# *COMMONWEALTH of VIRGINIA*

K. Joseph Flores
Secretary of Finance

P.O. Box 1475
Richmond, Virginia 23218

December 21, 2021

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 Suzette P. Denslow
Clerk of the House of Delegates
Virginia House of Delegates
Pocahontas Building
Richmond, Virginia 23219

Dear Governor Northam, Ms. Schaar, and Ms. Denslow:

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 2021.

Based on the debt capacity model, the Committee estimates that up to $1.10 billion in additional debt could be authorized and issued in each of fiscal years 2022 and 2023. 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. 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 2021 DCAC Model was calculated using the December 2021 Revenue Forecast produced by the Department of Taxation and a Transportation Trust Fund Revenue Forecast produced by the Department of Transportation based on Taxation's Commonwealth Transportation Fund Revenue Forecast. As with the prior year's DCAC Model, an exception was made regarding one-time, temporary revenues related to the Federal Tax Cuts and Jobs Act, which were excluded from projected revenues in future fiscal years. However, all other revenues were incorporated as presented in the 2021 December Revenue Forecast. As such, any proposed tax policy changes associated with the Governor's next biennial budget are accounted for in the Model beginning in fiscal year 2022. Most of the proposed tax policy changes that are included in the December Revenue Forecast are anticipated to reduce revenues in future fiscal years. As such, should these proposed tax policies fail to be adopted, it would only serve to increase the Commonwealth's revenue and accordingly, projected debt capacity.

The Committee acknowledged that many economists and financial market professionals are forecasting interest rates to begin to rise in 2022 as the Federal government begins to scale back the monetary policies that were put in place to combat the economic impacts of the pandemic. Given the Model's structure for determining an interest rate proxy is based on three years of historical data, it is important to note that if interest rates finally rise, it is possible for a future issuance rate to exceed the current Model interest rate of 2.42%. With more than $5 billion of authorized and unissued debt included in the Model, it is important to note that a 100 basis point increase to the Model interest rate results in a $128 million decline in annual capacity to $975 million a year. Given there is typically a delay between debt authorization and issuance and the potential for rates to rise before any debt authorized in the 2022 Session of the General Assembly is issued, the implications of a future rise in interest rates should be considered.

The Committee also discussed Virginia's increasing debt level over the last 10 years. As noted above, there is a significant amount of authorized and unissued debt. Given the many uncertainties related to the pandemic and the unprecedented increase to the revenue forecast that is driving a doubling of debt capacity compared to last year, the Committee would urge caution to policymakers.

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. As such, the report encourages the continued use of fiscally prudent practices such as establishing a structurally balanced budget and contributing to the reserve fund balances during periods of economic expansion, as failure to follow these practices could result in a negative bond rating action.

Sincerely,

K. Joseph Flores, 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 21, 2021**

# Debt Capacity Advisory Committee Members

The Honorable K. Joseph Flores – Chairman
Secretary of Finance

Manju S. Ganeriwala
State Treasurer

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

Staci Henshaw
Auditor of Public Accounts

April R. Kees
Staff Director, Senate Finance & Appropriations Committee

Anne E. Oman
Staff Director, House Appropriations Committee

Hossein Sadid
Citizen Member

Ronald L. Tillett
Citizen Member

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

David A. Von Moll
State Comptroller

## 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.

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 beginning with the 2018 DCAC Model, the 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"). The Department of Taxation advised that the Committee should continue to adjust general fund revenues to remove estimated temporary TCJA revenues, and as such, the 2021 DCAC Model continues to adjust future general fund revenue estimates to account for one-time TCJA revenues.

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.

## Potential Influencing Factors for Virginia's Fiscal Position

Following the worldwide turmoil caused by the COVID-19 pandemic in 2020, the economic outlook for 2021 was one of great uncertainty, but cautious optimism. With vaccine rollouts on the horizon, a quick recovery in financial markets and consumer spending, and many employers successfully transitioning to a work-from-home environment, there was hope that 2021 would be a better year.

Ultimately, many of these hopes were recognized, as 2021 saw Virginia and much of the nation bounce back from the economic woes that plagued much of 2020. Strong consumer spending continued in 2021, helping to bolster Virginia's sales and use taxes, particularly through internet sales. In addition, large amounts of Federal aid were given to state governments through the passage of the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act") and the American Rescue Plan Act ("ARPA"). Virginia and its local governments received approximately $3.3 billion in aid through the CARES Act and approximately $7.2 billion in aid through ARPA. With widespread vaccine distribution, sizeable Federal aid, recovering employment rates, and strong consumer spending, fiscal year 2021 proved to be one of Virginia's best financial years on record, with a $2.6 billion surplus. Despite these positive trends in 2021, the pandemic is still ongoing, and the future is anything but certain. New variants of the COVID-19 virus, rising inflation rates, and labor shortages continue to pose risks to the economic recovery experienced in 2021.

COVID-19 vaccinations became widely available nationwide in the first half of 2021. CDC data as of December 15, 2021 indicates that 72.3% of the U.S. population has received at least one dose

of the vaccine, with Virginia's single-dose vaccination rate at 75.7%. Including only adults over the age of 18, Virginia's single-dose vaccination numbers increase to 87.2%, compared to 84.6% nationally. As vaccines became available and vaccination rates climbed, case counts steadily dropped from their peak in January of 2021 to a low point in June of 2021. However, the Delta variant of the COVID-19 virus that hit the nation over the summer of 2021 proved that the pandemic is still far from over. In recent days, another new variant of the virus, Omicron, has begun to spread, and the impact of this variant is still yet to be seen. As we move into 2022, there is still great uncertainty surrounding the virus and how it may impact Virginia's economy in the future.

Virginia has worked diligently to cultivate a diverse employment base. However, there is still a strong concentration of federal, defense, and related contracting employment in the Northern Virginia and Hampton Roads areas. As a result, Virginia tends to experience mitigated employment losses during economic downturns, but lags in employment gains during recoveries, and this most recent recession proved this trend again. According to data from the Bureau of Labor Statistics and the US Department of Labor, Virginia's employment losses of 11.7% trailed the national employment loss of 14.7% at the peak of the pandemic. However, as of October of 2021, Virginia had only regained 72.2% of those jobs lost, while 81.7% of jobs lost were regained nationally. Overall, Virginia's unemployment rate remained below the national average throughout the recession and subsequent recovery. As of October of 2021, the most recent month of unemployment data released by the Virginia Employment Commission, Virginia's unemployment rate had dropped to 3.6%, below the national rate of 4.6%. Virginia's higher education levels compared to the U.S. allowed many Virginians to transition to teleworking, which likely contributed to Virginia's resilience to job losses during the pandemic. However, not everyone was able to transition to telework, particularly in the service and hospitality industries. This inability to work from home, combined with low average wages in these industries, led many employees to quit their jobs. As a result, a nationwide labor shortage is currently impacting the economy, and it remains to be seen if these labor shortages are temporary or more long-term.

Historically low interest rates continued in 2021 as the Federal Reserve held overnight borrowing rates near zero. As a result, well positioned municipal borrowers like the Commonwealth have been able to take advantage by issuing debt for capital projects at historically low rates. These low rates have permeated all sectors of the economy, and combined with federal stimulus, drove consumer spending and borrowing during the pandemic. However, the pandemic's impact on the global supply chain and labor markets has led to growing issues with manufacturing and logistics and has sent inflation rates upwards across most sectors of the economy. As of November 2021, the U.S. annual inflation rate was 6.8% as measured against prices as of November of 2020, the highest inflation rate since 1982. Most of the inflation growth was driven by energy prices (up 33.3% year-over-year), food prices (up 6.1% year-over-year), and used vehicle prices (up 31.4% year-over-year). It remains to be seen if this inflation trend is transitory or a more long-term trend, and continued inflation could lead to future interest rate increases. Inflated construction costs, supply chain delays, and the threat of rising interest rates all pose potential risks to the Commonwealth's future capital asset planning and cost of capital.

On November 15, 2021, the $1.2 trillion Infrastructure Investment and Jobs Act (the "Infrastructure Act") was signed by President Biden, which includes more than $7 billion in Federal aid for highway projects in Virginia, of which $1.5 billion is for newly authorized projects. Virginia will also receive $537 million for bridge replacement and repair projects and will be able to compete for a portion of the $12.5 billion made available to repair "economically significant" bridges and a portion of the $16 billion made available for "major transportation projects that will deliver substantial economic benefits to communities". In addition, Virginia will receive $1.2 billion to improve public transportation, which include public transit and railway infrastructure. While it still remains to be seen exactly how much funding Virginia will receive, how this funding will be used, what will be required of the Commonwealth to secure these funds, and when the funding will be made available, it is possible that this Federal funding could drive the Commonwealth forward on needed transportation projects in coming years. Outside of transportation, Virginia will receive $106 million to expand electric vehicle charging networks, $100 million to expand broadband access, $15 million to prevent wildfires, $21 million to enhance cyber security, $738 million to improve water infrastructure, and $386 million to improve airport infrastructure.

As Virginia ends 2021, the Commonwealth will soon transition to the leadership of a new Governor. While the Commonwealth is well positioned for the new Administration, there is still much uncertainty on the horizon, and fiscal prudence will remain important going forward.

