COMMONWEALTH of VIRGINIA

Aubrey L. Layne, Jr., MBA, CPA
Secretary of Finance

P.O. Box 1475
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December 20, 2018

The Honorable Ralph S. Northam
Governor of Virginia
Patrick Henry Building, 3rd Floor
Richmond, Virginia 23219

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

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

Dear Governor Northam, 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 2018.

Based on the debt capacity model, the Committee estimates that up to $671 million in additional debt could be authorized and issued in each of fiscal years 2019 and 2020. 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 $671 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.

It should be noted that with one exception, the 2018 DCAC Model was calculated using the December 2018 Revenue Forecast produced by the Department of Taxation. An exception was made regarding one-time, temporary revenues related to the Federal Tax Cuts and Jobs Act and the contingent, proposed refundable Earned Income Tax Credits. These temporary revenue items were excluded from the DCAC Model. However, all other revenues were incorporated as presented in the 2018 December Revenue Forecast. As such, no revenues are included regarding the Amazon HQ2 project; only those current revenues related to sales taxes collected by Amazon are included. As a result of the Supreme Court's decision in South Dakota v. Wayfair, Inc. and given an ongoing assumption, it should be noted that revenues related to internet sales tax are included in both the December Forecast and the DCAC Model. The collection of internet sales taxes is forecast to contribute $82.5 million to general fund revenues in fiscal year 2020 and then to increase in line with other tax revenues.

The Committee discussed the general rising interest rate trend in 2018, along with the recent financial market volatility. The general opinion of the markets is that interest rates will continue higher, but that uncertainty and the likelihood of market disruptions are increasing. The Committee notes that the Model interest rate is 3.40% and there is a possibility that actual borrowing rates might exceed the Model interest rate at some point during the next year. It should be noted that a 100 basis point increase to the DCAC Model's interest rate would result in a $79 million decline in annual capacity to $591 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 2019 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 and it acknowledges and encourages continued practices of establishing a structurally balanced budget and contributing to the reserve balances.

Sincerely,

Aubrey L. Layne, Jr., 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, 2018

Debt Capacity Advisory Committee Members

The Honorable Aubrey L. Layne, Jr. – Chairman
Secretary of Finance

Manju S. Ganeriwala
State Treasurer

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

April R. Kees
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. Von Moll
State Comptroller

Jody M. Wagner
Citizen Member

Treasury

REPORT OF THE DEBT CAPACITY ADVISORY COMMITTEE
December 19, 2018

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: economy, financial management, governance, budgetary and operating performance, and debt and pension liabilities. 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.

REPORT OF THE DEBT CAPACITY ADVISORY COMMITTEE
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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 Health Care 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. It should be noted that for the 2018 DCAC Model, Department of Taxation provided the Committee with adjusted general fund revenues that removed temporary revenues related to the Federal Tax Cuts and Jobs Act (the "Act" or "TCJA") and proposed refundable Earned Income Tax Credits ("EITC").

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 Influencing Factors for Virginia's Fiscal Position

Virginia's economy and the Commonwealth's fiscal health continue to result in strength and growth. Along with the difficult decisions on how to manage this new growth, Virginia is certain to face at least two uncertain variables in Medicaid and rising interest rates that can detract from the otherwise positive momentum.

The November 2018 announcement by Amazon to split its new HQ2 between the Arlington and Alexandria areas of Northern Virginia and the Queens area of New York will be a positive economic factor for Virginia. Amazon's choice of Virginia signals a recognition of the young and highly educated workforce and expands Virginia's technology sector and overall employment diversification. Amazon is anticipated to invest billions of dollars in these communities and to, over time, create more than 25,000 jobs in Virginia with average salaries around $150,000. In time, these new jobs will lead to additional jobs in the communities to meet the demands of an increasing population. As the Amazon and related jobs are created, Virginia is expected to increase its tax revenues. There are costs related to incentives offered to the company; however, Virginia is recognized as having crafted the incentives in a creative manner to benefit not only Amazon, but also the Commonwealth as a whole. While these incentives include some direct company payments, the incentives are largely transportation and education investments. It should be noted that the direct payment incentives are back loaded and contingent on job creation. However, to the extent tax-supported bonds are authorized to support the infrastructure or higher-education investments, the related debt service will reduce future debt capacity to meet other capital needs to the extent the additional tax revenues do not cover debt service. It should be noted that no revenues are included in the December revenue forecast or the DCAC Model related to the planned HQ2 project.

Along with gains in salaries and wages and employment, the implementation of the TCJA, contributed towards a fiscal year 2018 revenue surplus of greater than $550 million. The Governor and the General Assembly will have to determine state tax conformity issues and any policy decisions to be made. However, with tax conformity and no additional policy decisions, an external analysis of the impact of the Act estimates that Virginia will continue to experience strong gains in tax revenues in the years ahead. Assuming conformity and policy changes, Virginians are anticipated to pay more in state taxes than before the federal tax change. However, Virginia taxpayers are estimated to have an overall decline in their combined state and federal tax liability due to the more than offsetting decline in federal taxes. The overall taxpayer savings might result in higher sales tax revenues through additional consumer spending, or the money might be saved or invested. Additionally, the Governor and the General Assembly will have to determine how to allocate any additional revenues. It should be noted that while one-time, temporary revenues related to the TCJA and proposed refundable EITC are included in the December Revenue Forecast, these items are excluded from the 2018 DCAC Model.

Also at the federal level, the Supreme Court’s decision in South Dakota v. Wayfair, Inc. introduces additional policy decisions to be made by the Governor and the General Assembly regarding an internet sales tax. The internet sales tax is anticipated to generate additional revenue for the Commonwealth. Should the Commonwealth decide to issue tax-supported bonds through one of its authorities based on the additional revenues, the bonds would have to be secured by a pledge of general fund appropriations and not a pledge of specific tax revenues. As such, any such bonds authorized would reduce debt capacity. Given an ongoing assumption, it should be noted that revenues related to internet sales tax are included in the December Revenue Forecast and the 2018 DCAC Model.

From a risk standpoint, Medicaid is a significant budget driver in Virginia. The recent Medicaid expansion legislation created a provider assessment to limit the additional expenses of expansion. However, the Medicaid program generally remains a difficult variable to predict given potential increases to enrollment and health care costs. Based on the positive tailwinds noted above, the Commonwealth should have greater flexibility to address any increased costs due to greater enrollment or higher costs than anticipated.

Also from a risk standpoint, bond interest rates are anticipated to continue rising. Being comprehensive tax legislation, the TCJA resulted in both positive and negative impacts on municipal bond interest rates. It was initially thought that tax-exempt municipal bond rates might experience an increase due to the reduction in corporate tax rates and the temporary reduction in individual tax rates. However, the supply of bonds was initially reduced due to the elimination of tax-exempt advanced refunding issuances. Conversely, an actual increase in demand for tax-exempt bonds by individuals, given other changes such as an increase to the threshold for itemization and limitations on the ability to claim state and local property taxes on federal tax calculations, helped to offset the anticipated increase in rates. As new money issuances have begun to fill the initial supply void caused by a rush to market by many issuers last December and as the Federal Open Market Committee has continued to increase the federal funds rate, municipal bond interest rates have continued to rise over the past year. Shorter-term maturities have experienced significant increases in rates leading to a further flattening yield curve and speculation as to whether there will be an inversion of short and longer-term rates. As the taxable interest rates continue to rise, it is thought that pressure will continue on the tax-exempt municipal interest rates and they too will continue to increase. The current DCAC Model Interest Rate is 3.40%. It is likely that the rate achieved on Virginia's actual debt issuances will begin to surpass the Model interest rate causing actual debt service costs to increase and resulting in reduced debt capacity.

