

Introduction

PFMB Description and Role

The Public Finance Management Board (PFMB) was created during the 1986 Session of the General Assembly for the purpose of providing advice and assistance, upon request, to issuers of tax-exempt debt in the State of Rhode Island. The PFMB will be taking on a greater role in the oversight of public debt across the State as required by legislation passed in June 2016.

Importance of Debt Management

The State of Rhode Island and its local governments use debt to finance capital improvements and to make loans at tax exempt interest rates to various government, nonprofit, and private borrowers for capital investments for economic development and other public purposes. The ability to fund capital investments through borrowing is important in order to spread the cost of large capital projects across multiple budget cycles. Of course, not all capital investments are funded or should be funded with debt. Current revenues and cash reserves also are and should remain as funding sources for capital improvements for the State and its local governments.

Maintaining an ability to borrow, often called “debt capacity,” is a critical resource for most state and local governments. Without debt capacity the State may not be able to pay for restoration of aging infrastructure and make new capital investments. Public capital investments attract private capital investments, which creates employment and a high quality of life for the residents of the State. Capital investment in transportation infrastructure, including highways, airports and ports, is a basic building block for the State’s economy. Other essential capital investments must be continually made for purposes such as water, wastewater, recreation, local schools and higher education. Evaluating the impact of existing and new debt on future operating budgets is an important element of debt management and assessing debt affordability. Prudent debt management is critical to providing the State the ability to satisfy capital investment needs and meet other objectives and priorities of the State.

Debt Targets

Setting debt targets is a policy exercise involving balancing the cost of debt against the need for debt financed capital improvements. Many states set limits on debt that is paid from state general taxes and revenues. A key objective of limiting debt in most states is to maintain a high credit rating, and if possible, eventually improve its credit rating. However, municipal/public credit ratings are based on not only debt levels, but also financial, economic and management characteristics of the jurisdiction. There are no fixed formulas for the optimal combination of these factors and each rating agency weights the various factors differently. The principal benefit of higher credit ratings is that investors are willing to accept lower interest rates on highly rated debt relative to lower rated debt; thereby reducing the State’s borrowing costs. In 1999, the PFMB set debt targets based on personal income levels and debt service as a percentage of General Revenues. Article 2 of the fiscal year 2017 enacted budget includes a requirement for the PFMB to oversee the undertaking of a new debt affordability study, as described more fully below.

Debt Capacity

The debt affordability study will review the capacity of state, regional, municipal, and public and quasi-public corporations that have the authority to issue revenue or general obligation bonds or notes. The study is premised on the concept that resources, not only needs, should guide the State’s debt issuance. For purposes of this analysis, debt capacity is a term used to define how much debt can be prudently issued by the State or an agency of the State to strike a balance between providing sufficient debt capacity to allow for the funding of essential capital projects and imposing appropriate fiscal discipline so that

there is adequate future budgetary flexibility. Debt capacity is customarily evaluated in view of the income, wealth, or asset base by which the debt is secured or from which it is paid.

New Debt Affordability Study Requirements

During the 2016 Legislative Session, at the recommendation of the Office of the General Treasurer, the Fiscal Year 2017 budget as enacted included a series of reforms to the State's management of public debt. Article 2 of the enacted budget requires the Public Finance Management Board to oversee the undertaking of a debt affordability study.

To oversee the undertaking of a debt affordability study no less frequently than every two (2) years, which shall include recommended limits for the debt capacity of each state, municipal and regional authority, agency, board, commission, public and quasi-public corporation and fire district and other special district having authority to issue revenue or general obligation bonds or GARVEE bonds or notes or other types of conduit debt or enter into financing leases.

Prior to the adoption of this language, the PFMB had not updated the State's debt affordability targets since 1999 and had never set affordability targets for quasi-public and municipal level issuing entities.

Factoring In Pension and OPEB Liabilities

Upon the commencement of the 2016 debt affordability study, the Treasurer and PFMB recognized the importance of factoring in the pension and other post-employment benefit (OPEB) liabilities of issuers in setting debt affordability targets. The extent to which pension and OPEB liabilities impact the affordability of traditional bonded debt and leases had not been considered in the previous state debt affordability targets set by the PFMB in 1999.

Debt Affordability for Different Levels of Government

The debt affordability study required by Article 2 encompasses state, public and quasi-public corporations, municipal, regional authorities, fire districts and other special districts. This report covers three categories of issuers in the State:

- Part One: State tax-supported debt and long-term liabilities;
- Part Two: State-level agency, public and quasi-public corporations debt and long-term liabilities;
- Part Three: Municipalities, regional authorities, fire districts and other special districts debt and long-term liabilities.

Part One – State Tax-Supported Debt and Long-Term Liabilities

The first part of the debt affordability study will focus on the debt and long-term liabilities of the State and the obligations supported by the State's general operating budget. References to debt in this section refer to all tax-supported debt of the State. In addition, the study reviews various debt affordability measures to determine which would be appropriate measures to assess the State's debt affordability, and under these metrics, what the State's debt capacity is for future capital budget planning.

Outstanding Tax-Supported Debt

The State has several categories of outstanding tax-supported debt: (i) direct debt or general obligation bonds, (ii) appropriation debt, and (iii) moral obligation debt.

General Obligation Bonds

Under the State Constitution, the General Assembly cannot incur State debt in excess of \$50,000 without the consent of the people, except in the case of war, insurrection or invasion, or to pledge the faith of the State to the payment of obligations of others without such consent. By judicial interpretation, this limitation has been judged to include all debts of the State for which the full faith and credit are pledged, including general obligation bonds and notes guaranteed by the State and debt or loans insured by agencies of the State. As of June 30, 2016, the State has a total of \$1.05 billion of outstanding general obligation bonds.

Appropriation Debt and Moral Obligation Debt

The State has entered into certain contractual agreements which, although of a long-term nature, are subject to annual appropriation by the General Assembly. Certain of these obligations are contractual agreements with State Agencies or Authorities, including the Rhode Island Commerce Corporation and the Rhode Island Convention Center Authority. In addition, the Rhode Island Commerce Corporation has entered into performance-based obligations for which the State has made partial payments for debt service.

Below is a summary of the debt subject to appropriation and amounts outstanding as of June 30, 2016.

Debt Subject to Annual Appropriation	Outstanding as of June 30, 2016
Convention Center Authority	\$203,880,000
Economic Development Corporation - Transportation (Motor Fuel)	53,965,000
Economic Development Corporation - URI Power Plant	4,585,000
Economic Development Corporation - Job Creation Guaranty ¹	51,315,000
Projected Economic Development Corporation - I-195 Land Sale	38,400,000
Certificates of Participation, Series 2007A	1,565,000
Certificates of Participation, Series 2007B	6,485,000
Certificates of Participation, Series 2007D	10,145,000
Certificates of Participation, Series 2007E	930,000
Certificates of Participation, Series 2007F	2,940,000
Certificates of Participation, Series 2009B	6,485,000
Certificates of Participation, Series 2009C	22,775,000
Certificates of Participation, Series 2011A	18,555,000
Certificates of Participation, Series 2013A	30,515,000
Certificates of Participation, Series 2013B	30,655,000
Certificates of Participation, Series 2013C	12,945,000
Certificates of Participation, Series 2013D	6,700,000
Certificates of Participation, Series 2013E	12,510,000
Certificates of Participation, Series 2014A	10,700,000
Certificates of Participation, Series 2014B	7,465,000
Certificates of Participation, Series 2014C	27,930,000
Loan Agreement - Historic Structures Tax Credit Fund	106,995,000
Subtotal	\$668,440,000

Performance Based Agreements

Economic Development Corporation- Fidelity Building	10,043,400
Economic Development Corporation- Fidelity Building II	7,150,896
Economic Development Corporation- Providence Place Mall	17,940,000
Subtotal	\$35,134,296

Total COPs + Other Tax-Supported Debt	\$703,574,296
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¹ Since the State has been meeting its obligation on the 38 Studios moral obligation bonds and has been transferring sufficient funds to the Rhode Island Commerce Corporation to satisfy the debt service obligations, this debt is included as tax-supported debt of the State. Other moral obligation bonds for the Rhode Island Housing and Mortgage Finance Corporation, which aggregated \$26.18 million as of June 30, 2015, is not included as tax-supported debt since the State has never had to appropriate funds for debt service on these bonds.

The table below summarizes the State's outstanding tax-supported debt as of June 30, 2016 by type of debt.

Outstanding Tax-Supported Debt
(as of June 30, 2016)

Fiscal Year	Outstanding General Obligation Bonds		Outstanding Lease Participation Certificates		Convention Center Authority + Commerce Corporation + Other Tax-Supported Debt		Outstanding Tax-Supported Debt Service	
	Principal	Debt Service	Principal	Debt Service	Principal	Debt Service	Principal	Debt Service
2017	47,930,000	47,746,734	27,035,000	9,263,056	57,020,034	27,061,670	131,985,034	84,071,460
2018	79,995,000	45,916,491	22,975,000	8,145,125	59,325,675	23,910,060	162,295,675	77,971,676
2019	81,155,000	42,285,620	24,055,000	7,177,206	42,495,806	20,489,765	147,705,806	69,952,591
2020	85,865,000	38,411,227	25,250,000	6,102,594	44,855,838	18,077,604	155,970,838	62,591,425
2021	82,470,000	34,586,994	24,165,000	4,939,375	47,619,658	15,513,989	154,254,658	55,040,358
2022	81,520,000	30,724,126	19,795,000	3,813,413	35,003,928	13,304,100	136,318,928	47,841,639
2023	77,880,000	26,836,108	20,885,000	2,820,225	60,940,655	11,724,688	159,705,655	41,381,021
2024	78,185,000	23,116,083	17,865,000	1,814,913	32,260,827	18,085,932	128,310,827	43,016,928
2025	73,785,000	19,544,813	14,085,000	1,050,463	23,764,697	7,371,225	111,634,697	27,966,500
2026	76,740,000	15,887,573	3,395,000	621,819	25,047,537	6,137,214	105,182,537	22,646,605
2027	64,790,000	12,406,865	2,815,000	454,000	23,154,641	4,798,464	90,759,641	17,659,329
2028	50,890,000	9,532,571	2,980,000	315,925	4,315,000	2,591,477	58,185,000	12,439,973
2029	36,060,000	7,414,218	3,150,000	172,313	4,575,000	2,331,282	43,785,000	9,917,812
2030	37,685,000	5,523,162	850,000	13,813	4,850,000	2,054,037	43,385,000	7,591,012
2031	26,840,000	3,561,981			5,145,000	1,760,127	31,985,000	5,322,108
2032	28,105,000	2,302,037			5,460,000	1,448,340	33,565,000	3,750,377
2033	17,230,000	1,332,761			5,790,000	1,117,464	23,020,000	2,450,225
2034	11,770,000	753,466			6,140,000	766,590	17,910,000	1,520,056
2035	8,110,000	366,678			6,510,000	394,506	14,620,000	761,184
2036	4,805,000	144,150					4,805,000	144,150
	1,051,810,000	368,393,657	209,300,000	46,704,238	494,274,296	178,938,532	1,755,384,296	594,036,427
		1,420,203,657		256,004,238		673,212,838		2,349,420,723

Other Long-Term Liabilities

Pension liabilities

As reported in the Comprehensive Annual Financial Report for fiscal year 2015, the State implemented Governmental Accounting Standards Board Statement No. 68 *Accounting and Financial Reporting for Pensions* and Statement No. 73 *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68*. As a result of the implementation of these two standards, at June 30, 2015 the net pension liability now recorded in the Statement of Net Position related to governmental activities was approximately \$2.9 billion. For fiscal year 2015, the funded ratio for the state employees was 56.6% and for teachers was 58.8%. The actuarially determined Pension Annual Required Contribution (Pension ARC) totaled \$253.3 million (based on a discount rate of 7.5%). The State has made its full Pension ARC for the last 19 years. The table below summarizes the actuarial projections for the Pension ARC for State employees, the State share for teachers, State police and judges.

Fiscal Year	Pension ARC (\$ millions)
2016	\$286.64
2017	290.75
2018	298.68
2019	302.18
2020	309.60
2021	318.47
2022	328.60
2023	338.91
2024	347.96
2025	356.97

Source: *Employee Retirement System of Rhode Island*

OPEB

Pursuant to legislation enacted by the General Assembly, the State established a trust in fiscal year 2011 to accumulate assets and pay benefits and costs associated with OPEB plans, and effective in fiscal year 2011, all participating employers were required by law to fully fund the actuarially determined OPEB annual required contribution (OPEB ARC). The most recent actuarial study completed as of June 30, 2015 estimates the OPEB unfunded liability at approximately \$593 million for state employees, teachers, state police, legislators and board of education. The total OPEB ARC for the fiscal year beginning July 1, 2017 was determined to be \$60.7 million (based on a discount rate of 5.00%). Rhode Island is one of only a handful of states to consistently fund 100% of the OPEB ARC in recent years.

