COMMONWEALTH of VIRGINIA

Richard D. Brown
Secretary of Finance

P.O. Box 1475
Richmond, VA 23218

December 20, 2017

The Honorable Terence R. McAuliffe
Governor of Virginia
Patrick Henry Building, 3rd Floor
Richmond, Virginia 23219

The Honorable G. Paul Nardo
Clerk of the House of Delegates
Virginia House of Delegates
Pocahontas Building
Richmond, Virginia 23219

The Honorable Susan Clarke Schaar
Clerk of the Senate
Senate of Virginia
Pocahontas Building
Richmond, Virginia 23219

Dear Governor McAuliffe, Ms. Schaar, and Mr. Nardo:

The Debt Capacity Advisory Committee ("Committee" or "DCAC") is required pursuant to Section 2.2-2713 of the Code of Virginia to annually review the Commonwealth's tax-supported debt and submit to the Governor and General Assembly an estimate of the maximum amount of new tax-supported debt that prudently may be authorized and issued for the next two years. In addition, the Committee is required to annually review the Commonwealth's moral obligation debt and other debt for which the Commonwealth has a contingent or limited liability. I am pleased to present the report for 2017.

Based on the debt capacity model, the Committee estimates that up to $580 million in additional debt could be authorized and issued in each of fiscal years 2018 and 2019. While this is the average amount that will allow the projection of debt service as a percentage of blended revenues to remain at or below five-percent during the 10-year model horizon, it will also mean that projected debt service will exceed five-percent in five years and fall below that threshold in five years, should $580 million be authorized and issued each year. This solution is based on a number of issuance assumptions contained in the model. Accordingly, if the assumptions change, the resulting capacity will also change.

The Committee would specifically call attention to one such assumption which deals with the various revenue forecasts released by the Governor on December 18, 2017. The Committee notes that the underlying forecast for the Virginia Health Care Fund includes proposed provider assessments. This source of revenue is significant and is tied to Medicaid expansion which is a proposed change in existing policy. Should that proposed change in policy not be adopted, the additional provider assessment revenues will not materialize. Therefore, debt capacity would drop to $558 million annually.

The Committee also discussed the continued volatility in the financial markets, the anticipation that the Federal Open Market Committee will continue to raise the target federal funds rate through calendar year 2018 and beyond, and the additional uncertainty that federal tax reform causes for the tax-exempt bond market. The Committee notes there is a possibility of increased borrowing rates in the coming calendar year and through the upcoming biennium budget period. This trend could result in actual borrowing rates higher than the DCAC Model's interest rate. A one-percent increase in the DCAC Model's interest rate would result in a $71 million decline in annual capacity to $509 million. Accordingly, the Committee urges the Governor and the General Assembly to consider the implications of said rise in interest rates when authorizing any new tax-supported debt during the 2018 Session of the General Assembly.

The report provides the Governor and the General Assembly with a basis to assess the impact of debt authorization and issuance on the Commonwealth's fiscal position and enables informed decision-making on capital spending priorities. The report also provides historical perspective on the Commonwealth's authorization and issuance of tax-supported debt over the last decade. In addition, it contains information on the rating agencies' assessment of the Commonwealth. The Committee would like to express its support of the Governor and the General Assembly's work during the 2017 General Assembly Session to establish and initially fund the Revenue Cash Reserve Fund. The Committee recommends, that to the extent possible, the Governor and the General Assembly continue to prioritize the rebuilding of the Commonwealth's reserve fund balances in an effort to maintain AAA bond ratings.

Sincerely,

Richard D. Brown, Chairman
Debt Capacity Advisory Committee

Attachment

CC: Debt Capacity Advisory Committee Members

Commonwealth of Virginia

Debt Capacity Advisory Committee

Report to the Governor and the General Assembly

December 19, 2017

Debt Capacity Advisory Committee Members

The Honorable Richard D. Brown – Chairman
Secretary of Finance

Manju S. Ganeriwala
State Treasurer

Harold E. Greer
Director, Joint Legislative Audit & Review Commission

April R. Kees
Interim Co-Director, Senate Finance Committee

Martha S. Mavredes
Auditor of Public Accounts

Ronald L. Tillett
Citizen Member

Daniel S. Timberlake
Director of the Department of Planning & Budget

Robert P. Vaughn
Staff Director, House Appropriations Committee

David A. VonMoll
State Comptroller

Jody M. Wagner
Citizen Member

REPORT OF THE DEBT CAPACITY ADVISORY COMMITTEE
December 19, 2017

Background

Following the Commonwealth's increased use of debt in the 1980's, Governor Wilder issued Executive Order 38 (1991) which established the Debt Capacity Advisory Committee (Committee or DCAC). Subsequent to the Executive Order, the DCAC was codified in Section 2.2-2712 of the Code of Virginia. The Committee was initially comprised of the Secretary of Finance, the State Treasurer, the Auditor of Public Accounts, the Director of Planning and Budget, the Director of the Joint Legislative Audit and Review Commission, and two citizen members appointed by the Governor. Legislation enacted in 2010 added three additional members to the Committee: the staff directors of the Senate Finance and House Appropriations Committees, and the State Comptroller. The Secretary of Finance serves as Chairman.

The Committee is vested with the power and duty to annually review the size and condition of the Commonwealth's tax-supported debt and to submit to the Governor and the General Assembly, by January 1st of each year, an estimate of the maximum amount of new tax-supported debt that prudently may be authorized for the next biennium. The Committee's recommendations must consider the projected debt service requirements over the current fiscal year and the following nine fiscal years. The Committee must also review annually the amount and condition of obligations for which the Commonwealth has a contingent or limited liability, and for which the Commonwealth is permitted to replenish reserve funds if deficiencies occur (i.e., Moral Obligation debt).

Control of debt burden is one of several key factors evaluated by rating agencies in their assessment of a state's credit quality. Other factors include: economic vitality and diversity, fiscal performance and flexibility, and administrative capabilities of government. The Commonwealth's triple-A bond rating, which it has held since 1938, facilitates access to the capital markets at the lowest borrowing cost. However, the ability to take on additional debt while maintaining the triple-A ratings is not unlimited. Higher debt service payments (a fixed expense) mean less flexibility to respond to economic cycles and address other budgetary needs. Because capacity is viewed with many other variables, there is no precise point at which increased debt levels will result in a lower bond rating.

In 1991, after consideration of various alternatives to assess capacity, the Committee decided on a measure based on tax-supported debt service as a percent of revenues. This measure provides a direct comparison of the state's obligations to the resources available to pay them. Measuring the portion of the State's resources committed to debt-related fixed costs provides a measure of the State's budgetary flexibility and its ability to respond to economic downturns.

The target level selected by the Committee in 1991 was five percent - that is, debt service on tax-supported debt obligations should not exceed 5% of blended revenues. This measure is intended to ensure that annual debt service payments do not consume so much of the state's annual operating budget as to hinder the Commonwealth's ability to provide core government services. This basic measure has been endorsed by the DCAC in each subsequent year.

In the wake of the 2008 financial melt-down and the resulting economic downturn, coupled with the increased debt burden of several years of significant bonded debt authorizations, the December 18, 2009 DCAC Report to the Governor and the General Assembly conveyed there was no additional debt capacity. As a result of the findings in the 2009 DCAC Report, the Committee determined that a study should be completed to reevaluate the model and consider ways to smooth dramatic changes in capacity in times of extraordinary revenue fluctuations.

Following the 2010 study, the Committee considered various measures (e.g., debt per capita), as well as changes to the treatment of transportation debt in the model. Ultimately, the changes adopted by the Committee were the (i) inclusion in the model of the 0.25% sales tax enacted in 2004 and certain recurring transfers to the general fund from non-general funds, (ii) the reduction of debt service carried in the model for amounts expected to be paid from non-general fund sources, (iii) a change to the interest rate proxy used to estimate the debt service on future borrowings, and (iv) using a ten-year average capacity to arrive at the Committee's recommendation rather than basing it solely on the next two year period. This latter recommendation was an effort to smooth the effect of dramatic revenue fluctuations, and to facilitate long-term capital planning. The target measure of annual debt service payments to annual blended revenues remained unchanged at 5%.

It is important to note that maintaining debt service at less than 5% of revenues is merely a benchmark of affordability. Debt service requires annual appropriation, and to the extent debt is authorized and issued, debt service will limit the amounts available for other budgetary needs.

Debt Capacity Model

The DCAC report is a resource that assists Commonwealth leaders with planning the issuance of future obligations within future resource constraints. The Committee's report provides elected officials with information to enable them to balance capital funding needs while maintaining fiscal discipline and budgetary flexibility. The DCAC report can guide decision-makers in the development and implementation of the capital budget. Report recommendations are all based on the Committee's analysis of the Debt Capacity Model results.

The Committee's Debt Capacity Model compares annual Blended Revenues from the Official Revenue Forecast to the (i) scheduled debt service payments on all outstanding tax-supported debt obligations, and (ii) estimates of the debt service payments on all currently authorized but yet to be issued tax-supported debt. A calculation is then made to determine the amount of additional debt that could be authorized and issued without causing total debt service to exceed 5% of the forecasted Blended Revenues.

Blended Revenues are comprised of general fund revenues, certain recurring non-general fund transfers including ABC profits, state revenues in the Transportation Trust Fund (TTF), and Virginia Healthcare Fund revenues. Beginning with the 2010 Report, Blended Revenues also include the relevant portion of sales tax and certain recurring non-general fund Appropriation Act transfers.

Tax-supported debt obligations in the model include general obligation bonds (excluding those general obligation bonds issued pursuant to Article X, Section 9(c) of the Constitution of Virginia for which debt service is paid from project revenues), debt secured by the TTF, obligations issued by the Virginia Public Building Authority (VPBA) and the Virginia College Building Authority (VCBA) that are repaid from general fund appropriations, obligations payable under regional jail reimbursement agreements, bonded capital leases paid from a general fund appropriation, and other capital leases and installment purchases.

The impact of debt service related to authorized but not yet issued bond programs on future operating budgets is an important element of debt management and assessing the state's debt capacity. Accordingly, debt service estimates for those programs are included in the debt capacity calculations. These debt service estimates are based in part on draw schedules compiled by the Department of Planning and Budget or are based on information obtained from agencies on their authorized projects.

Potential Risks to Underlying Forecast

Virginia's economy has continued to diversify and strengthen and the economic outlook remains stable. However, proposed federal tax reform has the potential to greatly impact the Commonwealth. After the U.S. House of Representatives passed its version of the Tax Cuts and Jobs Act in early November, the U.S. Senate followed the next week with passage of its own version. While certain themes were present in both bills, the path forward varied between the chambers. Differences have been resolved through compromise and an effort is being made to have final legislation before the President for his consideration by December 20, 2017.

The proposed Tax Cuts and Jobs Act significantly reduces corporate tax rates and should temporarily reduce federal income tax rates for many Americans. These tax reductions are designed to produce repatriation of corporate profits and lead to additional business expansion, investment and job growth. Business expansion triggered by tax cuts would benefit Virginia. Additionally, should firms decide to pay higher dividends this would cause greater taxable investment earnings.

The proposed tax reform legislation repeals the ability for municipal bond issuers to advance refund tax-exempt bonds on a tax-exempt basis beginning January 1, 2018. This will reduce the Commonwealth and local governments' flexibility to refund bonds to create debt service savings when economic opportunities present. Additionally, the absence of advanced refunding bonds in the market is projected by industry experts to reduce the size of the tax-exempt bond market by 20-30%. A shrinking bond market might have a positive or negative effect on the price of bonds depending on whether participants are competing more to obtain bonds, or the smaller market size forces participants out of the market. Of final note, the reduced tax rates are anticipated to diminish the appeal of municipal bonds to investors. With a significant corporate tax rate reduction, banks, insurance companies and other large corporations will have less tax benefit to hold tax-exempt bonds. This concept also applies to individual investors. However, with certain individual tax deductions slated to be removed from the current tax code, individuals might find tax-exempt municipal bonds as an attractive investment option.