## 2021 Debt Capacity Recommendations

The 2021 Base Model Solution – Average debt capacity calculation (Appendix A-8) shows that an additional $1.10 billion in debt could be authorized and issued in each of 2022 and 2023. This amount of new authorization and issuance will cause projections of debt service as a percent of Blended Revenues to remain below the 5% debt capacity limit throughout the ten year projection period, with the 2 year excess capacity requirement acting as the limiting factor to the average debt capacity solution.

## 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 State-wide 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 11 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.

c) The Committee is cognizant of the Commonwealth's increasing outstanding debt over the last 10-years, which can be seen graphically compared to U.S. and triple-triple A state medians, as calculated by Moody's, on pages 20 and 21 of this report. These sections also detail debt ratios of each of Virginia's triple-triple A peers. Between the 2012 and 2021 Moody's Medians Reports, Virginia increased from the 16$^{th}$ highest net tax-supported debt to the 10$^{th}$ highest and it's other comparative ratios also increased, going from the 26$^{th}$ highest net tax-supported debt per capita to the 15$^{th}$ highest and the 30$^{th}$ highest net tax-supported debt as a percentage of personal income to the 17$^{th}$ highest. These numbers only consider the debt outstanding as of the prior calendar year-end and do not contemplate the additional $5.7 billion of authorized and unissued tax-supported debt as of June 30, 2021, of which $5.0 billion is net of 9(c) debt and is included in the DCAC Model. Given the continued impacts of the pandemic, global supply chain delays, rising inflation, and the risk of future interest rate increases, it is prudent that any new tax-supported debt authorizations be planned carefully with these uncertainties in mind. Consideration should also be given as to whether any existing authorizations of projects not under construction should be rescinded or amended.

## 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 State-wide 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 was established by the General Assembly in Chapters 11, 12, 13 and 15 of the Acts of the Assembly, 1986 Special Session (the 1986 Special Session Acts), as a special non-reverting fund administered and allocated by the Commonwealth Transportation Board (CTB) for the purpose of increased funding for construction and other capital needs of state highways, airports, mass transit and ports. Chapters 1230 and 1275 of the Acts of the General Assembly of the Commonwealth of Virginia 2020 Regular Session (Chapters 1230 and 1275) enacted numerous structural changes to the transportation funding system in the Commonwealth. These changes generally became effective July 1, 2020.

Under Chapters 1230 and 1275, transportation-related revenues are directed to a new a special non-reverting fund known as the Commonwealth Transportation Fund, and the distribution of revenues is streamlined, based on codified formulas, to sub-funds established to meet the varying transportation needs and different modes of transportation in the Commonwealth. The Transportation Trust Fund continues to be funded primarily from the initial base of revenues specified by the 1986 Special Session Acts, as amended, including the retail sales and use tax, motor fuels tax and motor vehicle related taxes and fees. Chapters 1230 and 1275 made changes to and added to these revenue sources.

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

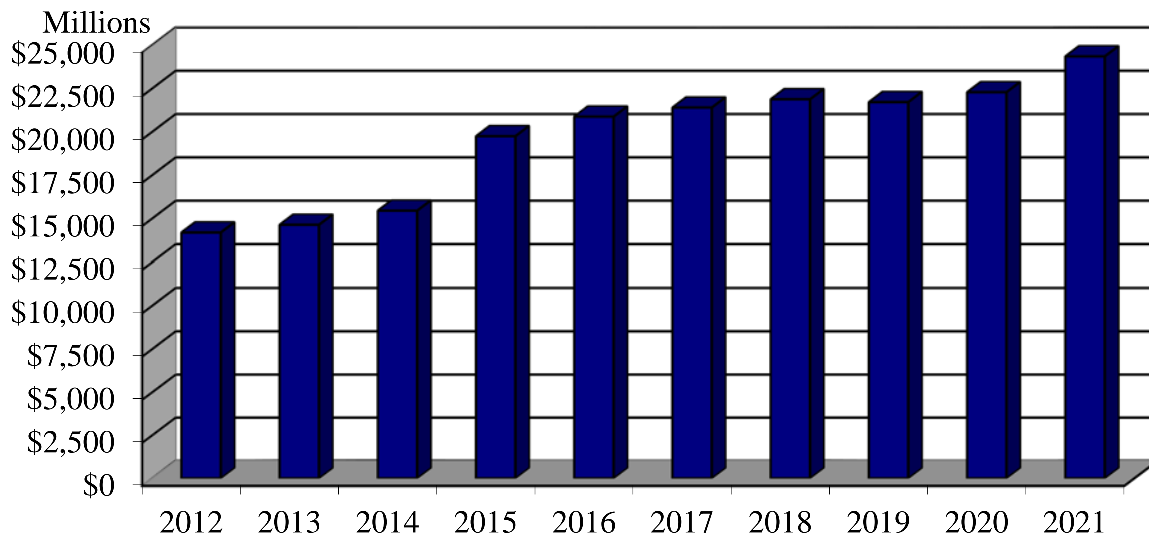
Commonwealth. The strength of the Commonwealth appropriation pledge and the depth of resources available for repayment may result in a higher rating than if secured by the TTF alone.

The 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. Historically, transportation specific debt service as a percentage of TTF revenues has greatly exceeded 5%. From fiscal year 2012 through fiscal year 2021, TTF debt service as a percentage of TTF revenues ranged from 14.0% to 20.5%. 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. Model projections indicate that TTF debt service as a percentage of TTF revenues will continue to exceed 5% going forward, with projected TTF debt service to TTF revenue ratios ranging from 11.2% to 13.2%.

## Trends in Tax-Supported Debt

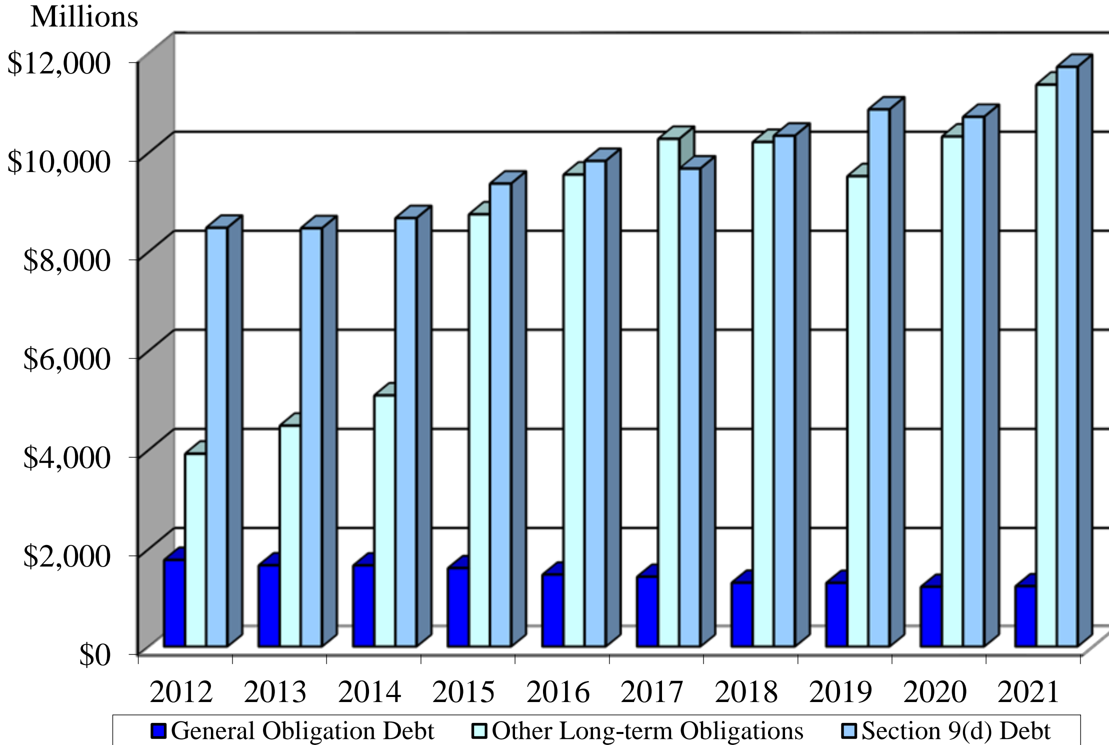
Outstanding tax-supported debt of the Commonwealth increased by 72%, or $10.2 billion, from $14.2 billion in fiscal year 2012 to $24.4 billion in fiscal year 2021. The significant increase is the result of growing 9(d) debt outstanding and overall increases in pension and other post-employment benefits (OPEB) liabilities, some of which is due to underlying growth and some of which is the result of financial reporting changes. Outstanding tax-supported debt increased by $2.1 billion, or 8.5%, between fiscal year 2020 and fiscal year 2021. The primary drivers of the growth in tax-supported debt during the most recent fiscal year were increases in 9(d) appropriation supported debt and increasing pension liabilities, which together accounted for $2.05 billion of the $2.1 billion increase in tax-supported debt during FY2021. 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 2012-2021[(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 2012-2021[(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, 2021 balance outstanding of $1.24 billion, peaked in fiscal year 2012 and has declined 30%, or $540 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. From fiscal year 2011 onward, any new issuances of general obligation debt came solely 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. Despite the regular issuance of new 9(c) debt, total GO debt levels declined annually from fiscal year 2012 through fiscal year 2020 as the payoff of existing 9(b) debt outpaced the issuance of new 9(c) debt. However, in fiscal year 2021, the outstanding GO balance increased 1%, or $12 million, as 9(c) bond issuances outpaced the payoff of 9(b) bonds.