Debt Affordability Measures

There are numerous debt affordability ratios used by other issuers, state governments, and rating agencies to measure debt affordability. With the intent to identify the most appropriate debt ratios for Rhode Island, the PFMB considered the Credit Guidelines currently in place in Rhode Island since the 1999 Affordability Study, guidelines used by other states and the ratios used by the three major rating agencies to assess the debt burden of a state. Various debt ratios are used to measure debt burden, such as:

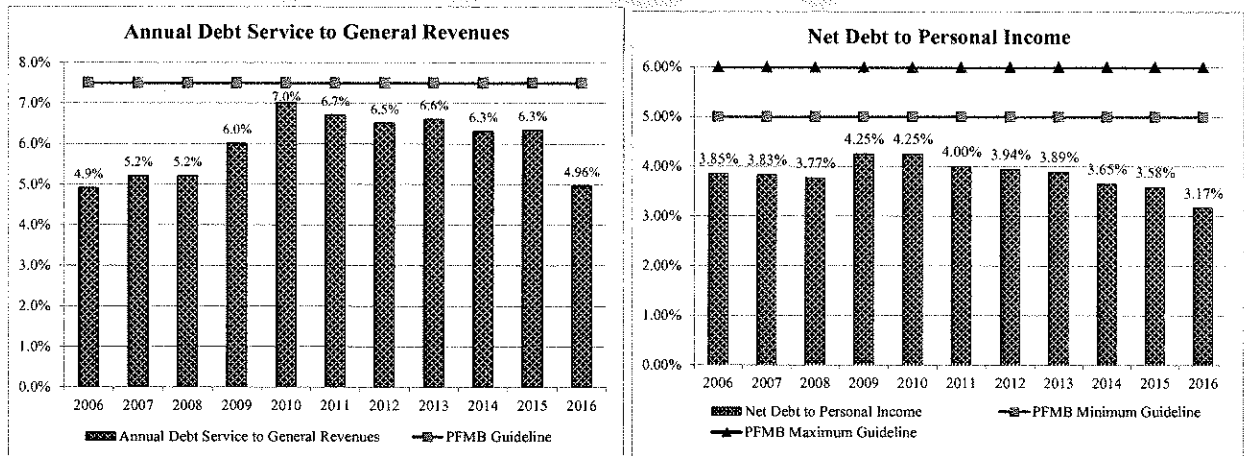
Debt Service as Percent of State Revenues =	$\frac{\text{Annual Debt Service Requirement}}{\text{General Revenues of the State}}$
Debt per Capita =	$\frac{\text{Net Tax-Supported Debt}}{\text{State's Population}}$
Debt as Percent of Personal Income =	$\frac{\text{Net Tax Supported Debt}}{\text{Total Personal Income of State's Population}}$
Debt as Percent of State Revenues =	$\frac{\text{Net Tax Supported Debt}}{\text{General Revenues of the State}}$
Debt as % of Full Valuation of Taxable Property =	$\frac{\text{Net Tax Supported Debt}}{\text{Full Valuation of All Taxable Property}}$
Debt as % of Gross State Product =	$\frac{\text{Net Tax Supported Debt}}{\text{Gross State Product}}$
Rapidity of Repayment =	$\frac{\text{Total Net-Tax Supported Debt Retired in 10 Years}}{\text{Total Net-Tax Supported Debt}}$

Current PFMB Credit Guidelines

In 1999, the PFMB adopted its current Credit Guidelines for tax-supported debt intended to be restrictive enough to manage the State's debt levels and to allow flexibility in the funding of critical infrastructure needs. The current Credit Guidelines are as follows:

- Tax-Supported Debt to not exceed the target range of 5.0% to 6.0% of personal income
- Debt Service on Tax-Supported Debt to not exceed 7.5% of General Revenues

Rhode Island has successfully remained within these targets in recent years.



Debt Ratios Used By Other States

The table below summarizes debt ratios used by states identified in previous PFMB reports as peer states based on size and region. For additional comparisons, Appendix A provides debt capacity measures used by other states. While analyzing which ratios other states use is informative, Rhode Island must consider its own set of circumstances to determine which debt affordability measures are most suitable.

Debt Affordability Ratios Used by Peer States

State	Debt Service to Revenues	Debt to Personal Income	Debt to Revenues	Debt per Capita	Other
Rhode Island (Aa2/AA/AA)	7.5% of General Revenues	5.0% - 6.0%			
Delaware (Aaa/AAA/AAA)	MADS < 15% of General + Transportation Trust Fund Revenues		New debt ≤ 5% of Net Budgetary General Fund Revenue for Fiscal Year		G.O. MADS < Estimated Cash Balance for following fiscal year
Connecticut (Aa3/AA-/AA-)			Outstanding and Authorized but Unissued Debt ≤ 160% of General Fund Tax Receipts		
Maine (Aa2/AA/AA)	5.0% of General Revenues				
Massachusetts (Aa1/AA+/AA+)	8.0% of Annual Budgeted Revenues				
New Hampshire (Aa1/AA/AA+)	10% of Unrestricted General Fund Revenues in Prior Fiscal Year				
Vermont (Aaa/AA+/AAA)	6.0% of Annual Aggregate of General + Transportation Trust Fund Revenues	≤ 5-Year Average of the mean and median of a peer group of triple-A rated states		≤ 5-Year Average of the mean and median of a peer group of triple-A rated states	

MADS = maximum annual debt service.

Pension and OPEB Considerations

The municipal debt market has seen increasing attention on pension liabilities and OPEB liabilities over the years. Pension ARCs are long-term fixed costs, similar to debt service, both of which can impact expenditures and create structural imbalance if not managed prudently, and therefore, should be taken into consideration in assessing a government's long-term liability burden. While rating agencies have always taken pension funding into consideration, updated rating agency state ratings methodologies released in recent years have included increasing quantification of pension liabilities. Rating agencies have not viewed OPEB liabilities similar to debt since states generally have the legal flexibility to adjust OPEB liabilities. However, severely underfunded OPEB liabilities can influence the assessment of the long-term liability burden. Similar to the debt ratios above, the following ratios have been used to measure the burden of pension and OPEB liabilities, but with the pension liability or OPEB liability used in the numerator rather than debt and these ratios can also be calculated with just the pension or OPEB liability or added together with debt:

- Unfunded Liability per Capita
- Unfunded Liability as Percent of Personal Income
- Unfunded Liability as Percent of State Revenues
- Unfunded Liability as Percent of Gross State Product
- Pension/OPEB ARC as Percent of State Revenues

Debt Ratios Used by Rating Agencies

Debt and other long-term liabilities is one factor that the rating agencies consider in the assessment of a state's overall financial health. The rating agencies will evaluate debt burden and debt affordability and also consider the state's capacity to meet its other long-term obligations, such as unfunded pension liabilities. Described below are the approaches of the three major rating agencies in assessing measuring debt and long-term liabilities.

Fitch Ratings: In Fitch’s “U.S. Tax-Supported Rating Criteria” released April 18, 2016, one of the key rating drivers is long-term liability burden. Fitch uses the following metric to measure long-term liability burden:

$$\frac{\text{Direct Debt} + \text{Fitch's Adjusted Direct Unfunded Pension Liability}}{\text{Personal Income}}$$

The Fitch pension adjustment inflates the reported pension liability by 11% for every 1% by which the assumed investment return exceeds 7%. No adjustment is made if the pension’s assumed return is already at or below 7.0%. As measured by Fitch, Rhode Island’s long-term liability burden is 10.6% of personal income, which is above the state median of 5.8% (as reported in Fitch’s 2015 pension update). The following table summarizes how Fitch views the long-term liability burden:

Liability Burden	Low	Moderate	Elevated but Still in Moderate Range	High	Very High
Rating Assessment	AAA	AA	A	BBB	BB
Ratio Level	Liabilities Less than 10% of Personal Income	Liabilities Less than 20% of Personal Income (RI = 10.6%)	Liabilities Less than 40% of Personal Income	Liabilities Less than 60% of Personal Income	Liabilities 60% or More of Personal Income

Rhode Island ratio as calculated by Fitch.

While Fitch does not include OPEB as part of the calculation of long-term liability burden, Fitch states that the liability assessment burden could be negatively affected by “exceptionally large” OPEB liability without the ability or willingness to make changes to the benefits.

Moody’s Investors Service. In Moody’s updated “US States Rating Methodology” published on April 13, 2013, Moody’s introduced a new state methodology scorecard, which was intended to provide guidance for the factors that generally are the most important in determining the ratings for states. In this scorecard, debt is given a 20% weight with bonded debt comprising 10% and adjusted net pension liabilities providing the remaining 10%. The table below summarizes the debt factors used by Moody’s and how the ratios are assessed by rating category. Moody’s calculations of the ratios are also shown in the table.

Measurement	Aaa	Aa1	Aa2	Aa3	A	Baa and below
NTSD/Total Governmental Fund Revenues	Less than 15%	15% - 30%	30% - 50% (RI = 31.7%)	50% - 90%	90% - 130%	Greater than 130%
3-Yr Average ANPL/Total Governmental Fund Revenues	Less than 25%	25% - 40%	40% - 80%	80% - 120% (RI = 84%)	120% - 180%	Greater than 180%

Rhode Island ratios as calculated by Moody’s. NTSD = Net Tax-Supported Debt. ANPL = Adjusted Net Pension Liability.

Moody’s adjusts the reported unfunded actuarial accrued liabilities to reflect their preference for a market discount rate and also assigns liabilities to other participating governments, then takes a three-year average to reduce year-to-year volatility.

While not part of the scorecard but reported in the annual State Debt Medians report, Moody’s also considers debt to personal income, debt per capita, debt to gross state product and debt service as a percentage of revenue. Additionally, Moody’s does not include OPEB liabilities in its scorecard, but in the case of severely underfunded OPEB liabilities the scoring for the debt factor could be adjusted lower.

Standard & Poor’s. The five main factors in Standard & Poor’s analytic framework are described in its “U.S. State Ratings Methodology” originally published on January 3, 2011 and most recently updated on

November 10, 2015. The debt and liability profile is one of the five main factors and for this metric, there are various indicators that are scored from 1 (strongest) to 4 (weakest) with each indicator carrying equal weight to come up with an overall score for the debt and liability factor. These indicators are provided in the table below with Standard & Poor's calculations of these ratios for Rhode Island. Standard & Poor's assigned a 2.3 score to Rhode Island's debt and liability profile in its April 2016 report.

Indicator	Score:1	Score:2	Score:3	Score:4
Debt per Capita	Below \$500	\$500 - \$2,000 (RI = \$1,672)	\$2,000 - \$3,500	Above \$3,500
Debt to Personal Income	Below 2%	2% - 4% (RI = 3.3%)	4% - 7%	Above 7%
Debt Service to General Government Spending	Below 2%	2% - 6%	6% - 10% (RI = 7.2%)	Above 10%
Debt to Gross State Product	Below 2%	2% - 4% (RI = 3.2%)	4% - 7%	Above 7%
Debt Amortization (10 Years)	80% - 100%	60% - 80% (RI = 79%)	40% - 60%	Less than 40%
Pension Funded Ratio	90% or above	80% - 90%	60% - 80%	60% or below (RI = 59.3%)
Pension Funding Levels	Consistently fund Pension ARC (RI funding for last 19 years)	Funds ARC in most years but occasionally contributes less	Has not funded ARC for 3 years	Has not funded ARC in more than 3 years
Unfunded Pension Liabilities per Capita	Below \$500	\$501 - \$2,000	\$2,001 - \$3,500 (RI = \$2,623)	Above \$3,500
Unfunded Pension Liabilities to Personal Income	Below 2%	2.1% - 4%	4.1% - 7% (RI = 5.2%)	Above 7%
OPEB Risk Assessment	Limited benefits, high level of discretion to change benefits, pay-go costs not significantly different from ARC	Average liability relative to other states, proactive management of liability, some flexibility to change benefit levels, contributions in excess of annual pay-go amount (RI = Moderate)	Above average liability relative to other states, options to address liability are being considered but plans not well-developed, limited flexibility to change benefits	High liability relative to other states, high level of benefits and inflexible to change, lack of action to address liability leading to accelerating pay-go amount

Rhode Island ratios and assessment as derived by Standard & Poor's.

Summary of Rating Agency Ratios. The table below summarizes the debt and pension ratios used by the three major rating agencies, including those used in the respective scoring and those that the rating agencies also take into consideration but not used in scoring.

