Mary's College; Morgan State University

Appendix 5
New and Increased Debt Authorizations Since 2000

Initial Authorization	Type of Debt Authorized	Amount Authorized	Supporting Revenues	Effect on Capital Spending
Chapter 111 of 2001	GO Bonds	$30 million annually	State property taxes and general fund	Increase the State capital program
Chapter 440 of 2002	Consolidated Transportation Bonds	Increased debt limit from $1.2 billion to $1.5 billion	Transportation Trust Fund revenues	Increase State transportation capital program
Chapter 103 of 2002	GO Bonds	$5 million annually	State property taxes and general fund	Fund Tobacco Transition Program
Chapter 290 of 2002	GO Bonds	$200 million in fiscal 2003	State property taxes and general fund	Move PAYGO capital projects into GO bond program
Chapter 204 of 2003	GO Bonds	$200 million in fiscal 2004	State property taxes and general fund	Move PAYGO capital projects into GO bond program
Chapter 432 of 2004	GO Bonds	$100 million annually for five years	State property taxes and general fund	Increase the State capital program
Chapter 430 of 2004	Consolidated Transportation Bonds	Increased debt limit from $1.5 billion to $2.0 billion	Transportation Trust Fund revenues	Increase State transportation capital program
Chapter 428 of 2004	Bay Restoration Bonds	Estimated $530 million in total issuances	Bay restoration fee	Fund wastewater treatment plant improvements
Chapter 472 of 2005	GARVEEs	Not to exceed $750 million	Federal transportation funds	Fund InterCounty Connector
Chapter 46 of 2006	GO Bonds	Increase escalation to 3%, $100 million annually in fiscal 2010	State property taxes and general fund	Increase the State capital program

Initial Authorization	Type of Debt Authorized	Amount Authorized	Supporting Revenues	Effect on Capital Spending
Chapter 488 of 2007	GO Bonds	$100 million annually	State property taxes and general fund	Increase the State capital program
Chapter 6, First Special Session of 2007	Consolidated Transportation Bonds	Increased debt limit from $2.0 billion to $2.6 billion	Transportation Trust Fund revenues	Increase State transportation capital program
Chapter 336 of 2008	GO Bonds	$100 million annually	State property taxes and general fund	Increase the State capital program
Chapter 485 of 2009	GO Bonds	$150 million in fiscal 2010	State property taxes and general fund	Move PAYGO capital projects into GO bond program
Chapter 419 of 2009	POS Bonds	$70 million in fiscal 2010	State share of transfer tax revenues	Maintain POS spending in fiscal 2010
Chapter 719 of 2009	GO Bonds	$2 million	State property taxes and general fund reimbursed by Community Development Administration	Contingent authorization for local government infrastructure bonds
Chapter 483 of 2010	GO Bonds	$150 million in fiscal 2011	State property taxes and general fund	Move PAYGO capital projects into GO bond program

CDAC: Capital Debt Affordability Committee
GO: general obligation
GARVEEs: Grant Anticipation Revenue Vehicles
PAYGO: pay-as-you-go
POS: Program Open Space

Source: Department of Legislative Services, November 2010