State of Rhode Island

Public Finance Management Board

Debt Affordability Study

December 16, 2021

Acknowledgements

This report is the third to be released since the General Assembly established the requirement in 2016 that the Public Finance Management Board produce a debt affordability study every two years. This report provides not only information on debt and pension liabilities, but also post-employment liabilities of the State, municipalities and Quasi-Public agencies in the State and is believed to be one of the most comprehensive debt affordability studies undertaken by any state government.

The production of this study has been a collaborative effort involving many smart, public-spirited individuals who believe in the importance of sound public finance.

The Public Finance Management Board is a volunteer committee tasked with overseeing the preparation of this study. I want to thank board members Jim Thorsen, Julie Goucher, Shawn Brown, Doug Jacobs, Robert Mancini, Joe Reddish and Maribeth Williamson for their service to the State.

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Finally, none of the great achievements of the Rhode Island Treasury would be possible without the skill and commitment of our staff. Chief Investment Officer Andrew Junkin, Director of Debt Management Frank Quinn, Fiscal Management Analyst Jian Lei and Chief of Staff Seth Klaiman worked diligently to create the best, most comprehensive Debt Affordability Study ever to be produced by a state government.

Seth Magaziner

General Treasurer

Chairman of the Public Finance Management Board

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Introduction

There are more than 100 entities in Rhode Island with the authority to issue public debt. These issuing entities range from the State itself, to municipalities and school districts, water districts and fire districts, and Quasi-Public entities that manage important public infrastructure like airports and bridges. Combined, these Rhode Island entities have accumulated approximately $11.5 billion of debt outstanding in various forms.

Maintaining an ability to borrow, often called "debt capacity," is critical for state and local governments. Without debt capacity the State may not be able to maintain aging infrastructure and invest in projects that support economic growth. Public capital investments attract private capital investments, which create jobs and improve the quality of life for residents of the State.

While it is often useful and necessary for public entities to take on debt to spread the cost of large capital projects across multiple budget cycles, the power to issue public debt must be exercised with care. When a public entity issues long-term debt, it binds its citizens to repay the debt for many years in the future, through taxes, fees, tolls or utility rate charges. Sometimes even when public debt is not explicitly backed by taxpayer funds, taxpayers can find themselves liable for the cost of debt when the original revenue stream becomes insufficient to cover the cost of debt service. Therefore, it is important for each issuer of public debt to have a clear sense of how much debt it can prudently issue at any given time.

This 2021 study refreshes the analysis contained in the 2019 Rhode Island Debt Affordability Study and comes in the aftermath of the significant impact that the COVID-19 pandemic has had on the finances and operations of the State and its municipalities, and there is still uncertainty and risk associated with how long the pandemic will last and in how the local, State and national economies will recover from the pandemic.

Scope of the Debt Affordability Study

The Public Finance Management Board (PFMB) was created during the 1986 Session of the General Assembly for the purpose of providing advice and assistance to issuers of tax-exempt debt in the State of Rhode Island. In 2016, at the request of General Treasurer Seth Magaziner, the General Assembly enacted a series of measures to strengthen debt management in Rhode Island, including the requirement that the PFMB produce a debt affordability study every two years to recommend limits of indebtedness for all issuers of public debt in the State. This is the third debt affordability analysis conducted since the 2016 law was enacted.

This study examines the levels of indebtedness of the State, its Quasi-Public agencies, municipalities and various special districts, and recommends debt affordability limits for each issuer. The study is premised on the concept that resources, not only needs, should guide debt issuance.

For the purposes of this study, debt affordability is defined as the issuer's ability to repay all its obligations based on the strength of its revenue streams and the capacity of the underlying population to afford the cost of borrowing. Maintaining an appropriate level of debt affordability is crucial for ensuring long-term fiscal sustainability and economic competitiveness while investing in projects necessary to deliver essential public services.

Because of the diverse nature of Rhode Island's population and the diverse functions of the Quasi-Public agencies, the PFMB does not recommend a single overall limit for public debt across all issuers. The public debt burden that is affordable for the population of one community might be higher or lower than the affordable level for a community located elsewhere in the State, and the unique functions of Quasi-Public agencies result in yet a different basis of affordability. Accordingly, this report recommends separate affordability limits for the State, the Quasi-Public agencies and each municipality.

Debt is not the only type of long-term liability that states, municipalities and other public entities incur. Most notably, pension liabilities that have been contractually or statutorily promised to public employees represent long-term liabilities of the entities responsible for debt repayment. Further, other post-employment benefit (OPEB) obligations, which primarily include retiree health care benefits, are long-term liabilities that are generating increased attention from policy makers and bond market participants.

The PFMB believes that the level of debt that a public entity can afford to issue cannot be measured in isolation but must be viewed in the context of the amount of pension and OPEB liabilities that the issuing entity has taken on. Therefore, where possible, this study recommends holistic affordability limits for public entities in Rhode Island that include debt, pension and OPEB liabilities together. The credit rating agencies have also begun to adopt methodologies that combine debt, pension and OPEB liabilities into the same affordability measurements, and it is expected that these comprehensive liability metrics will only become more common over time.

This update of the debt affordability study uses FY 2021 data for the State and Quasi-Public agencies and FY 2020 results for most municipalities. In both cases, the timeframes include periods of volatility on State and municipal finances caused by the COVID-19 pandemic and may not be representative of long-term debt affordability trends.

Part One: State Tax-Supported Debt.

The first part of the study considers all tax-supported debt of the State. As of June 30, 2021, the State had a total of $1.93 billion of tax-supported debt outstanding. In addition, as of June 30, 2021, the State had approximately $3.26 billion of unfunded actuarial accrued liability (UAAL) in connection with its four pension programs. The most recent actuarial study completed as of June 30, 2020 estimates the State's OPEB unfunded liability in FY 2021 at approximately $317.84 million.

Comparing pension and OPEB liabilities across states can be challenging, as the pension liabilities and annual costs that states report can vary considerably based on the assumptions and policies that states use to govern their pension systems. The PFMB partnered with the Center for Retirement Research at Boston College (CRR) to develop a model in which the pension and OPEB liabilities of all 50 states were adjusted to conform to the discount rate and amortization that Rhode Island uses for its pension and OPEB systems in order to provide an "apples to apples" comparison of the liability burdens of all 50 states.

This analysis showed Rhode Island ranks 12th in the level of Total Liabilities relative to Personal Income and ranks 11th in the country in annual liability costs relative to Own Source Revenues.

Part 2: Quasi-Public Agencies.

The second part of the study evaluates the debt of the State's Quasi-Public agencies. Quasi-Public agencies are governmental agencies with tax-exempt bonding authority that are managed with a degree of independence from the legislative and executive branches of state government.

Quasi-Public agency debt falls into two general categories: (i) debt secured by revenues of the agency (Direct Borrowers) and (ii) conduit debt which is borrowed on behalf of another underlying entity, be it another government agency, a private corporation or nonprofit organization, to help the underlying borrower achieve tax-exempt status or a lower cost of financing (Conduit Issuers).

The debt issued by the Quasi-Public agencies is usually in the form of revenue bonds, in which debt service is payable solely from the revenues derived (i) from a dedicated revenue source, (ii) from operating businesses or a facility, or (iii) under a loan or financing agreement with an underlying conduit borrower.

Quasi-Public Agency Issuers

Direct Borrower	Type/Purpose of Bonds
Narragansett Bay Commission	Wastewater System Revenue Bonds
Rhode Island Turnpike and Bridge Authority	Toll Revenue Bonds
Rhode Island Resource Recovery Corporation	Resource Recovery System Revenue Bonds
Tobacco Settlement Financing Corporation	Tobacco Master Settlement Agreement Bonds
Conduit Issuer	**Type/Purpose of Bonds**
Rhode Island Commerce Corporation	GARVEEs, Airport Revenue Bonds, Economic Development (including Rhode Island Industrial Facilities Corporation tax-exempt private activity bond debt)
Rhode Island Health and Educational Building Corporation	Public School, Higher Education, Other Education, Health Care Revenue Bonds (includes Pooled Bonds)
Rhode Island Housing and Mortgage Finance Corporation	Single-Family and Multi-Family Housing Revenue Bonds
Rhode Island Infrastructure Bank	Water Pollution Control, Safe Drinking Water, Sewer Revenue Bonds, Energy Efficiency Loans, Municipal Road and Bridge Loans
Rhode Island Student Loan Authority	Student Loan Revenue Bonds

As of June 30, 2021, Quasi-Public Agencies in the State had a total of almost $7.2 billion of debt outstanding, excluding debt held by non-profit and private conduit borrowers.

Part 3: Municipalities and Special Districts.

The third part of the study considers debt of the municipalities, fire districts, special districts and other local authorities of the State. Rhode Island has 39 municipalities, 40 fire districts, and 17 special districts and local authorities that can issue debt. Most of the Rhode Island municipalities and local districts issue general obligation bonds directly and enter capital leases supported by property tax revenue. Many also borrow through the Rhode Island Health and Educational Building Corporation ("RIHEBC") Public Schools Revenue Bonds Financing Program, a conduit bond program. In some cases, municipal entities issue revenue bonds secured by the revenues of public utilities like water and sewer systems.

Most municipalities and districts also have pension liabilities, which are accounted for in this study. There are 155 pension plans for municipal employees across Rhode Island, 121 of which are managed centrally by the State through the Municipal Employees Retirement System (MERS), and 34 of which are managed independently by municipalities. Regardless of the management structure, the municipalities and districts are fully responsible for the cost of the liabilities of these plans. In addition, school districts participate in the statewide Employees Retirement System (ERS), in which the State is responsible for 40% of the liability and the school district is responsible for 60% of the liability. Further, most municipalities offer retired public employees OPEB benefits, either on a pay-as-you-go basis, or in a pre-funded trust.

Overall municipal and local district tax-supported debt[1], excluding the debt of overlapping state Quasi-Public agencies, in FY 2019-20 was $2.7 billion[2], an increase of $145.3 million or 5.7% from FY 2017-18. Total net pension liabilities in FY 2019-20 were almost $4.9 billion, and total net OPEB liabilities were $2.9 billion.

[1] Overall municipal debt is the sum of general obligation debt, loans payable, capital leases, and a portion of municipal enterprise debt (as described in the Note at the bottom of the table) and the debt of overlapping agencies.

[2] Due to lack of FY 20 data availability, FY 19 data is used for East Providence. FY 20 data used for all other municipalities.

Aggregate Debt Outstanding

Outstanding Debt (FY 2021)	General Obligation	Other Tax-Supported Debt	Revenue (Public)	Revenue (Private/Non-Profit)	Pension Liability	OPEB Liability	Total Outstanding Liabilities
State of Rhode Island	$ 1,311,665,000	$ 619,052,285			$ 3,262,247,391	$ 317,840,000	$ 5,510,804,676
Quasi Public Agencies							
Narragansett Bay Commission (Excluding RIIB Debt)			$ 722,509,672		$ 17,701,248	$ 2,802,007	$ 722,509,672
Rhode Island Turnpike and Bridge Authority			$ 46,920,000				$ 46,920,000
Tobacco Settlement Financing Corporation			$ 715,847,711				$ 715,847,711
Rhode Island Resource Recovery Corporation			$ 10,803,890			$ 693,800	$ 11,497,690
Rhode Island Commerce Corporation							
GARVEEs			$ 534,955,000				$ 534,955,000
Airport Revenue Bonds			$ 262,042,712		$ 2,135,747	$ 437,010	$ 262,042,712
Other (based on June 30, 2020)				$ 102,527,009			$ 102,527,009
Rhode Island Health and Educational Building Corp.							
Education			$ 270,970,000	$ 1,509,468,530			$ 1,780,438,530
Healthcare				$ 474,838,308			$ 474,838,308
Rhode Island Housing and Mortgage Finance Corp.			$ 1,386,634,115				$ 1,386,634,115
Rhode Island Infrastructure Bank							
Water Pollution Control			$ 378,225,000				$ 378,225,000
Safe Drinking Water			$ 186,811,533				$ 186,811,533
Municipal Road and Bridge Revolving Loan Fund			$ 39,760,000				$ 39,760,000
Efficient Buildings Fund			$ 30,080,000				$ 30,080,000
Other			$ 55,310,000				$ 55,310,000
Rhode Island Student Loan Authority			$ 520,882,455				$ 520,882,455
Municipalities and Special Districts (FY 2019/2020)	$ 1,355,708,591	$ 437,498,837	$ 493,575,762		$ 4,928,833,704	$ 2,883,536,897	$ 10,099,153,791
GRAND TOTAL	**$ 2,667,373,591**	**$ 1,056,551,122**	**$ 5,655,327,850**	**$ 2,086,833,847**	**$ 8,191,081,095**	**$ 3,202,070,697**	**$ 22,859,238,202**

Note: For this table, RIHEBC Public School Revenue Bonds and RIHEBC Providence Public Building Authority are not included in RIHEBC debt and are included in the General Obligation debt of Municipalities and Special Districts. RIIB Water Pollution Control and Safe Drinking Water debt, shown as RIIB debt, are not included in Revenue debt of Municipalities and Special Districts. Narragansett Bay Commission debt does not include RIIB debt and is shown as NBC debt and not included in Revenue debt of the participating municipalities. NBC and RIAC pension and OPEB liabilities are included in the State's total and therefore not calculated in total outstanding debt of Quasi-Public-agencies. Municipalities and Special Districts (FY 2019/2020) General Obligation debt includes loans payable and overlapping debt.

PFMB Recommendations and Rationale

The PFMB considered several factors in developing its debt affordability recommendations. For each issuer, the PFMB considered relevant peer comparisons, Rating Agency guidance, and legal requirements contained in bond indentures. These affordability limits are purely advisory and represent what the PFMB feels are prudent levels of indebtedness given the available information.

The PFMB recognizes that it may be appropriate for affordability limits to be temporarily exceeded if increased capital spending is needed to manage emergency situations or revenues are temporarily impaired by economic downturns. It is recommended that issuers endeavor to return to their recommended limits in a reasonable period of time.

The PFMB recommends that the State of Rhode Island seek to limit its liabilities to acceptable levels as measured by the following criteria:

Part 1: State Recommendations.

Recommended State Liability Limits

Recommended Limit	Rationale for Measure	Rational for Level	FY 2022 Levels
The PFMB recommends that Debt Service to General Revenue not exceed 7.0%	Metric most frequently used by states to assess debt affordability, comparing the annual cost of debt payments to the state's annual budget. Both components of this ratio (debt service and revenues) are largely within the control of the State.	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.	5.17%
The PFMB recommends that State Tax-Supported Debt to Personal Income not exceed 4.0%	Represents a broader measure of a state's ability to pay its debts. State personal income is not directly dependent on tax policy choices and is the base from which state revenues can be generated. All three rating agencies review the debt to personal income ratio as part of the rating process, and the ratio is a good measure for long-term debt affordability.	To stay within S&P's recommended range for an AA rating score, the State should maintain a ratio of less than 4%. Further, the PFMB believes that establishing a recommended limit of debt to personal income of 4% is realistic given that the State has only exceeded 4% twice since 2006.	3.14%
The PFMB recommends that Net Tax Supported Debt Service + Pension ADC + OPEB ADC to General Revenues not exceed 18%	Rating agencies and investors are increasingly assessing states' liabilities holistically, looking at debt, pension liabilities and OPEB liabilities in combination to determine the full picture of a state's liability burden. A state's ability to meet future annual liability payments with available revenues is a critical indicator of whether these liabilities are manageable.	Moody's and Fitch both use a version of a ratio that compares the annual servicing cost of a state's total liabilities to the annual budget of the state. When an 18% level of Net Tax Supported Debt Service + Pension ADC + OPEB ADC to General Revenues is adjusted to the Fitch and Moody's ratios, the 18% limit is roughly equivalent to an AA level in both agency methodologies. RI has historically been below 18%.	13.73%
The PFMB recommends that Debt + Pension UAAL+ OPEB UAAL to Personal Income not exceed 12%	The measurement compares the total liabilities of the state to the ability of the underlying population to afford those liabilities, irrespective of tax policy decisions by the State.	Moody's and Fitch use a ratio comparing total liabilities to the ability of the underlying population to repay. When a 12% level of Debt and Pension Liability and OPEB Liability to Personal Income is adjusted to the Moody's and Fitch ratio, RI would fall into the AA range for both agencies. Rhode Island has been below the 12% limit for the past 7 years.	8.44%
The PFMB recommends the State continue to fund 100% of its Pension ADC and OPEB ADC.	When states fail to make their full actuarially required contributions to their pension and OPEB trusts, unfunded liabilities increase. Failure to make full anural required contributions has been one of the leading causes of the spike in unfunded liabilities across the United States. Rhode Island has not missed a pension ADC payment since 1995 and has made 100% of OPEB ADC payments consistently since FY 2011, when the OPEB trust began, and should continue these practices.		100% funded Pension ADC and OPEB ADC

The state is currently within all recommended affordability limits, and the PFMB estimates that the State has available capacity to authorize up to $736.8 million of new bonds in fiscal years 2022-2023 with total debt capacity of approximately $3.3 billion through 2033.

Part 2: Quasi-Public Recommendations. Each of the State's Quasi-Public agencies is unique, with different revenue streams and functions. After considering the unique considerations of each Quasi-Public agency, relevant ratings agency guidance and peer comparisons, the PFMB recommends the following individualized affordability ratios for each agency.

The table below shows the recommended affordability metrics for each Quasi-Public agency, with green shaded levels indicating the Quasi-Public agency is within the recommended limit and red shaded levels indicating current levels are slightly above recommended limits. In no case is a State Quasi-Public Agency significantly above its recommended affordability level at the current time, though the PFMB notes that several Quasi-Public agencies are currently considering investing in large capital projects in the coming years and will need to carefully evaluate the affordability of those projects should they move forward.

Quasi-Public Agency Affordability Metrics (PFMB Recommended Limits)

<table>
<tr><th>Borrowers</th><th>Recommended Affordability Limit</th><th colspan="3">Current Level (FY 2021)</th></tr>
<tr><td>Narragansett Bay Commission</td><td>1.3x debt service coverage for both Commission debt and RIIB loans.
Additionally recommend conducting a new ratepayer affordability study and instituting a discount program for low-income ratepayers</td><td colspan="3">Debt Service Coverage 1.49x</td></tr>
<tr><td>Rhode Island Turnpike and Bridge Authority</td><td>1.7x debt service coverage</td><td colspan="3">Debt Service Coverage 2.3x</td></tr>
<tr><td>Rhode Island Resource Recovery Corporation</td><td>Despite strong financials, it is recommended that RIRRC refrain from any new issuance of long-term debt until there is a clear plan for what the Corporation will do when the landfill reaches capacity</td><td colspan="3">Debt Service Coverage 3.75x</td></tr>
<tr><td>Rhode Island Department of Transportation Grant Anticipation Revenue Bonds (GARVEEs)</td><td>3.5x debt service coverage. With the passage of the Infrastructure Investment and Jobs Act, funding levels are expected to increase, resulting in RIDOT likely being within the recommended limit. PFMB recommends monitoring the federal reimbursement level under the IIJA and maintain a minimum coverage of 3.5x with any additional debt.</td><td colspan="3">Debt Service Coverage 3.33x</td></tr>
<tr><td rowspan="2">Rhode Island Airport Corporation</td><td rowspan="2">1.5x debt service coverage when including the Coverage Account Ending Balance, and
$100 debt per enplaned passenger</td><td colspan="3">Debt Service Coverage:
FY 2020: 1.78x
FY 2021: 1.96x</td></tr>
<tr><td colspan="3">Debt per Enplaned Passenger:
FY 2020: $139
FY 2021: $264</td></tr>
<tr><td>Rhode Island Health and Educational Building Corporation – University of Rhode Island</td><td>Total Debt to Cash Flow of less than 10.0x as a factor required for Additional Bonds.</td><td colspan="3">8.7x Debt to Cash Flow</td></tr>
<tr><td rowspan="5">Rhode Island Infrastructure Bank</td><td rowspan="5">Maintain a minimum of 1.25x debt service coverage and
Maintain asset to liabilities ratios at a minimum of 1.3x for all programs</td><td></td><td>DS Coverage</td><td>Asset to Liabilities</td></tr>
<tr><td>Clean Water</td><td>1.3x</td><td>1.5x</td></tr>
<tr><td>Drinking Water</td><td>1.5x</td><td>1.6x</td></tr>
<tr><td>EBF</td><td>1.3x</td><td>1.8x</td></tr>
<tr><td>MRBF</td><td>2.4x</td><td>3.0x</td></tr>
<tr><td>Rhode Island Housing and Mortgage Finance Corporation</td><td>Minimum Program Asset to Debt Ratio (PADR) limit of 1.10x</td><td colspan="3">PADR of 1.24x (Single Family)
PADR of 1.29x (Multi-Family)</td></tr>
<tr><td>Rhode Island Student Loan Authority</td><td>Minimum Parity Ratio limit of 110%</td><td colspan="3">Parity Ratio of 122.4%</td></tr>
<tr><td>Meets recommended limit</td><td>Requires additional monitoring</td><td colspan="3">Exceeds recommended limit/Recommended no new debt</td></tr>
</table>

Part 3: Municipal/Local Recommendations. Municipal governance in Rhode Island is comprised of a patchwork of overlapping authorities. In addition to the state's 39 cities and towns, local government includes dozens of regional and local districts, some contained entirely within a municipality and others across multiple municipalities. Some of these governmental entities raise revenue through property taxes, and others through charges such as utility fees.

In determining how to set limits for this complex patchwork of municipal issuers, the PFMB ultimately determined that the most important consideration is the ability of the underlying population of a municipality to afford the aggregate levels of debt their governmental agencies have taken on. Therefore, three of the four recommended affordability limits for debt incorporate the debt of municipalities and overlapping districts into combined ratios.

Recommended Municipal Liability Limits

Recommended Limit	Definition	Rational for Level
Net Direct Debt to Full Assessed Property Values: Less than 3%	Debt of the municipality typically paid for through the municipal budget with taxpayer funds. (Does not include revenue bonds that are supported by ratepayers, such as water and sewer bonds).	Moody's provides suggested levels of net direct debt to full value for each rating category. A ratio of 3% is in Moody's mid-point range for 'A' rated communities. S&P also uses 3% net direct debt as a percent of market value as a benchmark in its methodology. If a community's ratio is below 3%, S&P can improve the community's debt score by one point.
Overall Net Debt to Full Value: Less than 4%	Net direct debt plus the direct debt of any overlapping taxing authority, but still not revenue bonds that are supported by ratepayer funds.	Consistent with the rationale for the 3% measure above; however instead of using Moody's mid-point range, the rationale was to reference the high-end of Moody's 'A' range, to account for the additional overlapping debt.
Overall Debt + Net Pension Liability + OPEB Liability to Full Value: Less than 9.2%	Total debt of the municipality and all overlapping jurisdictions, including revenue bonds, as well as total unfunded pension and OPEB liabilities.	The PFMB believes it is important to consider the total liability burdens of municipalities, including all debt, pension and OPEB, relative to the underlying population's ability to pay. Although each rating agency considered OPEB and pension liabilities differently, the PFMB estimates that a limit of Overall Debt + Net Pension Liability + OPEB Liability to Full Value of 9.2% would approximate the ratings agencies expectations for an 'A' rated community.
Governmental Debt Service + Pension ADC + OPEB Required Payment to Governmental Expenditures*: *Less than 22.5%	Total governmental debt service, pension ADC (actuarial determined contribution) and OPEB required contribution of the municipality to governmental expenditures	Compares the annual cost of liabilities to the annual municipal budget. Formula is based off Fitch's "Carrying Cost" metric, the only OPEB inclusive ratings methodology. The metric isolates fixed obligation spending. As for states, Fitch considers a carrying cost metric of: -less than 10% to be consistent with a 'aaa' assessment; less than 20%, 'aa'; less than 25%, 'a'; and less than 30%, 'bbb'. PFMB recommends 22.5% consistent with the mid-point of an 'a'" rating.

The following table shows the current liability levels for each municipality according to these four ratios with green shaded levels indicating the municipality is within the recommended limits, yellow shaded levels indicating current levels are within 75% of the recommended limits and red shaded levels indicating the current levels significantly exceed the recommended limits.

Municipality Liability Ratios[1]

Municipality	Net Direct Debt to Assessed Value Recommended Limit < 3.00%	Overall Net Debt to Assessed Value Recommended Limit < 4.00%	Overall Debt + Net Pension Liability + OPEB Liability to Assessed Value Recommended Limit < 9.2%	Governmental Debt Service + Pension ARC + OPEB Required ADC to Governmental Expenditures Recommended Limit < 22.5%
Barrington	2.5%	2.5%	5.1%	15.9%
Bristol	1.1%	1.3%	3.6%	20.7%
Burrillville	0.4%	0.7%	3.0%	7.6%
Central Falls	1.1%	1.1%	14.3%	18.2%
Charlestown	0.2%	0.5%	0.7%	6.0%
Coventry	1.0%	1.0%	6.2%	15.8%
Cranston	1.2%	1.2%	7.2%	16.9%
Cumberland	1.1%	1.1%	5.0%	15.5%
East Greenwich	1.6%	1.6%	5.5%	13.8%
East Providence	0.9%	0.9%	8.6%	14.5%
Exeter	0.0%	0.2%	0.2%	0.8%
Foster	0.0%	1.5%	2.4%	4.8%
Glocester	0.2%	1.8%	3.0%	5.1%
Hopkinton	0.4%	1.5%	1.9%	3.4%
Jamestown	0.4%	0.4%	1.5%	11.9%
Johnston	0.9%	0.9%	17.2%	27.5%
Lincoln	3.0%	3.0%	8.8%	10.3%
Little Compton	0.4%	0.4%	0.8%	12.0%
Middletown	0.9%	0.9%	2.8%	12.9%
Narragansett	0.5%	0.5%	2.8%	21.1%
New Shoreham	0.8%	0.8%	1.3%	14.6%
Newport	0.4%	0.4%	5.6%	15.3%
North Kingstown	0.7%	0.7%	3.4%	13.0%
North Providence	3.0%	3.0%	13.4%	19.0%
North Smithfield	1.5%	1.5%	3.7%	14.7%
Pawtucket	3.0%	3.0%	27.0%	20.6%
Portsmouth	0.6%	0.7%	4.0%	16.8%
Providence	3.6%	3.6%	27.7%	20.6%
Richmond	0.4%	1.3%	1.6%	3.9%
Scituate	0.9%	0.9%	3.5%	11.6%
Smithfield	0.6%	0.6%	5.0%	15.2%
South Kingstown	0.2%	0.3%	1.7%	10.1%
Tiverton	1.5%	1.7%	4.3%	17.0%
Warren	2.9%	3.2%	4.8%	12.1%
Warwick	0.5%	0.5%	9.7%	26.9%
West Greenwich	0.4%	0.6%	1.1%	4.6%
West Warwick	1.5%	1.5%	12.1%	21.8%
Westerly	1.1%	1.2%	2.3%	15.6%
Woonsocket	6.4%	6.4%	30.6%	17.6%
	Less than 75% of recommended limit		Between 75% and 100% of limit	Exceeds recommended limit

[1] For the purposes of these calculations, all borrowing for school building projects is included, regardless of expected State reimbursement. For totals with expected State reimbursement netted out, please reference Appendix C pages C-7 and C-8.

The liability levels of most of Rhode Island's municipalities remain within acceptable levels, though there are nine municipalities that are above at least one of the recommended limits. For most municipalities, traditional debt is within acceptable limits, and for many municipalities, unfunded pension liabilities are the largest and most costly liability, though OPEB liabilities are also significant for some municipalities (Johnston, Pawtucket, Providence, and Woonsocket).

Since the 2019 Debt Affordability Study, four municipalities have increased their debt burden and are at or near the recommended limits. For the Town of Lincoln, the Net Direct Debt to Assessed Value increased from 0.8% to 3%, the recommended limit. For North Providence the Net Direct Debt to Assessed Value increased from 0.5% to the limit of 3%, and the Overall Debt + Net Pension Liability + Net OPEB Liability to Assessed Value is 13.4%, above the 9.2% recommended limit. For Pawtucket, in the 2019 Debt Affordability Study, Pawtucket's Net Direct Debt to Assessed Value was 2.6% and is now at the 3% recommended limit. For the Town of Warren, the Net Direct Debt to Assessed Value increased from 1.2% to 2.9%, and its Overall Net Debt to Assessed Value is 3.2%, above the level of 75% of the 4% recommended limit.

It is also worth noting that some of the state's most highly indebted municipalities have seen their debt burdens become more affordable since the original study in 2017. For example, Woonsocket's Overall Net Debt has fallen from 10% of Assessed Property Value in FY 2015, to 7.3% of Assessed Property Value in FY 2018 to 6.4% in FY 2020. Similarly, Providence's Net Debt to Assessed Value has fallen from 4.4% to 3.7% to 3.6%.

Analysis and Conclusions

This study represents the continuation of the comprehensive analysis of public liabilities. It reveals a complicated and nuanced picture, in which some arms of government in Rhode Island borrow well within their means and others struggle with significant liabilities that place great stress on government entities and the citizens they serve.

At the state level, the debt of Rhode Island and its Quasi-Public agencies is generally affordable and within acceptable levels. The debt and pension liabilities of the State of Rhode Island are somewhat higher than national medians but have trended downward in recent decades and are currently manageable. The state-level OPEB liability is lower than that of most other states. Future decisions could alter the State's debt affordability considerably, for better or for worse, and debt affordability must remain a key consideration for State policymakers going forward.

At the municipal level, degrees of indebtedness vary greatly. Even when pension, OPEB and overlapping liabilities from local districts are included, some municipalities enjoy very low liability burdens. The liabilities in some other municipalities are very high.

The purpose of this study is not to single out any particular public entity, and this report should not be read as a criticism of an entity that has a level of debt in excess of its recommended limit. In most cases where an agency or municipality exceeds its limit, it took on significant liabilities long before its current leadership was in place and grappling with inherited legacy costs can be a tremendous challenge even for the most skilled management teams.

The PFMB hopes to provide a useful guide that policymakers in Rhode Island can refer to when making decisions in the future. Assuming new debt can be prudent and necessary to provide essential public services to citizens, but the decision to borrow with the public's dollars must always be made with care.

Debt Affordability Study

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

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

Part One of the debt affordability study focuses 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. 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) certain 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. 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, 2021, the State had a total of $1.31 billion of outstanding general obligation bonds outstanding.

Appropriation Debt and Moral Obligation Debt

The State has entered into certain contractual agreements which, while not considered general obligations of the State, are still debt subject to annual appropriation by the General Assembly payable with tax and general revenues of the State. Certain of these obligations are contractual agreements with State agencies or authorities, including the Rhode Island Commerce Corporation, the Rhode Island Convention Center Authority and the Rhode Island Turnpike and Bridge 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. As of June 30, 2021, the state had a total of $619.1 million of appropriation debt outstanding.

The State has also issued moral obligation debt. Moral obligation debt differs from other debt obligations in that there is no legal requirement to make debt service payments. A moral obligation pledge represents a promise by a government obligor to seek future appropriations for debt service payments, typically in order to make up deficits in a reserve fund should it fall below its required level. While there is no legal requirement to appropriate funds sufficient to make the payment, rating agencies will view failure to do so unfavorably and likely take negative action on the State's rating. Certain agencies of the State have the ability to issue bonds which are also secured by a capital reserve fund. In accordance with enabling legislation, if at any time the capital reserve falls below its funding requirement, the agency is authorized to request the General Assembly to appropriate the amount to the agency. Previously issued moral obligation bonds issued by (i) the Rhode Island Commerce Corporation under the Job Creation Guaranty Program and under certain performance agreements and (ii) the Rhode Island Housing and Mortgage Finance Corporation under the Rental Housing Program are no longer outstanding. The following table summarizes the State's outstanding moral obligation debt as of June 30, 2021.

Issuer	Description	Outstanding as of June 30, 2021
Commerce Corporation	Fidelity Building II Performance Agreement	$4,577,285
Commerce Corporation	Fleet National Bank Performance Agreement	$4,480,000
Commerce Corporation	Corporate Marketplace	$2,250,000

Of the moral obligation bonds outstanding, the State has been paying its obligations on a Fidelity Management Resources project, and therefore, these bonds are counted as tax-supported debt of the State for the purposes of this study. The moral obligation bonds for the Fleet National Bank are not included as tax-supported debt for the purposes of this study because the State has never been required to appropriate funds for debt service on these bonds. The balance outstanding for Corporate Marketplace is expected to be paid by the company and, therefore, is not included as tax-supported debt for the purposes of this study.

Below is a summary of the different types of tax supported debt and amounts outstanding as of June 30, 2021.

Tax-Supported Debt	Outstanding as of June 30, 2021
General Obligation Bonds	$1,311,665,000
Lease Participation Certificates	125,995,000
Convention Center Authority	194,970,000
Rhode Island Turnpike & Bridge Authority (Motor Fuel)	147,600,000
Commerce Corporation - Transportation (Motor Fuel)	23,645,000
Economic Development Corporation - I-195 Land Sale	33,780,000
Loan Agreement - Historic Structures Tax Credit Fund	88,485,000
Commerce Corporation- Fidelity Building II Performance Based Agreement	4,577,285
Total GO + Lease Participation Certificates + Other Tax-Supported Debt	$1,930,717,285

Other Long-Term Liabilities

Pension liabilities

The Employees Retirement System of Rhode Island is a pooled defined benefit pension system that provides retirement security to approximately 61,000 public employees. The State is required by law to make budget appropriations to help fund the pension benefits of state employees, state police, and judges, while also splitting the cost of the pension system for teachers with the State's school districts (the state is responsible for 60% of required contribution to the teachers plan, and the districts are responsible for 40%).

The table below summarizes the projections of the unfunded actuarial accrued liability (UAAL) for State employees, the State share for teachers, State police and judges.

Projections for Pension UAAL (State Employees, State Share for Teachers, State Police, Judges) *^

	State Employees	Teachers (State Share)	State Police	Judges	Total
FY 2021	$1,935.50	$1,290.80	$29.51	$6.44	$3,262.25
FY 2022	$1,892.11	$1,270.90	$29.85	$6.75	$3,199.61
FY 2023	$1,840.39	$1,244.58	$29.68	$6.82	$3,121.47
FY 2024	$1,775.69	$1,210.65	$29.04	$6.63	$3,022.00
FY 2025	$1,701.11	$1,171.34	$28.26	$6.40	$2,907.12
FY 2026	$1,615.35	$1,126.19	$27.35	$6.14	$2,775.03

*Amounts in millions. ^ Projections assume all assumptions exactly met, including an annual 7.00% return on the current actuarial value of assets.
Source: Employees Retirement System of Rhode Island, August 2021

The State has made its full Pension Actuarially Determined Contribution (Pension ADC) every year since 1995. In FY 2021 the state's Pension ADC totaled $334.06 million.

The table below summarizes the actuarial projections for the Pension ADC for State employees, the State share for teachers, State police and judges.

Projections for Pension Actuarially Determined Contribution (ADC) (State Employees, State Share for Teachers, State Police, Judges) *^					
	State Employees	**Teachers (State Share)**	**State Police**	**Judges**	**Total**
FY 2021	$201.23	$125.09	$5.39	$2.35	$334.06
FY 2022	$207.19	$130.42	$6.03	$2.67	$346.31
FY 2023	$215.69	$135.77	$6.49	$2.82	$360.77
FY 2024	$220.47	$138.47	$6.60	$2.89	$368.44
FY 2025	$225.95	$141.34	$6.74	$2.96	$376.99
FY 2026	$231.66	$144.30	$6.90	$2.99	$385.85

*Amounts in millions. ^ Projections assume all actuarial assumptions are met.
Source: Employees Retirement System of Rhode Island, August 2021

Other Post-Employment Benefit Liabilities (OPEB)

In addition to pension benefits, which provide cash payments of retirement income to retirees, the State also offers plans to eligible retirees for retiree medical benefits, a liability to the state known as OPEB. Rhode Island prefunds its OPEB obligations through a trust, established in fiscal year 2011, and unlike most states, Rhode Island has consistently met its annual Actuarially Determined Contribution (ADC) for the OPEB trust.

According to the June 30, 2020 Actuarial Valuation, there were 13,488 active members covered by the OPEB trust and 7,865 retirees receiving healthcare benefits under the OPEB system. The most recent actuarial study completed as of June 30, 2020 estimates the State's OPEB unfunded liability in FY 2021 at approximately $317.84 million for State employees, teachers, state police, judges, legislators and the board of education. The total OPEB ADC for the fiscal year beginning July 1, 2021 will be $53.85 million.

The table below summarizes the Unfunded Actuarial Accrued Liability (UAAL) for the State's OPEB plans.

Projections for Unfunded Actuarial Accrued Liability (UAAL) State Employees' and Electing Teachers OPEB Based on the June 30, 2020 Actuarial Valuation*^							
Actuarial Valuation Date	**State Employees**	**Teachers**	**State Police**	**Judges**	**Board of Ed**	**Legislators**	**Total**
6/30/2021	$297.51	($6.21)	$16.66	($4.64)	$17.04	($2.52)	$317.84
6/30/2022	$279.57	($6.77)	$14.37	($4.94)	$13.29	($2.68)	$292.84
6/30/2023	$269.43	($7.22)	$13.25	($5.22)	$12.22	($2.81)	$279.65
6/30/2024	$260.41	($7.58)	$12.62	($5.48)	$11.49	($2.92)	$268.54
6/30/2025	$250.43	($7.96)	$11.96	($5.74)	$10.76	($3.04)	$256.41
6/30/2026	$239.44	($8.36)	$11.26	($6.02)	$10.01	($3.16)	$243.17

*Amounts in millions for the year ending on the actuarial valuation date.
^Projections assume all assumptions exactly met, including an annual 5.00% return on the current actuarial value of assets.
Source: Employees Retirement System of Rhode Island, August 2021

The table below summarizes the ADC for the OPEB plans.

Projections for Actuarially Determined Contribution* State Employees' and Electing Teachers OPEB Projections based on the June 30, 2020 Actuarial Valuation^							
Actuarial Valuation Date	**State Employees**	**Teachers**	**State Police**	**Judges**	**Board of Ed**	**Legislators**	**Total**
6/30/2021	$43.87	$0	$5.92	$0	$4.06	$0	$53.85
6/30/2022	$43.39	$0	$6.09	$0	$4.99	$0	$54.47
6/30/2023	$37.90	$0	$5.57	$0	$2.69	$0	$46.16
6/30/2024	$38.87	$0	$5.70	$0	$2.71	$0	$47.28
6/30/2025	$39.87	$0	$5.83	$0	$2.73	$0	$48.43
6/30/2026	$40.90	$0	$5.96	$0	$2.75	$0	$49.61

*Amounts in millions for the year ending on the actuarial valuation date.
^Projections assume all assumptions exactly met, including an annual 5.00% return on the current actuarial value of assets.
Source: Employees Retirement System of Rhode Island, August 2021

Common Debt Affordability Measures

Debt Ratios Used By Other States

There are many ways to measure the liability burden of a state, and no one ratio or metric can paint a comprehensive picture. Some of the most common ratios used by states, ratings agencies, and other bond market participants to measure debt affordability include:

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

The table below summarizes debt ratios used by peer states to Rhode Island 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 relevant.

Debt Affordability Ratios Used by Peer States

State (Ratings: M/S/F)	Debt Service to Revenues	Debt to Personal Income	Debt to Revenues	Debt per Capita	Other
Rhode Island (Aa2/AA/AA)	7.0% of General Revenues	4.0%			Rapidity of Debt Repayment ≥ 50% in 10 Years
Delaware (Aaa/AAA/AAA)	MADS <15% of General + Transportation Trust Fund Revenues		New debt ≤ 5% of Net Budgetary General Fund Revenue for FY		G.O. MADS < Estimated Cash Balance for following FY
Connecticut (Aa3/A+/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 FY				
Vermont (Aa1/AA+/AA+)	6.0% of Annual General + Transportation Trust Fund Revenues	≤ 5-Year Adjusted 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)

Metrics for Pension and OPEB Liabilities

Policymakers and credit rating agencies have increasingly focused on pension and OPEB liabilities, as in most states, including Rhode Island, combined pension and OPEB liabilities far exceed traditional debt.

Pension ADC and OPEB ADC are long-term fixed costs, similar to debt service, 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. Credit rating agencies have revised their methodologies for state ratings to incorporate quantification of pension liabilities.

Rating agencies have not historically viewed OPEB liabilities similar to debt or net pensions since states generally have more legal flexibility to adjust OPEB liabilities, and the scale of OPEB liabilities can be difficult to estimate accurately. However, severely underfunded OPEB liabilities can influence the rating agencies' assessments of state liability burdens, and rating agencies do review OPEB liabilities when assigning ratings to states and municipalities. Additionally, governmental accounting standards have implemented reporting and standardization of OPEB liabilities.

The following ratios have been used by rating agencies, policy makers and other bond market participants to measure the burden of pension and OPEB liabilities:

- 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
- Debt Service, Pension/OPEB ADC as Percent of State Revenues or State Expenditures

Liability Ratios Used by Rating Agencies

Debt and other long-term liabilities are one factor that the rating agencies consider in the assessment of a state's overall financial health. The rating agencies 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. The approaches of the three major rating agencies in judging debt and long-term liabilities are described below.

Fitch Ratings: In Fitch's "U.S. Tax-Supported Rating Criteria" updated on May 4, 2021, one of the key rating drivers is long-term liability burden. Fitch uses the following metric to measure long-term liability burden:

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

Fitch's Adjusted Net Pension Liability standardizes pension liabilities across states by adjusting the discount rate to 6%. No liability adjustment is made if the pension's assumed return is already at or below 6.0%. In addition, using the adjusted net pension liability as a starting point, Fitch also calculates an annual benchmark contribution that would eliminate the liability over time assuming level dollar payments over a fixed, 20-year period. As reported by Fitch in its "2020 State Liability Report," dated October 2020, Rhode Island's long-term liability burden was 12.7%, but based on the FY 2020 audited financial statements, Rhode Island's debt and net pension liabilities totaled 11.9% of 2020 personal income, , which is above the state median of 5.0% (as reported in Fitch's fiscal 2019 liability report). 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 = 11.9%)*	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 includes tobacco settlement and GARVEE bonds.*

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.

Fitch also considers the annual "Carrying Cost" of total Debt, Pension and OPEB liabilities:

$$\frac{\text{Debt Service + Pension ADC + OPEB Actual Payment}}{\text{Governmental Expenditures}}$$

The following table summarizes how Fitch views the Carrying Cost:

Carrying Cost Assessment	aaa	aa	a	bbb
Ratio Level	Carrying Cost Less than 10% (RI = 7.9%)*	Carrying Cost Less than 20%	Carrying Cost Less than 25%	Carrying Cost Less than 30%

**Rhode Island ratio as calculated by Fitch.*

Moody's Investors Service: Based on Moody's April 12, 2018 rating methodology for U.S. States, there are four broad rating factors – economy, finances, governance, and debt and pensions. Debt and pensions represent 35% of the total score in the rating methodology.

In this methodology, for the debt and pensions component, Moody's evaluates states by a combined ratio for debt and pensions:

$$\frac{\text{(Adjusted Net Pension Liability + Net Tax-Supported Debt)}}{\text{State Gross Domestic Product}}$$

Adjusted Net Pension Liability (ANPL) is the difference between the fair market value of a pension plan's assets and its adjusted liabilities. Moody's adjusts the reported pension liabilities of U.S states to improve comparability and transparency based on a market-determined discount rate (the FTSE Pension Liability Index, which was 2.70% as of June 30, 2020) and the market value of assets.

Net Tax-Supported Debt (NTSD) is debt paid from statewide taxes and other general resources, net of obligations fully and reliably supported by pledged sources other than state taxes or operating resources, such as utility or local government revenue.

State Gross Domestic Product (State GDP) is used as a proxy for a state's capacity to carry liabilities, because the economy drives current and future tax revenue.

The table below summarizes how Moody's assesses the debt and pension ratio for the scorecard and its calculation of the ratio for Rhode Island using FY 2020 pension data.

Measurement	Aaa	Aa	A	Baa	Ba
(ANPL+NTSD)/ State GDP	Less than 10%	10% - 20% (RI = 15.8%)*	20% - 30%	30% - 40%	40% - 50%

**Rhode Island ratio as calculated by Moody's.*

Under this methodology, Moody's also has a Fixed Costs Ratio in the Finances rating factor. The Fixed Costs Ratio is calculated as follows:

$$\frac{\text{(Debt Service + Moody's Tread Water Annual Pension Cost + Annual OPEB Payment)}}{\text{State Own Source Revenues}}$$

The table below summarizes how Moody's assesses the Fixed Costs Ratio for the scorecard and its calculation of the ratio for Rhode Island using FY 2020 pension data.

Measurement	Aaa	Aa	A	Baa	Ba
Fixed Costs / State Own-Source Revenue	Less than 5%	5% - 15% (RI = 15.0%)*	15% - 20%	20% - 25%	25% - 35%

**Rhode Island ratio as calculated by Moody's.*

On November 18, 2021, Moody's released a Request for Comment for proposed changes to the U.S. States and Territories rating methodology. Comments are due by January 10, 2022, and the updated methodology is expected to be implemented shortly thereafter. Moody's has stated that they do not anticipate any rating changes if the new methodology is implemented as proposed.

