State of North Carolina

Debt Affordability Study

February 1, 2019

Debt Affordability Advisory Committee

Department of State Treasurer
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STATE OF NORTH CAROLINA
DEBT AFFORDABILITY ADVISORY COMMITTEE

February 1, 2019

To: Governor Roy Cooper
Lieutenant Governor Daniel J. Forest, President of the North Carolina Senate
Senator Phil Berger, President Pro Tempore of the North Carolina Senate
Representative Tim Moore, Speaker of the North Carolina House of Representatives
Members of the 2018 General Assembly through the Fiscal Research Division

Attached is the February 1, 2019 report of the Debt Affordability Advisory Committee submitted to you pursuant to North Carolina General Statute §142-101. The report was created to serve as a tool for sound debt management practices by the State of North Carolina.

The report provides the Governor and the General Assembly with a basis for assessing the impact of future debt issuance on the State's fiscal position and enables informed decision-making regarding both financing proposals and capital spending priorities. A secondary purpose of the report is to provide a methodology for measuring, monitoring and managing the State's debt levels, thereby protecting North Carolina's bond ratings of AAA/Aaa/AAA. The methodology used by the Committee to analyze the State's debt position incorporates trends in debt levels and peer group comparisons, and provides recommendations within adopted guidelines. The analysis includes the projected issuance of the remaining $1.4 billion of authorized but unissued Connect NC Bonds and the $3 billion Build NC Bonds.

The Committee is reiterating its recommendation that the State recognize the magnitude of its unfunded pension and other post-employment obligations (OPEB) that cover retiree healthcare costs and to begin to fund these liabilities using principles of gradualism that are appropriate for a State with a long history of good fiscal management and high financial rating. That recommendation identifies the totality of the State's unfunded liabilities for pensions and healthcare and begins an annual process to devote significant additional funds toward it while at the same time offering additional debt capacity up to 4.50% of revenues with relatively low risk. I believe that the recommendation begins to address our unfunded liabilities and represents action to preserve and protect the State's "AAA" rating.

Respectfully submitted,

Dale R. Folwell, CPA,
State Treasurer of North Carolina
Chair, Debt Affordability Advisory Committee

Debt Affordability Advisory Committee Membership

Mr. Dale R. Folwell, CPA, State Treasurer, Chair

Mr. Ronald Penny, Secretary of Revenue

Dr. Linda M. Combs, State Controller

Mr. Charles Perusse, State Budget Director

Ms. Beth Wood, State Auditor

Mr. Frank H. Aikmus, Senate Appointee

Mr. Bradford B. Briner, Senate Appointee

Mr. Eugene W. "Gene" Chianelli, Jr., House Appointee

Mr. Cecil T. "Tom" Turner, House Appointee

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SUMMARY

Background and Context

A study of debt affordability is an essential management tool that helps to provide a comprehensive assessment of a government's ability to issue debt for its capital needs. Standard & Poor's Ratings Services ("S&P"), one of the three major bond rating agencies, has stated that "Most of the 'AAA' states have a clearly articulated debt management policy. Evaluating the impact of new or authorized but unissued bond programs on future operating budgets as well as unfunded liabilities are an important element of debt management and assessing debt affordability." Control of debt burden is one of the key factors used by rating agencies' analysts in assessing credit quality. Other factors include economic vitality and diversity, fiscal performance and flexibility and administrative capabilities of government.

The Debt Affordability Advisory Committee (the "Committee" or "DAAC") is required to annually advise the Governor and the General Assembly of the estimated debt capacity of the General, Highway and Highway Trust Funds for the upcoming ten fiscal years. The legislation also directs the Committee to recommend other debt management policies it considers desirable and consistent with the sound management of the State's debt. The Committee hereby presents its study for 2019 that was adopted by a 6 to 3 margin.

Debt Controls and Ratings

Debt capacity is a limited and scarce resource. It should be used only after evaluating the expected results and foregone opportunities. The Study enables the State to structure its future debt issuances within existing and future resource constraints by providing a comparison of its current debt position to relevant industry and peer group standards. The Study can thus be used to help develop and implement the State's capital budget and is premised on the concept that resources, not only needs, should guide the State's debt issuance program. The Committee's adopted guidelines attempt to strike a balance between providing sufficient debt capacity to allow for the funding of essential capital projects and imposing sufficient discipline so that the State does not create a situation that results in loss of future budgetary flexibility and a deteriorating credit position.

The State's ratings were affirmed in 2018 at Aaa (Moody's), AAA (Standard & Poor's or "S&P") and AAA (Fitch). All of the State's debt ratios remain **in line with or below** the median levels for the State's peer group comprised of all thirteen states currently rated "triple A" by all three rating agencies. North Carolina's debt is considered manageable at current levels. In affirming the State's rating, Fitch stated that "The State has low liabilities and strong debt management practices, including an affordability planning process."

The Committee has adopted the ratio of debt service as a percentage of revenues as the controlling metric that determines the State's debt capacity. Over the ten year planning horizon the State's revenue picture is positive overall, reflecting a continued economic recovery. Debt service projections incorporate the future issuance of the remaining $1.4 billion of Connect NC Bonds and the $3 billion Build NC Bonds.

The General Fund model results show that the State's General Fund has debt capacity of approximately $207 million in each of the next 10 years (up to $1.365 billion in the first year) after incorporating the Committee's policy that directs resources to unfunded pension and OPEB liabilities. The actual ratio of debt service to revenues is projected to peak at 3.09% this fiscal year.

The ratio of Transportation debt service to revenues peaked at 3.56% in FY 2015 versus the limit of 6.00%. The authorization of the $3 billion Build NC Bonds (see Section II and Appendix D for more details) authorizes the issuance of up to $300 million annually, more than utilizing all of Transportation debt capacity over the model horizon. (See Section II – Transportation Debt Affordability and Appendix "Build NC Bonds Capacity Constraints – page 21 for more discussion.) Transportation debt service as a percentage of Transportation revenues peaks at 6.00% in FY 2027.

On a combined basis, the General Fund and Transportation Fund's debt service is projected to peak at approximately 3.16% of combined revenues in FY 2020.

Table 1

General Fund - 2017-18 Policy

Debt Capacity using 4.5% debt service/revenues target ratio

(In millions of dollars)

Fiscal Year	2019	2020	2021	2022	2023
$ to Unfunded Liabilities	$213.4	$217.7	$236.4	$294.3	$359.3
Total Additional Debt Capacity per Year *	$1,364.6	$50.8	$56.7	$58.9	$61.2
Debt Capacity Available each and every Year	$206.8	$206.8	$206.8	$206.8	$206.8

* In addition to that already authorized but unissued. Assumes additional debt capacity is authorized and issued in stated fiscal year.

Table 2

Transportation

Net Tax-Supported Debt Capacity using 6.0% debt service/revenues target ratio

(In millions of dollars)

Fiscal Year	2019	2020	2021	2022	2023
Total Additional Debt Capacity per Year *	$0.0	$0.0	$0.0	$0.0	$0.0
Debt Capacity Available Each and Every Year	$0.0	$0.0	$0.0	$0.0	$0.0

* In addition to that already authorized but unissued. Assumes additional debt capacity is authorized and issued in stated fiscal year.
GAP Funding for North Carolina Turnpike Authority projects assumed to total $49 million annually.

Table 3

General Fund and Transportation Funds
Combined Debt Service / Revenue Percentages

Fiscal Year	2019	2020	2021	2022	2023
General Fund	3.09%	3.08%	3.04%	2.85%	2.65%
Transportation *	2.87%	3.64%	2.63%	3.15%	4.05%
Combined	3.06%	3.16%	2.99%	2.89%	2.84%

Note: Percentages are based on forecasted revenues and debt service.

* GAP Funding for North Carolina Turnpike Authority projects assumed to total $49 million annually.

Over the past decade, the State has refunded approximately $4.9 billion of outstanding debt, representing approximately 70% of the State's outstanding debt, achieving budgetary savings of over $360 million. Although additional refunding opportunities are being monitored, additional savings are not likely to be realized during the coming year due to the relatively modest increases in interest rates and the prohibition on advance refundings enacted in the 2017 Federal Tax Reform legislation (see Appendix D for more information).

Interest Rate Increases

The Federal Reserve has raised interest rates a total of eight times beginning in December 2015 but the target rate is still a low 2.25%-2.50%. Although most analysts expect further gradual increases over the next year, their expectations have moderated with some calling for no increases at all, followed by a decline in 2020. Longer term interest rates have also risen, but not in a manner directly correlated with Fed action. After a volatile year, the 10-year benchmark Treasury yield rose during 2019 by only 20 basis points to 2.66%. Yields are still near historic lows and the DAAC recommendations on debt capacity, using very conservative interest rate assumptions, do not appear aggressive. See page 14 for General Fund sensitivity information.

Other Recommendations

(See Appendices A and C for further discussion)

- **Unfunded Pension and Other Post-Employment Benefits (OPEB) Obligations**
  The State currently has unfunded Pension and OPEB obligations totaling at least $38.5 billion and the bond rating agencies are thankfully scrutinizing these liabilities more carefully. The Committee recommends that the General Assembly adopt policies to address these liabilities. See General Fund Analysis-Other and Appendix A for more detail.

- **Control of Debt Authorization Authority and Management**
  Centralized debt authorization, issuance and management are considered one of North Carolina's credit strengths. Sponsoring agencies whose mission is to provide a particular service or assets are not in the best position to make decisions that prioritize the use of the State's debt capacity. In the Committee's view, the prioritization of capital projects and the issuance of obligations or entering into financial arrangements that create debt or debt-like obligations that increase the State's debt burden should remain the prerogative of the General Assembly.

- **State-Aid Intercept**
  The Committee strongly opposes proposals that would utilize a back-up pledge of State appropriations to provide support for debt issued by other entities.

- **Structural Budget Balance and Continued Replenishment of Reserves Should Continue to be a Priority**
  These are key ratings drivers contributing to the State's "AAA" rating.

- **Consider General Obligation Bonds as the Preferred Financing Vehicle**
  The Committee recommends that the State consider General Obligation ("GO") Bonds generally approved by voters as the preferred, but not exclusive, financing vehicle to provide funding for the State's capital projects. The Committee notes that the $3 billion Build NC Bonds were not authorized as GO bonds, contrary to the Committee's standing recommendation, and will prove costlier to the State as a result.

National Recognition for North Carolina's Debt Affordability Study

In 2017, Pew Charitable Trusts published a study on the debt affordability processes for all 50 states. Pew found that North Carolina is one of nine states they considered as " leading the way by producing studies that give policymakers a clear understanding of their states' debt levels through, among other things, careful projections, smart benchmarking comparisons, multiple descriptive metrics, and analysis." The Office of State Treasurer wishes to thank the DAAC and all of the contributors to the study without whose participation the production of the Study would not be possible.

SECTION I
GENERAL FUND DEBT AFFORDABILITY

Review of General Fund Debt

Outstanding Debt

The State issues two kinds of tax-supported debt: GO Bonds and various kinds of "Special Indebtedness," which are also known as non-GO debt or appropriation-supported debt. GO Bonds are secured by the full faith, credit and taxing power of the State. The payments on all other kinds of long-term debt, including Limited Obligation Bonds, Certificates of Participation ("COPs"), lease-purchase revenue bonds, capital lease obligations and installment purchase contracts are subject to appropriation by the General Assembly. Appropriation-supported debt may sometimes also be secured by a lien on facilities or equipment.

Debt that is determined to be self-supporting or supported by non-General Fund tax revenues does not constitute net tax-supported debt, but is included in the definition of "gross" tax-supported debt used by some rating analysts.

The State's outstanding debt positions as of June 30, 2018 are shown below.

Chart 1

State of North Carolina Outstanding Net Tax-Supported Debt

The State's total outstanding debt at June 30, 2018 totaled approximately $6.5 billion of which $5.0 billion was tax-supported.

Tax-Supported	Amounts ($millions)
□ General Obligation Debt	$2,441.7
○ General Fund ($2,340.4)	
○ Highway Fund ($101.3)	
□ Special Indebtedness	$1,784.0
□ NCTA Gap-Funded Appropriation Bonds	$707.1
□ Installment Purchase / Equipment & Capital Leases (1)	$28.1
Total General Fund Tax-Supported Debt	$4,152.5
Total Highway Tax-Supported Debt	$808.4
Total Tax-Supported Debt	$4,960.9
Non Tax-Supported	
□ GARVEEs	$516.8
□ NC Turnpike Authority (includes TIFIA)	$800.6
□ Guaranteed Energy Savings Contracts (2)	$196.8
Total Debt	$6,475.1

(1) Lease information - OSC and other sources.
(2) Total GESCs entered into through June 30, 2018 was $268.8 million.

Trends in Amounts of General Fund Debt

After showing substantial growth in the early 2000s, the State's outstanding net tax-supported debt peaked in FY 2013 at approximately $6.2 billion and declined by over $2.0 billion by June 30, 2018. The amount of outstanding debt is projected to rise modestly as the remaining $1.4 billion of authorized but unissued Connect NC Bonds are issued over the next three years. Chart 2 below illustrates the outstanding amounts of General Fund net tax-supported debt over the last five years and projects the amount outstanding through FY 2023. Absent additional authorizations, the absolute level of General Fund tax-supported debt is not projected to greatly exceed approximately $4.0 billion over the projection period.