Virginia has many potential positives in its future. However, given the magnitude of the Commonwealth's authorized and unissued debt included in the Model, which as of June 30, 2018 was $5 billion, a potential increase in interest rates will cause the most impact to debt capacity. 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 $79 million annually.

2018 Debt Capacity Recommendations

The 2018 Base Model Solution – Average debt capacity calculation (Appendix A-6) shows that an additional $671 million in debt could be authorized and issued in each 2019 and 2020. 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, the Committee expresses 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 debt service 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 Grant Anticipation Revenue Vehicles (GARVEEs) paid from federal transportation revenues.

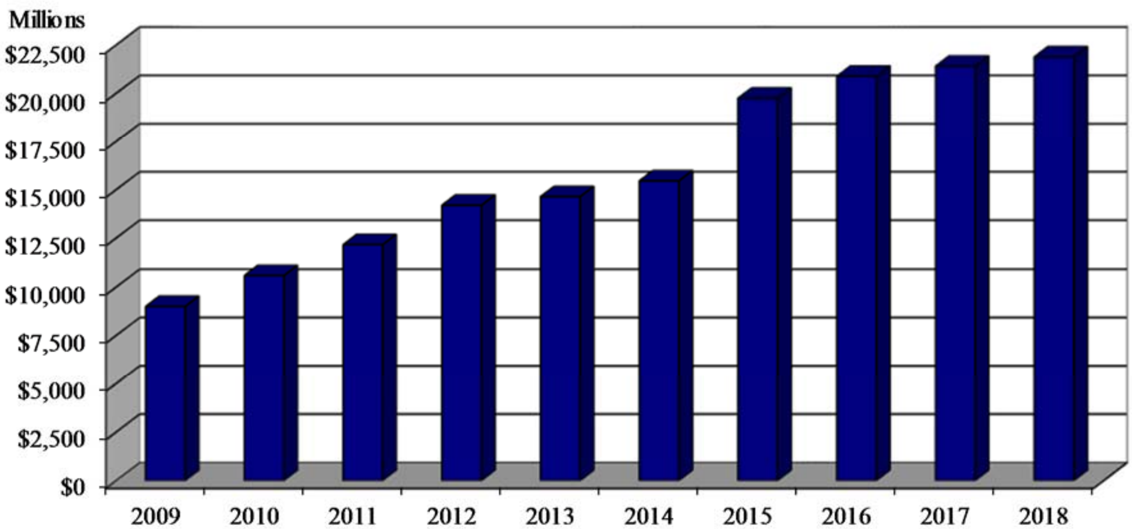
Transportation debt has been authorized and issued with a pledge that other available amounts, including the general fund, may be appropriated for their repayment. Since repayment is not limited solely to the TTF (though in practice, payments are made from the TTF), these bonds are viewed by rating agencies 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

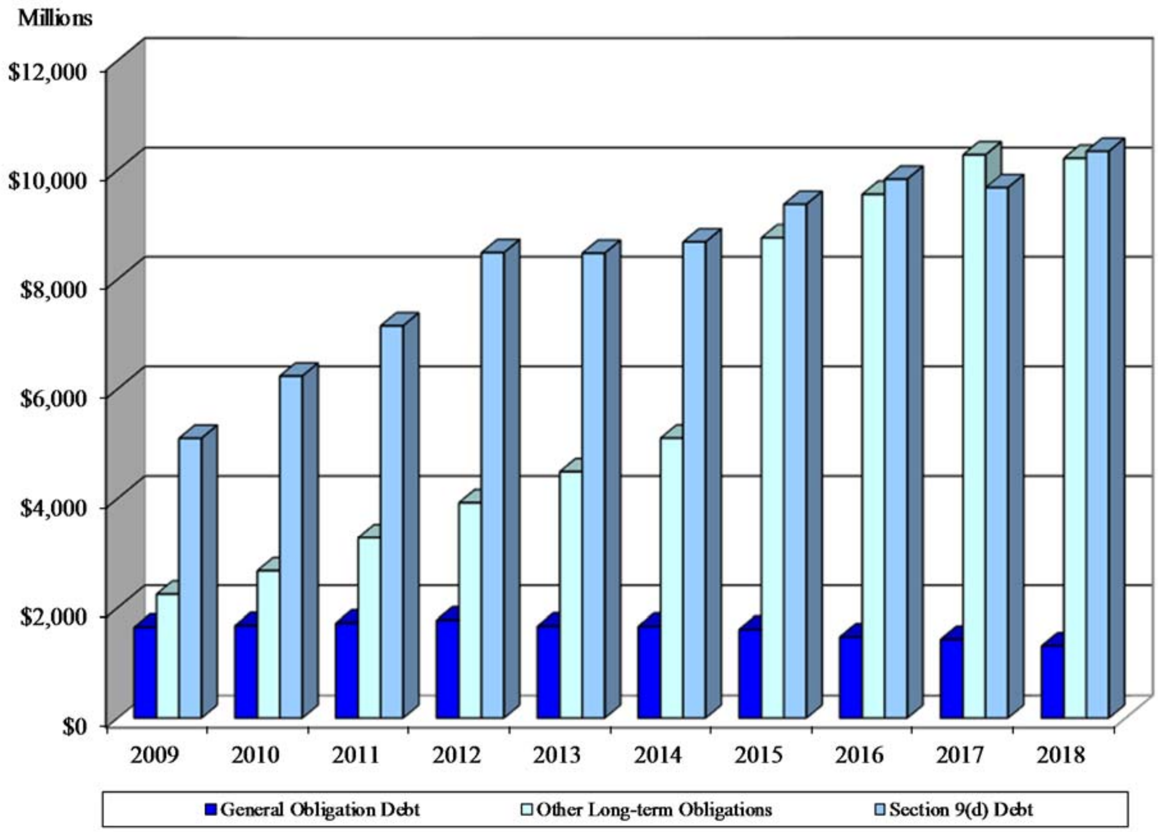
Outstanding tax-supported debt of the Commonwealth increased by 143%, or $12.9 billion, from $9.0 billion in fiscal year 2009 to $21.9 billion in fiscal year 2018. The significant increase is the result of growing 9(d) debt outstanding and increases in pension and other post-employment benefits (OPEB) liabilities, some of which is due to underlying growth and some of which is the result of financial reporting changes. Between fiscal year 2017 and fiscal year 2018, outstanding tax-supported debt increased $0.5 billion, which is equivalent to 2% growth over the last fiscal year. The following graph includes long-term obligations such as pension liabilities, OPEBs 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 2009-2018[(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 2009-2018[(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.