Under the proposed methodology, there are changes impacting the debt and pensions factor, which Moody's will rename as the "leverage" factor. First, Moody's will shift the Fixed Costs Ratio from the finance factor to leverage. In addition, the fixed costs will be adjusted to reflect a more standardized view of non-discretionary spending. Second, Moody's will revise the current debt and pensions to State GDP ratio to a ratio that will include OPEB liabilities and other liabilities reported on state balance sheets and comparing these liabilities to the state's revenues. Third, with the shift of the Fixed Costs Ratio to the leverage factor, the weight of the leverage factor is increasing from 25% to 30%. Below are how the ratios for the leverage factor will be calculated and how Moody's will assess the ratio for the scorecard:

- *Proposed Long-Term Liability Ratio:*

$$\frac{\text{(Net Tax-Supported Debt + Adjusted Net Pension Liability + Adjusted Net OPEB + Other Long-term Liabilities)}}{\text{Own Source Revenues}}$$

Measurement	Aaa	Aa	A	Baa	Ba
Long-Term Liability Ratio (20% Weight)	≤ 100%	100% - 200%	200% - 350%	350% - 500%	500% - 700%

- *Proposed Fixed Costs Ratio:*

$$\frac{\text{(Implied Debt Service* + Moody's Tread Water Annual Pension Cost + OPEB Contribution)}}{\text{Own Source Revenues}}$$

** Implied debt service will be calculated by Moody's using a common implied interest rate and 20-year amortization period.*

Measurement	Aaa	Aa	A	Baa	Ba
Fixed Costs / Own-Source Revenue (10% Weight)	≤ 10%	10% - 15%	15% - 20%	20% - 25%	25% - 35%

With the recent release of the Request for Comments, it is unknown if the changes to the methodology will be incorporated as proposed. For the purposes of this report, the 2018 Moody's methodology will still be the basis for affordability recommendations, as the proposed changes have not been finalized. The PFMB will monitor how the proposed changes will be implemented and the impact on assessing debt affordability.

Standard & Poor's. Standard & Poor's published its current rating methodology for states, "U.S. State Ratings Methodology," on October 17, 2016. The five main factors in Standard & Poor's analytic framework are the same factors it has always reviewed: government framework, financial management, economy, budgetary performance and debt and liability profile. Under the debt and liability profile, Standard & Poor's evaluates three key metrics, which are scored individually and carry equal weight: debt burden, pension liabilities and OPEB. For each metric, there may be multiple indicators that are scored from 1 (strongest) to 4 (weakest) and then averaged to develop the overall score for the metric. These indicators are provided in the table below. Standard & Poor's assigned a 1.8 score to Rhode Island's debt and liability profile in its last full analysis, dated September 28, 2021.

Indicator	Score:1	Score: 2	Score: 3	Score: 4
Debt Burden				
Debt per Capita	Below $500	$500 - $2,000 (RI = $1,717)	$2,000 - $3,500	Above $3,500
Debt to Personal Income	Below 2%	2% - 4% (RI – 2.8%)	4% - 7%	Above 7%
Debt Service to General Government Spending	Below 2%	2% - 6% (RI = 5.7%)	6% - 10%	Above 10%
Debt to Gross State Product	Below 2%	2% - 4% (RI = 3.0%)	4% - 7%	Above 7%
Debt Amortization (10 Years)	80% - 100%	60% - 80% (RI = 70%)	40% - 60%	Less than 40%

Indicator	Score:1	Score: 2	Score: 3	Score: 4
Pension Liabilities				
3-Year Avg Pension Funded Ratio	90% or above	80% - 90%	60% - 80%	60% or below (RI = 54.3%)
Pension Funding Discipline	Pension contribution is actuarially based and full funding of ADC. Total plan contributions > service cost + interest + amortization component (RI funding actuarial ADC since 1995)	Pension contribution is not actuarially based and ADC is not fully funded. Total plan contributions > service cost + interest + amortization component	Pension contribution is actuarially based and full funding of ADC. Total plan contributions <= service cost + interest + amortization component	Pension contribution is not actuarially based and ADC is not fully funded. Total plan contributions <= service cost + interest + amortization component
Unfunded Pension Liabilities per Capita	Positive Adjustment: At or Below $500 Negative Adjustment: At or Above $3,500 (RI = $3,143 – No adjustment to initial pension score)			
Unfunded Pension Liabilities to Personal Income	Positive Adjustment: At or Below 2% Negative Adjustment: At or Above 7% (RI = 6.2% - No adjustment to initial pension score)			
OPEB Risk Assessment				
OPEB Risk Assessment	Limited benefits, high level of discretion to change benefits, pay-go costs not significantly different from ADC	Average liability relative to other states, proactive management of liability, flexibility to change benefits, 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			
3-Year Average Pension Funded Ratio			✓
Pension Funding Levels	✓		✓
Unfunded Pension Liabilities Per Capita			✓
Pension Liabilities to Personal Income			✓
3-Year Average Pension Liability to Revenues		✓	
Debt + Pension + OPEB Ratios			
Debt + Unfunded Pension Liability to Personal Income	✓		
Debt + Adjusted Net Pension Liability to Gross State Product		✓	
Fixed Cost (Debt Service + Pension & OPEB Annual Cost) to Revenues or Expenditures	✓	✓	

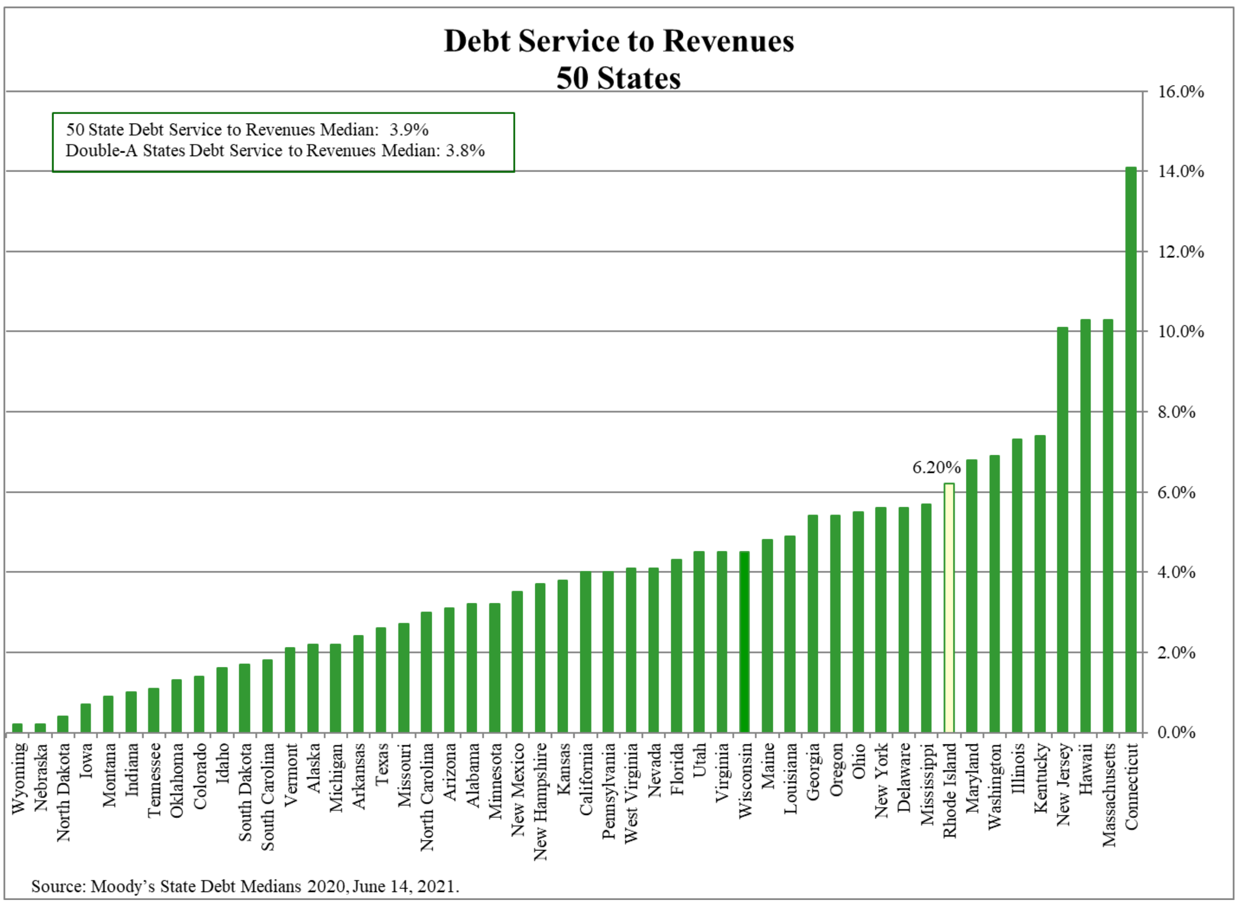
A full list of Rating Agency Debt and Liability Ratios and Medians, including a summary of each state's liability burden under the various Rating Agency criteria, can be found in the appendix.

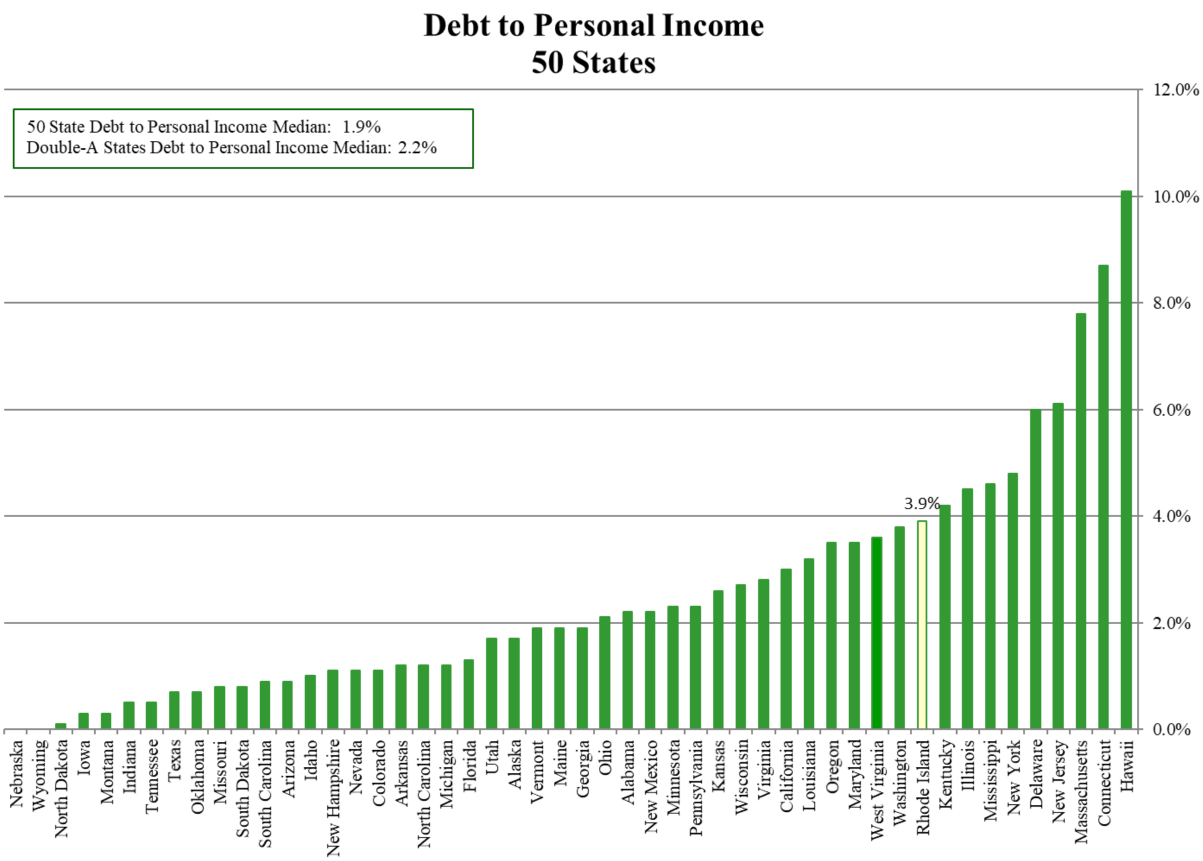
Peer Comparisons

In addition to Rating Agency guidance, the PFMB found it useful to consider how Rhode Island's debt and pension liability burdens compare to peer states. While "following the herd" may not always yield the correct results, it can be helpful to understand the national context and the decision that other state-level policy makers have made.

The PFMB also notes that the data for these comparisons is as of June 30, 2020, which was early in the COVID-19 pandemic and a time in which the financial conditions of the states were unusually fluid. As a result, these comparisons may not be as telling as in other periods due to pandemic related noise in the data. Nevertheless, there is still benefit in knowing how Rhode Island compared to other states as of that date.

The following graphs show how the states compared on two commonly used debt affordability ratios, Debt Service to Revenues, and Debt to Personal Income.





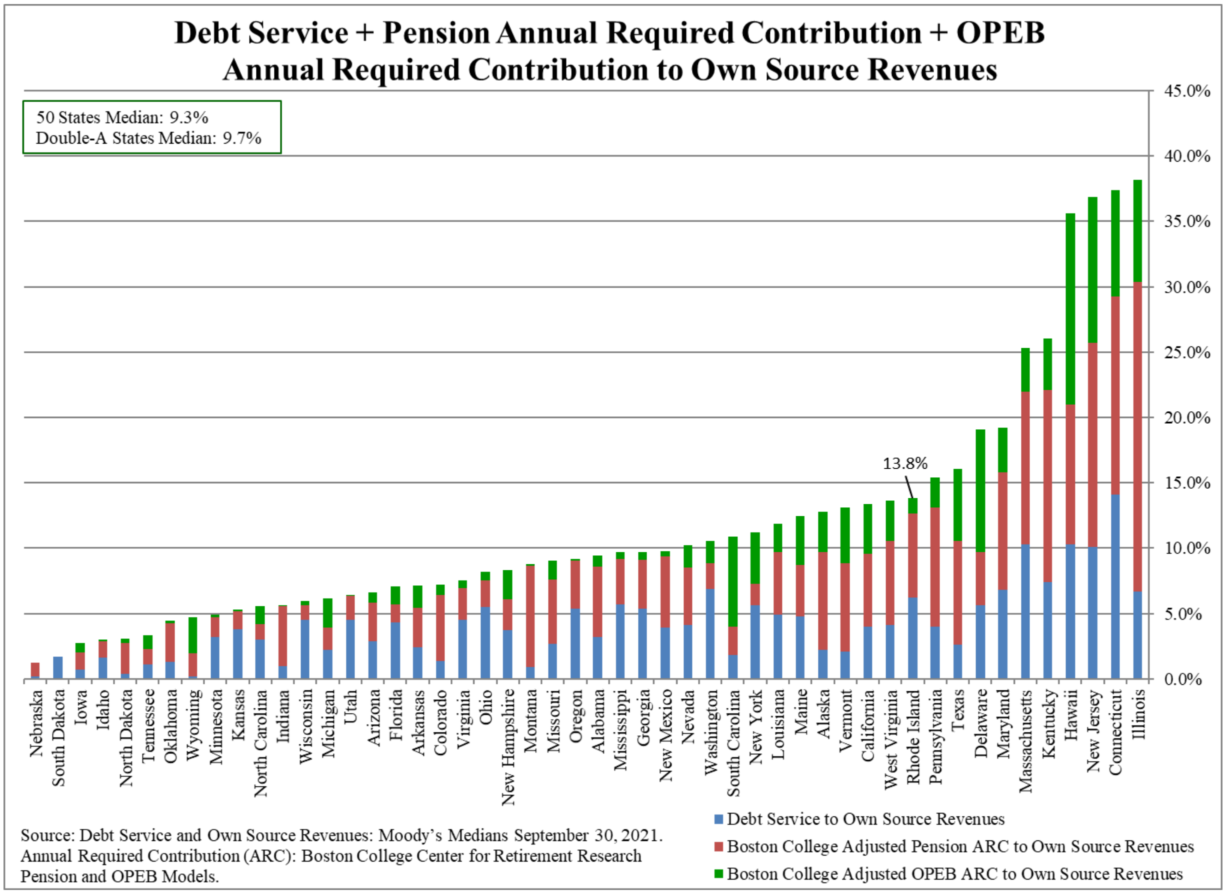
Source: Moody's State Debt Medians 2020, June 14, 2021.

Comparing pension and OPEB liabilities across states can be challenging, as the liabilities and annual costs that states report can vary considerably based on the assumptions and policies that states use to govern their pension and OPEB systems. For example, all else equal, a pension system that assumes an 8% assumed investment rate of return in calculating its liability will report a lower liability than a state assuming a 7% rate of return. A state that amortizes its pension payments over 25 years will have lower up-front costs than a state that amortizes over 20 years. In order to draw a true comparison of pension liabilities across states, an attempt must be made to normalize the state pension liabilities across a common set of assumptions.

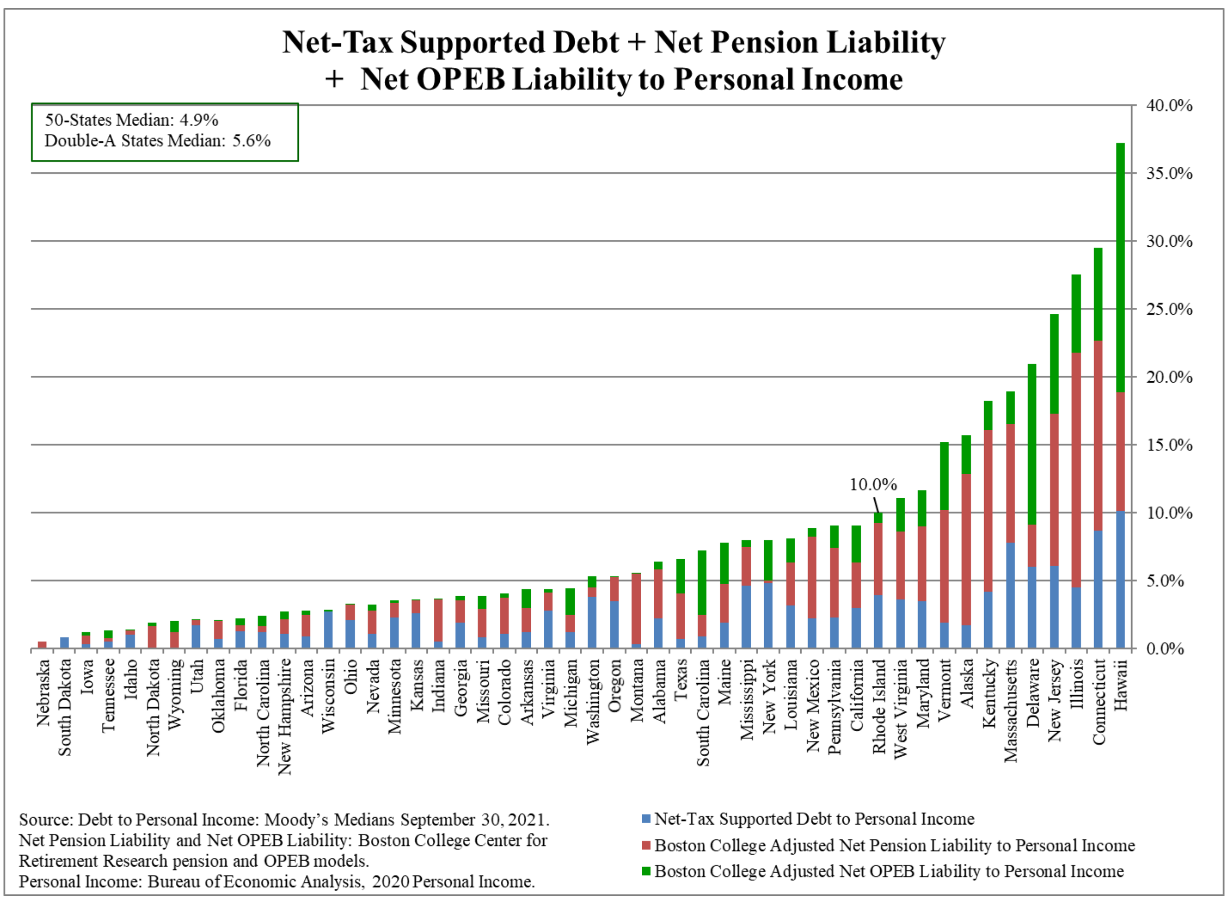
The PFMB partnered with the Center for Retirement Research at Boston College ("CRR") to develop a model in which the pension and OPEB liabilities of all 50 states were adjusted to conform to the discount rate and amortization that Rhode Island uses for its pension and OPEB systems. This normalization helps to provide a better "apples to apples" comparison of the relative pension liabilities of each state. More information on the CRR methodology can be found in the appendix.

The following graphs show the combined total liabilities of each state, with normalized discount rates and amortizations to produce an apples-to-apples comparison. This process reveals that Rhode Island's total liability burden is in the middle of the pack relative to other states but toward the higher end.

Rhode Island ranks 11th in the country in Debt Service + Pension ADC + OPEB ADC relative to Own Source Revenues. Rhode Island ranks 12th in the level of Total Liabilities relative to Personal Income.



Debt Service + Pension Annual Required Contribution + OPEB Annual Required Contribution to Own Source Revenues
50 States Median: 9.3%
Double-A States Median: 9.7%
13.8%
45.0%
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Nebraska
South Dakota
Iowa
Idaho
North Dakota
Tennessee
Oklahoma
Wyoming
Minnesota
Kansas
North Carolina
Indiana
Wisconsin
Michigan
Utah
Arizona
Florida
Arkansas
Colorado
Virginia
Ohio
New Hampshire
Montana
Missouri
Oregon
Alabama
Mississippi
Georgia
New Mexico
Nevada
Washington
South Carolina
New York
Louisiana
Maine
Alaska
Vermont
California
West Virginia
Rhode Island
Pennsylvania
Texas
Delaware
Maryland
Massachusetts
Kentucky
Hawaii
New Jersey
Connecticut
Illinois
Source: Debt Service and Own Source Revenues: Moody's Medians September 30, 2021.
Annual Required Contribution (ARC): Boston College Center for Retirement Research Pension and OPEB Models.
Debt Service to Own Source Revenues
Boston College Adjusted Pension ARC to Own Source Revenues
Boston College Adjusted OPEB ARC to Own Source Revenues



Net-Tax Supported Debt + Net Pension Liability + Net OPEB Liability to Personal Income
50-States Median: 4.9%
Double-A States Median: 5.6%
10.0%
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Nebraska
South Dakota
Iowa
Tennessee
Idaho
North Dakota
Wyoming
Utah
Oklahoma
Florida
North Carolina
New Hampshire
Arizona
Wisconsin
Ohio
Nevada
Minnesota
Kansas
Indiana
Georgia
Missouri
Colorado
Arkansas
Virginia
Michigan
Washington
Oregon
Montana
Alabama
Texas
South Carolina
Maine
Mississippi
New York
Louisiana
New Mexico
Pennsylvania
California
Rhode Island
West Virginia
Maryland
Vermont
Alaska
Kentucky
Massachusetts
Delaware
New Jersey
Illinois
Connecticut
Hawaii
Source: Debt to Personal Income: Moody's Medians September 30, 2021.
Net Pension Liability and Net OPEB Liability: Boston College Center for Retirement Research pension and OPEB models.
Personal Income: Bureau of Economic Analysis, 2020 Personal Income.
Net-Tax Supported Debt to Personal Income
Boston College Adjusted Net Pension Liability to Personal Income
Boston College Adjusted Net OPEB Liability to Personal Income

Recommended Long-Term Liability Affordability Measures

Rhode Island can measure and limit state liability with a variety of ratios. No single gauge of debt affordability is perfect, so the use of multiple debt and liability ratios helps ensure both near-term affordability and long-term capacity to maintain financial health and flexibility.

The PFMB recommends that Rhode Island seek to limit its liabilities to acceptable levels as measured by the following criteria:

- Debt Service on Net Tax-Supported Debt as a percentage of General Revenues;
- Net Tax-Supported Debt as percentage of Personal Income;
- Net Tax-Supported Debt Service + Pension ADC + OPEB ADC as a percentage of General Revenues;
- Net Tax-Supported Debt + Pension UAAL + OPEB UAAL as a percentage of Personal Income;
- Rapidity of Repayment or the amount of debt to be retired over the next ten years; and
- Pension ADC and OPEB ADC funding.

In the 2019 Debt Affordability Study, the PFMB recommended limits for these criteria, as summarized in the table below with the rationale for these recommendations following the table. This update of the debt affordability study comes in the aftermath of the significant impact that the COVID-19 pandemic has had on State finances and operations, and there is still uncertainty and risk associated with how long the pandemic will last and in how the State and national economy will recover from the pandemic. FY 2020 and FY 2021 results on which the liability measures would be based may not be representative of long-term debt affordability. Thus, the PFMB recommends maintaining the limits established in the 2019 Debt Affordability Study rather than making any changes based on results during a time of financial and economic disruption.

Criteria	Debt Affordability Study Recommended Limit	FY 2022 Levels
Debt Service on Tax-Supported Debt to General Revenues	7.00%	5.17%
Net Tax-Supported Debt as Percentage of Personal Income	4.00%	3.14%
Rapidity of Repayment over 10 Years	At least 50% in 10 years	68.5%
Net Tax-Supported Debt Service + Pension ADC + OPEB ADC as a Percentage of General Revenues	18.00%	13.73%
Net Tax-Supported Debt + Pension Liability (UAAL) + OPEB Liability as a Percentage of Personal Income	12.00%	8.44%
Pension ADC and OPEB ADC Funding	Fund 100% of Pension ADC, OPEB ADC	100%

Debt Ratios

The PFMB recommends that Debt Service on Tax-Supported Debt to General Revenue not exceed 7.0%.

Rationale for this metric: This is the metric most frequently used by states to assess debt affordability, comparing the annual cost of debt payments to the state's annual budget. Both of the components of this ratio (debt service and revenues) are largely within the control of the State. Debt service is on tax-supported debt of the State and revenues are General Revenues of the State. General Revenues include revenues derived from the personal income tax, general business taxes, sales and use taxes, inheritance and gift tax, realty transfer tax, racing and athletics taxes, departmental receipts, lottery, unclaimed property, and other miscellaneous taxes and does not include any motor fuel tax revenues, a portion of which secures the motor fuel tax revenue bonds issued by the Rhode Island Commerce Corporation and the Rhode Island Turnpike & Bridge Authority and treated as tax-supported debt of the State.

Rationale for this recommended limit (7%): The recommended limit 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.

- Other states that use this ratio to assess debt affordability have recommended limits generally in the range from 5% to 10%.
- S&P examines a variety of ratios to measure debt burden, and debt service as a percent of general government spending, which is closely aligned with general revenues, is one of the ratios. S&P considers the range of 2% to 6% as "moderate" and the range of 6% to 10% as "moderately high".
- Rhode Island has been below 7% since 2011 and is currently at 5.17%.

The PFMB recommends that State Tax-Supported Debt to Personal Income not exceed 4.0%.

Rationale for this metric: Debt to personal income represents a broader measure of a state's ability to pay its debts. State personal income is not directly dependent on tax policy choices and is the base from which state revenues can be generated. All three rating agencies review the debt to personal income ratio as part of the rating process, and the ratio is a good measure for long-term debt affordability.

Rationale for this recommended limit (4%):

- While Moody's, Fitch & S&P provide high-level guidance on this recommended limit, S&P's guidance is the most explicit. To stay within S&P's recommended range for a AA rating score, the State should maintain a ratio of less than 4%.
- The PFMB believes that establishing a recommended limit of debt to personal income of 4% is realistic given that the State has only exceeded 4% twice since 2006.
- Rhode Island's ratio is currently at 3.14%.

Debt, Pension & OPEB Liability Ratios

Net Tax Supported Debt Service + Pension ADC + OPEB ADC to General Revenues not exceed 18%.

Rationale for the metrics: Rating agencies and investors are increasingly assessing states' liabilities holistically, looking at debt, pension liabilities and OPEB liabilities in combination to determine the full picture of a state's liability burden. A state's ability to meet future annual liability payments with available revenues is a critical indicator of whether these liabilities are manageable.

Rationale for this limit:

- In their rating methodologies, Moody's and Fitch both use a version of a ratio that compares the annual servicing cost of a state's total liabilities to the annual budget of the state.
- The Moody's and Fitch ratios vary from each other in a few ways. The two agencies use a slightly different method of calculating and normalizing pension costs and also differ in the type of revenue they compare annual costs to, with Fitch using total governmental expenditures and Moody's using own-source revenues
- The PFMB believes that the most appropriate ratio of this type to use for Rhode Island's capital planning is Net Tax Supported Debt Service + Pension ADC + OPEB ADC to General Revenues, as in Rhode Island only General Revenues are available to pay for general obligation debt service.
- When an 18% level of Net Tax Supported Debt Service + Pension ADC + OPEB ADC to General Revenues is adjusted to the Fitch and Moody's ratios, the 18% limit is equivalent to a AA level in both agency methodologies. Specifically, staff estimates that an 18% level of Debt Service + Pension ADC + OPEB ADC to General Revenues would be equivalent to about a 15% level of the Moody's Fixed Cost Ratio, the high end of Moody's 'Aa' range. Staff estimates that an 18% level of Debt Service + Pension ADC + OPEB ADC to General

Revenues would be equivalent to about a 9% level of the Fitch Carrying Cost ratio, which is slightly lower than their 'AA' range. Maintaining the state's AA rating is a key objective of the PFMB.

- Rhode Island has historically been below the 18% limit and is currently at 13.7%.

Debt + Pension Unfunded Liability (UAAL)+ OPEB UAAL to Personal Income

The PFMB recommends that Debt + Pension UAAL+ OPEB UAAL to Personal Income not exceed 12%.

Rationale for this limit: The measurement compares the total liabilities of the state to the ability of the underlying population to afford those liabilities, irrespective of tax policy decisions by the State.

Rationale for this recommended limit (12%):

- In their methodologies, Moody's and Fitch both use versions of a ratio that compares total liabilities to the ability of the underlying population to repay. Moody's uses Debt and Adjusted Net Pension Liability relative to Gross Domestic Product, and Fitch uses Debt and Adjusted Net Pension Liability to Personal Income.
- When a 12% level of Debt and Pension Liability and OPEB Liability to Personal Income, is adjusted to the Moody's and Fitch ratio, Rhode Island would fall into the AA range for both agencies even though the Rhode Island ratio includes OPEB and the Fitch and Moody's ratios do not. Specifically, the recommended 12% limit for Liabilities to Personal Income would equate to about 15% under Fitch's, Direct Debt + Fitch's Adjusted Net Pension Liability to Personal Income, well within the Fitch 'AA' range. Moody's uses a measure of Liabilities to GDP instead of Liabilities to Personal Income. The recommended 12% limit for Liabilities to Personal Income would equate to about 16.6% under Moody's Liabilities to GDP, well within the Moody's 'Aa' range. Maintaining the state's AA rating is a key objective of the PFMB.
- Rhode Island has been below the 12% limit for the past 5 years and is currently at 8.4% .

Fund 100% of its Pension ADC and OPEB ADC

The PFMB recommends the state continue to fund 100% of its Pension ADC and OPEB ADC.

Rationale: When states fail to make their full actuarially required contributions to their pension and OPEB trusts, unfunded liabilities increase. Failure to make full annual required contributions has been one of the leading causes of the spike in unfunded liabilities across the United States. Rhode Island has not missed a pension ADC payment since 1995 and has made 100% of OPEB ADC payments consistently since FY 2011, when the OPEB trust began. The state should continue these practices.

Rapidity of Debt Repayment

The PFMB recommends that expected Rapidity of Debt Repayment equal at least 50% in 10 years.

Rationale for this metric: Rapidity of repayment measures how much debt is retired over a defined period. This is a good metric to monitor, to ensure there is a level of equity across years in the way costs of servicing debt are allocated. Credit analysts view rapid repayment more favorably than slower.

Rationale for this recommended limit (at least 50% in 10 years): The benchmark of 50% of principal repaid in 10 years is considered best practice among states and municipalities.

The State typically structures its general obligation bonds with 20-year amortization to achieve level debt service, which permits the State to retire 50% or more of its debt within 10 years. Rapidity of repayment is currently 68.5%

Note on Recommendations

The PFMB makes these recommendations with the aim of encouraging responsible budgeting and capital planning practices, but also notes that these recommendations, and particularly the recommended liability limits, may be exceeded from time to time due to unforeseen events such as recession, natural disaster or other emergency. In these events, policymakers should seek to return to recommended liability limits in a reasonable amount of time.

Projections of Debt, Pension and OPEB Liability Ratios and Debt Capacity

The following two charts show existing levels of outstanding tax-supported debt (page 27) and the impact on debt capacity over the next ten years if future debt issuance levels are constrained by the recommended limits (page 28). Over the next decade, the State is estimated to have approximately $3.3 billion in available bonding capacity (through 2033).

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 State tax-supported debt over the next ten-year period.

1. All debt will be issued as 20-year debt.
2. Interest (coupon) rate is assumed to be 5.00%.
3. There are no refunding savings during the period.
4. Previously authorized but unissued debt, including $441.0 million General Obligation debt is issued in equal amounts in FY 2023 and FY 2024 and the $154.5 million of appropriation debt, including $144.0 million for Central Falls schools, is issued in FY 2022.
5. General revenue projections through 2027 are based on the November 2021 Revenue Estimating Conference and growth after 2027 is assumed to be 1.50%.
6. Personal income projections through 2027 are from the November 2021 Revenue Estimating Conference and growth after 2027 is assumed to be 3.00%.

Future Debt Capacity

Debt, Pension and OPEB Ratios
With Additional Debt Capacity Constrained to Recommended Limits

Ratio	Maximum Level (Year of Occurrence)
Debt Service on Tax-Supported Debt to General Revenues	7.00% Maximum (FY2024, FY 2026, FY 2030 – FY2034)
Net Tax-Supported Debt as Percentage of Personal Income	4.00% Maximum (FY2028 – FY 2030)
Rapidity of Repayment over 10 Years	58% (FY 2025 – FY2026, FY2028)
Net Tax-Supported Debt Service + Pension ADC + OPEB ADC as a Percentage of General Revenues	15.58% (FY2031)
Net Tax-Supported Debt + Pension Liability (UAAL) + OPEB Liability as a Percentage of Personal Income	8.43% (FY 2022)

Outstanding Tax- Supported Debt
Including Authorized But Unissued Debt

GO Authorized but Unissued	441,000,000
Appropriation Authorized but Unissued	154,500,000
Total Current Authorized but Unissued	595,500,000

	Outstanding Tax-Supported Debt Service (as of June 30, 2021 with 2021EF)			Estimated Authorized but Unissued @ Interest Rate of 5.00%, 20 Year Term				Outstanding+Authorized but Unissued		Outstanding+Authorized but Unissued + Debt + Pension+OPEB Ratios	
Fiscal Year	Principal	Interest	Debt Service	Principal	Interest	Debt Service	Total Outstanding + Projected Debt Service	Tax-Supported DS to Revenues Limit: 7.0%	Tax-Supported Debt to Personal Income Limit:4.0%	Tax-Supported DS + Pension ARC +OPEB ADC to Revenues Limit: 18%	Tax-Supported Debt + Pension + OPEB UAAL to Personal Income Limit: 12%
2022	164,553,928	77,652,932	242,206,860	0	0	0	242,206,860	5.17%	3.14%	13.73%	8.44%
2023	205,815,655	75,417,658	281,233,313	4,672,480	13,237,500	17,909,980	299,143,292	6.29%	2.98%	14.85%	7.92%
2024	180,405,827	65,462,847	245,868,674	11,574,594	24,028,876	35,603,470	281,472,144	5.78%	2.86%	14.33%	7.41%
2025	165,034,697	58,110,283	223,144,980	18,821,814	28,962,646	47,784,461	270,929,441	5.43%	2.76%	13.95%	6.94%
2026	160,737,537	51,296,932	212,034,469	19,762,905	28,021,556	47,784,461	259,818,930	5.07%	2.41%	13.58%	6.21%
2027	146,584,641	44,854,918	191,439,559	20,751,050	27,033,410	47,784,461	239,224,020	4.57%	2.08%	13.09%	5.41%
2028	116,160,000	38,178,508	154,338,508	21,788,603	25,995,858	47,784,461	202,122,969	3.81%	1.83%	12.41%	4.73%
2029	94,120,000	33,632,477	127,752,477	22,878,033	24,906,428	47,784,461	175,536,937	3.26%	1.62%	11.80%	4.18%
2030	95,765,000	29,522,307	125,287,307	24,021,935	23,762,526	47,784,461	173,071,768	3.16%	1.44%	11.66%	3.57%
2031	86,370,000	25,488,424	111,858,424	25,223,031	22,561,429	47,784,461	159,642,884	2.87%	1.27%	11.46%	2.96%
2032	89,995,000	21,872,587	111,867,587	26,484,183	21,300,278	47,784,461	159,652,048	2.83%	1.12%	11.37%	2.42%
2033	80,855,000	18,457,940	99,312,940	27,808,392	19,976,069	47,784,461	147,097,401	2.57%	0.97%	11.07%	1.90%
2034	77,565,000	15,703,602	93,268,602	29,198,812	18,585,649	47,784,461	141,053,063	2.43%	0.83%	10.97%	1.39%
2035	73,395,000	12,956,636	86,351,636	30,658,752	17,125,708	47,784,461	134,136,096	2.28%	0.71%	5.78%	0.97%
2036	65,630,000	10,299,702	75,929,702	32,191,690	15,592,771	47,784,461	123,714,162	2.07%	0.59%	5.57%	0.75%
2037	62,835,000	8,142,757	70,977,757	33,801,274	13,983,186	47,784,461	118,762,218	1.96%	0.49%	5.35%	0.53%
2038	58,225,000	6,008,665	64,233,665	35,491,338	12,293,123	47,784,461	112,018,126	1.82%	0.39%	3.67%	0.39%
2039	49,325,000	4,118,780	53,443,780	37,265,905	10,518,556	47,784,461	101,228,241	1.62%	0.30%	2.95%	0.30%
2040	40,065,000	2,616,607	42,681,607	39,129,200	8,655,260	47,784,461	90,466,068	1.42%	0.22%	2.71%	0.22%
2041	30,330,000	1,369,440	31,699,440	41,085,660	6,698,800	47,784,461	79,483,901	1.23%	0.15%	2.53%	0.15%
2042	13,955,000	590,941	14,545,941	43,139,943	4,644,517	47,784,461	62,330,402	0.95%	0.09%	2.27%	0.09%
2043	2,560,000	268,600	2,828,600	32,899,461	2,487,520	35,386,981	38,215,581	0.58%	0.04%	0.58%	0.04%
2044	2,665,000	164,100	2,829,100	16,850,943	842,547	17,693,490	20,522,590	0.30%	0.02%	0.30%	0.02%
2045	2,770,000	55,400	2,825,400								
	2,065,717,285	602,243,042	2,667,960,327	595,500,000	371,214,213	966,714,213	3,631,849,141				

Note: Assumes the full $595.5 million of authorized but unissued debt is issued in fiscal years 2022-2024. The UAAL and the Pension ADC are based on projections provided by the Employee Retirement System of Rhode Island. The General Revenues are based on the projected revenues for FY 2022 through FY 2026 and 1.50% annual growth thereafter. The projected personal income for FY 2022 through FY 2026 is based on the forecast in the May 2021 Revenue Estimating Conference report and 3.00% annual growth thereafter.

Net Tax-Supported Debt Capacity Through FY 2033

Additional Debt Capacity Through 2033
@ 5.00% Interest, 20 Year Term
Debt, Pension and OPEB Ratios

Fiscal Year	Additional Debt Capacity Through 2033**	Debt Service on Additional Debt Capacity***	Total Debt Service to Revenues Recommended Limit: 7.0%	Total Debt to Personal Income Recommended Limit: 4%	10-Year Payout Recommended Minimum: 50%	Tax-Supported DS + Pension ARC + OPEB ADC to Revenues Recommended Limit: 18%	Tax-Supported Debt + Pension + OPEB UAAL to Personal Income Recommended Limit: 12%
2022	0	0	5.17%	3.14%	69%	13.73%	8.44%
2023	736,835,000	0	6.29%	2.98%	72%	14.85%	7.92%
2024	193,865,000	59,125,547	**7.00%**	3.88%	61%	15.54%	8.43%
2025	297,970,000	74,681,776	6.93%	3.96%	57%	15.45%	8.14%
2026	268,455,000	98,591,660	**7.00%**	3.89%	57%	15.50%	7.69%
2027	504,620,000	120,133,183	6.87%	3.77%	58%	15.39%	7.10%
2028	308,810,000	160,625,198	6.83%	**4.00%**	57%	15.43%	6.91%
2029	302,755,000	185,404,911	6.70%	**4.00%**	59%	15.24%	6.57%
2030	241,330,000	209,698,756	**7.00%**	**4.00%**	61%	15.49%	6.13%
2031	72,665,000	229,063,699	**7.00%**	3.91%	64%	15.58%	5.60%
2032	230,210,000	234,894,527	**7.00%**	3.65%	68%	15.54%	4.95%
2033	150,185,000	253,367,173	**7.00%**	3.54%	71%	15.50%	4.47%
2034	0	265,418,406	**7.00%**	3.36%	74%	15.55%	3.91%
2035	0	265,418,406	6.78%	3.03%	78%	10.28%	3.29%
2036		265,418,406	6.50%	2.71%	81%	10.01%	2.87%
2037		265,418,406	6.33%	2.41%	85%	9.72%	2.46%
2038		265,418,406	6.12%	2.12%	88%	7.98%	2.12%
	3,307,700,000	2,952,678,457					

*** Maximum annual capacity to remain within liability limits. Assumes full amount issued in year shown with debt service starting in following year. *** Debt service on Additional Debt Capacity is shown through 2038, but debt service is over 20 years for each issuance.*
Capacity is for all tax-supported debt (G.O., COPs and other tax-supported debt)

2022 Ballot	736,835,000	2028 Ballot	611,565,000		
2024 Ballot	491,835,000	2030 Ballot	313,995,000		
2026 Ballot	773,075,000	2032 Ballot	380,395,000	TOTAL	3,307,700,000

Note: Assumes the full $595.5 million of authorized but unissued debt is issued in fiscal years 2022-2024. The UAAL and the Pension ADC are based on projections provided by the Employee Retirement System of Rhode Island. The General Revenues are based on the projected revenues for FY 2022 through FY 2027 and 1.50% annual growth thereafter. The projected personal income for FY 2022 through FY 2027 is based on the forecast in the November 2021 Revenue Estimating Conference report and 3.00% annual growth thereafter.

Debt Affordability Study

Part Two:

State-Level Agencies, Public and Quasi-Public Corporations

Debt and Long-Term Liabilities

Part Two – State of Rhode Island Quasi-Public Agencies

The second part of the debt affordability study focuses on the long-term liabilities of the Quasi-Public corporations and agencies in the State. These liabilities do not include any Quasi-Public agency debt that is also tax-supported debt of the State, as this is accounted for in Part One of the study. There is a wide variety of issuers in this category with different bonding programs, as listed below. Appendix B also provides a list of Quasi-Public agencies with debt outstanding and the bonding programs under each.

Most of the debt issued by the Quasi-Public agencies is not an obligation of the State, and the State does not provide any backstop or guarantee for the repayment of the debt, except for moral obligation debt previously issued by the Rhode Island Commerce Corporation and the Rhode Island Housing and Mortgage Finance Corporation, which currently does not have any such moral obligation debt outstanding. The Quasi-Public bond issuing agencies perform important functions for the State, and thus, the State maintains a strong interest in the viability and sustainability of the Quasi-Public agencies' finances.

Overview of Quasi-Public Agencies

The Quasi-Public agencies in this part of the debt affordability study fall into two general categories: (i) those that issue debt secured by their own revenues and (ii) those that act as a conduit for debt secured by the revenues of separate underlying borrower(s) through loan or financing agreements. The table below summarizes the Quasi-Public agencies in these two categories.

Direct Borrower	**Type/Purpose of Bonds**
Narragansett Bay Commission	Wastewater System Revenue Bonds
Rhode Island Turnpike and Bridge Authority	Toll Revenue Bonds
Rhode Island Resource Recovery Corporation	Resource Recovery System Revenue Bonds
Tobacco Settlement Financing Corporation	Tobacco Master Settlement Agreement Bonds
Conduit Issuer	**Type/Purpose of Bonds**
Rhode Island Commerce Corporation	GARVEEs, Airport Revenue Bonds, Economic Development (including Rhode Island Industrial Facilities Corporation tax-exempt private activity bond debt)
Rhode Island Health and Educational Building Corporation	Public School, Higher Education, Other Education, Health Care Revenue Bonds (Includes Pooled Bonds)
Rhode Island Housing and Mortgage Finance Corporation	Single-Family and Multi-Family Housing Revenue Bonds
Rhode Island Infrastructure Bank	Water Pollution Control, Safe Drinking Water, Sewer Revenue Bonds, Energy Efficiency Loans, Municipal Road and Bridge Loans
Rhode Island Student Loan Authority	Student Loan Revenue Bonds

In addition to the Quasi-Public agencies above, the State also has other Quasi-Public agencies that do not have any bonds currently outstanding, including the Rhode Island Public Transit Authority.