Chart 2

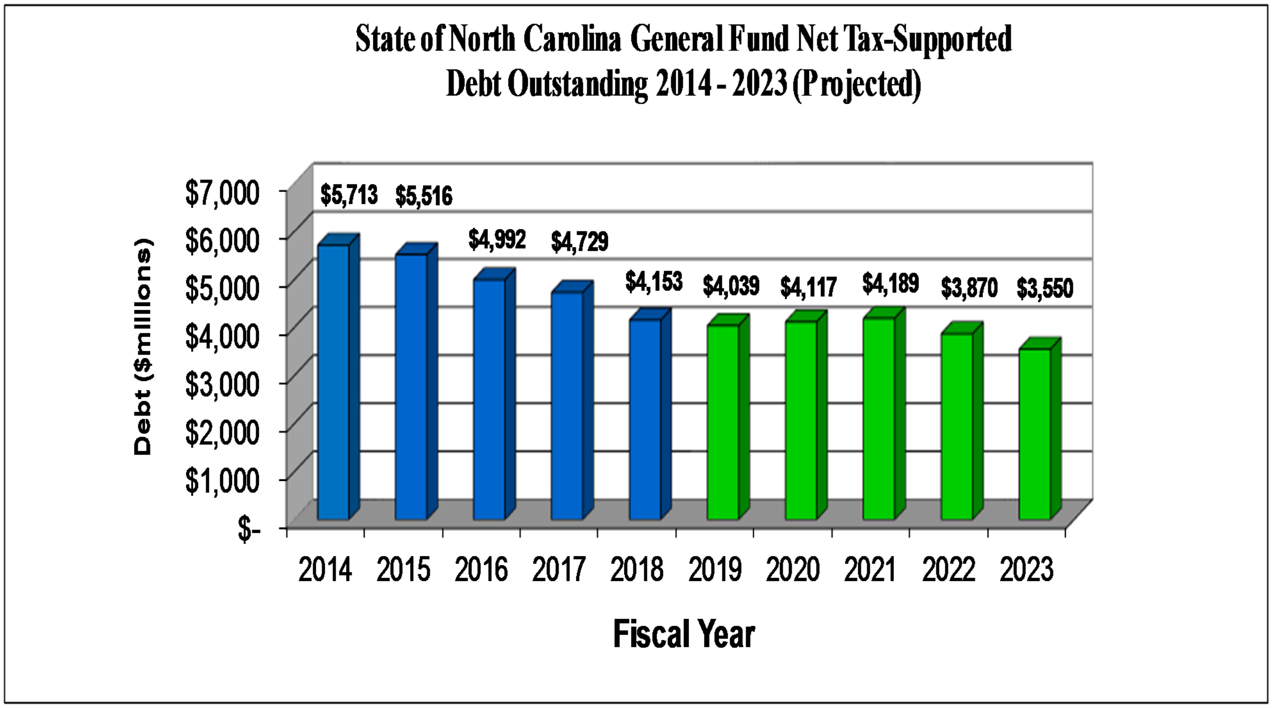


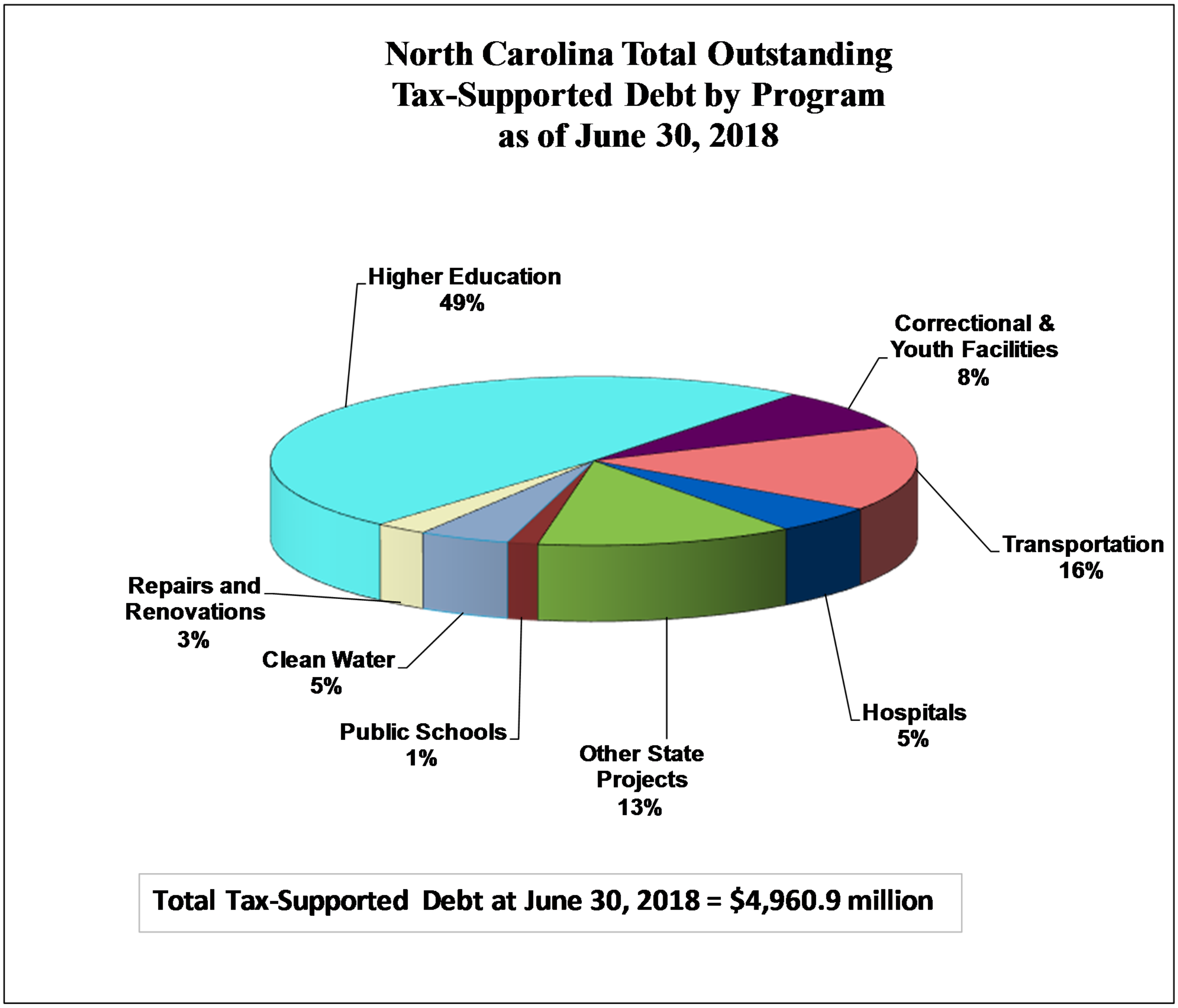
Chart 2 above incorporates all of the State's currently outstanding and all authorized, but unissued, debt including the Connect NC Bonds. The State issues debt on a cash flow basis and bond issues are timed to provide funds as they are actually needed typically creating a lag between when debt is authorized and when it is actually issued. As of December 31, 2018, the State did not have any authorized but unissued tax-supported debt except for the Connect NC Bonds.

Uses of Total Outstanding Tax-Supported Debt

The following chart illustrates the uses for which the State has issued tax-supported debt, including that used for transportation purposes, calculated on the amount outstanding at June 30, 2018. The

State has used the proceeds of its debt programs for many purposes with the two largest being to provide facilities and infrastructure for higher education (49%) and transportation (16%), which is nearly unchanged from last year's study.

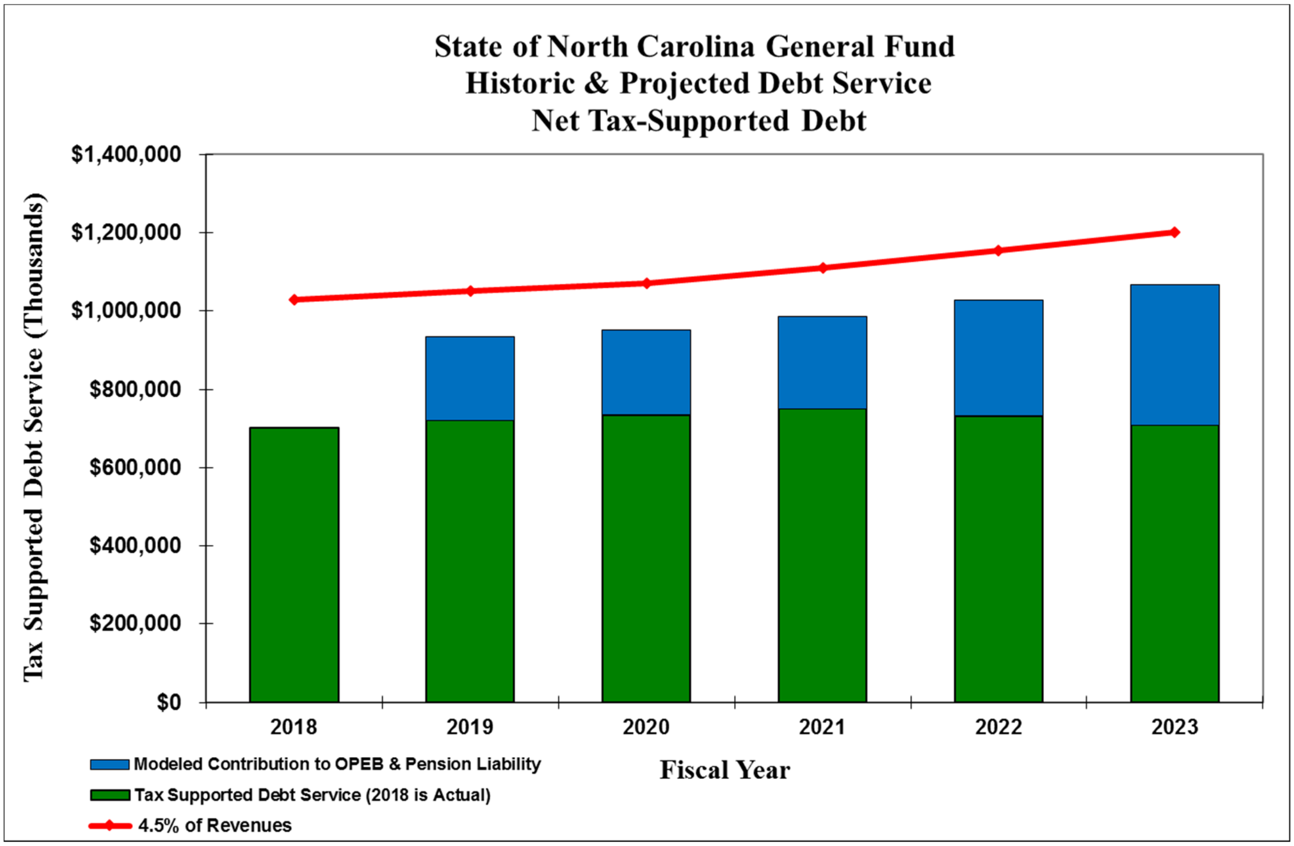
Chart 3



Debt Service

General Fund debt service as a percentage of revenues is projected to peak this year at 3.09%. The absolute amount of annual debt service peaks at approximately $751 million in FY 2021. As stated previously, this includes the debt service for the Connect NC Bonds using the assumptions contained in Appendix A. The State's projected debt service is illustrated below in Chart 4. This chart also illustrates the amount of capacity for additional debt service that exists while remaining under the 4.50% guideline. Even after providing annually for Pension and OPEB liabilities, there is capacity to issue additional debt in each and every year. The model calculates the additional debt that could be serviced by this capacity.

Chart 4



General Obligation Bonds versus Special Indebtedness

General Obligation ("GO") indebtedness is usually considered to be the highest quality of all the various types of debt or debt-like instruments and usually carries the highest credit rating because the full faith and credit of the State is pledged to its repayment. Several factors contribute to the high rating, 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 generally the most transparent of the various types of State debt obligations and typically carry the lowest interest cost. The Fiscal Research Division estimates that the costs of holding a GO bond referendum to be extremely modest and does not add substantially to the cost of the projects being financed.

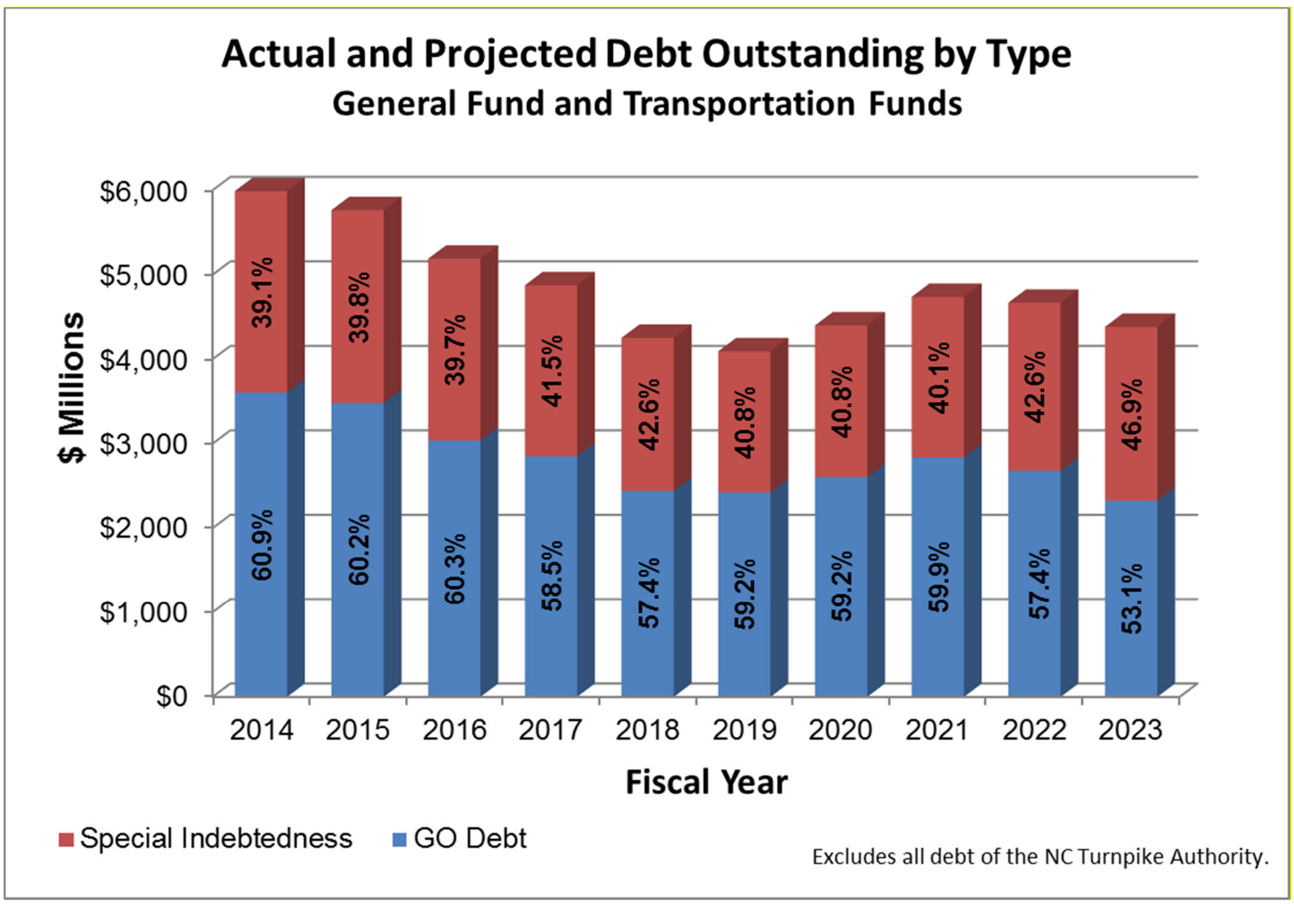
Special Indebtedness as defined in G.S. §142-82 ("SI"), is a commonly-used financing vehicle employed by most states and localities. Sometimes issued on an unsecured basis or sometimes secured by a specific stream of revenues, a lease payment or financing agreement (and sometimes by a security interest in the project being financed), such obligations are paid from annual appropriated amounts for debt service. Depending upon market conditions, additional credit support and structure, the financial markets usually assess an interest rate **penalty** of 5-25 basis points for the State's appropriation-supported debt when compared with the State's GO bonds. Using the more conservative penalty, this translates into approximately $3.4 million of additional interest over the life of a typical $100 million General Fund supported debt issue.