Similar risks apply to the uncertainty surrounding federal budget deliberations in Washington. Failure to enact a workable federal budget plan could potentially cause economic chaos at the state level and hinder sound intergovernmental relations and the provision of essential public services.

Given the many unknown corporate and individual reactions and financial market response, federal tax reform and federal budgetary uncertainties will remain potential risks both in the remainder of fiscal year 2018, but also throughout the next biennium. Due to tax reform and financial market participants' anticipation that the Federal Open Market Committee will raise the federal funds rate two to three times during calendar year 2018, it is important to note that based on current DCAC Model conditions, a 1% rise in the Model interest rate will cause a decline in capacity of $71 million annually.

2017 Debt Capacity Recommendations

The 2017 Base Model Solution – Average debt capacity calculation (Appendix A-6) shows that an additional $580 million in debt could be authorized and issued in each 2018 and 2019. This amount will cause projections of debt service as a percent of Blended Revenues to exceed five percent in five years and to be below five percent in the first two and the last three years.

Other Recommendations

a) The Committee recognizes that a significant amount of 9(d) projects have been authorized in recent years and that many project needs have been met with the earlier bond authorizations. Once significant project needs return and debt capacity increases, the Committee will express its support in seeking the approval of 9(b) general obligation bonds, which must be approved by a voter referendum. With a higher bond rating than 9(d) appropriation-backed debt, general obligation bonds have lower interest costs. The growing proportion of 9(d) debt compared to general obligation bonds has caught the attention of the bond rating agencies and in the past has resulted in comments in ratings of the Commonwealth. Please see the chart on page 10 for more information regarding the growing proportion of 9(d) debt.

b) The Committee expresses its continued support of the use of traditional financing methods for state projects such as those offered through the issuance of general obligation bonds, or appropriation-supported programs through the VCBA or the VPBA, since bonded capital lease and other conduit borrowings typically result in higher financing costs, and are ultimately still viewed as tax-supported debt.

Review of Tax-Supported Debt

General Fund Supported Debt

The State issues two types of tax-supported debt: General Obligation Bonds and various kinds of appropriation-supported obligations. The Commonwealth's GO Bonds are secured by the full faith and credit of the Commonwealth and are rated in the highest rating category by the bond rating agencies. Several factors contribute to the high bond ratings, including the legal protections inherent in constitutionally-permitted debt, investor confidence in the pledge of the full faith and credit of the State, and the presumption of the availability of the government's full resources. GO bonds are the most transparent of the various types of State debt obligations and typically carry the lowest interest cost. GO bonds issued under Article X, Section 9(b) of the Constitution require approval by the voters through referendum.

Article X, Section 9(c) of the Constitution provides for the issuance of GO debt that is self-supporting (e.g. through tolls, dormitory fees, etc.). The GO pledge for 9(c) Bonds provides a back-stop in the event net project revenues are insufficient to service the debt. These bonds do not require voter approval, but do require a two-thirds majority approval by each house of the General Assembly. They also require the Governor to opine that net project revenues will be sufficient to pay debt service on the bonds. Because of the GO pledge, 9(c) debt is considered tax-supported debt for financial reporting purposes; however, it is not included in the debt capacity model. Only if the net revenues are insufficient and the GO pledge is invoked, will that debt be incorporated in the model. This has not occurred since 9(c) debt was first issued in 1973.

Commonwealth appropriation-supported debt includes bonded debt as well as certain capital leases and installment purchase obligations. Such debt is authorized by the General Assembly. Principal and interest payments on these obligations are made from annual appropriations from the general fund or the TTF. These bonds are rated slightly lower than Virginia's GO bonds, reflecting the marginally higher risk that amounts will not be annually appropriated. Depending upon market conditions, interest rates on appropriation-supported debt on any given day may range from 5 to 20 basis points higher than comparable GO bonds. The Commonwealth has increasingly relied on the use of appropriation-supported debt (e.g. VPBA and VCBA) to provide financing for capital projects.

Transportation Debt

The rating agencies view all debt supported by state-wide, generally applied taxes and fees to be "Tax-Supported Debt". The Transportation Trust Fund is funded primarily from incremental revenues generated by increases in the retail sales and use tax, motor fuels tax and motor vehicle related taxes and fees enacted in the 1986 Special Session Acts, as well as other tax revenues subsequently dedicated to the TTF (e.g. one-third of the insurance license tax in 2007). As a result of legislation passed by the 2013 session of the General Assembly, the state's $0.175 per gallon on motor vehicle fuels tax on gasoline and diesel was eliminated and replaced with a tax of 3.5% on the wholesale price of gasoline and a 6.0% tax on the wholesale price of diesel (the fuel taxes). The TTF receives 15% of the revenues generated from the fuel taxes and 4% of the fuel tax revenue will be deposited to the Priority Transportation Fund (a subset of the TTF). Those revenues, as well as the debt service supported by those revenues, are included in the model calculation. Not included in the Debt Capacity Model are highway maintenance and operating revenues (HMO), federal transportation revenues, and debt related to Federal Revenue Anticipation Notes (FRANs) or Grant Anticipation Revenue Vehicles (GARVEEs) paid from federal transportation revenues.

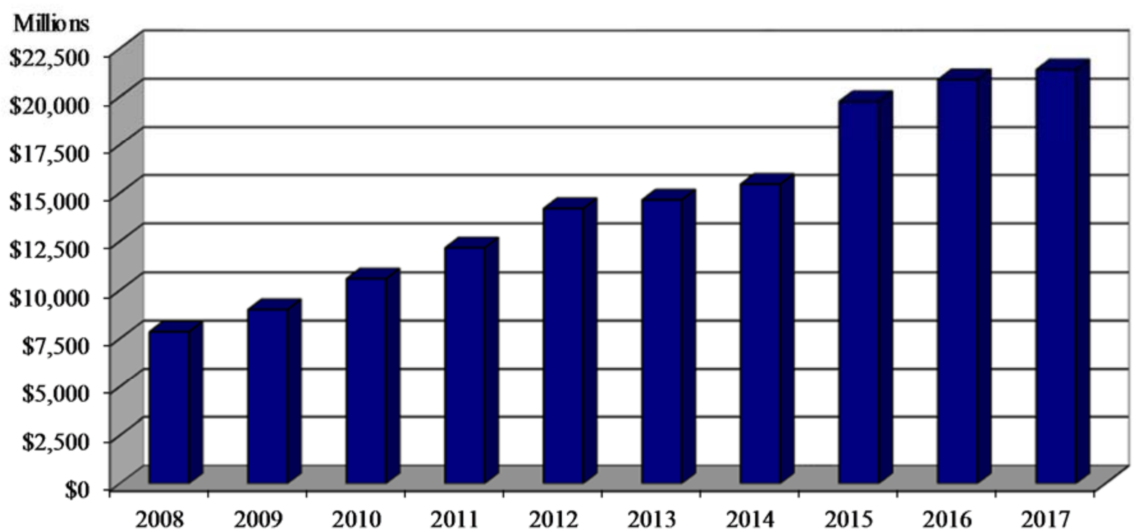
Transportation debt has been authorized and issued with a pledge that other available amounts, including the general fund, may be appropriated for their repayment. Since repayment is not limited solely to the TTF (though in practice, payments are made from the TTF), these bonds are viewed by rating agencies the same as other appropriation-supported obligations of the Commonwealth. The strength of the Commonwealth appropriation pledge and the depth of resources available for repayment may result in a higher rating than if secured by the TTF alone.

The Commonwealth Transportation Board (CTB) has issued bonds to be repaid from the TTF for construction projects involving U.S. Route 28, the U.S. Route 58 Corridor Development Program, the Northern Virginia Transportation District Program, the Oak Grove Connector in Chesapeake, and most recently various projects through the Capital Projects Revenue (CPR) Bonds authorized by the General Assembly in 2007. Currently, debt service on debt paid by the TTF exceeds 5% of TTF revenues. Accordingly, to the extent the 5% measure is exceeded, capacity derived from the general fund is being utilized. This does not mean that general fund dollars are supplementing debt service payments on TTF debt; rather, it means that capacity derived from the general fund is being used to keep overall capacity for all tax-supported debt under the 5% target.

Trends in Tax-Supported Debt

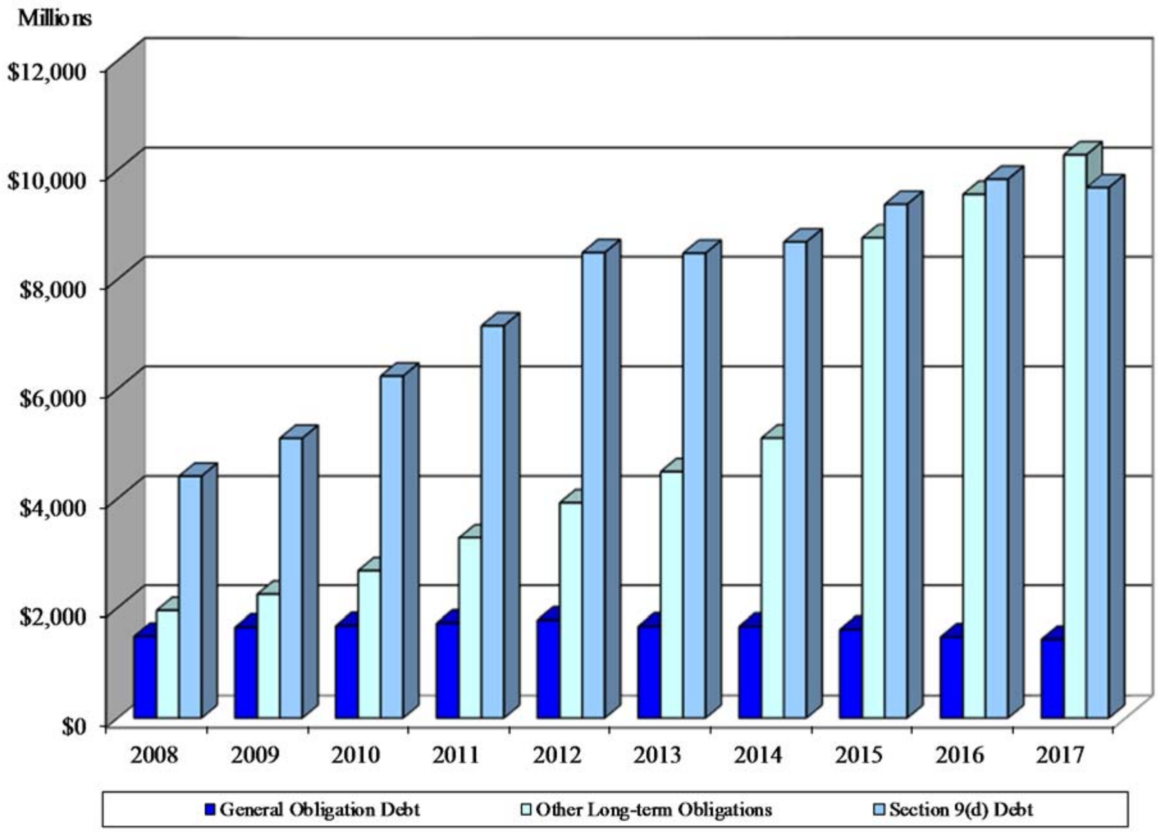
Outstanding tax-supported debt of the Commonwealth increased by 173%, or $13.6 billion, from $7.9 billion in fiscal year 2008 to $21.4 billion in fiscal year 2017. Between fiscal year 2016 and fiscal year 2017, outstanding tax-supported debt increased $0.5 billion, which is equivalent to 3% growth over the last fiscal year. The following graph includes long-term obligations such as pension liabilities, other post-employment benefits (OPEB) and compensated absences. These obligations are generally evaluated by rating agencies as part of an issuer's overall debt profile, but are not part of their calculations of debt ratios. Accordingly, they are not included in the Commonwealth's debt capacity calculation. The following graph provides a historical perspective on the Commonwealth's outstanding tax-supported debt, including these other long-term obligations.