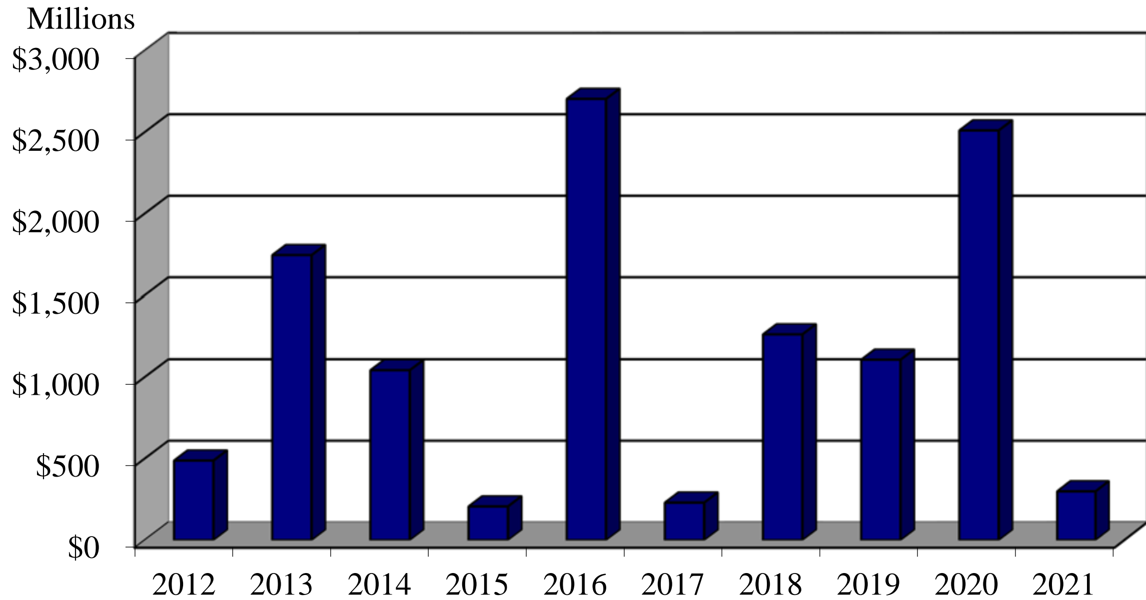
Section 9(d) debt includes tax-supported bonds issued by the VCBA, the VPBA, the CTB, and certain obligations of the Virginia Port Authority. It also includes bonded capital leases, other long-term capital leases, and installment purchases. This debt category has shown significant dollar growth over the last ten fiscal years, increasing $3.25 billion during the ten-year period. Total outstanding Section 9(d) debt at June 30, 2021 was $11.74 billion compared to $8.49 billion at fiscal year-end 2012, which is equivalent to a 38% 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, 2016, 2018, 2019, and 2020. The large amount of new 9(d) authorizations in recent years led to a sharp increase in 9(d) issuance in fiscal year 2021. The outstanding balance of Section 9(d) debt increased 9%, or $1.01 billion, from fiscal year 2020 to fiscal year 2021, the largest increase in this type of debt since fiscal year 2012. Fiscal year 2021 saw a relatively lower amount of new 9(d) debt authorizations, with $264.5 million in new 9(d) debt authorized. However, project spending has not slowed amid the pandemic and an increase in debt issuance is anticipated in the near-tem as earlier authorizations continue to be issued. In addition, the implementation of the Governmental Accounting Standards Board (GASB) Statement 87 in fiscal year 2022 will lead to a reporting change in lease obligations beginning next year as operating leases with terms greater than a year will begin to be considered along with capital leases as simply lease obligations.

Other long-term obligations have experienced the most growth, increasing $7.45 billion, or 190%, from $3.93 billion at fiscal year-end 2012 to $11.38 billion at fiscal year-end 2021. 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, other long-term obligations declined less than 1% between fiscal year 2017 and 2018 and continued to decline 7% between fiscal year 2018 and 2019. However, the two-year blip downwards came to a halt in fiscal year 2020, with other obligations growing by $801 million during the fiscal year. Between fiscal year 2020 and fiscal year 2021, other long-term obligations increased by another $1.05 billion, which equates to a 9% increase. The increase during fiscal year 2021 was attributable primarily to an increase in pension liabilities of $1.05 billion, or 14%.

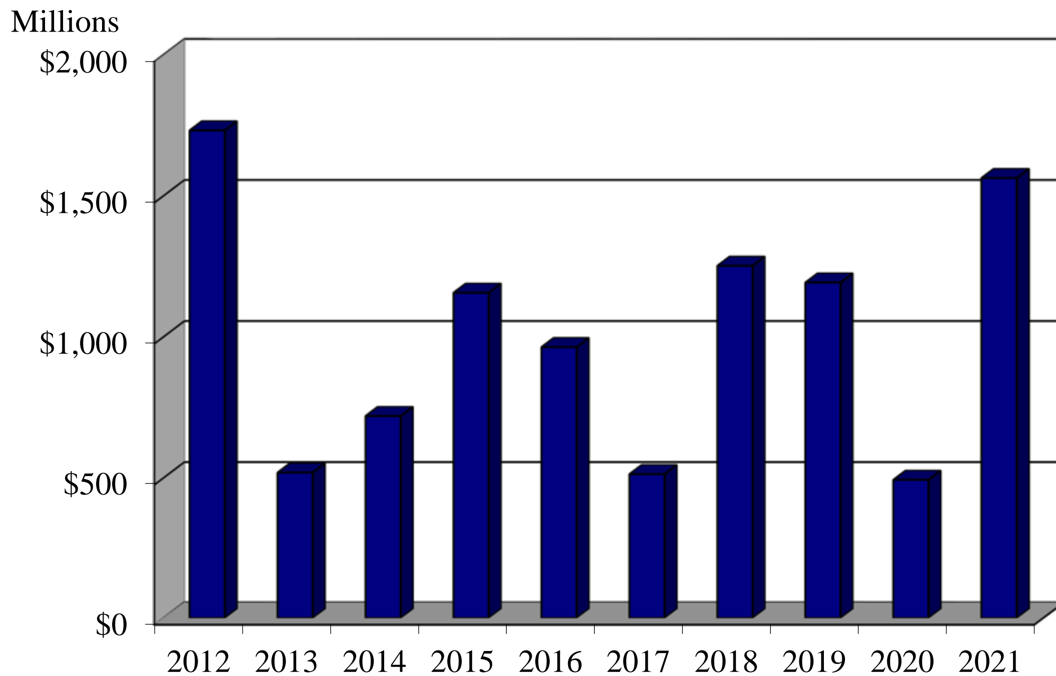
The following two charts illustrate the amounts of total tax-supported debt authorized and issued from fiscal years 2012 to 2021. Over the 10-year period, $11.59 billion of tax-supported debt was authorized across various programs with the majority authorized for VCBA and VPBA. In fiscal year 2021, authorizations amounted to $299 million. Authorizations in a given year ranged from $206 million in fiscal year 2015 to more than $2.7 billion in fiscal year 2016. In four of the ten years, authorizations were below $500 million, while in the other six years authorizations were above $1 billion, with three of those amounts exceeding $1.5 billion and two years with authorizations greater than $2 billion. As can be seen in the graph that follows, significant authorizations can occur in both even and odd years and are not always related to a new two-year budget being passed. However, it is more common for higher authorizations to occur with the passage of a new two-year budget.

**REPORT OF THE DEBT CAPACITY ADVISORY COMMITTEE**
**December 21, 2021**

### Tax-Supported Debt Authorizations
### Fiscal Years 2012-2021
**$11.59 Billion in Authorizations**




### Tax-Supported Debt Issued
### Fiscal Years 2012-2021
**$10.11 Billion in Issuances**

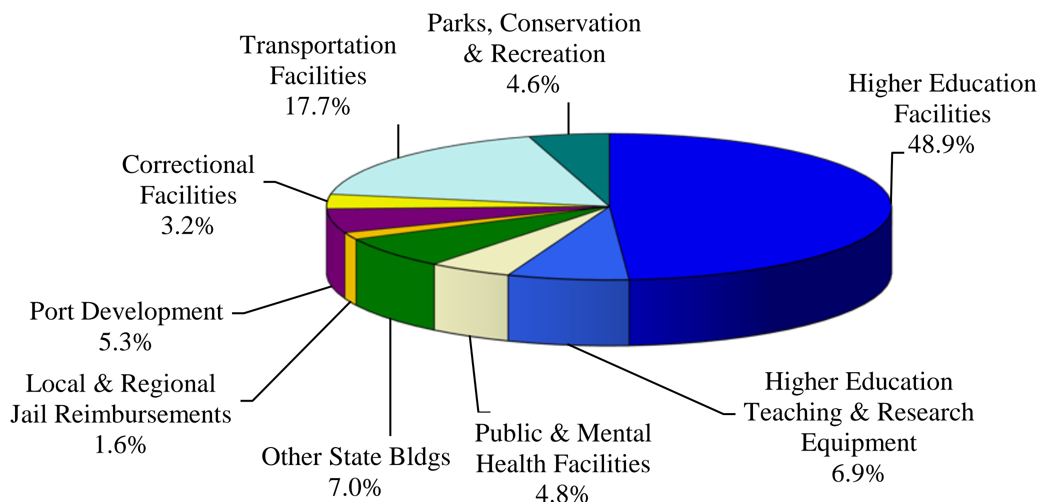


Between fiscal year 2012 and fiscal year 2021, $10.11 billion of new tax-supported debt was issued with $1.56 billion of that amount issued in fiscal year 2021. Annual debt issuance, refundings excluded, ranged from a low of $494 million in fiscal year 2020 to as much as $1.73 billion in fiscal year 2012. Issuances of less than $1 billion in a fiscal year have occurred five times over the last ten years. Bond issuances are based on the cash flow needs of authorized projects and are not market driven. As such, authorizations do not result in the immediate issuance of associated bonds. Despite $11.59 billion of authorizations within the last 10-years, there was $1.48 billion less in actual issuances. With the June 30, 2021 authorized and unissued debt amounting to $5.75 billion, of which $5.05 billion is for 9(d) projects, it is likely that significant issuances will continue over the next several years even if additional debt authorizations are restrained during the 2022 General Assembly Session.