The Rhode Island Convention Center Authority bonds and the Rhode Island Turnpike and Bridge Authority's Motor Fuel Tax Revenue Bonds are included in Part One of this study as tax-supported debt of the State. The Rhode Island Commerce Corporation also has a portion of its debt that is treated as the tax-supported debt of the State, including the Transportation Motor Fuel Tax Bonds, I-195 Land Sale, Historic Structures Tax Credit and various Performance Based Agreements. This debt is included in the debt analysis of Part One of the study and will not be included in this section of the study, to avoid double-counting.

Framework for Considering Debt Affordability Guidelines for Quasi-Public Agencies of the State

The debt issued by the Quasi-Public agencies usually consists of revenue bonds, in which debt service is payable solely from the revenues derived (i) from a dedicated revenue source, (ii) from operating businesses or the facilities acquired or constructed with proceeds of the bonds or (iii) under a loan or financing agreement.

Among the Quasi-Public agencies in Rhode Island, there are a variety of revenue bonds, including those backed by utilities, toll revenue, GARVEEs, airport, housing, student loan, healthcare, higher education, secondary education and other not-for-profits. The appropriate debt affordability measure for each must be considered separately. Since revenues are the source of repayment for the debt, the PFMB believes the focus of debt affordability should generally be based on some type of debt service coverage ratio, which may come in the form of an additional bonds test and/or an annual rate covenant requiring a minimum debt service coverage level.

Revenue bonds are issued pursuant to a trust indenture or a bond resolution, which are legal documents describing in specific detail the terms and conditions of a bond offering, the rights of the bondholder to receive revenue repayment, and the obligations of the issuer to the bondholder. These documents describe the revenues that are pledged for the repayment of debt and may incorporate a rate covenant, as described further below.

A rate covenant is a legal commitment by a revenue bond borrower to maintain rates, fees, charges, etc. at levels necessary to generate sufficient revenues to provide specified debt service coverage. With revenue bonds, the most frequently used measure of financial health is debt service coverage or the margin of safety for payment of debt service on a revenue bond which reflects the amount by which the net revenues (generally total revenues less operation and maintenance expenses) exceed the debt service that is payable for a 12-month period of time. The trust indentures may also include an additional bonds test (ABT), which specifies a certain debt service coverage level must be met, including the proposed new debt, before new (additional) bonds can be issued. The legal requirements established in the trust indenture or bond resolution are reviewed by the rating agencies and are key factors in determining the rating. In addition, while the rate covenant provides the minimum acceptable debt service coverage, credit analysts will generally want to see higher levels of debt service coverage than what is legally required for highly rated entities.

Because an issuer's ability to meet the rate covenant and/or ABT specified in a trust indenture is a legal commitment, any debt affordability target cannot be weaker than the ABT in the covenant.

There are different considerations in the application of debt affordability guidelines to the two categories – direct borrowers and conduit issuers of Quasi-Public agencies in Rhode Island. The discussion below describes the debt programs for each of the Quasi-Public agencies and a recommended debt affordability limit for each Quasi-Public agency.

Direct Borrowers

This category includes the Narragansett Bay Commission, the Rhode Island Turnpike and Bridge Authority, the Tobacco Settlement Financing Corporation and the Rhode Island Resource Recovery Corporation. With these borrowers, debt is secured by the entity's own revenues and the State does not provide any backstop or guarantee for the repayment of the debt. For the Tobacco Settlement Financing Corporation, only refunding bonds can be issued; no new debt can be issued.

The debt service coverage ratio provides a measure by which we can assess the Quasi-Public agencies' ability to repay their debt and is a key statistic used by rating agencies in their review of the credit of revenue bonds. In cases where the Quasi-Public agencies' debt is secured by loans, an asset-liability ratio provides a useful measure to assess the Quasi-Public agencies' ability to repay their debt and is a key statistic used by rating agencies in their review of certain types of revenue bonds.

Narragansett Bay Commission

The Narragansett Bay Commission (the "NBC") issues debt on its own through bonding and utilization of low cost lending facilities administered by the federal government, and also borrows through the Rhode Island Infrastructure Bank ("RIIB"). As of June 30, 2021, NBC had approximately $262.8 million of NBC issued bonded debt outstanding, $277.4 million in subsidized loans from the Rhode Island Infrastructure Bank's clean water state revolving loan fund and $459.7 million in two federal WIFIA Loans, for a total of $999.9 million of total debt outstanding. The WIFIA Loans will be used to fund a portion of the NBC's construction of Phase III of the Combined Sewer Overflow (CSO) Abatement Facilities program (CSO Phase III), an ambitious initiative to improve water quality in the Narragansett Bay and surrounding waterways through the construction of infrastructure designed to significantly reduce the discharge of untreated sewage. Debt service on WIFIA Loans is payable from the net revenues of the NBC, which are on parity with revenue bonds outstanding and the RIIB loans.

The table below shows the project schedule and cost estimates for the CSO Phase III program.

CSO Phase III Timeline and Costs			
Phase	**Timeline**		**Cost (in millions)***
	Start	***Complete***	
A	Apr-13	Jan-28	$836.4
B	Dec-28	Jun-31	$28.5
C	May-32	Jun-37	$164.7
D	Apr-37	Dec-41	$83.5
		Total	**$1,113.1**

** Phase B, C and D are pre-design estimates in 2017$*

Amount of Debt and Liabilities Outstanding

While the PFMB does not set pension and OPEB limits for the Quasi-Public agencies, the following chart provides background on Narragansett Bay Commission's overall liability burden:

Quasi-Public Agency	Debt Outstanding as of 6/30/2021	Net Pension Liability	Net OPEB Liability	Total Liabilities as of 6/30/2021
Narragansett Bay Commission	NBC Revenue Bonds: $262,805,064 RIIB Loans: $277,382,328 WIFIA Loans: $459,704,608	$17,701,248 (ERSRI), also counted in Part One of this report $6,797,195 Net Pension Asset for Non-Union Defined Benefit Pension Plan	$2,802,007, also counted in Part One of this report	$1,054,436,996

Rating Agency Guidance and Peer Comparison

In its criteria for utilities, Standard & Poor's assesses coverage in the 1.25x to 1.40x range as "strong." The following table summarizes S&P rating considerations for debt service coverage for water and sewer utility systems and a comparison of the ABT and rate covenant and debt service coverage levels of peer utility systems.

Rating Agency Criteria for Utilities					
Standard & Poor's	As part of the Financial Risk Profile, S&P reviews and scores the following factors:				
	Score	Debt Service Coverage	Days' Cash	Actual Cash	Debt to Capitalization[1]
	1	1.60x or Above	> than 150	> than \$75 MM	Up to 20%
	2	1.40x to 1.60x	90 to 150	\$20 MM to \$75 MM	20% to 35%
	3	1.20x to 1.40x	60 to 90	\$5 MM to \$20 MM	35% to 50%
	4	1.10x to 1.20x	30 to 60	\$1 MM to \$5 MM	50% to 65%
	5	1.00x to 1.10x	15 to 30	\$500,000 to \$1 MM	65% to 80%
	6	Below 1.00x	< than 15	< than \$500,000	Greater than 80%

Issuer	Ratings (M/S/F)	ABT/Rate Covenant	Debt Service Coverage	Cash on Hand	Debt to Capitalization
Narragansett Bay Commission	**--/AA-/-- (AA from Kroll for WIFIA)**	**NBC: 1.25x RIIB: 1.35x[2]**	**1.49x (FY 2021)**	**205 days (FY 2020) (S&P)**	**67.5% (FY 2020) (S&P)**
Massachusetts Water Resources Authority	Aa1/AA+/AA+	Senior: 1.20x Sub.: 1.10x	Senior: 1.2x Sub.: 1.1x (FY 2019) (Moody's)	170 days (FY 2019) (Moody's)	76.1% (FY 2019)
Boston Water and Sewer Commission	Aa1/AAA/AA+	1.25x	1.4x (FY 2019) (Moody's)	135 days (FY 2019) (Moody's)	58.1% (FY 2019)
City of Philadelphia Water and Sewer Bonds	A1/A+/A+	1.20x	1.5x (FY 2020) (Moody's)	104 days (FY 2020) (Moody's)	66.7% (FY 2020) (S&P)
St. Louis Metropolitan Sewer District	Aa1/AAA/AA+	Senior: 1.25x Sub.: 1.15x	Senior: 3.1x Sub: 2.5x (FY 2020) (Moody's)	658 days (FY 2020) (Moody's)	36.1%
City of Baltimore Water and Wastewater Bonds	Senior: Aa2/AA/-- Sub: Aa3/AA-/--	Senior: 1.15x Sub.: 1.10x	1.3x (FY 2020) (S&P)	275 days (FY 2020) (S&P)	40% (FY 2020) (S&P)

Source: Rating reports and annual reports for each issuer and NBC's Comprehensive Annual Financial Report, FY 2021

(1) Standard and Poor's uses the Debt to Capitalization metric to measure the relative leverage of the utility by comparing the total of all long and short-term debt outstanding (numerator) to the total debt as calculated in the numerator plus the utility's Net Position (denominator).

(2) Higher coverage on the Commission's RIIB Loans relate to the subsidized nature of the obligation.

Recommendation for Debt Limit and Rationale

S&P Global's rating guidance for wastewater programs stipulates that coverage between 1.25x and 1.40x is "strong." Historic coverage for NBC has been at least 1.25x since 2009 (currently estimated at 1.49x) and peer wastewater programs have coverages ranging from 1.2x (Massachusetts) to 3.1x (St. Louis). NBC's Trust Indenture dated April 2004, and as supplemented, requires NBC to maintain debt service coverage of 1.25x for debt directly issued by NBC and 1.35x for debt issued through RIIB. **The PFMB recommends a debt limit of 1.30x coverage, because it is the mid-point of a "strong" S&P rating and it is within the range of peer comparisons (1.2x-3.1x).**

Quasi-Public Agency	Indenture Required Additional Bonds Test	Recommendations for Debt Affordability Measure	Current Debt Level
Narragansett Bay Commission (--/AA-/--) WIFIA Loans rated "AA" by Kroll	Requires estimated net revenues (gross revenues less operating and maintenance expenses) for the three years following the issuance of bonds to be at least 1.25x the debt service requirement for revenue bonds and 1.35x[1] the debt service requirement for RIIB loans	1.3x debt service coverage for Commission debt Provide notice to PFMB of any rating action Establish an affordability program for low-income ratepayers	1.49x (2021)

(1) Higher coverage on the Commission's RIIB Loans relate to the subsidized nature of the obligation.

While NBC's current level of indebtedness is within the recommended limit as measured by debt service coverage, the PFMB continues to remain concerned about the ability of a large portion of NBC's customer base to afford the increasing utility rates necessary to pay down NBC's debt. Debt affordability must be considered not only by the ability of NBC to pay its debts, but also by the ability of NBC customers to afford the rates necessary for NBC to do so.

In 2017, prior to the launch of the CSO Phase III program, NBC completed a ratepayer affordability study in which it was projected that the average customer rate would increase 35% over eight years in constant (inflation adjusted) dollars, in order to pay for the CSO III program. While a majority of NBC's ratepayers are middle and upper income, and could likely afford the increase, the roughly 40,000 lower income ratepayers (representing one-third of NBC's customers) would see rates grow to unaffordable levels. In three communities, Providence, Pawtucket and Central Falls, rates would exceed 2% of median income, meaning a majority of the families living in those communities would spend more than 2% of their total income on their sewer bills. [1]

As a result of these concerns, in 2019 the PFMB recommended that NBC explore instituting a discount program for low-income ratepayers. While NBC has not adopted such a program, it has attempted to lower ratepayer impact by pursuing lower cost financing than that available through the traditional bond market. NBC has secured two low-interest federal WIFIA loans totaling $459.3 million, which will assist in keeping the level of indebtedness within the recommended limit and mitigate ratepayer impact. NBC was also recently invited to apply for a third loan through the WIFIA program. In addition, NBC submitted three proposals for American Rescue Plan Grant Funding Consideration, including $232.4 million for the CSO Phase III program. Further, many of NBC's capital projects also appear to be eligible for federal funding through the Infrastructure Investment and Jobs Act, which could further mitigate ratepayer impact.

The successful completion of the CSO Phase III program will ensure compliance with federal law, improve the water quality of Narragansett Bay for all Rhode Islanders and is critical to preserving one of Rhode Island's most important ecological habitats. However, with the projected increase in rates through FY 2027, the cost burden for many Rhode Island families could be significant.

The PFMB recommends that NBC conduct a new, updated ratepayer affordability study to determine projected ratepayer impact in light of recent developments such as the securing of WIFIA loans, and also that NBC work with state policymakers to develop a program to assist lower income ratepayers with the cost of their bills, while moving ahead with the CSO Phase III project.

Rhode Island Turnpike and Bridge Authority

The Rhode Island Turnpike and Bridge Authority ("RITBA") was created in 1954 by the Rhode Island General Assembly to construct, acquire, maintain and operate bridge projects. RITBA operates and maintains four major bridges, including the Newport Pell Bridge (the only toll bridge in Rhode Island), the portion of State Route 138 in Jamestown, and ten smaller bridges associated with State Route 138 and the approaches to the four major bridges.

RITBA issues toll revenue bonds with an ABT and rate covenant that require net revenues plus dedicated payments pledged to the bonds to be at least 1.20x annual debt service. As of June 30, 2021, RITBA had $46,920,000 million of toll revenue bonds outstanding.

In addition to toll revenue bonds, RITBA also issues motor fuel tax bonds, secured by state appropriations of the gas tax allocated by law to the RITBA. These bonds are considered tax supported debt of the State and are covered in Part One of this report. As of June 30, 2021, RITBA had $147,600,000 of motor fuel tax bonds outstanding.

[1] NBC Phase III CSO Amended Reevaluation – Revised CDRA Supplement Chapter 12 – Phase III Amended Recommended Plan

Amount of Debt and Liabilities Outstanding

Quasi-Public Agency	Debt Outstanding as of 6/30/2021	Pension	OPEB	Other Long-Term Liabilities	Total
Rhode Island Turnpike and Bridge Authority	Toll Revenue Bonds: $46,920,000	N/A	N/A	N/A	$46,920,000

Rating Agency Guidance and Peer Comparison

RITBA’s 1.20x rate covenant / additional bonds test coverage requirement is on the low side compared to its toll road peer organizations; however, actual debt service coverage has been higher. Annual debt service coverage has ranged from a low of 1.6x in FY 2018 to a high of 3.5x in FY 2019 but fell to 2.9x in FY 2020 and 2.3x in FY 2021. Standard &Poor’s views RITBA’s debt service coverage as “strong”. S&P’s and Fitch’s ratings outlooks for RITBA remain Stable. As specified in Standard & Poor’s toll road criteria, the most common ratio used in a toll covenant is 1.25x.

The table below summarizes Fitch and S&P rating considerations for debt service coverage for toll revenue bonds and a comparison of the ABT and rate covenant and debt service coverage levels of peer toll facilities (small expressway or stand-alone toll facilities).

Rating Agency Criteria for Toll Revenue Bonds	
Fitch Ratings	For small networks and stand-alone toll road: “A” Rating Category: Average debt service coverage of 1.7x and above “BBB” Rating Category: Average debt service coverage of 1.4x and above *AA rating category is unlikely based on asset size/geographical concentration.*
Standard & Poor’s	As part of the financial risk profile the following factors associated with debt are scored.

	Extremely Strong	Very Strong	Strong	Adequate	Vulnerable	Highly Vulnerable
Debt Service Coverage	> 4.75x	4.75x-3x	3x-1.25x	1.25x-1.1x	1.1x-1x	<1x
Debt to Net Revenues	<5%	5%-10%	10%-15%	15%-20%	20%-30%	>30%

Issuer	Ratings (M/S/F)	ABT/ Rate Covenant	Debt Service Coverage of Maximum Annual Debt Service	10-Year Average Debt Service Coverage (Senior Debt)
RITBA	**--/A-/A**	**1.20x**	**2.3x** (FY 2021)	**2.0x** (Fitch)
Richmond Metropolitan Authority (VA)	A1/--/A	1.25x (1.0x on all obligations)	2.0x (FY 2020) (Fitch)	2.0x (Fitch)
Buffalo & Fort Erie Public Bridge Authority (NY)	--/A+/A	1.25x (1.0 on all obligations)	3.4x (FY 2020) (Fitch)	2.3x (Fitch)
Lee County (FL) Toll Bridges	A2/A/--	1.20x (1.0 on all obligations)	3.3x (FY 2020)	2.5x
Greater New Orleans Expressway Commission	--/A/--	Senior: 1.2x (Gross revenues) Sub: 1.2x (1.0x on all obligations)	1.22x (Senior + Subordinate) (FY 2020)	N.A.
Niagara Falls Bridge Commission (NY)	--/A+/--	1.30x	2.06x (FY 2020)	N.A.

Source: Ratings reports, annual reports and official statements for issuer. *Coverage levels from Fitch Ratings, “Peer Review of U.S. Toll Roads,” October 2020*

Recommendation for Debt Limit and Rationale

RITBA's minimum debt service coverage covenant is 1.20x, with historical debt service coverage levels ranging from 3.5x to 1.6x (2009-2021). Fitch Ratings criteria generally cites coverage of 1.7x for a single A rating, RITBA's rating tier. S&P does not provide indicative rating levels for different debt service coverage levels but provides guidance that typical coverage is in the 1.5x-2.0x range. RITBA's peer coverage ranges from 1.22x to 3.4x. **The PFMB recommends that RITBA seek to maintain minimum coverage of 1.7x, because this is at the low-end of Fitch criteria for an "A" rating and toward the low-end of S&P's "strong" assessment**.

Quasi-Public Agency	Indenture Required Additional Bonds Test	Recommendation for Debt Affordability Measure	Current Debt Level
Rhode Island Turnpike and Bridge Authority (--/A-/A)	Net Revenues (gross revenues less operating and maintenance expenses) plus Dedicated Payments in most recent fiscal year or projected for each of the next 5 fiscal years must be at least 1.20x[1] Maximum Annual Debt Service.	1.7x Debt Service Coverage Notify the PFMB of any rating change.	2.3x Debt Service Coverage (2021)

(1) On April 1, 2010, the Authority amended and restated its Master Trust Indenture which included a revised ABT (from 1.25x to 1.20x, effective December 1, 2017).

RITBA's debt service coverage decreased from 3.5x in FY 2019 to 2.9x in FY 2020 to 2.3x in FY 2021, as toll revenues decreased 11% and net revenues decreased over 20% in each of the last two years, reflecting the impact of the coronavirus pandemic. If revenues return to pre-pandemic levels, debt service coverage levels should be at least 3.6x through 2040 assuming no additional debt issuances.

RITBA has no plans to issue motor fuel or toll or combined revenue bonds in calendar year 2022. The remaining amount of authorized but unissued bonds of RITBA under existing General Assembly authorizations is $15,500,000. RITBA reviews its 10 year capital plan biennially and seeks General Assembly approval for any new debt.

Rhode Island Resource Recovery Corporation

The Rhode Island Resource Recovery Corporation ("RIRRC") is responsible for managing Rhode Island's solid waste and recyclables. RIRRC provides several distinct onsite processing and disposal services to its customers: sanitary landfilling, commercial composting, recyclables sorting and processing and small vehicle waste sorting. RIRRC's central landfill, located in Johnston, is currently projected to reach the end of its useful life in 2040. RIRRC has implemented initiatives that have resulted in gaining an estimated six years of additional disposal capacity and pushed the initial anticipated closure date of the central landfill out nearly two decades to the year 2040. As of June 30, 2021, the RIRRC had $10.8 million of debt outstanding, the final term of which is FY 2023.

Amount of Debt and Liabilities Outstanding

Quasi-Public Agency	Debt Outstanding as of 6/30/2021	Pension	OPEB	Other Long-Term Liabilities	Total
Rhode Island Resource Recovery Corporation	$10,803,890	N/A	$693,800	Long term landfill post closure $109,910,701 and pollution remediation $13,250,512	$ 134.7 million

Rating Agency Guidance and Peer Comparison

The RIRRC issued revenue bonds through a private placement with an ABT and rate covenant that requires net revenues (after payment of operating and maintenance expenses) plus State Subsidy, and Assets Held in Trust to be at least 1.25x debt service. Standard & Poor's assesses coverage in the 1.25x to 1.40x range as "strong".

The RIRRC's debt is not rated, however general rating agency criteria for utilities can be reviewed and the peer comparison for the RIRRC, as summarized above can be used as a reference.

Rating Agency Criteria for Utilities					
Standard & Poor's	As part of the Financial Risk Profile, S&P reviews and scores the following factors:				
	Score	Debt Service Coverage	Days' Cash	Actual Cash	Debt to Capitalization[1]
	1	1.60x or Above	> than 150	> than $75 MM	Up to 20%
	2	1.40x to 1.60x	90 to 150	$20 MM to $75 MM	20% to 35%
	3	1.20x to 1.40x	60 to 90	$5 MM to $20 MM	35% to 50%
	4	1.10x to 1.20x	30 to 60	$1 MM to $5 MM	50% to 65%
	5	1.00x to 1.10x	15 to 30	$500,000 to $1 MM	65% to 80%
	6	Below 1.00x	< than 15	< than $500,000	Greater than 80%
Issuer	**Ratings (M/S/F)**	**ABT/Rate Covenant**	**Debt Service Coverage**	**Cash on Hand**	**Debt to Capitalization**
Rhode Island Resource Recovery Corporation	**Not Rated**	**1.25x**	**3.75x (FY 2021)**	**560 days (FY 2021)**	**6.7%**
Delaware Solid Waste Authority	Aa3/AA+/--	1.1x	4.06x (FY 2020)	46 days (FY 2020)	3.8%

Source: Rating reports and annual reports for each issuer.
(1)S&P uses Debt to Capitalization to measure the relative leverage of the utility by comparing the total of all long and short-term debt outstanding (numerator) to the total debt as calculated in the numerator plus the utility's Net Position (denominator). Debt does not include unfunded pension and OPEB liabilities.

Recommendation for Debt Limit and Rationale

Despite RIRRC's strong financials, the PFMB recommends that the RIRRC refrain from any issuance of long-term debt, until there is a clear plan for what will be done when the landfill reaches capacity.

Quasi-Public Agency	Indenture Required Additional Bonds Test	Recommendations for Debt Affordability Measure	Current Debt Level
Rhode Island Resource Recovery Corporation (Not Rated)	For any 12-month period out of the last 18 months, Net Revenues (gross revenues less operating and maintenance expenses) plus State Subsidy plus Assets Held in Trust must be at least 1.25x Maximum Annual Debt Service	PFMB recommends the Corporation refrain from any issuance of long-term debt until the Corporation completes its capital improvement plan and the future of the facility is more certain.	3.75x (2021) Debt Service Coverage

At this time, the RIRRC does not have any planned debt issuances. The RIRRC is closely monitoring its cash position, fee structure and future cash flow needs to be able to fund approximately $90.3M in projected capital needs over the next five years. RIRRC recognizes the current projected landfill service life limits its options to raise capital outside operations and continues to work toward extending the life of the central landfill and advancing the decision-making process as to what the State will do with its waste once the landfill has reached capacity.

Tobacco Settlement Financing Corporation

The Tobacco Settlement Financing Corporation (the "TSFC") was created to securitize payments from tobacco companies for the benefit of the State. In the mid-1990s, 46 states, five U.S. territories, and the District of Columbia sued a number of United States tobacco companies to recover the financial burden that smoking was placing on their respective public health systems. In 1998, a Master Settlement Agreement was entered into among the states and the tobacco manufacturers. As part of the agreement, the tobacco companies agreed to make annual payments to the states in perpetuity, paving the way for the issuance of bonds secured by those payments.

In 2002 the Rhode Island legislature authorized the State to issue bonds backed by the tobacco settlement payments, primarily to pay for certain indebtedness of the State and to fund expenses. The TSFC issued a total of $1.5 billion of bonds in three series, with $604.3 million outstanding as of June 30, 2020. No additional bonds except for refunding bonds may be issued.

The credit risk of these bonds is born solely by bondholders. In light of the non-recourse nature of these bonds, and the fact that the TSFC is not able to issue any new bonds, the PFMB does not recommend any affordability targets for the TSFC.

Conduit Issuers

Many state quasi-public agencies issue conduit debt on behalf of other underlying borrowers. In these issues the key to affordability is the credit worthiness of the underlying borrower(s). Underlying borrowers can be single entities or multiple entities under a pooled bond program.

1. <u>Conduit Issuers -- Single Entity Borrowers</u>

With the single-entity underlying borrower, the PFMB considered debt affordability targets for each underlying entity. For example, the Rhode Island Health and Educational Building Corporation, based on its FY2020 annual report, had over 55 different single-entities as underlying borrowers; the Rhode Island Commerce Corporation has seventeen single-entity underlying borrowers as of June 30, 2020; and the Rhode Island Industrial Facilities Corporation has seven single-entity underlying borrowers as of June 30, 2020.

The underlying borrowers can be categorized into different groups:

(i) State agency[1] (e.g., Rhode Island Department of Transportation, University of Rhode Island);
(ii) Political subdivision of the State (e.g., City of Pawtucket, City of Providence);
(iii) Non-profit entity (e.g., Lifespan Obligated Group, Brown University, Providence College); or
(iv) Private for-profit entity (e.g., CAPCO Steel, Bullard Abrasives).

The PFMB does not set recommended debt limits for non-profit and private entities that secure debt with their own revenue sources and are not subject to a moral obligation. Responsibility for repayment of these debts lie solely with the non-profit and private entities, the taxpayers bear no liability, and it is unlikely that the State or a local government would ever assume these liabilities should the underlying borrower be unable to make debt service payments.

[1] State agencies includes State Boards and State Chartered Institutions, such as the University of Rhode Island.

Rhode Island Commerce Corporation

In addition to issuing bonds backed by state tax revenues, which are covered in Part One of this report, Rhode Island Commerce Corporation also issues conduit bonds for the Rhode Island Department of Transportation and Rhode Island Airport Corporation, which are addressed below.

Additionally, the Commerce Corporation issues tax exempt private activity bonds for the Rhode Island Industrial Facilities Corporation ("RIIFC"). RIIFC bonds fund the construction of manufacturing and industrial space for private projects deemed by the Commerce Corporation to be of significant importance to economic development in the state. The companies benefitting from the facilities are solely responsible for the bonds and there is no state obligation under any circumstance. As of June 30, 2020, there are $42,542,452 of RIIFC bonds outstanding, and as there is no taxpayer exposure to this debt the PFMB does not recommend any specific limitation on the amount of borrowing under this program

Rhode Island Department of Transportation

The Rhode Island Department of Transportation ("RIDOT") issues Grant Anticipation Revenue Vehicles ("GARVEEs") through the Rhode Island Commerce Corporation. GARVEEs are bonds secured by future Federal highway reimbursements received by the State and provide a mechanism for accelerating construction projects that would otherwise be funded on a pay-go basis. With the outstanding GARVEEs, Rhode Island chose to pledge Motor Fuel Tax revenue bonds as the federally required state match to GARVEE bonds, and such Motor Fuel Tax revenue bonds are included in the State's tax-supported debt covered in Part One of this Debt Affordability Study. GARVEEs enable the State to fund essential transportation projects without impacting the State's General Obligation borrowing capacity, reducing the need for tax supported debt. GARVEEs do not include any federal guarantee of repayment and are subject to federal reauthorization risk, and to mitigate the risk GARVEEs are generally structured with short maturities, high ABTs and high debt service coverage. In May 2020, the Rhode Island Commerce Corporation issued $165,555,000 of GARVEEs, and as of June 30, 2021, a total of $534,955,000 of GARVEE bonds was outstanding.

The chart below details historical federal reimbursement amounts available to pay for GARVEE bond payments:

Federal Fiscal Year	Federal Reimbursement Available for Bond Payments	Year Over Year % Change
2009	$171,698,008	-1%
2010	$207,839,190	21%
2011	$212,974,483	2%
2012	$205,573,994	-3%
2013	$189,313,545	-8%
2014	$210,272,184	11%
2015	$252,154,162	20%
2016	$214,685,748	-15%
2017	$217,764,218	1%
2018	$230,779,651	6%
2019	$224,627,862	-3%
2020	$213,005,254	-5%
2021	$219,281,616	3%

The recently passed Infrastructure Investments and Jobs Act ("IIJA"), which reauthorized the federal surface transportation program for the next five years, provides a $110 billion increase in federal aid for roads, highways and bridges for state departments of transportation across the country, giving some certainty to improved levels of federal reimbursement. On November 18, 2021, the USDOT released state-by-state fact sheets detailing the potential of the IIJA for each state. As stated in the fact sheet for Rhode

Island, based on formula funding alone, Rhode Island would expect to receive approximately $1.7 billion over five years in federal highway formula funding for highways and bridges. On an average annual basis, this is about 15.5% more than the State's federal-aid highway formula funding under current law (FAST Act), which covers federal fiscal years 2016 through 2020. The average federal reimbursement available for bond payments under the FAST Act was $220.2 million. A 15.5% increase over this level would be $254.3 million. While the funding level is expected to increase under IIJA, the realization and timing of additional funding is dependent on RIDOT's expenditures on eligible projects. RIDOT is currently working on reviewing its 10-year plan to determine which projects can be accelerated as a result of the additional funding, and once such projects are determined, RIDOT will be able to provide an estimate of future reimbursements. In the meantime, and for the purposes of this report, the PFMB will continue to use the pre-IIJA reimbursement rates to measure Rhode Island's GARVEEE bond debt service coverage levels.

Rating agencies assess the affordability of GARVEE bonds by comparing debt service coverage levels to the additional bonds test, which in Rhode Island is 3.0x. The chart below demonstrates projected debt service coverage levels of outstanding GARVEEs, assuming pre-IIJA federal reimbursement levels.

Debt Service Coverage

FY	Outstanding Debt Service	2021 Federal Reimbursement	Debt Service Coverage on Outstanding DS
2022	$65,817,750	$219,281,616	3.3x
2023	$65,814,250	$219,281,616	3.3x
2024	$65,813,000	$219,281,616	3.3x
2025	$62,434,000	$219,281,616	3.5x
2026	$62,431,000	$219,281,616	3.5x
2027	$62,433,500	$219,281,616	3.5x
2028	$62,431,000	$219,281,616	3.5x
2029	$62,433,250	$219,281,616	3.5x
2030	$62,434,250	$219,281,616	3.5x
2031	$62,428,000	$219,281,616	3.5x
2032	$19,928,500	$219,281,616	11.0x
2033	$19,928,750	$219,281,616	11.0x
2034	$19,933,000	$219,281,616	11.0x
2035	$19,929,000	$219,281,616	11.0x

Rating Agency Guidance and Peer Comparison

Based on 2021 federal highway reimbursements, Rhode Island's minimum level of coverage (3.3x) was the lowest of any state GARVEE program secured solely by federal highway reimbursements, as shown in peer comparison table below. While the GARVEE program does not require any on-going legal rate covenant or minimum debt service coverage, a low level of coverage can be cause for concern, as federal reimbursement levels vary from year to year and face risks at the federal level that are beyond the control of Rhode Island.

The table below summarizes Moody's and Standard & Poor's rating considerations for the additional bonds test and debt service coverage for GARVEEs and a comparison of the ABT and debt service coverage levels of GARVEE programs of other states, which, like Rhode Island GARVEEs, are secured solely by Federal highway reimbursements.

Rating Agency Criteria for GARVEEs			
Moody's	Rating methodology for GARVEEs is based on Moody's Special Tax Methodology. ABT of 3.00x and higher are scored 'Aaa'. Moody's assessment of the revenue outlook and trend limit the rating from reaching the 'Aaa' or 'Aa' levels. Furthermore, a below the line adjustment attributable to Federal reauthorization risk results in primarily 'A' rating level.		
Standard & Poor's	AA Rating Category: Additional bonds test of at least 2.0x, coverage levels of at least 3.0x A Rating Category: Additional bonds test of at least 1.5x, coverage levels of at least 1.5x		
Issuer	**Ratings (M/S/F)**	**Additional Bonds Test**	**Debt Service Coverage* 2021**
Rhode Island	A2/AA-/--	3.0x	3.3x
Delaware	A1/AA/--	3.0x	8.5x
District of Columbia	A2/AA/--	3.0x	5.4x
Georgia	A2/AA/A+	3.0x	9.7x
Idaho	A2/--/A+	3.33x	4.4x
Kentucky	A2/AA/A+	4.0x	8.0x
Maine	A2/AA/A+	3.0x	7.3x
Michigan	A2/AA/--	3.0x	18.3x
North Carolina	A2/AA/A+	3.0x	7.6x
Ohio	Aa2/AA/--	5.0x	7.5x
Washington	A2/AA/--	3.5x	6.3x
West Virginia	A2/AA/--	3.0x	11.9x

Source: Rating reports for each issuer. Official Statements and Continuing Disclosure filings on EMMA.

** Coverage levels for other states based on Federal-Aid Highway Program Obligation Limitation for FFY2021. Pro Forma Coverage calculated by dividing Obligation Limitation by MADS as displayed in latest official statement for each issuer; note that mismatch may occur between FFY and individual state FY. Source for FFY 2021 OA: https://www.fhwa.dot.gov/legsregs/directives/notices/n4520268/n4520268_t1.cfm*

Recommendation for Debt Limit and Rationale

Underlying Borrower	Indenture Required Additional Bonds Test	Recommendations for Debt Affordability Measure	Current Debt Level
Rhode Island Department of Transportation Grant Anticipation Revenue Bonds (GARVEEs) (A2/AA-/--)	Federal Transportation Funds must be 3.00x maximum bond payments in any federal fiscal year	3.5x Debt Service Coverage PFMB recommends that RIDOT monitor reimbursements under IIJA and maintain a minimum of 3.5x debt service coverage with any additional debt.	2021: 3.33x Coverage

The PFMB recommends a minimum debt service coverage level of 3.5x as a limit, because this level will allow the State flexibility to make infrastructure investments while providing a more stringent requirement than the required ABT (of 3.0x) and staying within recommended rating agency levels of 3.0x coverage. For 'AA' rating level, S&P expects coverage levels of 3.0x. Moody's generally does not rate any stand-alone GARVEEs higher than the 'A' rating level and has indicated 3.0x as a threshold baseline level of coverage with above 2.0x coverage as a threshold under a stress-test scenario to achieve an A rating. With the issuance of the additional $165.5 million of GARVEEs in May 2020, the debt service coverage fell below the recommended limit of 3.5x but allowed the State to fund key projects, including the I-95 Viaduct Project, the Washington Bridge Project and the Huntington Viaduct Project. With the passage of the IIJA and if the potential 15.5% increase on an average annual basis is realized, the minimum debt service coverage level would increase to 3.86x, and RIDOT would be within the recommended limit. **The PFMB recommends that RIDOT monitor its federal reimbursement level under the IIJA and maintain a minimum debt service coverage level of 3.5x with any additional debt.**

Rhode Island Airport Corporation

The Rhode Island Airport Corporation ("RIAC") is a semi-autonomous subsidiary of the Rhode Island Commerce Corporation. RIAC is responsible for the operation of six state-owned airports, the largest of which is the Rhode Island T. F. Green International Airport. Rhode Island T.F. Green Airport is located 8 miles south of Providence in Warwick and is the third largest airport in New England. As of June 30, 2021, T.F. Green was served by nine mainline carriers, ten domestic affiliate carriers and three all cargo carriers.

Amount of Debt and Liabilities Outstanding

As of June 30, 2021, RIAC had $122.2 million in privately placed general airport revenue tax-exempt bonds in addition to $63.3 million general airport revenue bonds, $36.9 million First Lien Special Facility Interlink Bonds, and $39.6 million in a federal TIFIA loan for the Interlink Facility.

Quasi-Public Agency	Debt Outstanding as of 6/30/2021	Pension	OPEB	Other Long-Term Liabilities	Total Non-current Liabilities
Rhode Island Airport Corporation - **Airport Revenue** - **Special Facility Revenue Bonds** - **Subordinate TIFIA Loan** - **Private Placements**	Airport Revenue: $185,500,806 Special Facility + TIFIA: $76,541,906 Private Placement: $122,230,806 (included in Airport Revenue Bonds above)	$2,135,747, also counted in Part 1 of this report	$437,010, also counted in Part 1 of this report	Due to other government units: $1,203,034	$266.5 million

Rating Agency Guidance and Peer Comparison

The following table summarizes Fitch, Moody's and S&P rating considerations for debt ratios for airport revenue bonds and a comparison of the ABT and rate covenant and debt ratios of peer airport facilities (regional origination and destination airports). In September 2020, RIAC's general airport revenue bonds were among the many airport bonds downgraded by S&P to reflect the expectation that activity levels at T.F. Green will be "materially depressed, unpredictable, or demonstrate anemic growth due to the COVID-19 pandemic and associated effects outside of management's control." The RIAC general revenue airport bonds were downgraded from A to A-. At the same time, S&P also downgraded the special facility bonds to BBB+ from A based on S&P's expectation that rental car activity will also be severely depressed and unpredictable as a result of the COVID-19 pandemic and associated effects. Despite these pandemic-related downgrades, S&P referenced the following credit strengths, "Very strong liquidity and financial flexibility, with several years of rising liquidity levels, reaching $67.4 million in unrestricted cash and equivalents at fiscal year-end 2019; and very strong management and governance, with a good track record of operating the major lines of business and managing risk, as evidenced by improving financial performance, conservative budgeting, and meeting financial targets."

Rating Agency Criteria for Airports	
Fitch Ratings	Fitch considers metrics for liquidity, debt service coverage and leverage in the context of the overall risk profile of the airport. Fitch assesses RIAC's resiliency of the passenger volume as weaker and the strength and competitiveness of RIAC's contractual framework with its airline partners and other commercial operators (price) as mid-range. Given this risk profile (weaker volume risk and midrange price risk), Fitch's rating guidance has RIAC ratings capped at the BBB level with ultimate rating factoring in liquidity, coverage and leverage: BBB: Net Debt to Cash Flow Available for Debt Service (CFADS)): ≤ 4x BB: Net Debt to Cash Flow Available for Debt Service (CFADS)): ≥ 4x

Rating Agency Criteria for Airports						
Moody's Investors Service	Moody's employs a scoring methodology with two factors, market position and service offering, having a combined weight of 85%. The remaining 15% of the scoring is based on leverage and coverage using the following subfactors:					
	Rating Category	**Aaa**	**Aa**	**A**	**Baa**	
	Debt Service Coverage	≥ 2.5x	1.75x – 2.5x	1.3x – 1.75x	1.1x – 1.3x	
	Debt per O&D Enplaned Passenger	< $25	$25 - $50	$50 - $75	$75 - $100	
Standard & Poor's	As part of the financial risk profile the following factors associated with debt are scored.					
		Extremely Strong	**Very Strong**	**Strong**	**Adequate**	**Vulnerable**	**Highly Vulnerable**
	Debt Service Coverage	> 4.75x	4.75x-3x	3x-1.25x	1.25x-1.1x	1.1x-1x	<1x
	Debt to Net Revenues	<5%	5%-10%	10%-15%	15%-20%	20%-30%	>30%

Issuer	Ratings (M/S/F)	ABT/ Rate Covenant	Debt Service Coverage (2020)	Cash on Hand (2020)	Net Debt to Cash Flow Available for D/S (2020)	Debt per Enplaned Passenger (2020)
Rhode Island Airport Corporation	**<u>Airport Revenue</u> Baa1/A-/BBB+**	**1.25x**	**1.78x (with rolling coverage account) 1.2x (without coverage account) (Fitch)**	**906 days (Fitch)**	**4.0x (Fitch)**	**$139 (FY 2020) $264 (FY 2021)**
Hartford-Springfield (Bradley Airport)	--/A/A	1.10x	2.35x (including rolling coverage account) 2.0x (without coverage account)	575days (Fitch)	1.7x (Fitch)	$61.72 (S&P)
Manchester, NH	Baa2/BBB/--	1.25x	1.5x (including rolling coverage account 1.1x (without coverage account) (2019) (S&P)	419 days (S&P)	N.A.	$173.88 (S&P)
Dayton, OH	--/BBB/BBB	1.25x Sub: 1.1x	1.85x (2019) (S&P)	346 days (S&P)	N/A	$102.80 (S&P)
Long Beach, CA	A3/--/A-	1.25x	1.16x (2021) (Moody's)	246 days (Moody's)	N/A	N/A

Source: Rating reports and annual reports for each issuer.

Recommendation for Debt Limit and Rationale

Underlying Borrower	Indenture Required Additional Bonds Test	Recommendations for Debt Affordability Measure	Current Debt Levels
Rhode Island Airport Corporation	<u>Airport Revenues Bonds</u>: RIAC's net revenues (include rentals, fees, and other charges) and certain Passenger Facility Charge revenues must be 1.25x debt service (Baa1/A-/BBB+) <u>Special Facility Revenue Bonds</u>: Revenues generated by the operation of the Intermodal Facility, including Customer Facility Charges, Rental Car Companies fees and Parking Revenues must be 1.25x first lien debt service (Baa1/BBB+/--)	1.5x coverage when including the Coverage Account Ending Balance and debt per enplaned passenger to $100.	<u>Debt Service Coverage</u>: FY 2020: 1.78x FY 2021: 1.96x <u>Debt per Enplaned Passenger</u>: FY 2020: $139 FY 2021: $264

The PFMB recommends RIAC maintain a minimum debt service coverage of 1.5x for its general airport revenue bonds, as this is the middle range for an A rating category based on Moody's methodology and in the middle of the range of debt service coverage levels of peer airports.

The PFMB also recommended RIAC maintain its target debt per enplaned passenger of $100, because this target is at the bottom of the 'Baa' rating category based on Moody's methodology and on the higher end when compared to most of its peers.

RIAC's FY 2020 coverage level was 1.78x and FY 2021 coverage level was 1.96x, placing it above the PFMB's recommended limit in both years, and although RIAC exceeds the recommended limit for debt per enplaned passenger, it improved its level of debt per enplaned passenger from $137 in 2015 to $109 in 2019. However, as the airport sector was hit particularly hard by the COVID-19 pandemic, the debt per enplaned passenger increased to $139 in FY 2020 and $264 in FY 2021. At this time, the PFMB is not changing the recommended debt affordability measure from the 2019 Debt Affordability Study. As traffic recovers, RIAC expects the debt per enplanement to be at pre-pandemic levels. The PFMB will assess how RIAC has recovered from the effects of the COVID-19 pandemic before making changes (if any) to the recommendations.

2. <u>Conduit Issuers – Pooled Bond Programs</u>

The Rhode Island Health and Educational Building Corporation ("RIHEBC"), the Rhode Island Infrastructure Bank ("RIIB"), the Rhode Island Housing and Mortgage Finance Corporation ("RI Housing") and the Rhode Island Student Loan Authority ("RISLA") are conduit issuers that issue pooled bonds for various purposes.

Pooled bonds are assessed differently by rating agencies. There are some conduit bonds for which rating agencies base their ratings solely on the credit of the underlying borrowers (i.e., municipalities' general obligation pledge). An example of this type of pooled bond is RIHEBC's school construction program. This type of conduit debt is included in Part Three of this study.

Other pooled bonds, including the Water Pollution Control and Safe Drinking Water programs at the Rhode Island Infrastructure Bank, are assessed by rating agencies at the program level, meaning that the rating for each program is based on the combined credit of all participants. This type of conduit debt is included in this section.

To assist Quasi-Public agencies in determining appropriate debt affordability measures, this report includes relevant rating agency criteria, and reviews of peer agencies in other states.

Rhode Island Health and Educational Building Corporation

The Rhode Island Health and Educational Building Corporation manages financing programs that provide educational and health care institutions with access to tax-exempt capital. RIHEBC is the designated issuer of tax-exempt bonds for school projects for cities and towns eligible for state school construction aid. It also issues taxable and tax-exempt bonds to provide conduit financing for public, non-profit, and private hospitals, universities, and other community education and health facilities.

Only RIHEBC conduit debt issued on behalf of public higher education institutions is evaluated for affordability in this section of the report. Conduit debt issues on behalf of municipalities is counted in Part Three of this report as debt of the municipalities. Conduit debt RIHEBC issues on behalf of non-profit or private institutions is not considered in this study, as there is no governmental or taxpayer liability for that debt.

RIHEBC Issuance for Public School Debt

RIHEBC's Public Schools Revenue Bond Financing Program issues bonds for the benefit of the state's 36 local educational authorities (LEAs) for the purpose of constructing, renovating, and improving public schools. Debt issued by RIHEBC for municipalities through this program is counted in Part Three of this report as debt of the municipalities.

RIHEBC Issuance for Public Higher Education Debt

RIHEBC issues bonds for the benefit of University of Rhode Island ("URI"), Rhode Island College ("RIC") and the Community College of Rhode Island ("CCRI", and collectively the "State Colleges"). RIHEBC's Higher Education Facility Revenue Bond programs consist of (i) the Educational and General Revenue Bond credit and the Auxiliary Enterprise Revenue Bond credit of the collective State Colleges and (ii) the Educational and General Revenue Bond credit and the Auxiliary Enterprise Revenue Bond credit solely of URI. As of June 30, 2021, URI has $76,290,000 of Educational and General Revenue Bonds outstanding and $194,680,000 Auxiliary Enterprise Revenue Bonds outstanding.