Outstanding Tax-Supported Debt
Fiscal Years 2008-2017[(1), (2)]



(1) Includes other long-term obligations such as pension liabilities, OPEB and compensated absences.
(2) Implementation of GASB 68 occurred in FY2015, which impacted the reporting of net pension liabilities.

Outstanding Tax-Supported Debt by Category
Fiscal Years 2008-2017[(1), (2)]



(1) Includes other long-term obligations such as pension liabilities, OPEB and compensated absences.
(2) Implementation of GASB 68 occurred in FY2015, which impacted the reporting of net pension liabilities in the Other Long-term Obligations bar.

The chart above shows outstanding tax-supported debt separated into three major categories: GO bonds, debt obligations incurred pursuant to Article X, Section 9(d) of the Virginia Constitution (i.e. appropriation-supported debt), and other long-term obligations, which include pension liabilities and OPEB liabilities.

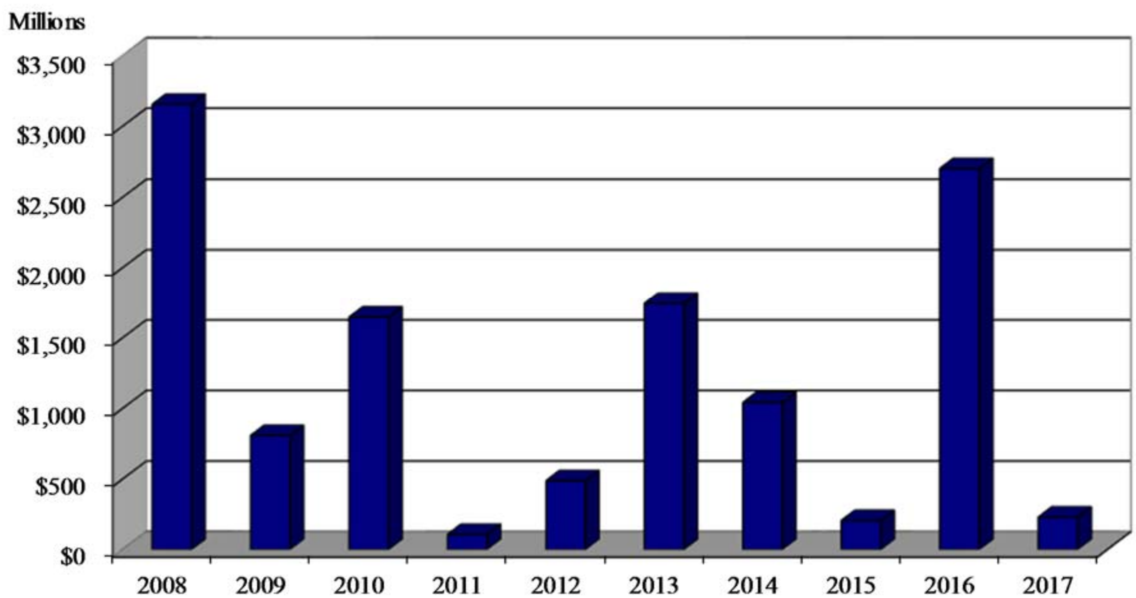
General obligation debt, which had a June 30, 2017 balance outstanding of $1.44 billion, peaked in fiscal year 2012 and has declined 4%, or $54 million, over the ten-year period. This is due in part to a $1 billion 9(b) general obligation bond referendum approved by the voters in 2002. Bonds from the 2002 authorization were issued as needed, with the final issuance occurring during fiscal year 2010. Between fiscal years 2010 and 2012, increases in the general obligation debt outstanding came from the issuance of 9(c) general obligation bonds, which are regularly authorized by the General Assembly for qualifying revenue-producing capital projects, and are not included in the debt capacity calculation. However, with a lag between the timing of new 9(c) bond authorizations and the issuance of those bonds and the continued payment of previously issued 9(b) and 9(c) debt, the 2017 outstanding GO balance declined 3%, or $44 million, from fiscal year 2016. Since fiscal year 2012, the outstanding GO balance has declined 19%, or $345 million.

Section 9(d) debt includes tax-supported bonds issued by the VCBA, the VPBA, the CTB, and certain obligations of the Virginia Port Authority. It also includes bonded capital leases, other long-term capital leases, and installment purchases. This debt category has shown significant dollar growth over the last ten years, increasing $5.27 billion during the ten-year period. Total outstanding Section 9(d) debt at June 30, 2017 was $9.68 billion compared to $4.41 billion at fiscal year-end 2008, which is equivalent to a 120% increase over the ten-year period. The increase is attributed to significant authorizations for transportation bonds in 2007 that have been issued over the last 10 years, and significant authorizations of VPBA and VCBA bonds in 2008, 2009, 2010, 2013 and 2014. An additional $139 million of VPBA and VCBA debt was authorized in fiscal year 2015 and then in fiscal year 2016, an additional $2.68 billion was authorized between VPBA and VCBA. During the 2017 General Assembly Session, an additional $216 million was authorized between VCBA and VPBA. Given the timing of authorizations versus issuances, the fiscal year 2016 and 2017 authorizations haven't significantly impacted the currently outstanding 9(d) debt, but the authorizations will have a significant impact on the outstanding debt in future years. As a result of refunding opportunities in recent years and a timing delay between project authorization and issuance which shifted several planned bond issuances from fiscal year 2017 to fiscal year 2018, the outstanding balance of section 9(d) debt declined 2%, or $154 million, between fiscal year 2016 and fiscal year 2017.

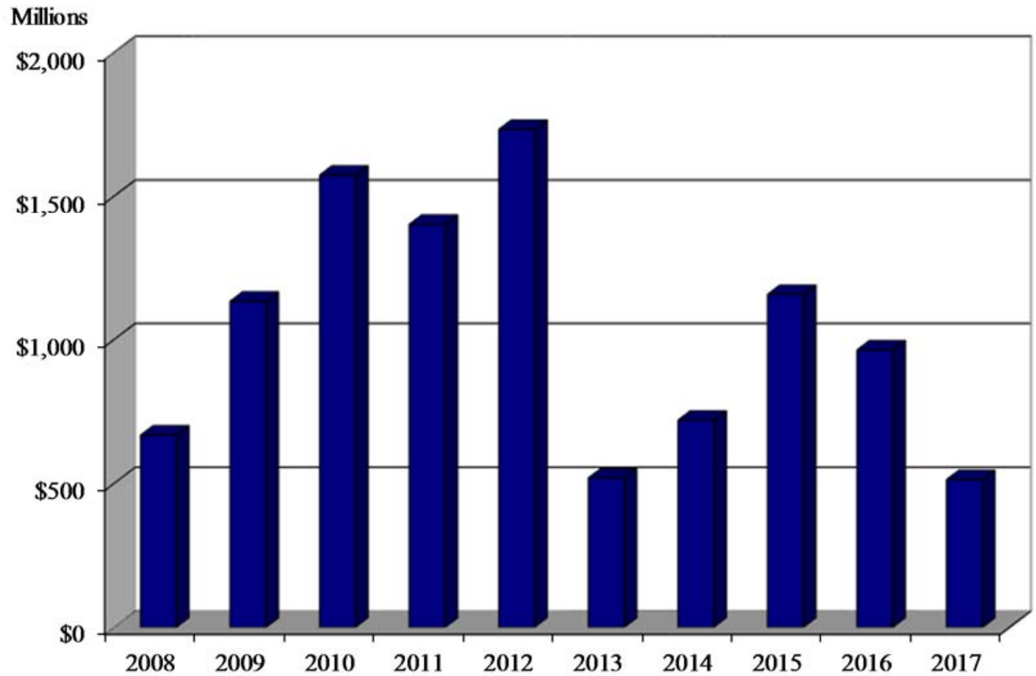
Other long-term obligations have experienced the most growth, increasing $8.33 billion, or 427%, from $1.95 billion at fiscal year-end 2008 to $10.28 billion at fiscal year-end 2017. The significant increase has caused this category to surpass the amount of 9(d) obligations. The increase is partly due to the required inclusion of OPEB obligations beginning in 2008, but it is also related to increasing pension and OPEB obligations. The increase also reflects the implementation of GASB 68 in FY2015, which impacted the reporting of net pension liabilities. Between fiscal year 2016 and fiscal year 2017, other long-term obligations increased $721 million, which is equivalent to 8% growth over the last fiscal year. The increase over the last fiscal year was related to growth in pension liabilities and OPEB liabilities which increased $528 million, or 7%, and $218 million, or 13%, respectively.

The following two charts illustrate the amounts of tax-supported debt authorized and issued from years 2008 to 2017. In 2008, $3 billion was authorized for the VPBA and VCBA programs. Significant 9(d) authorization was provided again in 2010 with VPBA and VCBA receiving authorization of nearly $1.5 billion. The amount of debt authorized in 2011 and 2012 declined compared to the significant amounts authorized in the prior years. However, in 2013, $1.74 billion in additional tax-supported debt was authorized, of which $1.13 billion was for VPBA and VCBA 9(d) projects, $596 million was for U.S. Route 58 9(d) transportation projects and the remainder was for 9(c) projects. The large 2013 authorizations were followed by a lesser but still significant authorization of over $1 billion in fiscal year 2014, with VPBA and VCBA collectively receiving an authorization of $796 million and the $245 million balance being for 9(c) projects. In fiscal year 2015, the amount of net tax-supported debt authorized was $206 million, which was the result of $149 million of collective VPBA and VCBA authorizations, $68 million of 9(c) authorizations, and a $10 million rescinded authorization of VPBA bonds. In fiscal year 2016, the amount of net tax-supported debt was $2.72 billion, which was the result of $2.68 billion of collective VPBA and VCBA authorizations, $41 million of 9(c) authorizations, and an $18 million rescinded authorization of VPBA bonds. Most recently, during the 2017 General Assembly Session, an additional $230 million was authorized, with VPBA and VCBA collectively receiving an authorization of $216 million and $14 million being for 9(c) projects. Between fiscal year 2008 and fiscal year 2017, the General Assembly collectively authorized $12.13 billion of tax-supported debt.