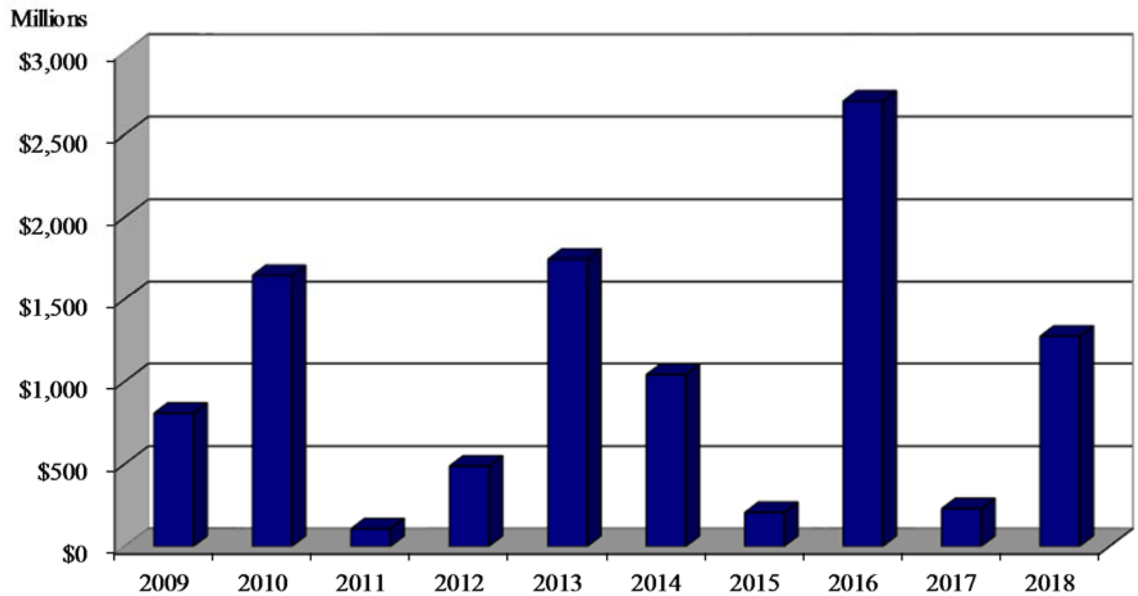
General obligation debt, which had a June 30, 2018 balance outstanding of $1.31 billion, peaked in fiscal year 2012 and has declined 20%, or $338 million, over the ten-year period. This is due in part to a $1 billion 9(b) general obligation bond referendum approved by the voters in 2002. Bonds from the 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 2018 outstanding GO balance declined 8%, or $122 million, from fiscal year 2017. Since fiscal year 2012, the outstanding GO balance has declined 26%, or $467 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 $5.25 billion during the ten-year period. Total outstanding Section 9(d) debt at June 30, 2018 was $10.35 billion compared to $5.10 billion at fiscal year-end 2009, which is equivalent to a 103% 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 VCBA and VPBA bonds in 2008, 2009, 2010, 2013, 2014 and 2016. While only $216 million was authorized across VCBA and VPBA during the 2017 General Assembly Session, more than $1.24 billion, net of a rescinded amount, was authorized between VCBA, VPBA and CTB during the 2018 Session. Given the timing of authorizations versus issuances, the fiscal year 2018 authorizations have not impacted the currently outstanding 9(d) debt, but the authorizations will have a significant impact on the outstanding debt in future years. Despite a tremendous refunding effort at the end of calendar year 2017 before the elimination of tax-exempt advance refunding bonds by the Tax Cuts and Jobs Act, significant new money bond issuances in fiscal year 2018, which totaled more than $1.25 billion across VCBA, VPBA and CTB, drove the outstanding balance of section 9(d) debt higher. The outstanding balance of section 9(d) debt increased 7%, or $663 million, between fiscal year 2017 and fiscal year 2018.

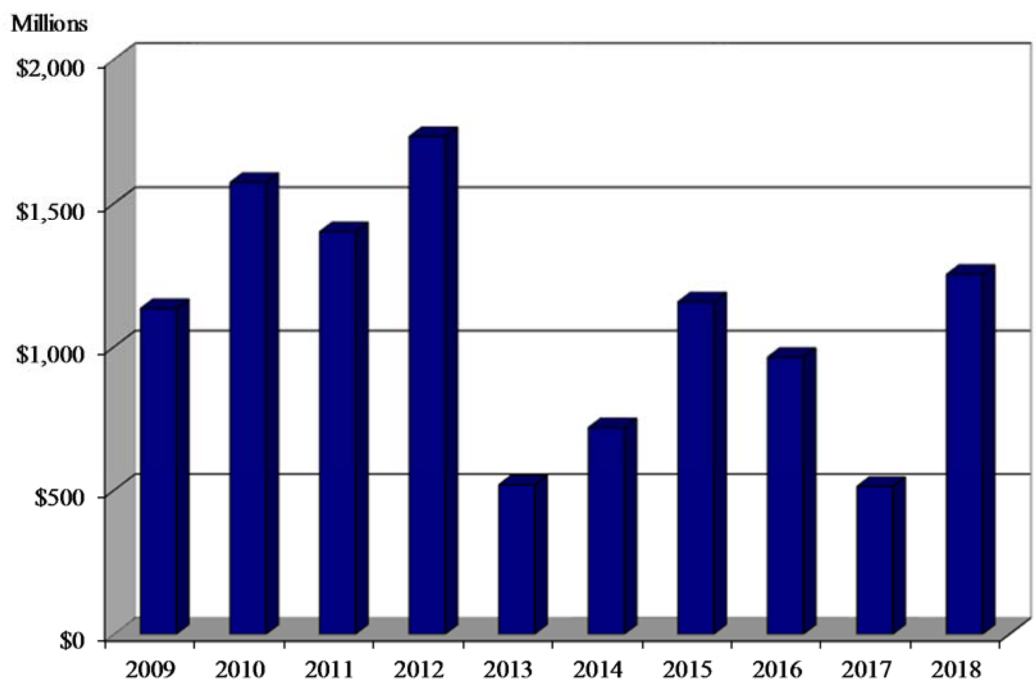
Other long-term obligations have experienced the most growth, increasing $7.97 billion, or 355%, from $2.25 billion at fiscal year-end 2009 to $10.22 billion at fiscal year-end 2018. The significant increase caused this category to surpass the amount of 9(d) obligations in fiscal year 2017, but the strong growth in 9(d) obligations noted above pushed that category higher than other long-term obligations in fiscal year 2018. The increase is due to a significant overall rise in pension and OPEB obligations. The increase also reflects the implementation of GASB 68 in fiscal year 2015, which impacted the reporting of net pension liabilities. Although there has generally been a steady increase in this group of obligations, between fiscal year 2017 and fiscal year 2018, other long-term obligations declined $63 million, which is equivalent to less than a 1% decrease over the last fiscal year. The slight decline from the last fiscal year was related to a decline in pension liabilities of $991 million, or 13%, and a nearly offsetting increase in OPEB liabilities of $903 million, or 47%. The pension liabilities declined as a result of increased investment performance while the OPEB liabilities likely experienced underlying growth along with an accounting change to implement GASB Statement 85 which amended OPEB treatment in GASB Statement 75.

The following two charts illustrate the amounts of tax-supported debt authorized and issued from fiscal years 2009 to 2018. In 2009, $807 million was authorized with $751 million being for combined VCBA and VPBA bond programs and $56 million for self-supporting 9(c) bond projects. Significant 9(d) authorization was provided again in 2010 with VPBA and VCBA receiving authorization of nearly $1.5 billion and self-supporting 9(c) projects also received over $200 million of authorization. The amount of debt authorized in 2011 and 2012 declined compared to the significant amounts authorized in the prior years and amounted to $107 million in 2011 and $487 million in 2012 across 9(c) and 9(d) tax-supported programs. 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 $2.70 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. Authorizations declined in fiscal year 2017 to an additional $230 million, with VPBA and VCBA collectively receiving an authorization of $216 million and $14 million being for 9(c) projects. Most recently, during the 2018 General Assembly Session, an additional $1.26 billion was authorized net of a rescinded amount, with VPBA and VCBA collectively receiving an authorization of $1.20 billion, CTB receiving $50 million of authorization for Capital Projects Revenue Bonds, $21 million being for 9(c) projects and $12.5 million being rescinded for a VPBA project. Between fiscal year 2009 and fiscal year 2018, the General Assembly collectively authorized $10.23 billion of tax-supported debt.