The rating agencies note that most states have incorporated alternative financing methods, including lease revenue, appropriation-supported or special-tax debt into their liability profile. GO debt represents 52% of overall state debt according to Moody's, with eleven states having no GO debt at all. Assuming the issuance of both the Connect NC Bonds (GO) and the Build NC Bonds (SI), the State will reverse its trend of reducing the amount of appropriation-supported debt as a percentage of the total debt portfolio.

The State is currently limited in the amount of Special Indebtedness supported by the General Fund it may issue by the provisions of S.L. 2013-78 that limits the amount of Special Indebtedness that may be authorized to 25% of the total general fund-supported debt authorized after January 1, 2013. Currently the State has the ability to authorize approximately $577 million of additional Special Indebtedness under these limits. There is no analogous provision relating to SI supported by Transportation funds.

The amount of the State's historic and projected outstanding appropriation-supported debt is shown below in Chart 5, with the percentage of appropriation-supported debt to total debt (including transportation debt) noted.

Chart 5



Review of State Credit Ratings and Comparative Ratios

Credit ratings are the rating agencies' assessment of a governmental entity's ability and willingness to repay debt on a timely basis. As a barometer of financial stress, credit ratings are an important factor in the public credit markets and can influence interest rates a borrower must pay.

Chart 6

North Carolina Credit Rating Matrix

State of North Carolina

General Obligation Bond Credit Ratings

Rating Agency	*Rating*	*Outlook*
Fitch Ratings	AAA	Stable
Moody's Investors Service	Aaa	Stable
Standard & Poor's Rating Services	AAA	Stable

The State's general obligation bonds are rated AAA with a "stable" outlook by Fitch, AAA with a "stable" outlook by S&P and Aaa with a "stable" outlook by Moody's Investors Service. These ratings are the highest ratings attainable from all three rating agencies.

Comparison of Debt Ratios to Selected Medians

A comparison to peer group medians is helpful because absolute values are more useful with a basis for comparison. In addition, the rating agencies combine General Fund and Transportation tax-supported debt in their comparative analysis. The sources for this information are reports issued by Moody's and S&P in 2018.

How North Carolina compares with its peers is presented below. Florida was upgraded over the last year and there are now thirteen states rated "triple A" by all three credit rating agencies (often termed "triple-triple A" or "AAA"). Our peer group states are of a diverse nature but all demonstrate adherence to certain underlying core values including prudent use (in some cases, extremely modest use) of debt although not all have a formal debt affordability process. As shown in Chart 7, the State's debt ratios are in line with or below the median levels for its peer group.

Chart 7

General Fund
North Carolina Net Tax-Supported Comparative Debt Ratios [(1)]

State	Ratings (Fitch/S&P/Moody's)	Debt to Personal Income % [(1)]	Debt per Capita [(1)]	Debt as % Of GDP [(1)]	Debt Service Ratio [(2)]
Iowa	AAA/AAA/Aaa [(3)]	0.5%	$219	0.37%	1.32%
Tennessee	AAA/AAA/Aaa	0.7%	312	0.63%	2.35%
Indiana	AAA/AAA/Aaa [(3)]	0.7%	295	0.57%	1.35%
Texas	AAA/AAA/Aaa	0.9%	410	0.73%	2.42%
Missouri	AAA/AAA/Aaa	1.2%	532	1.09%	3.25%
South Dakota	AAA/AAA/Aaa [(3)]	1.5%	694	1.25%	1.90%
North Carolina	AAA/AAA/Aaa	1.5%	611	1.20%	2.84%
Utah	AAA/AAA/Aaa	1.9%	772	1.52%	5.38%
Florida	AAA/AAA/Aaa	2.0%	889	2.02%	5.91%
Georgia	AAA/AAA/Aaa	2.4%	986	1.94%	6.13%
Virginia	AAA/AAA/Aaa	2.9%	1,515	2.60%	4.63%
Maryland	AAA/AAA/Aaa	3.7%	2,164	3.42%	5.94%
Delaware	AAA/AAA/Aaa	5.5%	2,587	3.48%	5.08%
	Peer Group Median	1.5%	$694	1.25%	3.25%

Projected Tax-Supported Debt Ratios [(4)]

North Carolina	Debt to Personal Income %	Debt per Capita	Tax-Supported Debt Service as a % of DAAC Revenues
2018 (Actual)	0.9%	$401	3.06%
2019	0.8%	384	3.09%
2020	0.8%	386	3.08%
2021	0.8%	387	3.04%

(1) Source: Moody's 2018 State Debt Medians.
(2) Source: S&P Report dated May 14, 2018.
(3) Implied by all three rating agencies. Have not issued GO debt.
(4) North Carolina projections are based on February 1, 2019 DAAC Report.

General Fund Guidelines, Debt Affordability Model and Results

General Fund Debt Capacity Recommendations

The Committee has adopted targets and outside guidelines to analyze and/or serve as the basis for calculating the recommended amount of General Fund–supported debt that the State could prudently authorize and issue over the next 10 years. Each measure is discussed in more detail below.

1. Net Tax-Supported Debt Service after contributions to unfunded liabilities as a percentage of General Tax Revenues should be targeted at no more than 4.50% and not exceed 4.75%;
2. Net Tax-Supported Debt as a percentage of Personal Income should be targeted at no more than 2.5% and not exceed 3.0%; and
3. The amount of debt to be retired over the next ten years should be targeted at no less than 55% and not decline below 50%.

Net Tax-Supported Debt Service as a Percentage of General Tax Revenues (4.5% Target, 4.75% Ceiling)

The Committee has adopted the measure of annual debt service arising from net tax-supported debt as a percentage of general tax revenues as the basis to evaluate the State's existing and projected debt burden for the General Fund and as the basis for calculating how much additional debt the State can prudently incur. The Committee notes that policy makers control both variables that determine this ratio. In addition, the Committee believes that by measuring what portion of the State's resources is committed to debt-related fixed costs, this ratio is a measure of the State's budgetary flexibility and its ability to respond to economic downturns. In 2012, Moody's stated that "the debt service ratio (is incorporated into) our assessment of fiscal flexibility, which measures the extent to which a state's operating budget is burdened by fixed costs. The larger the fixed costs, the less flexibility a state has to structurally balance its budget in response to discretionary cost growth and revenue volatility…" "[S]tates with high fixed costs have lower budgetary flexibility and are more likely to rely on one-time budget solutions, creating structural budget imbalances that are difficult to reverse."

Because there is often a time lag, sometimes of multiple years, between when debt is authorized and when it is issued, the Committee determined that an optimized solution, whereby a fixed amount of debt could be authorized and issued each and every year over the model horizon provides a more useful management tool, and facilitates capital planning more effectively, than a measure that assumes that all available debt capacity is utilized in the year in which it is available. It provides decision makers with an estimate of how much debt could be issued annually (over the full 10 years) without exceeding the limits even if the amounts authorized at any one time are much larger. In practice, the limit imposed by the year(s) of the least capacity over the model horizon drives the calculation process.

<u>DAAC Revenues</u>
The model uses general tax revenues adjusted for one-time or non-recurring items plus certain investment income and miscellaneous revenues ("DAAC Revenues"). These revenue items are contained in the State's Comprehensive Annual Financial Report. The Office of State Budget and Management ("OSBM") has been consulted to provide actual projections through FY 2029. See Appendix A for more details on the specific revenue items utilized by the model and the revenue projections utilized throughout the model horizon.

Debt Used in the General Fund Model Calculation
The model uses a definition of net tax-supported debt that includes all outstanding and authorized, but unissued, GO Bonds, Special Indebtedness, Capital Lease Obligations, Installment/Equipment Leasing Obligations and any other such obligations that are owed to a third party over a predetermined schedule payable from General Fund tax revenues. The remaining $1.4 billion of authorized but unissued Connect NC Bonds have been included. Excluded are obligations of Component Units, Highway Fund debt actually paid from Highway Fund revenues, unfunded amounts in the Pension Plans, Employment Security borrowings, OPEB liabilities and Energy Performance Contracts if the debt service is actually being paid from energy savings. See Appendix A for further details.

Debt Structuring Assumptions
The General Fund model uses a standard fixed-rate 20-year level principal or payment structure. See Appendix A for further details.

Model Solution

Illustrated below is the actual amount of new tax-supported debt that could be authorized and issued, by year after implementing the new policy regarding unfunded liabilities, and remain within the 4.50% target ratio.

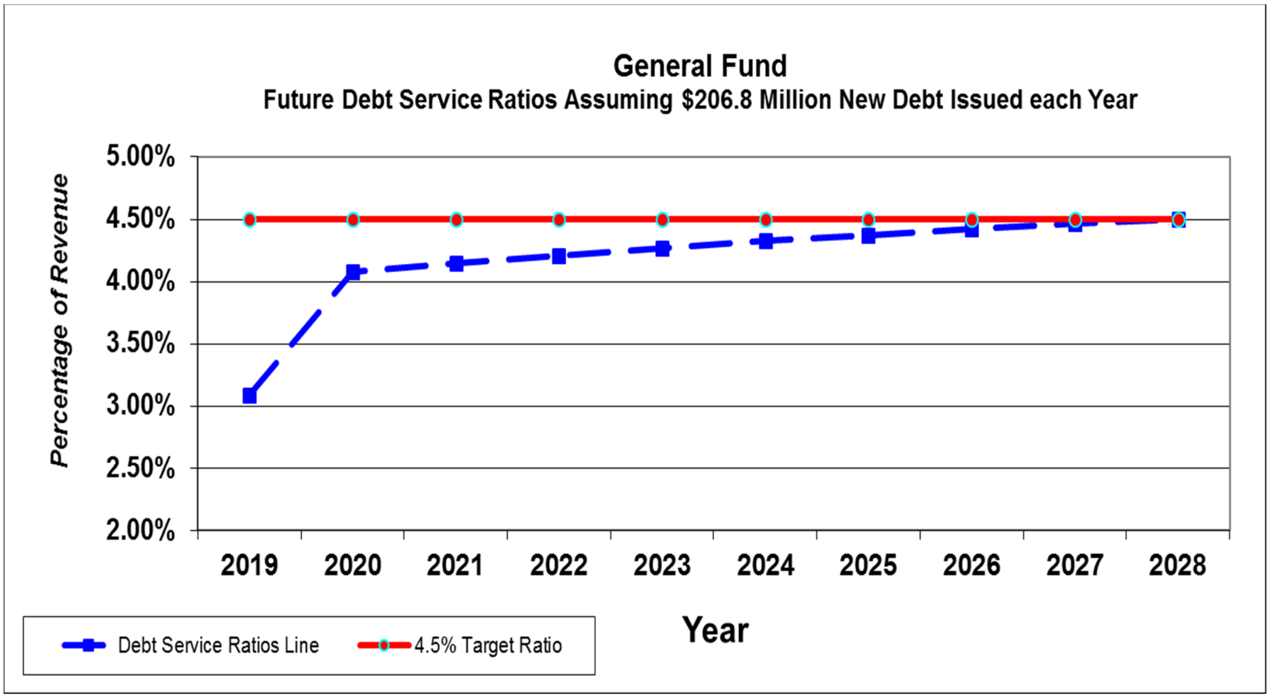
Table 4

General Fund - 2017-18 Policy
Debt Capacity using 4.5% debt service/revenues target ratio
(In millions of dollars)

Fiscal Year	2019	2020	2021	2022	2023
$ to Unfunded Liabilities	$213.4	$217.7	$236.4	$294.3	$359.3
Total Additional Debt Capacity per Year *	$1,364.6	$50.8	$56.7	$58.9	$61.2
Debt Capacity Available each and every Year	$206.8	$206.8	$206.8	$206.8	$206.8

* In addition to that already authorized but unissued. Assumes additional debt capacity is authorized and issued in stated fiscal year.