Tax-Supported Debt Authorizations
Fiscal Years 2008-2017
$12.13 Billion in Authorizations



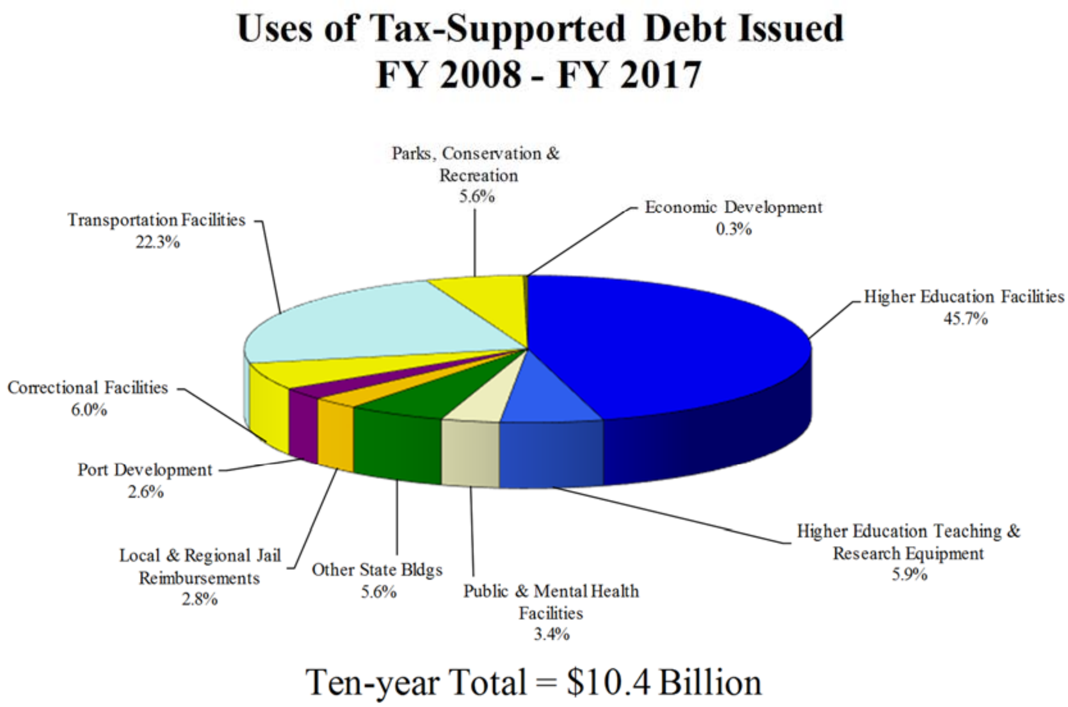
Tax-Supported Debt Issued
Fiscal Years 2008-2017
$10.38 Billion in Issuances



The amount of new tax-supported debt issued in fiscal year 2017 was $514 million. Despite significant recent authorizations and a large balance of authorized but unissued debt, the 2017 tax-supported debt issuance amount was the lowest amount issued in the 10-year period. The decline is the result of project timing versus authorizations and issuance limitations placed on certain authorizations by the General Assembly. As a result, certain issuances planned for fiscal year 2017 were delayed until fiscal year 2018. Last year, the total 2016 tax-supported debt issuance amount was down from $1.16 billion in 2015, but the amount of $964 million was up from the 2013 and 2014 levels of $519 million and $720 million, respectively. However, the 2016 and 2017 levels of issuance are below the four straight years of issuances between $1.13 and $1.73 billion between 2009 and 2012. The increase in 2014 through 2016 issuances over 2013 was largely the result of VCBA and VPBA utilizing portions of the $1.74 billion of authorizations in 2013 and $1.04 billion of authorizations in 2014 and CTB utilizing portions of a 2007 authorization. Similar to the reasons for fiscal year 2017, the fiscal year 2016 issuances were only below the fiscal year 2015 issuances because the VPBA issuance initially planned for spring 2016 was postponed until fall 2016. Between fiscal year 2008 and fiscal year 2017, $10.38 billion in tax-supported debt was issued. With the June 30, 2017 authorized and unissued debt amounting to $5.7 billion, of which $5 billion is for 9(d) projects, it is likely that significant issuances will continue over the next several years.

Uses of Outstanding Tax-Supported Debt

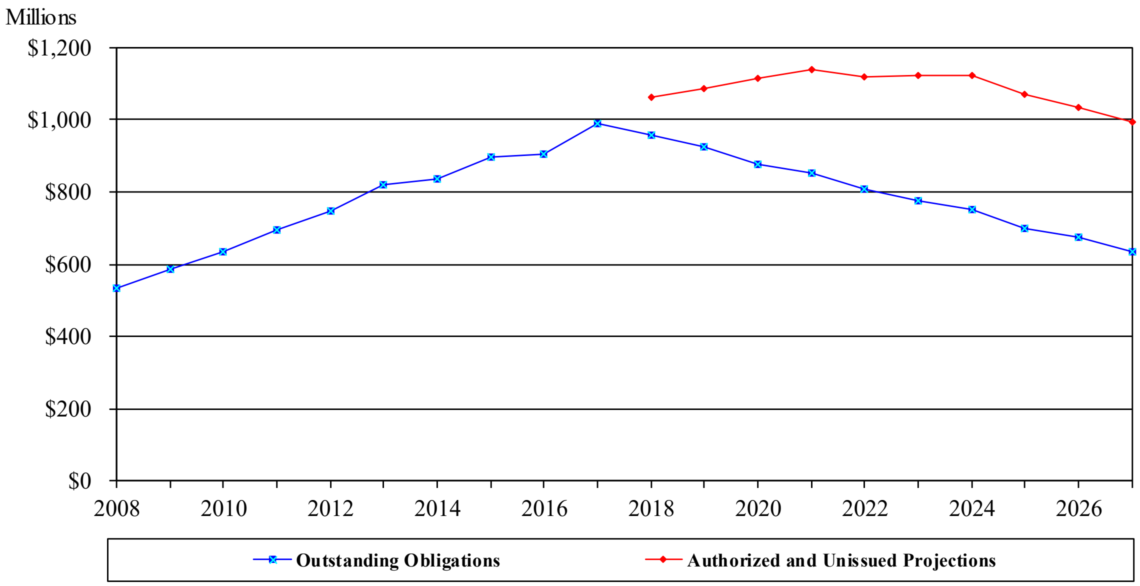
The following chart illustrates how the Commonwealth has utilized its tax-supported debt over the last ten years. Of the total $10.4 billion, 52% has been used for capital projects and teaching and research equipment at state institutions of higher education. Transportation projects paid from the TTF is the next highest category at 22%. (Note: transportation projects financed with federal revenues are not considered tax-supported debt and are not included.)



Debt Service

Amounts paid annually for debt service have increased, both on an absolute basis and as a percentage of Blended Revenues. This trend is expected to continue as currently authorized debt is issued, and the amount of outstanding debt increases. Annual debt service, including the estimated debt service on all currently authorized but unissued amounts, is illustrated below.

Tax-Supported Debt Service: Actual and Projected
Fiscal Years 2008 – 2027(1)



(1) Assumes authorized debt is issued in future periods in accordance with the Model's current assumptions. Past data includes lease revenue bonds issued by the Virginia Biotech Research Park Authority and Newport News Industrial Development Authority.

Review of State Credit Ratings

Credit ratings are the rating agencies' assessment of a governmental entity's ability and willingness to repay debt on a timely basis going forward. Credit ratings are an important factor in the public debt markets and generally influence the interest rates a borrower must pay. The Commonwealth is rated Aaa/Stable (Moody's), AAA/Negative (S&P), and AAA/Stable (Fitch).

Ratings on the Commonwealth's appropriation-supported programs are "one notch" below the general obligation rating: Aa1 (Moody's), AA+ (S&P) and AA+ (Fitch). The appropriation-supported bonds carry the same outlooks as the G.O. ratings.

The rating agencies continue to note many of the same credit strengths: strong financial management, conservative budgeting practices, a constitutionally restricted Revenue Stabilization Fund, acceleration of planned actions to restore funding to the Virginia Retirement System, a diverse economy and a population with above average education and wealth levels.

However, these strengths do not totally insulate Virginia from negative actions. In April 2017, S&P revised its outlook of Virginia from "Stable" to "Negative". S&P based its decision on its view that the Commonwealth's Revenue Stabilization Fund Reserves may not be funded at a sufficient level to provide adequate support in the event of a future economic downturn. S&P disagreed with the Commonwealth's decision to make a withdrawal from the Revenue Stabilization Fund in fiscal years 2017 and 2018 to make up for projected revenue shortfalls given the national economy continued to be in expansion.

Following the revised outlook, the Commonwealth ended fiscal year 2017 with a budgetary surplus. The General Assembly and the Governor collectively worked to establish a Revenue Cash Reserve Fund using a portion of the fiscal year 2017 surplus. Additional deposits are anticipated for the remainder of this fiscal year and the next biennium. The progress in rebuilding reserves has been noted by all of the rating agencies and is a positive step towards Virginia management's goal of returning to "Stable" outlook.

In addition to the challenge of rebuilding reserves in both the Revenue Stabilization Fund and the newly created Revenue Cash Reserve Fund, the rating agencies acknowledge the challenges related to managing finances during a slow economic recovery and controlling spending pressures from education, transportation and healthcare while dealing with limited resources. While Virginia has accelerated its efforts to restore funding and contribution rates to the Virginia Retirement System, funded status and unfunded liabilities will remain an important consideration to the rating agencies and bond investors for the foreseeable future.

As the Commonwealth advances with a continually diversifying economy, efforts to expand government services to all Virginians, and initiatives to improve transportation, it will be important to ensure that prudent financial management practices remain at the forefront of spending decisions. It is these management practices that will continue to allow the

Commonwealth to meet its needs in future downturns. The use of sound financial practices, along with the state's continued efforts to diversify its economy, should allow the Commonwealth to return to "Stable" outlook and maintain its AAA bond ratings.

Review of Comparative Ratios

Moody's Investors Service has compiled net tax-supported debt (NTSD) data for US states for 30 years. Each year, Moody's releases a comparative NTSD ratios report, its *State Debt Medians Report* (Moody's Medians). In its *State Debt Medians 2015 Report*, Moody's reported the first decline in total NTSD in its history of reporting. Since that decline, Moody's predicted minimal growth in that report for 2016 and minimal growth for 2017 in its 2016 report.

Moody's expectations for stable to low growth in debt issuances proved correct. The *State Debt Medians 2016 Report*, indicated minimal year-over-year growth in NTSD of just 0.6%, which was followed by the *State Debt Medians 2017 Report* posting year-over-year growth in NTSD of just 0.8%. When combined with the earlier decline and previous low-growth in debt, Moody's reported this as the fourth year in a row that NTSD increased less than 1%. As also noted in the 2017 Report, capital expenditures grew by an estimated 7.9%, which Moody's attributed to pay-go due to the limited increase in capital debt. NTSD is expected to again remain fairly stable in 2017 with a minimal increase as a result of the anticipation of only modest revenue increases, higher interest rates and continued uncertainty over federal policies.

In 2017, Moody's reported 22 states experienced an increase in NTSD per capita and Virginia was among those states that increased. However, nationwide, median NTSD per capita decreased by 1.9% from $1,025 in the prior year to $1,006 in the current report. Virginia was ranked as having the 19th highest debt per capita compared to the 20th highest the prior year. Moody's reported 4.8% growth in Virginia's NTSD per capita which increased to $1,486 compared to $1,418 the prior year.

Moody's also reported that 13 states experienced an increase in NTSD as a percentage of personal income while 10 states experienced no change. Nationwide, median NTSD as a percentage of personal income remained steady at 2.5% for a third year. Virginia experienced an increase in its NTSD as a percentage of personal income. While Virginia's ranking fell from the 20th highest NTSD as a percentage of personal income last year to the 21st highest in the current report, Moody's reported that Virginia's NTSD as a percentage of personal income increased to 2.9% in 2017 compared to 2.8% in 2016.

The table and chart on the following page illustrate how Virginia compares to other triple-A states based on net tax-supported debt per capita and the table and chart that later follow on page 18 compare Virginia's net tax-supported debt as a percentage of personal income with that of other triple-A states.