Tax-Supported Debt Authorizations
Fiscal Years 2009-2018
$10.23 Billion in Authorizations



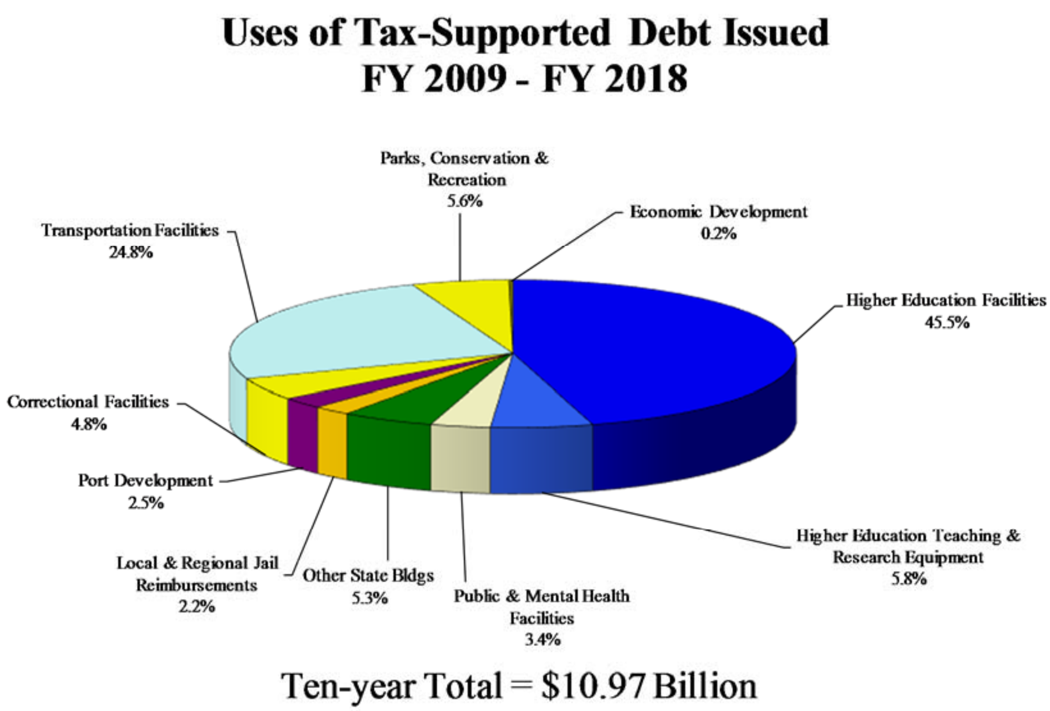
Tax-Supported Debt Issued
Fiscal Years 2009-2018
$10.97 Billion in Issuances



The amount of new tax-supported debt issued in fiscal year 2018 was $1.25 billion, which was a significant increase from the fiscal year 2017 amount of $514 million. The amount of debt issued in fiscal year 2017 was the lowest level over the last 10 years. The most recent increase was the result of issuances due to the continuing growing authorizations and the result of project timing versus recent authorizations. In fiscal year 2016, the total 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 2009 and fiscal year 2018, $10.97 billion in tax-supported debt was issued. With the June 30, 2018 authorized and unissued debt amounting to $5.6 billion, of which $4.9 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

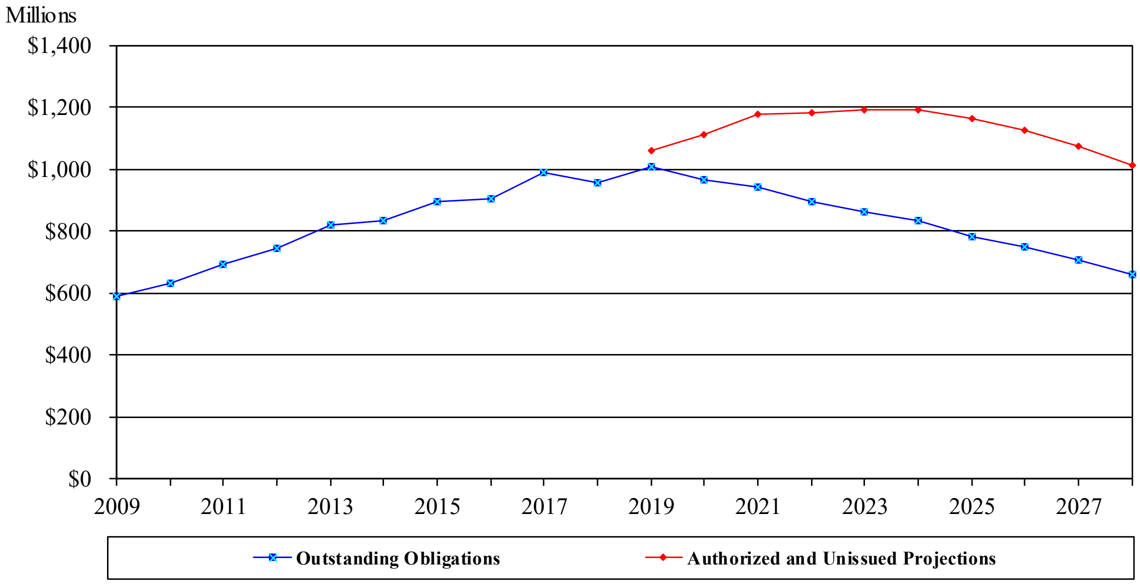
The following chart illustrates how the Commonwealth has utilized its tax-supported debt over the last ten years. Of the total $10.97 billion, 51% has been used for capital projects and teaching and research equipment at state institutions of higher education. Transportation projects paid from the TTF is the next highest category at 25%. (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 2009 – 2028[(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/Stable (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.

With state tax revenues trending higher as fiscal year 2018 was coming to a close, the passage of a structurally balanced 2018-2020 biennial budget and deposits made and committed to being made to the newly created Revenue Cash Reserve Fund, in June 2018, S&P retuned its outlook for the Commonwealth and its appropriation supported bonds to Stable.

Just as S&P recognized, the other rating agencies have acknowledged Virginia's recently adopted budget and plans to replenish reserve funds as a return to strong financial management and conservative budgeting practices. The Revenue Stabilization Fund has always been seen as a strength given its constitutionally mandated deposits and limitations on ability to withdraw funds. Virginia has also been recognized as having a diverse economy and high above average education and wealth levels. Recently, rating agencies have released reports noting Amazon's new HQ2 as a positive for Virginia and have highlighted the talent pool and likely impacts including continued economic diversification and growth.

Currently, Virginia is expecting continued positive economic growth, operating with a structurally balanced budget and saving any excess revenues in reserve funds. Rating agencies recognize that the state's response to a future downturn, a reversion to a structurally imbalanced budget or a failure to continue to replenish reserve funds, could warrant consideration for a rating action. From a more day-to-day perspective, rating agencies note that Medicaid is a significant expense driver across not only Virginia, but the entire state sector. Pension and OPEB liabilities across the municipal sector are also receiving increased attention due to the magnitude of unfunded liabilities. Pension and OPEB liabilities will likely remain an item to watch for the foreseeable future.

As the economy continues to diversify and revenues continue to increase in the short-run, it will be important for the Commonwealth to prioritize projects and carefully consider any commitment of these new revenues to programs that might result in ongoing expenses, as these decisions will have lasting impacts and can either enhance or hinder the state's ability to respond to a future downturn. The rating agencies will be watching for continued strong fiscal management and conservative budgeting practices. The use of sound financial practices, along with the state's continued efforts to diversify its economy, should allow the Commonwealth to maintain its AAA bond ratings and Stable outlooks.

Review of Comparative Ratios

Moody's Investors Service has compiled net tax-supported debt (NTSD) data for US states for more than 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 has continued to predict in each subsequent report minimal growth in NTSD. In its most recent *State Debt Medians 2018 Report*, which was published on April 24, 2018, it once again predicted slow growth for both calendar years 2018 and 2019.