Chart 8



Sensitivity Analysis

The model results are highly sensitive to changes in revenue and interest rate assumptions. A one percent change, either up or down, in general tax revenues in each and every year of the model horizon will change the amount of annual debt capacity each and every year by approximately $19 million. A variation in revenues of $100 million per year will impact the amount of new debt that may be prudently issued each and every year by approximately $6 million. A one percent change, either up or down, in the interest rate assumption for all incremental model debt will change the amount of annual debt capacity each and every year by approximately $24 million.

General Fund Analysis – Other

Pension and OPEB Unfunded Liabilities

It is very clear that all three rating agencies are placing Pension and OPEB liabilities under greater scrutiny and yet these liabilities do not yet rise to the level of tax-supported debt. Fitch notes that "OPEB is a legally softer obligation than debt or pensions...". Moody's performs a comparative analysis in its ratings process and S&P adds positive and negative score factors within its ratings as a result of their analysis of pension and OPEB liabilities. The primary pension and OPEB plans covering North Carolina's teachers and state employees have total unfunded liabilities of $38.5 billion reported in North Carolina's 2018 the Comprehensive Annual Financial Report ("CAFR"). On a funding basis the combined total of the State's actuarially determined Pension and OPEB contributions are approximately 20% of the General Fund budget. It does not appear to be consistent with our leadership in this area to not begin to address these liabilities now.

Teachers' and State Employees' Retirement System

Although the State has fully funded the ARC for the TSERS in 76 of the last 77 years, the Net Pension Liability is $10.0 billion as reported in the 2018 CAFR. During 2018, the plan's discount rate was reduced from 7.20% to 7.00%. For the fiscal year ending in 2019, the Actuarially Determined Employer Contribution (ADEC) is approximately $1.7 billion.

The rating agencies have begun to explicitly account for pensions in their methodologies (using varying techniques) and The Center for Retirement Research at Boston College has found that "several governments have experienced downgrades that have been attributed, in part, to their pension challenges." These actions by the rating agencies highlight that pension plan assumptions continue to evolve and that for North Carolina to remain in the forefront of States in managing pension liability continuing analysis and potential change is necessary.

As part of the rating agencies' analyses, they are making certain changes to the information that states provide to standardize the data and make comparisons possible. The Fitch material for our "AAA" peer group is presented below. Of note, Fitch adjusts the discount rate for pension liabilities to 6.00%, well below the State's assumptions of 7.00%. When the adjusted net pension liability was combined with the net tax-supported debt burden as a percentage of personal income, Fitch found that North Carolina ranked 9th best when compared with all states and tied for 4th best among our 13-state peer group.

Table 5

2018 Debt and Fitch-Adjusted Pensions Information - "Triple-AAA" Peer Group				
State	Total NTSD ($000)	Fitch-Adj Total NPL ($000)	NTSD and Fitch-Adj NPL ($000)	NTSD and Fitch-Adj NPL as % of PI
Tennessee	$2,119,080	$4,582,269	$6,701,349	2.2%
Florida	18,916,300	11,655,901	30,572,201	3.1%
Iowa	1,998,130	2,634,653	4,632,783	3.1%
North Carolina	**6,409,800**	**8,870,564**	**15,280,364**	**3.4%**
Utah	2,420,764	2,144,303	4,565,067	3.4%
South Dakota	702,281	1,061,203	1,763,484	4.2%
Virginia	13,460,807	11,008,493	24,469,301	5.2%
Georgia	10,320,199	14,302,013	24,622,212	5.3%
Missouri	3,198,631	11,671,167	14,869,798	5.4%
Indiana	2,387,063	15,136,877	17,523,940	5.8%
Texas	17,763,256	77,210,110	94,973,366	7.1%
Delaware	2,439,600	3,184,668	5,624,268	11.8%
Maryland	14,963,401	37,179,608	52,143,009	14.2%
Peer Median	$3,198,631	$11,008,493	$15,280,364	5.2%
Peer Average	$7,469,178	$15,433,987	$22,903,165	5.7%

Source - FitchRatings - 2018 State Pension Update (November 12, 2018).

OPEB

Other Post-Employment Benefits that cover retiree healthcare costs (OPEB) plans administered by the State including the Retiree Health Benefit Fund. As reported in the CAFR, the State's Net OPEB Liability was $28.5 billion, a decrease from the prior year. The decrease is primarily attributable to a variety of factors including updated plan election, change in discount rate and improved claims and rebate experience. The Actuarially Determined Employer Contribution is estimated to be $2.61 billion. There has been minimal accumulation of assets in the Retiree Health Benefit Fund (approximately $1.3 billion as reported in the CAFR) which represents the contributions in excess of actual costs. An Employee Benefit Trust Fund (the "Solvency Fund") has been established to augment the assets of the Teachers' and State Employee' Retirement System and the Retiree Health Benefit Fund (see Appendix D.) No money has yet been allocated to the Solvency Fund.

The rating agencies are also making strides in incorporating OPEB liabilities as part of a fixed cost burden measurement (debt plus pensions plus OPEB), although their belief that governments have greater legal flexibility to change retiree health benefits than they do to change debt service or pension benefits coupled with a lack of consistent OPEB data across the states hampers such analysis. As new GASB rules governing the disclosure of OPEB liabilities take effect, greater comparability and measurement will be possible. Still, the rating agency emphasis continues to be on determining the State's flexibility and plans to address and manage OPEB costs. S&P in particular notes that "Although (North Carolina's) OPEB liabilities are high… the state has made adjustments…to control costs and provide a mechanism to accumulate assets". A table showing how North Carolina compares with the "AAA" peer group based on information complied by S&P is shown below.

Table 6

North Carolina Comparative OPEB Position ($ in Millions)

State	Unfunded OPEB	Total OPEB Liab	Combined Funded Ratio - All OPEB [1]	Unfunded OPEB per Capita	Combined actuarial annual OPEB cost [2]	Combined actual annual payment	% of annual actuarial cost paid	Valuation [2]
South Dakota [3]	$ -	$ -	$ -	$ -	$ -	$ -	0.0%	N/A
Utah	112	379	70.3	36	30	35	114.5%	12/31/2016
Iowa	192	192	-	61	24	11	44.7%	7/1/2016
Indiana	502	660	23.9	75	36	36	98.9%	6/30/2017
Tennessee	1,380	1,380	-	206	134	79	58.5%	7/1/2015
Missouri	2,746	2,871	4.4	449	188	97	51.5%	6/30/2017
Virginia	5,214	7,299	28.6	616	437	225	51.5%	6/30/2016
Delaware	8,256	8,611	4.1	8,582	543	239	44.0%	7/1/2016
Maryland	11,085	11,392	2.7	1,832	818	527	64.4%	6/30/2016
Georgia	17,739	20,077	11.6	1,701	873	250	28.7%	6/30/2016
Florida	19,891	20,069	0.9	948	801	248	30.9%	7/1/2016
North Carolina	32,726	34,360	4.8	3,185	2,752	1,012	36.8%	12/31/2016
Texas	88,692	89,801	1.2	3,133	8,101	1,513	18.7%	8/31/2017
Median	$6,735	$7,955	$4	$782	$490	$232	48.1%	N/A
Average	$15,711	$16,424	$13	$1,735	$1,228	$356	53.6%	N/A

1 Funded ratio for all OPEB plans combined for a given state.

2 Actuarial annual OPEB costs combined for all OPEB plans for a given state based on the dated acturial valuation report noted.

3 South Dakota does not offer OPEB benefits.

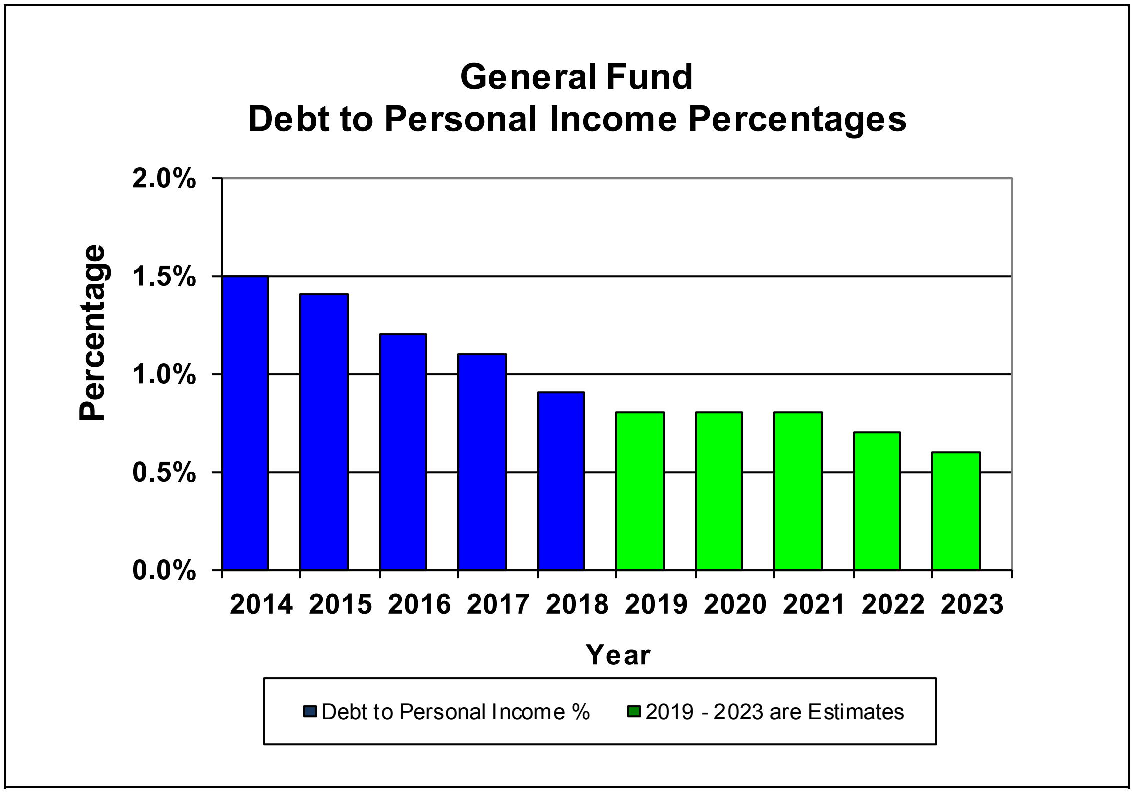
Source - S&P Global Ratings report dated November 28, 2018.

Net Tax-Supported Debt to Personal Income (2.5% Target, 3% Ceiling)

As required by statute, the Committee has also established guidelines for evaluating the State's debt burden as a measure of personal income.

The ratio of General Fund tax-supported debt to personal income actually peaked at 1.8% over 5 years ago and is anticipated to remain steady at just under 1.00% over the next 3 years before declining further assuming no additional authorizations. Chart 9 below shows the amount of tax-supported debt as a percentage of personal income.

Chart 9

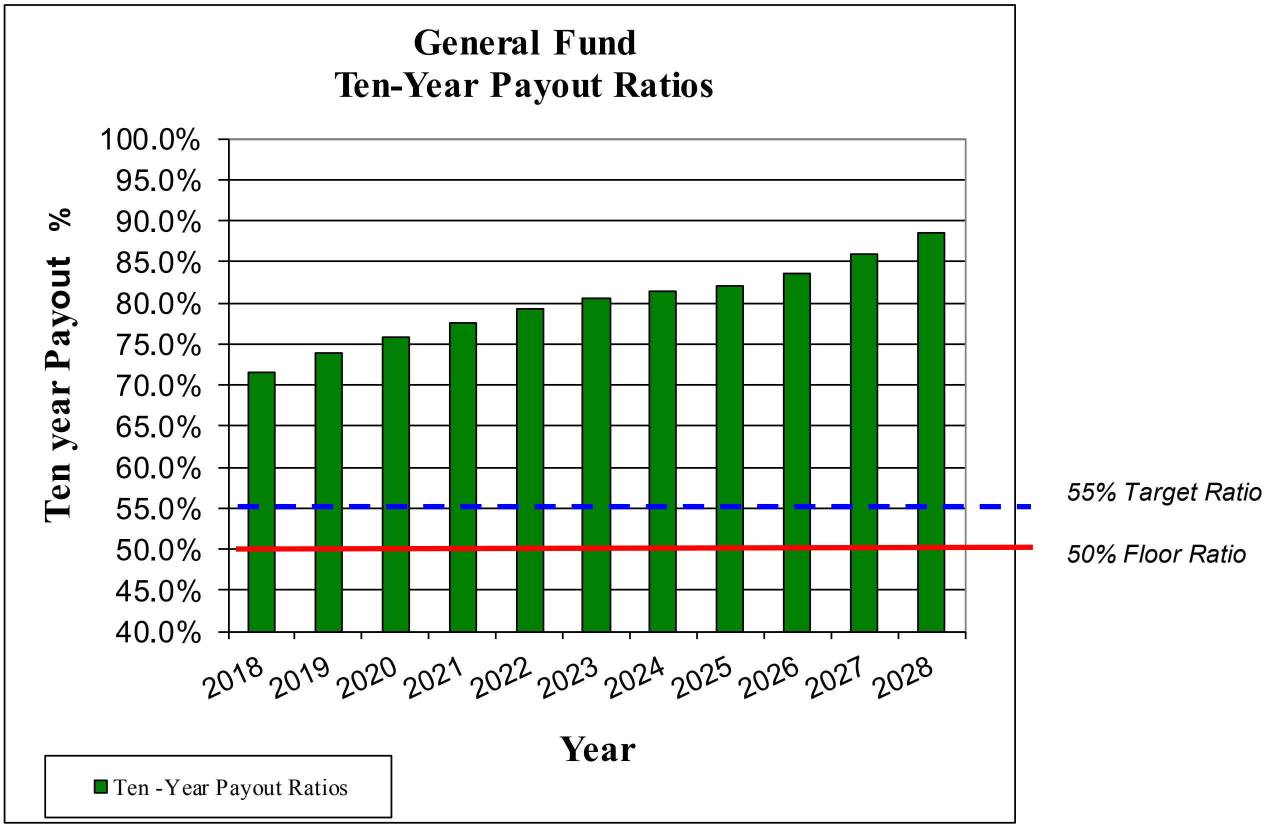


Source: Population and Personal Income statistics provided by "Moody's Economy.com", courtesy of the North Carolina General Assembly Fiscal Research Division.