REPORT OF THE DEBT CAPACITY ADVISORY COMMITTEE
December 19, 2017

AAA/Aaa/AAA STATE DEBT BURDENS FROM 2008-2017
PROVIDED BY MOODY'S INVESTORS SERVICE

Net Tax-Supported Debt per Capita (1)(2)

	2017 Ranking	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Delaware	7	$2,544	$2,385	$2,438	$2,485	$2,536	$2,674	$2,676	$2,489	$2,128	$2,002
Maryland	11	2,122	1,928	1,889	1,791	1,799	1,742	1,681	1,608	1,507	1,297
VIRGINIA	**19**	**1,486**	**1,418**	**1,356**	**1,302**	**1,315**	**1,169**	**1,058**	**895**	**782**	**764**
Georgia	26	992	1,029	1,043	1,064	1,061	1,099	1,103	1,120	984	954
Utah	31	824	921	1,060	1,187	1,275	1,393	1,222	957	447	542
North Carolina *	34	659	721	739	806	853	815	782	765	832 *	898
South Dakota *	35	641	652 *	547 *	391 *	355 *	358 *	328 *	135 *	274 *	302 *
Missouri	38	579	574	606	668	699	741	775	780	670	675
Texas *	41	383	383	406	614	580 *	588 *	612 *	520 *	520 *	481 *
Tennessee*	44	322	298	327 *	324 *	343 *	343 *	345 *	318 *	233 *	221 *
Indiana *	45	310	463 *	474 *	533 *	424 *	446 *	471 *	492 *	482 *	478 *
Iowa *	46	228	239	250	275	287	310	270	73 *	79 *	98 *
Median All States		1,006	1,025	1,012	1,054	1,074	1,117	1,066	936	865	889
AAA Median		650	687	673	737	776	778	779	773	595	609
AAA Average		924	918	928	953	961	973	944	846	745	726

** State was not triple triple A during entire 2008-2017 period.*

(1) Population is based on Census data from one year prior to each respective year's debt analyzed.

(2) Year refers to prior calendar year-end.

Net Tax-Supported Debt Per Capita
Virginia Versus Moody's U.S. 50-State Median and other AAA States
2008 – 2017

Source: Moody's Medians

Treasury

AAA/Aaa/AAA STATE DEBT BURDENS FROM 2008-2017
PROVIDED BY MOODY'S INVESTORS SERVICE

Net Tax-Supported Debt as Percent of Personal Income (1) (2)

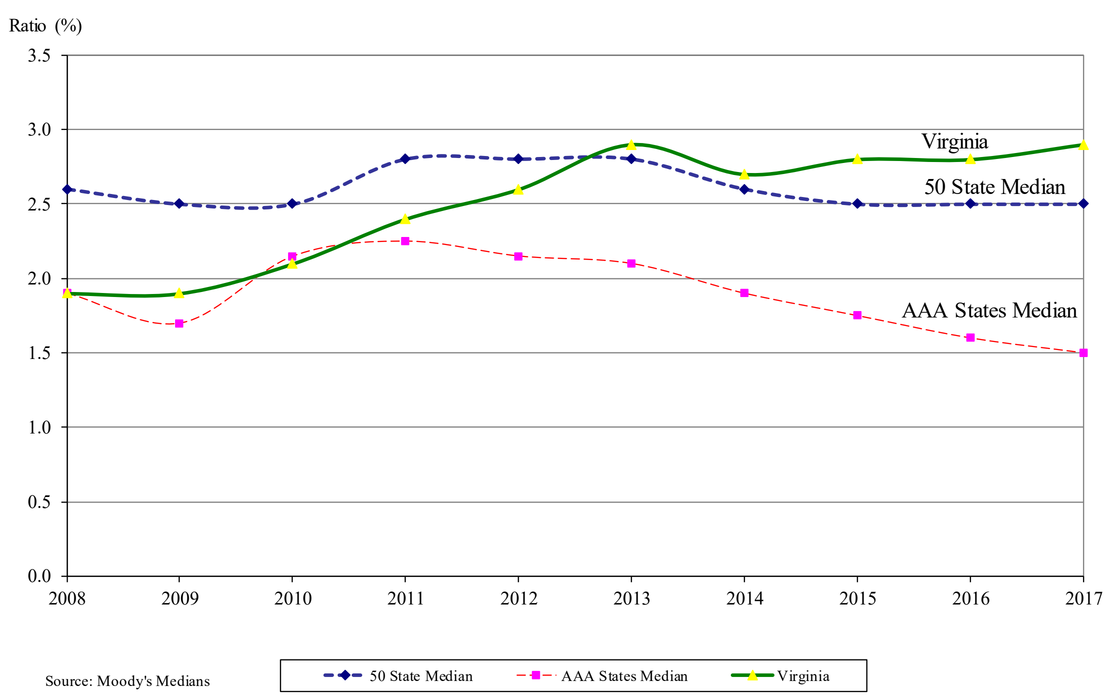
	2017 Ranking	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Delaware	6	5.4 %	5.2 %	5.5 %	5.7 %	6.2 %	6.8 %	6.8 %	6.2 %	5.4 %	5.2 %
Maryland	15	3.8	3.5	3.5	3.4	3.6	3.6	3.3	3.4	3.3	3.0
VIRGINIA	**21**	**2.9**	**2.8**	**2.8**	**2.7**	**2.9**	**2.6**	**2.4**	**2.1**	**1.9**	**1.9**
Georgia	26	2.5	2.7	2.8	2.9	3.0	3.1	3.3	3.3	3.0	3.0
Utah	29	2.1	2.5	3.0	3.4	3.8	4.4	4.1	3.2	1.5	1.9
North Carolina *	33	1.6	1.8	1.9	2.1	2.4	2.3	2.3	2.3	2.5 *	2.8
South Dakota *	37	1.4	1.4 *	1.2 *	0.9 *	0.9 *	0.9 *	0.9 *	0.4 *	0.8 *	0.9 *
Missouri	39	1.4	1.4	1.6	1.7	1.8	2.0	2.2	2.2	2.0	2.1
Texas *	41	0.8	0.9	1.0	1.5	1.5 *	1.5 *	1.6 *	1.4 *	1.4 *	1.4 *
Tennessee*	43	0.8	0.7	0.8 *	0.8 *	0.9 *	1.0 *	1.0 *	0.9 *	0.7 *	0.7 *
Indiana*	44	0.8	0.8 *	0.8 *	1.4 *	1.2 *	1.3 *	1.4 *	1.5 *	1.5 *	1.5 *
Iowa *	46	0.5	0.5	0.6	0.6	0.7	0.8	0.7	0.2 *	0.2 *	0.3 *
Median All States		2.5 %	2.5 %	2.5 %	2.6 %	2.8 %	2.8 %	2.8 %	2.5 %	2.5 %	2.6 %
AAA Median		1.5	1.6	1.8	1.9	2.1	2.2	2.3	2.2	1.7	1.9
AAA Average		2.0	2.0	2.1	2.3	2.4	2.5	2.5	2.3	2.0	2.1

** State was not triple triple A during entire 2008-2017 period.*

(1) Year refers to prior calendar year-end.

(2) Personal income is based on Census data from two years prior to each respective year's debt analyzed.

Net Tax-Supported Debt as Percentage of Personal Income
Virginia Versus Moody's U.S. 50-State Median and other AAA States
2008 - 2017



Source: Moody's Medians

While these rankings are useful for comparison purposes, it is important to note that many other factors contribute to a state's overall credit rating. For example, while ratios for Delaware appear high compared to other triple-A states, a statutory requirement for a short amortization of debt mitigates the effect of the higher debt levels.

In terms of total net tax-supported debt, California remains at the top of the list with $87.0 billion outstanding followed by New York with $60.6 billion. California has continued to experience a decline in its NTSD due to continued pay down of debt and while New York had also been experiencing declines its NTSD debt increased in the most recent year. Wyoming replaced Nebraska at the bottom of the list with only $24.3 million of NTSD. Both Wyoming and Nebraska do not issue G.O. debt. Virginia added approximately $616 million of NTSD taking Moody's total to $12.5 billion compared to $11.9 billion outstanding in the prior year. Although Virginia experienced an increase in NTSD and the various NTSD ratios, Virginia declined to the 12th highest NTSD from 11th the prior year.

Appendix A

Debt Capacity Calculation, Sensitivity Analysis and Moral Obligation Update

December 19, 2017

Debt Capacity Model – An Explanation of Model and Assumptions

Virginia's Debt Capacity Measure:

- Calculation:
  - Tax-Supported Debt Service $\leq$ 5% of Blended Revenues.
- Recommendation:
  - Expressed in terms of a ten-year average.

Model Characteristics:

- Covers a 10-year issuance period.
- Incorporates currently authorized but unissued debt.
- Uses Blended Revenues from Official Forecast.

Model Assumptions:

- Term and structure:
  - 20-year bonds with level debt service payments.
  - Interest rate based on the average of the last twelve quarters of the Bond Buyer 11 Bond Index for GO debt (3.10%) plus 25 basis points for 9(d) debt (3.35%).

Model Includes:

- Blended Revenues from Official Forecast:
  - General fund revenues, certain recurring non-general fund transfers including ABC profits, state revenues in the Transportation Trust Fund, and Virginia Healthcare Fund revenues.
- Actual and Projected Debt Service:
  - Actual debt service on all issued tax-supported debt, including capital leases and installment purchases.
  - Debt service on authorized but unissued tax-supported debt.
    - Level debt service payments (except 9(b) General Obligation debt).
    - 9(b) General Obligation debt is amortized on a level principal basis.
    - VCBA Equipment Notes amortized over 7-year term.
    - CTB Bonds amortized over 25-year term.

Outstanding Tax-supported Debt as Determined by the DCAC includes:

- General obligation bonds (Section 9(a) and 9(b)). Self-supporting 9(c) projects are not included.
- Obligations issued by the Commonwealth Transportation Board or Virginia Port Authority that are secured by the Transportation Trust Fund.
- Obligations issued by the Virginia Public Building Authority and the Virginia College Building Authority secured, in whole or in part, by general fund appropriations.
- Capital leases (80% of total of first year amounts in Commonwealth CAFR for both primary government and component units).

- Installment purchases (80% of total of first year amounts in Commonwealth CAFR for both primary government and component units).
- Obligations for which the debt service is derived from payments received from the Commonwealth on a capital lease.
- That portion of outstanding moral obligation debt for which the underlying debt service reserve fund has been utilized to pay all or a portion of debt service, and for which the General Assembly has appropriated funds to replenish all or a portion of such debt service reserve.

Authorized but Unissued Tax-supported Debt Included in the DCAC Model:

- Must be authorized by an Act of the General Assembly with no contingency for subsequent General Assembly approval.

Moral Obligation Debt:

- In the event a moral obligation issuer has experienced an event of default on an underlying revenue stream and been forced to draw on the debt service reserve fund to pay debt service, the Committee shall immediately meet and review the circumstances surrounding such event and report its findings to the Governor and the General Assembly.
- In the event this section is invoked, the Committee's Report to the Governor and General Assembly shall include a Model scenario showing annual debt capacity including that portion of the moral obligation debt.
- Inclusion of the moral obligation debt in the Model is in no way intended to bind the Governor or General Assembly to make future appropriations to replenish future draws on the debt service reserve fund(s).
- The subject debt will be removed from the Model once the General Assembly has not appropriated funds to replenish the debt service reserve fund(s).