Moody's expectations for stable to low growth in debt issuances has continued to prove 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% and the *State Debt Medians 2018 Report* stating year-over-year growth in NTSD of 1.2%. When combined with the earlier decline and previous low-growth in debt, Moody's reported this as the fifth year in a row that NTSD increased less than 2%. As noted in the 2018 Report, according to the National Association for State Budget Officers, capital expenditures grew by an estimated 5.9%, which is down from 7.9% the prior year, but indicative to Moody's that pay-go is covering the majority of capital expenses and limiting the increase in capital debt. Also noted in the 2018 Report, despite a slight uptick in total NTSD, debt ratios for many states continued their multi-year improvements thanks to an expanding economy and increasing population in many states with moderate debt levels.

In 2018, Moody's reported that the median NTSD per capita fell by 4.3% to $987 from $1,006. Virginia has remained opposite of the recent declining trend and for a second year, Virginia was ranked as having the 19th highest debt per capita. Moody's reported 2.0% growth in Virginia's NTSD per capita which increased to $1,515 compared to $1,486 the prior year.

Moody's reported that 34 states experienced a decline in NTSD as a percentage of personal income and that median NTSD as a percentage of personal income continued a nearly decade-long decline falling to 2.3% from 2.5% last year. Virginia has also remained opposite of this trend. While Virginia's NTSD as a percentage of personal income remained at 2.9% for a second year, Virginia's ranking increased from the 21st highest last year to 19th highest in the current report.

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 20 compare Virginia's net tax-supported debt as a percentage of personal income with that of other triple-A states.

AAA/Aaa/AAA STATE DEBT BURDENS FROM 2009-2018
PROVIDED BY MOODY'S INVESTORS SERVICE

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

	2018 Ranking	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Delaware	8	$2,587	$2,544	$2,385	$2,438	$2,485	$2,536	$2,674	$2,676	$2,489	$2,128
Maryland	11	2,164	2,122	1,928	1,889	1,791	1,799	1,742	1,681	1,608	1,507
VIRGINIA	**19**	**1,515**	**1,486**	**1,418**	**1,356**	**1,302**	**1,315**	**1,169**	**1,058**	**895**	**782**
Georgia	26	986	992	1,029	1,043	1,064	1,061	1,099	1,103	1,120	984
Florida *	29	889 *	961 *	1,038 *	973 *	1,008 *	1,087 *	1,167 *	1,150 *	1,123 *	1,115 *
Utah	31	772	824	921	1,060	1,187	1,275	1,393	1,222	957	447
South Dakota *	32	694	641	652 *	547 *	391 *	355 *	358 *	328 *	135 *	274 *
North Carolina *	37	611	659	721	739	806	853	815	782	765	832 *
Missouri	38	532	579	574	606	668	699	741	775	780	670
Texas *	42	410	383	383	406	614	580 *	588 *	612 *	520 *	520 *
Tennessee*	43	312	322	298	327 *	324 *	343 *	343 *	345 *	318 *	233 *
Indiana *	45	295	310	463 *	474 *	533 *	424 *	446 *	471 *	492 *	482 *
Iowa *	46	219	228	239	250	275	287	310	270	73 *	79 *
Median All States		987	1,006	1,025	1,012	1,054	1,074	1,117	1,066	936	865
AAA Median		694	659	721	739	806	853	815	782	780	670
AAA Average		922	927	927	931	958	970	988	959	867	773

** State was not triple triple A during entire 2009-2018 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
2009 – 2018

Source: Moody's Medians

AAA/Aaa/AAA STATE DEBT BURDENS FROM 2009-2018
PROVIDED BY MOODY'S INVESTORS SERVICE

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

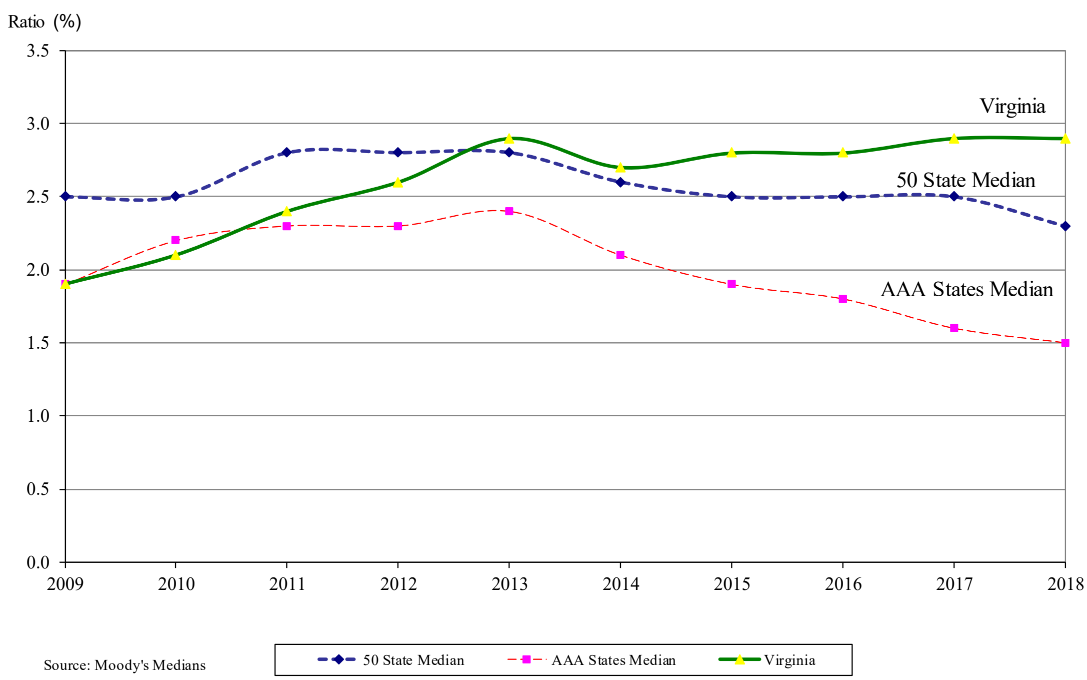
	2018 Ranking	2018		2017		2016		2015		2014		2013		2012		2011		2010		2009	
Delaware	6	5.5	%	5.4	%	5.2	%	5.5	%	5.7	%	6.2	%	6.8	%	6.8	%	6.2	%	5.4	%
Maryland	15	3.7		3.8		3.5		3.5		3.4		3.6		3.6		3.3		3.4		3.3	
VIRGINIA	**19**	**2.9**		**2.9**		**2.8**		**2.8**		**2.7**		**2.9**		**2.6**		**2.4**		**2.1**		**1.9**	
Georgia	25	2.4		2.5		2.7		2.8		2.9		3.0		3.1		3.3		3.3		3.0	
Florida *	29	2.0	*	2.2	*	2.5	*	2.4	*	2.5	*	2.8	*	3.0	*	3.0	*	2.9	*	2.9	*
Utah	30	1.9		2.1		2.5		3.0		3.4		3.8		4.4		4.1		3.2		1.5	
North Carolina *	35	1.5		1.6		1.8		1.9		2.1		2.4		2.3		2.3		2.3		2.5	*
South Dakota *	36	1.5		1.4		1.4	*	1.2	*	0.9	*	0.9	*	0.9	*	0.9	*	0.4	*	0.8	*
Missouri	40	1.2		1.4		1.4		1.6		1.7		1.8		2.0		2.2		2.2		2.0	
Texas *	42	0.9		0.8		0.9		1.0		1.5		1.5	*	1.5	*	1.6	*	1.4	*	1.4	*
Tennessee*	43	0.7		0.8		0.7		0.8	*	0.8	*	0.9	*	1.0	*	1.0	*	0.9	*	0.7	*
Indiana*	45	0.7		0.8		0.8	*	0.8	*	1.4	*	1.2	*	1.3	*	1.4	*	1.5	*	1.5	*
Iowa *	46	0.5		0.5		0.5		0.6		0.6		0.7		0.8		0.7		0.2	*	0.2	*
Median All States		2.3	%	2.5	%	2.5	%	2.5	%	2.6	%	2.8	%	2.8	%	2.8	%	2.5	%	2.5	%
AAA Median		1.5		1.6		1.8		1.9		2.1		2.4		2.3		2.3		2.2		1.9	
AAA Average		2.0		2.0		2.1		2.1		2.3		2.4		2.6		2.5		2.3		2.1	

** State was not triple triple A during entire 2009-2018 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 2009 - 2018



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 $86.5 billion outstanding followed by New York with $61.2 billion. California has continued to experience a decline in its NTSD due to continued pay down of debt while New York's NTSD debt has increased in the two most recent years. Wyoming replaced Nebraska at the bottom of the list last year and remained in that position this year supported by a decline in NTSD to only $21.8 million. Both Wyoming and Nebraska do not issue G.O. debt. Virginia added approximately $333 million of NTSD taking Moody's total to $12.8 billion compared to $12.5 billion outstanding in the prior year. Although Virginia experienced an increase in NTSD and the various NTSD ratios, Virginia remained the 12th highest NTSD of all states.