## 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 $10.11 billion issued, 56% 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 18%. (Note: transportation projects financed with federal revenues are not considered tax-supported debt and are not included.)

**Uses of Tax-Supported Debt Issued**
**FY 2012 - FY 2021**

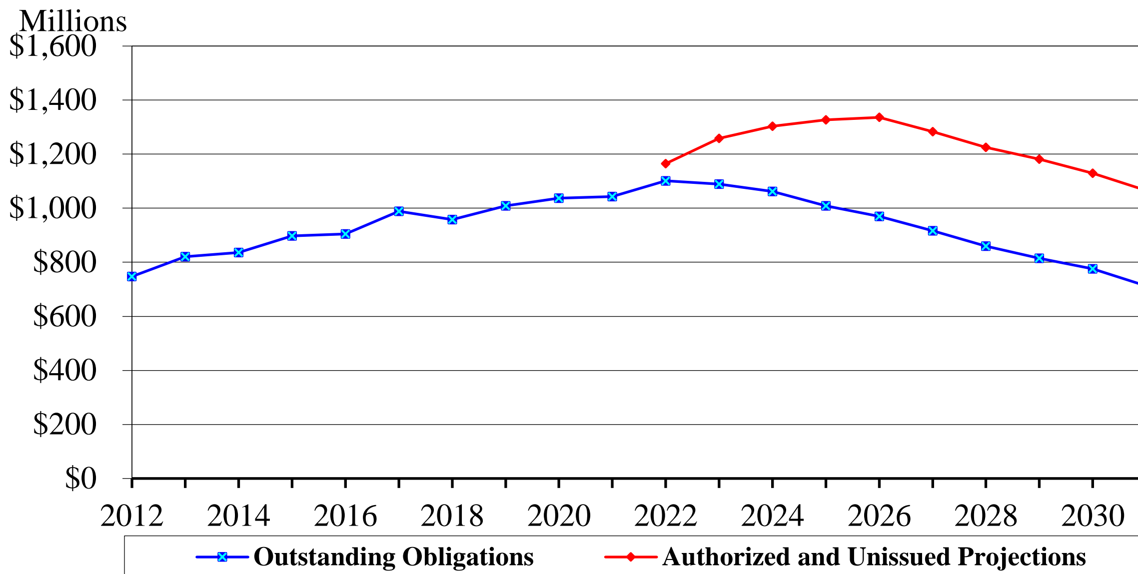



Ten-year Total = $10.11 Billion

## Debt Service

Amounts paid annually for debt service have increased over the last ten years. The increase has been both on an absolute basis, and through fiscal year 2017, as a percentage of Blended Revenues compared to ten years ago. However, as revenues have also increased and Virginia has been able to take advantage of historically low interest rates, debt service as a percentage of Blended Revenues has declined in each of the last four fiscal years from a peak of nearly 4.7% in fiscal year 2017 to a ten-year low of 3.7% in fiscal year 2021. Future debt service payments, including payments on existing debt and estimated payments on authorized but unissued debt, are projected to increase through fiscal year 2026, and then decline annually through fiscal year 2031 as existing debt is retired. However, as revenue projections have increased, debt service as a percentage of Blended Revenues is only projected to increase through fiscal year 2023 before declining annually through fiscal year 2031. Annual debt service, including the estimated debt service on all currently authorized but unissued amounts and capital leases and installment purchases, is illustrated below.

**Tax-Supported Debt Service: Actual and Projected**
**Fiscal Years 2012 – 2031[(1)]**



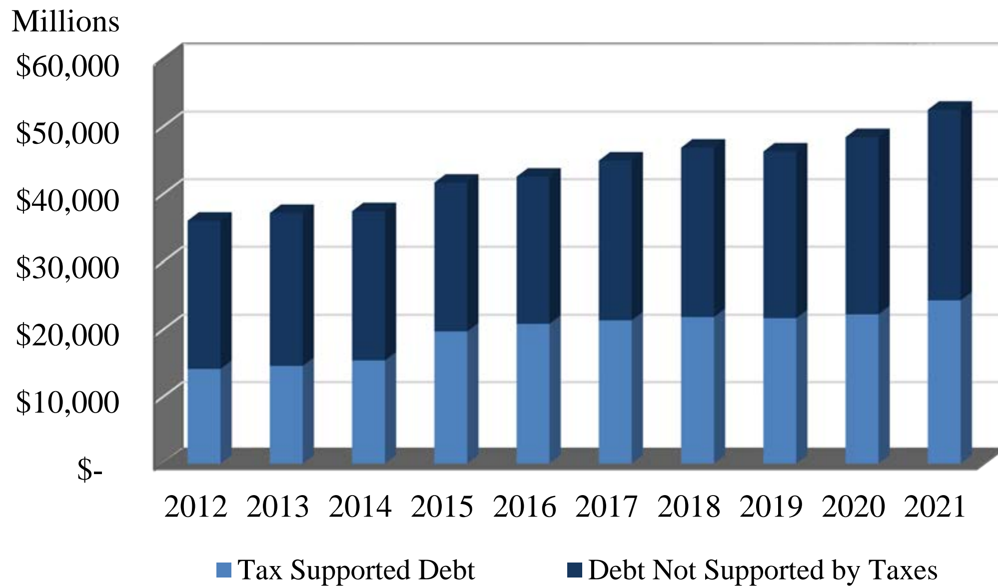

(1) Assumes authorized debt is issued in future periods in accordance with the Model's current assumptions. Past data includes lease revenue bonds issued by the Virginia Biotech Research Park Authority and Newport News Industrial Development Authority.

## Review of Other Debt Not Supported by Taxes

In addition to the various forms of tax-supported debt discussed in the previous sections of this report, Virginia also has a substantial amount of other long-term obligations that are not supported by taxes. These other debts not supported by taxes include the 9(d) obligations of Virginia's higher education institutions for which general revenues of the institutions are pledged, obligations of the Commonwealth's various debt issuing agencies and authorities for which general tax revenues are not pledged as security for the debt, GARVEE's for which the debt is secured by Federal grants, the obligations of various State Foundations, certain portions of notes payable, certain portions of pension and OPEB liabilities, capital leases, and installment purchases for which payment is not secured by general tax revenues, tuition benefits payable, and lottery prizes payable. While these debt obligations do not impact the State's debt capacity, they are still long-term obligations reported in the Commonwealth's Annual Comprehensive Financial Report ("ACFR") and should be noted, particularly given the growth in these obligations.

The Commonwealth's other debt not supported by taxes has grown significantly over the last ten fiscal years, increasing from $21.9 billion in 2012 to $28.1 billion in 2021, an increase of $6.3 billion, or 28.3%. While most categories of debt not supported by taxes saw growth over the last ten fiscal years, the primary drivers were growing 9(d) higher education obligations, GARVEE's, capital leases, and obligations of the Hampton Roads Transportation Accountability Commission. Other debt not supported by taxes that carry either a moral obligation pledge or contingent liability pledge totaled $3.8 billion as of June 30, 2021, and these obligations actually decreased by $252 million over the last ten years, or (-6.25%).

As of June 30, 2021, Virginia's total debt outstanding was $52.5 billion, which represented an increase in total debt of $16.4 billion over the last ten years, or 45.6%. Virginia's total debt, broken out by tax-supported debt and other debt not supported by taxes, is illustrated on the following page.




## 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.

While coronavirus recovery is still a top concern of the rating agencies, Virginia was well positioned to react to the recession and weathered the early impacts of the pandemic well. Federal aid in 2021 played a key role in helping Virginia come out of 2021 in strong financial position, with Virginia and its local governments receiving $3.3 billion from the CARES Act and $7.2 billion from ARPA, with $7.4 billion of those Federal dollars being directly allocated to the Commonwealth for use in combatting the impacts of the pandemic. Virginia's focus on developing structurally balanced budgets and the efforts to replenish reserve funds in recent years are seen as solid steps that helped prepare the Commonwealth for the pandemic. Virginia ended 2021 with total dedicated reserves of $1.5 billion, up from $1.1 billion at the end of 2020. Each of the rating agencies has continued to note Virginia's strong liquidity and financial management and they have recognized Virginia's increased reserves and the development of budget plans that balance

priorities rather than taking from already deposited reserve funds. Based on the Governor's introduced 2022-2024 biennial budget, total dedicated reserve funds are projected to increase to $2.7 billion by fiscal year-end 2022 and to $3.9 billion by fiscal year-end 2023. Virginia's Constitution provides limitations on the use of the Revenue Stabilization Fund and requires its replenishment, which are factors that the rating agencies note as positives for Virginia's credit. Rating agencies also note the General Assembly's ability to raise taxes and the Governor's ability to implement budget cuts as additional flexibilities that allow for revenue generation and expense cutting in times of need.