Currently Authorized Tax-Supported Debt Issuance Assumptions
December 19, 2017
(Dollars in Millions)

	9(b)	VPBA	VCBA 21st Century Equipment	VCBA 21st Century Projects	CPR Transportation	NVTD Transportation	Route 58 Transportation	VPA	Total
Authorized & Unissued as of June 30, 2017	$ -	$ 1,381.2	$ 83.0	$ 2,068.4	$ 887.3	$ 24.7	$ 595.7	$ -	$ 5,040.3
Issued Jul 1 - Dec 31, 2017	$ -	$ -	$ -	$ 592.6	$ 260.7	$ -	$ -	$ -	$ 853.3
Assumed Issued:									
FY 2018	$ -	$ 395.1	$ 83.0	$ -	$ 122.9	$ -	$ -	$ -	$ 601.0
FY 2019	$ -	$ 403.2	$ -	$ 282.2	$ -	$ -	$ -	$ -	$ 685.4
FY 2020	$ -	$ 71.2	$ -	$ 291.5	$ 355.0	$ -	$ 150.9	$ -	$ 868.6
FY 2021	$ -	$ 164.7	$ -	$ 291.5	$ 125.3	$ -	$ 249.1	$ -	$ 830.6
FY 2022	$ -	$ 97.9	$ -	$ 225.3	$ -	$ -	$ -	$ -	$ 323.2
FY 2023	$ -	$ 249.1	$ -	$ 225.3	$ -	$ -	$ 195.7	$ -	$ 670.1
FY 2024	$ -	$ -	$ -	$ 102.6	$ -	$ -	$ -	$ -	$ 102.6
FY 2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
FY 2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
FY 2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Planned	$ -	$ 1,381.2	$ 83.0	$ 1,418.4	$ 603.2	$ -	$ 595.7	$ -	$ 4,081.5
Subtotal Issued & Planned	$ -	$ 1,381.2	$ 83.0	$ 2,011.0	$ 863.9	$ -	$ 595.7	$ -	$ 4,934.8
Authorized Debt Assumed Unissued[1]	$ -	$ -	$ -	$ 57.4	$ 23.4	$ 24.7	$ -	$ -	$ 105.5

[1] Assumed funded from premium from bonds sold and for NVTD authorized debt is assumed not to be issued.

DEBT CAPACITY MODEL

(Dollars in Millions)

Debt Capacity Maximum Ratio — **December 19, 2017**

Debt Service as a % of Revenue = **5.0%** — **Base Model Solution**

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Fiscal Year	**Blended Revenues**	**Base Capacity to Pay Debt Service**	**Annual Payments for Debt Service on Debt Issued**	**Actual Outstanding Debt Service as a % of Revenues**	**Annual Payments for Debt Service on All Planned Debt Issuances**	**Actual & Projected Debt Service as a % of Revenues**	**Net Capacity to Pay Debt Service**	**Amount of Additional Debt that may Be Issued**	**Debt Service on Amount of Additional Debt that may Be Issued**	**Remaining Capacity to Pay Debt Service**	**Total Debt Service as a % of Revenues**
2008	17,528.90	876.45	532.95	3.04%	N/A	3.04%	343.50	**N/A**	N/A	343.50	3.04%
2009	15,680.90	784.05	587.33	3.75%	N/A	3.75%	196.72	**N/A**	N/A	196.72	3.75%
2010	16,085.70	804.29	633.45	3.94%	N/A	3.94%	170.83	**N/A**	N/A	170.83	3.94%
2011	16,751.10	837.56	693.64	4.14%	N/A	4.14%	143.92	**N/A**	N/A	143.92	4.14%
2012	17,787.10	889.36	747.02	4.20%	N/A	4.20%	142.34	**N/A**	N/A	142.34	4.20%
2013	18,626.30	931.32	820.77	4.41%	N/A	4.41%	110.55	**N/A**	N/A	110.55	4.41%
2014	18,502.80	925.14	835.53	4.52%	N/A	4.52%	89.61	**N/A**	N/A	89.61	4.52%
2015	20,041.00	1,002.05	897.38	4.48%	N/A	4.48%	104.67	**N/A**	N/A	104.67	4.48%
2016	20,380.50	1,019.03	904.30	4.44%	N/A	4.44%	114.72	**N/A**	N/A	114.72	4.44%
2017	21,137.30	1,056.87	988.33	4.68%	N/A	4.68%	68.54	**N/A**	N/A	68.54	4.68%
2018	21,775.70	1,088.79	957.97	4.40%	103.77	4.88%	27.05	**396.08**	27.049	0.00	5.00%
2019	22,653.10	1,132.66	923.88	4.08%	162.67	4.80%	46.10	**279.00**	46.102	0.00	5.00%
2020	23,628.40	1,181.42	874.64	3.70%	239.83	4.72%	66.95	**305.32**	66.953	0.00	5.00%
2021	24,471.50	1,223.58	851.99	3.48%	286.59	4.65%	85.00	**264.20**	84.996	0.00	5.00%
2022	25,259.40	1,262.97	806.61	3.19%	313.22	4.43%	143.14	**851.37**	143.137	0.00	5.00%
2023	26,037.50	1,301.88	776.65	2.98%	346.78	4.31%	178.44	**516.96**	178.441	0.00	5.00%
2024	26,836.00	1,341.80	750.48	2.80%	370.80	4.18%	220.52	**616.18**	220.520	0.00	5.00%
2025	27,653.32	1,382.67	697.84	2.52%	370.80	3.86%	314.02	**1,369.10**	314.018	0.00	5.00%
2026	28,496.15	1,424.81	674.91	2.37%	358.15	3.63%	391.75	**1,138.11**	391.741	0.00	5.00%
2027	29,365.28	1,468.26	634.87	2.16%	358.15	3.38%	475.25	**62.96**	396.041	79.21	4.73%

10 Year Average:	$579.93	2 Yrs Excess Avg Capacity:	$1,159.85
			2.0000

[1] Blended Revenues include the actual fiscal year revenues as reported in the Official December General Fund, Commonwealth Transportation Fund and VA Health Care Fund forecasts presented in years 2008-2017, Standard General Fund December Forecasts dated December 2017 which are based on US & Virginia economic outlook incorporating GACRE recommendations, including 0.25% sales tax increment adopted in 2004 t FY 2013 and 0.375% sales tax increment beginning in FY 2014 as adopted in 2013, the Virginia Health Care Fund forecast revenues as permitted by Section 32.1-366 of the Code of Virginia, certain recurring Trans Appropriation Act, transfers from Alcoholic Beverage Control Board and certain Transportation Trust Fund revenues from the Commonwealth Transportation Fund Official December revenue forecasts dated Decc

[2] Base Capacity to Pay Debt Service equals 5% of the Blended Revenues listed in Column [1].

[3] Equals the annual payments of principal and interest for outstanding tax-supported debt as of 6/30/17, excluding 9(c) debt, Build America Bonds (BABs) interest subsidy, and Non-General Fund portion of debt servic on certain Virginia College Building Authority (VCBA) Bonds.

[4] Equals Annual Payments for Debt Service on Debt Issued as a percentage of Blended Revenues. Column [3] / Column [1].

[5] Equals the annual estimated payments of principal and interest for all currently authorized tax-supported debt planned for issuance within the next ten fiscal years. See Assumed Issuances of Currently Authorized bu Unissued Tax-Supported Debt. Also includes debt service for long-term capital leases and installment purchase obligations.

[6] Equals annual payments for debt service on debt issued and planned debt issuances, divided by Blended Revenues. (Column [3] + Column [5]) / Column [1].

[7] Equals the amount of revenue available to pay additional debt service after principal and interest on all outstanding and all planned issuances of tax-supported debt has been paid. Column [2] - Column [3] -Column |

[8] Equal to annual amount of additional principal that may be issued without violating the parameters of the model.

[9] Equal to annual estimated payments of principal and interest related to the amounts of additional debt that may be issued as noted in Column [8].

[10] Equals Column [7] minus Column [9].

[11] Equals the sum of all debt service payments divided by Blended Revenues. (Column [3] + Column [5] + Column [9]) / Column [1].

DEBT CAPACITY MODEL

(Dollars in Millions)

December 19, 2017

Base Model Solution - Average

Debt Capacity Maximum Ratio

Debt Service as a % of Revenue = **5.0%**

Fiscal Year	[1] Blended Revenues	[2] Base Capacity to Pay Debt Service	[3] Annual Payments for Debt Service on Debt Issued	[4] Actual Outstanding Debt Service as a % of Revenues	[5] Annual Payments for Debt Service on All Planned Debt Issuances	[6] Actual & Projected Debt Service as a % of Revenues	[7] Net Capacity to Pay Debt Service	[8] Amount of Additional Debt that may Be Issued	[9] Debt Service on Amount of Additional Debt that may Be Issued	[10] Remaining Capacity to Pay Debt Service	[11] Total Debt Service as a % of Revenues
2008	17,528.90	876.45	532.95	3.04%	N/A	3.04%	343.50	**N/A**	N/A	343.50	3.04%
2009	15,680.90	784.05	587.33	3.75%	N/A	3.75%	196.72	**N/A**	N/A	196.72	3.75%
2010	16,085.70	804.29	633.45	3.94%	N/A	3.94%	170.83	**N/A**	N/A	170.83	3.94%
2011	16,751.10	837.56	693.64	4.14%	N/A	4.14%	143.92	**N/A**	N/A	143.92	4.14%
2012	17,787.10	889.36	747.02	4.20%	N/A	4.20%	142.34	**N/A**	N/A	142.34	4.20%
2013	18,626.30	931.32	820.77	4.41%	N/A	4.41%	110.55	**N/A**	N/A	110.55	4.41%
2014	18,502.80	925.14	835.53	4.52%	N/A	4.52%	89.61	**N/A**	N/A	89.61	4.52%
2015	20,041.00	1,002.05	897.38	4.48%	N/A	4.48%	104.67	**N/A**	N/A	104.67	4.48%
2016	20,380.50	1,019.03	904.30	4.44%	N/A	4.44%	114.72	**N/A**	N/A	114.72	4.44%
2017	21,137.30	1,056.87	988.33	4.68%	N/A	4.68%	68.54	**N/A**	N/A	68.54	4.68%
2018	21,775.70	1,088.79	957.97	4.40%	103.77	4.88%	27.05	**0.00**	0.000	27.05	4.88%
2019	22,653.10	1,132.66	923.88	4.08%	162.67	4.80%	46.10	**579.93**	39.604	6.50	4.97%
2020	23,628.40	1,181.42	874.64	3.70%	239.83	4.72%	66.95	**579.93**	79.208	(12.25)	5.05%
2021	24,471.50	1,223.58	851.99	3.48%	286.59	4.65%	85.00	**579.93**	118.812	(33.82)	5.14%
2022	25,259.40	1,262.97	806.61	3.19%	313.22	4.43%	143.14	**579.93**	158.416	(15.28)	5.06%
2023	26,037.50	1,301.88	776.65	2.98%	346.78	4.31%	178.44	**579.93**	198.021	(19.58)	5.08%
2024	26,836.00	1,341.80	750.48	2.80%	370.80	4.18%	220.52	**579.93**	237.625	(17.10)	5.06%
2025	27,653.32	1,382.67	697.84	2.52%	370.80	3.86%	314.02	**579.93**	277.229	36.79	4.87%
2026	28,496.15	1,424.81	674.91	2.37%	358.15	3.63%	391.75	**579.93**	316.833	74.91	4.74%
2027	29,365.28	1,468.26	634.87	2.16%	358.15	3.38%	475.25	**579.93**	356.437	118.81	4.60%

10 Year Average:	$579.93

<u>Debt Capacity Model – An Explanation of Results Page</u>

Column Descriptions:

(1) Blended Revenues include all general fund revenues, certain recurring non-general fund transfers including ABC profits, state tax revenues in the Transportation Trust Fund, and Virginia Healthcare Fund revenues.