Summary

Virginia concluded fiscal year 2018 on a high note that has been a crescendo through the calendar year. A revenue surplus at fiscal year-end 2018 followed by positive factors such as the Wayfair decision on internet sales taxes has resulted in growth in Virginia's overall revenue forecast. This revenue growth, coupled with a stable DCAC Model interest rate factor between the 2017 and 2018 Models, lifted the 2018 debt capacity estimate to $671 million a year. This estimate is an increase of $91 million from last year's estimate of $580 million a year.

The Governor and the General Assembly's collaboration during the 2018 General Assembly Session to adopt a structurally balanced budget and to set-aside funding to increase the reserve fund balances reassured the rating agencies of Virginia's strong financial management and conservative budgeting practices. As a result, Virginia's outlook was returned to "Stable" by S&P in June 2018, reaffirming Virginia as one of a select group of states considered triple-AAA rated.

While debt capacity is higher based on the December 2018 Model and positive economic and fiscal factors are expected to continue to drive revenues, it is important for Virginia to be mindful of its growing debt compared to other states and its level of unfunded pension and OPEB liabilities. The rating agencies, along with bond investors, will be monitoring pensions, reserve balances and timely adoption of structurally balanced budgets. It is prudent for Virginia to remain aware of the variables with estimating debt capacity, such as interest rates, which can change instantaneously as the result of a financial market action or global event. The decisions made regarding the commitment of current and future tax revenues and any new debt considered for authorizations will be critically important as Virginia prepares for a hopeful but uncertain future.

Appendix A

Debt Capacity Calculation, Sensitivity Analysis and Moral Obligation Update

December 19, 2018

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 and for the General Fund Forecast, Department of Taxation has provided amounts for the DCAC Model that remove temporary Tax Cuts and Jobs Act ("TCJA") revenues and proposed refundable Earned Income Tax Credits ("EITC").

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 (3.15%) plus 25 basis points for 9(d) debt (3.40%).

Model Includes:

- Blended Revenues from Official Forecast:
  - General fund revenues (adjusted to exclude temporary TCJA revenues and proposed refundable EITC), 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, 2018
(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, 2018	$ -	$ 1,883.6	$ 166.0	$ 1,747.8	$ 498.2	$ 24.7	$ 595.7	$ -	$ 4,916.1
Issued Jul 1 - Dec 31, 2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Assumed Issued:									
FY 2019	$ -	$ 450.0	$ 83.0	$ 486.7	$ 255.0	$ -	$ -	$ -	$ 1,274.7
FY 2020	$ -	$ 398.0	$ 83.0	$ 466.3	$ 96.6	$ 24.7	$ 150.9	$ -	$ 1,219.5
FY 2021	$ -	$ 270.0	$ -	$ 375.3	$ 146.6	$ -	$ 124.6	$ -	$ 916.5
FY 2022	$ -	$ 266.5	$ -	$ 225.3	$ -	$ -	$ 124.5	$ -	$ 616.3
FY 2023	$ -	$ 249.1	$ -	$ 102.6	$ -	$ -	$ 195.7	$ -	$ 547.4
FY 2024	$ -	$ 250.0	$ -	$ 91.6	$ -	$ -	$ -	$ -	$ 341.6
FY 2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
FY 2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
FY 2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
FY 2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Planned	$ -	$ 1,883.6	$ 166.0	$ 1,747.8	$ 498.2	$ 24.7	$ 595.7	$ -	$ 4,916.1
Subtotal Issued & Planned	$ -	$ 1,883.6	$ 166.0	$ 1,747.8	$ 498.2	$ 24.7	$ 595.7	$ -	$ 4,916.1
Authorized Debt Assumed Unissued	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

DEBT CAPACITY MODEL

(Dollars in Millions)

Debt Capacity Maximum Ratio **December 19, 2018**

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

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
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	20,040.70	1,002.04	897.38	4.48%	N/A	4.48%	104.65	**N/A**	N/A	104.65	4.48%
2016	20,382.70	1,019.14	904.30	4.44%	N/A	4.44%	114.83	**N/A**	N/A	114.83	4.44%
2017	21,162.90	1,058.15	988.33	4.67%	N/A	4.67%	69.82	**N/A**	N/A	69.82	4.67%
2018	22,351.70	1,117.59	957.97	4.29%	N/A	4.29%	159.62	**N/A**	N/A	159.62	4.29%
2019	23,008.00	1,150.40	1,008.23	4.38%	54.08	4.62%	88.09	**821.53**	56.319	31.78	4.86%
2020	23,973.00	1,198.65	966.61	4.03%	147.15	4.65%	84.89	**0.00**	56.319	28.57	4.88%
2021	24,709.80	1,235.49	943.97	3.82%	235.20	4.77%	56.32	**0.00**	56.319	0.00	5.00%
2022	25,656.00	1,282.80	894.99	3.49%	286.78	4.61%	101.03	**652.20**	101.030	0.00	5.00%
2023	26,634.90	1,331.75	862.32	3.24%	332.04	4.48%	137.39	**530.32**	137.385	0.00	5.00%
2024	27,490.10	1,374.51	836.42	3.04%	356.15	4.34%	181.93	**649.76**	181.928	0.00	5.00%
2025	28,339.95	1,417.00	782.71	2.76%	379.57	4.10%	254.72	**1,061.70**	254.711	0.00	5.00%
2026	29,305.82	1,465.29	748.16	2.55%	379.57	3.85%	337.55	**1,208.40**	337.552	0.00	5.00%
2027	30,305.97	1,515.30	707.03	2.33%	366.78	3.54%	441.49	**1,516.19**	441.491	0.00	5.00%
2028	31,341.43	1,567.07	661.38	2.11%	353.98	3.24%	551.71	**266.49**	459.760	91.95	4.71%
							10 Year Average:	$670.66	2 Yrs Excess Avg Capacity:	$1,341.32	

[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 2009-2018, Standard General Fund December Forecasts dated December 2018 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 (adjusted to remove temporary TCJA revenues and proposed refundable EITC), the Virginia Health Care Fund forecast revenues as by Section 32.1-366 of the Code of Virginia, certain recurring Transfers Per the Appropriation Act, transfers from Alcoholic Beverage Control Board and certain Transportation Trust Fund revenues from the Com Transportation Fund Official December revenue forecasts dated December 2018.