Ten-Year Payout Ratio (55% Target, 50% Minimum)

The rating agencies consider the payout ratio (a measure of the period of time over which a State pays off its debt) as a credit factor. A fast payout ratio is a positive credit attribute. As illustrated in Chart 10 below, the State's payout ratio exceeds its targeted level and is projected to improve further. The chart illustrates that approximately 74% of the State's debt will be retired over the next 10 years (even after issuance of the Connect NC Bonds). Moody's notes that "...the state's debt is...structured for a rapid rate of retirement."

Chart 10



Level of Reserves

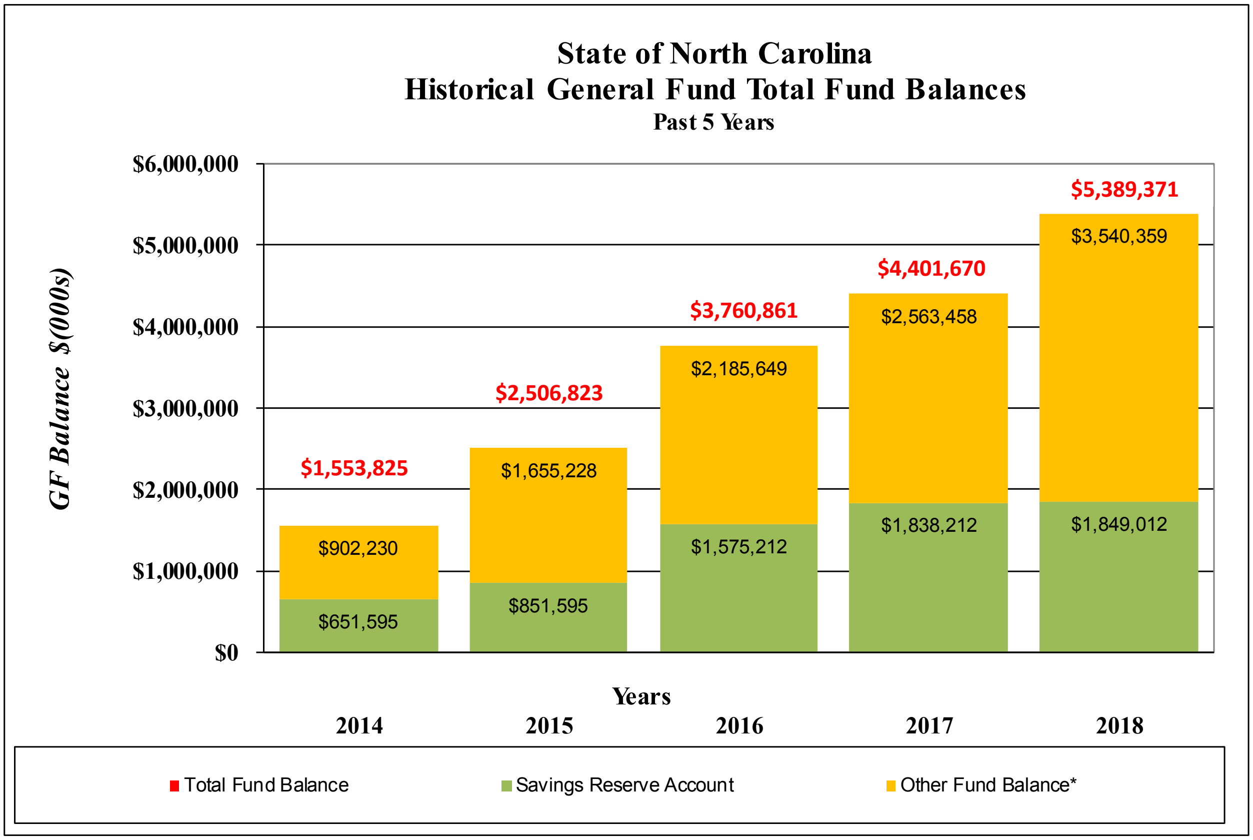
As discussed previously, the rating agencies place a great deal of emphasis on budgetary reserves. In a 2016 report, S&P stated that "States with well-funded reserves have greater flexibility to address shortfalls should and when they occur." However, in 2018 they cautioned that "...reserves... in a majority of states remain insufficient to absorb the first-year fiscal effects of a moderately severe recession."

The State ended FY 2018 with a positive fund balance in the General Fund of approximately $5.389 billion as calculated under generally accepted accounting principles ("GAAP"). This represents a significant turnaround from the negative ending balances experienced during the recession which reached -$778 million at June 30, 2009. The Savings Reserve ("Rainy Day Fund") which is part of the fund balance of the General Fund was reported at $1.849 billion in the CAFR and is currently at $1.254 billion. Notably $756.5 million of withdrawals were directed toward Hurricane Florence recover efforts (The Hurricane Florence Emergency Response Act (S.L 2018-134) and the Hurricane Florence Disaster Recovery Act (S.L. 2018-136)).

S.L. 2017-7 directed OSBM and the Fiscal Research Division (FRD) to establish a new goal for the Rainy Day Fund. Previously the target was 8% of the prior year's General Fund operating budget. The new target established in 2019 for the next fiscal year is $2.607 billion or 10.9% of the prior year operating budget. The Committee continues to recommend that sustainable structural budgetary balance and continuing provision for an adequate level of reserves remain a priority.

Chart 11 depicts the State's historic General Fund Balance on a GAAP basis over the last five years. The Rainy Day Fund is a budgetary reserve account and is not reported as an individual item in the GAAP basis financial statements, but is included as part of the fund balance.

Chart 11



* Major Components of "Other Fund Balance" are: Carry Forward Reserve, Emergency Response & Disaster Relief Fund, Medicaid Transformation Fund, Medicaid Contingency, Project Reserve, Non-Reverting Departmental Funds, Repairs and Renovations Reserve & Unreserved.

SECTION II

TRANSPORTATION DEBT AFFORDABILITY

Review of Transportation Funds, Debt and Other Commitments

Highway Fund

The Highway Fund accounts for most of the activities of the Department of Transportation ("DOT"), including the construction and maintenance of the State's primary and secondary road systems. In addition, it supports areas such as the North Carolina Ferry System and the Division of Motor Vehicles and provides revenue to municipalities for local street projects (termed "Powell Bill Transfers") and to other State agencies. The principal revenues are motor fuels taxes, motor vehicle registration fees, driver's license fees and federal aid.

Highway Trust Fund

The Highway Trust Fund was established by Chapter 692 of the 1989 Session Laws to provide a dedicated funding mechanism to meet the State's highway construction needs. The Highway Trust Fund also provides allocations for secondary road construction, to municipalities for local street projects and historically provided transfers to both the General Fund and the Highway Fund. The principal revenues are highway use taxes, motor fuels taxes and various fees.

The Highway Fund and the Highway Trust Fund are in many ways managed as a combined entity. Certain transportation revenues are deposited in each fund on a formulaic basis. For example, the Highway Fund receives three-fourths of the Motor Fuels Tax and the Highway Trust Fund receives the remaining one fourth. However, various combined expenditures are routinely paid from one fund or another. For example, salary expenses associated with the management of the Highway Trust Fund are actually paid out of the Highway Fund and debt service on the existing Highway GO Bonds is paid from the Highway Trust Fund. Powell Bill transfers are made from both Funds. Due to the interdependent nature of these funds, the Committee has determined that it is most useful to calculate the available debt capacities of these funds (collectively "Transportation Funds") on an aggregate, rather than individual, basis. The resulting debt capacity is termed the "Transportation" debt capacity and is reported separately from, but is then combined with, General Fund capacity. Pew found that providing a separate calculation "allows policymakers to both focus in on liabilities of particular interest and take a broader view of the state's long-term obligations."

On a combined basis, the Highway Fund and Highway Trust Fund are primarily involved with construction and maintenance of the State's highways. From total budgeted sources in FY 2017, the Transportation Funds in total allocated approximately 89 percent ($4.45 billion) to capital intensive infrastructure improvements (Transportation Improvement Plan ("TIP") Construction, Highway Maintenance and Other Construction).

Highway Debt

The State has a long history dating back to 1921 of authorizing debt to fund transportation projects. The last such GO authorization (the "State Highway Bond Act of 1996") authorized $950 million to finance the capital costs of urban loops ($500 million), Intrastate System projects ($300 million) and secondary highway system paving projects ($150 million). The outstanding amount of Bonds authorized by the 1996 Act as of June 30, 2018 was $101 million and they are scheduled to be fully retired in 2020.

The 1996 Act stated the General Assembly's intention to pay the debt service on the Bonds from the Highway Trust Fund, but did not pledge the Highway Trust Fund revenues to make such payments. Although the Act contained amendments regarding the priorities of the payment of funds from the Highway Trust Fund to provide for the payment of debt service, *such funds are not pledged* to secure the Bonds. Instead, the bonds are secured by "the faith and credit and taxing power of the State." As such, the bond rating agencies did not analyze the ability of the Highway Trust Fund on a stand-alone basis to service the debt when assigning their ratings.

Build NC Bonds

Build NC Bond Act of 2018
The Build NC Bond Act authorizes the issuance by the State Treasurer of up to $3 billion bonds for regional and divisional transportation projects contained in the Statewide Transportation Improvement Plan subject to a number of constraints including Council of State approval, cash balances, measured at specific times, that dip below $1 billion, a recommendation from the Treasurer that the Bonds be issued, an issuance limitation of no more than $300 million per year and compliance with the limitations contained in the DAAC Study. The Bonds, authorized as Special Indebtedness, are also subject to the provisions of Chapter 142, Article 9 (the State Capital Facilities Finance Act). The authorization expires December 31, 2028. The Bonds are to be paid by appropriations from the Highway Trust Fund. Although the projections provided to the Department of State Treasurer during the legislative process showed that the first issuance was a number of years away, the Department of Transportation is now requesting the first issuance of $300 million by June 30, 2019. The bonds are limited to a 15-year final maturity.

General Obligation Bonds versus Special Indebtedness-Transportation Rating/Cost Implications

As discussed above, the State's outstanding Highway Bonds were issued as GO Bonds and are not secured by any transportation revenues, but enjoy an implied General Fund back-up. As a result, the bonds were rated on a parity with the State's other GO Bonds ("AAA"), permitting them to be issued at the lowest possible interest rates. If the Bonds had not been on a parity basis but been rated on a stand-alone basis based solely on transportation backing, they may not have been rated at the same level as the State's GO Bonds. As described below, at least one rating agency explicitly rates bonds supported by transportation revenues at two notches below the State's "AAA" rating.

Special Indebtedness, backed solely by Transportation funds, may not be rated as highly as the appropriation-supported bonds backed by the General Fund. For example, the "Gap-Funded" bonds issued for the Triangle Expressway project where transportation appropriations provide for the payment of debt service were only rated Aa2 by Moody's, AA- by Fitch and AA by S&P at the time of issuance. (Note that Moody's and S&P have since upgraded the bonds to Aa1/AA+ but Fitch has not changed its rating.)

Authorized as Special Indebtedness, the Build NC Bonds are likely to experience an interest rate penalty of 5-25 basis points, depending upon market conditions, compared to if they had been authorized as GO debt. This penalty ranges from approximately $13.5 million to $67.6 million over the life of the entire amount of $3 billion.

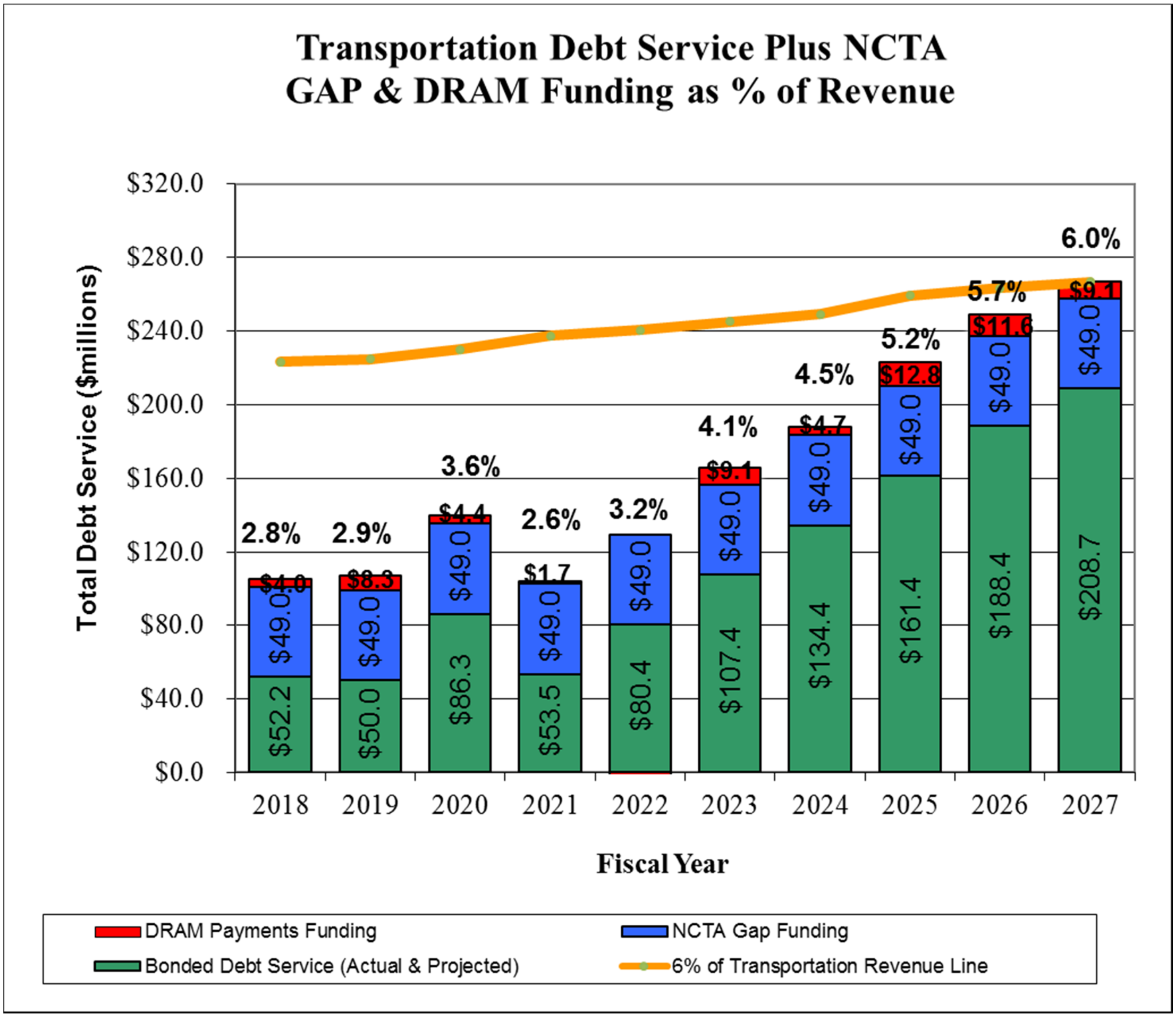
Of additional consideration is that bond counsel has determined that any bonding structure that involves a true pledge of transportation revenues, the source of which is state-wide taxes or user fees, would most likely require a voter referendum.