Debt Ratio	Fitch	Moody's	S&P
Debt to Personal Income	✓	✓	✓
Debt to Revenues		✓	
Debt Service to Revenues		✓	
Debt Service to Expenditures			✓
Debt Per Capita		✓	✓
Debt to Gross State Product		✓	✓
Rapidity of Repayment	✓		✓
Pension Ratio			
Pension Funded Ratio			✓
Pension Funding Levels	✓		✓
Unfunded Pension Liabilities Per Capita			✓
Pension Liabilities to Personal Income			✓
3-Yr Avg Pension Liability to Revenues		✓	
Debt + Unfunded Pension Liability to Personal Income	✓		

Rating Agency Medians

A review of rating agency medians of state debt ratios can also assist in determining appropriate levels for debt affordability metrics. The tables that follow show the 50 state debt medians as well as the ratios for the Rhode Island and other states in the peer group.

Moody's State Debt Medians

State	Debt Service to Revenues	Debt to Personal Income	Debt per Capita	Debt to Gross State Product
50 State Median	4.3%	2.5%	\$1,025	2.21%
Rhode Island (Aa2/AA/AA)	6.4%	3.7%	\$1,813	3.51%
Delaware (Aaa/AAA/AAA)	7.3%	5.2%	\$2,385	3.56%
Connecticut (Aa3/AA-/AA-)	14.3%	9.8%	\$6,155	8.82%
Maine (Aa2/AA/AA)	5.1%	2.2%	\$928	2.27%
Massachusetts (Aa1/AA+/AA+)	10.6%	9.5%	\$5,592	8.34%
New Hampshire (Aa1/AA/AA+)	4.7%	1.5%	\$808	1.53%
Vermont (Aaa/AA+/AAA)	2.1%	2.1%	\$1,002	2.14%

Source: Moody's State Debt Medians 2016, May 6, 2016

Moody's State Pension Medians

State	ANPL as % of State Governmental Revenues	3-Yr Avg ANPL as % of State Governmental Revenues	ANPL as % of Personal Income	ANPL as % of Gross State Product
50 State Median	59%	53.0%	8.0%	6.8%
Rhode Island (Aa2/AA/AA)	78%	84%	10.1%	9.4%
Delaware (Aaa/AAA/AAA)	62%	73%	9.6%	6.6%
Connecticut (Aa3/AA-/AA-)	213%	225%	22.8%	21.0%
Maine (Aa2/AA/AA)	114%	123%	14.9%	14.4%
Massachusetts (Aa1/AA+/AA+)	128%	140%	15.4%	13.3%
New Hampshire (Aa1/AA/AA+)	33%	42%	2.4%	2.3%
Vermont (Aaa/AA+/AAA)	70%	70%	12.8%	12.5%

Source: Moody's Fiscal 2014 Pension Medians – US States, January 15, 2016. ANPL is adjusted net pension liability.

Fitch Estimated State Net Tax-Supported Debt and Unfunded Pension Obligations

State	Debt as % of Personal Income	Fitch Adjusted Pension Allocation as % of Personal Income	Debt + Adjusted Pension Allocation as % of Personal Income	2014 Funded Ratio (as reported)	2014 % of ADEC Funded
50 State Median	2.4%	3.7%	5.8%	NA	NA
Rhode Island (Aa2/AA/AA)	4.0%	6.6%	10.6%	State: 56.1% Teachers: 58.2%	100%
Delaware (Aaa/AAA/AAA)	6.6%	3.5%	10.1%	92.3%	100%
Connecticut (Aa3/AA-/AA-)	9.1%	14.2%	23.2%	State: 41.5% Teachers: 59.0%	100%
Maine (Aa2/AA/AA)	2.3%	4.6%	6.8%	81.4%	100%
Massachusetts (Aa1/AA+/AA+)	9.2%	9.7%	18.9%	State: 67.5% Teachers: NA	State: 79.8% Teachers: 80.8%
New Hampshire (Aa1/AA/AA+)	1.6%	1.5%	3.1%	60.7%	100%
Vermont (Aaa/AA+/AAA)	2.1%	7.3%	9.4%	State: 77.9% Teachers: 59.9%	State: 132% Teachers: 106%

Source: Fitch 2015 State Pension Update, October 15, 2015. ADEC: Actuarially determined employer contribution.

Standard & Poor's Total State Debt and Liabilities Per Capita
As Percent of GSP Per Capita

State	State NPL Per Capita	Debt Per Capita	OPEB Per Capita	Debt, Pension & OPEB Per Capita	Debt, Pension & OPEB Per Capita As % of GSP Per Capita
50 State Median	\$790	\$1,018	\$896	\$3,016	6%
Rhode Island (Aa2/AA/AA)	\$3,051	\$1,708	\$630	\$5,389	10%
Delaware (Aaa/AAA/AAA)	\$1,090	\$2,348	\$6,351	\$9,789	14%
Connecticut (Aa3/AA-/AA-)	\$7,660	\$5,707	\$6,116	\$19,484	27%
Maine (Aa2/AA/AA)	\$1,481	\$691	\$1,402	\$3,574	8%
Massachusetts (Aa1/AA+/AA+)	\$4,451	\$5,122	\$2,339	\$11,912	17%
New Hampshire (Aa1/AA/AA+)	\$611	\$725	\$2,100	\$3,436	6%
Vermont (Aaa/AA+/AAA)	\$2,750	\$986	\$3,348	\$7,084	15%

Source: Standard & Poor's U.S. State Pensions: Weak Market Returns Will Contribute to Rise in Expense, September 12, 2016

Debt Service + Pension ARC to Revenues for Peer States

The table below shows a comparison of the ratio of tax-supported debt service plus the Pension ARC to revenues for the peer states. Rhode Island's ratio is the median among the peer states.

Debt Service + Pension ARC to Revenues for Peer States

As of June 30, 2015

(\$ in millions)

State	Tax-Supported Debt Service	Pension ARC	Percent of ARC	Revenues	Debt Service + Pension ARC to Revenues
Rhode Island (Aa2/AA/AA)	\$230.8	\$253.3	100%	\$3,649.5	13.3%
Delaware* (Aaa/AAA/AAA)	\$251.0	\$178.3	100%	\$4,344.0	9.9%
Connecticut (Aa3/AA-/AA-)	\$2,149.5	\$1,379.2	99.5%	\$17,953.8	19.7%
Maine (Aa2/AA/AA)	\$104.0	\$264.8	100%	\$3,403.8	10.8%
Massachusetts (Aa1/AA+/AA+)	\$2,500.3	\$2,217.1	75%	\$35,029.5	13.5%
New Hampshire (Aa1/AA/AA+)	\$102.2	\$85.0	100%	\$1,397.7	13.4%
Vermont** (Aaa/AA+/AAA)	\$71.1	\$117.5	100%	\$1,637.2	11.5%

Source: FY2015 Comprehensive Annual Financial Reports for each state. Revenues for peer states are general fund revenues.

Recommended Debt Affordability Measures

Rhode Island can measure debt affordability with a variety of ratios. No single gauge of debt affordability is perfect and the State should employ multiple debt ratios that compare the State's debt burden with the resources available for meeting these obligations. The use of multiple debt ratios will ensure both near-term affordability and long-term capacity to maintain financial health and flexibility. Additionally, with increasing focus on pension liabilities and the recognition that these are fixed costs similar to debt, it is prudent to consider including pension liabilities in the assessment of affordability of long-term obligations. Rating agencies have started to include quantification of pension liabilities in their review of a state's financial health. Rating agencies are also factoring in OPEB liabilities in their evaluation but with less weight than pension liabilities. However, although states are examining the incorporation of pension and OPEB liabilities into debt capacity assumptions, no state has formally included pension and OPEB liabilities in debt affordability measures.

After a review of the debt burden metrics, the PFMB has determined the ratios that best measure debt burden for the State and will establish a policy target to be used for planning purposes. In the event of an economic downturn, the policy targets may be exceeded temporarily, but the expectation is to return to the level of the established targets. Each measure is discussed in more detail below.

- Debt Service on Net Tax-Supported Debt to General Revenues;
- Net Tax-Supported Debt as percentage of Personal Income;
- Rapidity of Repayment or the amount of debt to be retired over the next ten;
- Net Tax-Supported Debt Service + Pension ARC as a percentage of General Revenues;
- Net Tax-Supported Debt + Net Pension Liability as a percentage of Personal Income ; and
- Pension ARC and OPEB ARC should be funded at 100%.

Debt Ratios

The debt ratios currently in place under the PFMB Credit Guidelines provide the best ratios to measure debt affordability. The debt service to revenues ratio captures near-term affordability while the debt to personal income ratio provides a longer-term perspective on debt affordability. In addition, a rapidity of repayment measure is recommended to ensure that debt capacity remains relatively consistent over time. Debt ratios incorporating pension liabilities are included to offer a more complete picture of the State's long term liability burden. Other ratios considered included debt service to expenditures, debt to revenues, debt per capita, debt to gross state product and debt to assessed value. However due to certain limitations of these ratios they will not be included in the PFMB guidelines, as described below.

Debt Service to General Revenues. The metric most frequently used by states to assess debt affordability is debt service as a percent of State revenues, comparing annual debt service to annual State revenues and providing an indicator of near-term affordability. This is a good measure because it provides a direct comparison of the state's obligations to the currently available resources to pay them. The target level for the debt service to revenues ratio should be set to ensure that annual debt service payments do not consume so much of the State's annual operating budget as to hinder the State's ability to provide core government services and provide flexibility to respond to economic downturns. This ratio is also appropriate because both components are within the control of the State.

The current PFMB Credit Guidelines include the debt service to revenues ratio of 7.5% and in review of other states that use this ratio, the target levels generally range from 5% to 10%. ***Going forward the PFMB will recommend a target to determine debt capacity.*** Since 2000, the State has been below 7% in all years except in 2010 when the debt service to revenues ratio was at 7%. A target should be set that allows the State to manage its debt but not constrain the State's ability to finance its capital budget. With the appropriate target, the State should have capacity to issue more debt to fund capital projects and be able to prudently manage its overall debt levels but also have the flexibility to increase debt capacity if the need arises.

Debt to Personal Income. The debt service to revenues ratio may not be the best indicator of long-term affordability if the debt is structured or restructured with an extended final maturity or is back loaded. A ratio that uses the State's outstanding debt is better able to capture the long-term nature of debt obligations. Further, revenues are more indicative of current resources and could be impacted by policy choices. A broader measure of a state's ability to pay its debts is needed. State personal income represents income received by residents of the state and is not directly dependent on policy choices, and it represents the base from which state revenues will be generated. Also, all three rating agencies review debt to personal income ratio as part of the rating process. The debt to personal income ratio is a good measure for long-term debt affordability.

The current PFMB Credit Guidelines include the target range of tax-supported debt to personal income of 5.0% to 6.0%. In 2000, this ratio was 5.02%, but since then has been below 5.0% and since 2011 has been below 4.0%. ***Going forward the PFMB will recommend a target to determine debt capacity*** The recommended level will allow for prudent debt management without impairing the State's debt capacity.

Rapidity of Debt Repayment. The rapidity of debt repayment ratio measures how much of the State's total long-term debt is retired after 10 years. Credit analysts view rapid repayment more favorably than slower amortization with 50% retired in 10 years as average. The State typically structures its general obligation bonds with 20 year level debt service, which has resulted in rapidity of repayment of tax-supported debt in 10 years of over 70%. ***The PFMB recommends formalizing this practice and setting a target of debt retirement in 10 years.*** This will ensure retirement of debt sufficiently fast enough to create additional capacity in future years.

Other Debt Ratios. The PFMB reviewed other debt burden metrics but determined that they did not capture debt affordability as well as debt service to revenues and debt to personal income.

- Debt to revenues: Comparing total long-term debt to revenues, which is more indicative of current resources rather than long-term ability to pay, does not reflect debt affordability as effectively.
- Debt per capita: Population is not the best indicator of ability to pay debt.
- Debt to gross state product: Gross state product reflects the economic output of a state but does not reflect the income associated with the output and is not a complete measure of state resources.
- Debt to assessed value: Since the State does not derive any significant revenues from property value, this would not be a meaningful ratio to use for debt affordability.
- Debt service to expenditures: This ratio is a close alternative to the debt service to revenues ratio but revenues is a better measure of currently available resources.

Ratios with Pension Liabilities and OPEB Liabilities

States have begun to review their debt affordability criteria while also considering whether to include additional metrics to account for unfunded pension liabilities and OPEB liabilities. To date, no state has added a metric accounting for pension or OPEB liabilities in their debt affordability analysis. However, since rating agencies have incorporated pension ratios in the updated rating methodology for states, states will likely eventually incorporate a metric accounting for pension liabilities. Based on fiscal year 2015 net pension liability and Pension ARC, as reported in the 2015 Comprehensive Annual Financial Report and implementation of GASB 67 and 68, the following table summarizes the State's pension liability ratios.