The bonding for all of these programs is generally serviced by either Educational and General revenues generated by unrestricted general revenues including tuition and State appropriations or by Auxiliary Enterprise revenues including fees from housing, dining and other auxiliary services.

Rating Agency Guidance and Peer Comparison

Both Moody's and Standard & Poor's use scorecards for rating higher education pool programs and specific institutions. Both agencies focus on fundamentals that drive financial performance including Market Position, Management, Operating Performance and Debt Affordability. Rating agencies use maximum annual debt service (MADS) and total debt as measurement tools. RIHEBC's Educational and General Revenue Bonds ABT of 1.00x and Auxiliary Enterprise Revenue Bond ABT of 1.20x are on the low side compared to peer programs in other states.

The following table summarizes Moody's and S&P's key statistics for Higher Education bonds, and a comparison of the current debt service coverage ratio, operating margin, MADS burden (Ratio of Maximum Annual Debt Service to Operating Expenses) and Total Debt to Cash Flow of peer large State Flagship Universities in the New England states.

Rating Agency Criteria for Higher Education Issuers				
Moody's Investors Service	Revised criteria in August 2021 with scorecard including broad factors: Scale, Market Profile, Operating Performance, Financial Resources and Liquidity, Leverage and Coverage and Financial Policy. EBIDA Margin, Total Cash and Investments to Total Adjusted Debt and Debt Service Coverage serve as the primary statistics for measuring annual performance and debt affordability.			
Rating Category	**Aaa**	**Aa**	**A**	**Baa**
EBIDA to Adjusted Operating Revenue	≥ 22.5%	15 – 22.5%	8 – 15%	3 – 8%
Total Cash and Investments to Total Adjusted Debt	≥ 3x	1 – 3x	0.2 – 1x	0.1 – 0.2x
Debt Service Coverage	≥ 4x	2 – 4x	1.5 – 2x	1 – 1.15x
Standard & Poor's	Considers the Enterprise (Market Position and Governance) Profile and Financial Profile of the institution equally. MADS Burden is one primary factor in assessing debt affordability: Score — Burden 1 — 2% or less 2 — 2% to 4% 3 — 4% to 6% 4 — 6% to 8% 5 — 8% to 10% 6 — Greater than 10%			

	Ratings (M/S/F)	ABT/Rate Covenant	Debt Service Coverage	Operating Cashflow Margin	MADS Burden	Total Debt to Cash Flow
University of Rhode Island – Educational and General Revenue Bonds[1]	**Aa3/A+/--**	**1.00x**	**1.6x (FY 2020)**	**5.6% (FY 2020)**	**2.5% (FY 2020)**	**8.7x (FY 2020)**
University of Rhode Island – Auxiliary Enterprise Revenue Bonds	**A1/A+/--**	**1.2x**	**2.7x (FY 2020)**			
University of Connecticut	Aa3/AA-/--	1.25x	1.2x (FY19) Moody's	15.1% (FY19) Moody's	15.0% (FY20) S&P	9.6x (FY19) Moody's
University System of New Hampshire	Aa3/AA-/--	N/A	2.1x (FY20) Moody's	10.4% (FY20) Moody's	4.1% (FY20) S&P	4.7x (FY20) Moody's
University of Massachusetts	Aa2/AA-/AA	N/A	2.0x (FY20) Moody's	13.1% (FY20) Moody's	6.2% (FY20) S&P	6.7x (FY20) Moody's
University of Vermont & State Agricultural College	Aa3/A+/--	N/A	3.3x (FY20) Moody's	14.8% (FY20) Moody's	4.5% (FY20) S&P	5.0x (FY20) Moody's

** Statistics provided from recent rating reports published and S&P CreditStatsDirect.*

Recommendation for Debt Limit and Rationale

Quasi-Public Agency	Recommendations for Debt Affordability Measure	Current Level of Debt
University of Rhode Island	Total Debt to Cash Flow of less than 10.0x as a factor required for Additional Bonds. Provide notice to PFMB of any rating action	8.7x Total Debt to Cash Flow

The PFMB recommends debt to cash flow of less than 10x, because this is at the high-end of "Aa" issuers and toward the lower-end of "A" ratings categories. Peers range between 4.7x (UNH) to 9.6x (UCONN). URI is currently within the recommended limit and does not have any planned debt issuances in the coming year.

Rhode Island Infrastructure Bank

Rhode Island Infrastructure Bank (the "Bank") issues pooled revenue bonds secured by revenues of its borrowers in four core lending programs. The programs include: (i) Clean Water State Revolving Loan Fund (Water Pollution Control Revenue Bonds), (ii) Drinking Water State Revolving Loan Fund (Safe Drinking Water Revenue Bonds), (iii) Municipal Road and Bridge Revolving loan fund and (iv) the Efficient Buildings Fund. In addition, the Bank also serves as a conduit issuer for several entities. The debt outstanding at June 30, 2021 for the above were:

Loan Programs	Debt Outstanding (June 30, 2021)
Clean Water (Water Pollution Control Revenue Bonds)	$378,225,000
Drinking Water (Safe Drinking Water Revenue Bonds)	$186,811,533
Municipal Road and Bridge Revolving Loan Fund	$39,760,000
Efficient Buildings Fund	$30,080,000
Other Water Pollution Control and Drinking Water (non-SRF conduit bonds)	$55,310,000

[1] State College and University of Rhode Island credit statistics reflect all debt obligations which may include portions of certain general obligation and certificate of participations issued by the State.

The Water Pollution Control Revenue Bonds and Safe Drinking Water Revenue Bond programs provide below-market financing to eligible government-owned water suppliers and other entities throughout the State for eligible wastewater and drinking water projects, respectively. Bond proceeds are combined with other sources of funding to provide below-market rate loans to underlying borrowers, primarily municipalities, sewer and water utilities. Ratepayer charges are typically used to pay for debt service on these bonds.

The Municipal Road and Bridge Revolving Fund provides below-market financing to municipalities for eligible road, bridge and related infrastructure projects. Bond proceeds are combined with funds appropriated and allocated by the State to make loans. Municipal general obligation pledges secure most of the program's underlying loans.

The Efficient Buildings Fund provides below-market financing to municipalities and quasi-public agencies to complete energy efficiency and renewable energy upgrades to public buildings. Bond proceeds are combined with other state and utility revenues to make loans.

Although the debt issued through these programs is included as debt of the municipalities in Part Three of this report, the PFMB believes it is appropriate to provide high-level guidance regarding the Bank's management of these programs.

Amount of Debt and Liabilities Outstanding

Quasi-Public Agency	Debt Outstanding as of 6/30/2021	Pension	OPEB	Total Liabilities
Rhode Island Infrastructure Bank	$690,186,513	N/A	N/A	$690,186,513

Rating Agency Guidance and Peer Comparison

When assessing traditional pooled loan programs like the Water Pollution Control Revenue Bonds and Safe Drinking Water Revenue Bond programs, Fitch and Standard & Poor's calculate the program's asset strength ratio or asset liability ratio, which includes the sum of the total scheduled pledged loan repayments, account interest earnings and reserves divided by total scheduled debt service. Rating agency criteria also recommend limits on the number of borrowers at certain rating levels that can be included in the overall weighted pool rating. Both Fitch and S&P conduct cash flow modeling analyses to demonstrate that the programs can continue to pay debt service even with loan defaults in excess of the agencies' "AAA" rating stress default levels.

The following table summarizes Fitch and S&P rating key considerations for State Revolving Loan Fund bonds and other leveraged municipal pools revenue bonds, and a comparison of the asset/liability ratio, projected debt service coverage levels, largest borrower percentage and the rating of the largest borrower of peer State revolving loan fund borrowers.

Rating Agency Criteria for State Revolving Loan Bonds and Similar Municipal Loan Pools	
Fitch Ratings	Fitch's key rating drivers include: Portfolio Credit Risk, Strength of Financial Structure, Legal Risk, Adequacy of Program Management and Counterparty Risk.

Rating Agency Criteria for State Revolving Loan Bonds and Similar Municipal Loan Pools	
Standard & Poor's	Indicative rating is determined from a combination of the Financial Risk Score and Enterprise Risk Scores. Financial Risk Score includes a Primary Loss Coverage Score (calculated by S&P), with an adjustment for a Least Favorable Largest Obligor Test result, and an Adjusted Loss Coverage Score with an adjustment for Financial Polices and Operating Performance Scores. Enterprise Score is calculated based on a Market Position Score and an Industry Risk Score. S&P considers the Market Position Score and an Industry Risk Score for municipal utility borrower to be in the low-risk category.

Issuer	Ratings (M/S/F)	Program Asset Strength Ratio	Projected Minimum Debt Service Coverage	Largest Borrower (%)	Rating of Largest Borrower
Infrastructure Bank	**Aaa/AAA/AAA**	**1.5x(CW)/ 1.7x(DW)**	**1.4x(CW)/ 1.6x(DW)**	**46.0%(CW)/ 30.1%(DW)**	**-/AA-/-**
Connecticut SRF	Aaa/AAA/	1.3x	1.3x	39.6%	Aa3/AA-/--
Florida Water Pollution Control Corporation	--/--/AAA	3.2x	2.9x	12.2%	Aa3/A+/A+
Maryland Water Quality Financing Administration	Aaa/AAA/AAA	8.1x	6.1x	12.3%	Aaa/AAA/AAA
Arizona Water Infrastructure Finance Authority	Aaa/AAA/AAA-	1.7x	1.5x	15.4%	Aa2/AA/AA

Source: Fitch State Revolving Fund and Municipal Loan Pool Peer Review: 2020, December 15, 2020

Rating Agency Commentary for Rhode Island Infrastructure Bank Efficient Buildings Fund Revenue Bonds					
Standard & Poor's	Rating reflects the EBF's very strong enterprise risk profile given that the pool was established by statute and has received funding from multiple sources. The financial risk profile of the program is extremely strong reflecting the combination of a loss coverage score, excellent operating performance and financial policies. There is potential for the rating to improve over time as the program matures, but it would also need to demonstrate a capacity to absorb additional loan losses through the maintenance of strong annual debt service coverage, the introduction of pledged common reserves, or a combination of the two. EBF was Green Bond designated and received a formal Green Bond rating by S&P.				
Issuer	**Ratings (M/S/F)**	**Projected Minimum Debt Service Coverage**	**Additional Bonds Test**	**Largest Borrower (%)**	**Rating of Largest Borrower**
RIIB-EBF	**-/AA/-**	**1.6x**	**1.2x**	**44%**	**East Providence: A1/AA/--**

Source: S&P rating report for the 2020A EBF bonds.

Rating Agency Commentary for Rhode Island Infrastructure Bank Municipal Road and Bridges Fund Revenue Bonds					
Standard & Poor's	Rating reflects a very strong enterprise risk profile, given that the pool has ongoing support from the state and was established by stature, a loss coverage score, operating performance, and financial policies consistent with extremely strong financial profile. There are three series of bonds outstanding under the MRBRF. The fund has been making loans since 2014 and receipts on $35 million of the $40 million in outstanding loans are pledged to bondholders. There is potential for the rating to improve over time as the program matures, but it would also need to demonstrate a capacity to absorb additional loan losses through the maintenance of strong annual debt service coverage, the introduction of pledged common reserves, or a combination of the two.				
Issuer	**Ratings (M/S/F)**	**Projected Minimum Debt Service Coverage**	**Additional Bonds Test**	**Largest Borrowers (%)**	**Rating of Largest Borrower**
RIIB-MRBRF	**-/AA/-**	**1.8x**	**1.2x**	**Providence Pub. Bldg. Auth. (31%) Westerly (16%) Pawtucket (13%) Warwick (12%)**	**Providence Pub. Bldg. Auth [(1)]: Baa2/BBB/- Westerly: Aa3/AA/- Pawtucket: A3/A/A+ Warwick: -/AA/-**

Source: S&P rating report the 2020A MRBRF bonds.

(1) Providence Public Building Authority security includes a guarantee under a municipal bond insurance policy which is rated AA.

Recommendation for Debt Limit and Rationale

Quasi-Public Agency	Recommendations for Debt Affordability Measure	Current Debt Levels
Clean Water Program	Maintain a minimum of 1.25x debt service coverage and maintain RIIB's asset to liabilities ratios at a minimum of 1.3x. Provide notice to PFMB of any rating action	Debt service coverage of 1.3x Asset to liabilities ratio of 1.5x
Drinking Water Program	Maintain a minimum of 1.25x debt service coverage and maintain RIIB's asset to liabilities ratios at a minimum of 1.3x. Provide notice to PFMB of any rating action	Debt service coverage of 1.5x Asset to liabilities ratio of 1.6x
Efficient Buildings Fund Program	Maintain a minimum of 1.25x debt service coverage and maintain RIIB's asset to liabilities ratios at a minimum of 1.3x. Provide notice to PFMB of any rating action	Debt service coverage of 1.3x Asset to liabilities ratio of 1.80x
Municipal Road and Bridge Fund Program	Maintain a minimum of 1.25x debt service coverage and maintain RIIB's asset to liabilities ratios at a minimum of 1.3x. Provide notice to PFMB of any rating action	Debt Service coverage of 2.44x Asset to liabilities ratio of 3.03x

At this time, the PFMB recommends the Bank's lending programs target debt service coverage of at least 1.25x and a minimum asset to liability ratio of 1.3x for all bond programs, because these levels are on the low end of the levels required to maintain triple-A ratings for its Water Pollution and Safe Drinking Water programs, and because none of its referenced peers have coverage levels below 1.25x. As noted above, the Municipal Road Bridge and Efficient Buildings Fund programs are relatively new, and as such, both are rated AA by S&P—two notches below the rating of the Water Pollution Control Revenue Bonds and Safe Drinking Water Revenue Bond programs. As both the Municipal Road and Bridge and Efficient Buildings Fund programs mature, increased portfolio diversity and repayment history would support that these programs be candidates for a ratings upgrade. The Bank anticipates issuing several, regular series of bonds for its various financing programs during 2022.

Rhode Island Housing and Mortgage Finance Corporation

Rhode Island Housing and Mortgage Finance Corporation ("Rhode Island Housing") provides loans, grants, education, advocacy, and counseling to customers to rent, buy and retain homes. The agency also provides builders and developers loans, tax credits, and other forms of assistance to attract development.

This study focuses on debt issued by the agency to fund its single, multi-family, and rental assistance lending—namely its Homeownership Opportunity Bonds and Multi-Family Development Bonds.[1] Like many Housing Finance Agencies (HFAs), Rhode Island Housing uses these tax-exempt bonds to fund low-interest mortgages for low- and moderate-income home buyers, and in the case of multi-family homebuyers, the properties financed with these proceeds are then rented to low-income renters. The underlying mortgage loans and revenues in Rhode Island Housing's portfolio serve as the security for these bonds, which are often securitized and purchased by Freddie Mac or Ginnie Mae.

Amount of Debt and Liabilities Outstanding

Rhode Island Housing's Financing Programs	Debt Outstanding (as of June 30, 2021)
Homeownership Opportunity Bonds	$843,830,000
Home Funding Bonds and Notes	$32,770,000
Multi-Family Funding Bonds	$84,600,000
Multi-Family Development Bonds	$307,440,000
Multi-Family Mortgage Rev Bonds	$117,994,115

Source: Audited Financial Statements for year ended June 30, 2021.

There are several pooled loan programs under the Rhode Island Housing and Mortgage Finance Corporation for single-family and multi-family housing. One of the programs, Rental Housing Bonds have the moral obligation of the State, in which the State agrees to make up any shortfalls in the Capital Reserve Fund. As of June 30, 2021, all such moral obligation debt is no longer outstanding.

Quasi-Public Agency	Debt Outstanding as of 6/30/2021	Pension	OPEB	Other Long-Term Liabilities	Total Liabilities
Rhode Island Housing	Bonds and notes payable: $1,671,427,863	N/A	N/A	Escrow Deposits $479.8 million[(1)]	$2,180.1 million of long-term liabilities

[(1)] The escrow deposits are funds that RI Housing holds for mortgage customers to pay their tax and insurance bills and includes replacement and operating reserves for the multifamily developments. They are considered liabilities because the funds belong to the RI Housing customers not RI Housing.

Rating Agency Guidance and Peer Comparison

A key ratio that is assessed by rating agencies is the program asset-to-debt ratio (PADR) with a ratio of 1.00 required for investment grade ratings. Moody's rates most of the State's housing bonds at the Aa2 level and based on its criteria, requires a 1.04 to 1.02 level to be maintained for both single and multi-family housing.

The following table summarizes the key rating considerations for assessing the financial position of housing revenue bonds by Moody's, which rates the RI Housing's currently active housing bonds, and a comparison of the key financial ratios of peer state housing agencies.

[1] The agency has also previously issued Home Funding Bonds and Notes, Multi-Family Housing Bonds, Rental Housing Bonds, and Multi-Family Mortgage Revenue Bonds, all of which are outlined in greater detail in the Appendix.

Rating Agency Criteria for Single Family and Multi-Family Housing Bonds	
Moody's Investor Service	Program Asset to Debt Ratio (Program Assets to Total Bonds Outstanding Plus Accrued Interest): Aaa: 1.10x Aa1: 1.04x Aa2: 1.02x Aa3: 1.00x
	Cash Flow Projections: Aaa: Meets cash flow stress tests under all scenarios. Robust ability to absorb future financial stress. Aa: Meets cash flow stress tests under all scenarios. Strong ability to absorb future financial stress. A: Meets cash flow stress tests under all scenarios except for most stressful scenarios. Moderate ability to absorb future financial stress.
	Historical Financial Performance: Aaa: Fund balance % of bonds outstanding on average over 3 years above 15%; profitability (net operating revenue as % of total operating revenue) above 15% on average. Aa: Fund balance % of bonds outstanding on average 8% - 15%; profitability above 10% - 15% on average. A: Fund balance % of bonds outstanding on average 3% - 8%; profitability above 3% - 8% on average.

	Single-Family			Multi-Family		
Issuer	**Ratings (M/S/F)**	**PADR (2019)**	**Profitability (2019)**	**Ratings (M/S/F)**	**PADR (2019)**	**Profitability (2019)**
Rhode Island Housing	**Aa1/AA+/--** (Homeownership Opportunity Bonds)	**1.24x (2020)**	**26% (2020)**	**Aa2/--/--** (Multi-Family Development Bonds)	**1.29x (2020)**	**45% (2020)**
Connecticut	Aaa/AAA/-- (Housing Mortgage Finance Program)	1.34x	12.6%	Aaa/AAA/--	1.22x	11.9%
Maine	Aa1/AA+/--	1.25x	11.6%	Aa1/AA+/--	1.23x	11.5%
Massachusetts	Aa1/AA+/-- (Single Family Housing)	1.44x	21.0%	Aa2/AA/-- (Housing Bonds)	1.19x	21.7%
New Hampshire	Aa2/--/-- (Single Family Mtg Acq)	1.33x	24.8%	Aa2/--/--	1.18x	18.8%
Vermont	Aa2/--/AA+ (Multi-Purpose Bonds)	1.23x	6.4%	Aa3/A+/-- (Multi-Family Mortgage)	1.26x	38.4%

**Source: Moody's State Housing Finance Agencies, September 2020. Moody's Multi-Family Medians, October 2020.*

Recommendation for Debt Limit and Rationale

Quasi-Public Agency	Recommendations for Debt Affordability Measure	Current Debt Level
Rhode Island Housing	Target minimum PADR of 1.10x Provide notice to PFMB of any rating action	PADR of 1.24x (Single-Family) and PADR of 1.29x (Multi-Family)

The PFMB recommends no change in RI Housing target a PADR of not less than 1.10x, which is the level that Moody's recommends for triple-A programs and is in line with the agency's closest peers. PFMB notes that the agency's current PADR level of 1.24x for Single-Family and 1.29x for Multi-Family exceeds Moody's recommended levels for triple-A rated entities (RI Housing is currently rated Aa1 for Single-Family and Aa2 for Multi-Family properties). RI Housing's PADR has improved for both the Single-Family and Multi-Family programs from 1.19x and 1.12x, respectively in 2015, to 1.24x and 1.29x in 2020.

Rhode Island Student Loan Authority

The Rhode Island Student Loan Authority ("RISLA") uses its tax-exempt bonding authority to offer low cost student loans to underlying borrowers. There are two distinct pooled loan programs administered by RISLA: (i) a Federal Family Educational Loan Program ("FFELP"), and (ii) a state-based Supplemental Loan Program. Since July of 2010, FFELP can no longer be originated, and therefore, since no new bonds except refunding bonds can be issued, the PFMB guidance debt affordability for RISLA debt will focus on the Supplemental Loan Program.

Amount of Debt and Liabilities Outstanding

Quasi-Public Agency	Debt Outstanding as of 6/30/2021	Pension	OPEB	Total Liabilities
Rhode Island Student Loan Authority	Student Loan Program Revenue Bonds: $507,196,000, includes - FFELP Loan Program Revenue Bonds: $95,866,000 Notes Payable: $13,686,455	N/A	N/A	$541.4 million

Rating Agency Guidance and Peer Comparison

The Parity Ratio is the percentage of total assets, including loans and funds in the loan acquisition account and the reserve account, relative to the total outstanding bonds. RISLA's Parity Ratio in 2020 was 122.4%.

Rating Agency Criteria for Student Loan Bonds	
Fitch Ratings	Fitch does not have a scoring methodology for defined metrics. Reviews collateral to determine expected loss frequency and loss severity, reviews historical performance and runs stress tests on expected cash flows. Performs quarterly monitoring. • Reviews Parity Ratio: Percentage of total assets, including loans and funds in the loan acquisition account and the reserve account, to the total outstanding bonds. • Reviews Overcollateralization: Difference between asset balance and outstanding bonds. • Reviews Credit Enhancement: Includes Overcollateralization and excess spread (difference between interest collections on the assets and the sum of debt interest costs, servicing fees and other trust expenses).
Standard & Poor's	S&P reviews loan attributes, performs stress cases with various default and recovery scenarios, taking into account historical performance. Does not have specific financial metrics in its rating criteria but cites the parity ratio and credit enhancement.

Issuer	Ratings (M/S/F)	ABT	Parity Ratio (2020)	Credit Enhancement (% to Total Assets)
Rhode Island Student Loan Authority	**--/AA(sf)/AAsf**	**Rating Affirmation**	**122.4%**	**18.3%**
Massachusetts Educational Financing Authority (MEFA)	--/AA(sf)*/--	Rating Affirmation	114.1% (S&P)	8.3% - 13.7% (S&P)
Connecticut (CHESLA)	Aa3/--/__	Credit based on State Special Capital Reserve Fund Make-Up		
Vermont (VSAC)	__/A(sf)/Asf	None	117.0% (Fitch)	14.6% (Fitch)
New Jersey (HESAA)	Aa1-A2/AA(sf)/__	Parity % at least: 107 (Moody's) 112% (S&P)	112.0% (S&P)	Senior: 14.5% - 14.9% Sub: 8.6% - 8.8% (S&P)
Iowa Student Loan Liquidity Corporation	--/AA+(sf)/Asf	Rating Affirmation	110.1% (S&P)	9.9% (S&P)

**Source: Pre-sale rating reports for each issuer.*

Recommendation for Debt Limit and Rationale

Quasi-Public Agency	Recommendations for Debt Affordability Measure	Current Debt Levels
Rhode Island Student Loan Authority	Target minimum Parity Ratio of 110% Provide notice to PFMB of any rating action	Parity ratio of 122.4%

Since ratings agencies do not provide specific guidance on target parity ratios, the PFMB recommends that RISLA should maintain a minimum target Parity Ratio of 110%, because this provides sufficient equity to insulate the agency from historical rates of borrower defaults, delinquencies and forbearance, during times of economic stress, and because all of RISLA's peers maintain parity ratios above 110%. From FY 1993 through FY 2021, the average default rate for RISLA has been 2.26% with a maximum annual default rate of 7.35% during this period. Additionally, PFMB requests notice of any rating agency action, including confirmation of ratings, outlook changes, or any upgrade/downgrade of the rating.

Debt Affordability Study

Part Three: Municipalities, Regional Authorities, Fire Districts and Other Special Districts Debt and Long-Term Liabilities

Part Three – Municipalities, Fire Districts, Special Districts and Local Authorities

The third part of the debt affordability study focuses on the debt of the municipalities, municipal fire districts, special districts and other local authorities of the State. While the primary focus of this section is debt issued by these municipalities and local authorities, the PFMB recognizes that pensions and OPEB are additional long-term liabilities that should be taken into account in determining appropriate levels of debt for these entities to hold. Therefore, similar to Part One of this study, this section recommends limits on indebtedness and also on total liabilities for municipalities. This update of the debt affordability study comes in the aftermath of the significant impact that the COVID-19 pandemic has had on the finances and operations of the State and its municipalities, and there is still uncertainty and risk associated with how long the pandemic will last and in how the local, State and national economies will recover from the pandemic. Due to the volatility on municipal finances caused by the pandemic, FY 2020 results may not be representative of long-term debt affordability trends.

Since the 2019 Debt Affordability Study, the long-term liability profiles of the State's municipalities have mostly improved with approximately two-thirds of the liability ratios across the 39 municipalities less than the levels from two years ago. Additionally, those municipalities that exceeded the recommended liability limits two years ago are generally showing improved ratios, albeit still exceeding the recommended liability limits. However, certain other municipalities have taken on more debt and are now at or near the recommended limits. Notably, in many cases the liability levels of municipalities have increased from two years ago, but the assessed property values levels of the municipalities have increased by more, leading to overall improvements in the affordability ratios. This trend warrants close attention, because while property values might fall in a future economic downturn, liability servicing costs are often inflexible even in times of recession.

When comparing the data in this year's study to the data from the prior study published two years ago, the following trends and findings emerge:

- The liability levels of most of Rhode Island's municipalities remain within acceptable levels in FY 2019-2020[1]. This study measures municipal liabilities according to 4 separate ratios, each with recommended limits. The liabilities of 30 of Rhode Island's 39 municipalities are below all 4 recommended limits.
- The liabilities of nine communities still exceeded at least one of the 4 recommended affordability limits, with six communities exceeding multiple recommended limits (Johnston, North Providence, Pawtucket, Providence, Warwick and Woonsocket).
- For many municipalities, unfunded pension liabilities are the largest and most costly liability, though OPEB liabilities are also significant for several municipalities (Johnston, Pawtucket, Providence, and Woonsocket).
- Overall municipal debt[2] increased by $145.3 million, from $2.544 billion to $2.689 billion or 5.7% between FY 2017-2018 and FY 2019-2020.
- Since the 2019 Debt Affordability Study, a few municipalities have increased their debt burden and are now at or near the recommended limits:
    - The Town of Lincoln issued $57 million of debt through RIHEBC, and the Net Direct Debt to Assessed Value increased from 0.8% to 3%, the recommended limit.
    - North Providence issued a total of $66.7 million of additional debt, and the Net Direct Debt to Assessed Value increased from 0.5% to 3%. Additionally, the Overall Debt + Net Pension Liability + Net OPEB Liability to Assessed Value is 13.4%, above the 9.2% recommended limit.
    - Pawtucket issued a total of $37.6 million of bonds directly and through RIHEBC in 2019. Pawtucket's Net Direct Debt to Assessed Value is currently at the 3% recommended limit.
- Some of the state's most highly indebted municipalities have seen their debt burdens decline since the PFMB began the debt affordability studies in 2017.

[1] Data from the FY 2020 audit is used for all communities, except East Providence, which is based on FY 2019, its latest available audit.

[2] Overall municipal debt is the sum of general obligation debt, loans payable, capital leases, enterprise debt and the debt of overlapping agencies but excluding debt of overlapping Quasi-Public agencies.

- For example, Woonsocket's Overall Net Debt has fallen from 10% of Assessed Property Value in FY 2015, to 7.3% of Assessed Property Value in FY 2018 to 6.4% in FY 2020.
- Similarly, Providence's Net Debt to Assessed Value has fallen from 4.4% to 3.7% to 3.6%.

- Net pension liability increased by $531.1 million, or 12.1% between FY 2017-2018 and FY 2019-2020. This increase was driven by large increases in Providence ($305.7 million, or a 24.5% increase), East Providence ($20.4 million, or a 10.2% increase), North Providence ($37.4 million or a 57.4% increase) and Warwick ($54.2 million, or a 11.9% increase). It is worth noting, however, that in some communities at least some of this increase was the result of adopting more realistic actuarial assumptions in calculating their pension liabilities, as opposed to negative plan experience.

- Most municipalities are meeting their full annual pension required payments; however, a few (Coventry, Lincoln, Little Compton, Smithfield, Warwick and Woonsocket) fell shy of annual required payments in their most recently reported fiscal year.

- 34 of Rhode Island's municipalities have OPEB liabilities, and of these communities, 20 made their full OPEB required contributions in their most recently reported fiscal years. Of the $157.2 million in annual required municipal OPEB contributions across all communities, $123.6 million, or 78.6% of payments were made in FY2019-2020.

Rhode Island Municipalities

Rhode Island has 39 municipalities. The table below summarizes the current general obligation ratings of the municipalities as of November 1, 2021.

Obligor Name	Moody's	S&P	Fitch	Obligor Name	Moody's	S&P	Fitch
Barrington	Aa1	AAA	NR	New Shoreham	NR	AA	NR
Bristol	Aa2	AA+	NR	Newport	NR	AA+	NR
Burrillville	NR	NR	NR	North Kingstown	Aa2	AA+	NR
Central Falls	A3	NR	NR	North Providence	A1	AA-	NR
Charlestown	Aa2	NR	NR	North Smithfield	Aa2	NR	NR
Coventry	A1	NR	NR	Pawtucket	A3	NR	A+
Cranston	A1	AA-	AA-	Portsmouth	Aa2	AAA	NR
Cumberland	Aa3	AA+	NR	Providence	Baa1	BBB+	A-
East Greenwich	Aa1	AA+	NR	Richmond	Aa3	NR	NR
East Providence	A1	AA	NR	Scituate	NR	AA+	NR
Exeter	NR	NR	NR	Smithfield	Aa2	AA	NR
Foster	NR	NR	NR	South Kingstown	Aa1	NR	NR
Glocester	NR	AA+	NR	Tiverton	A1	AA	NR
Hopkinton	Aa3	NR	NR	Warren	Aa3	NR	NR
Jamestown	Aa1	NR	NR	Warwick	NR	AA	NR
Johnston	A2	AA	NR	West Greenwich	NR	AA+	NR
Lincoln	Aa2	NR	AA	West Warwick	Baa1	NR	NR
Little Compton	NR	AAA	NR	Westerly	Aa3	AA	NR
Middletown	Aa1	NR	NR	Woonsocket	Baa3	NR	A+
Narragansett	Aa2	AA+	NR				

The following chart provides a summary (in dollars) of the outstanding debt, net pension liability and net OPEB liability for each municipality in the most recent fiscal years for which the municipalities have published financial statements. At the time of this report's publication, all municipalities, except East Providence, had published their FY 2020 audited financial statements, and for East Providence, the latest audited financial statements is for FY 2019. This report includes the most recently reported data for each community.

Municipality Outstanding Debt[1,2]

(Fiscal Year 2020 Audits)

	Governmental Activities - Tax-Supported				Business Activities			
Municipality	General Obligation Bonds	Loans Payable	Capital Leases/ Leases Payable	Net Direct Debt	Enterprise Debt	Gross Direct Debt	Overlapping Debt	Overall Debt
Barrington	6,580,000	72,516,198	633,141	79,729,339	19,259,939	98,989,278	0	98,989,278
Bristol	32,041,668	1,845,944	337,133	34,224,745	46,533,066	80,757,811	6,154,880	86,912,690
Burrillville	7,583,000	0	0	7,583,000	6,677,134	14,260,134	6,332,375	20,592,509
Central Falls	4,970,000	1,145,000	0	6,115,000	45,425,360	51,540,360	0	51,540,360
Charlestown	3,780,000	0	323,892	4,103,892	0	4,103,892	8,317,233	12,421,125
Coventry	41,240,000	832,576	62,121	42,134,697	22,165,469	64,300,166	949,392	65,249,558
Cranston	69,080,000	27,138,000	1,890,000	98,108,000	20,099,672	118,207,672	0	118,207,672
Cumberland	23,440,000	18,529,242	6,389,423	48,358,665	75,825,678	124,184,343	30,394	124,214,737
East Greenwich	40,031,143	0	0	40,031,143	19,145,966	59,177,109	0	59,177,109
East Providence	38,802,699	0	930,601	39,733,300	101,964,765	141,698,065	0	141,698,065
Exeter	228,461	0	0	228,461	0	228,461	1,355,070	1,583,531
Foster	0	0	242,753	242,753	0	242,753	8,155,501	8,398,254
Glocester	1,250,000	438,740	0	1,688,740	0	1,688,740	16,708,830	18,397,570
Hopkinton	3,395,000	256,104	96,289	3,747,393	0	3,747,393	10,493,523	14,240,916
Jamestown	11,570,200	0	266,000	11,836,200	5,123,837	16,960,037	0	16,960,037
Johnston	23,179,325	0	286,000	23,465,325	66,041,567	89,506,892	0	89,506,892
Lincoln	75,515,000	0	0	75,515,000	66,460,191	141,975,191	996,218	142,971,409
Little Compton	8,860,000	0	215,888	9,075,888	0	9,075,888	0	9,075,888
Middletown	30,021,000	-	156,591	30,177,591	8,019,257	38,196,848	0	38,196,848
Narragansett	24,040,000	824,139	124,197	24,988,336	848,307	25,836,643	0	25,836,643
New Shoreham	13,350,980	0	51,945	13,402,925	4,028,207	17,431,132	0	17,431,132
Newport	28,412,000	0	121,248	28,533,248	138,702,664	167,235,912	0	167,235,912
North Kingstown	30,229,000	0	993,740	31,222,740	15,700,496	46,923,236	0	46,923,236
North Providence	68,058,000	0	1,496,418	69,554,418	87,229,135	156,783,553	0	156,783,553
North Smithfield	24,701,811	2,025,000	0	26,726,811	3,659,474	30,386,285	0	30,386,285
Pawtucket	28,365,043	83,983,200	7,053,087	119,401,330	268,723,688	388,125,018	0	388,125,018
Portsmouth	18,890,334	0	1,330,281	20,220,615	502,756	20,723,371	4,481,000	25,204,371
Providence	81,245,000	0	406,045,000	487,290,000	603,817,216	1,091,107,216	0	1,091,107,216
Richmond	3,525,000	0	3,271	3,528,271	1,934,104	5,462,375	8,119,694	13,582,069
Scituate	7,370,000	6,926,000	0	14,296,000	276,196	14,572,196	0	14,572,196
Smithfield	18,030,000	0	0	18,030,000	9,504,974	27,534,974	0	27,534,974
South Kingstown	12,834,000	0	0	12,834,000	813,587	13,647,587	1,275,647	14,923,234
Tiverton	35,225,000	0	684,113	35,909,113	0	35,909,113	5,420,923	41,330,036
Warren	11,579,145	24,517,540	336,673	36,433,358	8,271,882	44,705,240	3,610,121	48,315,360
Warwick	52,819,971	0	4,603,826	57,423,797	68,324,146	125,747,943	0	125,747,943
West Greenwich	3,760,000	36,113	0	3,796,113	236,560	4,032,673	1,574,812	5,607,484
West Warwick	21,157,000	16,780,515	595,687	38,533,202	24,501,375	63,034,577	0	63,034,577
Westerly	50,603,000	21,286,000	2,140,086	74,029,086	5,008,433	79,037,519	1,479,097	80,516,616
Woonsocket	120,865,500	0	89,433	120,954,933	99,635,496	220,590,429	0	220,590,429

[1] East Providence debt is based on FY 2019 Audit. Net Direct Debt: All debt of an issuer less self-supporting enterprise debt. Enterprise Debt: Debt for essential service utilities that is self-supporting from user fees. Overlapping Debt: Issuer's proportionate share of the debt of other local governmental units that either overlap or underlie it. Overall Debt: Net debt + Enterprise Debt + Overlapping Debt.

[2] Newport water and sewer utilities provide service to Middletown, Portsmouth Water and Fire District, Portsmouth and the U.S. Navy. Newport receives payments from these entities that are used to help pay the enterprise debt service.

Municipality Overall Debt + Pension Liability + OPEB Liability

Municipality	Overall Debt	Net Pension Liability	Net OPEB Liability	Total Liabilities: Overall Debt + Pensions + OPEB
Barrington	98,989,278	61,219,722	0	160,209,000
Bristol	86,912,690	22,161,287	6,720,271	115,794,248
Burrillville	20,592,509	33,079,552	3,337,997	57,010,058
Central Falls	50,815,177	27,665,319	2,570,124	81,050,620
Charlestown	12,421,125	5,434,132	589,205	18,444,462
Coventry	65,249,558	165,767,429	26,254,013	257,271,000
Cranston	119,554,440	400,385,600	51,925,440	571,865,480
Cumberland	124,214,737	83,016,964	17,532,086	224,763,787
East Greenwich	59,177,109	50,077,922	26,315,198	135,570,229
East Providence	138,900,931	220,573,038	21,727,847	381,201,816
Exeter	1,583,531	0	0	1,583,531
Foster	8,398,254	5,485,415	131,963	14,015,632
Glocester	18,397,570	11,431,809	1,746,134	31,575,513
Hopkinton	14,240,916	3,439,198	0	17,680,114
Jamestown	16,960,037	11,079,026	10,451,898	38,490,961
Johnston	87,020,551	173,359,995	210,441,287	470,821,833
Lincoln	141,728,238	64,863,990	13,580,917	220,173,145
Little Compton	9,075,888	7,133,958	1,833,046	18,042,892
Middletown	38,196,848	39,313,639	12,483,463	89,993,950
Narragansett	25,836,643	84,175,272	30,306,991	140,318,906
New Shoreham	17,431,132	5,182,608	190,109	22,803,849
Newport	167,235,912	140,875,678	74,624,348	382,735,938
North Kingstown	46,923,236	97,499,733	18,892,095	163,315,064
North Providence	158,648,309	102,544,945	51,327,132	312,520,386
North Smithfield	30,386,285	26,181,226	9,719,447	66,286,958
Pawtucket	381,391,178	293,128,273	405,096,112	1,079,615,563
Portsmouth	25,204,371	88,225,959	21,452,027	134,882,357
Providence	1,101,466,971	1,556,023,000	1,122,063,000	3,779,552,971
Richmond	13,582,069	949,789	0	14,531,858
Scituate	14,572,196	36,080,054	7,092,923	57,745,173
Smithfield	27,949,364	72,428,898	50,161,747	150,540,009
South Kingstown	14,923,234	71,281,159	0	86,204,393
Tiverton	41,330,036	34,236,705	26,166,232	101,732,973
Warren	48,315,360	7,044,042	3,896,521	59,255,923
Warwick	125,747,943	510,963,196	395,788,265	1,032,499,404
West Greenwich	5,607,484	3,755,620	0	9,363,104
West Warwick	63,034,577	184,894,160	58,398,656	306,327,393
Westerly	80,516,616	58,777,810	12,576,507	151,870,933
Woonsocket	220,590,429	169,097,582	188,143,896	577,831,907
Total	**3,723,122,732**	**4,928,833,704**	**2,883,536,897**	**11,535,493,333**

Fire Districts

Based on FY 2020 information from the Division of Municipal Finance, there are 40 fire districts in Rhode Island as summarized in the table below with the corresponding town or towns that each serves.

Fire District	Town	Fire District	Town
Oakland-Mapleville	Burrillville	Manville	Lincoln
Pascoag	Burrillville	Quinnville	Lincoln
Harrisville	Burrillville	Saylesville	Lincoln
Nasonville	Burrillville	Bonnet Shores	Narragansett
Charlestown	Charlestown	Pojac Point	North Kingstown
Quonochontaug Central	Charlestown	Portsmouth Water and Fire	Portsmouth
Shady Harbor	Charlestown	Richmond Carolina	Richmond
Central Coventry	Coventry	Indian Lake	South Kingstown
Coventry	Coventry	Kingston	South Kingstown
Hopkins Hill	Coventry	Union	South Kingstown
Western Coventry	Coventry	North Tiverton	Tiverton
Cumberland	Cumberland	Stone Bridge	Tiverton
Exeter	Exeter	Buttonwoods	Warwick
Chepachet	Glocester	Bradford	Westerly
Harmony	Glocester	Misquamicut	Westerly
West Glocester	Glocester	Shelter Harbor	Westerly
Ashaway	Hopkinton	Watch Hill	Westerly
Hope Valley-Wyoming	Hopkinton-Richmond	Weekapaug	Westerly
Albion	Lincoln	Westerly	Westerly
Lime Rock	Lincoln	Dunn's Corners	Westerly-Charlestown

All fire districts have the authority to borrow money, and most fire district charters include a debt limit, which varies from district to district. Appendix C summarizes the debt outstanding for 2020, as compiled by the Division of Municipal Finance (the "Division") from the data self-reported by the fire districts in the Division's FY 2020 Fire District Adopted Budget Survey (based on self-reported data).

Fire districts in Rhode Island have the authority to tax real property, automobiles and tangible property located within the district. The taxes assessed and collected are an additional tax to the district population, separate from annual property taxes billed by the municipality. The tax revenues generated within the districts are used for operation, capital needs and debt service (if debt has been issued) of the individual fire district. For most of the districts, property tax revenue is the primary source of revenue. However, other fees from other services such as rescue, fire hydrant rentals, inspections, fire prevention/plan review, hazardous material and hall rentals provide additional revenues to the districts.

Other Special Districts and Local Authorities

There are 17 special districts and local authorities in Rhode Island that have been rated by at least one of the three national rating agencies, as summarized with the ratings in the following table (however, some of these entities are no longer rated). Appendix C provides a summary of the debt outstanding and debt service for FY 2019 or FY 2020, depending on the latest information available.

Special Districts/Local Authorities	Moody's	S&P	Fitch
Bristol-Warren Regional School District	NR	NR	NR
Bristol County Water Authority[1]	NR	NR	NR
Burrillville Housing Authority	NR	NR	NR
Chariho Regional School District[2]	Aa3	NR	NR
Coventry Housing Authority	NR	AA-	NR
Cumberland Housing Authority	NR	AA-	NR
Exeter-West Greenwich Regional School District	NR	NR	NR
Foster-Glocester Regional School District	Aa3	NR	NR
Kent County Water Authority[3]	Aa2	AA-	NR
North Providence Housing Authority	NR	AA-	NR
Pascoag Utility District[4]	NR	A	NR
Pawtucket Housing Authority	NR	A+	NR
Providence Housing Development Corp.	NR	NR	NR
Providence Public Building Authority	NR	BBB-	NR
Providence Redevelopment Agency	NR	BBB-	NR
Providence Water Supply Board	NR	AA-	NR
Woonsocket Housing Authority	NR	AA-	NR

1. Previously rated by Moody's and Standard & Poor's. Ratings no longer outstanding.
2. Regional school district for the towns of Charlestown, Hopkinton and Richmond.
3. Provides water supply services in the communities of Coventry, Warwick, West Warwick, East Greenwich, West Greenwich, and in smaller sections of Cranston, Scituate and North Kingstown.
4. Provides electric services to the Villages of Pascoag and Harrisville, both in the Town of Burrillville, and provides water services to the Village of Pascoag.

Municipal Debt Classifications

In assessing the debt burden of a municipality, various types of debt should be considered, including Gross Direct Debt, Net Direct Debt, Overlapping Debt, Overall Debt and Overall Net Debt.

- *Gross Direct Debt.*
  - Definition: The sum of the total debt of the municipality and its agencies. This debt includes: (i) general obligation bonds; (ii) other obligations such as loan agreements secured by taxes; (iii) capital lease obligations that are secured by lease rental or contract payments subject to appropriation; (iv) special assessment obligations; and (v) any enterprise debt.
  - Examples: City of Providence General Obligation Debt, and Providence Water Supply debt.

- *Net Direct Debt.*
  - Definition: Gross direct debt minus all self-supporting debt. In effect, Net Direct Debt is debt paid for by general municipal funds, and does not include enterprise bonds (water, sewer, solid waste and electric revenue bonds) that are paid for by separate revenue streams like utility ratepayer charges.
  - Examples: City of Providence General Obligation Debt, but not Providence Water Supply Debt.

- *Overlapping Debt*.
  - *Definition*: The municipality's proportionate share of the debt of other local governmental units that overlap it (either wholly or partly). For measurement purposes in this Study, Overlapping Debt is apportioned across communities based upon some measure such as relative assessed values or student enrollment in the case of school districts.
  - *Examples*: Albion Fire District, Narragansett Bay Commission, Kent County Water Authority.

- *Overall Debt*.
  - *Definition*: Gross direct debt plus the issuer's applicable share of the total debt of all overlapping jurisdictions.
  - *Examples*: Includes all examples listed for the above categories.