Virginia's economy is significantly influenced by the federal government through both direct employment and contract spending. This relationship can have a positive impact on Virginia's revenues, as is the case during the pandemic, but it also places Virginia at risk as potential federal government shutdowns and downsizing loom. Other credit challenges noted in ratings reports relate to the general issue of controlling growing spending needs in the education and transportation sectors, managing Medicaid costs, and combatting climate change and sea level rise. Unfunded pension liabilities are also becoming increasingly important to state credit ratings and investors alike. Except for the concentration of federal government related employment, many of these challenges span the municipal sector and are not unique to Virginia. In addition, the Federal aid and future Infrastructure Act funding received by the Commonwealth will help address many of these areas of concern.

While Virginia finished fiscal year 2021 with a large surplus, it will remain important for Virginia to be conservative with its fiscal management going forward. Virginia must ensure that the Federal aid received during the pandemic is used efficiently and effectively, while remaining cautious with its future budgets and revenue projection should the ongoing threat of the pandemic lead to additional economic downturns. Rating agencies note that should the Commonwealth return to a practice of a structurally unbalanced budget that utilizes one-time revenues to fund ongoing expenses, or should an extensive reliance on reserve funds deplete this cushion, an action to lower the Commonwealth's rating would be considered.

It is conservative financial management that resulted in the award of AAA bond ratings and it is those bond ratings that result in Virginia's low cost borrowing that helps create budget flexibilities. A loss of even one AAA rating would prove costly not only to Virginia's reputation, but it would also result in higher debt service costs and reduced budget flexibility.

## 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). The *State Debt Medians 2021 Report*, which was published on June 14, 2021 and includes data as of the prior calendar year end, has been reviewed and certain data and analytical opinions from Moody's are incorporated herein.

In recent years, Moody's has continued to predict modest growth in new debt issuances. The *State Debt Medians 2021 Report* noted that while total NTSD increased by 2.5% in 2020, the largest increase since 2010, that a substantial portion of this growth was driven by pandemic induced borrowing by a few large states, some of which is expected to be repaid quickly. Some of this growth in 2020 was also noted as being a result of states taking advantage of historically low interest rates to upgrade physical assets. The *State Debt Medians 2021 Report* noted that capital asset depreciation ratios indicate that some states may face increased demand for investment in buildings, roads, and other infrastructure in coming years, which could drive state debt issuance in the near future.

In the 2021 Report, Moody's noted that the pandemic induced recession reduced economic growth for the year, with 46 states seeing a decline in Gross Domestic Product ("GDP"), causing the median NTSD as a percentage of GDP to rise. However, federal pandemic aid to American citizens bolstered personal income levels, resulting in median NTSD to personal income to fall to a 20 year low of 1.92%. Early in the pandemic, Moody's noted that state debt issuances were initially being cancelled or postponed, but it was also speculated that debt issuances could increase during calendar year 2020 due to debt restructurings, deficit financing, and a switch from pay-go back to debt financing as revenues were expected to diminish. However, as the pandemic progressed, early predictions of the negative fiscal impacts of the pandemic proved to be overstated, and the recession was relatively short lived. The quick economic rebound combined with substantial Federal aid resulted in many states finding themselves in a strong financial position at the end of 2020, with some seeing large surpluses. As a result, low interest rates will continue to present opportunities for well-positioned governments to potentially increase capital investment through debt financing, which may lead to increased debt levels noted in next year's report.

Moody's reported that the 2020 median nationwide NTSD per capita declined 3.0% to $1,039. Virginia moved up one spot to the 15$^{th}$ highest debt per capita from 16$^{th}$ in the previous report. Moody's reported Virginia's NTSD per capita as $1,746 in the most recent report.

Moody's reported that median nationwide NTSD as a percentage of personal income remained flat in 2020 at 1.9%. Over the last ten years, this metric has seen a steady decline nationwide, reflecting state's more restrained approaches to debt issuance over the last decade. However, Virginia has seen this metric increase over the same period. Virginia's NTSD as a percentage of personal income remained flat in 2020 at 2.8%. However, in the current report, Virginia's ranking for this metric jumped up two spots to 17$^{th}$ highest from 19$^{th}$ highest the previous year.

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 21 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 2011-2020**
**PROVIDED BY MOODY'S INVESTORS SERVICE**

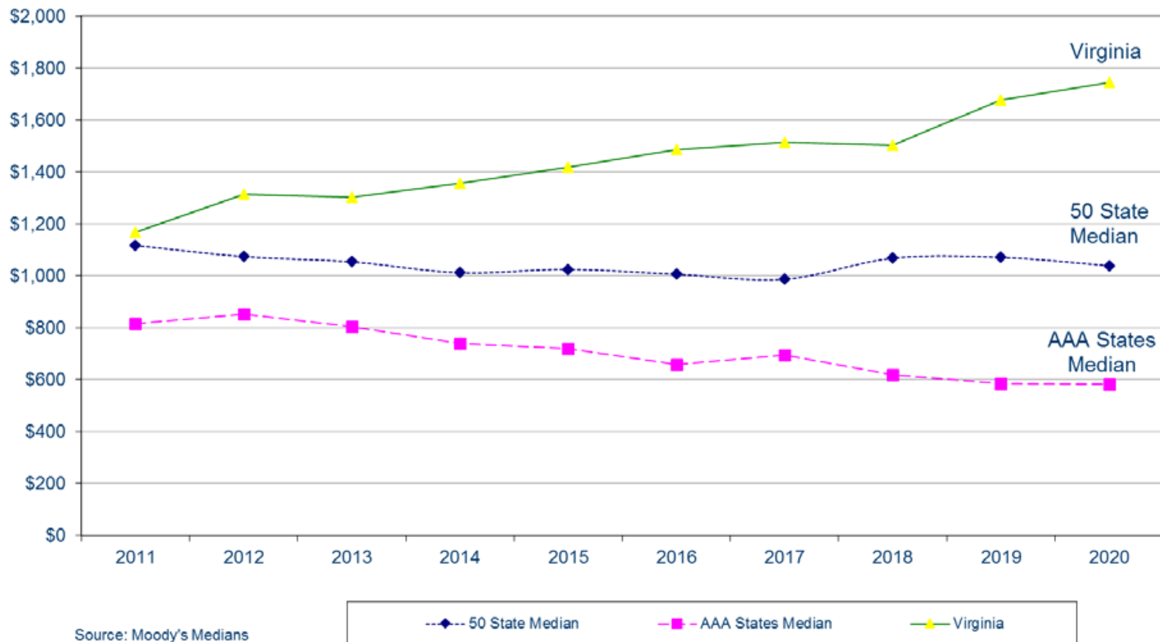
**Net Tax-Supported Debt per Capita (1)**

| | 2020 Ranking | 2020 | 2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Delaware | 6 | $3,400 | $3,289 | $3,206 | $2,587 | $2,544 | $2,385 | $2,438 | $2,485 | $2,536 | $2,674 |
| Maryland | 9 | 2,410 | 2,323 | 2,343 | 2,164 | 2,122 | 1,928 | 1,889 | 1,791 | 1,799 | 1,742 |
| **VIRGINIA** | **15** | **1,746** | **1,677** | **1,502** | **1,515** | **1,486** | **1,418** | **1,356** | **1,302** | **1,315** | **1,169** |
| Georgia | 28 | 987 | 971 | 996 | 986 | 992 | 1,029 | 1,043 | 1,064 | 1,061 | 1,099 |
| Utah | 29 | 866 | 720 | 792 | 772 | 824 | 921 | 1,060 | 1,187 | 1,275 | 1,393 |
| Florida * | 32 | 710 | 780 | 812 * | 889 * | 961 * | 1,038 * | 973 * | 1,008 * | 1,087 * | 1,167 * |
| North Carolina | 35 | 581 | 586 | 531 | 611 | 659 | 721 | 739 | 806 | 853 | 815 |
| South Dakota * | 38 | 482 | 493 | 618 | 694 | 641 * | 652 * | 547 * | 391 * | 355 * | 358 * |
| Missouri | 41 | 413 | 464 | 487 | 532 | 579 | 574 | 606 | 668 | 699 | 741 |
| Texas * | 42 | 365 | 379 | 389 | 410 | 383 | 383 | 406 | 614 * | 580 * | 588 * |
| Tennessee* | 44 | 266 | 292 | 305 | 312 | 322 | 298 * | 327 * | 324 * | 343 * | 343 * |
| Indiana * | 45 | 233 | 251 | 270 | 295 | 310 | 463 * | 474 * | 533 * | 424 * | 446 * |
| Iowa | 47 | 157 | 150 | 207 | 219 | 228 | 239 | 250 | 275 | 287 | 310 |
| | | | | | | | | | | | |
| Median All States | | 1,039 | 1,071 | 1068 | 987 | 1,006 | 1,025 | 1,012 | 1,054 | 1,074 | 1,117 |
| AAA Median | | 581 | 586 | 618 | 694 | 659 | 721 | 739 | 806 | 853 | 815 |
| AAA Average | | 970 | 952 | 958 | 922 | 927 | 927 | 931 | 958 | 970 | 988 |