Net Pension Liability (2015) (for state employees, teachers, state police, judges)	\$2.907 billion
Pension ARC (2015)	\$253.3 million
Net Pension Liability per Capita (2015 population)	\$2,752
Net Pension Liability as % of Personal Income	5.6%
Net Pension Liability as % of General Revenues	79.8%
Pension ARC as % of General Revenues	6.96%

** Based on estimated FY2015 Personal Income of \$51.957 billion and General Revenue of \$3.64 billion.*

The rating agencies have not included a quantification of OPEB liabilities in their rating methodologies. The rating agencies do not view OPEB liabilities as a hard liability and should not be considered part of a state's debt burden unless bonds are actually issued to fund the liability. However, they do assess the risk associated with OPEB. Since the rating agencies have not included any quantification of OPEB liabilities in their updated rating methodologies, PFMB will not incorporate OPEB into its calculations of debt affordability at this time, but will calculate OPEB liability ratios to maintain awareness of the levels. Further, there should be a continued commitment to fund 100% of the OPEB ARC. The following table provides OPEB liability ratios based on the most recent actuarial study completed as of June 30, 2015.

OPEB UAAL (for state employees, teachers, state police, judges)	\$647.5 million
OPEB ARC (for the fiscal year beginning July 1, 2017)	\$60.7 million
OPEB Liability per Capita (2015 population)	\$613
OPEB Liability as % of Personal Income	1.2%
OPEB Liability as % of General Revenues	17.8%
OPEB ARC as % of General Revenues	1.67%

** Based on estimated FY2018 Personal Income of \$58.565 billion and General Revenue of \$3.74 billion.*

Preliminarily, to augment its affordability measures for debt, PFMB will apply the same type of metrics to account for pension liabilities and will refine as the measurement of pension liabilities for debt affordability purposes develops. Appropriate target levels will be determined by PFMB.

Debt Service + Pension ARC to General Revenues. PFMB recommends using debt service on its net tax-supported debt plus the Pension ARC as a percentage of General Revenues.

Debt + Net Pension Liability to Personal Income. PFMB recommends using the net tax-supported debt plus the reported net pension liability as a percentage of personal income.

ARC Funding for Pensions and OPEB. PFMB recommends continuing to fund 100% of the State's Pension ARC and OPEB ARC.

Based on outstanding tax-supported debt as of June 30, 2016, the following table summarizes the debt ratios under the current PFMB Credit Guidelines and also shows the debt plus pension liability ratios. The net pension liability is based on figures reported in the FY2015 Comprehensive Annual Financial Report for the State and kept constant for the years shown. The Pension ARC through 2025 is based on projections provided by the Employee Retirement System of Rhode Island and after 2025 reflects an annual increase based on the growth rate in 2025 of 2.59%. The General Revenues are based on the projected revenues for FY2017 through FY2021 that was incorporated into the FY2017 enacted budget, and after FY2021, annual growth in General Revenues is assumed to be 0.50%, based on guidance from the State Budget Office. The projected personal income for FY2017 through FY2021 is based on the forecast in the May 2016 Revenue Estimating Conference report, and after FY2021, annual growth is assumed to be 3.00%, based on guidance from the State Budget Office.

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**Outstanding Tax-Supported Debt and Pension Liabilities
Debt and Pension Ratios**

Fiscal Year	Outstanding Tax-Supported Debt Service (as of June 30, 2016)			PFMB Guidelines: Debt Service to General Revenues Less Than 7.5% Tax-Supported Debt to Personal Income: 5.0% to 6.0%			Debt + Pension Ratios						
	Principal	Interest	Debt Service	General Revenues	Outstanding Tax-Supported Revenues to DS	Tax-Supported Debt to Personal Income	Personal Income	Tax-Supported Debt to Personal Income	Pension ARC	Tax-Supported DS + Pension Revenues	ARC to Net Pension Liability	Net Pension Liability	Tax-Supported Debt + Net Pension Liability to Personal Income
2017	131,985,034	84,071,460	216,056,494	3,674,742,668	5.88%	3.13%	56,094,000,000	3.13%	290,750,000	13.79%	2,907,298,000	2,907,298,000	8.31%
2018	162,295,675	77,971,676	240,267,351	3,737,237,978	6.43%	2.77%	58,565,000,000	2.77%	298,680,000	14.42%	2,907,298,000	2,907,298,000	7.74%
2019	147,705,806	69,952,591	217,658,397	3,745,894,748	5.81%	2.40%	60,874,000,000	2.40%	302,180,000	13.88%	2,907,298,000	2,907,298,000	7.18%
2020	155,970,838	62,591,425	218,562,263	3,794,833,717	5.76%	2.09%	62,726,000,000	2.09%	309,600,000	13.92%	2,907,298,000	2,907,298,000	6.73%
2021	154,254,658	55,040,358	209,295,016	3,847,663,594	5.44%	1.79%	64,566,000,000	1.79%	318,470,000	13.72%	2,907,298,000	2,907,298,000	6.30%
2022	136,318,928	47,841,639	184,160,567	3,866,901,912	4.76%	1.51%	66,610,000,000	1.51%	328,600,000	13.26%	2,907,298,000	2,907,298,000	5.87%
2023	159,705,655	41,381,021	201,086,676	3,886,236,422	5.17%	1.26%	68,755,000,000	1.26%	338,910,000	13.90%	2,907,298,000	2,907,298,000	5.49%
2024	128,310,827	43,016,928	171,327,755	3,905,667,604	4.39%	1.00%	70,817,000,000	1.00%	347,960,000	13.30%	2,907,298,000	2,907,298,000	5.10%
2025	111,634,697	27,966,500	139,601,197	3,925,195,942	3.56%	0.79%	72,941,000,000	0.79%	356,970,000	12.65%	2,907,298,000	2,907,298,000	4.78%
2026	105,182,537	22,646,605	127,829,142	3,944,821,921	3.24%	0.62%	75,129,000,000	0.62%	366,213,303	12.52%	2,907,298,000	2,907,298,000	4.49%
2027	90,759,641	17,659,329	108,418,970	3,964,546,031	2.73%	0.47%	77,382,000,000	0.47%	375,695,950	12.21%	2,907,298,000	2,907,298,000	4.22%
2028	58,185,000	12,439,973	70,624,973	3,984,368,761	1.77%	0.34%	79,703,000,000	0.34%	385,424,139	11.45%	2,907,298,000	2,907,298,000	3.99%
2029	43,785,000	9,917,812	53,702,812	4,004,290,605	1.34%	0.26%	82,094,000,000	0.26%	395,404,227	11.22%	2,907,298,000	2,907,298,000	3.80%
2030	43,385,000	7,591,012	50,976,012	4,024,312,058	1.27%	0.20%	84,556,000,000	0.20%	405,642,737	11.35%	2,907,298,000	2,907,298,000	3.64%
2031	31,985,000	5,322,108	37,307,108	4,044,433,618	0.92%	0.14%	87,092,000,000	0.14%	416,146,361	11.21%	2,907,298,000	2,907,298,000	3.48%
2032	33,565,000	3,750,377	37,315,377	4,064,655,786	0.92%	0.10%	89,704,000,000	0.10%	426,921,964	11.42%	2,907,298,000	2,907,298,000	3.35%
2033	23,020,000	2,450,225	25,470,225	4,084,979,065	0.62%	0.07%	92,395,000,000	0.07%	437,976,588	11.35%	2,907,298,000	2,907,298,000	3.21%
2034	17,910,000	1,520,056	19,430,056	4,105,403,961	0.47%	0.04%	95,166,000,000	0.04%	449,317,458	11.42%	2,907,298,000	2,907,298,000	3.09%
2035	14,620,000	761,184	15,381,184	4,125,930,980	0.37%	0.02%	98,020,000,000	0.02%	460,951,985	11.54%	2,907,298,000	2,907,298,000	2.99%
2036	4,805,000	144,150	4,949,150	4,146,560,635	0.12%	0.005%	100,960,000,000	0.005%	472,887,775	11.52%	2,907,298,000	2,907,298,000	2.88%
	1,755,384,296	594,036,427	2,349,420,723										

Rapidly of Repayment	
Revenue Growth After 2021	0.50%
Personal Income Growth After 2023	3.00%
Population (2015)	1,056,298
Gross State Product (2016-1st Quarter) (000s)	58,295,000

Rapidly of Repayment	
5 Years	42.85%
10 Years	79.38%
20 Years	100.00%

Note: The net pension liability is kept constant at the FY2015 level of \$2.907 billion and the Pension ARC through 2025 is based on projections provided by the Employee Retirement System of Rhode Island and after 2025 reflects an annual increase based on the growth rate in 2025 of 2.59%. The General Revenues are based on the projected revenues for FY2017 through FY2021 and 0.50% annual growth thereafter. The projected personal income for FY2017 through FY2021 is based on the forecast in the May 2016 Revenue Estimating Conference report, and after FY2021, annual growth is assumed to be 3.00%.

Periodic Review

Article 2 of the 2017 budget requires the PFMB to update this affordability study no less than every two (2) years. Periodic review of the debt affordability measures, both the actual ratios used and the target levels, is an important part of ongoing debt management to determine if such ratios and the target levels are still appropriate given (i) changes in the rating agencies' criteria, (ii) changes in the State's ratings, (iii) changes to the State's peer group, and (iv) the State's relative debt position. Additionally, as accounting for pension and OPEB liabilities in debt affordability evolves, the PFMB will seek to refine these measures for this study.

Debt Capacity Based on Target Debt Affordability Ratios

The driving ratio for debt affordability is the Debt Service to General Revenues. In determining debt capacity, the State's outstanding general obligation debt, lease participation certificates and tax-supported Commerce Corporation debt, Convention Center Authority debt and other tax-supported debt is taken into account. Further, the State currently has authorized but unissued debt of \$319.575 million for general obligation bonds and \$219.210 million for debt subject to appropriation. An additional \$227.5 million of debt will be subject to referendum in November. If the referendum passes, the State will have a total of approximately \$766.285 million in authorized but unissued debt, as summarized below.

Current Authorized but Unissued GO Debt	\$319,575,000
Proposed November 2016 Referenda GO Debt	227,500,000
Total GO Authorized but Unissued Debt	\$547,075,000
Current Authorized but Unissued Appropriation Debt	219,210,000
Total Authorized but Unissued Debt	\$766,285,000

The following table shows the projected debt burden ratios with all currently outstanding tax supported debt and the full issuance of the authorized but unissued debt in equal annual amounts over the period FY2017 through FY2021 at 5.00% interest and amortized over 20 years, structured as level debt service.

**Outstanding Tax-Supported Debt
With Estimated Authorized But Unissued Debt
Debt and Pension Ratios**

Fiscal Year	Outstanding Tax-Supported Debt Service (as of June 30, 2016)			Estimated Authorized but Unissued @ 5.00% (S\$766.285M Issued In Equal Amounts Over Next 5 Years)			Outstanding + Authorized but Unissued (Current Revenue Projections)			Tax-Supported Debt + Net Pension Liability to Personal Income		
	Principal	Interest	Debt Service	Principal	Interest	Debt Service	Outstanding + Projected Debt Service	Total Debt Service to Revenues	Total Debt to Personal Income	ARC to Revenues	Debt + Pension Liability to Personal Income	Debt + Pension Ratios
2017	131,985,034	84,071,460	216,056,494	0	0	0	216,056,494	5.88%	3.13%	13.79%	8.31%	
2018	162,295,675	77,971,676	240,267,351	4,600,240	7,772,455	12,372,695	252,640,046	6.76%	3.03%	14.75%	8.00%	
2019	147,705,806	69,952,591	217,658,397	9,433,719	15,311,670	24,745,389	242,403,786	6.47%	2.90%	14.54%	7.67%	
2020	155,970,838	62,591,425	218,562,263	14,512,271	22,605,813	37,118,084	255,680,347	6.74%	2.80%	14.90%	7.44%	
2021	154,254,658	55,040,358	209,295,016	19,848,326	29,642,453	49,490,779	258,785,795	6.73%	2.70%	15.00%	7.20%	
2022	136,318,928	47,841,639	184,160,567	25,454,947	36,408,526	61,863,473	246,024,040	6.36%	2.58%	14.86%	6.95%	
2023	159,705,655	41,381,021	201,086,676	26,745,621	35,117,852	61,863,473	262,950,149	6.77%	2.27%	15.49%	6.50%	
2024	128,310,827	43,016,928	171,327,755	28,101,770	33,761,703	61,863,473	233,191,228	5.97%	1.94%	14.88%	6.04%	
2025	111,634,697	27,966,500	139,601,197	29,526,717	32,336,757	61,863,473	201,464,670	5.13%	1.67%	14.23%	5.65%	
2026	105,182,537	22,646,605	127,829,142	31,023,954	30,839,520	61,863,473	189,692,615	4.81%	1.43%	14.09%	5.30%	
2027	90,759,641	17,659,329	108,418,970	32,597,150	29,266,324	61,863,473	170,282,443	4.30%	1.21%	13.77%	4.97%	
2028	58,185,000	12,439,973	70,624,973	34,250,160	27,613,313	61,863,473	132,488,446	3.33%	1.02%	13.00%	4.67%	
2029	43,785,000	9,917,812	53,702,812	35,987,037	25,876,436	61,863,473	115,566,286	2.89%	0.88%	12.76%	4.42%	
2030	43,385,000	7,591,012	50,976,012	37,812,037	24,051,436	61,863,473	112,839,485	2.80%	0.76%	12.88%	4.20%	
2031	31,985,000	5,322,108	37,307,108	39,729,633	22,133,840	61,863,473	99,170,582	2.45%	0.65%	12.74%	3.98%	
2032	33,565,000	3,750,377	37,315,377	41,744,527	20,118,947	61,863,473	99,178,850	2.44%	0.55%	12.94%	3.79%	
2033	23,020,000	2,450,225	25,470,225	43,861,657	18,001,817	61,863,473	87,333,699	2.14%	0.45%	12.86%	3.60%	
2034	17,910,000	1,520,056	19,430,056	46,086,213	15,777,261	61,863,473	81,293,529	1.98%	0.37%	12.92%	3.42%	
2035	14,620,000	761,184	15,381,184	48,423,649	13,439,824	61,863,473	77,244,657	1.87%	0.29%	13.04%	3.26%	
2036	4,805,000	144,150	4,949,150	50,879,696	10,983,777	61,863,473	66,812,623	1.61%	0.22%	13.02%	3.10%	
	1,755,384,296	594,036,427	2,349,420,723	600,619,323	451,059,724	1,051,679,047	3,401,099,770					