As a result of these factors, the Committee does not advocate the use of transportation-supported stand-alone Special Indebtedness and instead advocates the use of GO Bonds for Transportation debt.

Debt Service

Debt Service on Highway Bonds peaked in FY 2006 at $93.6 million. The amount of actual debt service supported by Transportation funds will increase as the Build NC Bonds are issued to over $270 million in FY 2028. Debt service, both on an absolute basis and as a percentage of Transportation revenues, is illustrated below. As discussed in more detail in Appendix B, appropriation of funds to support debt obligations under the Build NC Bonds, bonds issued by the North Carolina Turnpike Authority and any “availability payments” or other long term contractual arrangements that support P3 projects or similar arrangements are treated the same as any other debt service obligation. This is consistent with rating agency treatment. See Appendix B for further details and a discussion of the Build NC Bonds and the debt capacity limitations.

Chart 12



Grant Anticipation Revenue Vehicle Bonds ("GARVEEs")

A review of Transportation-related debt would be incomplete without a discussion of the State's GARVEE program. Although not supported by State Transportation or General Fund revenues and therefore not technically a part of the Transportation debt affordability model, GARVEEs do represent a financing vehicle that provides significant funds to the State to accelerate transportation projects.

North Carolina General Statute §136-18 (12b) as codified by Session Law 2005-403 ("the GARVEE Act") authorized the State to issue GARVEEs to accelerate the funding of transportation improvement projects across the State. GARVEEs are a revenue bond-type debt instrument where the debt service is to be paid solely from future federal transportation revenues and has no other State support. The State has issued multiple series of GARVEEs and the outstanding amount is currently $516.8 million. The ratings assigned by Fitch, S&P and Moody's for NC's GARVEEs are, respectively:

A+/AA/A2. The low amount of GARVEE debt service relative to the federal reimbursements (approximately $99 million for FY 2018 versus actual collections of approximately $1.17 billion) means that federal sequestration should not impair bondholder payments. In 2017, the State refunded approximately $244 million of GARVEE bonds achieving savings of approximately $20 million.

Currently the State's financial advisor estimates additional GARVEE capacity of close to $1.5 billion.

North Carolina Turnpike Authority

The North Carolina Turnpike Authority ("NCTA") as a part of the Department of Transportation is authorized to construct and operate toll roads within the State and to issue revenue bonds to finance the costs. The General Assembly has authorized funding to "pay debt service or related financing costs" for various series of revenue bonds issued by the NCTA (called "gap funding"). The NCTA currently has $707.1 million of such bonds outstanding that provided funding for two projects: the Triangle Expressway project and the Monroe Connector project. The NCTA also has approximately $800.6 million in toll-supported debt outstanding for these projects.

<u>NCTA Build America Bonds ("BABs") and Federal Sequestration</u>
As part of the plan of finance for both the Triangle Expressway project and the Monroe Connector project, the NCTA issued BABs of which approximately $254 million is outstanding. These bonds depend upon a federal subsidy to make a portion of the interest payments due to bondholders. The federal subsidy was reduced by approximately $765,532 for FY 2018 due to Federal Sequestration. Reductions of a similar or slightly lesser size are anticipated for a number of the years into the future. DOT reports that there were sufficient funds in the general reserve accounts associated with these financings to make up for the shortfall so that bondholders were not affected. In addition, the debt service reserve funds for these issues totaled approximately $20 million at June 30, 2018 and the total (net) annual subsidy for the current federal fiscal year totals nearly $10.8 million.

Other Transportation Expenditures

Consistent with its treatment for General Fund debt affordability, the Committee does not advocate including non-debt related Transportation obligations or commitments in the definition of liabilities when measuring debt capacity. It is useful, however, to review the level of ongoing administrative and other recurring expenses/transfers when analyzing the level of flexibility in the Transportation Funds. From FY 2014, the levels of these commitments are shown below both with and without debt service as a percentage of total Transportation Revenues, including federal revenues. Over the last five years, between 11 percent and 17 percent ($474 million and $665 million respectively) of total Transportation revenues are allocated to administrative costs, transfers and debt service.

Chart 13

Transportation Expenses by Year

($ Dollars in Millions)

	2018	2017	2016	2015	2014
Total Transportation Revenues [1]	$5,112.1	$5,054.3	$4,819.0	$4,617.0	$4,726.9
Administration [2]	$284.8	$278.2	$293.0	$278.2	$264.0
Powell Bill Transfers	147.5	147.2	147.7	147.1	145.6
Transfers to Other State Agencies	42.0	38.0	72.9	272.8	255.4
General Fund Transfers	-	-	-	-	-
Expenditures excluding Debt Service	$474.3	$463.4	$513.6	$698.1	$665.0
% Total Transportation Revenues	9%	9%	11%	15%	14%
Debt Service					
Bonds	$52.2	$60.9	$48.6	$59.8	$73.1
GAP Funding	49.0	49.0	49.0	49.0	49.0
Total Debt Service [3]	$ 101.2	$ 109.9	$97.6	$108.8	$122.1
Total Expenditures	575.4	573.3	611.2	806.9	787.1
% Expenditures/Revenues	11%	11%	13%	17%	17%

(1) Includes Federal Revenues.
(2) Prior year administrative expenses have been restated to be net of receipts.
(3) State tax-supported debt service.

Comparative Transportation Ratios

Using 2018 information where available, the State's transportation-related debt service as a percentage of State transportation revenues appears modest when compared with a peer group composed primarily of states in the Southeast region but also certain other states selected after consultation with DOT. Within the peer group, both Missouri and South Carolina utilize an approach that limits transportation debt separately from other state-level debt. In contrast, Georgia measures available debt capacity on a combined basis, but has dedicated a great deal of that capacity toward transportation priorities as shown in Chart 14 below. Finally, Tennessee has not issued state-level debt for transportation purposes.

Chart 14

Transportation Historical Peer Group Comparisons

State	Ratings (1)	Maturity Limit (Yrs.)	Transportation DS % of Transportation Revenues (2)	
			Ratio	Year
Tennessee (3)	AAA/AAA/Aaa	N/A	0.00%	2018
North Carolina	**AAA/AAA/Aaa**	**25**	**2.83%**	2018
South Carolina (4)	AAA/AA+/Aaa	15-20	7.77%	2017
Florida (5)	AAA/AAA/Aa1	30	10.40%	2019 (Proj.)
Virginia (6)	AAA/AAA/Aaa	25	8.20%	2017
Kentucky (7)	AA-/A+/Aa3	20	10.18%	2018
Missouri (8)	AAA/AAA/Aaa	20	11.11%	2018
Texas (9)	AAA/AAA/Aaa	30	7.14%	2017
Georgia (10)	AAA/AAA/Aaa	20	6.40%	2017
	Median		***7.77%***	
	Average		***7.11%***	

(1) Fitch / Standard & Poor's / Moody's (updated in 2019).

(2) Excludes GARVEE debt service (if any) and Federal Revenues.

(3) Tennessee finances transportation on a pay-as-you-go basis.

(4) Ratio of general obligation Highw ay Bonds.

(5) Department of Transportation total projected debt and contractual obligations as a percentage of net available revenues.

(6) Virginia's state combined debt service, pension, and OPEB contributions in fiscal 2017 as a % of ow n-source governmental revenues.

(7) Ratio calculated from Kentucky's 2018 CAFR.

(8) Ratio calculated on Missouri state road bonds Senior Lien, per Moody's.

(9) Texas state revenue includes motor fuels taxes, vehicle registration fees and other, smaller state revenues. Debt service is for the first tier State Highw ay Fund revenue bonds

(10) Georgia net tax-supported debt and pledged revenues (excluding GARVEE Bonds).

Transportation Debt Guidelines, Affordability Model and Results

The rating agencies view all debt supported by state-wide, generally applied taxes and/or user fees to be "Tax-Supported Debt". This combined treatment extends to all General Fund-supported, and to Highway Fund and Highway Trust Fund-supported ("Transportation Fund") debt. Some analysts apply the same treatment to debt supported by non-State revenues such as GARVEE bonds. The Committee recognizes that the rating agencies compare the State to its peers utilizing a broad measure of Transportation and General Fund debt, and has reviewed the State's relative status on this basis (see Chart 7).

However, the State of North Carolina has a long history of viewing the debt supported by the General Fund as tax-supported debt and its Highway Bonds as being non-tax supported (in this case, Highway Trust Fund-supported) debt. The State's existing debt affordability model excludes both transportation revenues and transportation debt service as components of the General Fund calculation. Continuing this practice, the Committee has determined that it should adopt a measure of Highway Fund and Highway Trust Fund debt capacity that is separate and distinct from that calculated for the General Fund. Although not common, this practice has been discussed with the rating agencies who understand North Carolina's incremental and separate approach to debt affordability measurement.

The Committee also recognizes the inherent differences between the General Fund and the Transportation Funds, not only in terms of the revenue streams, but also in terms of the commitments on those revenues. In addition, the State's transportation "enterprise" is, by its nature, a long-lived, capital intensive, rapidly growing program. As such, a customized individual debt capacity model is appropriate to measure the debt capacities of the Transportation Funds and the Committee believes that an individual Transportation debt capacity calculation is consistent with the legislative intent of S.L. 2007-551. As stated earlier, Pew found that providing a separate calculation for transportation "allows policymakers to both focus in on liabilities of particular interest and take a broader view of the state's long-term obligations."

Due to the interdependent nature of the Highway and Highway Trust Funds as discussed earlier, the Committee has determined that it is more useful to calculate the available debt capacities of these Funds on an aggregate, rather than individual, basis. The resulting debt capacity is termed the "Transportation" debt capacity.

The Committee has adopted the ratio of annual transportation-related debt service as a percentage of State transportation revenues as the measure to evaluate the level of Transportation debt capacity. By measuring what portion of the State's transportation resources is committed to debt-related fixed costs, this ratio reflects the flexibility (or lack thereof) to allocate transportation resources to other priorities.

Revenues Used in the Transportation Model Calculation

The model uses a definition of State transportation revenues that includes an aggregate of all State-level revenues deposited into the Highway Fund and the Highway Trust Fund including the motor fuels tax, highway use tax, motor vehicle license tax and certain non-tax revenue such as investment income. Consistent with the model mechanics for the General Fund, there is no deduction for projected transfers to the General Fund, Powell Bill transfers or other non-debt commitments. Federal transportation revenues are specifically excluded from the definition of revenues used to calculate Transportation debt capacity as federal revenues have been pledged to the State's GARVEE program and are not available to back other transportation-related debt.

Debt Used in the Transportation Model Calculation

The model uses a definition of State transportation debt service that includes Build NC Bonds, Highway GO Bonds, gap funding, availability payments and long term contractual payments to support P3 or other structures (see Appendix C for further discussion of DRAM payments) but excludes the GARVEEs supported by federal revenues. There are currently no tax-supported capital lease obligations that need to be included. Highway Trust Fund support for debt issued by the North Carolina Turnpike Authority is included as a liability for model purposes.

Debt Structuring Assumptions

The standard calculation of the Transportation debt affordability model assumes that model debt is fixed-rate 25-year maturity debt with an average interest cost of 6.15% and a level debt service profile after the first year. This year, the Build NC Bonds were loaded into the model with the following assumptions:

- Fixed rate debt issued at 4%
- Level debt service after the first year
- 15-year final maturity
- $300 million annual issuance

There is no incremental model debt because the Build NC Bonds exhaust available capacity.

Transportation Debt Capacity Guidelines

The Committee has adopted a guideline of 6% for transportation-related debt service as a percentage of state transportation revenues. In doing so, the Committee determined that the Transportation Funds enjoy a greater degree of budgetary flexibility than does the General Fund, and the Committee determined that the State's Transportation funds could support a higher ongoing level of debt service as a percentage of revenues than was deemed appropriate for the General Fund. However, the Committee also determined not to adopt the same 15% guideline for Transportation debt capacity as was contained in the GARVEE legislation because GARVEEs have higher annual debt service requirements due to their shorter maturity. Note that when the GARVEEs were first issued, 12 years was the standard maturity in the marketplace. This has commonly been replaced with a 15-year maturity structure, with some advisors recommending a 20-year structure. The effect is that a longer maturity allows more GARVEE debt to be issued than originally contemplated under the limitations adopted.