** State was not triple triple A during entire 2011-2020 period.*

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

## Net Tax-Supported Debt Per Capita
## Virginia Versus Moody's U.S. 50-State Median and other AAA States
## 2011 – 2020



# REPORT OF THE DEBT CAPACITY ADVISORY COMMITTEE
## December 21, 2021

**AAA/Aaa/AAA STATE DEBT BURDENS FROM 2011-2020**
**PROVIDED BY MOODY'S INVESTORS SERVICE**

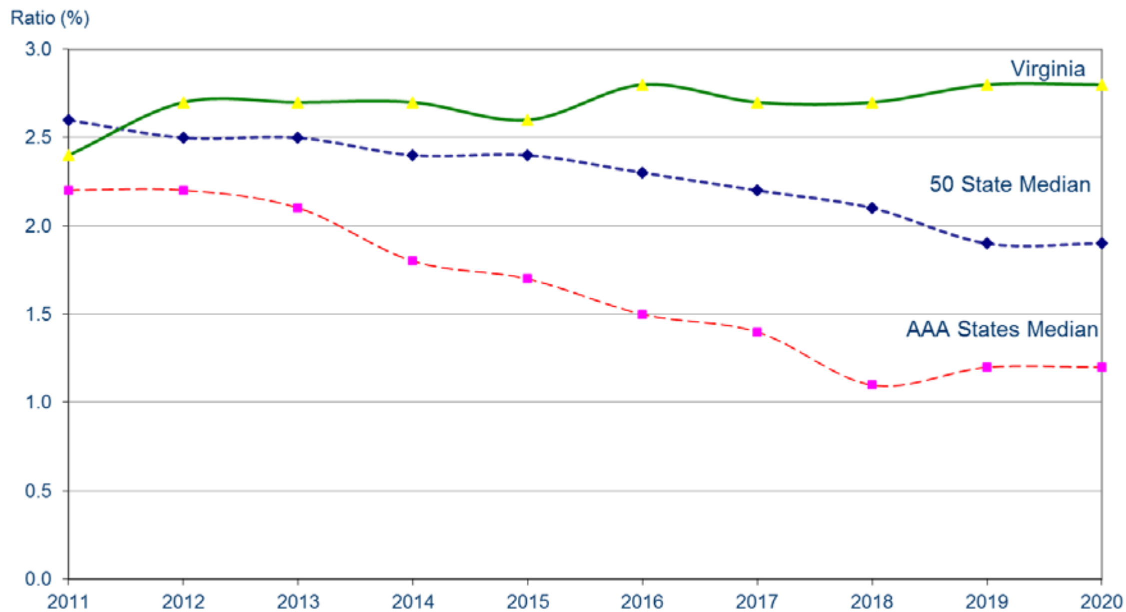
**Net Tax-Supported Debt as Percent of Personal Income (1)**

| | 2020 Ranking | 2020 | 2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Delaware | 5 | 6.0 | 6.0 % | 6.1 % | 6.1 % | 6.3 % | 6.2 % | 6.6 % | 5.6 % | 5.8 % | 6.1 % |
| Maryland | 13 | 3.5 | 3.6 | 3.7 | 3.6 | 3.5 | 3.4 | 3.5 | 3.4 | 3.4 | 3.3 |
| **VIRGINIA** | **17** | **2.8** | **2.8** | **2.7** | **2.7** | **2.8** | **2.6** | **2.7** | **2.7** | **2.7** | **2.4** |
| Georgia | 25 | 1.9 | 2.0 | 2.1 | 2.2 | 2.3 | 2.5 | 2.6 | 2.8 | 2.9 | 3.0 |
| Utah | 29 | 1.7 | 1.5 | 1.7 | 1.7 | 1.9 | 2.3 | 2.8 | 3.2 | 3.5 | 4.1 * |
| Florida * | 30 | 1.3 | 1.5 | 1.6 * | 1.8 * | 2.1 * | 2.3 * | 2.3 * | 2.5 * | 2.6 * | 2.9 |
| North Carolina | 32 | 1.2 | 1.2 | 1.1 | 1.4 | 1.5 | 1.7 | 1.8 | 2.1 | 2.2 | 2.2 |
| South Dakota * | 40 | 0.8 | 0.9 | 0.9 | 1.1 | 1.0 * | 1.1 * | 0.9 * | 0.9 * | 0.8 * | 0.8 |
| Missouri | 41 | 0.8 | 1.0 | 1.0 | 1.2 | 1.3 | 1.4 | 1.5 | 1.7 | 1.7 | 1.9 * |
| Texas * | 43 | 0.7 | 0.7 | 0.8 | 0.8 | 0.8 | 0.8 | 0.9 | 1.4 * | 1.3 * | 1.4 * |
| Tennessee* | 44 | 0.5 | 0.6 | 0.7 | 0.7 | 0.7 | 0.7 * | 0.8 * | 0.8 * | 0.9 * | 0.9 * |
| Indiana* | 45 | 0.5 | 0.5 | 0.6 | 0.6 | 0.7 | 0.8 * | 0.8 * | 1.3 * | 1.1 * | 1.2 * |
| Iowa | 47 | 0.3 | 0.3 | 0.4 | 0.5 | 0.5 | 0.5 | 0.6 | 0.6 | 0.7 | 0.8 |
| | | | | | | | | | | | |
| Median All States | | 1.9 | 1.9 % | 2.1 % | 2.2 % | 2.3 % | 2.4 % | 2.4 % | 2.5 % | 2.5 % | 2.6 % |
| AAA Median | | 1.2 | 1.2 | 1.1 | 1.4 | 1.5 | 1.7 | 1.8 | 2.1 | 2.2 | 2.2 |
| AAA Average | | 1.7 | 1.7 | 1.8 | 1.9 | 2.0 | 2.0 | 2.1 | 2.2 | 2.3 | 2.4 |

** State was not triple triple A during entire 2011-2020 period.*

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

## Net Tax-Supported Debt as Percentage of Personal Income Virginia Versus Moody's U.S. 50-State Median and other AAA States 2011 - 2020



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 $84.4 billion outstanding, followed by New York with $69.9 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 five most recent years. Most recently, New York issued a large amount of new tax-supported debt to support the Metropolitan Transportation Authority as it has struggled with dramatically diminished ridership. Wyoming remained at the bottom of the list for the fourth year in a row and experienced a continued decline in NTSD to only $13.3 million. It should be noted, Wyoming does not issue G.O. debt. Virginia's NTSD increased by approximately $700 million from $14.3 billion to $15.0 billion outstanding. Despite Virginia's increasing NTSD burden, Virginia remained the 12th highest of all states.

## Summary

Virginia was experiencing strong financial performance before the onset of the pandemic. Due to swift public health measures to limit the initial spread of COVID-19, the large number of industries that were able to shift to telework and the recent implementation of online sales tax, Virginia was able to weather fiscal year 2020 better than anticipated. Again in fiscal year 2021, thanks to strong financial management, continued economic recovery, and Federal aid, Virginia found itself more strongly positioned financially than was originally expected, finishing the year with a record $2.6 billion surplus and bolstering reserve funds to historically high levels.

While the pandemic initially led to a global recession, the recovery was swift, with vaccine rollouts, Federal stimulus, and strong consumer spending keeping the economy going strong. In addition, historically low interest rates continued to provide favorable conditions for issuing debt and to an extent refinancing existing debt. Assuming interest rates remain low, Virginia is set to benefit as it continues to issue debt from its significant amount of available authorizations. This interest rate environment creates additional debt capacity to the extent issuances are completed at rates below those assumed in the Model. Although interest rates are currently low, there are many economic and global factors that could result in changes to the rate environment. It is also important to note that the recent low interest rates result in a low DCAC Model interest rate. When actual issuance rates finally begin to rise, the market rate could exceed the rate used in the Model, given the Model rate is based on the prior three years of data and currently sits at 2.4%, which would be considered a historically low level.

Debt capacity has risen sharply from $544 million last year to $1.10 billion. The increased capacity is due primarily to increased revenue projections as the Commonwealth's financial recovery exceeded even the most optimistic expectations in 2021. In addition, the Model interest rate continued to decline as rates remained historically low, dropping by about 0.6% from the prior

Model. Despite Virginia's record surplus and strong recovery from the pandemic, rating agencies are continuing to monitor the Commonwealth's budget process to confirm a structurally balanced budget is adopted. Given the continued uncertainties of the pandemic and its future effects on the economy, both national and for Virginia, it is of critical importance to ensure continued strong financial budgeting practices.