Note: Assumes the full \$766.285 million of authorized but unissued debt is issued over the next five years. The net pension liability is kept constant at the FY2015 level of \$2.907 billion and the Pension ARC through 2025 is based on projections provided by the Employee Retirement System of Rhode Island and after 2025 reflects an annual increase based on the growth rate in 2025 of 2.59%. The General Revenues are based on the projected revenues for FY2017 through FY2021 and 0.50% annual growth thereafter. The projected personal income for FY2017 through FY2021 is based on the forecast in the May 2016 Revenue Estimating Conference report, and after FY2021, annual growth is assumed to be 3.00%.

As the table above shows, with the assumption that all the authorized but unissued debt is issued by the State in equal amounts over the next five years, the maximum debt service occurs in FY2023 and the debt service to revenues ratio is at a peak of 6.77% in FY2023. The maximum debt to personal income is 3.13% in FY2017. Including the pension liabilities, the ratio of debt service plus Pension ARC to revenues is over 12% from FY2017 through FY2024, and the ratio of debt plus net pension liability to personal income is over 7% from FY2017 through 2021. With the issuance of all the authorized but unissued debt, the State has limited additional debt capacity through FY 2023 under the debt affordability measures set in this study.

Debt Affordability Ratio Targets

- Debt Service on Tax-Supported Debt to General Revenues is targeted at no more than ___%;
- Net Tax-Supported Debt as percentage of Personal Income is targeted at no more than ___%;
- The amount of debt to be retired over the next ten years should be targeted at no less than ___%;
- Net Tax-Supported Debt Service + Pension ARC as a percentage of General Revenues is targeted at no more than ___%;
- Net Tax-Supported Debt + Net Pension Liability as a percentage of Personal Income is targeted at no more than ___%; and
- Pension ARC and OPEB ARC should be funded at 100%.

Assumptions for Determining Debt Capacity

The following assumptions were applied to the issuance of the authorized but unissued debt and applied in determining the additional debt capacity that the State has for new tax-supported debt over the next ten year period.

1. All debt will be issued as 20-year debt.
2. Interest rate is assumed to be 5.00%.
3. There are no refunding savings during the period.
4. Authorized but unissued debt (including the \$227.5 million in the November 2016 referendum) is issued from FY2017 through FY2021 in equal amounts.
5. General revenue projections through 2021 are from the enacted 2017 budget and growth after 2021 is assumed to be 0.50%.
6. Personal income projections through 2022 are from the May 2016 Revenue Estimating Conference and growth after 2023 is assumed to be 3.00%.

Debt Capacity Over Next Ten Years

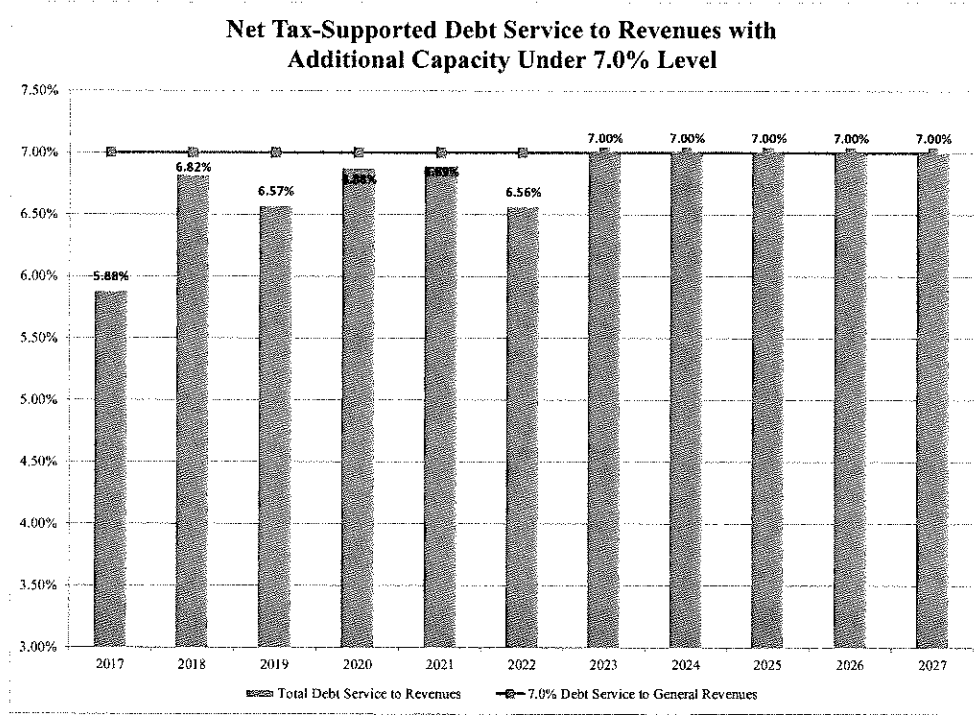
If the policy target for the Debt Service to General Revenues ratio is assumed to be 7.0%, based on the assumptions above, Rhode Island could issue an additional \$1.336 billion over the next ten years and stay within the 7.0% policy target of debt service to revenues in all years. The projected additional debt capacity is impacted by the assumption of how the \$766.3 million of authorized but unissued debt is actually issued. With the assumption that this total amount is issued from FY2017 through FY2021, there is very limited additional capacity. Peak debt service occurs in FY2023 after all the authorized but unissued bonds are assumed to be issued and constrain the amount of additional debt that can be issued. To the extent the actual issuance schedule differs, debt capacity will be different. In the period FY2017 through FY2022, there is total additional capacity of \$113.19 million or an average of \$18,865,000 in each year during this period. There is additional capacity starting in FY2023 once the peak debt service is paid. For the balance of the ten year period, from FY2023 through FY2026, there is additional capacity of \$1.223 billion, resulting in a total of \$1.336 billion of additional debt capacity over the ten year period.

Net Tax-Supported Debt Capacity With Debt Service to Revenues Assumed Target of 7.0%

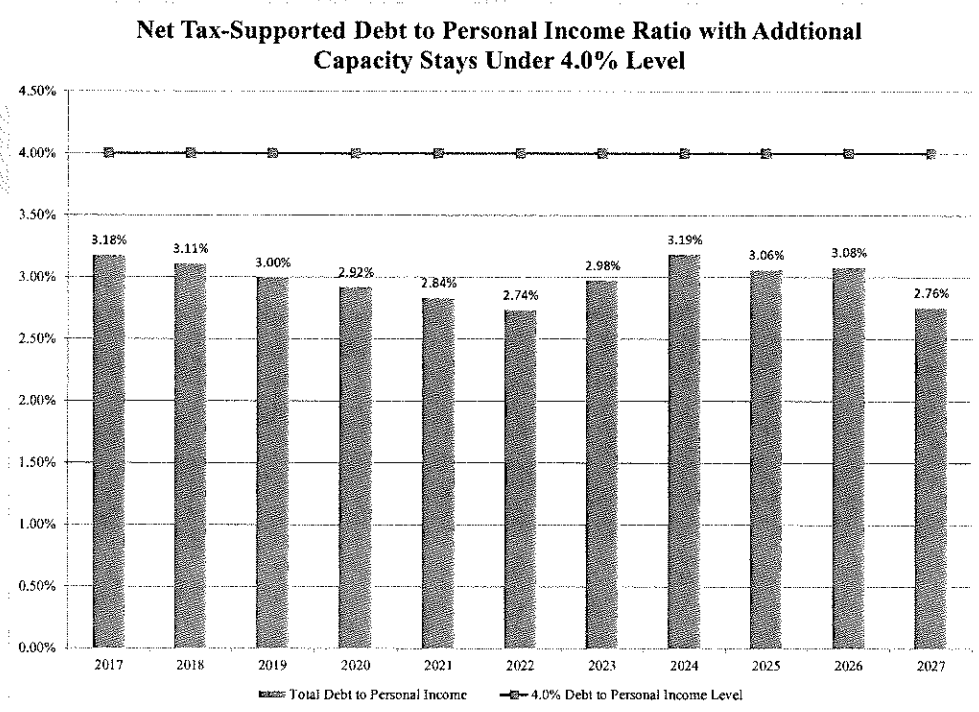
Fiscal Year	Outstanding Tax-Supported Debt Service (as of June 30, 2016)				Estimated Authorized but Unissued @ 5.00% (\$766.285M Issued In Equal Amounts Over Next 5 Years)				Additional Debt Capacity @ 5.00% Debt and Pension Ratios				
	Principal	Interest	Debt Service	Total	Principal	Interest	Debt Service	Total	Additional Debt Over Next 10 Years	Total Debt to Service to Revenues	Total Debt to Personal Income	10-Year Payout	Tax-Supported DS + Pension ARC to Revenues
2017	131,985,034	84,071,460	216,056,494	0	0	0	216,056,494	27,925,000	5.88%	3.18%	79.4%	13.79%	8.36%
2018	162,295,675	77,971,676	240,267,351	4,600,240	7,772,455	12,372,695	252,640,046	17,810,000	6.82%	3.11%	71.8%	14.81%	8.07%
2019	147,705,806	69,952,591	217,658,397	9,433,719	15,311,670	24,745,389	242,403,786	19,810,000	6.57%	3.00%	72.2%	14.64%	7.78%
2020	155,970,838	62,591,425	218,562,263	14,512,271	22,605,813	37,118,084	255,680,347	13,995,000	6.88%	2.92%	73.2%	15.03%	7.56%
2021	154,254,658	55,040,358	209,295,016	19,848,326	29,642,453	49,490,779	258,785,795	16,780,000	6.89%	2.84%	74.1%	15.17%	7.34%
2022	136,318,928	47,841,639	184,160,567	25,454,947	36,408,526	61,863,473	246,024,040	16,870,000	6.56%	2.74%	75.9%	15.06%	7.10%
2023	159,705,655	41,381,021	201,086,676	26,745,621	35,117,852	61,863,473	262,950,149	387,810,000	7.00%	2.98%	77.7%	15.72%	7.20%
2024	128,310,827	43,016,928	171,327,755	28,101,770	33,761,703	61,863,473	233,191,228	412,420,000	7.00%	3.19%	79.3%	15.91%	7.29%
2025	111,634,697	27,966,500	139,601,197	29,526,717	32,336,757	61,863,473	201,464,670	163,825,000	7.00%	3.06%	81.8%	16.09%	7.05%
2026	105,182,537	22,646,605	127,829,142	31,023,954	30,839,520	61,863,473	189,692,615	259,100,000	7.00%	3.08%	84.6%	16.28%	6.95%
2027	90,759,641	17,659,329	108,418,970	32,597,150	29,266,324	61,863,473	170,282,443	107,231,780	7.00%	2.76%		16.48%	6.52%
2028	58,185,000	12,439,973	70,624,973	34,250,160	27,613,313	61,863,473	132,488,446	107,231,780	6.02%	2.47%		15.69%	6.11%
2029	43,785,000	9,917,812	53,702,812	35,987,037	25,876,436	61,863,473	115,566,286	107,231,780	5.56%	2.22%		15.44%	5.76%
2030	43,385,000	7,591,012	50,976,012	37,812,037	24,051,436	61,863,473	112,839,485	107,231,780	5.47%	2.00%		15.55%	5.44%
2031	31,985,000	5,322,108	37,307,108	39,729,633	22,133,840	61,863,473	99,170,582	107,231,780	5.10%	1.78%		15.39%	5.12%
2032	33,565,000	3,750,377	37,315,377	41,744,527	20,118,947	61,863,473	99,178,850	107,231,780	5.08%	1.59%		15.58%	4.83%
2033	23,020,000	2,450,225	25,470,225	43,861,657	18,001,817	61,863,473	87,333,699	107,231,780	4.76%	1.40%		15.48%	4.54%
2034	17,910,000	1,520,056	19,430,056	46,086,213	15,777,261	61,863,473	81,293,529	107,231,780	4.59%	1.22%		15.54%	4.27%
2035	14,620,000	761,184	15,381,184	48,423,649	13,439,824	61,863,473	77,244,657	107,231,780	4.47%	1.05%		15.64%	4.01%
2036	4,805,000	144,150	4,949,150	50,879,696	10,983,777	61,863,473	66,812,623	107,231,780	4.20%	0.89%		15.60%	3.77%
	1,755,384,296	594,036,427	2,349,420,723	600,619,323	451,059,724	1,051,679,047	3,401,099,770	1,336,345,000					

Note: Assumes the full \$766.285 million of authorized but unissued debt is issued over the next five years. The net pension liability is kept constant at the FY2015 level of \$2.907 billion and the Pension ARC through 2025 is based on projections provided by the Employee Retirement System of Rhode Island and after 2025 reflects an annual increase based on the growth rate in 2025 of 2.59%. The General Revenues are based on the projected revenues for FY2017 through FY2021 and 0.50% annual growth thereafter. The projected personal income for FY2017 through FY2021 is based on the forecast in the May 2016 Revenue Estimating Conference report, and after FY2021, annual growth is assumed to be 3.00%.