- *Overall Net Debt*.
  - *Definition*: Net direct debt plus the issuer's applicable share of the net direct debt of all overlapping jurisdictions. Excludes enterprise bonds (water, sewer, solid waste and electric revenue bonds), where enterprise fund revenues cover debt service by at least 1.0x for at least the last three fiscal years. In short, Overall Net Debt includes all debt paid for by taxes, whether it be municipal debt or debt of an overlapping agency but does not include debt that is self-supporting through enterprise revenue.
  - *Examples*: Includes City of Providence General Obligation debt, Albion Fire District, but not Providence Water Supply or Narragansett Bay Commission.

Debt Affordability Measures

Statutory Debt Limitation for Municipalities

Under Rhode Island state law, municipalities are limited to a level of direct indebtedness at or below 3% of the full assessed value of the city or town. There are, however, avenues for municipalities to receive permission to take on levels of debt outside of the 3% cap, including through special legislation of the General Assembly, authorizing a voter referendum, or ministerial approval by the state Auditor General or Director of Revenue if the community satisfies certain requirements.

Rating Agency Debt Ratios for Local Governments

Rating agencies have developed criteria for rating debt of local governments. Below is a summary of the debt and liability measures used by Fitch, Moody's and Standard & Poor's, how they score these ratios and other considerations they take into account with respect to debt and other liabilities.

<u>Fitch Ratings</u>. Fitch uses the following metric to measure long-term liability burden for local governments:

$$\frac{\text{Overall Local Government Debt + Fitch's Adjusted Direct Net Pension Liability}}{\text{Personal Income}}$$

To improve comparability among plans, Fitch creates a standardized investment return scenario, estimating the net pension liability with a 6% investment return assumption adjustment for pension liabilities calculated with a discount rate at a higher level. The degree to which Fitch adjusts the reported total pension liability for this metric is based on the reported investment return sensitivity provided in accounting statements, which Fitch believes captures the maturity profile of the system. In cases where the net pension liability is sizable, actions or plans to reduce it over time can be a mitigating consideration. Fitch does not adjust the liability if it is already calculated based on an investment return assumption lower than 6%.

To calculate personal income for local governments, Fitch takes the U.S. Bureau of Economic Analysis (BEA) per capita personal income number that is available for counties but no other levels of local government and uses that county-level data to develop a proxy for lower levels of government.

The following table summarizes how Fitch scores 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	Liabilities Less than 40% of Personal Income	Liabilities Less than 60% of Personal Income	Liabilities 60% or More of Personal Income

Fitch is the only rating agency that includes an OPEB inclusive metric in its rating methodology. For local governments, Fitch's "Carrying Cost" is calculated as follows:

$$\frac{\text{Governmental Debt Service + Pension ADC + OPEB Actual Payment}}{\text{Governmental Expenditures}}$$

The carrying cost metric isolates spending that is more of a fixed obligation. As for states, Fitch considers the carrying cost metric as summarized below:

Carrying Cost Assessment	aaa	aa	a	bbb
Ratio Level	Carrying Cost Less than 10%	Carrying Cost Less than 20%	Carrying Cost Less than 25%	Carrying Cost Less than 30%

Moody's Investors Service. For Moody's, debt and pensions comprise 20% of a municipality's overall rating score. The table below summarizes the debt factors used by Moody's.

Rating Factor / Weight	Aaa	Aa	A	Baa
Net Direct Debt/ Full Value (5%)	< 0.75%	0.75% - 1.75%	1.75% - 4%	4% - 10%
Net Direct Debt/ Operating Revenues (5%)	< 0.33x	0.33x – 0.67x	0.67x – 3x	3x – 5x
3-Year Avg of Moody's Net Pension Liability/ Full Value (5%)	< 0.9%	0.9% - 2.1%	2.1% - 4.8%	4.8% - 12%
3-Year Avg of Moody's Net Pension Liability/ Operating Revenues (5%)	< 0.4x	0.4x – 0.8x	0.8x – 3.6x	3.6x – 6x

To arrive at net direct debt, Moody's measures the local government's gross debt burden, including general obligation bonds, notes, loans, capital leases, any third-party debt backed by a local government's general obligation guarantee, lease and other appropriation debt, special tax debt if these obligations represent future claims on operating resources. Debt for essential service utilities (such as water and sewer systems) that is self-supporting from user fees for the previous three years is subtracted out to arrive at net direct debt.

Moody's also looks at other factors and sometimes makes adjustments (up or down) to its debt/liability scoring. These other factors include:

- Very high or low debt service relative to budget
- Very high or low overall debt burden (including overlapping debt)
- Heavy capital needs implying future debt increases
- Rapidity of debt repayment within 10 years
- High OPEB liability

Standard & Poor's. In assessing a municipality's debt and contingent liability Standard & Poor's looks at the combination of two measures:

(i) Total governmental funds debt service as a percentage of total governmental funds expenditures, and
(ii) Net direct debt as a percentage of total governmental funds revenue

The following table summarizes how the two measures are combined to determine a score for the debt and contingent liabilities.

Total Governmental Funds Debt Service as % of Total Governmental Funds Expenditures	Net Direct Debt As % of Total Governmental Funds Revenue				
	< 30%	30% to 60%	60% to 120%	120% to 180%	≥ 180%
< 8%	1	2	3	4	5
8% to 15%	2	3	4	4	5
15% to 25%	3	4	5	5	5
25% to 35%	4	4	5	5	5
≥ 35%	4	5	5	5	5

1 = very strong, 2 = strong, 3 = adequate, 4 = weak, 5 = very weak

In addition, Standard & Poor's looks at the following qualitative factors with a positive impact on the initial score (each can increase initial debt score by 1 point):

- Overall net debt as a percentage of market value below 3%
- Overall rapid annual debt amortization with more than 65% coming due in 10 years

The following factors would have a negative impact (each can decrease initial debt score by 1 point or up to 2 for pension and OPEB):

- Significant medium-term debt plans produce a higher initial score when included
- Exposure to interest rate risk or instrument provisions that could increase annual payment requirements by at least 20%
- Overall net debt as a percentage of market value exceeding 10%
- Unaddressed exposure to unfunded pension or OPEB obligations leading to accelerating payment obligations over the medium term that represent significant budget pressure

Speculative contingent liabilities or those likely to be funded on an ongoing basis by the government and representing more than 10% of total governmental revenues.

PFMB Recommended Debt and Liability Affordability Limits

Considering the patchwork nature of municipal governance in Rhode Island, with dozens of overlapping districts and authorities issuing different types of debt, the PFMB ultimately determined that the most important factor in judging municipal debt affordability is the ability of each municipality's underlying population to afford the liabilities of the various governmental agencies that serve them. For the purposes of this study, affordability is measured by the assessed property value in a municipality, because property tax revenues are the primary source of income for most municipal governmental units.

The PFMB recognizes that despite applying a unified set of affordability limits to all overlapping local governmental entities in a municipality, these entities do not always act in a coordinated fashion when making financing decisions, and municipal governments often have limited ability to influence the actions of special districts in their communities. Nevertheless, the purpose of this report is to provide a greater level of transparency on public debt, and to recommend some guidelines for how much total public debt municipal residents can afford.

As with state-level debt, the PFMB believes that municipal debt must be looked at in the context of other long-term liabilities, specifically pension and OPEB liabilities.

Pension and OPEB liabilities are calculated through a series of assumptions, and thus can be difficult to estimate with precision. For the purposes of this study, municipal pension liabilities are derived from the financial statements of the municipalities, under rule 68 of the Governmental Accounting Standards Board (GASB) framework.
In setting these recommended limits, the PFMB relied heavily on Ratings Agency guidance, selecting ratios similar to those used by ratings agencies, and generally recommending a level equivalent to an A rating for each ratio.

Recommended Debt and Liability Limits

- ***Net Direct Debt to Full Assessed Property Value:*** **Less than 3%**
    - This ratio compares debt of the municipality, typically paid for through the municipal budget with taxpayer funds, to assessed property values. (This ratio does not include revenue bonds that are supported by ratepayers, such as water and sewer bonds).
    - **Rationale:** Moody's provides suggested levels of net direct debt to full value for each rating category. A ratio of 3% is in Moody's mid-point range for 'A' rated communities. S&P also uses 3% net direct debt as a percent of market value as a benchmark in its methodology. If a community's ratio is below 3%, S&P can improve the community's debt score by one point.

- ***Overall Net Debt to Full Assessed Property Value:*** **Less than 4%**
    - This ratio compares net direct debt plus the direct debt of any overlapping taxing authority to assessed property values.
    - **Rationale:** Consistent with the rationale for the 3% measure above; however instead of using Moody's mid-point range, the rationale was to reference the high-end of Moody's 'A' range, to account for the additional overlapping debt.

- ***Overall Debt + Net Pension Liability + OPEB Liability to Full Assessed Property Value:*** **Less than 9.2%**
    - This ratio compares total debt of the municipality and all overlapping jurisdictions, including revenue bonds, as well as total unfunded pension and OPEB liabilities, to assessed property value.
    - **Rationale:** The PFMB believes it is important to consider the total liability burdens of municipalities, including all debt, pension and OPEB, relative to the underlying population's ability to pay. Although each ratings agency considered OPEB and pension liabilities differently, the PFMB estimates that a limit of Overall Debt + Net Pension Liability + OPEB Liability to Full Value of 9.2% would approximate the ratings agencies expectations for an 'A' rated community.

- ***Governmental Debt Service + Pension ADC + OPEB Required Payment to Governmental Expenditures***: **Less than 22.5%**
    - This ratio compares total governmental debt service, pension ADC (actuarial determined contribution) and OPEB required contribution of the municipality to governmental expenditures
    - **Rationale**: This ratio compares the annual cost of total liabilities to the total annual municipal budget. The formula is based off Fitch's "Carrying Cost" metric, which is the only ratio in the rating agency criteria that includes OPEB. The carrying cost metric isolates spending that is a more fixed obligation. PFMB recommends 22.5% for Governmental Debt Service + Pension ADC + OPEB Required Payment to Governmental Expenditures, consistent with the mid-point of an 'a' and "aa" rating under Fitch's consideration of the carrying cost metric.

The full value measurement is the gross assessed value less exemptions, which is consistent with the rating agency methodologies. Communities that choose to have large homestead exemptions might be artificially inflating their debt ratios with a lower taxable base. The PFMB considered using the gross assessed value because communities could potentially end exemptions if needed, but since all three rating agencies use assessed value net of exemptions, the PFMB decided to be consistent with the rating agency approach. The PFMB also adjusted Fitch's Carrying Cost for the last ratio measure by including OPEB *required* payments in lieu of actual payments, to avoid providing an advantage to municipalities that fail to make their full required contributions. The following table compares the actual pension and OPEB contributions to the required contributions and includes the percent of actual contributions met for each municipality.

Summary of Municipality OPEB and Pension Contributions

Municipality	Total Pension - Actual Payment	Total Pension - Required Payment	Percent of Required Pension Contributions Met	OPEB Contributions (Actual)	OPEB-Actuarially Determined Contribution (Required)	Percent of Required OPEB Contributions Met
Barrington	5,753,335	5,462,939	105.32%	1,382,277	145,463	950.26%
Bristol	6,674,075	6,674,075	100.00%	1,311,761	921,461	142.36%
Burrillville	2,877,073	2,877,073	100.00%	188,194	-	-
Central Falls	2,931,029	2,880,076	101.77%	231,661	100,000	231.66%
Charlestown	602,793	602,793	100.00%	562,231	493,051	114.03%
Coventry*	13,114,197	13,168,479	99.59%	1,085,381	1,085,381	100.00%
Cranston	39,616,054	39,616,054	100.00%	5,008,149	5,008,149	100.00%
Cumberland	8,722,954	8,720,233	100.03%	1,320,000	1,316,810	100.24%
East Greenwich	4,319,203	4,319,203	100.00%	945,461	1,983,602	47.66%
East Providence (FY19)	17,763,482	17,469,352	101.68%	5,631,346	5,139,519	109.57%
Exeter	-	-	-	-	-	-
Foster*	612,981	612,981	100.00%	85,114	85,114	100.00%
Glocester	1,184,716	1,184,716	100.00%	60,461	163,152	37.06%
Hopkinton	344,181	344,181	100.00%	-	-	-
Jamestown	1,345,951	1,315,044	102.35%	380,141	795,640	47.78%
Johnston	14,400,348	14,400,348	100.00%	7,673,184	15,779,391	48.63%
Lincoln	5,418,456	5,792,490	93.54%	1,886,424	1,264,735	149.16%
Little Compton	815,217	843,997	96.59%	136,911	136,911	100.00%
Middletown	3,649,129	3,521,286	103.63%	4,418,603	1,971,037	224.18%
Narragansett	8,289,517	8,124,851	102.03%	3,801,999	3,129,247	121.50%
New Shoreham	565,231	565,231	100.00%	38,511	23,466	164.11%
Newport	6,046,696	6,046,696	100.00%	7,293,233	7,237,210	100.77%
North Kingstown	9,297,895	9,297,895	100.00%	1,969,635	1,534,432	128.36%
North Providence	13,691,920	10,365,587	132.09%	2,604,200	4,133,922	63.00%
North Smithfield	2,522,126	2,522,126	100.00%	705,113	1,239,585	56.88%
Pawtucket	27,684,896	27,684,896	100.00%	15,742,685	16,750,119	93.99%
Portsmouth	7,095,173	7,095,173	100.00%	1,052,477	1,586,153	66.35%
Providence*	111,483,000	109,627,000	101.69%	33,205,000	33,205,000	100.00%
Richmond	232,391	232,391	100.00%	-	-	-
Scituate	3,152,157	3,151,854	100.01%	242,958	858,561	28.30%
Smithfield	6,827,029	8,479,988	80.51%	1,395,709	3,865,167	36.11%
South Kingstown	6,498,304	6,498,304	100.00%	1,909,528	1,392,198	137.16%
Tiverton	3,064,101	3,036,633	100.90%	1,128,983	2,181,404	51.75%
Warren	817,416	817,416	100.00%	194,653	379,815	51.25%
Warwick	47,137,898	48,218,154	97.76%	12,908,231	34,563,861	37.35%
West Greenwich	423,943	423,943	100.00%	-	-	-
West Warwick	14,076,181	14,045,403	100.22%	5,218,060	5,451,021	95.73%
Westerly	5,708,700	5,708,700	100.00%	1,252,893	1,252,893	100.00%
Woonsocket	13,508,608	15,995,608	84.45%	607,997	2,017,286	30.14%

* Note: Coventry, Foster and Providence OPEB ADC not reported. Actual OPEB contribution used.

Under Rhode Island law the State provides aid to municipalities for the cost of school building construction or renovation. The most typical type of aid the State provides to municipalities is a reimbursement for a portion of the debt service of these projects, with the amount of reimbursement determined by a formula tied to the economic conditions of the municipality. For this study, all debt for school building projects is counted as debt of the municipality regardless of whether the municipality expects to receive state aid. Rating agencies and other market participants tend to view this debt as a municipal liability regardless of any expected state reimbursement, with the rationale being that if the state were to fail to make an appropriation for the full amount of expected housing aid, the responsibility for those debt service payments would rest with the municipality. Appendix C provides a summary of the principal reimbursements the State is expected to provide to each school district from FY2020 through FY2033.

The following table shows the current levels of these affordability ratios for each municipality with green shaded levels indicating the municipality is within the recommended limits, yellow shaded levels indicating current levels are approaching the respective limit (75% of limit) and red shaded levels indicating the current levels exceeds the recommended limits. Net Direct Debt to Assessed Value and Overall Net Debt to Assessed Value approach or exceed the recommended limits of 3% and 4%, respectively for Barrington, Lincoln, North Providence, Pawtucket, Providence, Warren and Woonsocket. The current levels of affordability ratios are based on outstanding debt and do not reflect any authorized debt that a municipality may have but has not yet issued. The recommended affordability limits should be used as a tool to assist municipalities in planning for future debt issuances.

These affordability ratios include State reimbursement for school debt, even though municipalities are partially reimbursed by the state for the debt service payments made on this debt. Although the state ultimately is responsible for a portion of the cost of this debt under state law, ratings agencies still judge the full amount of the debt as debt of the municipality, and therefore so does the PFMB. However, it can still be useful to view municipal liability levels with the state share of school debt netted out of the totals. This is shown on pages C-7 and C-8 of Appendix C. When the State share of school debt is netted out, only Woonsocket exceeds the recommended debt-only limits, though several communities still exceed recommended limits when pension and OPEB liabilities are included.

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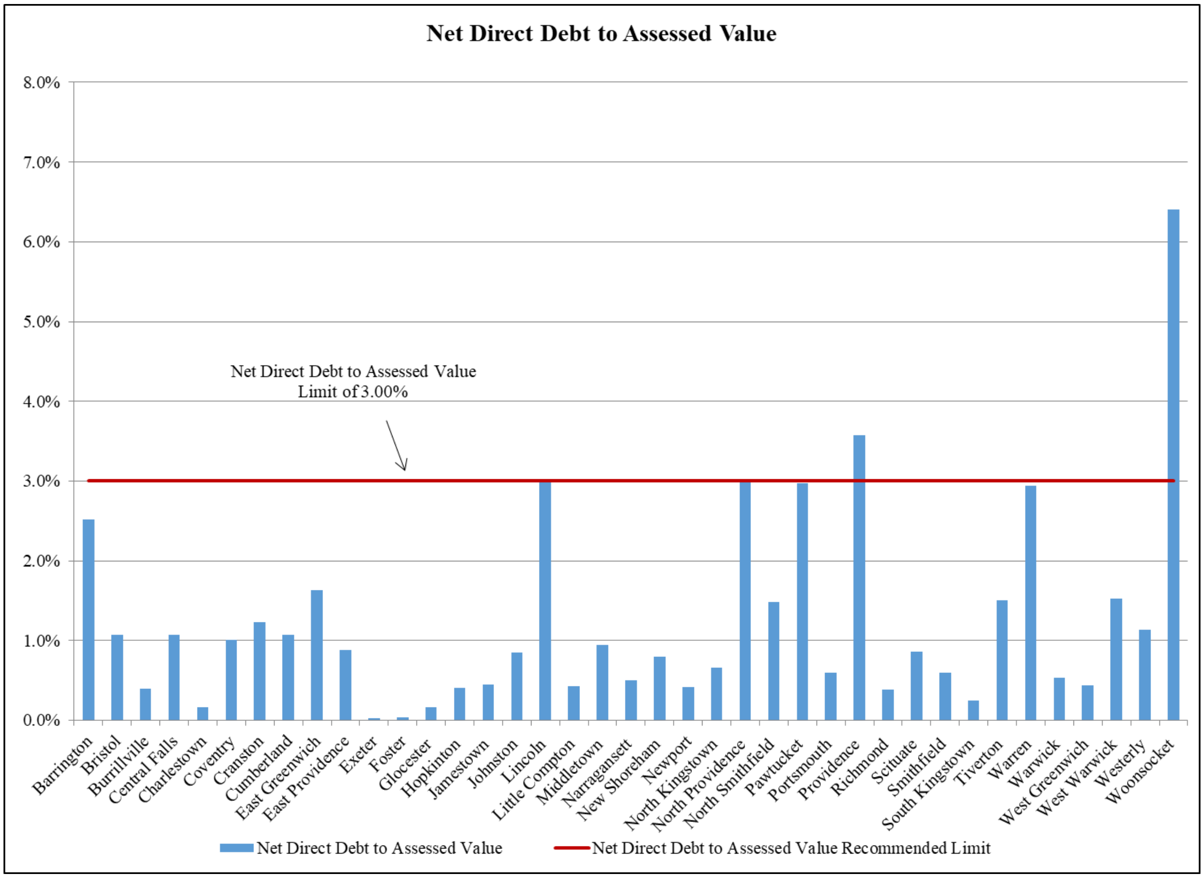
Municipality Liability Ratios[1]

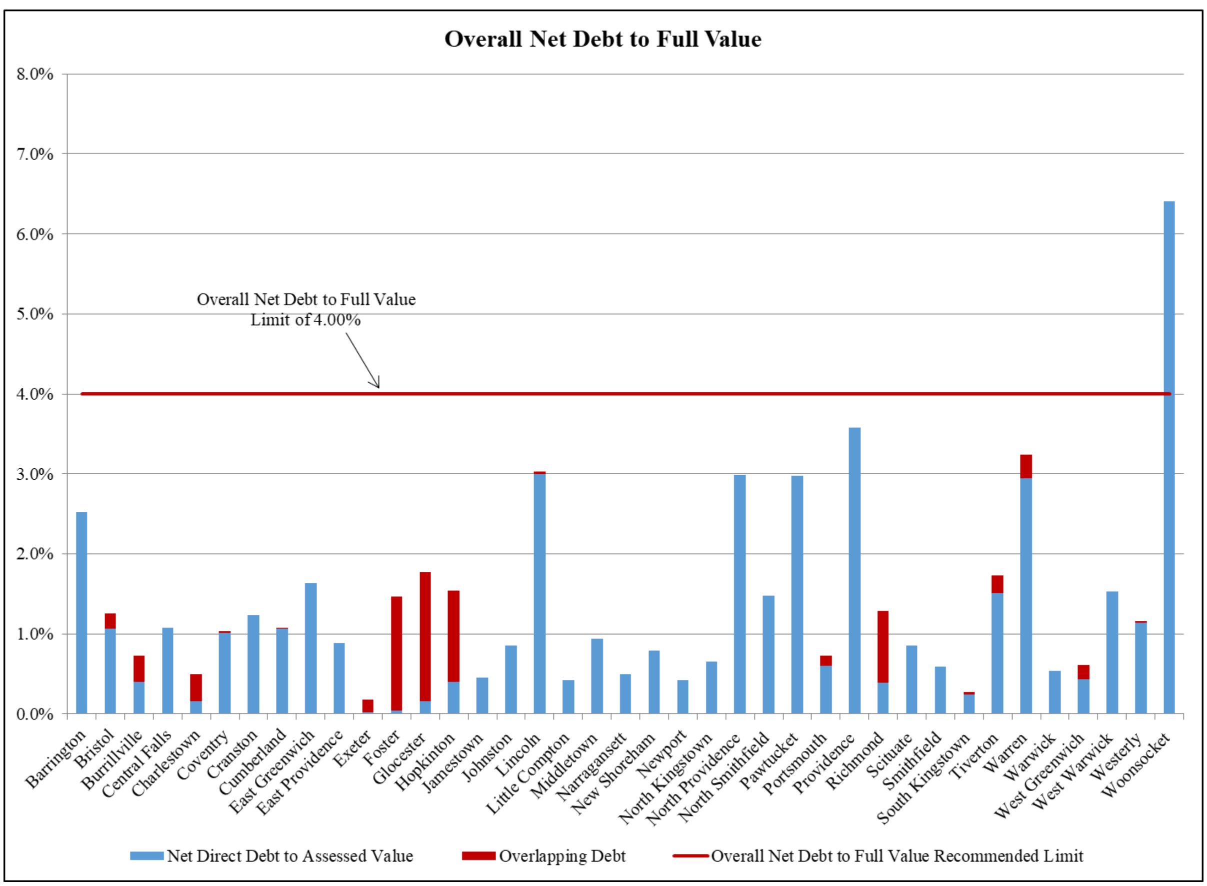
Municipality	Net Direct Debt to Assessed Value Recommended Limit < 3.00%	Overall Net Debt to Assessed Value Recommended Limit < 4.00%	Overall Debt + Net Pension Liability + OPEB Liability to Assessed Value Recommended Limit < 9.2%	Governmental Debt Service + Pension ARC + OPEB Required ADC to Governmental Expenditures Recommended Limit < 22.5%
Barrington	2.5%	2.5%	5.1%	15.9%
Bristol	1.1%	1.3%	3.6%	20.7%
Burrillville	0.4%	0.7%	3.0%	7.6%
Central Falls	1.1%	1.1%	14.3%	18.2%
Charlestown	0.2%	0.5%	0.7%	6.0%
Coventry	1.0%	1.0%	6.2%	15.8%
Cranston	1.2%	1.2%	7.2%	16.9%
Cumberland	1.1%	1.1%	5.0%	15.5%
East Greenwich	1.6%	1.6%	5.5%	13.8%
East Providence	0.9%	0.9%	8.6%	14.5%
Exeter	0.0%	0.2%	0.2%	0.8%
Foster	0.0%	1.5%	2.4%	4.8%
Glocester	0.2%	1.8%	3.0%	5.1%
Hopkinton	0.4%	1.5%	1.9%	3.4%
Jamestown	0.4%	0.4%	1.5%	11.9%
Johnston	0.9%	0.9%	17.2%	27.5%
Lincoln	3.0%	3.0%	8.8%	10.3%
Little Compton	0.4%	0.4%	0.8%	12.0%
Middletown	0.9%	0.9%	2.8%	12.9%
Narragansett	0.5%	0.5%	2.8%	21.1%
New Shoreham	0.8%	0.8%	1.3%	14.6%
Newport	0.4%	0.4%	5.6%	15.3%
North Kingstown	0.7%	0.7%	3.4%	13.0%
North Providence	3.0%	3.0%	13.4%	19.0%
North Smithfield	1.5%	1.5%	3.7%	14.7%
Pawtucket	3.0%	3.0%	27.0%	20.6%
Portsmouth	0.6%	0.7%	4.0%	16.8%
Providence	3.6%	3.6%	27.7%	20.6%
Richmond	0.4%	1.3%	1.6%	3.9%
Scituate	0.9%	0.9%	3.5%	11.6%
Smithfield	0.6%	0.6%	5.0%	15.2%
South Kingstown	0.2%	0.3%	1.7%	10.1%
Tiverton	1.5%	1.7%	4.3%	17.0%
Warren	2.9%	3.2%	4.8%	12.1%
Warwick	0.5%	0.5%	9.7%	26.9%
West Greenwich	0.4%	0.6%	1.1%	4.6%
West Warwick	1.5%	1.5%	12.1%	21.8%
Westerly	1.1%	1.2%	2.3%	15.6%
Woonsocket	6.4%	6.4%	30.6%	17.6%
	Less than 75% of recommended limit		Between 75% and 100% of limit	Exceeds recommended limit

[1] For the purposes of these calculations, all borrowing for school building projects is included, regardless of expected State reimbursement. For totals with expected State reimbursement netted out, please reference Appendix C pages C-7 and C-8.

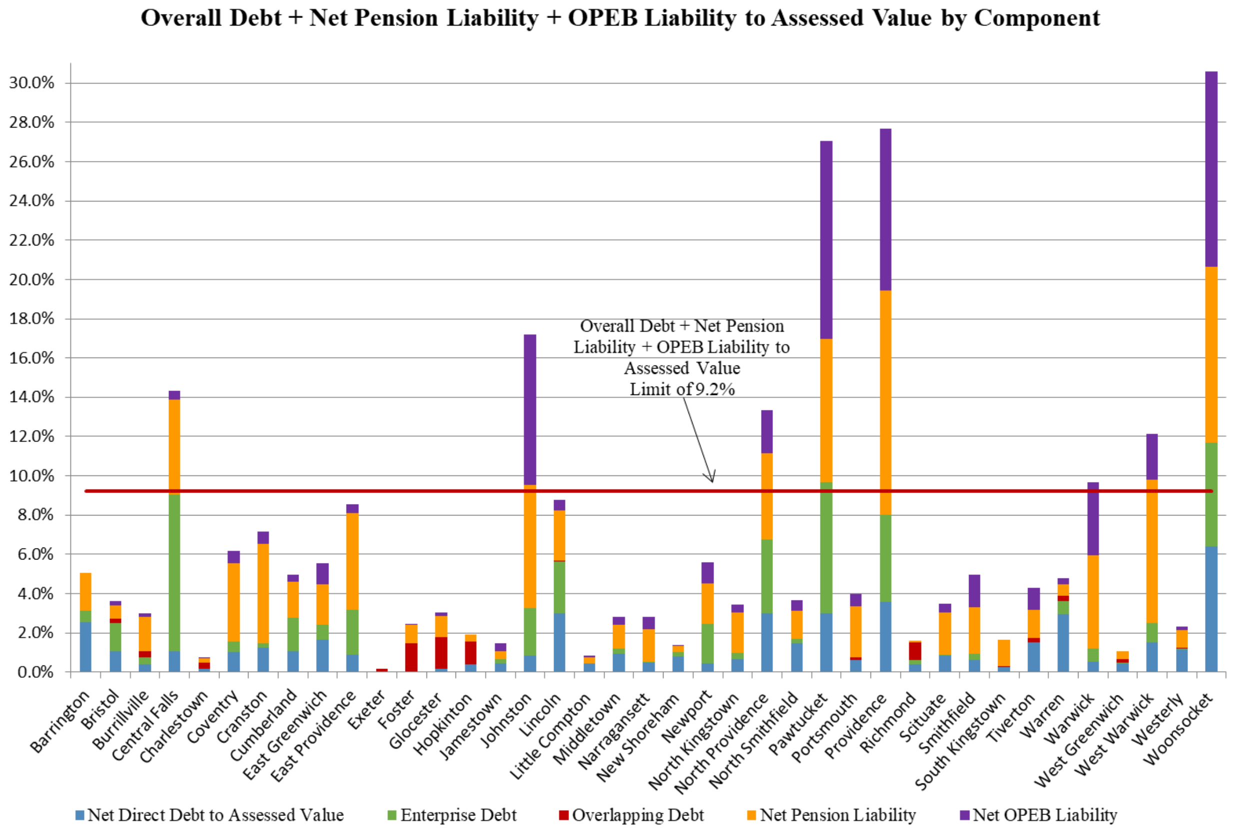
Net Direct Debt: All debt of an issuer less self-supporting enterprise debt. Enterprise Debt: Debt for essential service utilities that is self-supporting from user fees. Overlapping Debt: Issuer's proportionate share of the debt of other local governmental units that either overlap or underlie it. Overall Debt: Net debt + Enterprise Debt + Overlapping Debt. Overall debt includes allocation of Narragansett Bay Commission debt to Enterprise Debt of municipalities in its service area.

The charts below show the debt-only ratios for the municipalities.

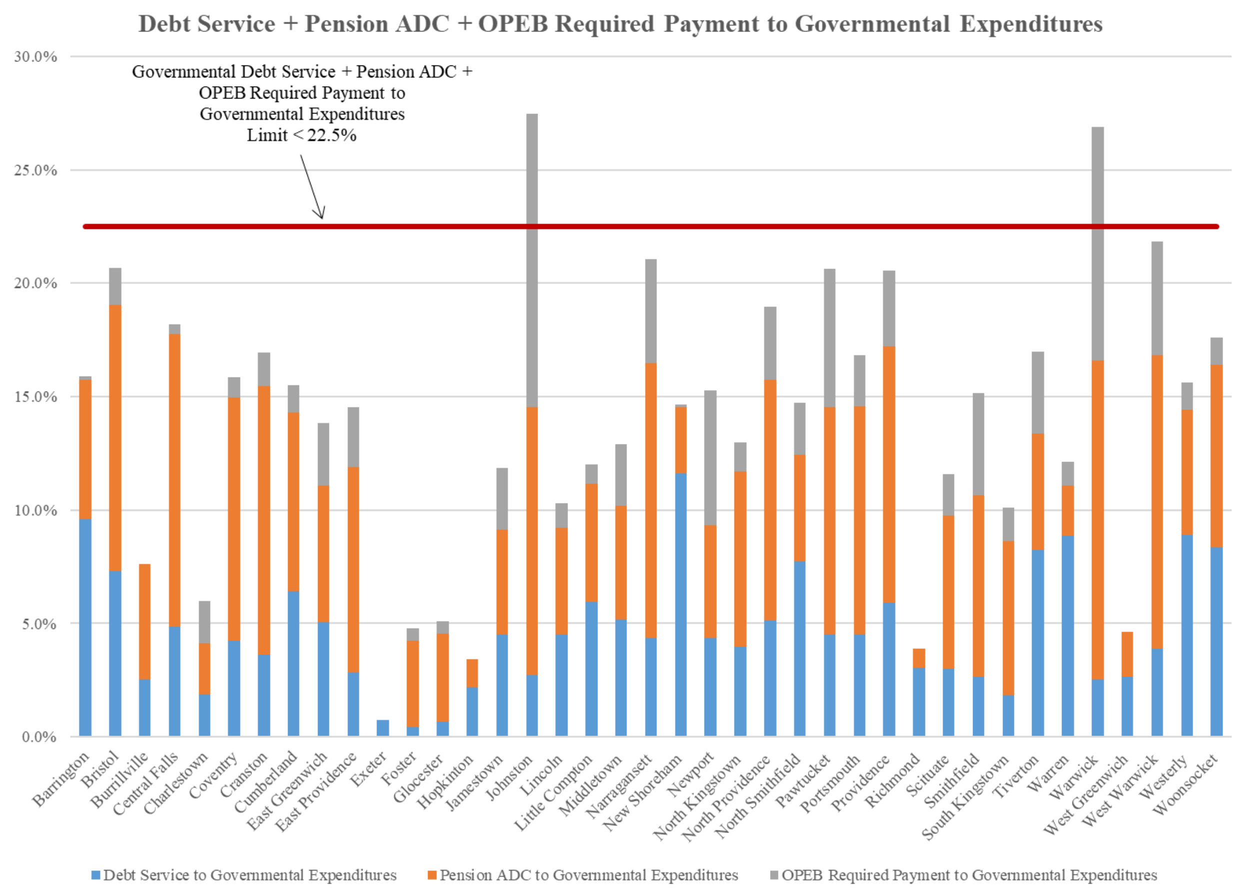




The charts below show the combined debt, pension and OPEB ratios for the municipalities.



Overall Debt includes (1) Net Direct Debt: All debt of an issuer less self-supporting enterprise debt; (2) Enterprise Debt: Debt for essential service utilities that is self-supporting from user fees; (3) Overlapping debt: Issuer's proportionate share of the debt of other local governmental units that either overlap or underlie it.



Debt Affordability Study

Part Four - Guidelines for Debt Management Best Practices

for

State Level Debt

and

Quasi-Public Entities and Local Governments

Part Four- Guidelines for Debt Management Best Practices

Guidelines for State-Level Debt Management

In maximizing debt affordability, the State should maintain certain guidelines on how best to issue and structure its tax-supported debt in order 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 Department of Administration, 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.

<u>Method of Sale</u>: 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 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, rather they are sold directly to qualified investors. Private placements, including bank loans, bank funding agreements, and master lease programs can be cost effective for certain types of financings, including: variable rate, short-term and smaller size issuances due to lower costs of issuance compared to publicly 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/or investor demand	Capital markets are experiencing wide shifts in interest rates and investor demand (e.g., financial crisis in late 2008/early 2009 and COVID-19-related volatility)
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. Since 2016, the State has successfully sold all its General Obligation Bonds competitively, except the Series 2019C and 2019E bonds. On the competitive sales, the State has seen strong demand for its bonds, as reflected in the number of bidders and the pricing levels bid. The Series 2019C and 2019E bonds were sold on a negotiated basis to target retail investors for the first bond issue sold for the newly authorized school construction bond program.

In certain circumstances, the State may want to consider issuing a private placement, a direct sale/purchase of securities or enter into a bank loan transaction as an alternative to issuing publicly offered municipal bonds. Private placements, direct sales and bank loans are often competitive with a public sale of securities in cases when the transaction size is small, when the term of debt is short and when the interest rate mode is variable. With a private placement, the State would typically issue a solicitation, based on the advice of its financial advisor, for offers from qualified lending institutions. The solicitation responses are then reviewed and compared with careful consideration being given to any non-standard or onerous covenants and a winning offer is selected and the terms are locked in. In evaluating the use of these alternatives, the State and its financial advisor should compare the costs of the private debt vs. a public sale of securities, taking into account the interest cost and upfront financing costs.

<u>Term of the Debt</u>: 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 current 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 between short versus long-term rates varies with the shape of the yield curve and has 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 resulting 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. Prior to 2018, tax-exempt bonds issued after 1986 could only be Advance Refunded one time with tax-exempt proceeds. The Tax Cuts and Jobs Act, enacted in December 2017, eliminated the tax exemption for interest on advance refunding bonds; therefore, all Advanced Refunding Bonds issued on or after December 31, 2017, must be issued on a taxable basis.

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.

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.

Taxable Advanced Refundings: For refundings for savings, the following analyses are suggested to ensure that a taxable advanced refunding is warranted:

- 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 a taxable Advance Refunding of the bonds today and a tax-exempt current refunding at the time the bonds are callable to result in the same amount of present value savings. The breakeven increase in tax-exempt interest rates should not exceed the forward interest rate forecast or a pre-established target based on past market volatility. Generally, the length of time to the call date, market conditions, shape of the yield curve and interest rate expectations are factors to be considered. Additionally, if the taxable Advance Refunding Bonds are expected to have different call features than a tax-exempt current refunding, the issuer should take into account the estimated value of the issuer's call option on both the taxable Advance Refunding Bonds and the tax-exempt current refunding.

- Taxable Advanced Refunding initiated to escape burdensome or restrictive covenants or to restructure debt for an appropriate purpose for the issuer may be considered in certain cases even when the taxable Advance Refunding generates dissavings or may warrant a lower savings target, depending on the benefits expected to be achieved.

Forward Refunding. A refunding in which bonds are sold with the intent to close or deliver at some future point in time, generally within 90 days prior to the call date on the refunded bonds, thereby qualifying the issue as a current (tax-exempt) 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, complex bond refundings are often conducted through a negotiated process. 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 issuers 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. 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 State currently uses BondLink for investors relations and the Preliminary Official Statement can also be accessed through BondLink. 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 *Disclosure and Post Issuance Debt Management*.

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 and 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. For any matters relating to the use of proceeds or investments, the State should always consult with bond counsel to ensure compliance with IRS Code and other governing provisions.

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.

On August 20, 2018, SEC approved amendments SEC Rule 15c2-12. These amendments, which became effective on February 27, 2019, added new events to the prior list of events and are related to an issuer or and obligated party's incurrence of a "financial obligation" as described below.

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
- Bankruptcy, insolvency, receivership or similar event of the obligated person
- Consummation of a merger, consolidation, or acquisition involving an obligated person
- Appointment of a successor or additional trustee
- Incurrence of a financial obligation, as defined in the Rule, which generally means (i) a debt obligation and (ii) a derivative instrument entered into and associated with a current or planned debt obligation;
- A guarantee of financial obligation
- An agreement to covenants, events of default, remedies, priority rights of a financial obligation of the issuer or obligated person, which affect the bondholders, if material
- A default, event of acceleration, termination event, modification of terms, or other events under the terms of a financial obligation of the issuer or obligated person, which reflect financial difficulties

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/

APPENDIX A – PART ONE

COMPARISON OF
DEBT AND PENSION RATIOS FOR STATES

APPENDIX A
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Moody's State Debt Medians				
State (M/S/F)	**Debt Service to Revenues**	**Debt to Personal Income**	**Debt Per Capita**	**Debt to Gross State Product**
50 State Median	**3.9%**	**1.9%**	**$1,039**	**2.0%**
Double-A States Median	**3.8%**	**2.2%**	**$1,133**	**2.1%**
Rhode Island (Aa2/AA/AA)	**6.2%**	**3.9%**	**$2,398**	**4.2%**
Alabama (Aa1/AA/AA+)	3.2%	2.2%	$1,045	2.3%
Alaska (Aa3/AA-/A+)	2.2%	1.7%	$1,133	1.7%
Arizona (Aa1/AA/--)	3.1%	0.9%	$443	0.9%
Arkansas (Aa1/AA/--)	2.4%	1.2%	$545	1.3%
California (Aa2/AA-/AA)	4.0%	3.0%	$2,144	2.7%
Colorado (Aa1/AA/--)	1.4%	1.1%	$721	1.1%
Connecticut (Aa3/A+/AA-)	14.1%	8.7%	$6,971	8.8%
Delaware (Aaa/AAA/AAA)	5.6%	6.0%	$3,400	4.4%
Florida (Aaa/AAA/AAA)	4.3%	1.3%	$710	1.4%
Georgia (Aaa/AAA/AAA)	5.4%	1.9%	$987	1.7%
Hawaii (Aa2/AA+/AA)	10.3%	10.1%	$6,122	9.6%
Idaho (Aa1/AA+/AA+)	1.6%	1.0%	$490	1.1%
Illinois (Baa2/BBB/BBB-)	7.3%	4.5%	$2,861	4.2%
Indiana (Aaa/AAA/AAA)	1.0%	0.5%	$233	0.4%
Iowa (Aaa/AAA/AAA)	0.7%	0.3%	$157	0.3%
Kansas (Aa2/AA-/--)	3.8%	2.6%	$1,447	2.4%
Kentucky (Aa3/A/AA-)	7.4%	4.2%	$1,965	4.2%
Louisiana (Aa3/AA-/AA-)	4.9%	3.2%	$1,591	3.1%
Maine (Aa2/AA/AA)	4.8%	1.9%	$1,032	2.1%
Maryland (Aaa/AAA/AAA)	6.8%	3.5%	$2,410	3.5%
Massachusetts (Aa1/AA/AA+)	10.3%	7.8%	$6,240	7.4%
Michigan (Aa1/AA/AA)	2.2%	1.2%	$661	1.3%
Minnesota (Aa1/AAA/AAA)	3.2%	2.3%	$1,400	2.1%
Mississippi (Aa2/AA/AA)	5.7%	4.6%	$1,908	5.0%
Missouri (Aaa/AAA/AAA)	2.7%	0.8%	$413	0.8%
Montana (Aa1/AA/AA+)	0.9%	0.3%	$177	0.4%
Nebraska (Aa1/AAA/--)	0.2%	0.0%	$18	0.0%

Moody's State Debt Medians				
State (M/S/F)	**Debt Service to Revenues**	**Debt to Personal Income**	**Debt Per Capita**	**Debt to Gross State Product**
Nevada (Aa1/AA+/AA+)	4.1%	1.1%	$597	1.1%
New Hampshire (Aa1/AA/AA+)	3.7%	1.1%	$733	1.2%
New Jersey (A3/BBB+/A-)	10.1%	6.1%	$4,569	6.6%
New Mexico (Aa2/AA/--)	3.5%	2.2%	$1,023	2.2%
New York (Aa2/AA+/AA+)	5.6%	4.8%	$3,614	4.1%
North Carolina (Aaa/AAA/AAA)	3.0%	1.2%	$581	1.1%
North Dakota (Aa1/AA+/--)	0.4%	0.1%	$46	0.1%
Ohio (Aa1/AA+/AA+)	5.5%	2.1%	$1,146	2.0%
Oklahoma (Aa2/AA/AA)	1.3%	0.7%	$365	0.8%
Oregon (Aa1/AA+/AA+)	5.4%	3.5%	$2,004	3.4%
Pennsylvania (Aa3/A+/AA-)	4.0%	2.3%	$1,448	2.4%
South Carolina (Aaa/AA+/AAA)	1.8%	0.9%	$415	0.9%
South Dakota (Aaa/AAA/AAA)	1.7%	0.8%	$482	0.8%
Tennessee (Aaa/AAA/AAA)	1.1%	0.5%	$266	0.5%
Texas (Aaa/AAA/AAA)	2.6%	0.7%	$365	0.6%
Utah (Aaa/AAA/AAA)	4.5%	1.7%	$866	1.4%
Vermont (Aa1/AA+/AA+)	2.1%	1.9%	$1,102	2.1%
Virginia (Aaa/AAA/AAA)	4.5%	2.8%	$1,746	2.7%
Washington (Aaa/AA+/AA+)	6.9%	3.8%	$2,627	3.3%
West Virginia (Aa2/AA-/AA)	4.1%	3.6%	$1,617	3.9%
Wisconsin (Aa1/AA+/AA+)	4.5%	2.7%	$1,477	2.5%
Wyoming (--/AA/--)	0.2%	0.0%	$23	0.0%

Source: Moody's Medians - State Debt Rose 2.5% in 2020, Spurred by Pandemic-linked Borrowing, June 14, 2021. Figures use fiscal 2019 own-source revenues for Illinois, California, New Mexico and Arizona. Own-source revenues are reported total governmental revenues less funds received from federal sources. Additional adjustments have been made to own-source revenues for Delaware, Massachusetts and Washington to reflect inclusion or exclusion of certain funds.