[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 6/30/18, 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, 2018

Debt Capacity Maximum Ratio

Debt Service as a % of Revenue = 5.0%

Base Model Solution - Average

	[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**
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	20,040.70	1,002.04	897.38	4.48%	N/A	4.48%	104.65	**N/A**	N/A	104.65	4.48%
2016	20,382.70	1,019.14	904.30	4.44%	N/A	4.44%	114.83	**N/A**	N/A	114.83	4.44%
2017	21,162.90	1,058.15	988.33	4.67%	N/A	4.67%	69.82	**N/A**	N/A	69.82	4.67%
2018	22,351.70	1,117.59	957.97	4.29%	N/A	4.29%	159.62	**N/A**	N/A	159.62	4.29%
2019	23,008.00	1,150.40	1,008.23	4.38%	54.08	4.62%	88.09	**0.00**	0.000	88.09	4.62%
2020	23,973.00	1,198.65	966.61	4.03%	147.15	4.65%	84.89	**670.66**	45.976	38.91	4.84%
2021	24,709.80	1,235.49	943.97	3.82%	235.20	4.77%	56.32	**670.66**	91.952	(35.63)	5.14%
2022	25,656.00	1,282.80	894.99	3.49%	286.78	4.61%	101.03	**670.66**	137.928	(36.90)	5.14%
2023	26,634.90	1,331.75	862.32	3.24%	332.04	4.48%	137.39	**670.66**	183.904	(46.52)	5.17%
2024	27,490.10	1,374.51	836.42	3.04%	356.15	4.34%	181.93	**670.66**	229.880	(47.95)	5.17%
2025	28,339.95	1,417.00	782.71	2.76%	379.57	4.10%	254.72	**670.66**	275.856	(21.14)	5.07%
2026	29,305.82	1,465.29	748.16	2.55%	379.57	3.85%	337.55	**670.66**	321.832	15.72	4.95%
2027	30,305.97	1,515.30	707.03	2.33%	366.78	3.54%	441.49	**670.66**	367.808	73.68	4.76%
2028	31,341.43	1,567.07	661.38	2.11%	353.98	3.24%	551.71	**670.66**	413.784	137.93	4.56%

10 Year Average: $670.66

Debt Capacity Model – An Explanation of Results Page

Column Descriptions:

(1) Blended Revenues include all general fund revenues (adjusted to remove temporary TCJA revenues and proposed refundable EITC), 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 (6/30/18), 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 $670.66 million.
- Accordingly, the Committee finds the additional tax supported debt that may prudently be authorized in each 2019 and 2020 is $670.66 million.

DEBT CAPACITY MODEL REVENUE DATA

December 2018

(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 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)	346.70	(1)	20,040.70	8.31%
Actual 2016	18,601.70	(1)	1,367.50	(1)	1.26%	(1)	3.25%	(1)	413.50	(1)	20,382.70	1.71%
Actual 2017	19,348.40	(1)	1,431.40	(1)	4.01%	(1)	4.67%	(1)	383.10	(1)	21,162.90	3.83%
Actual 2018	20,509.10	(1)	1,440.60	(1)	6.00%	(1)	0.64%	(1)	402.00	(1)	22,351.70	5.62%
Forecasted for 2019	21,165.70	(2)	1,462.30	(5)	3.20%	(2)	1.51%	(5)	380.00	(7)	23,008.00	2.94%
Forecasted for 2020	22,091.70	(2)	1,517.30	(5)	4.38%	(2)	3.76%	(5)	364.00	(7)	23,973.00	4.19%
Forecasted for 2021	22,799.60	(2)	1,555.60	(5)	3.20%	(2)	2.52%	(5)	354.60	(7)	24,709.80	3.07%
Forecasted for 2022	23,719.80	(2)	1,580.90	(5)	4.04%	(2)	1.63%	(5)	355.30	(7)	25,656.00	3.83%
Forecasted for 2023	24,667.00	(2)	1,611.90	(5)	3.99%	(2)	1.96%	(5)	356.00	(7)	26,634.90	3.82%
Forecasted for 2024	25,490.00	(2)	1,643.40	(5)	3.34%	(2)	1.95%	(5)	356.70	(7)	27,490.10	3.21%
Forecasted for 2025	26,307.00	(2)	1,675.45	(6)	3.21%	(2)	1.95%	(6)	357.50	(7)	28,339.95	3.09%
Forecasted for 2026	27,239.40	(2)	1,708.12	(6)	3.54%	(2)	1.95%	(6)	358.30	(7)	29,305.82	3.41%
Forecasted for 2027	28,205.53	(3)	1,741.43	(6)	3.55%	(3)	1.95%	(6)	359.02	(8)	30,305.97	3.41%
Forecasted for 2028	29,206.31	(3)	1,775.38	(6)	3.55%	(3)	1.95%	(6)	359.73	(8)	31,341.43	3.42%

(1) Department of Taxation.

(2) December General Fund Forecast for FY 2019-2026 (adjusted to remove temporary TCJA revenues and proposed refundable EITC), 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 3.6% for General Fund Revenues and 2.3% for Sales Tax Transfers. A.B.C. Profits and recurring Transfers per Appropriation Act held flat at $122.2 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 2019-2024, includes only Transportation Trust Fund Revenues.

(6) Based on flat growth rate of 1.95% for years 2025-2028, per Department of Taxation.

(7) December Virginia Health Care Fund Forecast for FY 2019-2026.

(8) Based on flat growth rate of 0.2% 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 $670.66 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 $731.63 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 $804.79 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 $6.08 million.

  - Assuming a 1% change of revenues in each and every year, the incremental change is $19.05 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 $591.26 million.

  - Subtract 100 basis points from base rate, and average capacity increases to $761.19 million.

Debt of the Commonwealth
(Dollars in Thousands)

	As of June 30, 2018	As of June 30, 2017
Tax-Supported Debt		
9(b) General Obligation [1]	$ 457,764	$ 515,468
9(c) General Obligation - Higher Education [2]	836,874	897,018
9(c) General Obligation - Transportation [2]	8,914	11,642
9(c) General Obligation - Parking Facilities [2]	9,850	11,101
Commonwealth Transportation Board	2,875,112	2,578,232
Virginia Public Building Authority	2,663,808	2,674,563
Virginia Port Authority	243,448	253,208
Virginia College Building Authority - 21st Century & Equipment	4,305,134	3,858,925
Virginia Biotechnology Research Park Authority	18,561	22,727
Capital Leases	42,620	117,913
Installment Purchases	166,705	139,680
Virginia Aviation Board	-	-
Economic Development Authority Obligations [3]	30,783	37,895
Subtotal Tax Supported Debt	$ 11,659,573	$ 11,118,372
Other Tax-Supported Debt		
Compensated Absences [2]	$ 631,282	$ 601,092
Pension Liability [2]	6,732,980	7,723,846
OPEB Liability [2]	2,817,710	1,914,363
Pollution Remediation Liability [2]	6,963	9,437
Other Liabilities [2]	30,948	33,680
Subtotal Tax Supported Debt Not Included in Capacity Model	$ 10,219,883	$ 10,282,418
Total Tax-Supported Debt	$ 21,879,456	$ 21,400,790