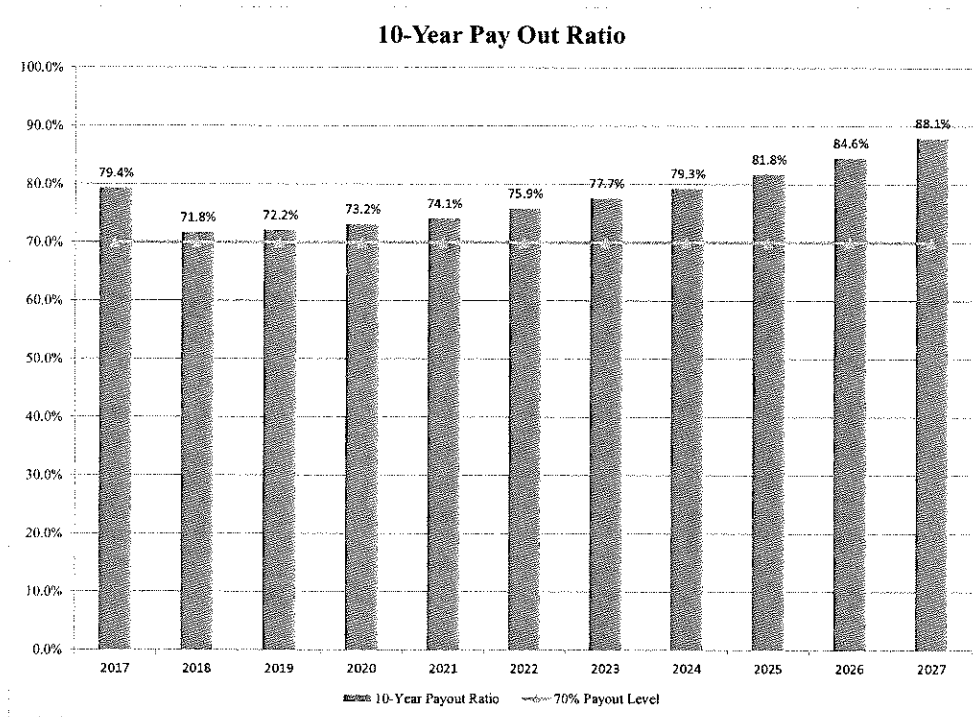
Under these assumptions, the Debt Service to General Revenues will reach 7.0% in 2023.



The debt to personal income is at its peak in FY2024 at 3.19%, well under the current PFMB Credit Guideline of 5.0% to 6.0%.

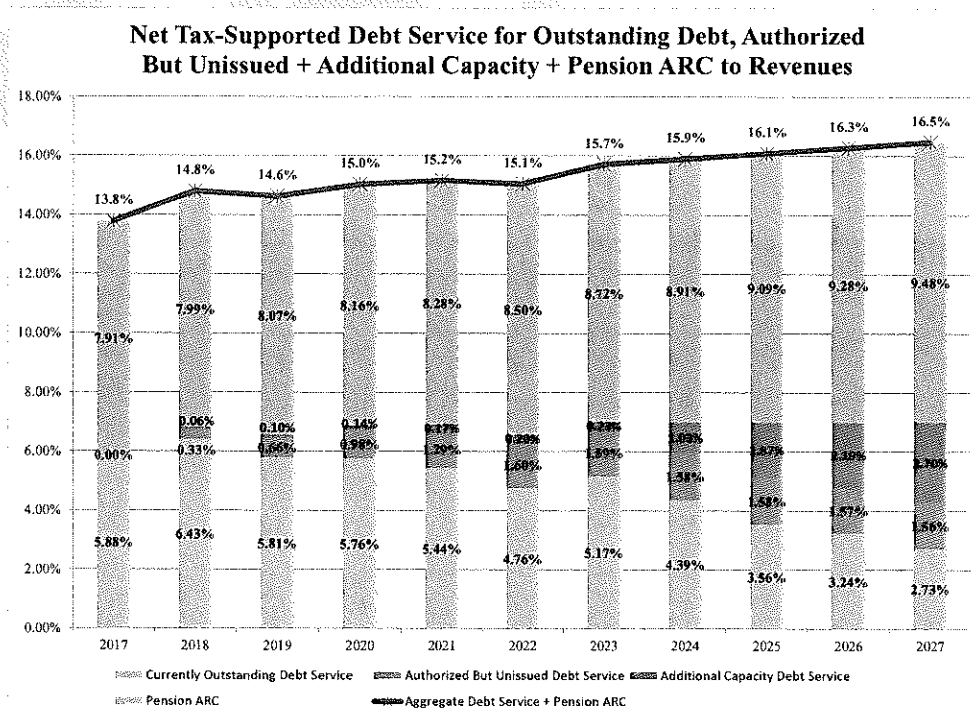


The 10-year payout ratio stays above 70% in all years.

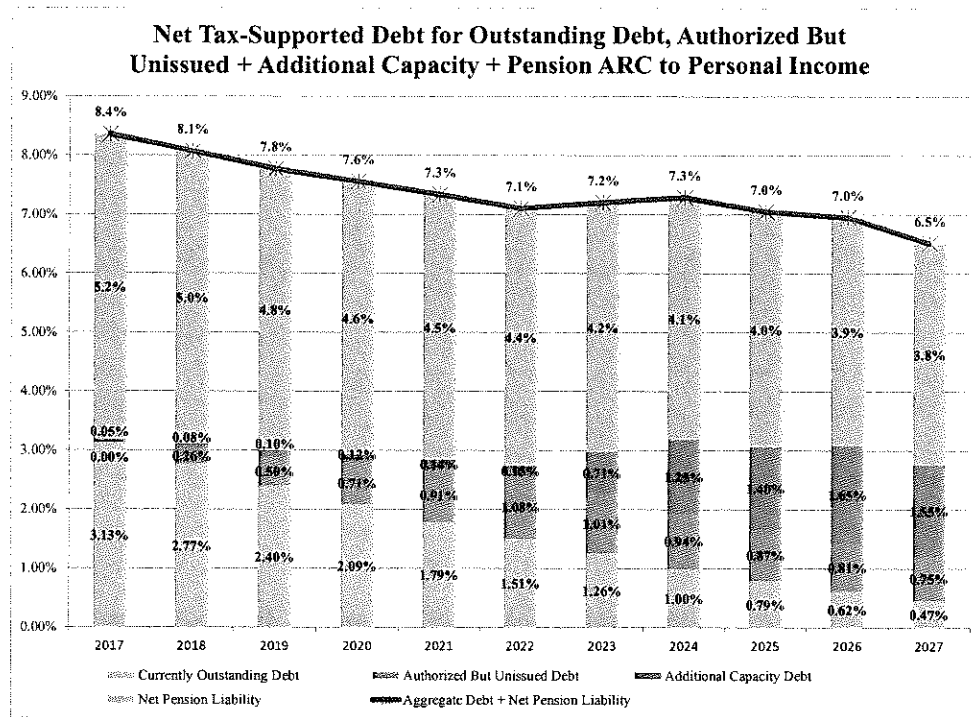


Summary of Combined Debt and Pension Ratios with Additional Debt Capacity

The debt affordability measures will also combine the net pension liabilities. If additional debt capacity using the 7.0% Debt Service to General Revenues ratio is assumed, net tax-supported debt service plus the Pension ARC to revenues increases from 13.8% to 16.5% by 2027.



Further, the net tax-supported debt, including the additional capacity, plus net pension liability stays below the 9.0% level for the period 2017 through 2027.



Sensitivity Cases for Debt Capacity

Debt Service to General Revenues Ratio

Under different policy targets for the Debt Service to General Revenues ratio, there will be different levels of additional capacity, as summarized in the table below.

Additional Debt Capacity Under Different Debt Service to Revenues Ratios

Fiscal Year	Debt Service to Revenues @ 6.50%	Debt Service to Revenues @ 7.00%	Debt Service to Revenues @ 7.50%
2017	\$ 0	\$ 27,925,000	\$ 86,155,000
2018	0	17,810,000	76,220,000
2019	0	19,810,000	79,740,000
2020	0	13,995,000	77,220,000
2021	0	16,780,000	17,980,000
2022	0	16,870,000	18,070,000
2023	257,680,000	387,810,000	389,025,000
2024	411,200,000	412,420,000	413,635,000
2025	162,605,000	163,825,000	165,050,000
2026	257,870,000	259,100,000	260,330,000
2017-2022 Subtotal	\$0	\$113,190,000	\$355,385,000
2023-2026 Subtotal	\$1,089,355,000	\$1,223,155,000	\$1,228,040,000
Total Additional Capacity	\$1,089,355,000	\$1,336,345,000	\$1,583,425,000

Under the debt service to revenues cap of 7.5%, the total additional capacity would be \$1.583 billion or \$247 million greater than under the 7.0% policy target. With the 6.5% debt service to revenues ratio, there is no additional debt capacity until 2023 since the debt ratio exceeds 6.50% in the prior years if all the \$766.285 million of authorized but unissued debt is issued in the FY2017 through FY2021 time period.

Interest Rate Sensitivity

For the debt capacity analysis a 5.00% interest rate was assumed. Debt capacity under a 4.00% interest was also analyzed, resulting in additional capacity of \$79.8 million more in the period 2017 through 2022 and \$190.5 million more in capacity over the 10 year period.

Additional Debt Capacity Under Different Interest Rates (Assuming Debt Service to Revenues Ratio Capped at 7.0%)

Fiscal Year	Interest Rate at 5.00%	Interest Rate at 4.00%
2017	\$ 27,925,000	\$ 33,930,000
2018	17,810,000	32,180,000
2019	19,810,000	41,315,000
2020	13,995,000	48,895,000
2021	16,780,000	18,300,000
2022	16,870,000	18,395,000
2023	387,810,000	422,920,000
2024	412,420,000	449,750,000
2025	163,825,000	178,655,000
2026	259,100,000	282,555,000
2017-2022 Subtotal	\$113,190,000	\$193,015,000
2023-2026 Subtotal	\$1,223,155,000	\$1,333,880,000
Total Additional Capacity	\$1,336,345,000	\$1,526,895,000

Guidelines for Debt Management Best Practices

In maximizing debt affordability, the State should adopt certain guidelines on how best to issue and structure its tax-supported debt to minimize borrowing costs and to maintain, and if possible, eventually improve, its credit rating. The following provides debt structuring, issuance and post issuance compliance guidelines for State tax-supported debt.

Purpose

These guidelines are intended to aid the Office of the General Treasurer, State agencies, commissions, boards and authorities in structuring their financing arrangements in a manner consistent with the best interests of the State. These are guidelines only, and consideration of a structure outside of these guidelines may be warranted under certain circumstances.

Applicability

These guidelines apply to all State agencies, corporations, boards and authorities where the debt service payments are expected to be made, in whole or in part, directly or indirectly, from tax revenues, including appropriations of the State and moral obligation debt.

Types of Debt

Debt financing may include State general obligation bonds, revenue bonds, certificates of participation, and lease/purchase debt. The primary debt type used has been State general obligation bonds. However, other outstanding tax supported debt has been issued by the Convention Center Authority and the Commerce Corporation. In addition, the State has issued Certificates of Participation and performance based obligations. The State has identified different categories of net tax-supported debt:

- Direct debt
- Guaranteed debt
- Contingent debt
- Other obligations subject to appropriation

Debt Structuring Practices

The following guidelines, which may be modified by an issuer to meet the particulars of the financial markets at the time of the issuance of a debt obligation, describe the basic debt issuance and debt structuring components and the terms and parameters are intended to provide general guidance to the issuer.