# Appendix A

## Debt Capacity Calculation, Sensitivity Analysis and Moral Obligation Update

**December 21, 2021**

# 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.

**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 (2.17%) plus 25 basis points for 9(d) debt (2.42%).

**Model Includes:**

- Blended Revenues from Official Forecast:
  - General fund revenues (adjusted to exclude temporary TCJA 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 ACFR for both primary government and component units).
- Installment purchases (80% of total of first year amounts in Commonwealth ACFR 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 21, 2021
### (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, 2021 | $ - | $ 1,874.7 | $ 88.2 | $ 2,222.1 | $ 243.2 | $ 24.7 | $ 595.7 | $ - | $ 5,048.6 |
| Issued Jul 1 - Dec 31, 2021 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Assumed Issued: | | | | | | | | | |
| FY 2022 | $ - | $ 551.5 | $ 88.2 | $ 600.0 | $ 96.6 | $ - | $ 133.0 | $ - | $ 1,469.3 |
| FY 2023 | $ - | $ 549.6 | $ - | $ 600.0 | $ 146.6 | $ - | $ 236.3 | $ - | $ 1,532.5 |
| FY 2024 | $ - | $ 499.4 | $ - | $ 600.0 | $ - | $ - | $ - | $ - | $ 1,099.4 |
| FY 2025 | $ - | $ 274.2 | $ - | $ 422.1 | $ - | $ - | $ 152.2 | $ - | $ 848.5 |
| FY 2026 | $ - | $ - | $ - | $ - | $ - | $ - | $ 74.2 | $ - | $ 74.2 |
| FY 2027 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| FY 2028 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| FY 2029 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| FY 2030 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| FY 2031 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Total Planned | $ - | $ 1,874.7 | $ 88.2 | $ 2,222.1 | $ 243.2 | $ - | $ 595.7 | $ - | $ 5,023.9 |
| Subtotal Issued & Planned | $ - | $ 1,874.7 | $ 88.2 | $ 2,222.1 | $ 243.2 | $ - | $ 595.7 | $ - | $ 5,023.9 |
| Authorized Debt Assumed Unissued[1] | $ - | $ - | $ - | $ - | $ - | $ 24.7 | $ - | $ - | $ 24.7 |

(1) NVTD authorized debt is assumed not to be issued.

* 9(c) Debt is not included in the table above since it is excluded from the Model.

## Debt Capacity Model – An Explanation of Solution Pages

**Column Descriptions:**

**(1) Blended Revenues** include all general fund revenues (adjusted to remove temporary TCJA 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 (6/30/2021), 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 $1.10 billion.
- Accordingly, the Committee finds the additional tax supported debt that may prudently be authorized in each 2021 and 2022 is $1.10 billion.

# DEBT CAPACITY MODEL

**(Dollars in Millions)**

**December 21, 2021**

**Base Model Solution**

*Debt Capacity Maximum Ratio*

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

| | [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 |
| 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 | 23,858.40 | 1,192.92 | 1,008.23 | 4.23% | N/A | 4.23% | 184.69 | **N/A** | N/A | 184.69 | 4.23% |
| 2020 | 24,308.76 | 1,215.44 | 1,037.16 | 4.27% | N/A | 4.27% | 178.28 | **N/A** | N/A | 178.28 | 4.27% |
| 2021 | 28,136.78 | 1,406.84 | 1,043.55 | 3.71% | N/A | 3.71% | 363.29 | **N/A** | N/A | 363.29 | 3.71% |
| 2022 | 29,077.10 | 1,453.86 | 1,101.44 | 3.79% | 63.05 | 4.00% | 289.37 | **3,241.34** | 203.895 | 85.48 | 4.71% |
| 2023 | 29,233.54 | 1,461.68 | 1,088.77 | 3.72% | 169.01 | 4.30% | 203.90 | **0.00** | 203.895 | 0.00 | 5.00% |
| 2024 | 31,300.12 | 1,565.01 | 1,062.45 | 3.39% | 241.33 | 4.17% | 261.23 | **911.50** | 261.232 | 0.00 | 5.00% |
| 2025 | 32,313.66 | 1,615.68 | 1,008.96 | 3.12% | 318.57 | 4.11% | 288.16 | **428.00** | 288.155 | 0.00 | 5.00% |
| 2026 | 33,305.48 | 1,665.27 | 969.68 | 2.91% | 366.31 | 4.01% | 329.28 | **653.70** | 329.276 | 0.00 | 5.00% |
| 2027 | 34,107.35 | 1,705.37 | 916.81 | 2.69% | 366.31 | 3.76% | 422.24 | **1,477.85** | 422.240 | 0.00 | 5.00% |
| 2028 | 34,974.88 | 1,748.74 | 859.16 | 2.46% | 366.31 | 3.50% | 523.28 | **1,606.16** | 523.274 | 0.00 | 5.00% |
| 2029 | 35,939.35 | 1,796.97 | 815.29 | 2.27% | 366.31 | 3.29% | 615.37 | **1,464.00** | 615.367 | 0.00 | 5.00% |
| 2030 | 36,932.34 | 1,846.62 | 775.97 | 2.10% | 353.13 | 3.06% | 717.52 | **1,240.21** | 693.382 | 24.14 | 4.93% |
| 2031 | 37,954.70 | 1,897.73 | 712.55 | 1.88% | 353.13 | 2.81% | 832.06 | **0.00** | 693.382 | 138.68 | 4.63% |

| 10 Year Average: | $1,102.28 | 2 Yrs Excess Avg Capacity: | $2,204.55 |
|---|---|---|---|

# DEBT CAPACITY MODEL

**(Dollars in Millions)**

**December 21, 2021**

**Base Model Average 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 |
| 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 | 23,858.40 | 1,192.92 | 1,008.23 | 4.23% | N/A | 4.23% | 184.69 | **N/A** | N/A | 184.69 | 4.23% |
| 2020 | 24,308.76 | 1,215.44 | 1,037.16 | 4.27% | N/A | 4.27% | 178.28 | **N/A** | N/A | 178.28 | 4.27% |
| 2021 | 28,136.78 | 1,406.84 | 1,043.55 | 3.71% | N/A | 3.71% | 363.29 | **N/A** | N/A | 363.29 | 3.71% |
| 2022 | 29,077.10 | 1,453.86 | 1,101.44 | 3.79% | 63.05 | 4.00% | 289.37 | **0.00** | 0.000 | 289.37 | 4.00% |
| 2023 | 29,233.54 | 1,461.68 | 1,088.77 | 3.72% | 169.01 | 4.30% | 203.90 | **1,102.28** | 69.338 | 134.56 | 4.54% |
| 2024 | 31,300.12 | 1,565.01 | 1,062.45 | 3.39% | 241.33 | 4.17% | 261.23 | **1,102.28** | 138.676 | 122.56 | 4.61% |
| 2025 | 32,313.66 | 1,615.68 | 1,008.96 | 3.12% | 318.57 | 4.11% | 288.16 | **1,102.28** | 208.014 | 80.14 | 4.75% |
| 2026 | 33,305.48 | 1,665.27 | 969.68 | 2.91% | 366.31 | 4.01% | 329.28 | **1,102.28** | 277.353 | 51.93 | 4.84% |
| 2027 | 34,107.35 | 1,705.37 | 916.81 | 2.69% | 366.31 | 3.76% | 422.24 | **1,102.28** | 346.691 | 75.55 | 4.78% |
| 2028 | 34,974.88 | 1,748.74 | 859.16 | 2.46% | 366.31 | 3.50% | 523.28 | **1,102.28** | 416.029 | 107.25 | 4.69% |
| 2029 | 35,939.35 | 1,796.97 | 815.29 | 2.27% | 366.31 | 3.29% | 615.37 | **1,102.28** | 485.367 | 130.00 | 4.64% |
| 2030 | 36,932.34 | 1,846.62 | 775.97 | 2.10% | 353.13 | 3.06% | 717.52 | **1,102.28** | 554.705 | 162.81 | 4.56% |
| 2031 | 37,954.70 | 1,897.73 | 712.55 | 1.88% | 353.13 | 2.81% | 832.06 | **1,102.28** | 624.043 | 208.01 | 4.45% |

10 Year Average: $1,102.28

## DEBT CAPACITY MODEL REVENUE DATA

**December 2021**

**(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 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% |
| Actual 2019 | 21,965.50 | (1) | 1,497.00 | (1) | 7.10% | (1) | 3.92% | (1) | 395.90 | (1) | 23,858.40 | 6.74% |
| Actual 2020 | 22,441.70 | (1) | 1,532.06 | (1) | 2.17% | (1) | 2.34% | (1) | 335.00 | (1) | 24,308.76 | 1.89% |
| Actual 2021 | 25,637.10 | (1) | 1,885.78 | (1) | 14.24% | (1) | 23.09% | (1) | 613.90 | (1) | 28,136.78 | 15.75% |
| Forecasted for 2022 | 26,497.00 | (2) | 2,043.20 | (5) | 3.35% | (2) | 8.35% | (5) | 536.90 | (7) | 29,077.10 | 3.34% |
| Forecasted for 2023 | 26,310.90 | (2) | 2,423.84 | (5) | -0.70% | (2) | 18.63% | (5) | 498.80 | (7) | 29,233.54 | 0.54% |
| Forecasted for 2024 | 28,601.20 | (2) | 2,194.92 | (5) | 8.70% | (2) | -9.44% | (5) | 504.00 | (7) | 31,300.12 | 7.07% |
| Forecasted for 2025 | 29,586.60 | (2) | 2,226.36 | (5) | 3.45% | (2) | 1.43% | (5) | 500.70 | (7) | 32,313.66 | 3.24% |
| Forecasted for 2026 | 30,568.30 | (2) | 2,239.38 | (5) | 3.32% | (2) | 0.58% | (5) | 497.80 | (7) | 33,305.48 | 3.07% |
| Forecasted for 2027 | 31,355.50 | (2) | 2,256.75 | (5) | 2.58% | (2) | 0.78% | (5) | 495.10 | (7) | 34,107.35 | 2.41% |
| Forecasted for 2028 | 32,203.90 | (2) | 2,278.18 | (5) | 2.71% | (2) | 0.95% | (5) | 492.80 | (7) | 34,974.88 | 2.54% |
| Forecasted for 2029 | 33,149.02 | (3) | 2,299.80 | (6) | 2.93% | (3) | 0.95% | (6) | 490.53 | (8) | 35,939.35 | 2.76% |
| Forecasted for 2030 | 34,122.43 | (3) | 2,321.63 | (6) | 2.94% | (3) | 0.95% | (6) | 488.28 | (8) | 36,932.34 | 2.76% |
| Forecasted for 2031 | 35,124.99 | (3) | 2,343.67 | (6) | 2.94% | (3) | 0.95% | (6) | 486.03 | (8) | 37,954.70 | 2.77% |