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

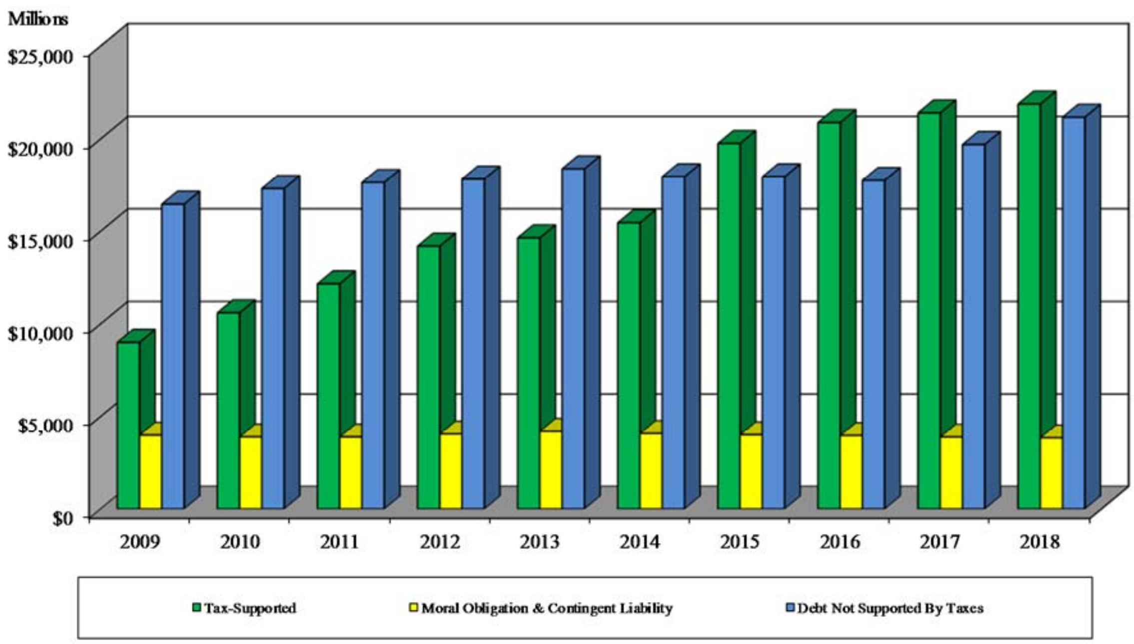
Debt of the Commonwealth
(Dollars in Thousands)

	As of June 30, 2018	As of June 30, 2017
Debt Not Supported by Taxes [1]		
Moral Obligation / Contingent Liability Debt		
Virginia Resources Authority	$ 927,834	$ 928,088
Virginia Housing Development Authority	-	-
Virginia Public School Authority - 1997 Resolution	2,347,525	2,387,335
Virginia Public School Authority - School Tax Credit Bond Program	359,566	359,566
Virginia Public School Authority - Equipment Technology Notes	196,305	199,905
Total Moral Obligation/Contingent Liability Debt	$ 3,831,230	$ 3,874,894
Other Debt Not Supported By Taxes		
9(d) Higher Education	$ 2,817,992	$ 2,224,501
Virginia College Building Authority - Pooled Bond Program	1,579,275	1,554,955
Virginia Public School Authority - Stand Alone Program	727,850	623,495
Virginia Housing Development Authority	3,301,380	3,737,479
Virginia Port Authority	291,985	294,757
Hampton Roads Sanitation District Commission	891,442	846,783
Hampton Roads Transportation Accountability Commission	582,425	-
Virginia Resources Authority	2,702,296	2,722,834
Grant Anticipation Notes (GARVEES)	1,153,617	992,214
Notes Payable	172,782	183,428
Other Long-Term Debt	370,284	335,885
Foundations	1,686,510	1,562,580
Pension Liability	174,059	209,273
OPEB Liability	162,931	28,058
Capital Lease Obligations	2,289,887	2,199,518
Compensated Absences	10,546	10,096
Tuition Benefits Payable	2,135,222	2,048,168
Lottery Prizes Payable	116,484	122,009
Total Other Debt Not Supported By Taxes	$ 21,166,967	$ 19,696,033
Grand Total of Tax Supported Debt and Debt Not Supported By Taxes	**$ 46,877,653**	**$ 44,971,717**

Source: Department of the Treasury and Department of Accounts

(1) Not Included In Debt Capacity Model

Outstanding Commonwealth Debt
Fiscal Years 2009-2018



Tax-Supported Debt Issued Fiscal Year 2019
Through December 15, 2018

Issuer	Date Issued	Par Amount
Virginia Port Authority, Commonwealth Port Fund Revenue Refunding Bonds, Series 2018 (Taxable)	July 26, 2018	$60,345,000
Commonwealth of Virginia, General Obligation Bonds, Series 2018A	August 14, 2018	$106,890,000

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, 2018	Available Authorization
Virginia Resources Authority	$1,500,000	$927,834	$572,166
Virginia Housing Development Authority	$1,500,000	$0	$1,500,000
Virginia Public School Authority	$800,000	$0	$800,000
Total	$3,800,000	$927,834	$2,872,166

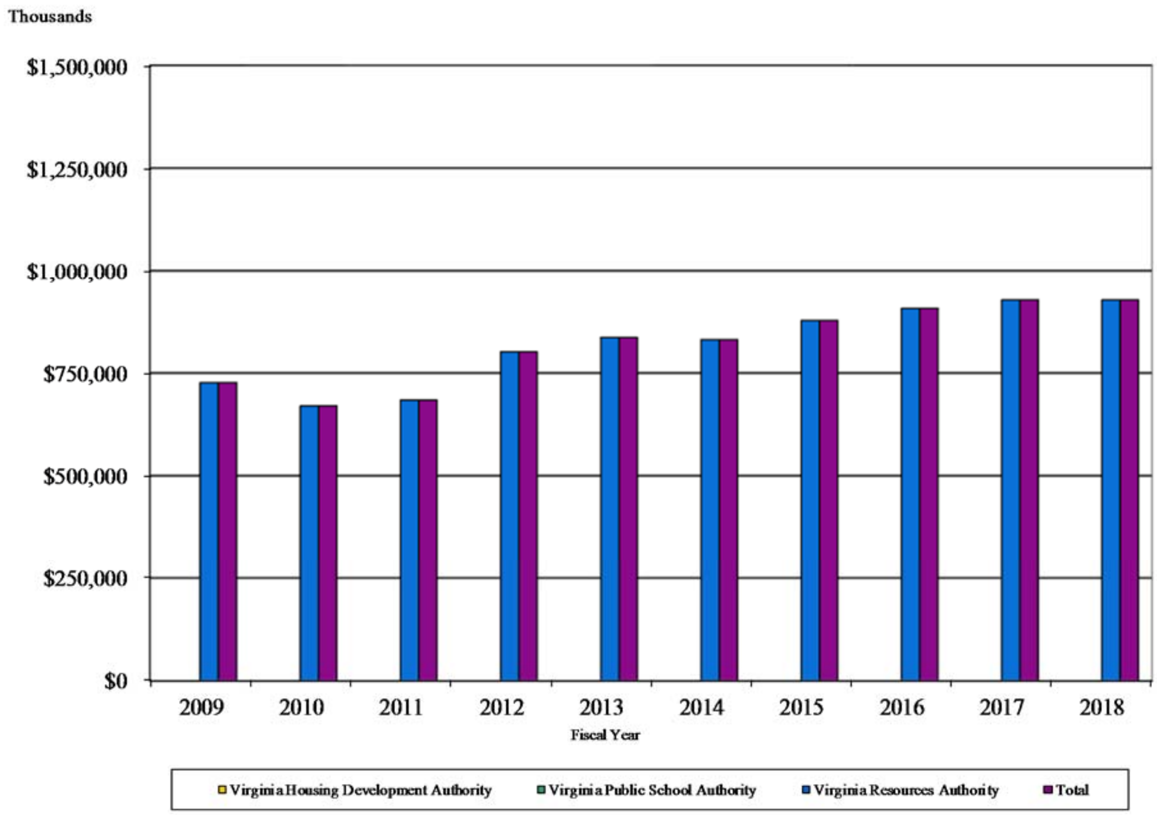
Alternative financing programs were initiated by the Virginia Housing Development Authority and the Virginia Public School Authority. Neither of these entities expect to issue additional moral obligation debt.

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, 2018 to tax-supported debt, the resulting average debt capacity is $593.34 million.

Outstanding Moral Obligation Debt
Fiscal Years 2009-2018



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 $2.35 billion of 1997 Resolution bonds outstanding as of June 30, 2018 and an additional $360 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, 2018, outstanding notes for school technology and security amounted to $196 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, 2018 to tax-supported debt, the resulting average debt capacity is $428.71 million.