(2) Base Capacity to Pay Debt Service is calculated as 5% of Blended Revenues.
(Column 2 = Column 1 x .05)

(3) Annual Payments for Debt Service on Debt Issued is actual debt service on all tax-supported debt outstanding at the end of the most recent fiscal year (6/30/17), excluding (i) 9(c) debt, (ii) the subsidized portion of interest on Build America Bonds and (iii) non-general fund portion of debt service paid on certain VCBA bonds.

(4) Actual Outstanding Debt Service as a % of Revenues is the percentage of Blended Revenues required for payments on currently issued tax-supported debt included in the model.
(Column 4 = Column 3 ÷ Column 1)

(5) Annual Payments for Debt Service on All Planned Debt Issuances is the estimated amount of debt service for currently authorized and unissued tax-supported debt to be issued within the ten-year period.

(6) Actual and Planned Debt Service as a % of Revenues is the sum of Annual Payments for Debt Service on Debt Issued and Annual Payments for Debt Service on All Planned Debt Issuances as a percentage of Blended Revenues.
(Column 6 = (Column 3 + Column 5) ÷ Column 1)

(7) Net Capacity to Pay Debt Service is the capacity that remains to pay any additional debt service related to subsequent authorized and issued debt and is the Base Capacity to Pay Debt Service less Annual Payments for Debt Service on Debt Issued and less Annual Payments for Debt Service on All Planned Debt Issuances.
(Column 7 = Column 2 – Column 3 – Column 5)

(8) Amount of Additional Debt that May Be Issued is the amount of additional tax-supported debt (above and beyond that which is currently authorized but unissued) that may be issued in any given year without exceeding the Base Capacity to pay debt service.

(9) Debt Service on the Amount of Additional Debt that May Be Issued is the estimated amount of debt service for the Amount of Additional Debt that May be Issued, given the amount is authorized and issued.

(10) Remaining Capacity to Pay Debt Service is the residual amount derived from the Net Capacity to Pay Debt Service less Debt Service on the Amount of Additional Debt that May be Issued.
(Column 10 = Column 7 – Column 9)

(11) Total Debt Service as a % of Revenues is the percentage of Blended Revenues used for the sum of Annual Payments for Debt Service on Debt Issued, Annual Payments for Debt Service on All Planned Debt Issuances and Debt Service on Amount of Additional Debt that May be Issued.
(Column 11 = (Column 3 + Column 5 + Column 9) ÷ Column 1)

Model Solution:

- Model solves for the additional annual capacity above and beyond amounts already authorized and assumed issued over the next ten fiscal years at the base capacity to pay debt service (5%), while maintaining two additional years of capacity at the end of the ten-year period.
- This solution results in an average annual capacity of $579.93 million.
- Accordingly, the Committee finds the additional tax supported debt that may prudently be authorized in each 2018 and 2019 is $579.93 million.

DEBT CAPACITY MODEL REVENUE DATA

December 2017

(Dollars In Millions)

Fiscal Year	General Fund	Transportation Trust Fund [4]	General Fund Growth	Transportation Trust Fund Growth	Virginia Health Care Fund	Total Blended Revenue [9]	Blended Revenue Growth Rate [10]
Actual 2003	11,256.40 (1)	745.00 (1)	1.67% (1)	-0.58% (1)	N/A (1)	12,001.40	1.53%
Actual 2004	12,342.50 (1)	799.70 (1)	9.65% (1)	7.34% (1)	N/A (1)	13,142.20	9.51%
Actual 2005	14,135.70 (1)	846.50 (1)	14.53% (1)	5.85% (1)	N/A (1)	14,982.20	14.00%
Actual 2006	15,318.30 (1)	912.90 (1)	8.37% (1)	7.84% (1)	288.90 (1)	16,520.10	10.26%
Actual 2007	16,028.30 (1)	969.00 (1)	4.63% (1)	6.15% (1)	285.30 (1)	17,282.60	4.62%
Actual 2008	16,261.30 (1)	968.70 (1)	1.45% (1)	-0.03% (1)	298.90 (1)	17,528.90	1.43%
Actual 2009	14,359.20 (1)	1,014.20 (1)	-11.70% (1)	4.70% (1)	307.50 (1)	15,680.90	-10.54%
Actual 2010	14,786.70 (1)	1,006.20 (1)	2.98% (1)	-0.79% (1)	292.80 (1)	16,085.70	2.58%
Actual 2011	15,452.30 (1)	1,015.40 (1)	4.50% (1)	0.91% (1)	283.40 (1)	16,751.10	4.14%
Actual 2012	16,348.00 (1)	1,060.20 (1)	5.80% (1)	4.41% (1)	378.90 (1)	17,787.10	6.18%
Actual 2013	17,109.20 (1)	1,083.60 (1)	4.66% (1)	2.21% (1)	433.50 (1)	18,626.30	4.72%
Actual 2014	16,949.10 (1)	1,189.00 (1)	-0.94% (1)	9.73% (1)	364.70 (1)	18,502.80	-0.66%
Actual 2015	18,369.50 (1)	1,324.50 (1)	8.38% (1)	11.40% (1)	347.00 (1)	20,041.00	8.31%
Actual 2016	18,601.70 (1)	1,367.50 (1)	1.26% (1)	3.25% (1)	411.30 (1)	20,380.50	1.69%
Actual 2017	19,348.40 (1)	1,431.40 (1)	4.01% (1)	4.67% (1)	357.50 (1)	21,137.30	3.71%
Forecasted for 2018	19,950.90 (2)	1,453.20 (5)	3.11% (2)	1.52% (5)	371.60 (7)	21,775.70	3.02%
Forecasted for 2019	20,712.20 (2)	1,488.70 (5)	3.82% (2)	2.44% (5)	452.20 (7)	22,653.10	4.03%
Forecasted for 2020	21,518.00 (2)	1,518.70 (5)	3.89% (2)	2.02% (5)	591.70 (7)	23,628.40	4.31%
Forecasted for 2021	22,283.40 (2)	1,548.60 (5)	3.56% (2)	1.97% (5)	639.50 (7)	24,471.50	3.57%
Forecasted for 2022	23,034.80 (2)	1,575.40 (5)	3.37% (2)	1.73% (5)	649.20 (7)	25,259.40	3.22%
Forecasted for 2023	23,774.40 (2)	1,599.10 (5)	3.21% (2)	1.50% (5)	664.00 (7)	26,037.50	3.08%
Forecasted for 2024	24,529.10 (2)	1,627.40 (5)	3.17% (2)	1.77% (5)	679.50 (7)	26,836.00	3.07%
Forecasted for 2025	25,301.50 (3)	1,656.69 (6)	3.15% (3)	1.80% (6)	695.13 (8)	27,653.32	3.05%
Forecasted for 2026	26,098.52 (3)	1,686.51 (6)	3.15% (3)	1.80% (6)	711.12 (8)	28,496.15	3.05%
Forecasted for 2027	26,920.93 (3)	1,716.87 (6)	3.15% (3)	1.80% (6)	727.47 (8)	29,365.28	3.05%

(1) Department of Taxation.
(2) December General Fund Forecast for FY 2018-2024, including A.B.C. Profits, 0.375% sales tax (enacted 2013), and certain recurring Transfers per the Appropriation Act.
(3) Based on flat growth rates of 3.2% for General Fund Revenues and 2.0% for Sales Tax Transfers. A.B.C. Profits and recurring Transfers per Appropriation Act held flat at $115.5 million and $115.0 million, per Department of Taxation.
(4) Does not include Highway Maintenance and Operating Fund, Federal Grants and Contracts or Toll Revenues.
(5) December Commonwealth Transportation Fund Forecast for FY 2018-2024, includes only Transportation Trust Fund Revenues.
(6) Based on flat growth rate of 1.80% for years 2025-2027, per Department of Taxation.
(7) December Virginia Health Care Fund Forecast for FY 2018-2024.
(8) Based on flat growth rate of 2.3% for Virginia Health Care Fund Revenues, per Department of Taxation.
(9) Total Blended Revenue = GF + TTF + Virginia Health Care Fund.
(10) Blended Revenue Growth Rate = (Current FY Total Blended Revenue / Prior FY Total Blended Revenue) - 1.

Debt Capacity Model - Sensitivity Analysis

2-Year Reserve Excess Capacity Sensitivity

- The Base Model solution provides for average debt capacity of $579.93 million over the model period, with two years of average capacity, beyond the 10-year model period.
  - If the Model solution is altered to reduce the two years of excess capacity to one year of excess capacity, the resulting debt capacity is $632.65 million.
  - If the Model solution is altered to reduce the two years of excess capacity beyond the model period to no excess capacity, the resulting average debt capacity is $695.91 million.

Revenue Sensitivity

- If the Model solution is altered to increase or decrease Blended Revenues, the following incremental average debt capacity changes occur:
  - Assuming a change of $100 million in each and every year, the incremental change is $6.10 million.
  - Assuming a 1% change of revenues in each and every year, the incremental change is $17.92 million.
  - Assuming provider assessments in the Virginia Health Care Fund Forecast are not included within the model revenues, the resulting average debt capacity is $558.15 million.

Interest Rate Sensitivity

- If the Model solution is altered to change interest rates, the following changes to average debt capacity occur:
  - Add 100 basis points to base rate, and average capacity decreases to $509.10 million.
  - Subtract 100 basis points from base rate, and average capacity increases to $660.72 million.

Debt of the Commonwealth
(Dollars in Thousands)

	As of June 30, 2017	As of June 30, 2016
Tax-Supported Debt		
9(b) General Obligation [1]	$ 515,468	$ 571,915
9(c) General Obligation - Higher Education [2]	897,018	877,118
9(c) General Obligation - Transportation [2]	11,642	14,562
9(c) General Obligation - Parking Facilities [2]	11,101	15,155
Commonwealth Transportation Board	2,578,232	2,722,238
Virginia Public Building Authority	2,674,563	2,441,413
Virginia Port Authority	253,208	275,256
Virginia College Building Authority - 21st Century & Equipment	3,858,925	4,049,060
Virginia Biotechnology Research Park Authority	22,727	26,743
Capital Leases	117,913	117,927
Installment Purchases	139,680	159,702
Virginia Aviation Board	-	114
Economic Development Authority Obligations [3]	37,895	44,712
Subtotal Tax Supported Debt	$ 11,118,372	$ 11,315,915
Other Tax-Supported Debt		
Compensated Absences [2]	$ 601,092	$ 610,079
Pension Liability [2]	7,723,846	7,196,277
OPEB Liability [2]	1,914,363	1,695,972
Pollution Remediation Liability [2]	9,437	11,308
Other Liabilities [2]	33,680	47,657
Subtotal Tax Supported Debt Not Included in Capacity Model	$ 10,282,418	$ 9,561,293
Total Tax-Supported Debt	$ 21,400,790	$ 20,877,208

Source: Department of the Treasury and Department of Accounts

[1] Voter approved

[2] Not Included in Debt Capacity Model

[3] Fairfax County Economic Development Authority Joint Venture with VDOT for Camp 30 Project