Table 7

Transportation

Net Tax-Supported Debt Capacity using 6.0% debt service/revenues target ratio

(In millions of dollars)

Fiscal Year	2019	2020	2021	2022	2023
Total Additional Debt Capacity per Year *	$0.0	$0.0	$0.0	$0.0	$0.0
Debt Capacity Available Each and Every Year	$0.0	$0.0	$0.0	$0.0	$0.0

* In addition to that already authorized but unissued. Assumes additional debt capacity is authorized and issued in stated fiscal year. GAP Funding for North Carolina Turnpike Authority projects assumed to total $49 million annually.

Model Assumptions regarding Revenue Growth

The model uses NCDOT estimates for the revenues over the model horizon (see Appendix B).

Build NC Bonds Capacity Constraints

Because the Build NC Bonds have a shorter maturity structure than the standard calculation methodology, the issuance of the Bonds will more than exhaust available transportation debt capacity. Specifically, only $137 million of Build NC Bonds may be issued in FY 2027 and 2028 to remain at the 6% limit. If the full $300 million were to be issued in those years, Transportation debt service as a percentage of revenues would reach 6.64% in FY 2028.

The modest decline in the amount that could be issued (total $274 million) to stay within the 6% limitation is more than made up by the amount of premium achievable on the remaining issuances of $2.726 billion. Assuming the market's appetite for premium structures (higher coupons and initial prices above par) remains unchanged, the State's financial advisor estimates that an additional $460 million of proceeds could be realized from premium, bringing the total of projects that would receive funding to $3.186 billion.

Depending upon the reactions by the rating agencies and financial markets to the Build NC Bonds, the Committee may choose to revisit the 6% guideline for Transportation Debt in the future, but it is not recommended at the present time due to the factors discussed above and that the capacity limitations do not cause issuance limitations for a considerable time. See also Sensitivity Analysis below.

Sensitivity Analysis

Because there currently exists no transportation debt capacity, sensitivity analysis is only somewhat useful. If revenues were to increase above projections by $15 million in 2027 and $484 million in 2028, the full amount of the Build NC Bonds could be issued in those years.

SECTION III

Transportation and General Fund Ratios Combined

The Committee adopted the 6% Transportation guideline after analyzing the State's position relative to its peer group on an aggregate basis (General Fund and Transportation Funds combined), consistent with rating agency practice. Illustrated below is how the State appears on a combined basis utilizing debt service as a percentage of revenue percentages for both the General Fund and the Transportation Funds. The Committee notes that the combined ratio (3.16% in FY 2020) is below the 4.50% target and is substantially below the 4.75% ceiling.

Table 8

General Fund and Transportation Funds
Combined Debt Service / Revenue Percentages

Fiscal Year	2019	2020	2021	2022	2023
General Fund	3.09%	3.08%	3.04%	2.85%	2.65%
Transportation *	2.87%	3.64%	2.63%	3.15%	4.05%
Combined	3.06%	3.16%	2.99%	2.89%	2.84%

Note: Percentages are based on forecasted revenues and debt service.

* GAP Funding for North Carolina Turnpike Authority projects assumed to total $49 million annually.

Appendix A
Other Recommendations

1. Policy Recommendation Contributions to the Solvency Reserve and adopting a 4.50% guideline for General Fund Debt Capacity

The DAAC is repeating its recommendation to begin funding the unfunded Pension and Other Post-Employment Benefits (OPEB) obligations that represent retired employee's health benefit costs. The State currently has Net Pension and OPEB Liabilities totaling approximately $38.5 billion and the bond rating agencies are scrutinizing these liabilities more carefully. However, they also recognize the actions the State has taken to control costs and provide a vehicle for asset accumulation. S&P notes that "Although North Carolina's reported OPEB liabilities remain high...the state has made adjustments to the benefits...and established an employee benefit trust fund to control costs and provide a mechanism to accumulate assets." While the Rating Agencies applaud the steps the State has taken by recognizing the liabilities in the DAAC Study and establishing the Solvency Fund, the State needs to take concrete steps to begin funding the liabilities.

The Committee recommends that the General Assembly adopt policies to fund these liabilities. Now that the State has established the trust (the "Solvency Fund") the Committee believes a policy should be adopted to begin funding appropriations to the Solvency Fund.

The Committee believes this bold policy action is needed due to the size of these unfunded liabilities and the significant focus on these issues by all those interested in the fiscal status of public entities. Rating agencies have created new tests to make comparisons of units of government with these unfunded liabilities and investors and citizens have taken increased interest in how governments are responding to challenges caused by the increasing levels of these liabilities. While the State Treasurer is leading the charge to reduce fees on investments and reduce the assumed rate of return on retirement funds so that it reflects current reality, and while he intends to reduce the overall costs of the State Health Plan, that alone is not enough.

By taking this step, the State will begin meeting these liabilities with funding on an annual basis while still addressing capital infrastructure needs with a very measured increase in overall risk in terms of a modest increase to the debt service/revenues target ratio. This target will still be below the current ceiling of 4.75%.

Why is this step needed? The unfunded liability in Pensions and OPEB is growing faster and has reached a level where it should not be ignored. North Carolina has long been known as a government, maybe the premier government, in the recognition and practice of good fiscal stewardship. Taking actions now to begin addressing this issue is consistent with that reputation and the conservative nature of the State. It puts the issue front and center before all those who live, work, and invest in our State - in other words, all those who depend on the State to continue to perform.

We believe the rating agencies and other stakeholders will now expect concrete steps to devote money on a consistent basis to begin addressing the liabilities. Moody's in particular, noted that the State's 2017 DAAC Report "included pension and OPEB liabilities...and directed dollars ...towards the payment of unfunded pension and OPEB liabilities."

Furthermore, we would also not abandon our responsibility to keep up critical infrastructure by adopting the 4.50% guideline and we would make a well measured and relatively small increase in risk to address both of these critical issues. We therefore believe this move will be seen as a positive step to preserve the fiscal standing of the State and as such should strengthen our AAA standing with rating agencies while keeping North Carolina in the forefront of states when it comes to fiscal responsibility.

2. Control of Debt Authorization Authority

As an alternative to traditional debt structures, historically various agencies have proposed "off balance sheet" types of arrangements and/or specialized financing structures to provide funding for capital projects, including various lease structures and other agreements arranging for payments made over time subject to the availability of funds. Not only do such structures typically result in more expensive financing and issuing costs, they also circumvent the State's historically conservative debt management practices. The Committee continues to strongly recommend that the State of North Carolina maintain its historically conservative debt management practices with regard to (1) centralized debt authorization, (2) centralized debt management and issuance and (3) classification of debt and debt-like obligations when determining the debt burden. These practices are among those considered by the rating agencies when assigning their "triple A" ratings to the State and ultimately allow the State to maintain a healthy financial position.

Centralized debt authorization, issuance and management are considered one of North Carolina's credit strengths. As stated by Fitch the "Issuance and management of all North Carolina debt is centralized" and "Centralized management of debt in North Carolina is a credit strength" further noting that the "treasurer approves execution of each financing". The Committee believes that centralized debt management is a key best financial management practice and should be embraced by the State as a matter of policy.

3. State Aid Intercept

In a number of recent legislative sessions, there has been legislation discussed and/or proposed that would provide for the timely payment of special obligation bonds issued for the constituent institutions of the University of North Carolina by requiring the State to "intercept" General Fund appropriations to those entities in order to make debt service payments on "self-liquidating" indebtedness issued pursuant to G.S. 116D. Similar proposals have been discussed and put forth by other State entities. In essence, this back-stop of debt service obligations by the State's General Fund provides a form of bond insurance resulting in higher credit ratings and provides the issuer with debt service savings. Staff has been informed that the UNC Board of Governors will again consider a State Aid Intercept proposal for this legislative session.

The Committee strongly opposes on policy grounds providing credit support for debt issues whose source of repayment was and is represented to be project revenues. The use of State appropriations is not currently permitted to be used to pay debt service on such debt issues. In addition, the proposals have not provided for appropriate levels of State oversight and control for debt issues that may potentially utilize the State's debt capacity and increase its debt burden.

4. Consider General Obligation Bonds as the preferred financing method

The Committee notes that the State has recently relied extensively, although not exclusively, on the authorization of Special Indebtedness to finance capital projects. Due to the potential debt service savings and increased transparency, the Committee believes that General Obligation bonds should be considered the preferred, but not the exclusive, method to debt finance the State's capital needs.

5. Structural Budget Balance and Reserve Replenishment

The Committee confirms its view that North Carolina's priorities of achieving structural budgetary balance and rebuilding the State's reserve funds are strong evidence of financial stability and flexibility. The Committee recognizes that long term budgetary stability and reserve fund replenishment are key factors in maintaining our "triple A" bond rating. In its 2016 report, Moody's states that a "Return of structural imbalance, evidenced by…recurring general fund spending outpacing recurring general fund revenues…" could result in a reduction in North Carolina's bond rating. Under the provisions of S.L. 2017-57, the Savings Reserve ("Rainy Day Fund") balances will be further bolstered (see Appendix D for further discussion).

Appendix B

General Fund Revenues and Liabilities and Debt Affordability Model 10-Year Solutions

DAAC Revenues

The model uses general tax revenues adjusted for one-time or non-recurring items plus certain other revenue items deemed available to service debt from the most recently available *Comprehensive Annual Financial Report.* The following items are included:

General Fund Tax Revenues

- Individual Income Tax
- Corporate Income Tax
- Sales & Use Tax
- Franchise Tax
- Insurance Tax
- Beverage Tax
- Tobacco Products Tax
- Other Taxes

Other General Fund Revenue Items

- Investment Income
- Miscellaneous Revenues

Revenue Growth and Other Assumptions

Changes to revenue estimates have a significant impact on the calculation of available debt capacity because of the multiplier effect of compounding growth over the ten-year period. Such projections are especially important when they reflect changing or differing economic outlooks.

In consultation with OSBM, DAAC revenue projections are assumed to be as follows:

Table 9

General Fund Revenue ($ millions) (1)
Used in the Debt Affordability Model *

Fiscal Year	Revenues ($ millions)	Growth Rate	Fiscal Year	Revenues ($ millions)	Growth Rate
2018	$22,881.8	4.1%	**2024**	$27,762.0	4.0%
2019	23,339.7	2.0%	**2025**	28,872.4	4.0%
2020	23,794.5	1.9%	**2026**	30,027.3	4.0%
2021	24,679.4	3.7%	**2027**	31,228.5	4.0%
2022	25,667.5	4.0%	**2028**	32,477.6	4.0%
2023	26,694.2	4.0%	**2029**	33,776.7	4.0%

* General Fund recurring tax revenues, miscellaneous revenues and Treasurer's investments per OSBM.

(1) Fiscal Years 2019 - 2029 revenue forecast as of December 2018. Fiscal Year 2018 is budgetary actual.

Liabilities

To calculate net tax-supported debt, credit analysts take into account all debt supported by general tax revenues. This debt position shows the amount of indebtedness serviced from an issuer's General Fund; that is, it reflects the debt service payments made directly from tax revenues and is known as net tax-supported debt. Although a consensus appears to exist among credit analysts as to the appropriateness of using net tax-supported debt as the standard for determining an issuer's debt position, there is less unanimity about the precise calculation. The Committee has determined to exclude self-supporting debt from its calculations.

The model uses a definition of net tax-supported debt that includes GO Bonds, Special Indebtedness, Capital Lease Obligations, and any other obligations that are owed to a third party over a predetermined schedule and paid from General Fund Revenues. Should mandatory payments be due to contractors or others under P3s, "Design/Build/Finance" or other such arrangements, those payments would be counted as a liability for the model. Obligations of Component Units, Highway Fund debt that is paid from Highway Fund revenues and other self-supporting debt, including performing Energy Performance Contracts where the debt service is actually being paid from energy savings, are also excluded.

The model includes the actual debt service from all outstanding net tax-supported debt and for all authorized, but currently unissued, tax-supported debt if such issuance does not require further action on the part of the General Assembly.

The following is a list of those liabilities that are included in the General Fund model (outstanding amounts as of June 30, 2018):

- GO Bonds supported by General Fund Tax Revenue - $2.3 billion
- General Fund appropriation-supported debt
  - Limited Obligation Bonds - $1,784.0 million
  - Certificates of Participation- $0.0 million
  - Capital Leases, Installment Purchase Contracts and Equipment lease obligations determined to be state-supported and/or pursuant to G.S. 147-33.72H - $28.1 million

Liabilities not included in the General Fund model (outstanding amounts as of June 30, 2018):

- Highway Construction General Obligation Debt supported by Highway Trust Fund - $ 101.3 million

- Short Term Tax Anticipation Notes (not supported by General Tax Revenue) - $0

- Obligations of the University of North Carolina System or other Component Units – $7.4 billion

- Energy Performance Contract obligations where such obligations are guaranteed and approved pursuant to G.S. 142-64 and not supported by separate appropriations - $268.8 million issued with $196.8 million outstanding

- OPEB

- Pension liabilities

- Employment Security advances from the US Treasury not anticipated to be paid from General Fund revenues.

Note: Although these liabilities may not constitute tax-supported debt, some are obligations of the State or various component units and the State's General Fund, although not legally obligated to, could be called upon to service these obligations if necessary.

Debt Structuring Assumptions

The following assumptions were used in this year's debt affordability model calculations:

- The State does not have any outstanding Variable Rate Debt and is not expected to issue any over the model horizon.
- The State will issue the Connect NC Bonds at fixed rates over the next three years with a 20-year level principal payment profile and a budgeted interest cost at 5.75%.
- The State does not currently have any authorized but unissued non-GO debt.
- Incremental model debt will be structured with a fixed rate 20-year maturity, a 6% interest rate, and an overall level debt service profile after the initial year.