Method of Sale: Municipal bonds are typically sold by negotiated sale or competitive sale. With a negotiated sale, the issuer selects an underwriter, or more likely a group of underwriters, called a syndicate, to sell the bonds in a public offering. The book-running senior manager acts as the lead representative of the syndicate. The issuer, with advice from its financial advisor, will negotiate with the senior manager to determine the optimal structure, price, underwriter's discount and institutional and retail placement of the bonds. Negotiation may provide more flexibility as to timing, structure and pricing of the transaction. With a competitive sale, the issuer prepares and a Notice of Sale, which is published with the preliminary offering document and describes all the parameters for bids on the bonds. On the day and time set for the sale, as established in the Notice of Sale, bidders submit bids and the bid with the lowest true interest cost wins. The winning bidder sells the bonds to investors at the prices that were bid. A third method of sale that is used much less frequently is a private placement, where bonds are not publicly offered and sold directly to qualified investors. Private placements, including bank loans, bank funding agreements, and master lease programs can be cost effective for certain type of financings including: variable rate, short-term and smaller size issuances due to lower costs of issuance compared to publically marketed securities.

Issuers should sell their debt using the method of sale that is most likely to achieve the lowest cost of borrowing. Under certain circumstances, a competitive sale will generally result in the lowest cost of borrowing and should be the preferred method of sale if certain factors are present. In determining the method of sale, the issuer should consider the following factors:

Factor	Competitive Sale	Negotiated Sale
Credit	General obligation credits High ratings No negative outlook on the ratings	New credit Complex credit with a “story” Low credit ratings (Baa/BBB)
Size of the Issue	Bond issue under \$500 million for Rhode Island	Large debt issue that raises concerns about market saturation. Threshold level varies from issuer to issuer.
Financing Structure	Fixed rate, current interest bonds with serial maturities or term bonds	Structure is complex and is difficult to sell through a competitive sale. Complex refunding structure.
Market Volatility	Capital markets are functioning normally with no extreme volatility in interest rates and investor demand	Capital markets are experiencing wide shifts in interest rates and investor demand (e.g., financial crisis in late 2008/early 2009)
Retail Investor Demand	Retail investors are not the target buyers	Structure of the bonds is conducive to retail investor demand, with the expectation that many of the bonds would be placed with retail investors

The State’s general obligation bonds are good candidates for a competitive sale. With ratings of Aa2/AA/AA and a stable outlook from all three major rating agencies and typical fixed rate, amortizing structure and manageable size, the State can sell its general obligation bonds on a competitive basis and achieve the lowest cost of borrowing. The State successfully sold its General Obligation Bonds, Series 2016A and General Obligation Refunding Bonds, Series 2016B competitively in April 2016. Strong demand for the state’s first competitive bond sale since 2007 was reflected in the number of bidders and the pricing levels bid. The state received highly competitive bids from six underwriters for its sale of tax-exempt bonds, securing a true interest cost of 2.39 percent for the twenty year borrowing.

Term of the Debt: The Term (final maturity) of a financing must not exceed a conservative estimate of the useful life of the assets to be financed (or the remaining useful life of assets associated with refunding bonds). A term of twenty-years (20) years has been used for State general obligation bonds. Longer Terms are appropriate for project finance issues and financings where debt service is paid from a specific revenue stream. Shorter Terms are appropriate for financings which rely on non-State or limited revenue sources to pay debt service such as GARVEE financings and other special obligation financings.

Amortization Structure of Debt: An amortization that produces level-annual debt service should be used unless otherwise dictated by considerations provided below. However, in all circumstances, the weighted average maturity must not be greater than useful life of the assets to be financed. Amortization structures that produce an increasing level of debt service (ascending debt service) are generally only appropriate for non-contingent debt. Level principal amortization or an amortization schedule producing descending debt service could be used to reduce interest cost and shorten the weighted average maturity of the bonds being issued. Principal repayment should begin within eighteen months of the issuance unless debt repayment is solely dependent on revenues derived from the project being financed or there is an overwhelming business rationale. Structures utilizing term bonds or other “balloon” payments should require annual sinking fund payments that achieve the required amortizations discussed above. Issuers may combine two or more series of bonds issued under a common plan of finance to achieve the required amortization structures. If one of the series includes a taxable component, it is generally advisable to amortize the

taxable series with a shorter weighted average maturity. Issues with a fully funded debt service reserve fund should use any balance remaining at maturity to make the final payment.

Sizing the Issue: For bonds other than State General Obligation bonds approved by the voters, the project draw (spending) schedule should be used as the basis for sizing the issue. If possible, net funding, which takes into account the projected earnings on the bond proceeds as a source of funds for project costs using anticipated spending schedules and an assumed rate of investment earnings, should be used to size the issue, as this results in a smaller overall issue size.

Capitalized Interest: When interest is capitalized, a portion of the proceeds of an issue is set aside to pay interest on the bonds for a specified period of time. Capitalized interest should only be used when necessary (typically for revenue-producing projects) and should be limited to six months beyond the projected completion date of the project.

Call Provisions: Bonds issued without call provisions generally carry lower interest costs. However, issuing non-callable debt may inhibit a government's ability to effectively restructure future debt payments, if needed, and take advantage of refunding opportunities, thus reducing the debt service interest payments. It is standard for most bonds to be issued with a ten year call at a redemption price of 100% of the principal amount of the bonds to be redeemed, plus accrued interest to the redemption date. Issuers and their Financial Advisors should evaluate non-standard call provisions using an option analysis to estimate the value or cost of call option alternatives to determine the most beneficial structure. For competitive sales, the issuer's Financial Advisor should determine the option value and the necessary spreads to the municipal benchmark index needed to achieve the estimated benefit from a non-standard call provision.

Premium or Discount: Unless otherwise prohibited, the issuer should use the net original issuance premium (original issuance premium, less original issuance discount less underwriters' discount) for project costs for a new money financing and escrow costs for refunding bonds. Using net original issuance premium for the next interest or principal payment to bondholders is considered capitalized interest, which may be appropriate in the case of project financings or for tax-law considerations.

Credit Enhancement: The use of credit enhancement through the purchase of a municipal bond insurance policy to improve the credit ratings on a financing may be considered on transactions where the improved bond rating and corresponding reduction in interest rates paid by the issuer more than offsets the cost of the enhancement due at issuance. A cost-benefit analysis should be performed to determine if insurance or another type of enhancement is warranted. It is encouraged that the cost-benefit analysis be done to both the maturity of the bonds and to the bond's first call-date.

Election to Issue Variable Rate: Issuing Variable Rate Debt gives an issuer access to rates on the very short end of the yield curve. The difference in short versus long-term rates varies with the shape of the yield curve and has recently ranged from 100-300 basis points (or 1.0% to 3.0%). By issuing Variable Rate Debt, the issuer is subject to interest rate risk. However, Variable Rate Debt has historically been at lower interest rate levels than recognized fixed rate indices, and may enable an issuer to create a natural hedge against changes in its short-term investment portfolio. Variable Rate Debt may be used for two purposes: (1) as an interim financing device (during construction periods) and (2) subject to limitations, as a strategy to lower the issuer's overall effective cost of capital. Under either circumstance, when the cycle of long-term rates moves down to or near historic lows, consideration should be given to fixing (converting to a fixed rate) a portion of the then outstanding Variable Rate Debt to take advantage of the attractive long-term fixed rates. *Generally no more than 20% of an issuer's aggregate outstanding debt should be in a variable rate mode.* Before using variable rate debt, the issuer should understand the risks and compare the cost to a long term fixed rate borrowing to determine if the benefit outweighs the risks.

Interest Rate Swaps and Other Synthetic Products: To the extent permitted by State law, the use of contracts on interest rates, currency, cash flows, etc., including (but not limited to) interest rate swaps, interest rate caps and floors and guaranteed investment contracts (GICs) should not be used unless the issuer has adopted a separate policy regarding the use of such products and compared the risks and potential benefits against non-synthetic alternatives. Prior to entering into any Interest Rate Swaps and Other Synthetic Products associated with any Net Tax Supported Debt, the issuer should review the proposed product and transaction with the Office of the General Treasurer.

Refunding of Outstanding Debt

A refunding should only be done if there is a resultant economic benefit regardless of whether there is an accounting gain or loss, or a subsequent reduction or increase in cash flows. The issuer and its Financial Advisor will monitor the municipal bond market for opportunities to obtain interest savings by refunding outstanding debt. Refunding Bonds should be issued only when the issuance is of benefit to the issuer and/or the State. Tax-exempt bonds issued after 1986 can only be Advance Refunded one time; therefore, the one opportunity should be reserved for situations where the refunding is prudent and warranted. Refundings are generally undertaken for three reasons: (i) to provide present value debt service savings to the issuer; (ii) to escape burdensome or restrictive covenants imposed by the terms of the bonds being refinanced; (iii) to restructure debt for an appropriate purpose for the State. Refunding issues should be amortized to achieve level annual debt service savings or proportional savings based on the principal amount of the bonds being refunded. "Up-front" or "deferred" debt service savings structures should be employed only as necessary to meet specific objectives and dissavings in any year should be avoided, if possible. In addition, the final maturity on the Refunding Bonds should be no longer than the final maturity on the Refunded Bonds unless a debt restructuring is undertaken for an appropriate purpose for the State. [Appendix B provides refunding policies of other states.]

Advanced Refundings: For refundings for savings, the following parameters are suggested to ensure that the single advanced refunding opportunity is warranted:

- For bonds with call dates within two years of the delivery date of the refunding bonds, at least 3% present value savings on a maturity by maturity basis. For bonds with call dates two or more years past the delivery date of the refunding bonds, at least 5% present value savings on a maturity by maturity basis.
- The level of negative arbitrage, on a maturity by maturity basis, should not be greater than present value savings, and if relatively large, a higher level of present value savings should be required. Generally, negative arbitrage should be 25% or less than the net present value savings.
- On a bond series basis, the breakeven increase in interest rates should be calculated. The breakeven increase in interest rates is a calculation of how much rates have to increase between an advance refunding of the bonds today and a current refunding at the time the bonds are callable to result in the same amount of present value savings. The breakeven increase in interest rates should not exceed the forward interest rate forecast or a pre-established target based on past market volatility. Generally, a breakeven increase in interest rates of 75 basis points to 100 basis points has been targeted by some issuers, but length of time to the call date, market conditions, shape of the yield curve and interest rate expectations are factors to be considered in determining the target.
- Lower maturity by maturity net present value savings targets may be appropriate for shorter term or smaller fixed rate refunding issues or series, including maturities outstanding less than two years from the call date.

Current Refundings. Current refundings are a diminishing asset. Current refundings should be completed as long as the net present value savings is meaningful and the market for tax-exempt bonds is not extraordinary volatile.

Forward Refunding. A refunding in which bonds are sold with the intent to close or deliver at some future point in time, generally more than 30 days after pricing, and often to coincide with a date 90 days prior to the call date on the refunded bonds, thereby qualifying the issue as a current refunding. In general, the issuer should evaluate the breakeven savings rate (described above) to consider the likelihood of achieving higher savings than a current refunding, while minimizing other risks associated with a Forward Refunding.

Debt Issuance Practices

Sale Process: A competitive bond offering involves bid solicitation from potential purchasers, principally underwriters. It is a public bid where the bonds are sold to the underwriter or other purchaser that offers the lowest “true interest cost” or TIC. TIC is defined as the rate necessary, when compounded semi-annually, to discount the amounts payable on the respective principal and interest payment dates back to the delivery date where the total equals the purchase price received for the new issue securities.

A negotiated offering differs from a competitive offering in the method used for selecting the underwriter, the role of the underwriter in the bond marketing process, and the procedures used for determining interest rates and underwriter compensation. In a negotiated offering, the underwriter is selected first, generally through the solicitation of competitive requests for proposals. The underwriter or senior underwriter will engage in pre-sale marketing and will negotiate interest rates. The State should conduct financings on a competitive basis; however, negotiated financings may be used due to market volatility or the use of an unusual or complex financing or security structure. Retail only issues or sales are sold through a negotiated process. Also, bond refundings are often conducted through a negotiated process, due to complexities associated with refunding economics and escrow structuring. However, a straightforward refunding can be done on a competitive basis. In either case, there should still be a competitive process, in the first case, by virtue of the bid of the bonds and in the latter case by an RFP process to select an underwriting firm or firms. The negotiated offering is structured to require the solicitation of multiple underwriting proposals and permits the state to solicit the advice of several underwriters about how to structure and price a proposed bond issue. To provide the broadest distribution of bonds, the use of co-managers and selling groups are encouraged in negotiated transactions. The size of the transaction, anticipated retail/institutional demand, experience, etc., will determine the number of participants.