Moody’s State Pension Medians				
State	**2020 ANPL as % of Own-Source Revenues**	**ANPL as % of Personal Income**	**ANPL as % of Gross State Product**	**ANPL Per Capita**
50 State Median	**91%**	**5.3%**	**5.1%**	**$2,907**
Double-A States Median	**86%**	**5.3%**	**5.0%**	**$2,752**
Rhode Island (Aa2/AA/AA)	**142%**	**10.8%**	**11.6%**	**$6,598**
Alabama (Aa1/AA/AA+)	59%	3.7%	3.8%	$1,757
Alaska (Aa3/AA-/A+)	180%	25.3%	23.9%	$16,421
Arizona (Aa1/AA/--)	50%	2.7%	2.6%	$1,327
Arkansas (Aa1/AA/--)	72%	5.3%	5.9%	$2,515
California (Aa2/AA-/AA)	102%	7.3%	6.6%	$5,202
Colorado (Aa1/AA/--)	115%	5.2%	5.0%	$3,328
Connecticut (Aa3/A+/AA-)	347%	26.0%	26.3%	$20,773
Delaware (Aaa/AAA/AAA)	103%	12.1%	9.0%	$6,885
Florida (Aaa/AAA/AAA)	49%	2.1%	2.3%	$1,180
Georgia (Aaa/AAA/AAA)	44%	2.2%	2.0%	$1,134
Hawaii (Aa2/AA+/AA)	181%	18.6%	17.7%	$11,290
Idaho (Aa1/AA+/AA+)	39%	2.6%	2.7%	$1,261
Illinois (Baa2/BBB/BBB-)	433%	29.8%	27.3%	$18,739
Indiana (Aaa/AAA/AAA)	88%	5.5%	5.1%	$2,833
Iowa (Aaa/AAA/AAA)	32%	2.1%	1.9%	$1,168
Kansas (Aa2/AA-/--)	167%	11.4%	10.7%	$6,365
Kentucky (Aa3/A/AA-)	297%	22.9%	22.7%	$10,628
Louisiana (Aa3/AA-/AA-)	96%	6.1%	5.9%	$3,054
Maine (Aa2/AA/AA)	139%	9.8%	10.8%	$5,305
Maryland (Aaa/AAA/AAA)	205%	13.5%	13.2%	$9,191
Massachusetts (Aa1/AA/AA+)	233%	16.1%	15.1%	$12,807
Michigan (Aa1/AA/AA)	131%	8.8%	9.0%	$4,683
Minnesota (Aa1/AAA/AAA)	42%	3.5%	3.3%	$2,158
Mississippi (Aa2/AA/AA)	67%	6.7%	7.2%	$2,789
Missouri (Aaa/AAA/AAA)	102%	4.6%	4.5%	$2,342
Montana (Aa1/AA/AA+)	188%	12.2%	13.7%	$6,517
Nebraska (Aa1/AAA/--)	47%	2.8%	2.5%	$1,643

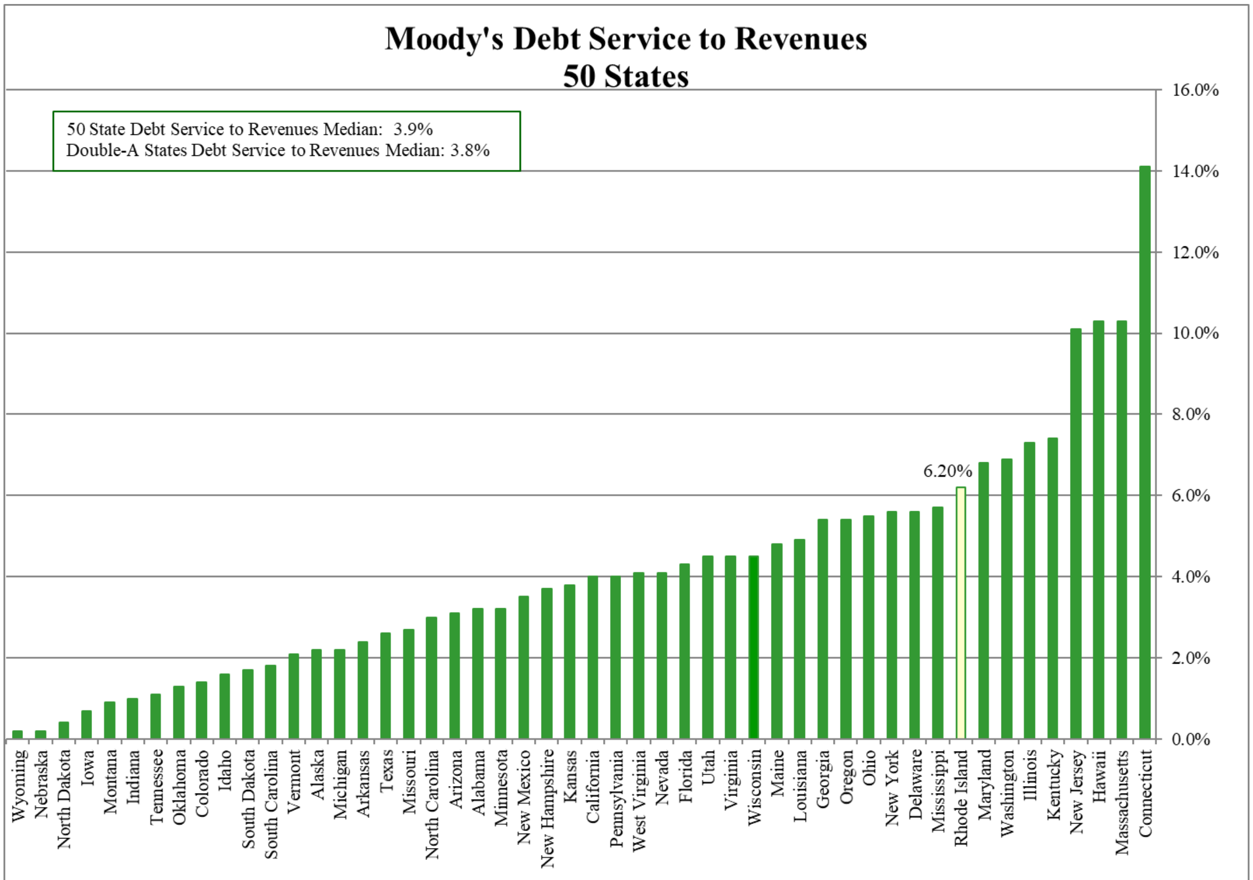
Moody’s State Pension Medians				
State	**2020 ANPL as % of Own-Source Revenues**	**ANPL as % of Personal Income**	**ANPL as % of Gross State Product**	**ANPL Per Capita**
Nevada (Aa1/AA+/AA+)	134%	4.9%	4.8%	$2,639
New Hampshire (Aa1/AA/AA+)	58%	2.4%	2.6%	$1,622
New Jersey (A3/BBB+/A-)	299%	19.5%	21.0%	$14,657
New Mexico (Aa2/AA/--)	93%	10.1%	9.7%	$4,609
New York (Aa2/AA+/AA+)	32%	2.2%	1.9%	$1,653
North Carolina (Aaa/AAA/AAA)	35%	2.1%	1.9%	$1,070
North Dakota (Aa1/AA+/--)	28%	3.0%	2.5%	$1,799
Ohio (Aa1/AA+/AA+)	48%	2.7%	2.5%	$1,451
Oklahoma (Aa2/AA/AA)	37%	2.3%	2.4%	$1,115
Oregon (Aa1/AA+/AA+)	75%	5.3%	5.0%	$2,981
Pennsylvania (Aa3/A+/AA-)	173%	10.2%	10.4%	$6,320
South Carolina (Aaa/AA+/AAA)	188%	12.4%	12.7%	$5,888
South Dakota (Aaa/AAA/AAA)	49%	2.5%	2.3%	$1,405
Tennessee (Aaa/AAA/AAA)	34%	2.1%	2.0%	$1,061
Texas (Aaa/AAA/AAA)	202%	9.7%	8.9%	$5,306
Utah (Aaa/AAA/AAA)	46%	3.0%	2.6%	$1,547
Vermont (Aa1/AA+/AA+)	148%	15.6%	17.4%	$9,179
Virginia (Aaa/AAA/AAA)	37%	2.2%	2.2%	$1,387
Washington (Aaa/AA+/AA+)	84%	4.9%	4.2%	$3,338
West Virginia (Aa2/AA-/AA)	146%	12.8%	14.0%	$5,787
Wisconsin (Aa1/AA+/AA+)	28%	1.9%	1.8%	$1,038
Wyoming (--/AA/--)	66%	4.3%	4.4%	$2,715

Source: Moody’s Medians – Pension and OPEB Liabilities Up Ahead of Decline in 2022, September 30, 2021. ANPL is adjusted net pension liability.

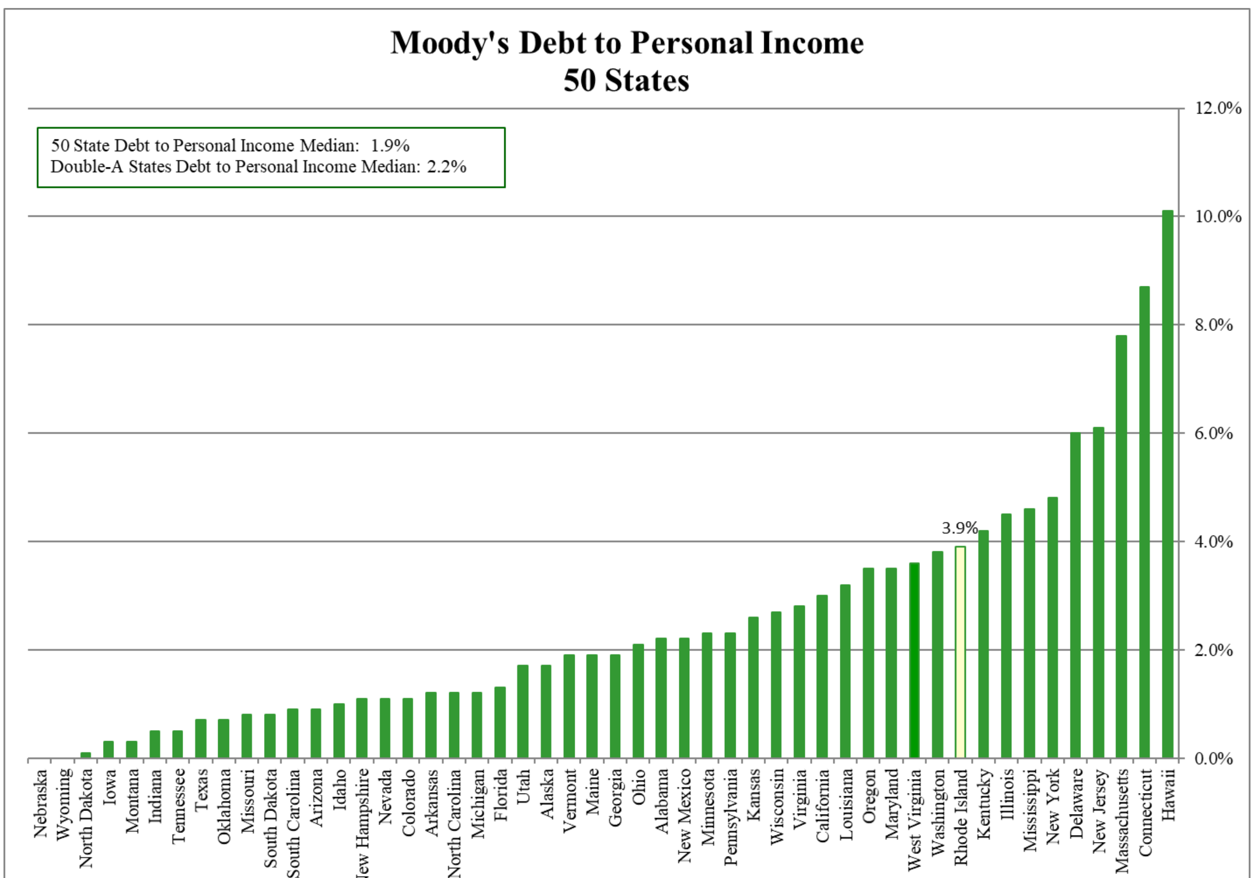
Moody's Fixed Costs as Percent of Own Source Revenues					
State	**2020 Debt Service**	**2020 Pension Contribution**	**2020 Debt Service + Pension Contribution**	**2020 OPEB Contribution**	**FY 2020 Total Fixed Costs**
50 State Median	**4.0%**	**2.7%**	**6.7%**	**0.5%**	**7.2%**
Double-A States Median	**3.2%**	**1.7%**	**4.9%**	**0.5%**	**5.4%**
Rhode Island (Aa2/AA/AA)	**6.2%**	**7.8%**	**14.0%**	**1.0%**	**15.0%**
Alabama (Aa1/AA/AA+)	3.2%	1.7%	4.9%	0.5%	5.4%
Alaska (Aa3/AA-/A+)	2.2%	3.8%	6.0%	1.0%	7.0%
Arizona (Aa1/AA/--)	2.9%	1.8%	4.7%	0.6%	5.3%
Arkansas (Aa1/AA/--)	2.4%	2.3%	4.7%	0.5%	5.2%
California (Aa2/AA-/AA)	4.0%	7.9%	11.9%	1.1%	13.0%
Colorado (Aa1/AA/--)	1.4%	3.2%	4.6%	0.1%	4.7%
Connecticut (Aa3/A+/AA-)	14.1%	9.8%	23.9%	4.1%	28.0%
Delaware (Aaa/AAA/AAA)	5.6%	4.1%	9.7%	3.5%	13.2%
Florida (Aaa/AAA/AAA)	4.3%	1.3%	5.6%	0.2%	5.8%
Georgia (Aaa/AAA/AAA)	5.4%	2.2%	7.6%	0.4%	8.0%
Hawaii (Aa2/AA+/AA)	10.3%	5.2%	15.5%	6.5%	22.0%
Idaho (Aa1/AA+/AA+)	1.6%	1.6%	3.2%	0.1%	3.3%
Illinois (Baa2/BBB/BBB-)	6.7%	13.3%	20.0%	2.3%	22.3%
Indiana (Aaa/AAA/AAA)	1.0%	0.9%	1.9%	0.1%	2.0%
Iowa (Aaa/AAA/AAA)	0.7%	1.2%	1.9%	0.1%	2.0%
Kansas (Aa2/AA-/--)	3.8%	6.8%	10.6%	0.0%	10.6%
Kentucky (Aa3/A/AA-)	7.4%	11.5%	18.9%	1.2%	20.1%
Louisiana (Aa3/AA-/AA-)	4.9%	5.0%	9.9%	1.4%	11.3%
Maine (Aa2/AA/AA)	4.8%	4.2%	9.0%	2.5%	11.5%
Maryland (Aaa/AAA/AAA)	6.8%	6.9%	13.7%	2.3%	16.0%
Massachusetts (Aa1/AA/AA+)	10.3%	3.4%	13.7%	1.2%	14.9%
Michigan (Aa1/AA/AA)	2.2%	5.0%	7.2%	3.2%	10.4%
Minnesota (Aa1/AAA/AAA)	3.2%	0.9%	4.1%	0.1%	4.2%
Mississippi (Aa2/AA/AA)	5.7%	2.3%	8.0%	0.1%	8.1%
Missouri (Aaa/AAA/AAA)	2.7%	4.3%	7.0%	0.7%	7.7%
Montana (Aa1/AA/AA+)	0.9%	3.4%	4.3%	0.0%	4.3%

Moody's Fixed Costs as Percent of Own Source Revenues					
State	**2020 Debt Service**	**2020 Pension Contribution**	**2020 Debt Service + Pension Contribution**	**2020 OPEB Contribution**	**FY 2020 Total Fixed Costs**
Nebraska (Aa1/AAA/--)	0.2%	1.5%	1.7%	0.0%	1.7%
Nevada (Aa1/AA+/AA+)	4.1%	2.6%	6.7%	0.4%	7.1%
New Hampshire (Aa1/AA/AA+)	3.7%	2.3%	6.0%	1.1%	7.1%
New Jersey (A3/BBB+/A-)	10.1%	8.3%	18.4%	3.6%	22.0%
New Mexico (Aa2/AA/--)	3.9%	1.8%	5.7%	0.2%	5.9%
New York (Aa2/AA+/AA+)	5.6%	1.3%	6.9%	0.4%	7.3%
North Carolina (Aaa/AAA/AAA)	3.0%	1.4%	4.4%	0.7%	5.1%
North Dakota (Aa1/AA+/--)	0.4%	0.6%	1.0%	0.1%	1.1%
Ohio (Aa1/AA+/AA+)	5.5%	1.2%	6.7%	0.4%	7.1%
Oklahoma (Aa2/AA/AA)	1.3%	2.0%	3.3%	0.2%	3.5%
Oregon (Aa1/AA+/AA+)	5.4%	2.8%	8.2%	0.1%	8.3%
Pennsylvania (Aa3/A+/AA-)	4.0%	6.7%	10.7%	1.2%	11.9%
South Carolina (Aaa/AA+/AAA)	1.8%	6.0%	7.8%	2.0%	9.8%
South Dakota (Aaa/AAA/AAA)	1.7%	1.0%	2.7%	0.0%	2.7%
Tennessee (Aaa/AAA/AAA)	1.1%	1.5%	2.6%	0.6%	3.2%
Texas (Aaa/AAA/AAA)	2.6%	3.8%	6.4%	1.7%	8.1%
Utah (Aaa/AAA/AAA)	4.5%	2.3%	6.8%	0.3%	7.1%
Vermont (Aa1/AA+/AA+)	2.1%	4.1%	6.2%	1.9%	8.1%
Virginia (Aaa/AAA/AAA)	4.5%	1.4%	5.9%	0.3%	6.2%
Washington (Aaa/AA+/AA+)	6.9%	3.0%	9.9%	0.3%	10.2%
West Virginia (Aa2/AA-/AA)	4.1%	7.0%	11.1%	1.8%	12.9%
Wisconsin (Aa1/AA+/AA+)	4.5%	0.6%	5.1%	0.1%	5.2%
Wyoming (--/AA/--)	0.2%	1.5%	1.7%	0.4%	2.1%

Source: Moody's Medians – Pension and OPEB Liabilities Up Ahead of Decline in 2022, September 30, 2021. ANPL is adjusted net pension liability.

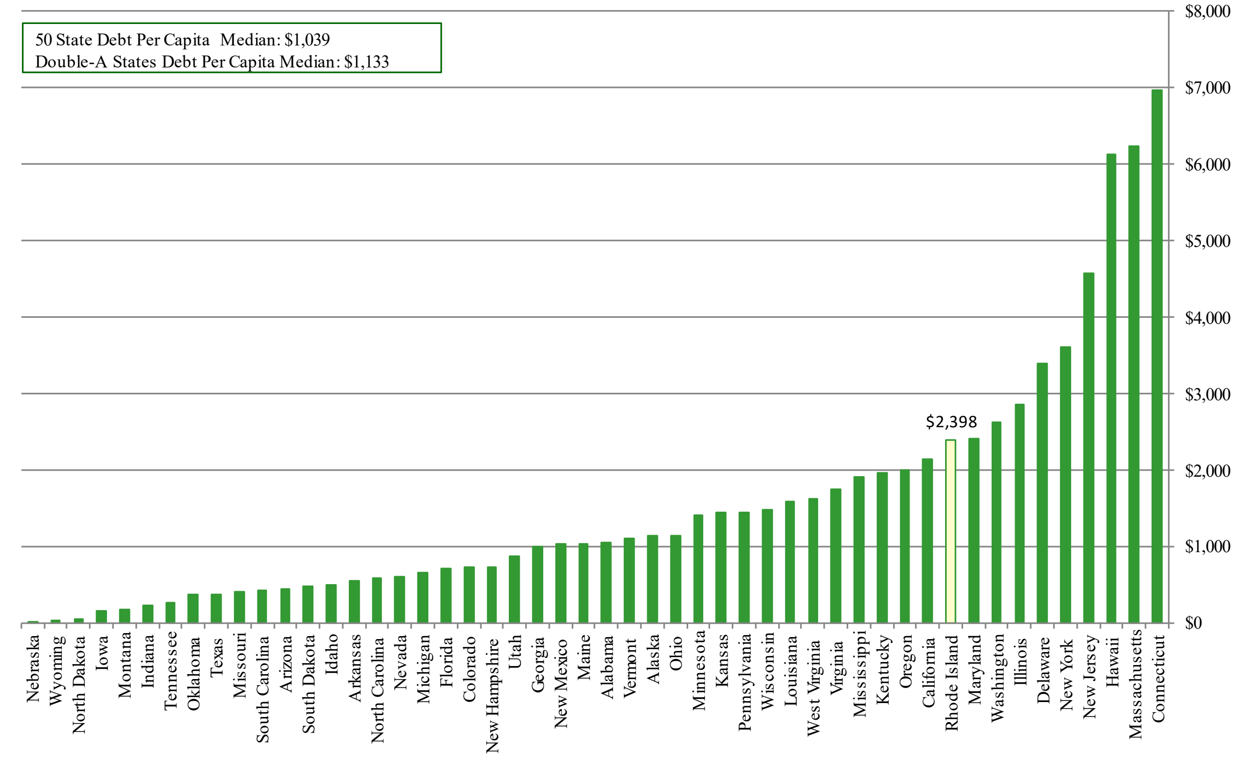


Source: Moody's State Debt Medians 2020, June 14, 2021.



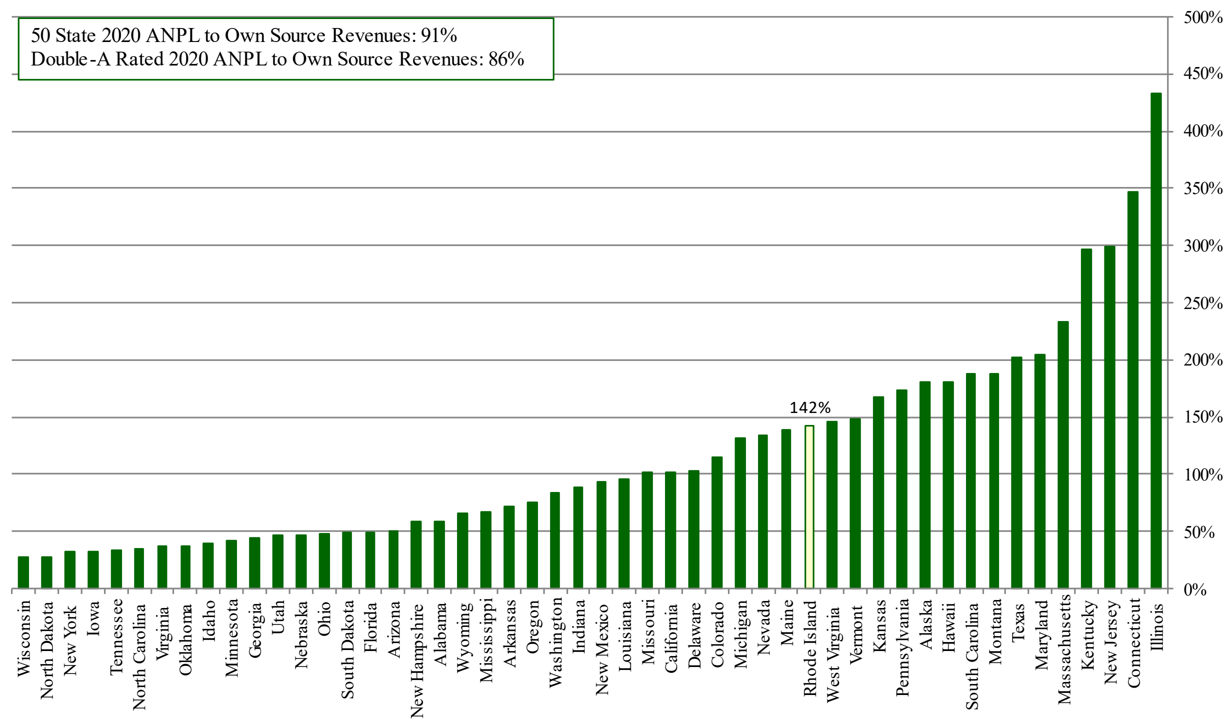
Source: Moody's State Debt Medians 2020, June 14, 2021.

Moody's Debt Per Capita
50 States

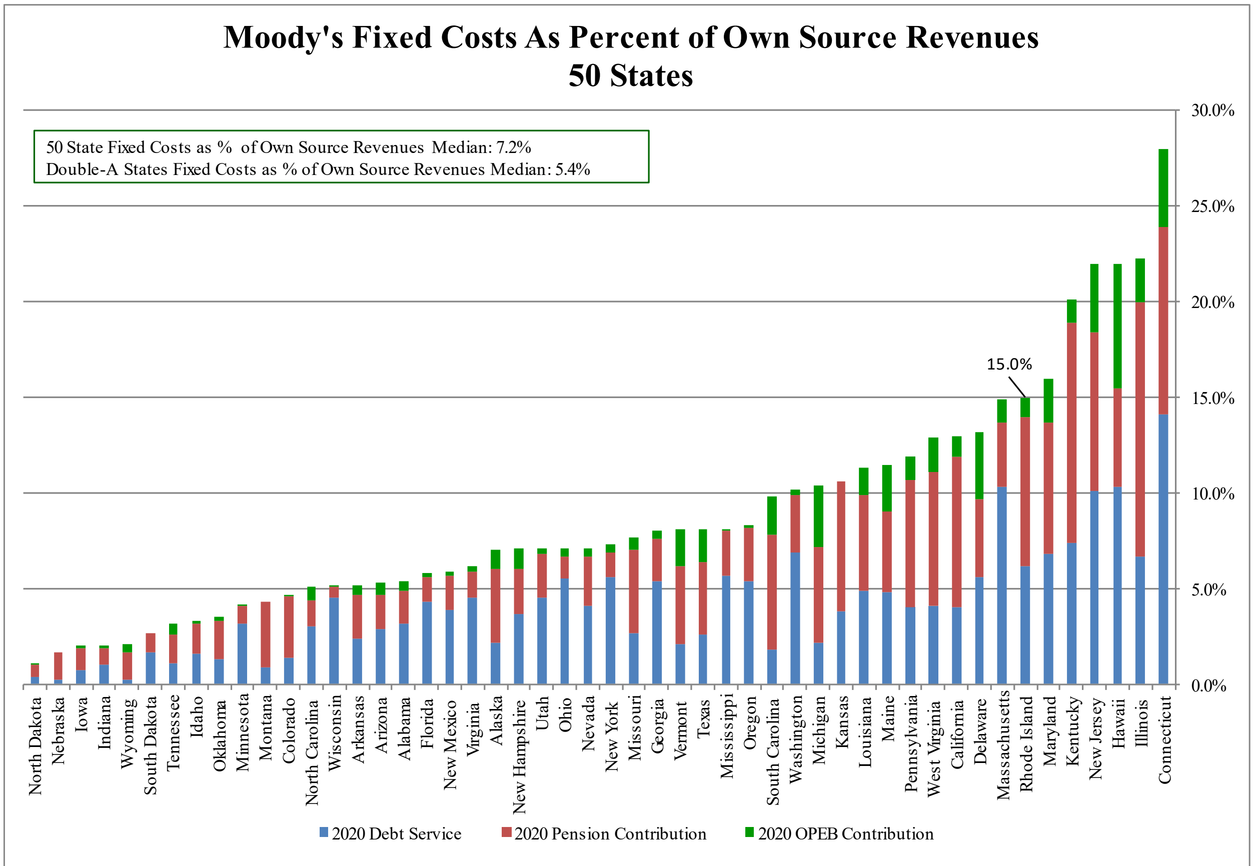


Source: Moody's State Debt Medians 2020, June 14, 2021 .

Moody's State 2020 Adjusted Net Pension Liability as % of Own Source Revenues
50 States



Source: Moody's Medians September 30, 2021.



Source: Moody's Medians September 30, 2021.

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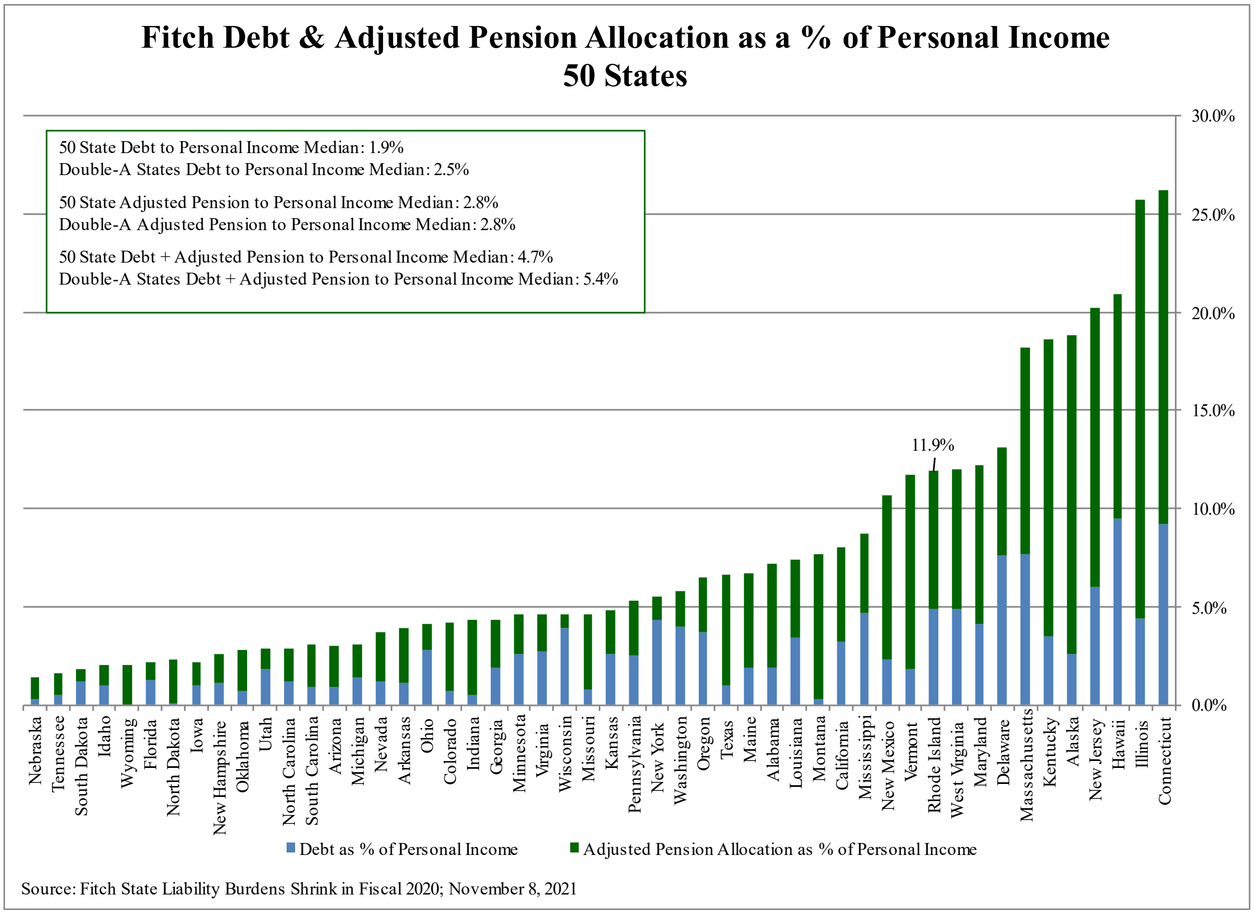
Fitch Estimated State Net Tax-Supported Debt and Unfunded Pension Obligations			
State	**Debt as % of Personal Income**	**Adjusted Pension Allocation as % of Personal Income**	**Debt & Adjusted Pension Allocation as % of Personal Income**
50-State Median	**1.9%**	**2.8%**	**4.7%**
Double-A Median	**2.5%**	**2.8%**	**5.4%**
Rhode Island (Aa2/AA/AA)	4.9%	7.0%	11.9%
Alabama (Aa1/AA/AA+)	1.9%	5.3%	7.2%
Alaska (Aa3/AA-/A+)	2.6%	16.2%	18.8%
Arizona (Aa1/AA/--)	0.9%	2.1%	3.1%
Arkansas (Aa1/AA/--)	1.1%	2.8%	3.8%
California (Aa2/AA-/AA)	3.2%	4.8%	8.0%
Colorado (Aa1/AA/--)	0.7%	3.5%	4.2%
Connecticut (Aa3/A+/AA-)	9.2%	17.0%	26.3%
Delaware (Aaa/AAA/AAA)	7.6%	5.5%	13.1%
Florida (Aaa/AAA/AAA)	1.3%	0.9%	2.2%
Georgia (Aaa/AAA/AAA)	1.9%	2.4%	4.3%
Hawaii (Aa2/AA+/AA)	9.5%	11.4%	20.8%
Idaho (Aa1/AA+/AA+)	1.0%	1.0%	2.0%
Illinois (Baa2/BBB/BBB-)	4.4%	21.3%	25.7%
Indiana (Aaa/AAA/AAA)	0.5%	3.8%	4.2%
Iowa (Aaa/AAA/AAA)	1.0%	1.2%	2.3%
Kansas (Aa2/AA-/--)	2.6%	2.2%	4.8%
Kentucky (Aa3/A/AA-)	3.5%	15.1%	18.6%
Louisiana (Aa3/AA-/AA-)	3.4%	4.0%	7.5%
Maine (Aa2/AA/AA)	1.9%	4.8%	6.7%
Maryland (Aaa/AAA/AAA)	4.1%	8.1%	12.2%
Massachusetts (Aa1/AA/AA+)	7.7%	10.5%	18.2%
Michigan (Aa1/AA/AA)	1.4%	1.7%	3.2%
Minnesota (Aa1/AAA/AAA)	2.6%	2.0%	4.5%
Mississippi (Aa2/AA/AA)	4.7%	4.0%	8.7%
Missouri (Aaa/AAA/AAA)	0.8%	3.8%	4.7%
Montana (Aa1/AA/AA+)	0.3%	7.4%	7.6%
Nebraska (Aa1/AAA/--)	0.3%	1.1%	1.4%

Fitch Estimated State Net Tax-Supported Debt and Unfunded Pension Obligations			
State	**Debt as % of Personal Income**	**Adjusted Pension Allocation as % of Personal Income**	**Debt & Adjusted Pension Allocation as % of Personal Income**
Nevada (Aa1/AA+/AA+)	1.2%	2.5%	3.7%
New Hampshire (Aa1/AA/AA+)	1.1%	1.5%	2.6%
New Jersey (A3/BBB+/A-)	6.0%	14.2%	20.2%
New Mexico (Aa2/AA/--)	2.3%	8.4%	10.7%
New York (Aa2/AA+/AA+)	4.3%	1.2%	5.4%
North Carolina (Aaa/AAA/AAA)	1.2%	1.7%	2.9%
North Dakota (Aa1/AA+/--)	0.1%	2.2%	2.3%
Ohio (Aa1/AA+/AA+)	2.8%	1.3%	4.1%
Oklahoma (Aa2/AA/AA)	0.7%	2.1%	2.8%
Oregon (Aa1/AA+/AA+)	3.7%	2.8%	6.5%
Pennsylvania (Aa3/A+/AA-)	2.5%	2.8%	5.3%
South Carolina (Aaa/AA+/AAA)	0.9%	2.2%	3.0%
South Dakota (Aaa/AAA/AAA)	1.2%	0.6%	1.7%
Tennessee (Aaa/AAA/AAA)	0.5%	1.1%	1.7%
Texas (Aaa/AAA/AAA)	1.0%	5.6%	6.7%
Utah (Aaa/AAA/AAA)	1.8%	1.1%	2.9%
Vermont (Aa1/AA+/AA+)	1.8%	9.9%	11.8%
Virginia (Aaa/AAA/AAA)	2.7%	1.9%	4.6%
Washington (Aaa/AA+/AA+)	4.0%	1.8%	5.8%
West Virginia (Aa2/AA-/AA)	4.9%	7.1%	12.0%
Wisconsin (Aa1/AA+/AA+)	3.9%	0.7%	4.6%
Wyoming (--/AA/--)	0.0%	2.0%	2.0%

Source: Fitch State Liability Burdens Shrink in Fiscal 2020; November 8, 2021.



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Standard & Poor's Debt Ratios				
State	**Debt Per Capita**	**Debt as % Personal income**	**Debt as % GSP**	**Debt Service as % General Spending**
50 State Median	**$941**	**1.82%**	**1.76%**	**3.68%**
Double-A States Median	**$1,150**	**1.98%**	**1.97%**	**3.59%**
Rhode Island (Aa2/AA/AA)	$1,717	2.82%	3.01%	5.72%
Alabama (Aa1/AA/AA+)	$927	1.98%	2.03%	3.85%
Alaska (Aa3/AA-/A+)	$1,202	1.86%	1.75%	1.16%
Arizona (Aa1/AA/--)	$426	0.87%	0.85%	1.54%
Arkansas (Aa1/AA/--)	$444	0.94%	1.04%	2.30%
California (Aa2/AA-/AA)	$2,084	2.92%	2.65%	6.13%
Colorado (Aa1/AA/--)	$528	0.83%	0.79%	1.10%
Connecticut (Aa3/A+/AA-)	$7,098	8.90%	8.99%	15.05%
Delaware (Aaa/AAA/AAA)	$2,670	4.70%	3.49%	5.42%
Florida (Aaa/AAA/AAA)	$731	1.32%	1.45%	5.52%
Georgia (Aaa/AAA/AAA)	$926	1.81%	1.60%	5.78%
Hawaii (Aa2/AA+/AA)	$5,154	8.49%	8.07%	11.27%
Idaho (Aa1/AA+/AA+)	$222	0.46%	0.48%	0.32%
Illinois (Baa2/BBB/BBB-)	$2,661	4.23%	3.88%	8.71%
Indiana (Aaa/AAA/AAA)	$238	0.46%	0.43%	1.17%
Iowa (Aaa/AAA/AAA)	$201	0.36%	0.33%	1.18%
Kansas (Aa2/AA-/--)	$1,450	2.59%	2.44%	3.32%
Kentucky (Aa3/A/AA-)	$1,385	2.98%	2.95%	3.78%
Louisiana (Aa3/AA-/AA-)	$1,454	2.91%	2.79%	5.17%
Maine (Aa2/AA/AA)	$865	1.59%	1.76%	3.59%
Maryland (Aaa/AAA/AAA)	$2,399	3.51%	3.44%	5.75%
Massachusetts (Aa1/AA/AA+)	$5,697	7.15%	6.72%	6.90%
Michigan (Aa1/AA/AA)	$550	1.04%	1.06%	0.96%
Minnesota (Aa1/AAA/AAA)	$1,294	2.10%	1.96%	3.38%
Mississippi (Aa2/AA/AA)	$1,848	4.43%	4.80%	6.07%
Missouri (Aaa/AAA/AAA)	$415	0.81%	0.79%	2.80%
Montana (Aa1/AA/AA+)	$130	0.24%	0.27%	1.09%
Nebraska (Aa1/AAA/--)	$16	0.03%	0.02%	0.49%

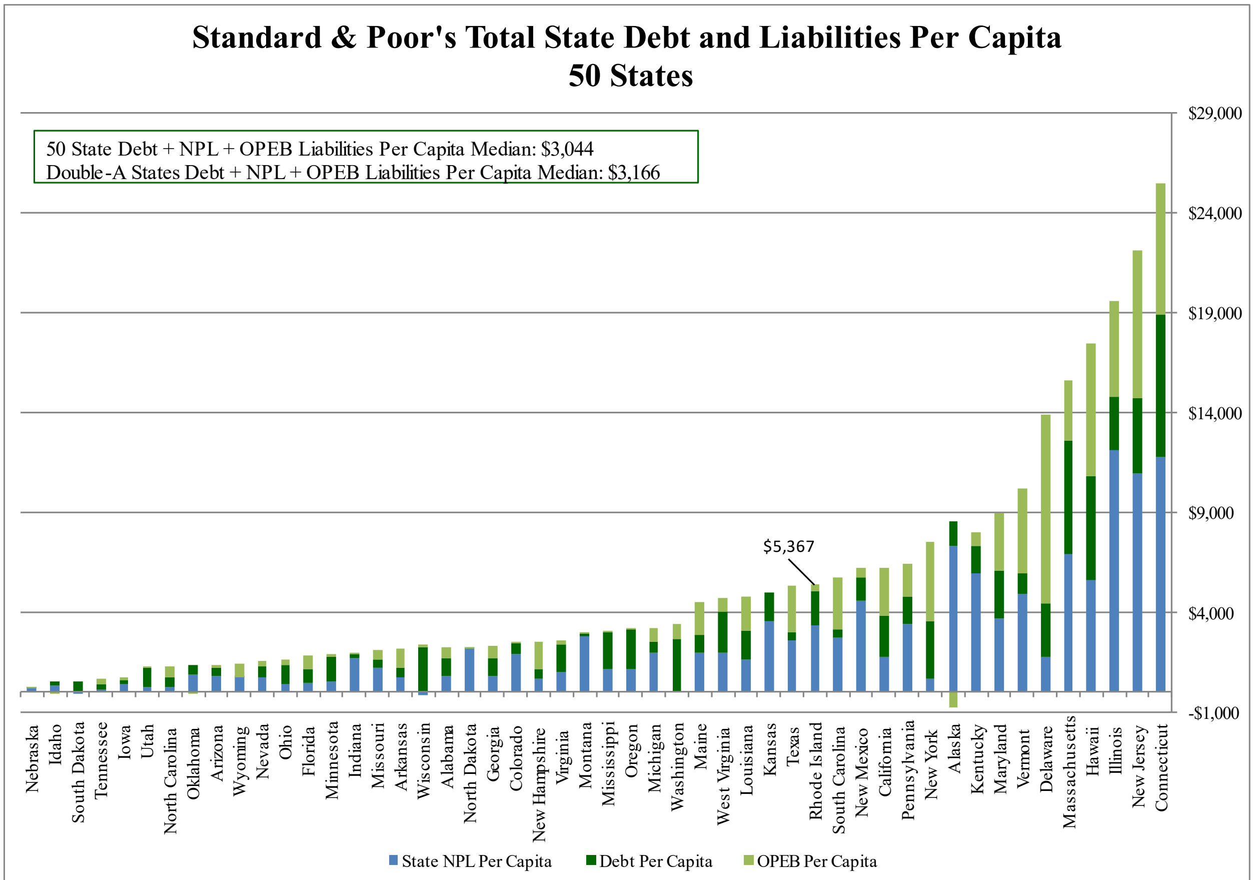
Standard & Poor's Debt Ratios				
State	**Debt Per Capita**	**Debt as % Personal income**	**Debt as % GSP**	**Debt Service as % General Spending**
Nevada (Aa1/AA+/AA+)	$537	1.00%	0.98%	2.28%
New Hampshire (Aa1/AA/AA+)	$472	0.71%	0.76%	3.45%
New Jersey (A3/BBB+/A-)	$3,793	5.04%	5.44%	10.66%
New Mexico (Aa2/AA/--)	$1,150	2.51%	2.41%	5.32%
New York (Aa2/AA+/AA+)	$2,831	3.75%	3.22%	6.00%
North Carolina (Aaa/AAA/AAA)	$492	0.98%	0.89%	2.48%
North Dakota (Aa1/AA+/--)	$46	0.08%	0.07%	0.46%
Ohio (Aa1/AA+/AA+)	$929	1.74%	1.61%	4.52%
Oklahoma (Aa2/AA/AA)	$507	1.03%	1.08%	1.25%
Oregon (Aa1/AA+/AA+)	$1,978	3.48%	3.35%	5.98%
Pennsylvania (Aa3/A+/AA-)	$1,430	2.30%	2.34%	6.02%
South Carolina (Aaa/AA+/AAA)	$394	0.83%	0.85%	2.15%
South Dakota (Aaa/AAA/AAA)	$523	0.91%	0.85%	2.21%
Tennessee (Aaa/AAA/AAA)	$268	0.53%	0.51%	2.12%
Texas (Aaa/AAA/AAA)	$365	0.67%	0.61%	2.65%
Utah (Aaa/AAA/AAA)	$952	1.82%	1.59%	3.76%
Vermont (Aa1/AA+/AA+)	$1,036	1.77%	1.97%	1.27%
Virginia (Aaa/AAA/AAA)	$1,414	2.27%	2.20%	4.75%
Washington (Aaa/AA+/AA+)	$2,539	3.72%	3.16%	6.88%
West Virginia (Aa2/AA-/AA)	$2,071	4.59%	5.02%	3.81%
Wisconsin (Aa1/AA+/AA+)	$2,267	4.09%	3.90%	4.16%
Wyoming (--/AA/--)	$23	0.04%	0.04%	0.12%

Source: Standard & Poor's U.S. States' and Transit Debt Hit Emergency Brake During Pandemic as Infrastructure Needs Accelerated June 9, 2021.