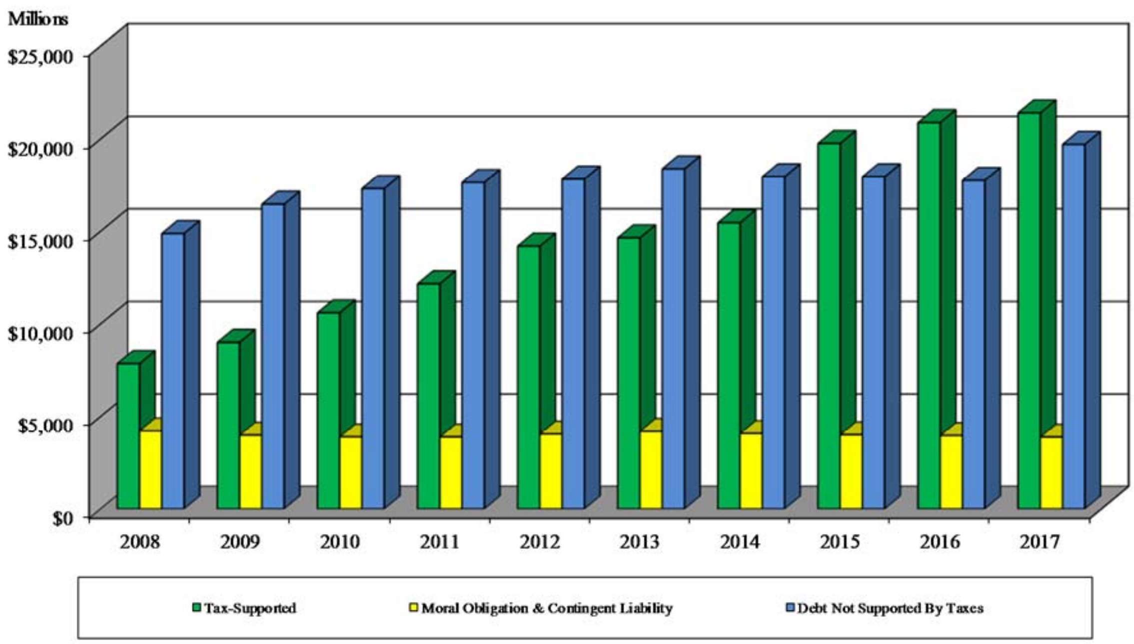
Debt of the Commonwealth
(Dollars in Thousands)

	As of June 30, 2017	As of June 30, 2016
Debt Not Supported by Taxes [1]		
Moral Obligation / Contingent Liability Debt		
Virginia Resources Authority	$ 928,088	$ 907,209
Virginia Housing Development Authority	-	-
Virginia Public School Authority - 1997 Resolution	2,387,335	2,499,705
Virginia Public School Authority - School Tax Credit Bond Program	353,400	353,400
Virginia Public School Authority - Equipment Technology Notes	199,905	193,865
Total Moral Obligation/Contingent Liability Debt	$ 3,868,728	$ 3,954,179
Other Debt Not Supported By Taxes		
9(d) Higher Education	$ 2,224,501	$ 2,081,823
Virginia College Building Authority - Pooled Bond Program	1,554,955	1,674,505
Virginia Public School Authority - Stand Alone Program	629,661	573,999
Virginia Housing Development Authority	3,737,479	4,320,935
Virginia Port Authority	294,757	252,631
Hampton Roads Sanitation District	846,783	879,294
Virginia Resources Authority	2,722,834	2,704,321
Grant Anticipation Notes (GARVEES)	992,214	663,147
Notes Payable	183,428	173,356
Other Long-Term Debt	335,885	321,736
Foundations	1,562,580	1,714,748
Pension Liability	209,273	184,861
OPEB Liability	28,058	25,113
Capital Lease Obligations	2,199,518	5,359
Compensated Absences	10,096	10,003
Tuition Benefits Payable	2,048,168	2,035,608
Lottery Prizes Payable	122,009	129,895
Total Other Debt Not Supported By Taxes	$ 19,702,199	$ 17,751,334
Grand Total of Tax Supported Debt and Debt Not Supported By Taxes	**$ 44,971,717**	**$ 42,582,721**

Source: Department of the Treasury and Department of Accounts

[1] Not Included In Debt Capacity Model

Outstanding Commonwealth Debt
Fiscal Years 2008-2017



Tax-Supported Debt Issued Fiscal Year 2018
Through December 15, 2017

Issuer	Date Issued	Par Amount
Commonwealth Transportation Board, Capital Projects Revenue Bonds, Series 2017	July 12, 2017	$260,670,000
Virginia College Building Authority, Educational Facilities Revenue Bonds (21st Century College and Equipment Programs), Series 2017C and Series 2017D (Taxable)	August 2, 2017	$592,645,000
Commonwealth Transportation Board, Capital Projects Revenue Refunding Bonds, Series 2017	December 14, 2017	$629,165,000
Virginia Public Building Authority, Public Facilities Revenue Refunding Bonds, Series 2017A	December 14, 2017	$145,325,000

Moral Obligation and Contingent Liability Debt

Moral Obligation Debt

Moral obligation debt refers to a bond issue structure originally created in the 1960s and utilized primarily by state housing finance agencies or state-administered municipal bond banks as additional credit enhancement for revenue bond issues. A government's moral obligation pledge provides a deficiency make-up for bondholders should underlying project revenues prove insufficient. The mechanics involve funding a debt service reserve fund when the bonds are issued. If a revenue deficiency exists, reserve fund monies are used to pay bondholders. The issuer then informs the legislative body and requests that it replenish the reserve fund before subsequent debt service is due. The legislative body "may", but is not legally required to, replenish the reserve fund. Rating agencies do not include moral obligation debt in tax-supported debt ratios as long as these bonds are self-supporting.

The Virginia Resources Authority (VRA) is the Commonwealth's only remaining moral obligation debt issuer. The VRA issues moral obligation bonds under its financing programs to provide low-cost financing to localities for water, wastewater, public safety, transportation, and other General Assembly authorized project categories. Due to increased demand for VRA's financing programs, the 2009 General Assembly approved an increase to VRA's moral obligation debt limit from $900 million to $1.5 billion.

Below are the statutory caps and outstanding amounts (in thousands):

Issuer	Statutory Cap	Outstanding at June 30, 2017	Available Authorization
Virginia Resources Authority	$1,500,000	$928,088	$571,912
Virginia Housing Development Authority	$1,500,000	$0	$1,500,000
Virginia Public School Authority	$800,000	$0	$800,000
Total	$3,800,000	$928,088	$2,871,912

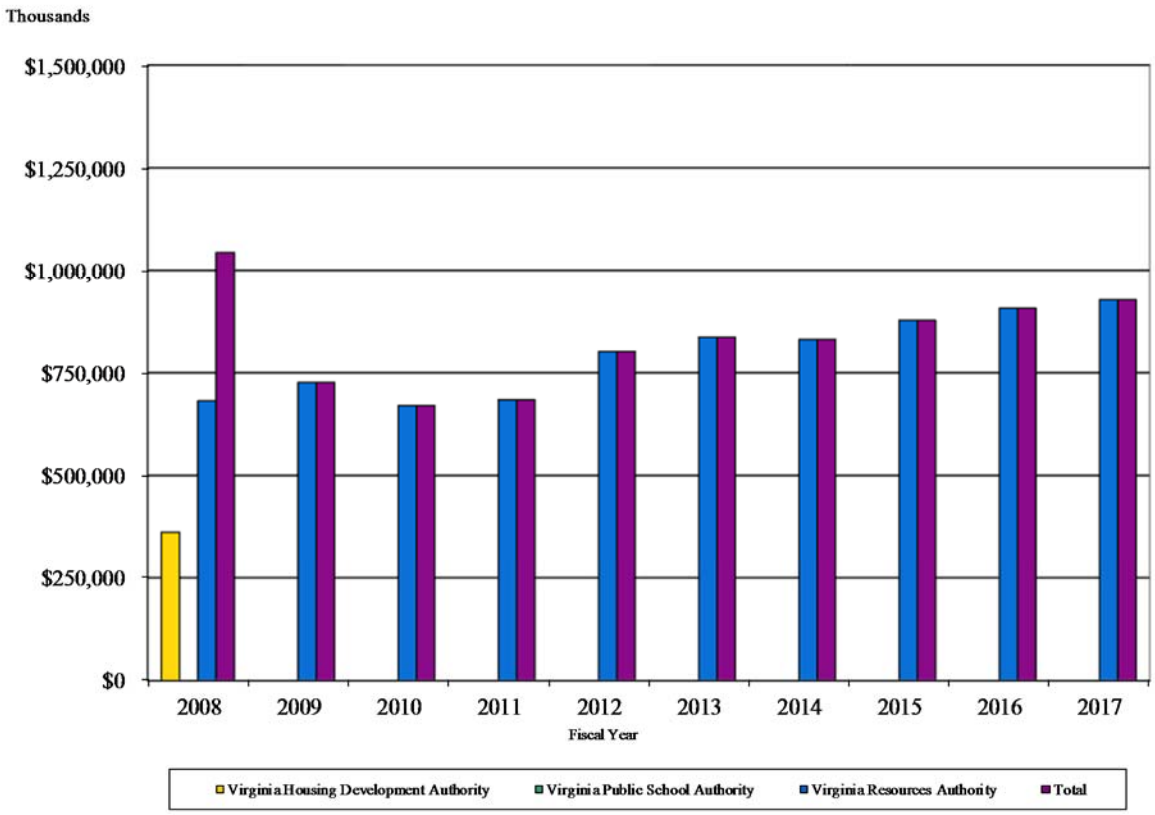
Alternative financing programs were initiated by the Virginia Housing Development Authority and the Virginia Public School Authority. Neither of these entities expect to issue additional moral obligation debt.

Moral Obligation Debt Sensitivity

A sensitivity analysis was completed for moral obligation debt. The analysis demonstrates the impact on tax-supported debt capacity as a result of the conversion of moral obligation debt to tax-supported debt. The sensitivity analysis is prepared using a worst-case scenario and shows the impact of the conversion of all moral obligation debt. However, conversion would only occur if the General Assembly appropriated funds to replenish a debt service reserve fund shortfall upon the request by a moral obligation issuer. Further, if any such debt were ever converted, it would be only the amount necessary to cure the default of an underlying revenue stream (e.g., a locality participating in a pooled bond issue).

If the Model solution is altered to assume the conversion of all outstanding moral obligation debt as of June 30, 2017 to tax-supported debt, the resulting average debt capacity is $502.59 million.

Outstanding Moral Obligation Debt
Fiscal Years 2008-2017



Contingent or Limited Liability Debt

The Virginia Public School Authority (VPSA) is the only issuer of non-tax-supported debt that utilizes a sum-sufficient appropriation (SSA) as an additional credit enhancement. SSA debt represents a contingent liability for the Commonwealth. The VPSA had $2.39 billion of 1997 Resolution bonds outstanding as of June 30, 2017 and an additional $353 million of School Tax Credit bonds outstanding. Both VPSA programs receive authorization to issue bonds with a SSA credit enhancement from the Code of Virginia, §22.1-167.2.

The use of SSA credit enhancement for VPSA's issuance of bonds or notes for the purpose of making grants to local school boards was codified during the 2001 General Assembly session (§22.1-167.3, Code of Virginia). As of June 30, 2017, outstanding notes for school technology and security amounted to $200 million.

VPSA's bonds issued through its Stand Alone Program are secured by the related local government's G.O. pledge. While these bonds are afforded the security enhancement of VPSA's ability to intercept state aid to the obligated locality for VPSA's use towards payment of debt service should the locality default on its payment to VPSA, the Stand Alone Program bonds are not additionally secured by SSA.

Sum-Sufficient Appropriation Sensitivity

A sensitivity analysis was completed for the VPSA's SSA debt. The analysis demonstrates the impact on tax-supported debt capacity as a result of the conversion of SSA debt to tax-supported debt.

If the Model solution is altered to assume the conversion of the VPSA's total outstanding debt secured by a sum sufficient appropriation as of June 30, 2017 to tax-supported debt, the resulting average debt capacity is $334.87 million.