Competitive Sale: After disclosure documents are completed and structuring issues have been decided, the competitive sale process may begin. A Summary Notice of Sale can be published in the Bond Buyer alerting potential bidders to the date and time of the sale, approximately one or two weeks in advance of the sale date. Simultaneously, the State posts and electronically distributes its Preliminary Official Statement that contains a detailed Notice of Sale containing the relevant aspects of the sale including precise bidding rules and the date and times bidders must submit their bids. The most common on-line bidding platform used by the municipal market is Parity IPREO. Bids are promptly “opened” and disclosed. As a condition of submitting a bid, bidders may have to provide a good faith pledge, typically 1% of the value of the bonds being offered. On a date specified, after all legal documentation has been completed, the sale closes. The final purchase price of the bonds is wired to the State and the bonds are released.

Negotiated Sale: A sale date is chosen by the issuer with input from the underwriter and the Financial Advisor. Prior to any pre-marketing of the bonds, the Book-running senior underwriter should submit proposed pricing to the Financial Advisor and the issuer which will include proposed coupons, yields and take downs for each maturity to be sold. The scale should reflect input from the other members of the underwriting groups (co-managers and so-senior managers if any), known as price views, and a consensus scale. The proposal should also include all fees and costs associated with the underwriting. The issuer and the Financial Advisor should consider the proposal and negotiate any recommended changes. Following the pre-marketing, this process should be repeated with information gained from the pre-marketing activity and investor interest. Prior to the official pricing date, a retail order period may be held to solicit orders from retail investors. On the day of the institutional pricing an interest rate scale is

released to potential investors through a pricing wire. The issuer and the Financial Advisor should review the pricing wire and confirm that it is consistent with agreed upon terms. An order period is conducted lasting several hours. During the order period, orders are placed by investors through the senior manager, the co-managers and selling group. The issuer and the Financial Advisor may view the orders as they are placed and entered into the senior manager's order management system, using the IPREO system. After the order period closes, the senior manager, issuer and Financial Advisor review the "book of orders." Based on the amount and distribution of orders, the senior manager and the issuer determine whether any adjustments to the pricing of the bonds are necessary. After the bonds are repriced, the management group checks to see whether additional orders can be obtained and/or whether initial orders are withdrawn. Several iterations of this process may take place. When the senior manager (on behalf of the entire underwriting group), the issuer and Financial Advisor agree on a price, a verbal award is made. Subsequent to pricing, an official Bond Purchase Agreement is signed between the underwriting group and the issuer. A good faith deposit is obtained, similar to the competitive process. On a date specified, after all legal documentation has been completed, the sale closes. The final purchase price of the bonds is wired to the State and the bonds are released, as with the competitive process.

Professional Services: The State or the issuer will employ financial specialists to assist it in developing a bond issuance strategy, preparing bond documents, and marketing bonds to investors. The key Financing Team members include the issuer's financial advisor, bond counsel, underwriter (in a negotiated sale) and in some instances, a disclosure counsel. The use of an independent Municipal Advisor is encouraged. Bond Counsel and Underwriters' Counsel should not be the same firm. Other outside firms, such as those providing paying agent, trustee, and/or printing services, are retained as required. For refunding bonds, the issuer will likely need to retain a verification agent (that verifies the refunding cash flows) and an escrow agent (hold the refunding moneys in trust until the bonds are redeemed). Depending on the statutory authority, the costs for these services and fees can be paid through the proceeds of the bonds or through budgeted appropriations.

Credit Ratings and Rating Agencies. Obtaining a minimum of two ratings is encouraged as the use of two or more ratings broaden the pool of investors. Obtaining one rating can be appropriate for smaller or unique transactions. The cost of ratings can be the highest single cost other than the underwriters' discount, especially for larger transactions. Other states have had success reducing its transactional State and State agency rating costs by annually negotiating with each of the agencies and receiving a price for all state and state-agency expected transactions.

Underwriters' Discount: The underwriters' discount or spread is the difference between the price the underwriter pays the issuer for the bonds and the price the underwriter receives from the resale of those bonds to investors. Underwriter's compensation consists of takedown, management fee, underwriting risk, and expenses, although currently spreads reflect the amounts of only takedown and expenses. The expense component is made up of costs incurred by the underwriter on behalf of the issuer, including underwriters' counsel. The costs for these services need to be managed, through the competitive bid process used to select underwriters and subsequent negotiation and monitoring of fees.

Pricing/Sale Date: The Sale date should be driven by the need for proceeds and an appropriate time that the State is able to generate a thorough disclosure document, either due to the availability of financials or the ability to dedicate necessary State resources. The issuer should not attempt to "time the market"; however, issuers should avoid market competition with other state issues and/or comparable credits.

Closing Date: Sufficient time should be allowed between the sale (or pricing) date and the closing date to permit adequate review and execution of all closing documents. Issues requiring the execution of any document by the Governor (e.g., Consent of the Governor, Governor's Certificate, etc.) may require additional time to allow for review and execution by the Governor. Closing documents requiring the approval of and/or execution by the General Treasurer must be provided as soon as possible after pricing in order to allow adequate time for review and approval. Where appropriate, draft documents may be provided prior to pricing in order to speed the process.

Rating Agency Relations: Full disclosure of operations and open lines of communication shall be made to the rating agencies. Large and frequent issuers, such as the State, should meet with the rating agencies no less than annually to provide relevant updates on financial, economic and operational performance.

Disclosure: The State of Rhode Island is committed to continuing disclosure of financial and pertinent credit information relevant to the State's outstanding securities and will abide by the provisions of Securities and Exchange Commission (SEC) Rule 15c2-12 concerning primary and secondary market disclosure. See below.

Investment of Bond Proceeds: All general obligation and revenue bond proceeds shall be invested in separate bond accounts by issuance to aid in calculating arbitrage. Investments will be consistent with those authorized by existing statute and by the State's investment policies. If invested in a portfolio of securities, the portfolio should be structured to meet expected spending requirements. Accordingly, draw schedules should be reviewed and updated periodically and provided to the investment manager. The investment of a refunding escrow portfolio should include an analysis of the use of State and Local Government Securities (SLGs) and open market securities. The State's or the issuer's municipal advisor should estimate any potential benefit of the use of an open market escrow and the State or the issuer should determine if the potential savings will be worth the time and the risk of the bid.

Pre-Issuance Review of Projects: Prior to the issuance of the bonds, the State should conduct a review of the projects to be financed, in coordination with bond counsel in order to confirm that the projects are eligible to be financed on a tax-exempt basis.

Disclosure and Post Issuance Debt Management

Municipal securities are exempt from the disclosure regulations generally applied to corporations in both the Securities Act of 1933 and the Securities Exchange Act of 1934. Municipal securities, however, are subject to the anti-fraud provisions of the acts and related rules, specifically, section 17(a) of the 1933 Act, Section 10(b) of 1934 Act, and SEC Rule 10b-5 states that it is unlawful "to make an untrue statement of a material fact or to omit to state a material fact necessary in order to make the statements made, in light of the circumstances under which they were made, not misleading." As the issuer of the bonds, the State has the responsibility to assure the accuracy and completeness of information provided to the potential investors. Issuers such as the State must also comply with SEC Rule 15c2-12. It is an SEC rule under the 1934 Act setting forth certain obligations of underwriters to receive, review and disseminate official statements prepared by issuers of most primary offerings of municipal securities.

The State issues a preliminary and final Official Statement (OS) in connection with its bonds. The Official Statement is one of the most critical documents produced by the bond financing team. The OS document discloses material information on a new issue including the purposes of the issue, how the securities will be repaid, and the financial, economic and demographic characteristics of the State. Investors, analysts and rating agencies may use this information to evaluate the credit quality of the securities. Federal securities laws generally require that if an official statement is used to market an issue, it must fully disclose all facts that would be of interest to potential investors evaluating the bonds. The OS also includes a statement that there have been no material misstatements or omissions by the issuer with respect to the issue, and that no facts have become known which would render false or misleading any statement which was made. While the State employs consultants and bond counsel to assist in this task, the ultimate responsibility for the document rests with the State.

In addition to paying principal and interest on the bonds, after the bonds are issued the State has continuing obligations to bondholders including:

- Compliance with IRS code relative to arbitrage earnings, private use, useful life and the tax-exempt status of the bonds; and

- Secondary Market Disclosure requirements for the issuer or the State to provide:
 - (i) ongoing information on State's or the issuer's financial condition and
 - (ii) disclosure to bondholders about material events that affect the status of the bonds including arbitrage and tax compliance, and
 - (iii) for the benefit of individuals purchasing and/or holding the securities subsequent to their initial issuance.

Issuers must commit in the bond documents to provide secondary market disclosure.

Compliance with IRS Code: The primary IRS code applicable to tax-exempt bonds are the Federal Tax Reform Act of 1986 as incorporated in the U.S. Treasury Internal Revenue Code (IRC) sections 103 and 141 through 150. While there are many criteria, the most common issues relate to private use, arbitrage, and useful life. Section 103 of the Code indicates that an "arbitrage bond" under Section 148 will not be tax-exempt. "The basic arbitrage rule is that a municipality may not invest the proceeds of a tax-exempt note or bond in such a manner so that the yield on the invested funds exceeds the interest rate being paid on its borrowing by more than .125%. This should be distinguished from an unintentional generation of arbitrage earnings. Intent factors into the determination of "arbitrage." If projects fall behind schedule, there may be an arbitrage "rebate" to the IRS but not necessarily a determination that an arbitrage bond exists. In these cases, there are safe harbors such as spend down exemptions and there are certain requirements for tracking the arbitrage rebate. Intentional arbitrage would, however, affect the tax status of the bonds. In addition to arbitrage, another requirement is that tax-exempt bonds issued must be for a public, not private use, which generally includes bridges, schools, infrastructure used by the general public. There are, however, private uses that have a public benefit; pollution related clean-up, affordable housing, etc. Private use and private debt service of the bond cannot exceed 10% of the issue (5% on certain loans). Another issue is continued private use. For instance, a building constructed using bond funds for a public use may not generally be resold for private use, although the "change in use" provisions do provide for certain remedies. In addition, bonds may not exceed certain useful life criteria for the underlying capital assets.

Continuing/Secondary Market Disclosure: At the time of issuance, disclosure of material facts is made. Issuers such as the State have a continuing obligation for disclosure. This is required by SEC Rule 15c2-12 as stated by the MSRB:

"Under Rule 15c2-12(b)(5), an underwriter for a primary offering of municipal securities subject to the rule currently is prohibited from underwriting the offering unless the underwriter has determined that the issuer or an obligated person for whom financial information or operating data is presented in the final official statement has undertaken in writing to provide certain items of information to the marketplace. Rule 15c2-12(b)(5) provides that such items include: (A) annual financial information concerning obligated persons; (B) audited financial statements for obligated persons if available and if not included in the annual financial information; (C) notices of certain events, if material; and (D) notices of failures to provide annual financial information on or before the date specified in the written undertaking."

The SEC further defines "obligated person" as:

"... any person, including an issuer of municipal securities, who is either generally or through an enterprise, fund, or account of such person committed by contract or other arrangement to support payment of all or part of the obligations on the municipal securities sold in a primary offering (other than providers of bond insurance, letters of credit, or other liquidity facilities)."

The SEC further requires that broker-dealers can only buy securities for which the issuer has agreed to provide written assurance of their continuing disclosure. As noted above, the SEC does not have authority over disclosure requirements in the municipal bond market. Through these rules, however, the SEC has placed restrictions on underwriters, broker-dealers and other business partners, creating effective compliance.

SEC Rule 15c2-12 mandates continuing disclosure unless the bonds qualify for an exemption, which is generally not the case given the size of State issues. The State is responsible for providing ongoing disclosure information to established national information repositories and for maintaining compliance with disclosure standards. The State works with Bond Counsel or Disclosure Counsel to assure that this is completed annually and in the event of the occurrence of a disclosure event. Notice would be required for the following events:

- Principal and interest payment delinquencies
- Non-payment related defaults
- Unscheduled draws on the debt service reserves reflecting financial difficulties
- Unscheduled draws on the credit enhancements reflecting financial difficulties
- Substitution of the credit or liquidity providers or their failure to perform
- Adverse tax opinions or events affecting the tax-exempt status of the bonds
- Modifications to rights of bondholders
- Optional, contingent or unscheduled calls of bonds
- Defeasances
- Release, substitution or sale of property securing repayment of the bonds
- Rating changes

Annual filings are to be sent to and posted on the MSRB's Electronic Municipal Market Access database ("EMMA"). In addition, if the State determines that the occurrence of an above listed event is material under applicable federal securities laws, the State has a duty to promptly file a notice of such occurrence and have it posted on EMMA. <http://www.emma.msrb.org/>