Standard & Poor's Pension Ratio & Total State Debt + Liabilities Per Capita					
State (M/S/F)	**Funded Ratio**	**State NPL Per Capita**	**Debt Per Capita**	**OPEB Per Capita**	**Debt, Pension & OPEB Per Capita**
50 State Median	68.9%	$1,413	$941	$527	$3,044
Double-A States Median	66.5%	$1,757	$1,150	$547	$3,166
Rhode Island (Aa2/AA/AA)	54.2%	$3,303	$1,717	$347	$5,367
Alabama (Aa1/AA/AA+)	66.5%	$772	$927	$547	$2,246
Alaska (Aa3/AA-/A+)	65.5%	$7,319	$1,202	-$745	$7,776
Arizona (Aa1/AA/--)	67.3%	$778	$426	$159	$1,363
Arkansas (Aa1/AA/--)	80.0%	$759	$444	$938	$2,141
California (Aa2/AA-/AA)	71.0%	$1,757	$2,084	$2,375	$6,216
Colorado (Aa1/AA/--)	63.8%	$1,900	$528	$63	$2,491
Connecticut (Aa3/A+/AA-)	43.1%	$11,779	$7,098	$6,563	$25,440
Delaware (Aaa/AAA/AAA)	85.1%	$1,735	$2,670	$9,486	$13,891
Florida (Aaa/AAA/AAA)	74.5%	$430	$731	$663	$1,824
Georgia (Aaa/AAA/AAA)	77.1%	$792	$926	$577	$2,295
Hawaii (Aa2/AA+/AA)	54.9%	$5,614	$5,154	$6,696	$17,464
Idaho (Aa1/AA+/AA+)	89.1%	$323	$222	-$59	$486
Illinois (Baa2/BBB/BBB-)	37.5%	$12,127	$2,661	$4,781	$19,569
Indiana (Aaa/AAA/AAA)	64.0%	$1,689	$238	$8	$1,935
Iowa (Aaa/AAA/AAA)	82.9%	$409	$201	$91	$701
Kansas (Aa2/AA-/--)	66.3%	$3,516	$1,450	$0	$4,966
Kentucky (Aa3/A/AA-)	44.6%	$5,923	$1,385	$672	$7,980
Louisiana (Aa3/AA-/AA-)	63.6%	$1,630	$1,454	$1,679	$4,763
Maine (Aa2/AA/AA)	81.2%	$1,976	$865	$1,622	$4,463
Maryland (Aaa/AAA/AAA)	69.9%	$3,667	$2,399	$2,850	$8,916
Massachusetts (Aa1/AA/AA+)	56.3%	$6,871	$5,697	$3,002	$15,570
Michigan (Aa1/AA/AA)	60.4%	$1,968	$550	$648	$3,166
Minnesota (Aa1/AAA/AAA)	79.5%	$495	$1,294	$112	$1,901
Mississippi (Aa2/AA/AA)	59.1%	$1,169	$1,848	$60	$3,077
Missouri (Aaa/AAA/AAA)	55.5%	$1,196	$415	$486	$2,097
Montana (Aa1/AA/AA+)	67.9%	$2,811	$130	$69	$3,010
Nebraska (Aa1/AAA/--)	86.6%	$175	$16	$8	$199

Standard & Poor's Pension Ratio & Total State Debt + Liabilities Per Capita					
State (M/S/F)	**Funded Ratio**	**State NPL Per Capita**	**Debt Per Capita**	**OPEB Per Capita**	**Debt, Pension & OPEB Per Capita**
Nevada (Aa1/AA+/AA+)	77.1%	$745	$537	$258	$1,540
New Hampshire (Aa1/AA/AA+)	65.6%	$689	$472	$1,380	$2,541
New Jersey (A3/BBB+/A-)	38.4%	$10,905	$3,793	$7,373	$22,071
New Mexico (Aa2/AA/--)	50.0%	$4,567	$1,150	$496	$6,213
New York (Aa2/AA+/AA+)	90.2%	$683	$2,831	$4,022	$7,536
North Carolina (Aaa/AAA/AAA)	86.7%	$264	$492	$506	$1,262
North Dakota (Aa1/AA+/--)	55.4%	$2,147	$46	$55	$2,248
Ohio (Aa1/AA+/AA+)	79.1%	$394	$929	$284	$1,607
Oklahoma (Aa2/AA/AA)	73.9%	$841	$507	-$10	$1,338
Oregon (Aa1/AA+/AA+)	75.8%	$1,146	$1,978	$17	$3,141
Pennsylvania (Aa3/A+/AA-)	57.1%	$3,373	$1,430	$1,622	$6,425
South Carolina (Aaa/AA+/AAA)	51.7%	$2,717	$394	$2,648	$5,759
South Dakota (Aaa/AAA/AAA)	100.0%	-$1	$523	$0	$522
Tennessee (Aaa/AAA/AAA)	92.0%	$139	$268	$238	$645
Texas (Aaa/AAA/AAA)	67.5%	$2,597	$365	$2,323	$5,285
Utah (Aaa/AAA/AAA)	91.7%	$227	$952	$6	$1,185
Vermont (Aa1/AA+/AA+)	56.1%	$4,883	$1,036	$4,284	$10,203
Virginia (Aaa/AAA/AAA)	71.8%	$992	$1,414	$175	$2,581
Washington (Aaa/AA+/AA+)	95.3%	$75	$2,539	$754	$3,368
West Virginia (Aa2/AA-/AA)	80.8%	$1,937	$2,071	$718	$4,726
Wisconsin (Aa1/AA+/AA+)	103.0%	-$153	$2,267	$117	$2,231
Wyoming (--/AA/--)	80.3%	$732	$23	$656	$1,411

Source: Standard & Poor's U.S. States Weigh Risk Reduction in Managing Pension and OPEB Liabilities September 20, 2021.



Source: Standard & Poor's U.S. States Weigh Risk Reduction in Managing Pension and OPEB Liabilities September 20, 2021.

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State	Boston College - Center for Retirement Research Pension and OPEB Statistics				Debt + Pension + OPEB Ratios with Boston College - Center for Retirement Research Pension-OPEB Statistics	
	Pension Annual Required Contribution (ARC) ($ million)	Net Pension Liability (NPL) ($ million)	OPEB Annual Required Contribution (ARC) ($ million)	Net OPEB Liability (NOL) ($ million)	Debt Service + Pension ARC + OPEB ARC to Own Source Revenues	Net-Tax Supported Debt + NPL + NOL to Personal Income
50 State Median	533.2	3,993.1	183.7	1,661.2	9.3%	4.9%
Double-A Median	456.7	3,768.3	153.6	1,270.8	9.7%	5.6%
Rhode Island (Aa2/AA/AA)	316.7	3,428.6	56.7	476.2	13.8%	10.0%
Alabama (Aa1/AA/AA+)	796.7	8,258.1	123.8	1,379.9	9.5%	6.4%
Alaska (Aa3/AA-/A+)	497.9	5,169.3	206.4	1,323.9	12.8%	15.7%
Arizona (Aa1/AA/--)	568.7	5,714.1	153.6	1,270.8	6.6%	2.8%
Arkansas (Aa1/AA/--)	317.7	2,555.3	182.1	2,014.5	7.1%	4.4%
California (Aa2/AA-/AA)	11,086.0	91,300.0	7,679.9	76,100.0	13.4%	9.1%
Colorado (Aa1/AA/--)	849.0	9,858.5	125.1	990.8	7.2%	4.0%
Connecticut (Aa3/A+/AA-)	3,230.7	39,100.0	1,740.9	19,095.9	37.4%	29.5%
Delaware (Aaa/AAA/AAA)	270.1	1,728.4	621.2	6,563.7	19.1%	21.0%
Florida (Aaa/AAA/AAA)	732.9	5,341.5	719.6	5,887.7	7.1%	2.2%
Georgia (Aaa/AAA/AAA)	1,035.4	9,146.7	166.5	1,685.5	9.7%	3.9%
Hawaii (Aa2/AA+/AA)	933.1	7,226.4	1,285.7	15,128.9	35.6%	37.2%
Idaho (Aa1/AA+/AA+)	76.1	304.4	4.4	49.5	3.0%	1.4%
Illinois (Baa2/BBB/BBB-)	12,876.1	136,900.0	4,257.4	45,743.3	38.2%	27.6%
Indiana (Aaa/AAA/AAA)	994.2	10,960.1	19.4	78.2	5.6%	3.6%
Iowa (Aaa/AAA/AAA)	154.2	1,082.1	83.1	403.6	2.7%	1.2%
Kansas (Aa2/AA-/--)	155.1	1,535.5	13.4	79.6	5.3%	3.6%
Kentucky (Aa3/A/AA-)	2,357.5	25,165.4	628.5	4,596.4	26.0%	18.2%
Louisiana (Aa3/AA-/AA-)	703.1	7,474.0	326.8	4,121.2	11.9%	8.1%
Maine (Aa2/AA/AA)	202.1	2,093.6	191.1	2,228.6	12.4%	7.8%
Maryland (Aaa/AAA/AAA)	2,444.7	22,300.0	933.5	10,549.8	19.2%	11.6%

State	Boston College - Center for Retirement Research Pension and OPEB Statistics				Debt + Pension + OPEB Ratios with Boston College - Center for Retirement Research Pension-OPEB Statistics	
	Pension Annual Required Contribution (ARC) ($ million)	Net Pension Liability (NPL) ($ million)	OPEB Annual Required Contribution (ARC) ($ million)	Net OPEB Liability (NOL) ($ million)	Debt Service + Pension ARC + OPEB ARC to Own Source Revenues	Net-Tax Supported Debt + NPL + NOL to Personal Income
Massachusetts (Aa1/AA/AA+)	4,405.9	47,142.1	1,279.8	13,000.0	25.3%	18.9%
Michigan (Aa1/AA/AA)	616.8	6,921.0	793.2	10,416.8	6.2%	4.5%
Minnesota (Aa1/AAA/AAA)	436.6	3,768.3	67.5	513.1	4.9%	3.5%
Mississippi (Aa2/AA/AA)	332.7	3,604.2	49.4	599.0	9.7%	8.0%
Missouri (Aaa/AAA/AAA)	697.5	6,760.6	200.2	2,993.8	9.0%	3.9%
Montana (Aa1/AA/AA+)	290.5	3,014.9	5.1	43.0	8.8%	5.6%
Nebraska (Aa1/AAA/--)	69.5	563.7	0.0	0.0	1.2%	0.5%
Nevada (Aa1/AA+/AA+)	273.6	2,834.4	102.5	809.0	10.2%	3.3%
New Hampshire (Aa1/AA/AA+)	91.6	971.7	84.8	520.4	8.3%	2.7%
New Jersey (A3/BBB+/A-)	6,775.6	72,774.8	4,872.1	48,200.0	36.9%	24.6%
New Mexico (Aa2/AA/--)	568.5	5,915.4	44.9	595.7	9.8%	8.9%
New York (Aa2/AA+/AA+)	1,665.7	3,101.5	3,944.8	42,700.0	11.2%	8.0%
North Carolina (Aaa/AAA/AAA)	376.8	2,333.1	453.5	3,985.5	5.6%	2.4%
North Dakota (Aa1/AA+/--)	115.7	727.0	15.5	122.3	3.1%	1.9%
Ohio (Aa1/AA+/AA+)	712.5	6,942.5	222.0	279.9	8.2%	3.3%
Oklahoma (Aa2/AA/AA)	349.3	2,627.5	24.5	167.1	4.4%	2.1%
Oregon (Aa1/AA+/AA+)	610.6	4,260.1	17.9	99.1	9.1%	5.3%
Pennsylvania (Aa3/A+/AA-)	4,252.9	40,200.0	1,058.3	12,953.4	15.4%	9.0%
South Carolina (Aaa/AA+/AAA)	354.9	3,949.5	1,132.0	11,900.0	10.9%	7.2%
South Dakota (Aaa/AAA/AAA)	17.4	0.0	0.0	0.0	1.7%	0.8%
Tennessee (Aaa/AAA/AAA)	251.2	821.9	231.8	2,164.9	3.3%	1.3%
Texas (Aaa/AAA/AAA)	6,166.5	53,875.1	4,222.6	41,900.0	16.0%	6.6%
Utah (Aaa/AAA/AAA)	201.5	656.3	4.2	2.1	6.4%	2.1%

State	Boston College - Center for Retirement Research Pension and OPEB Statistics				Debt + Pension + OPEB Ratios with Boston College - Center for Retirement Research Pension-OPEB Statistics	
	Pension Annual Required Contribution (ARC) ($ million)	Net Pension Liability (NPL) ($ million)	OPEB Annual Required Contribution (ARC) ($ million)	Net OPEB Liability (NOL) ($ million)	Debt Service + Pension ARC + OPEB ARC to Own Source Revenues	Net-Tax Supported Debt + NPL + NOL to Personal Income
Vermont (Aa1/AA+/AA+)	261.9	3,062.3	164.4	1,831.3	13.1%	15.2%
Virginia (Aaa/AAA/AAA)	773.8	6,850.1	185.2	1,637.0	7.5%	4.4%
Washington (Aaa/AA+/AA+)	607.4	3,538.3	519.2	4,200.6	10.6%	5.3%
West Virginia (Aa2/AA-/AA)	456.7	4,036.8	219.3	1,973.5	13.6%	11.1%
Wisconsin (Aa1/AA+/AA+)	253.4	0.0	61.4	551.7	5.9%	2.9%
Wyoming (--/AA/--)	41.8	430.3	66.1	293.7	4.7%	2.0%

Source: Pension ADC and OPEB ADC, NPL and NOL: Boston College Center for Retirement Research pension and OPEB models
Personal Income: Bureau of Economic Analysis, 2020 Personal Income.
Own Source Revenues: Moody's Investors Service.

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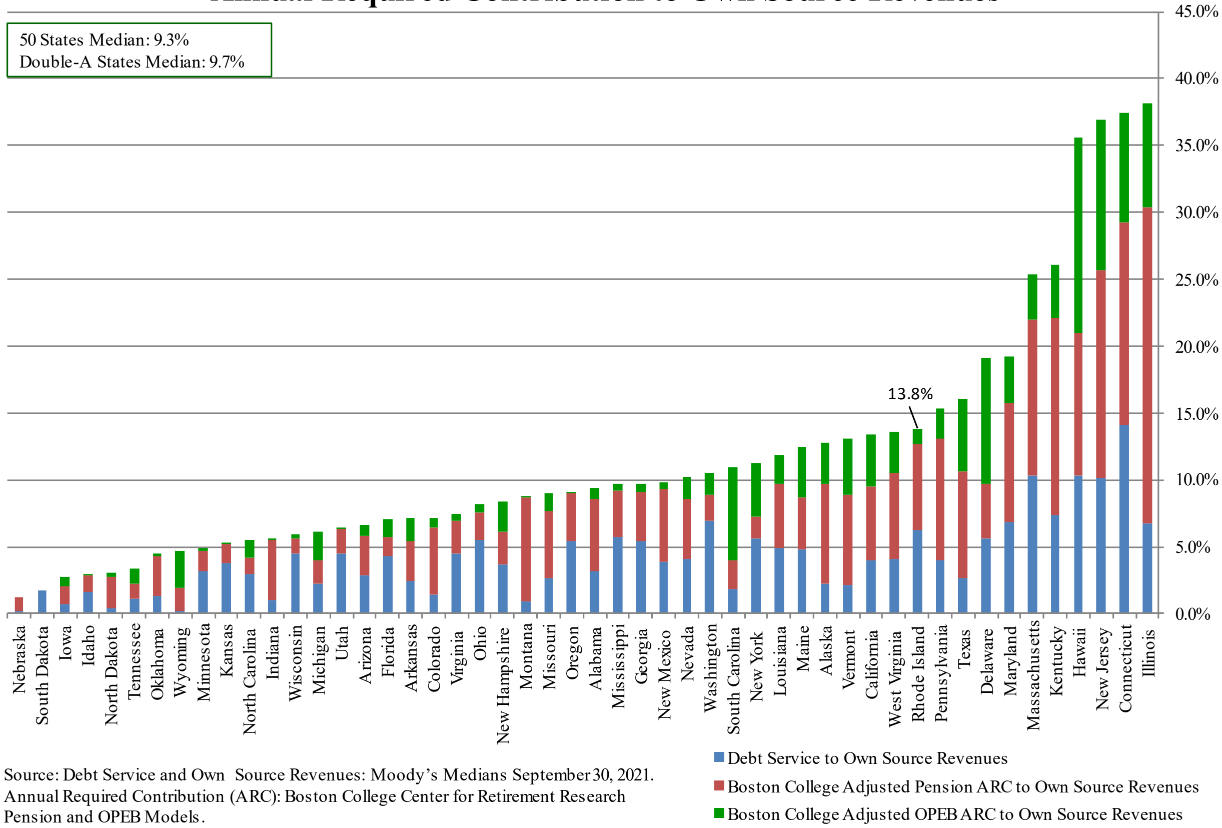
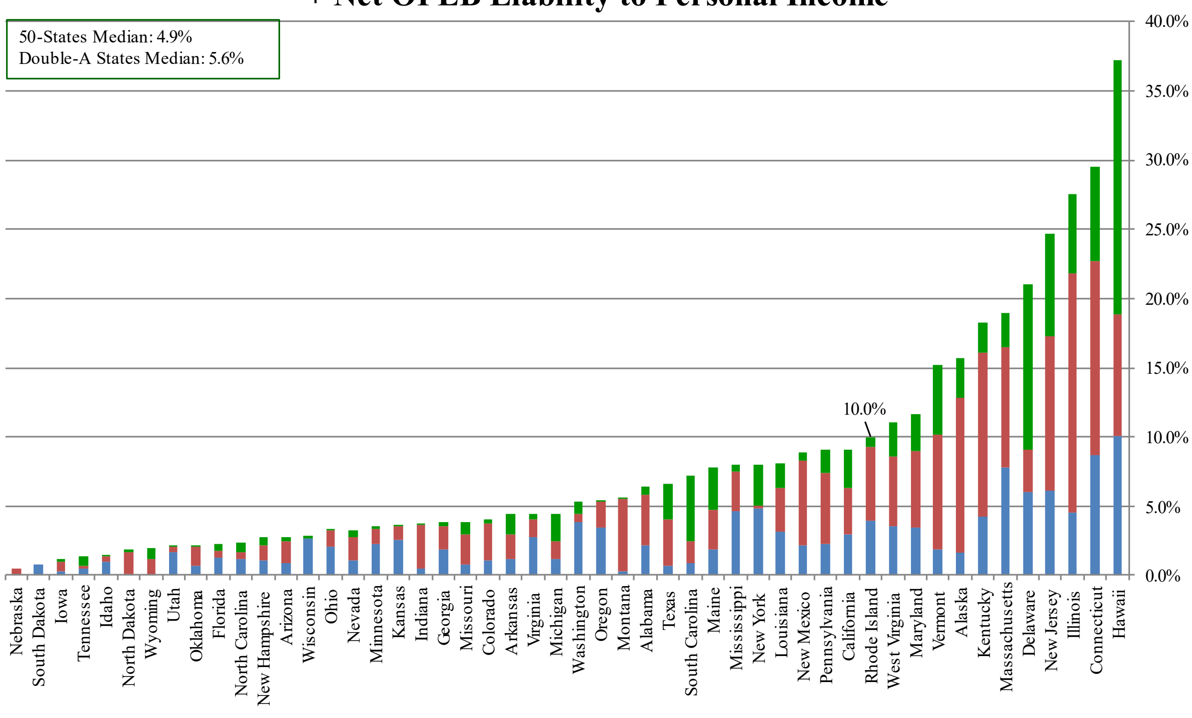
Debt Service + Pension Annual Required Contribution + OPEB Annual Required Contribution to Own Source Revenues



Source: Debt Service and Own Source Revenues: Moody's Medians September 30, 2021.
Annual Required Contribution (ARC): Boston College Center for Retirement Research Pension and OPEB Models.

Net-Tax Supported Debt + Net Pension Liability + Net OPEB Liability to Personal Income



Source: Debt to Personal Income: Moody's Medians September 30, 2021.
Net Pension Liability and Net OPEB Liability : Boston College Center for Retirement Research pension and OPEB models.
Personal Income: Bureau of Economic Analysis, 2020 Personal Income.

The Boston College Center for Retirement Research ("CRR") provided the following descriptions of their methodology for adjusting pension liability, pension annual required contribution, OPEB liability and OPEB annual required contribution.

CRR Pension Methodology

Data source: The data are first collected from the 2020 Comprehensive Annual Financial Reports (ACFRs) for each state and supplemented by plan ACFRs and actuarial valuations (AVs) as needed. Data are collected for each of the major plans in which the State participates as an employer and/or to which the State contributes as a non-employer. The sample generally excludes plans for judges and elected officials and, where possible, excludes the pension liabilities and contributions associated with component units. The raw data include the State's portion of each plan's net pension liability, the State's contributions to each plan, and the actuarial assumptions for each plan.

Tool Calculations. By summing the reported plan data for each state, the tool outputs baseline numbers for each state's total net pension liability and required pension contributions. Plans use different actuarial assumptions and methods to produce their reported numbers - both across and within states. The tool allows users to adjust the reported liabilities and contributions so that the numbers are presented under a consistent set of actuarial assumptions and methods across all plans. More specifically, the tool adjusts the reported NPL and contributions for each plan to reflect the NPL and contributions under user-selected assumptions and then aggregates the adjusted plan numbers to output new state-level data.

<u>Net Pension Liability (NPL)</u>: GASB 67 reporting standards require plans to report the sensitivity of the reported NPL to changes in the discount rate. As a result, ACFRs now contain sensitivity tables that show the change in dollar value of the NPL for a one-percentage-point change in the discount rate. This data is used to create a discount rate sensitivity factor for each plan.

The CRR estimates each plan's Total Pension Liability (TPL) value at the user-selected discount rate by applying the plan's sensitivity factor to the difference between the plan's reported discount rate and the chosen discount rate (see below). The adjusted NPL is then estimated by subtracting each plan's reported net position from the adjusted TPL value.

*Adjusted TPL = Reported TPL * Sensitivity Factor ^ (Reported Discount Rate - Chosen Discount Rate)*

Adjusted NPL = Adjusted TPL – Net Position

Sometimes, after adjusting a plan's TOL, the result is a negative adjusted NOL. In these cases, the adjusted NPL reported in the raw output is set to zero.

<u>Annual Required Contributions (ARC, or ADEC)</u>: To re-calculate the ARC under the chosen assumptions, the CRR adjusts the normal cost and amortization payment components separately. First, the reported service cost is adjusted to the chosen discount rate using an actuarial rule-of-thumb that assumes a 22.5-percent increase in the service cost for each 1-percentage point change in the discount rate. Then, the amortization payment is estimated through an amortization function designed to pay down the NPL – adjusted to the chosen discount rate – over the chosen amortization period and using the chosen amortization method. The adjusted normal cost and amortization payment are added together to produce the adjusted ARC. Finally, employee contributions are subtracted to isolate the employer portion.

*Adjusted service cost = Reported service cost * 1.225 ^ (Reported Discount Rate - Chosen Discount Rate)*

Adjusted amortization = amortization function of adjusted NPL using chosen amortization period and method

Adjusted ARC = Adjusted service cost + Adjusted amortization – Employee Contributions

Adjusted Numbers in Raw Pension Data. These numbers use the same methodologies described above to adjust net pension liabilities and ARCs to the assumptions used by the Employees Retirement System of Rhode Island - ERS - Teachers (Teachers). Teachers is the largest pension plan administered by the state.

For 2020, the assumptions used to recalculate all plans are:

- Discount Rate: 7.0%
- Amortization Period: 18 years
- Amortization Method: Level Percent of Pay
- Payroll Growth: 2.5%

Technically, the amortization period for Teachers is not exactly 18 years. As described in the plan's most recent actuarial valuation, in Table 2B, the plan uses a "fixed" method of amortization, where newly-accrued unfunded liabilities in each year are amortized on separate 20-year schedules ("laddered bases"). The CRR model simplifies this to an 18 year amortization period. As such, the adjusted ARC for Teachers does not precisely match the reported ARC.

When adjusting some plans' pension liabilities, the result is a negative net pension liability. In these cases, the adjusted value in the raw output is reset to zero. No negative NPL's are reported.

CRR OPEB Methodology

Data source: The data are first collected from the 2020 Comprehensive Annual Financial Reports (ACFRs) for each state and supplemented by plan ACFRs and actuarial valuations (AVs) as needed. Data are collected for each of the major plans in which the State participates as an employer and/or to which the State contributes as a non-employer. The sample generally excludes plans for judges and elected officials and, where possible, excludes the OPEB liabilities and contributions associated with component units. The raw data include the State's portion of each plan's net OPEB liability, the State's contributions to each plan, and the actuarial assumptions for each plan.

Tool Calculations. By summing the reported plan data for each state, the tool outputs baseline numbers for each state's net OPEB liability and required OPEB contributions. Plans use different actuarial assumptions and methods to produce their reported numbers - both across and within states. The tool allows users to adjust the reported liabilities and contributions so that the numbers are presented under a consistent set of actuarial assumptions and methods across all plans.

Net OPEB Liability (NOL): GASB 67 reporting standards require plans to report the sensitivity of the reported net OPEB liability to changes in the discount rate. As a result, most ACFRs now contain sensitivity tables that show the change in dollar value of the NOL for a one-percentage-point change in the discount rate. This data is used to create a discount rate sensitivity factor for each plan. For those that do not report sensitivity data, the analysis uses the average sensitivity factor of those that do report.

The CRR estimates each plan's total OPEB liability (TOL) value at the user-selected discount rate by applying the plan's sensitivity factor to the difference between the plan's reported discount rate and the chosen discount rate (see below). The adjusted NOL is then estimated by subtracting each plan's reported net position from the adjusted TOL.

*Adjusted Total OPEB Liability (TOL) = Reported Total OPEB Liability * Sensitivity Factor ^ (Reported Discount Rate - Chosen Discount Rate)*

Adjusted Net OPEB Liability (NOL) = Adjusted Total OPEB Liability – Net Position

Sometimes, after adjusting a plan's TOL, the result is a negative adjusted NOL. In these cases, the adjusted NOL reported in the raw output is set to zero.

Annual Required Contributions (ARC, or Annual OPEB Cost): To re-calculate the ARC under the chosen assumptions, the CRR adjusts the normal cost and amortization payment components separately.

For the normal cost component, the reported service cost is used for plans with data reported under new GASB standards. For plans that do not report service cost, the normal cost is estimated by subtracting an estimated amortization payment (discussed below) from reported ARC. For plans whose estimated normal cost values are zero or negative, the CRR instead applies the sample's average ratio of normal cost to TOL to the plan's reported TOL. For all plans, the normal cost value is adjusted to the chosen discount rate using an actuarial rule-of-thumb that assumes a 22.5-percent increase in the service cost for each 1-percentage point change in the discount rate.

The amortization payment is estimated through an amortization function designed to pay down the net OPEB liability – adjusted to the chosen discount rate – over the chosen amortization period and using the chosen amortization method. The adjusted normal cost and amortization payment are added together to produce the adjusted ARC. Finally, employee contributions are subtracted to isolate the employer portion.

*Adjusted service cost = Reported (or estimated) service cost * 1.225 ^ (Reported Discount Rate - Chosen Discount Rate)*

Adjusted amortization = amortization function of adjusted net OPEB liability using chosen amortization period and method

Adjusted ARC = Adjusted service cost + Adjusted amortization – Employee Contributions

In a few cases, especially in cases where OPEB plans are not pre-funded (ie., they have no assets), no ARC is reported. In these cases, the "reported" ARC is estimated similarly to the adjusted ARC by using the reported service cost (or estimated service cost based on the average of those that do report) and an amortization payment that is calculated using the plan's stated assumptions:

Estimate of "reported" ARC = Service cost + Estimated amortization – Employee contributions

Adjusted Numbers in Raw OPEB Data. These numbers use the same methodologies described above to adjust Net OPEB Liabilities and ARCs to the assumptions used by the Rhode Island State Employees Retiree Health Plan (RHP). The Rhode Island State Employees RHP is the state's largest OPEB plan. For 2020, the plan's assumptions are:

- Discount Rate: 5.0%
- Amortization Period: 19 years
- Amortization Method: Level Percent of Pay
- Payroll Growth: 3.0%

Appendix B – Part Two

Quasi-Public Agencies
Debt Information

APPENDIX B

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Outstanding Debt of Quasi-Public Agencies – Pooled Bond Programs

Issuer/Debt Program	Security	Indenture Required Additional Bonds Test	Outstanding as of 6/30/2021
Rhode Island Health and Educational Building Corporation -Education			
Public Schools Revenue Bond Financing Program	Loan repayments reflecting general obligation pledge of the participating borrowers. Failure to pay would result in intercept of the State Housing Aid and Basic Education Aid of a borrower	Additional bonds may be issued and separately secured by applicable revenues. Intercept of State Housing Aid and Basic Education Aid is available	$843,615,000
Higher Education Facility Revenue Bonds (Board of Education, Board of Governors for Higher Education, Council on Postsecondary Education)	Rent payments, Educational and General Revenues of specific university/state colleges, including tuition and state appropriations. Auxiliary Enterprise Revenues for auxiliary revenue bonds	Additional bonds test: 1.0x MADs	$270,970,000
Achievement First Rhode Island, Inc., Series A & B	Secured by revenues derived solely from the organization for which the project was financed.	--	$9,137,637
Bishop Hendricken High School, Series A & B	Secured by revenues derived solely from the organization for which the project was financed.	--	$4,035,267
Blackstone Valley Prep	Secured by revenues derived solely from the organization for which the project was financed.	--	$31,314,429
Brown University	General obligation of Brown University	No additional bonds test	$632,240,000
Bryant University	General obligation of Bryant University	If rated below investment grade, additional bonds must be secured by a letter or credit.	$98,831,380
CVS-Highlander Charter School	General obligation pledge of Borrower’s Gross Receipts and letter of credit.	Additional bonds must have a letter of credit and ratings confirmation.	$2,955,000
Immaculate Conception Catholic Regional School	Secured by revenues derived solely from the organization for which the project was financed.	--	$3,493,750
International Institute of RI, Inc.	Secured by revenues derived solely from the organization for which the project was financed.	--	$1,300,000
Johnson & Wales University	Secured by pledge of tuition fees similar to other Johnson & Wales debt	Additional bonds permitted	$20,104,773
Kingston Hill Academy	Secured by revenues derived solely from the organization for which the project was financed.	--	$6,200,000
Meeting Street School	Secured by pledge of School’s Gross Receipts and letter of credit.	Additional bonds must have a letter of credit and ratings confirmation.	$24,224,767
Mercymount Country Day School	Secured by revenues derived solely from the organization for which the project was financed.	--	$2,789,587
Moses Brown School	Secured by the loan, all moneys and securities held by the Trustee, mortgage and letter of credit.	Unless Institution maintains an Investment Grade Rating, any additional bonds shall be secured by a letter of credit.	$18,671,409
Mount Saint Charles Academy	Secured by revenues derived solely from the organization for which the project was financed.	--	$3,570,627

Outstanding Debt of Quasi-Public Agencies – Pooled Bond Programs

Issuer/Debt Program	Security	Indenture Required Additional Bonds Test	Outstanding as of 6/30/2021
New England Institute of Technology	General obligation of New England Institute of Technology and a mortgage.	Additional bonds permitted with DSRF	$91,090,276
Portsmouth Abbey School	Secured by revenues derived solely from the organization for which the project was financed.	--	$14,779,736
Providence College	General obligation secured by a pledge of certain Tuition Fees up to 1.1x MADs	Additional bonds test: 1.1x MADs	$151,155,000
Providence Public Buildings Authority	Secured by payments under the financing agreements and an intercept of the State Housing Aid and Basic Education Aid and a mortgage.	No additional bond test	$163,605,000
Rhode Island School of Design	Pledge of Unrestricted College Revenues.	Additional bonds must have a letter of credit and ratings confirmation.	$190,940,000
Roger Williams University	Pledge of Tuition Fees and Rentals up to 1.1x MADs	Additional bonds must have a letter of credit and ratings confirmation.	$90,896,031
Saint Philomena School	Secured by revenues derived solely from the organization for which the project was financed.	--	$1,428,900
Saint Raphael Academy	Secured by revenues derived solely from the organization for which the project was financed.	--	$3,010,938
Salve Regina University	Secured by Tuition Fees and Mortgage	--	$36,693,329
St. Andrew's School	Secured by revenues derived solely from the organization for which the project was financed.	--	$15,909,867
St. George's School	Secured by assignment effected by the Agreement and all other monies and securities held from time to time by the Trustee.	Additional bonds may be issued that are equally and ratably secured with the Bonds.	$36,490,039
The Compass School	Secured by revenues derived solely from the organization for which the project was financed.	--	$4,698,401
The Learning Community Charter School	Secured by revenues derived solely from the organization for which the project was financed.	--	$2,877,000
Times2 Academy, Inc.	Secured by revenues derived solely from the organization for which the project was financed.	--	$4,229,253
Trinity Academy for Performing Arts	Secured by revenues derived solely from the organization for which the project was financed.	--	$6,401,134
Rhode Island Health and Educational Building Corporation – Health Care			
Blackstone Valley Community Health Care	Secured by pledge of borrower's gross receipts and a mortgage	No additional bonds test	$5,225,991
Care New England Health System	General obligation of the Borrower. Secured by Gross Receipts of the Obligated Group.	Additional bonds test at 1.10x of historical debt service	$125,750,000

Outstanding Debt of Quasi-Public Agencies – Pooled Bond Programs

Issuer/Debt Program	Security	Indenture Required Additional Bonds Test	Outstanding as of 6/30/2021
Child and Family Services of Newport County	Secured by Borrower's pledge and grant, assignment effected by the Agreement, all other monies and securities held from time to time by the Trustee and letter of credit.	Additional bonds may be issued that are equally and ratably secured with the Bonds and secured with a letter of credit.	$6,421,679
Hope Health Hospice & Palliative Care	General obligation secured by pledge of Borrower's Gross Receipts and letter of credit.	Additional bonds permitted with a letter of credit and ratings confirmation.	$10,638,257
Lifespan Obligated Group	Gross receipts from the hospitals, including contributions, donations, pledges and revenues derived from the operation of all the facilities of the members of the obligated group. Also secured by mortgages on portions of certain hospital campuses.	Additional indebtedness with 1.10x coverage with additional tests.	$197,880,000
Newport Hospital	Secured by Borrower's Gross Receipts, letter of credit and Guaranty.	Additional bonds permitted with a letter of credit and ratings confirmation.	$13,129,000
NRI Community Services, Inc.	Secured by assignment effected by the Agreement, all other monies and securities held from time to time by the Trustee and letter of credit.	Additional bonds may be issued that are equally and ratably secured with the Bonds and secured with a letter of credit.	$2,255,000
Ocean State Assisted Living	Secured by pledge of borrower's gross receipts and a mortgage	No additional bonds test	$7,701,000
Rhode Island Blood Center	Secured by pledge of borrower's gross receipts	No additional bonds test	$7,137,120
Saint Elizabeth Home, East Greenwich	Secured by pledge of borrower's gross receipts and a mortgage	No additional bonds test	$12,515,019
Saint Elizabeth Manor, East Greenwich	Secured by pledge of borrower's gross receipts and a mortgage	No additional bonds test	$12,226,290
Scandinavian Home, Inc	Secured by pledge of borrower's gross receipts and a mortgage	No additional bonds test	$3,387,678
Seven Hills Rhode Island Inc.	Unlimited obligation of the Hospital and pledge of Gross Receipts and a mortgage.	Additional bonds test with 1.30x coverage historical and 1.40x coverage projected.	$1,808,466
South County Hospital	Unlimited obligation of the Hospital and pledge of Gross Receipts and a mortgage.	Additional bonds test with 1.30x coverage historical and 1.40x coverage projected.	$42,063,750
Steere House	Secured by pledge of Gross Receipts of Institution, monies in the Debt Service Fund, monies in the Debt Service Reserve Fund and Mortgage.	Additional bonds may be issued that are equally and ratably secured with the Bonds and pursuant to a supplemental loan and trust agreement.	$3,923,000

Outstanding Debt of Quasi-Public Agencies – Pooled Bond Programs

Issuer/Debt Program	Security	Indenture Required Additional Bonds Test	Outstanding as of 6/30/2021
Tamarisk, Inc	Secured by pledge of borrower's gross receipts and a mortgage	No additional bonds test	$7,837,418
The Frassati	Secured by pledge of borrower's gross receipts	No additional bonds test	$4,466,747
The Providence Community Health Centers, Inc.	Secured by pledge of borrower's gross receipts	No additional bonds test	$8,576,685
Thundermist Health Center	General obligation of the borrower and a mortgage	No additional bonds test	$1,895,208

Outstanding Debt of Quasi-Public Agencies – Pooled Bond Programs

Issuer/Debt Program	Security	Indenture Required Additional Bonds Test	Outstanding as of 6/30/2021
Rhode Island Infrastructure Bank			
Water Pollution Control Revenue Bonds	Pledged loan payments from underlying borrowers, debt service reserve accounts for certain borrowers, and Local Interest Subsidy Trust (LIST) fund reserves (if applicable).	Additional senior bonds can be issued if projected loan revenues and LIST earnings are at least 1x maximum annual debt service (MADS) on existing and proposed senior bonds. When incorporating planned LIST de- allocations and direct loan principal, these revenues need to represent at least 1.15x MADS on senior bonds. To issue subordinate bonds, all available revenues must represent at least 1x pro forma MADS.	$378,225,000
Safe Drinking Water	Pledged loan payments from underlying borrowers, debt service reserve accounts for certain borrowers, and Local Interest Subsidy Trust (LIST) fund reserves (if applicable).	Additional senior bonds can be issued if projected loan revenues and LIST earnings are at least 1x MADS on existing and proposed senior bonds. When incorporating planned LIST de- allocations and direct loan principal, these revenues need to represent at least 1.15x MADS on senior bonds. To issue subordinate bonds, all available revenues must represent at least 1x pro forma MADS.	$186,811533
Municipal Road and Bridge	Pledged loan payments from underlying borrowers, debt service reserve accounts for certain borrowers.	Additional bonds can be issued if projected loan revenues are at least 1.20x existing plus proposed annual debt service in each subsequent year.	$39,760,000
Efficient Buildings Fund	Pledged loan payments from underlying borrowers, program debt service reserve fund.	Additional bonds can be issued if projected loan revenues are at least 1.20x existing plus proposed annual debt service in each subsequent year.	$30,080,000
Other Water Pollution Control and Drinking Water (non-SRF)	Conduit bond issues. Net revenue pledges secure the bonds.	Revenue Sufficiency Certificate, stating that revenues are sufficient to pay debt service.	$55,310,000

Outstanding Debt of Quasi-Public Agencies – Pooled Bond Programs

Issuer/Debt Program	Security	Indenture Required Additional Bonds Test	Outstanding as of 6/30/2021
Rhode Island Housing and Mortgage Finance Corporation			
Homeownership Opportunity Bonds	Secured by bond proceeds, mortgage revenues and non-mortgage receipts, accounts under the resolution and all program obligations financed by the resolution	Certificate stating revenues are sufficient to provide for the payment of bonds	$843,830,000
Home Funding Bonds and Notes	Secured by all proceeds of bonds deposited to the Loan Account and revenues derived from program obligations	Certificate stating revenues are sufficient to provide for the payment of bonds	$32,770,000
Multi-Family Funding Bonds	Mortgage loans and revenues	Certificate stating revenues are sufficient to provide for the payment of bonds	$84,600,000
Multi-Family Development Bonds	Mortgage loans and revenues	Certificate stating revenues are sufficient to provide for the payment of bonds	$307,440,000
Multi-Family Mortgage Revenue Bonds	Freddie Mac credit enhancement. Mortgage loans and revenues	Certificate stating revenues are sufficient to provide for the payment of bonds	$117,994,115
Rhode Island Student Loan Authority			
Student Loan Program Revenue Bonds	Secured by non-federal loans, various accounts established under the indenture, payments of principal and interest on Non-Federal Loans financed pursuant to the Indenture and investment earnings.	Requires rating affirmations from rating agencies rating the bonds.	$411,330,000
FFELP Loan Program Revenue Bonds	Secured by FFELP Loans, all amounts held under the indenture, and the rights to the servicing agreements and guarantee agreements related to the loans.	FFELP Loan program eliminated in 2010. Any additional bonds would likely be only for refinancing outstanding bonds.	$95,866,000
Notes Payable and Line of Credit	Secured by RISLA refinanced loans. Bank has a security interest on loan repayments and the refinanced loans pledged to the Line. Underwriting and servicing are approved by the Bank.	Two lines of credit, one expired June 2, 2019 and the second expired June 19, 2020. Multiple draws on the lines of credit were converted into term notes.	$13,686,455

Comparison of Rating Agency Methodologies for Pooled Programs and State Revolving Funds

	Fitch Ratings	Moody's Investors Service	Standard & Poor's
Portfolio Analysis	Assess Weighted Average Default Rate (WADR) and calculates a Portfolio Stress Model (PSM) based on long-term default rates of corporate entities. Assess credit quality of underlying borrowers. Liability Rating Stress Hurdle	Pool financings: Debt obligations secured by loan repayments from a small group of obligors. Evaluate underlying credit quality of pool participants and nature of obligation. Employ Weighted Average Probability of Default. Determine weighted average credit quality of pool participants. State Revolving Funds: Evaluate Portfolio Credit Quality and Default Tolerance Score**:** • Portfolio size and diversity (size, percentage of borrowers with less than 1% of the portfolio, percentage of loans to the top five borrowers)	Calculate **Enterprise Risk Score** • Industry risk for government and not-for-profit municipal pool programs equates to low risk • Market position reflects level of government support received, existence of legislative authorization and presence of any significant challenges that could affect demand. • Geographic concentration – programs that target only one metropolitan area receive a one-notch negative adjustment Calculate Financial Risk Score • Determine relative default rates given credit quality of underlying loan portfolio • Review operating performance • Review financial policies and practices
Program Management	Evaluate management's processes and procedures, including underwriting criteria, loan monitoring procedures, technology, program goals and requirements, historical loan delinquencies and defaults	Review program and portfolio management: loan underwriting standards, portfolio monitoring	Review Loan Origination Policies, Loan Monitoring Policies, Default and Delinquencies Policies, Long-term Planning, Investment Policies
Legal Review	State aid intercept mechanisms Required program-level reserves Moral obligation to fund debt service reserve funds may benefit from rating improvement Surplus Reserve Fund release requirements (cash flow coverage test must be met before surplus is released or de-allocated) Review Additional Bonds Test Review other credit enhancements (debt service fund, additional local reserve requirements, higher interest rate on a delinquent loan) Review any provisions for cross-collateralization.	Presence of a debt service reserve fund viewed as credit strength. Provision for obligating pool participants to make up any funding shortfall or refill a DSRF. Restrictions on removing surplus funds from the program. SRF: Review rate covenants, pledged reserves at borrower level; presence of state aid intercept or moral obligation of individual loans; presence of step-provisions. Review assets pledged, cross-collateralization. Surplus Reserve Fund release requirements (cash flow coverage test must be met before surplus is released or de-allocated) Review additional bonds test, reserve requirements.	Examine state sponsored programs for power to influence local borrower behavior: • Regulatory or oversight authority • State intercept provisions • Other measures to compel nonpayment without court action

Comparison of Rating Agency Methodologies for Pooled Programs and State Revolving Funds

	Fitch Ratings	Moody's Investors Service	Standard & Poor's
Cash Flow Sufficiency	Review cash sources (loan repayments, subsidies, reserves and surplus fund balances) Coverage requirements of at least 1.25x viewed as strong; 1.1x or less viewed as weaker Program Asset Strength Ratio: Aggregate Pledged Assets (loan repayments plus reserve funds, account earnings) divided by aggregate outstanding debt service.	Review cash flow structure and over-collateralization of loans to bonds. Also allows for hybrid structures using features from both the cash flow structure and the reserve structure to over-collateralize.	Loss Coverage: Leverage Test for AAA rated programs: Review leverage level - Total loan revenue receivable plus pledged reserves divided by total bond debt service payable Operating Performance: Number of non-performing loans as a percent of total loans and percent of payments more than five days late in the past 12 months
Stress Tests	Use internal Cash Flow Model to test stress scenarios and find the 4-year default tolerance rate.	Assess cash flow under different interest rates and loan performance scenarios	Largest obligor test – assess possibility of default if largest obligor defaults. Aggregates sub AA- debt instruments from same obligor to determine largest single obligor.
Clean Water and Drinking Water SRF	Many have significant enhancement from federal capitalization grants and required state matching grants (typically state appropriations, state revenues, or state bond proceeds), which are usually invested in reserve funds and used to provide overcollateralization.		
	U.S. Public Finance State Revolving Fund and Municipal Pool Program Rating Criteria, March 13, 2019	*Public Sector Financings, July 18, 2012* *U.S. State Revolving Fund Debt, March 20, 2013*	*U.S. Public Finance Long-Term Municipal Pools: Methodology and Assumptions, March 19, 2012 - Updated as of June 21, 2019*

Debt Management Practices of Selected New England States with Quasi Public Agencies

Connecticut

- Connecticut does not have debt policies for quasi-public agencies.
- There is no formal oversight of quasi-public agencies.
- State Treasurer sits on the board of quasi-public agencies.
- Certain agencies are able to use the Special Capital Reserve Fund (SCRF)
  - A SCRF is a debt service reserve fund set up at the time the bonds are issued, in an amount equal to the lesser of either one year's principal and interest on the bonds or ten percent of the issue.
  - If the borrower makes the scheduled debt service payments, the interest earnings on the reserve fund will pay the interest on the bonds that created it and the principal will go to retire the final maturity of the bond issue.
  - If the borrower is unable to pay all or part of the scheduled debt service payments, the reserve may be drawn upon to pay debt service.
  - The reserve provides up to a year's adjustment time to deal with a revenue shortfall.
  - When the SCRF has been drawn down in part or completely, a draw on the General Fund is authorized and the reserve is fully restored. The draw on the General Fund is deemed to be appropriated and is not subject to the constitutional or statutory appropriations cap. All that is required is a certification by the issuing authority of the amount required. If draws on a SCRF continue, the annual draws on the General Fund required to refill it also continue.
  - State Treasurer conducts a full review and analysis for cash flow sufficiency to ensure that the State will not be making any debt service payments. There are no defined debt affordability measures.
  - Currently, only the South Central Regional Water Authority has debt with SCRF.