Note on Issuance of the Connect NC Bonds

The Connect NC Bonds ($2 billion authorized/$1.4 billion unissued) approved by the voters, are incorporated into the model since to omit them would distort the amount of debt capacity remaining to the State. The schedule used for the issuance is provided below and is based on the currently anticipated cash flow needs as provided to OSBM by the agencies managing the projects being financed. Note that these cash flow needs will be re-evaluated prior to the issuance of any bonds.

Summer 2019	$600 million
Summer 2020	$600 million
Summer 2021	$200 million

Note on Interest Rate Assumptions
The DAAC model assumes consistency between the issuing assumptions used in the study and those used for budgetary planning. The issuance of the remaining Connect NC Bonds could be at lower rates than those stated above, especially in the early years. Such savings are not expected to significantly impact the results of the Study.

General Fund

10-Year Model Solutions

4.50% Debt Service/Revenue Target

Table 10

General Fund - 2017-18 Policy
Debt Capacity using 4.5% debt service/revenues target ratio
(In millions of dollars)

Fiscal Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
$ to Unfunded Liabilities	$213.4	$217.7	$236.4	$294.3	$359.3	$446.5	$624.7	$757.0	$843.2	$937.3
Total Additional Debt Capacity per Year *	$1,364.6	$50.8	$56.7	$58.9	$61.2	$63.7	$66.2	$68.9	$71.6	$74.5
Debt Capacity Available each and every Year	$206.8	$206.8	$206.8	$206.8	$206.8	$206.8	$206.8	$206.8	$206.8	$206.8

* In addition to that already authorized but unissued. Assumes additional debt capacity is authorized and issued in stated fiscal year.

4.75% Debt Service/Revenue Target

Table 11

General Fund - 2017-18 Policy

Net Tax-Supported Debt Capacity using 4.75% debt service/revenues target ratio

(In millions of dollars)

Fiscal Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
$ to Unfunded Liabilities	$213.4	$217.7	$236.4	$294.3	$359.3	$446.5	$624.7	$757.0	$843.2	$937.3
Total Additional Debt Capacity per Year *	$2,046.9	$76.1	$85.0	$88.3	$91.9	$95.5	$99.4	$103.3	$107.5	$111.8
Debt Capacity Available each and every Year	$310.5	$310.5	$310.5	$310.5	$310.5	$310.5	$310.5	$310.5	$310.5	$310.5

* In addition to that already authorized but unissued. Assumes additional debt capacity is authorized and issued in stated fiscal year.

See Appendix A

Appendix C

Transportation Revenues and Liabilities and Debt Affordability Model 10-Year Solutions

The Transportation debt affordability model uses all state transportation revenues plus other revenue items deemed available to service debt for the most recent Fiscal Year. The following items are included:

State Transportation Revenues

- Motor Fuels Tax
- Highway Use Tax
- Motor Vehicle Revenues
  - Vehicle registration and title fees
  - Driver's license fees
  - International registration plan fees
  - Penalties
  - Equipment inspection fees
  - Other
- Investment Income
- Other misc.
- *Federal Transportation Revenues are excluded*

Revenue Growth

Changes to revenue estimates have a significant impact on the calculation of available debt capacity. In consultation with NCDOT, Transportation revenue projections are assumed to be as follows:

Table 12

Transportation Revenues ($ millions)

Fiscal Year	Revenues ($ millions)	Growth Rate	Fiscal Year	Revenues ($ millions)	Growth Rate
2018	$3,720.9	2.4%	**2024**	$4,153.6	1.7%
2019	3,746.6	0.7%	**2025**	4,320.1	4.0%
2020	3,831.5	2.3%	**2026**	4,387.2	1.6%
2021	3,956.2	3.3%	**2027**	4,446.8	1.4%
2022	4,008.4	1.3%	**2028**	4,527.5	1.8%
2023	4,083.7	1.9%	**2029**	4,745.9	4.8%

* Revenue amounts per NC Department of Transportation (excluding federal revenues).
Fiscal Year 2018 is actual.

Transportation Liabilities

The model uses the debt service from all outstanding Highway Bonds and includes transportation-related capital lease obligations and installment purchase contracts if appropriate. There is no currently authorized but unissued transportation-related debt to include, but the model would count such debt and the resulting debt service as part of Transportation Liabilities if there were. Debt Service arising from the State's GARVEE program is not included as a State Transportation Liability because the GARVEEs are supported solely by federal transportation revenues.

The General Assembly has authorized funding to "pay debt service or related financing costs" for various series of revenue bonds issued by the North Carolina Turnpike Authority. The funds so appropriated are legally pledged to support the bonds and bondholders will depend upon the appropriations continuing. Therefore, the model treats the gap funding as the equivalent of debt service since it represents ongoing Highway Trust Fund support of debt. $49 million of GAP funding is treated as debt service for each year over the 10-year model horizon. NCDOT has also pledged certain operating and maintenance funds to secure debt, if necessary to provide adequate coverage levels. At the present, it appears that such funding will not be required. However, these funds would be treated as additional gap funding for model purposes if NCDOT were to be required to make such payments.

Availability Payments

The model counts "availability payments" as debt-like obligations. These payments are contractually owed to the contractor or other service provider on a delayed schedule that stretches beyond the standard construction period. Sometimes entered into as part of Public Private Design/Build/Finance and/or other arrangements, the delayed payments represent debt service for contractor-provided financing. The debt-like characteristics of availability payments (even if "subject to appropriation") mean that the payments are treated as a liability for the purposes of the model. The availability payment arrangements that NCDOT entered into in connection with the I-485 project have been satisfied.

Developer Ratio Adjustment Mechanism (DRAM) payments

In connection with the I-77 P3 project, DOT has agreed to make certain payments over time to support the project. The maximum amount of such payments may not exceed $12 million annually or $75 million in the aggregate. The actual amounts will be subject to the actual performance of the project. However, the amounts projected to be needed provided by DOT using relatively conservative assumptions are included in the model. This is consistent with rating agency treatment. In 2014 Moody's stated that "States…have entered into P3 projects that incorporate a long-term contractual obligation of the state to make availability payments or other types of contractual payments to the private partner that supports the debt service of the project." "[W]e view this contractual obligation as another form of general state debt…"

Debt Issuance Assumptions

The following assumptions were used in this year's Transportation debt affordability model calculations because the Build NC Bonds have specific structuring limitations and their issuance utilizes all of the available Transportation debt capacity:

- There is no remaining authorized but unissued GO debt and $3 billion of authorized but unissued non-GO debt.
- The Build NC Bonds will be structured with a fixed rate 15-year maturity, a 4.00% interest rate and an overall level debt service profile after the first year.

There is no incremental model debt because the Build NC Bonds exhaust available capacity.

Transportation

10-Year Model Solution

Table 13

Transportation

Net Tax-Supported Debt Capacity using 6.0% debt service/revenues target ratio

(In millions of dollars)

Fiscal Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Total Additional Debt Capacity per Year *	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Debt Capacity Available each and every Year	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0

* In addition to that already authorized but unissued. Assumes additional debt capacity is authorized and issued in stated fiscal year.

Appendix D

Public Private Partnerships
Review of Recent Debt-Related Legislation

Public Private Partnerships-Debt
As the State enacts laws that permit the procurement and financing of assets through the use of Public Private Partnerships ("P3's"), care should be taken to ensure that sound debt management and authorization practices are in place in the review and approval process. The term P3 can describe a wide variety of arrangements in which a private sector entity plays a key role in the acquisition of an asset and/or the provision of a service. While P3s may appear to provide a new source of funds in a time of diminished revenues and debt capacity, such agreements often contain financing arrangements with the private entity that results in that entity incurring debt or obligations secured, directly or indirectly by governmental payments or charges to the citizens of that government. *Governing Magazine* notes in an article from the November 2013 issue concerning P3s that "capital often comes at a cost that can exceed the expense of a typical municipal borrowing". More states are coming to this realization. In the summer of 2014, the state of Nevada dropped plans for a highway widening project using a P3 after "discovering it would cost less for the state to manage the project itself and issue municipal bonds," according to an August 25, 2014 article in the *Bond Buyer*. More recently, Kansas is reported to have delayed approving a P3 for a prison after the state auditor found that "Traditional state bond finance could provide the state a better deal."

In times of diminished resources, governments should compare the costs of financing under a P3 arrangement with the issuance of more typical municipal debt when determining the preferable means of financing the acquisition of an asset. S&P noted in 2015 that "the debt of P3s faces an inherent disadvantage compared with debt service on tax-exempt bonds, which states traditionally issue." In addition, NC State's Institute for Emerging Issues stated in 2010 that "it must be clear, though, that a PPP is not 1.) a panacea that resolves all procurement issues, 2.) a way to get something for nothing, or 3.) a privatization of traditionally public infrastructure."

P3s do not create additional debt capacity although it may appear so if you do not view the agreements as debt or debt-like obligations. However, these are often a commitment of funds in order to acquire an asset and that must be treated like debt when determining debt capacity. Failure to make the contractual payments could result in loss of the asset and create a default of a contractual liability to another party, and would typically impact the credit rating of the government. The rating agency treatment is clear: when a state's payments are used to support or secure debt issued by a private party, other public entity, and conduit issuer or through a lease arrangement, such debt will be counted toward the state's debt burden. Sponsoring agencies whose mission is to provide a particular service or asset are not in the best position to make decisions that prioritize the use of a state's debt capacity or require a state to enter into debt-like arrangements. That decision should be made by the state's legislative body which represents all the citizens of the state and is equally responsible for providing all services to all citizens.

Review of Recent Debt-Related and other Legislation

S.L. 2018-16
Build NC Bond Act of 2018
The Build NC Bond Act authorizes the issuance by the State Treasurer of up to $3 billion bonds for regional and divisional transportation projects contained in the Statewide Transportation Improvement Plan subject to a number of constraints including Council of State approval, cash balances, measured at specific times, that dip below $1 billion, a recommendation from the Treasurer that the Bonds be issued, an issuance limitation of no more than $300 million per year and compliance with the limitations contained in the DAAC Study. The Bonds, authorized as Special Indebtedness, are also subject to the provisions of Chapter 142, Article 9 (the State Capital Facilities Finance Act). The authorization expires December 31, 2028. The Bonds are to be paid by appropriations from the Highway Trust Fund. The bonds are limited to a 15-year final maturity.

S.L. 2018-30
State Pension/Retiree Health Benefit Fund Solvency
The legislation establishes the "Unfunded Liability Solvency Reserve" (the "Solvency Fund") as a reserve within the General Fund that will be used to accumulate funds to be used to reduce the State's unfunded pension and OPEB liabilities. Funds in the reserve may only be used to reduce the long-term unfunded liabilities associated with the Retiree Health Benefit Trust and the Teachers' and State Employees' Retirement System, proportionate to the unfunded liability of the respective program. To the extent that the Savings Reserve balance has reached its statutory maximum, the Solvency Fund will receive amounts that otherwise would have gone to the Savings Reserve. The Solvency Fund may also receive additional appropriations.

S.L. 2018-119
Constitutional Amendment to Decrease the Maximum Individual Income Tax Rate to 7% from 10%
Passed by the voters on November 6, 2018 the Amendment reduces the maximum income tax rate on individuals to 7% (it is currently set at 5.25%). Although not expected to decrease state revenues or effect the bond ratings in the immediate future, there is the potential for the reduction to restrict the State's fiscal flexibility, which the Rating Agencies consider a credit negative. In addition to noting that the State's current income tax rate is below the cap, S&P also states that "the lower limit curbs headroom for future tax increases." However, they also state that "Given the current distance of the personal income tax rate from the ...maximum allowable rate, we do not expect...the reduction to have a rating impact".

Session Law 2017-5
"Rainy Day Fund"
S.L. 2017-5 made significant changes to the rules regarding deposits to and withdrawals from the General Fund's Savings Reserve ("Rainy Day Fund"). Prior law dictated that the Office of the State Controller transfer one-quarter of any unreserved fund balance at the end of the fiscal year to the Savings Reserve. Under S.L. 2017-5, the Controller shall transfer 15 percent of projected growth in General Fund tax revenues to the Savings Reserve, making a year-end adjustment for the difference between actual growth and projected growth. Prior law also set forth a goal to accrue a Savings Reserve balance equal to 8 percent of the prior year's General Fund operating budget. S.L. 2017-5 converted the 8-percent goal to a savings target based on a consensus estimate from OSBM and the General Assembly's Fiscal Research Division of the balance amount sufficient to cover a two-year shortfall in state revenues in nine out of ten revenue downturns. The targeted amount as of February 1, 2018 was $2.597 billion or 11. 3% of the prior year's operating budget. OSBM shall report the

target amount for FY 20118-19 no later than February 1, 2019. In addition, S.L. 2017-5 provides that refunding savings be transferred to the Savings Reserve Account.

Session Law 2017-57

Pay-As-You-Go Capital and Infrastructure Fund ("Fund")

S.L. 2017-57 establishes a new fund to be used to address ongoing capital and infrastructure needs effective July 1, 2019. 4% of the State's General Fund net tax revenues are to be deposited into the fund to be used to pay debt service (first priority) and then new State and UNC capital projects and repair and renovation projects. In addition to also directing a portion of the unreserved General Fund balance be deposited into the Fund, The Committee notes that the use of such funds for capital projects circumvented its previous recommendation that such funds be used to address unfunded pension and OPEB liabilities.

Federal Tax Reform

The Tax Cuts and Jobs Act ("the Act") that took effect in 2018 has had an effect on the municipal debt markets. The Act repeals the ability for municipal bond issuers to advance refund tax-exempt bonds (on a tax-exempt basis) and reduces issuers' flexibility to refund bonds to create debt service savings. Municipal volume decreased in 2018 as a result (and as measured against 2017 as issuers hurried to market to take advantage of advanced refunding opportunities in advance of the Act taking effect). Volume is expected to rebound modestly in 2019 but refunding activity will be muted. The Act also reduced corporate tax rates, meaning that tax-exempt interest is less valuable to corporate investors and potentially individuals who may no longer itemize deductions. However, the changes, by themselves, are unlikely to have a significant impact on the demand for State's future debt issues.