(1) Department of Taxation and Department of Transportation.
(2) December General Fund Forecast for FY 2022-2028 (adjusted to remove temporary TCJA revenues), 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 3.0% for General Fund Revenues and 0.39% for Sales Tax Transfers. A.B.C. Profits and recurring Transfers per Appropriation Act held flat at $123.8 million and $103.7 million, per Department of Taxation.
(4) Does not include Highway Maintenance and Operating Fund, Federal Grants and Contracts or Toll Revenues.
(5) Provided by Department of Tranportation based on December Commonwealth Transportation Fund Forecast for FY 2022-2028.
(6) Based on flat growth rate of 0.95% for years 2029-2031, per Department of Transportation and Department of Taxation.
(7) December Virginia Health Care Fund Forecast for FY 2022-2028.
(8) Based on declining rate of 0.46% 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 $1.10 billion 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 $1.20 billion.
  - 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 $1.32 billion.

**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 $6.62 million.
  - Assuming a 1% change of revenues in each and every year, the incremental change is $25.14 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 by $127.7 million to $974.6 million.
  - Subtract 100 basis points from base rate, and average capacity increases by $146.0 million to $1.25 billion.

## Debt of the Commonwealth
**(Dollars in Thousands)**

| | As of June 30 2021 | As of June 30, 2020 |
|---|---|---|
| **Tax-Supported Debt** | | |
| 9(b) General Obligation [1] | $ 278,221 | $ 330,934 |
| 9(c) General Obligation - Higher Education [2] | 955,729 | 886,837 |
| 9(c) General Obligation - Transportation [2] | - | 3,083 |
| 9(c) General Obligation - Parking Facilities [2] | 6,640 | 7,583 |
| Commonwealth Transportation Board | 2,661,007 | 2,813,942 |
| Virginia Public Building Authority | 3,472,631 | 3,028,198 |
| Virginia Port Authority | 222,831 | 223,708 |
| Virginia College Building Authority - 21st Century & Equipment | 5,101,393 | 4,384,599 |
| Virginia Biotechnology Research Park Authority | 4,903 | 9,669 |
| Capital Leases | 42,290 | 35,318 |
| Installment Purchases | 224,013 | 216,159 |
| Virginia Aviation Board | - | - |
| Economic Development Authority Obligations [3] | 7,542 | 15,624 |
| Subtotal Tax Supported Debt | $ 12,977,200 | $ 11,955,654 |
| **Other Tax-Supported Debt** | | |
| Compensated Absences [2] | $ 737,166 | $ 687,473 |
| Pension Liability [2] | 8,348,881 | 7,294,376 |
| OPEB Liability[2] | 2,250,039 | 2,309,561 |
| Pollution Remediation Liability [2] | 9,140 | 9,475 |
| Other Liabilities [2] | 32,130 | 29,263 |
| Subtotal Tax Supported Debt Not Included in Capacity Model | $ 11,377,356 | $ 10,330,148 |
| **Total Tax-Supported Debt** | $ 24,354,556 | $ 22,285,802 |

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

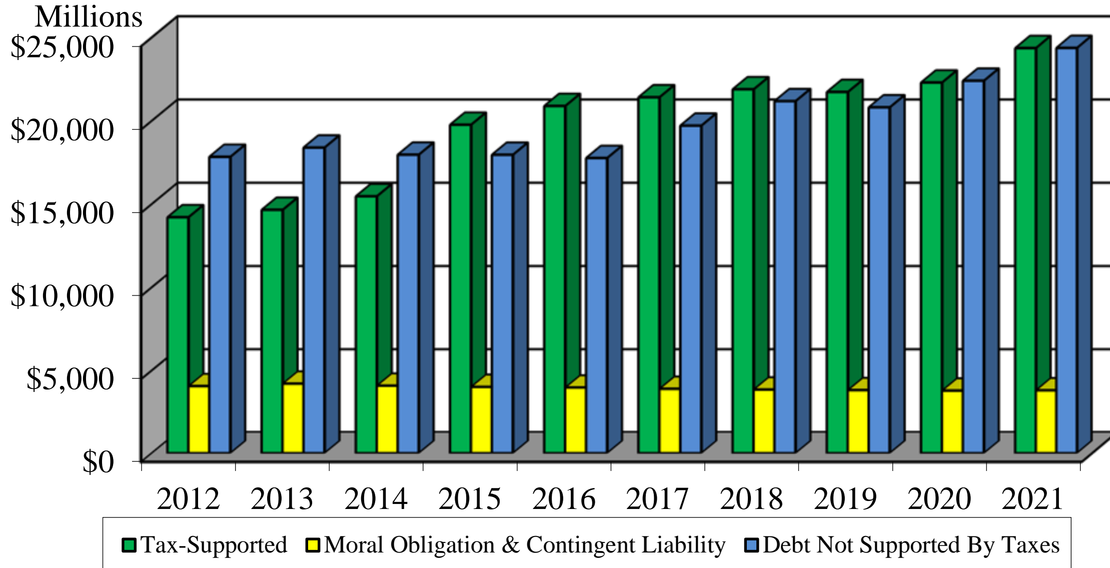
## Debt of the Commonwealth
**(Dollars in Thousands)**

| | As of June 30, 2021 | As of June 30, 2020 |
|---|---|---|
| **Debt Not Supported by Taxes** [1] | | |
| ***Moral Obligation / Contingent Liability Debt*** | | |
| Virginia Resources Authority | $ 914,377 | $ 933,279 |
| Virginia Housing Development Authority | - | - |
| Virginia Public School Authority - 1997 Resolution | 2,327,010 | 2,289,710 |
| Virginia Public School Authority - School Tax Credit Bond Program | 359,566 | 359,566 |
| Virginia Public School Authority - Equipment Technology Notes | 185,545 | 187,175 |
| Total Moral Obligation/Contingent Liability Debt | $ 3,786,498 | $ 3,769,730 |
| ***Other Debt Not Supported By Taxes*** | | |
| 9(d) Higher Education | $ 4,106,374 | $ 3,420,479 |
| Virginia College Building Authority - Pooled Bond Program | 1,442,450 | 1,522,505 |
| Virginia Public School Authority - Stand Alone Program | 795,235 | 754,075 |
| Virginia Housing Development Authority | 4,358,584 | 3,997,125 |
| Virginia Port Authority | 272,815 | 279,396 |
| Hampton Roads Sanitation District Commission | 835,006 | 835,479 |
| Hampton Roads Transportation Accountability Commission | 1,748,229 | 1,023,334 |
| Virginia Resources Authority | 2,482,752 | 2,482,611 |
| Grant Anticipation Notes (GARVEES) | 1,086,897 | 1,059,387 |
| Notes Payable | 181,662 | 297,708 |
| Other Long-Term Debt | 764,329 | 315,326 |
| Foundations | 1,760,809 | 1,795,783 |
| Pension Liability | 225,160 | 190,277 |
| OPEB Liability | 100,825 | 114,651 |
| Capital Lease Obligations | 2,334,082 | 2,340,329 |
| Compensated Absences | 14,545 | 13,663 |
| Installment Purchase Obligations | 771 | 964 |
| Tuition Benefits Payable | 1,733,998 | 1,831,064 |
| Lottery Prizes Payable | 116,934 | 119,871 |
| Total Other Debt Not Supported By Taxes | $ 24,361,457 | $ 22,394,027 |
| Grand Total of Tax Supported Debt and Debt Not Supported By Taxes | **$ 52,502,511** | **$ 48,449,559** |

Source: Department of the Treasury and Department of Accounts

[1] Not Included In Debt Capacity Model

**Outstanding Commonwealth Debt**
**Fiscal Years 2012-2021**




## Moral Obligation and Contingent Liability Debt

**<u>Moral Obligation Debt</u>**

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, 2021 | Available Authorization |
|---|---|---|---|
| Virginia Resources Authority | $1,500,000 | $914,377 | $585,623 |
| Virginia Housing Development Authority | $1,500,000 | $0 | $1,500,000 |
| Virginia Public School Authority | $800,000 | $0 | $800,000 |
| Total | $3,800,000 | $914,377 | $2,885,623 |

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, 2021 to tax-supported debt, the resulting average debt capacity is $1.03 billion.

## 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 $2.33 billion of 1997 Resolution bonds outstanding as of June 30, 2021 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, 2021, outstanding notes for school technology and security amounted to $185.5 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 31, 2021 to tax-supported debt, the resulting average debt capacity is $862.93 million.