Massachusetts

- Massachusetts does not have procedures to control debt by quasi-public agencies.
- Treasurer sits on the board of quasi-public agencies.
- Massachusetts does not allow any moral obligation debt.
- Massachusetts has a debt management policy for the state’s six bond programs: General Obligation Bonds, Special Obligation Revenue Bonds (motor fuel excise), Special Obligation Dedicated Tax Revenue Bonds (Convention Center), Senior Federal Highway Grant Anticipation Notes (or GANs), Commonwealth Transportation Fund Bonds (CTF for the Accelerated Bridge Program), and Federal Highway Grant Anticipation Notes (Accelerated Bridge Program)

New Hampshire

- New Hampshire does not have procedures to control debt by quasi-public agencies.
- Treasurer sits on the board of several quasi-public agencies.
- New Hampshire has various guarantee programs
  - The statutes authorizing the guarantee programs require approval by the Governor and Council of any award of a state guarantee
  - Statutory limitations may be either on the total amount guaranteed or on the total amount guaranteed that remains outstanding at any time (a revolving limit)
  - The statutory dollar limit may represent either the total amount of principal and interest or only the total amount of principal
  - The State has the following guarantee programs: Local Water Pollution Control Bonds; Local School Bonds; Local Superfund Site Bonds; Local Landfill and Waste Site Bonds; Business Finance Authority Bonds, Loans; Pease Development Authority; and Housing Finance Authority Child Care Loans

Debt Management Practices of Selected New England States with Quasi Public Agencies

<u>Vermont</u>

- The Vermont Treasurer is responsible for managing all tax-supported debt, which is all State of Vermont issued debt
- Vermont does not have specific procedures to control debt by quasi-public agencies.
- The Vermont Treasurer sits on boards of debt issuing quasi-public agencies and all quasi-public agencies that have moral obligation authority.
- The Vermont Treasurer chairs the Capital Debt Affordability Advisory Committee which has established a target of total moral obligation debt as a percentage of total State tax supported debt as way to have a high-level management of quasi-public agency moral obligation debt.

Appendix C – Part Three

Municipality Debt, Demographic and Economic Statistics, Debt and Pension Liability Ratios and State Reimbursements for School Projects

APPENDIX C
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Outstanding Municipality Debt

				Governmental Activities - Tax-Supported									Business Activities				
Municipality	Moody's	S&P	Fitch	General Obligation Bonds	Loans Payable	Capital Leases/ Leases Payable	Net Direct Debt	Housing Aid Reimbursement (Bonds Only) (2020-2033)	GO Debt Service	Loans Debt Service	Lease Payments	Total Debt Service (2021)	Enterprise Debt	Enterpise Debt Debt Service	Gross Direct Debt	Overlapping Debt	Overall Debt
Barrington	Aa1	AAA	NR	6,580,000	72,516,198	633,141	79,729,339	(11,134,714)	947,309	7,807,031	213,486	8,967,826	19,259,939	2,133,851	98,989,278	0	98,989,278
Bristol	Aa2	AA+	NR	32,041,668	1,845,944	337,133	34,224,745	0	4,149,026	-	-	4,149,026	46,533,066	4,348,799	80,757,811	6,154,880	86,912,690
Burrillville	NR	NR	NR	7,583,000	0	0	7,583,000	(2,755,563)	1,425,585	0	0	1,425,585	6,677,134	659,330	14,260,134	6,332,375	20,592,509
Central Falls	A3	NR	NR	4,970,000	1,145,000	0	6,115,000	(1,136,593)	1,101,781	-	-	1,101,781	45,425,360	1,843,924	51,540,360	0	51,540,360
Charlestown	Aa2	NR	NR	3,780,000	0	323,892	4,103,892	0	370,151	0	134,431	504,582	0	0	4,103,892	8,317,233	12,421,125
Coventry	A1	NR	NR	41,240,000	832,576	62,121	42,134,697	(5,420,463)	5,184,969	0	31,553	5,216,522	22,165,469	2,460,773	64,300,166	949,392	65,249,558
Cranston	A1	AA-	AA-	69,080,000	27,138,000	1,890,000	98,108,000	(14,987,790)	8,749,378	2,463,531	949,960	12,162,869	20,099,672	1,854,470	118,207,672	0	118,207,672
Cumberland	Aa3	AA+	NR	23,440,000	18,529,242	6,389,423	48,358,665	(11,981,976)	3,367,791	2,504,383	1,257,007	7,129,181	75,825,678	3,475,278	124,184,343	30,394	124,214,737
East Greenwich	Aa1	AA+	NR	40,031,143	0	0	40,031,143	(13,240,896)	3,622,021	-	-	3,622,021	19,145,966	2,895,829	59,177,109	0	59,177,109
East Providence	A1	AA	NR	38,802,699	0	930,601	39,733,300	(48,548,545)	5,271,985	-	247,967	5,519,952	101,964,765	7,845,492	141,698,065	0	141,698,065
Exeter	NR	NR	NR	228,461	0	0	228,461	0	123,564	-	-	123,564	0	0	228,461	1,355,070	1,583,531
Foster	NR	NR	NR	0	0	242,753	242,753	(306,255)	0	0	69,640	69,640	0	0	242,753	8,155,501	8,398,254
Glocester	NR	AA+	NR	1,250,000	438,740	0	1,688,740	(119,320)	208,988	na	0	208,988	0	0	1,688,740	16,708,830	18,397,570
Hopkinton	Aa3	NR	NR	3,395,000	256,104	96,289	3,747,393	0	485,603	54,465	50,971	591,039	0	0	3,747,393	10,493,523	14,240,916
Jamestown	Aa1	NR	NR	11,570,200	0	266,000	11,836,200	(845,010)	1,224,378	0	87,000	1,311,378	5,123,837	945,746	16,960,037	0	16,960,037
Johnston	A2	AA	NR	23,179,325	0	286,000	23,465,325	(1,140,665)	3,163,876	0	172,824	3,336,700	66,041,567	3,078,838	89,506,892	0	89,506,892
Lincoln	Aa2	NR	AA	75,515,000	0	0	75,515,000	(19,290,084)	5,190,014	0	0	5,190,014	66,460,191	3,105,419	141,975,191	996,218	142,971,409
Little Compton	NR	AAA	NR	8,860,000	0	215,888	9,075,888	(3,302,867)	851,038	0	80,637	931,675	0	0	9,075,888	0	9,075,888
Middletown	Aa1	NR	NR	30,021,000	-	156,591	30,177,591	(3,203,478)	3,688,053	-	83,738	3,771,791	8,019,257	1,365,416	38,196,848	0	38,196,848
Narragansett	Aa2	AA+	NR	24,040,000	824,139	124,197	24,988,336	(3,608,700)	2,696,205	182,478	93,824	2,972,507	848,307	178,931	25,836,643	0	25,836,643
New Shoreham	NR	AA	NR	13,350,980	0	51,945	13,402,925	(1,169,250)	2,264,047	0	na	2,264,047	4,028,207	244,320	17,431,132	0	17,431,132
Newport	NR	AA+	NR	28,412,000	0	121,248	28,533,248	(10,758,597)	5,173,127	na	124,970	5,298,097	138,702,664	13,455,691	167,235,912	0	167,235,912
North Kingstown	Aa2	AA+	NR	30,229,000	0	993,740	31,222,740	(7,779,698)	4,554,393	0	236,128	4,790,521	15,700,496	1,393,420	46,923,236	0	46,923,236
North Providence	A1	AA-	NR	68,058,000	0	1,496,418	69,554,418	(27,429,128)	6,272,012	0	380,002	6,652,014	87,229,135	3,661,755	156,783,553	0	156,783,553
North Smithfield	Aa2	NR	NR	24,701,811	2,025,000	0	26,726,811	(8,383,557)	3,800,711	352,760	0	4,153,471	3,659,474	439,835	30,386,285	0	30,386,285
Pawtucket	A3	NR	A+	28,365,043	83,983,200	7,053,087	119,401,330	(51,751,422)	3,275,613	7,536,468	1,562,263	12,374,344	268,723,688	16,622,681	388,125,018	0	388,125,018
Portsmouth	Aa2	AAA	NR	18,890,334	0	1,330,281	20,220,615	(1,373,181)	2,651,205	0	514,475	3,165,680	502,756	99,172	20,723,371	4,481,000	25,204,371
Providence	Baa1	BBB+	A-	81,245,000	0	406,045,000	487,290,000	(140,811,488)	11,555,000	0	47,082,000	58,637,000	603,817,216	30,426,751	1,091,107,216	0	1,091,107,216
Richmond	Aa3	NR	NR	3,525,000	0	3,271	3,528,271	0	831,463	0	2,367	833,830	1,934,104	91,431	5,462,375	8,119,694	13,582,069
Scituate	NR	AA+	NR	7,370,000	6,926,000	0	14,296,000	(1,660,717)	768,184	626,352	0	1,394,536	276,196	65,246	14,572,196	0	14,572,196
Smithfield	Aa2	AA	NR	18,030,000	0	0	18,030,000	(10,442,663)	2,260,586	0	na	2,260,586	9,504,974	638,351	27,534,974	0	27,534,974
South Kingstown	Aa1	NR	NR	12,834,000	0	0	12,834,000	(2,097,198)	1,752,452	0	0	1,752,452	813,587	213,561	13,647,587	1,275,647	14,923,234
Tiverton	A1	AA	NR	35,225,000	0	684,113	35,909,113	(9,151,490)	4,753,379	0	208,715	4,962,094	0	0	35,909,113	5,420,923	41,330,036
Warren	Aa3	NR	NR	11,579,145	24,517,540	336,673	36,433,358	0	1,503,506	1,709,619	53,788	3,266,913	8,271,882	729,845	44,705,240	3,610,121	48,315,360
Warwick	NR	AA	NR	52,819,971	0	4,603,826	57,423,797	(10,876,559)	7,109,743	0	1,418,951	8,528,694	68,324,146	12,153,864	125,747,943	0	125,747,943
West Greenwich	NR	AA+	NR	3,760,000	36,113	0	3,796,113	0	571,188	6,551	0	577,739	236,560	55,883	4,032,673	1,574,812	5,607,484
West Warwick	Baa1	NR	NR	21,157,000	16,780,515	595,687	38,533,202	(3,383,230)	1,662,539	2,228,346	367,290	4,258,175	24,501,375	4,125,290	63,034,577	0	63,034,577
Westerly	Aa3	AA	NR	50,603,000	21,286,000	2,140,086	74,029,086	(11,403,716)	6,300,025	2,200,329	693,428	9,193,782	5,008,433	389,766	79,037,519	1,479,097	80,516,616
Woonsocket	Baa3	NR	A+	120,865,500	0	89,433	120,954,933	(43,737,211)	14,045,443	na	46,935	14,092,378	99,635,496	5,852,713	220,590,429	0	220,590,429

Net Direct Debt: All debt of an issuer less self-supporting enterprise debt. Enterprise Debt: Debt for essential service utilities that is self-supporting from user fees. Overlapping Debt: Issuer's proportionate share of the debt of other local governmental units that either overlap or underlie it. Overall Debt: Net debt + Enterprise Debt + Overlapping Debt.

Municipality – Net Pension Liability and Demographic/Economic Statistics

	Pension and OPEB							Demographics/Economic Statistics				
Municipality	**Net OPEB Liability**	**Net Pension Liability**	**Overall Debt + Pensions**	**Pension Actual ADC (FY2020)**	**Pension Required ADC (FY2020)**	**OPEB Actual Payment (FY2020)**	**OPEB Required Payment (FY2020)**	**Governmental Fund Revenues**	**Governmental Fund Expenditures**	**Population**	**Personal Income 2020**	**Taxable Assessed Value**
Barrington	0	61,219,722	160,209,000	5,753,335	5,462,939	1,382,277	145,463	84,264,843	93,500,320	17,153	1,913,528,127	3,164,755,388
Bristol	6,720,271	22,161,287	109,073,977	6,674,075	6,674,075	1,311,761	921,461	55,530,674	56,792,349	22,493	1,409,938,101	3,207,774,511
Burrillville	3,337,997	33,079,552	53,672,061	2,877,073	2,877,073	188,194	0	54,323,785	56,355,050	16,158	889,347,548	1,909,483,502
Central Falls	2,570,124	27,665,319	79,205,679	2,931,029	2,880,076	231,661	100,000	24,171,144	22,714,633	22,583	549,146,494	570,176,683
Charlestown	589,205	5,434,132	17,855,257	602,793	602,793	562,231	493,051	27,811,669	26,780,215	7,997	563,120,153	2,514,448,273
Coventry	26,254,013	165,767,429	231,016,987	13,114,197	13,168,479	1,085,381	1,085,381	119,536,400	122,545,478	35,688	2,027,908,710	4,159,861,815
Cranston	51,925,440	400,385,600	518,593,272	39,616,054	39,616,054	5,008,149	5,008,149	321,106,775	335,124,289	82,934	4,414,912,923	7,956,336,660
Cumberland	17,532,086	83,016,964	207,231,701	8,722,954	8,720,233	1,320,000	1,316,810	110,753,683	110,818,001	36,405	2,487,254,663	4,524,133,293
East Greenwich	26,315,198	50,077,922	109,255,031	4,319,203	4,319,203	945,461	1,983,602	70,545,812	71,760,067	14,312	1,362,205,792	2,447,688,773
East Providence	21,727,847	220,573,038	362,271,103	17,763,482	17,469,352	5,631,346	5,139,519	182,327,192	195,556,556	47,139	2,444,179,540	4,485,867,942
Exeter	0	0	1,583,531	0	0	0	0	16,417,588	16,315,147	6,460	416,181,047	876,838,507
Foster	131,963	5,485,415	13,883,669	612,981	612,981	85,114	85,114	16,384,044	16,050,657	4,469	257,965,148	573,016,470
Glocester	1,746,134	11,431,809	29,829,379	1,184,716	1,184,716	60,461	163,152	30,500,782	30,649,841	9,974	596,595,373	1,037,221,027
Hopkinton	0	3,439,198	17,680,114	344,181	344,181	0	0	26,941,345	27,190,436	8,398	532,641,768	926,797,022
Jamestown	10,451,898	11,079,026	28,039,063	1,345,951	1,315,044	380,141	795,640	26,284,142	29,083,080	5,559	546,584,807	2,630,537,076
Johnston	210,441,287	173,359,995	262,866,887	14,400,348	14,400,348	7,673,184	15,779,391	123,384,025	122,009,995	29,568	1,635,782,714	2,753,500,684
Lincoln	13,580,917	64,863,990	207,835,399	5,418,456	5,792,490	1,886,424	1,264,735	88,990,549	115,356,420	22,529	1,538,162,519	2,523,044,452
Little Compton	1,833,046	7,133,958	16,209,846	815,217	843,997	136,911	136,911	16,133,188	15,674,803	3,616	323,164,452	2,131,585,687
Middletown	12,483,463	39,313,639	77,510,487	3,649,129	3,521,286	4,418,603	1,971,037	68,638,265	72,895,404	17,075	1,059,955,102	3,204,678,962
Narragansett	30,306,991	84,175,272	110,011,915	8,289,517	8,124,851	3,801,999	3,129,247	68,580,344	68,365,780	14,532	1,130,675,491	5,019,557,596
New Shoreham	190,109	5,182,608	22,613,740	565,231	565,231	38,511	23,466	14,966,875	19,479,272	1,410	81,955,264	1,690,035,290
Newport	74,624,348	140,875,678	308,111,590	6,046,696	6,046,696	7,293,233	7,237,210	123,372,283	121,630,963	25,163	1,663,640,847	6,843,853,916
North Kingstown	18,892,095	97,499,733	144,422,969	9,297,895	9,297,895	1,969,635	1,534,432	117,390,764	120,289,548	27,732	2,063,264,009	4,738,796,600
North Providence	51,327,132	102,544,945	259,328,498	13,691,920	10,365,587	2,604,200	4,133,922	122,998,534	129,107,084	34,114	1,843,875,704	2,325,562,324
North Smithfield	9,719,447	26,181,226	56,567,511	2,522,126	2,522,126	705,113	1,239,585	49,263,923	53,681,341	12,588	779,559,887	1,802,139,485
Pawtucket	405,096,112	293,128,273	681,253,291	27,684,896	27,684,896	15,742,685	16,750,119	260,018,000	275,353,561	75,604	3,293,190,049	4,016,672,132
Portsmouth	21,452,027	88,225,959	113,430,330	7,095,173	7,095,173	1,052,477	1,586,153	71,007,630	70,432,475	17,871	1,486,912,407	3,386,067,375
Providence	1,122,063,000	1,556,023,000	2,647,130,216	111,483,000	109,627,000	33,205,000	33,205,000	849,361,000	988,895,000	190,934	7,946,102,979	13,620,614,000
Richmond	0	949,789	14,531,858	232,391	232,391	0	0	26,614,394	27,420,540	8,020	509,464,961	902,366,280
Scituate	7,092,923	36,080,054	50,652,250	3,152,157	3,151,854	242,958	858,561	39,387,315	46,663,440	10,384	779,547,822	1,662,169,295
Smithfield	50,161,747	72,428,898	99,963,872	6,827,029	8,479,988	1,395,709	3,865,167	79,964,459	85,463,151	22,118	1,334,772,736	3,028,828,376
South Kingstown	0	71,281,159	86,204,393	6,498,304	6,498,304	1,909,528	1,392,198	98,635,735	95,598,030	31,931	1,962,599,953	5,218,486,499
Tiverton	26,166,232	34,236,705	75,566,741	3,064,101	3,036,633	1,128,983	2,181,404	60,050,960	60,089,462	16,359	983,587,176	2,380,847,161
Warren	3,896,521	7,044,042	55,359,402	817,416	817,416	194,653	379,815	28,250,877	36,830,320	11,147	705,216,495	1,237,542,774
Warwick	395,788,265	510,963,196	636,711,139	47,137,898	48,218,154	12,908,231	34,563,861	331,819,282	335,744,035	82,823	5,014,452,302	10,671,824,053
West Greenwich	0	3,755,620	9,363,104	423,943	423,943	0	0	21,811,206	21,724,978	6,528	458,574,602	873,430,440
West Warwick	58,398,656	184,894,160	247,928,737	14,076,181	14,045,403	5,218,060	5,451,021	110,462,691	108,930,269	31,012	1,523,555,663	2,525,444,158
Westerly	12,576,507	58,777,810	139,294,426	5,708,700	5,708,700	1,252,893	1,252,893	100,505,516	103,403,491	23,359	1,512,153,364	6,499,753,940
Woonsocket	188,143,896	169,097,582	389,688,011	13,508,608	15,995,608	607,997	2,017,286	170,410,213	168,404,957	43,240	1,690,911,632	1,887,745,070

Woonsocket: Pension Actual ADC reflects a 7.5% rate of return. Required ADC is based on a 5% rate of return recommended by actuary but not adopted by Woonsocket.

SUMMARY OF FIRE DISTRICTS

Fire District	Town	Debt Limit*	FY20 Debt Service Payment Principal*	Interest*	Total*	Long-Term Debt FY20**
Oakland-Mapleville	Burillville	3% of assessed	13,515	23,179	36,694	-
Pascoag	Burillville	1000000	60,600	33,000	93,600	637,542
Harrisville	Burrillville	None	60,293	19,168	79,461	5,694,833
Nasonville	Burrillville	3% of assessed	NR	NR	0	NR
Charlestown	Charlestown	5000000	0	0	0	2,954,690
Quonochontaug Central	Charlestown	1.5% of assessed	0	0	0	70,997
Shady Harbor	Charlestown	3% of assessed	14,250	5,094	19,344	85,500
Central Coventry	Coventry	1/2 of annual budget	58,704	15,190	73,894	0
Coventry	Coventry	1 year of tax revenue	98,000	4,888	102,888	0
Hopkins Hill	Coventry	1000000	0	0	0	0
Western Coventry	Coventry	.5% of assessed	46,651	45,617	92,268	949,392
Cumberland	Cumberland	$100,000 unless voted	0	0	0	30,394
Exeter	Exeter	1% of assessed	0	0	0	0
Chepachet	Glocester	9% of assessed	0	0	0	0
Harmony	Glocester	3% of assessed	0	0	0	0
West Glocester	Glocester	3% of assessed	None	None	0	0
Ashaway	Hopkinton	3% of assessed	0	0	0	2,368,262
Hope Valley-Wyoming	Hopkinton-Richmond	3% of assessed	130,841	41,514	172,355	1,023,203
Albion	Lincoln	None	72,294	40,715	113,009	996,218
Lime Rock	Lincoln	1000000	NR	NR	0	NR
Manville	Lincoln	None	0	0	0	-
Quinnville	Lincoln	50000	0	0	0	155,300
Saylesville	Lincoln	2000000	17,136	30,697	47,833	643,523
Bonnet Shores	Narragansett	None	0	0	0	0
Pojac Point	North Kingstown	1500	0	0	0	0
Portsmouth Water & Fire	Portsmouth	None	328,011	49,380	377,391	4,481,000
Richmond Carolina	Richmond	1% of assessed	NR	NR	0	-
Indian Lake Shores	South Kingston	9% of assessed	NR	NR	0	NR
Kingston	South Kingston	2000000	200,516	0	200,516	1,275,647
Union	South Kingston	10000000	0	0	0	0
North Tiverton	Tiverton	None	212,256	157,875	370,131	4,358,518
Stone Bridge	Tiverton	2274167	105,821	0	105,821	1,062,405
Buttonwoods	Warwick	20000	0	0	0	0
Bradford	Westerly	<9% of assessed	0	0	0	0
Misquamicut	Westerly	3% of assessed with adjmts	85,211	9,889	95,100	170,795
Shelter Harbor	Westerly	None	None	None	0	0
Watch Hill	Westerly	TAN limit of $100,000	39,248	42,712	81,960	771,143
Weekapaug	Westerly	10% of assessed	0	1,036	1,036	70,000
Westerly	Westerly	1% of assessed	80,000	17,000	97,000	240,000
Dunn's Corners	Westerly-Charlestown	None	132,467	35,270	167,737	647,881

*Source: RI Division of Municipal Finance, based on FY20 RI Fire District Adopted Budget Survey (based on self-reported data)

** Source: RI Division of Municipal Finance, FD-4 report; audit report

Other Special Districts

Special Districts	Moody's	S&P	Fitch	GO/Revenue Bonds (FY2020)	Loans Payable (FY2020)	Capital Leases (FY2020)	Total Outstanding (FY2020)	Housing Aid (2020-2033)	GO Debt Service (2021)	Loans Debt Service (2021)	Lease Payments (2021)	Total Debt Service (2021)
Bristol-Warren Regional SD	NR	NR	NR	9,765,000	0	0	9,765,000	(5,112,763)	1,582,450	0	0	1,582,450
Bristol Cnty Wtr Auth	NR	NR	NR	28,827,030	8,865,056	0	37,692,086	0	2,476,441	849,208	0	3,325,649
Burrillville Hsg Auth	NR	NR	NR	0	0	0	0	0	0	0	0	0
Chariho Regional School District	Aa3	NR	NR	19,504,000	743,076	0	20,247,076	(7,922,461)	na	na	na	1,943,885
Coventry Hsg Auth (FY 2019)	NR	AA-	NR	0	447,569	0	447,569	0	0	47,388	0	47,388
Cumberland Hsg Auth	NR	AA-	NR	0	823,188	0	823,188	0	38,656			38,656
Exeter-West Greenwich Regional S.D.	NR	NR	NR	0	2,565,000	364,882	2,929,882	(2,412,469)	0	408,838	167,211	576,049
Foster-Glocester School District (FY 2019)	Aa3	NR	NR	0	24,855,000	9,331	24,864,331	(13,500,328)	0	4,910,300	2,930	4,913,230
Kent County Water Authority (FY2 2019)	Aa2	AA-	NR	16,875,000	0	0	16,875,000	0	3,986,420	0	0	3,986,420
North Providence Hsg Auth (FY 2019)	NR	AA-	NR	0	126,754	0	126,754	0	0	0	0	0
Pascoag Util Dist	NR	A	NR	5,488,316	0	0	5,488,316	0	349,661	0	0	349,661
Pawtucket Hsg Auth	NR	A+	NR	4,145,000	813,960	0	4,958,960	0	na	na	na	516,538
Providence Hsg Dev Corp	NR	NR	NR	13,967,140	0	7,300,576	21,267,716	0	962,913	0	0	962,913
Providence Pub Bldg Auth	NR	BBB-	NR	Included in City of Providence tax-supported debt.								
Providence Redev Agy	NR	BBB-	NR	Included in City of Providence tax-supported debt.								
Providence Wtr Supply Brd	NR	AA-	NR	Included in City of Providence enterprise debt.								
Woonsocket Hsg Auth (FY 2019)	NR	AA-	NR	3,470,000	0	0	3,470,000		596,900	0	0	596,900

Allocation of Narragansett Bay Commission Debt

NBC Debt Outstanding with WIFIA Loans 6/30/20	NBC RIIB Debt Outstanding 6/30/20	Total NBC Debt Outstanding	FY2021 Debt Service
724,684,434	311,291,039	1,035,975,473	43,488,780

Municipality	% of Revenues FY2021*	NBC Debt	NBC RIIB Debt	Total Debt	Allocation of Debt Service
Central Falls	4.24%	30,726,620	13,198,740	43,925,360	1,843,924
Cranston	0.23%	1,666,774	715,969	2,382,744	100,024
Cumberland	5.86%	42,466,508	18,241,655	60,708,163	2,548,443
East Providence	3.43%	24,856,676	10,677,283	35,533,959	1,491,665
Johnston	6.11%	44,278,219	19,019,882	63,298,101	2,657,164
Lincoln	5.95%	43,118,724	18,521,817	61,640,541	2,587,582
North Providence	8.42%	61,018,429	26,210,705	87,229,135	3,661,755
Pawtucket	18.22%	132,037,504	56,717,227	188,754,731	7,923,656
Providence	47.23%	342,268,458	147,022,758	489,291,216	20,539,751
Smithfield	0.11%	797,153	342,420	1,139,573	47,838
Other	0.20%	1,449,369	622,582	2,071,951	86,978
Total	100.00%	724,684,434	311,291,039	1,035,975,473	43,488,780

* From Narragansett Bay Commission

Debt and debt service: NBC Annual Report FY2020

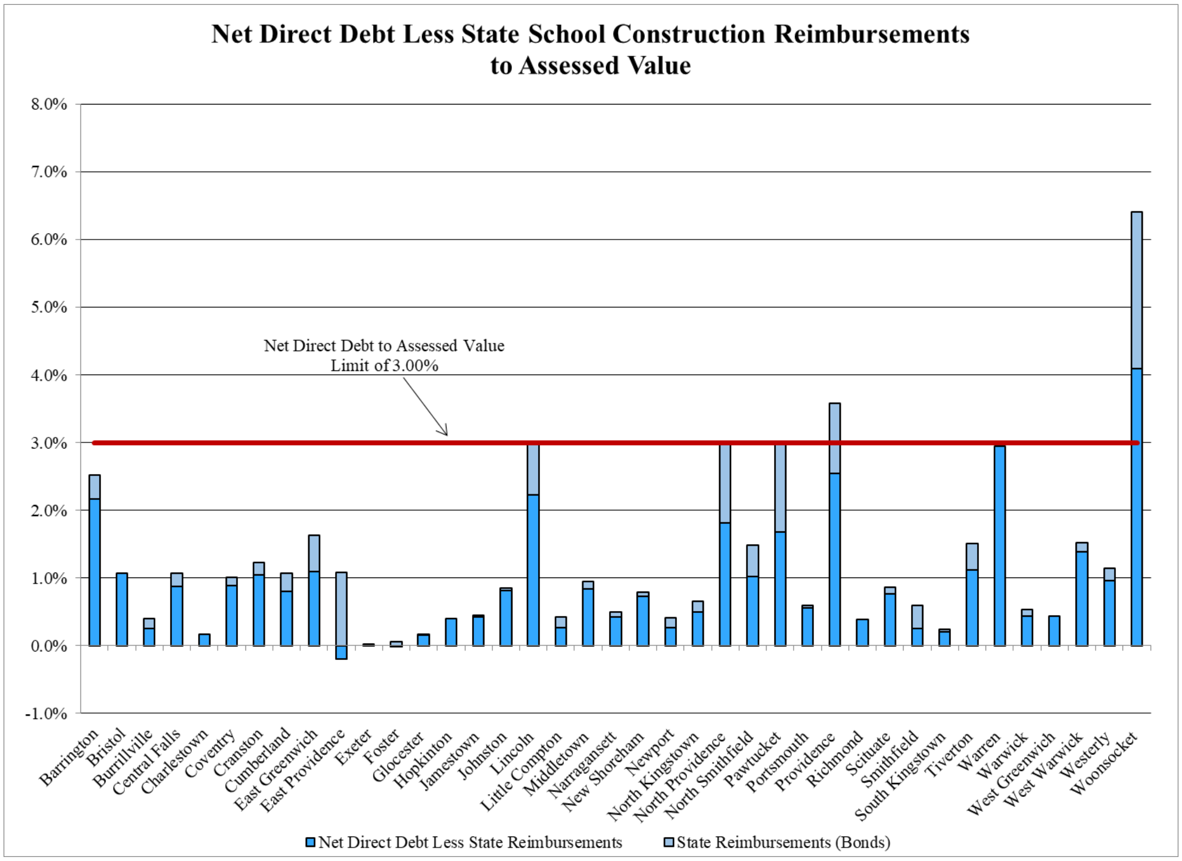
State Reimbursements for School Building Projects (FY2020-FY2033) – Bonds Only

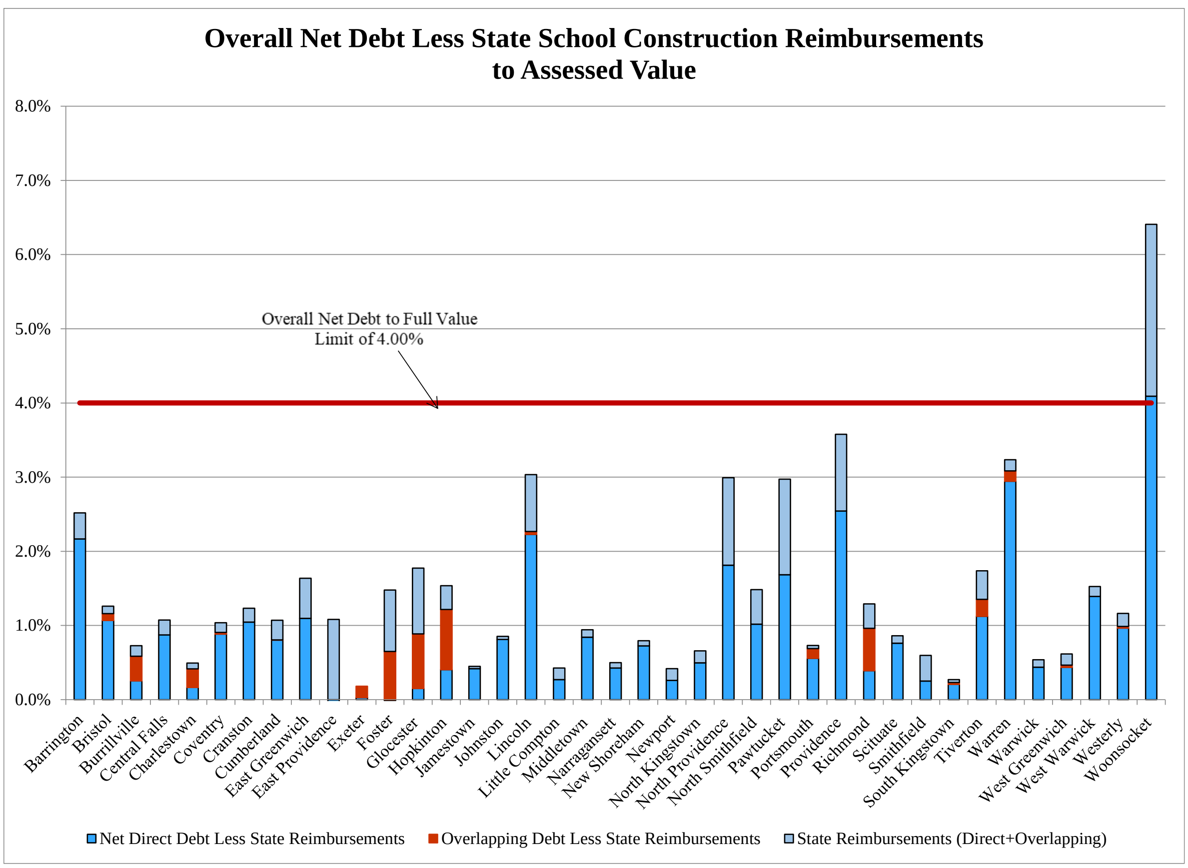
State Housing Aid - Construction Entitlements (Bonds-Principal)

District	Total (2020-2033)	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Barrington	11,134,714	612,033	1,467,040	601,820	620,158	638,496	666,837	700,178	733,520	770,196	810,207	833,546	858,552	893,561	928,570
Bristol Warren	5,112,763	701,887	669,798	699,434	726,107	758,708	420,637	440,964	428,762	266,466	0	0	0	0	0
Burrillville	2,755,563	206,211	203,179	203,179	321,030	321,030	321,030	321,030	120,884	120,884	120,884	120,884	120,844	127,247	127,247
Central Falls	1,136,593	563,534	66,635	71,077	75,519	79,961	84,404	93,289	102,174	0	0	0	0	0	0
Chariho	7,922,461	944,494	966,444	985,544	1,017,044	1,048,344	628,347	646,647	670,597	236,250	246,750	260,750	271,250	0	0
Coventry	5,420,463	982,088	936,975	941,609	491,431	206,836	206,836	206,836	206,836	206,836	206,836	206,836	206,836	206,836	206,836
Cranston	14,987,790	1,385,678	1,487,398	1,465,653	1,287,847	1,337,020	1,339,155	1,146,816	823,232	863,443	896,723	665,876	730,851	762,982	795,116
Cumberland	11,981,976	899,249	881,245	906,334	930,253	1,277,835	1,275,887	1,320,141	1,144,658	1,158,612	418,302	435,804	451,556	441,050	441,050
East Greenwich	13,240,896	979,867	870,967	1,072,479	1,072,501	1,076,275	997,103	1,003,345	1,011,668	996,091	990,671	772,903	783,173	799,644	814,209
East Providence	48,548,545	1,200,854	1,085,412	1,123,305	3,936,495	4,101,216	4,006,956	3,523,193	3,628,395	3,768,425	3,920,184	4,071,945	4,230,037	5,079,488	4,872,640
Exeter-West Greenwich	2,412,469	177,172	174,220	171,267	171,267	305,508	188,868	191,563	193,851	197,894	198,835	103,753	107,795	115,238	115,238
Foster	306,255	74,715	59,540	0	172,000	0	0	0	0	0	0	0	0	0	0
Foster-Glocester	13,500,328	2,359,723	1,660,165	1,376,392	1,432,632	1,503,670	1,212,519	1,267,014	1,330,592	667,129	690,492	0	0	0	0
Glocester	119,320	14,915	14,915	14,915	14,915	14,915	14,915	14,915	14,915	0	0	0	0	0	0
Jamestown	845,010	43,034	0	20,299	112,649	66,474	66,474	66,474	66,474	66,474	66,474	66,474	66,474	68,618	68,618
Johnston	1,140,665	195,059	197,153	150,640	162,358	144,842	109,337	24,106	24,588	25,070	25,552	26,516	27,481	27,963	0
Lincoln	19,290,084	534,000	556,500	1,510,448	1,577,652	1,647,181	1,715,210	1,781,065	1,864,545	1,192,851	1,253,308	1,316,089	1,381,196	1,450,954	1,509,085
Little Compton	3,302,867	180,580	186,405	192,230	201,939	209,706	217,473	225,240	236,890	248,540	258,249	269,899	279,608	291,258	304,850
Middletown	3,203,478	205,143	329,027	276,851	381,912	194,957	173,476	179,410	187,384	193,364	199,344	207,319	213,299	228,583	233,409
Narragansett	3,608,700	299,700	309,000	321,000	333,000	348,000	363,000	381,000	399,000	418,500	436,500	0	0	0	0
New Shoreham	1,169,250	168,750	171,750	176,250	182,250	183,750	189,750	33,750	15,750	15,750	15,750	15,750	0	0	0
Newport	10,758,597	988,128	991,239	488,351	911,107	887,175	865,443	853,154	728,200	715,000	697,400	679,800	662,200	651,200	640,200
North Kingstown	7,779,698	694,432	683,941	718,626	818,138	816,103	819,305	820,989	824,194	273,230	268,830	266,629	261,552	259,065	254,664
North Providence	27,429,128	4,065,456	1,667,068	1,720,162	1,773,361	1,623,993	1,501,336	1,580,951	1,660,566	1,740,181	1,827,381	1,918,347	2,016,952	2,115,502	2,217,872
North Smithfield	8,383,557	704,059	939,240	873,672	842,185	884,417	926,306	983,379	824,460	863,139	108,540	108,540	108,540	108,540	108,540
Pawtucket	51,751,422	2,206,413	2,491,046	2,985,738	2,833,941	4,033,964	4,125,135	4,214,992	4,147,539	4,271,068	4,157,769	3,909,218	4,011,523	4,120,642	4,242,434
Portsmouth	1,373,181	312,077	206,606	175,347	138,185	138,582	123,672	124,070	31,600	32,129	17,071	17,600	18,130	18,791	19,321
Providence	140,811,488	16,314,856	15,625,007	15,729,587	15,939,591	16,564,270	14,832,995	14,241,740	14,909,892	11,454,912	1,753,212	807,146	844,227	877,568	916,485
Scituate	1,660,717	148,697	117,034	116,022	121,965	126,438	132,382	138,325	142,798	150,242	157,686	72,130	75,074	79,490	82,434
Smithfield	10,442,663	183,342	183,342	183,342	778,342	803,342	745,842	773,342	798,342	825,842	855,842	885,842	1,141,967	1,141,967	1,141,967
South Kingstown	2,097,198	437,256	314,968	182,580	170,741	159,078	124,224	116,525	105,748	90,351	90,351	90,351	71,675	71,675	71,675
Tiverton	9,151,490	910,370	750,094	768,309	793,534	827,270	867,710	906,150	893,477	701,388	498,694	290,352	303,366	314,381	326,395
Warwick	10,876,559	901,251	878,585	886,571	1,075,592	876,462	837,234	787,335	787,735	609,973	634,142	652,953	683,008	703,855	561,863
West Warwick	3,383,230	547,890	583,842	599,269	480,290	105,108	107,564	112,474	107,996	112,907	115,360	120,270	125,177	130,087	134,996
Westerly	11,403,716	1,298,264	1,320,764	1,309,364	1,401,420	1,434,920	1,459,920	811,420	607,420	443,556	443,556	439,556	433,556	0	0
Woonsocket	43,737,211	2,777,945	2,871,726	2,966,965	3,026,887	2,822,198	2,680,440	2,816,208	2,955,854	3,103,259	3,262,301	3,425,222	3,541,594	3,673,483	3,813,129

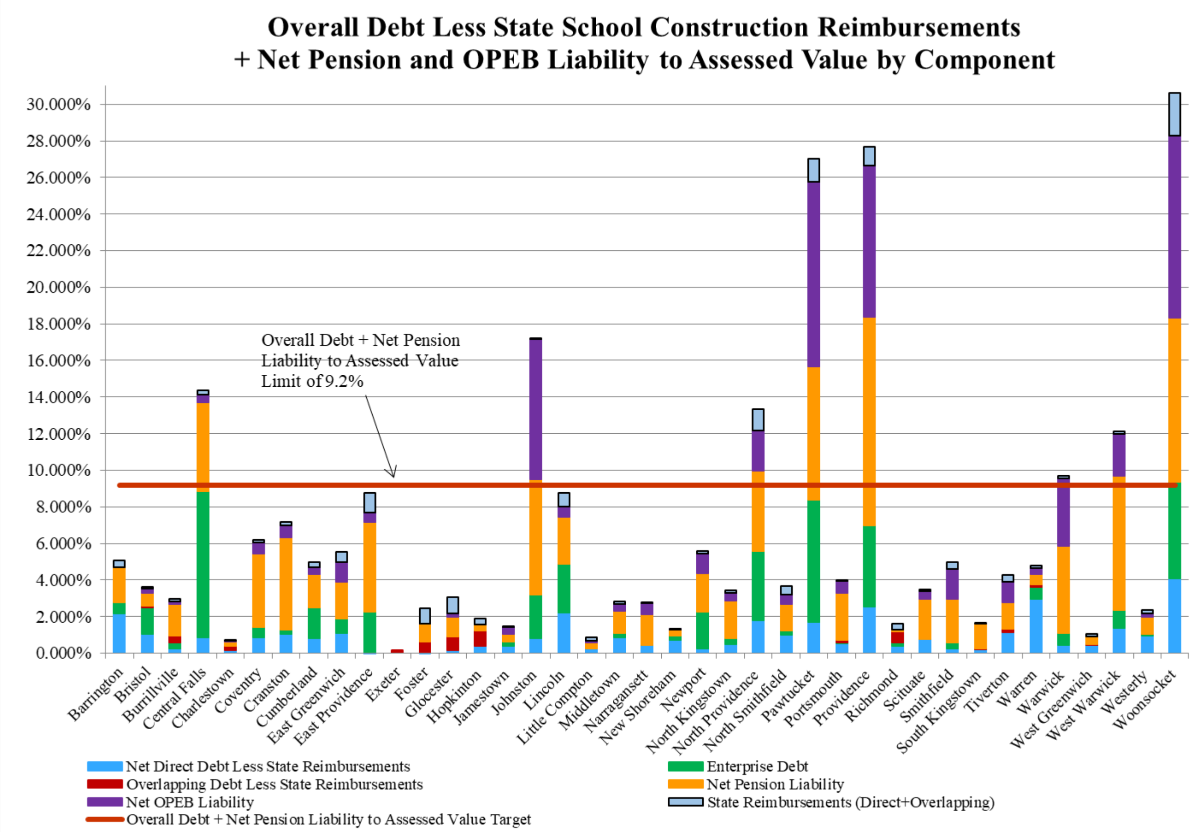
Source: RI Department of Elementary and Secondary Education

State Reimbursements for School Building Projects (FY2020-FY2033) – Bonds Only





State Reimbursements for School Building Projects (FY2020-FY2033) – Bonds Only



Overall Debt includes (1) Net Direct Debt: All debt of an issuer less self-supporting enterprise debt; (2) Enterprise Debt: Debt for essential service utilities that is self-supporting from user fees; (3) Overlapping debt: Issuer's proportionate share of the debt of other local governmental units that either overlap or underlie it.

APPENDIX D

GLOSSARY OF TERMS

Glossary of Terms

1. Additional bonds test (ABT) – A provision typically included in a bond resolution or indenture that established the terms under which any proposed new bonds can be issued. The terms specified are usually in the form of meeting a pre-established debt service coverage level and compliance with other security features of the transaction.
2. Amortization – The repayment schedule (in regular installments) over a period of time used to retire the applicable debt.
3. Appropriation debt (pledge) - Debt secured by contractual agreements which, while not considered General Obligations of the Issuer, are still subject to annual appropriation by the Issuer or an Obligated Party.
4. Arbitrage - Simultaneous purchase and sale of an asset to profit from a difference in the price. It is a trade that profits by exploiting the price differences of identical or similar financial instruments on different markets or in different forms. For tax-exempt bonds, Issuers using tax-exempt proceeds are generally not able to keep investment earnings in amount higher than the yield on the tax-exempt bonds. Negative arbitrage is the term related to the difference between a lower investment yield on a refunding escrow compared to the yield on tax-exempt refunding bonds. Higher negative arbitrage indicates a less efficient escrow.
5. Bond resolution – A legal document approved by the issuer that allows bonds to be issued and sold for a specific purpose and defines the rights and responsibilities of each party to a bond contract -- the issuer and the bondholder.
6. Call provisions - Allows the issuer to redeem and retire the bonds in advance of their stated maturity; typically comes with a time window within which the bond can be called, with a specific price to be paid to bondholders, and any accrued interest defined within the provision.
7. Capital lease - Contract entitling a renter to temporary use of an asset, and such a lease has economic characteristics of asset ownership.
8. Conduit debt – Debt issued by a state or local governmental entity for the purpose of providing capital financing for a specific third party that is not a part of the issuer's financial reporting entity; the government issuer has no obligation for such debt beyond the resources provided by a lease or loan with the third party on whose behalf they are issued.
9. Contingent debt or Contingency liability - Debt or liability that can become an obligation of the Issuer or Obligated party, which is dependent on uncertain future developments.
10. Debt affordability - The willingness and ability of the Issuer to pay the debt service when due, taking into account existing revenue and future resources and other issuer needs and constraints, as well as and the capacity of the underlying population to afford the cost of borrowing
11. Debt capacity - Maintaining an ability to access the capital markets and borrow money within the requirements set forth in an issuer’s bond resolution or indenture.
12. Debt service - The amount of money required to make principal and interest payments on outstanding debt and loans.
13. Debt structure - The duration and timing of principal and interest payments; typically refers to characteristics such as the maturity dates, the principal repayment terms and the call provisions.
14. Defeasance – When a borrower sets aside cash to pay off the bonds so that the outstanding debt and cash offset each other on the balance sheet and do not need to be recorded.
15. Draw schedules - Detailed payment plan (often monthly) for funding a project.

16. Enterprise debt - Municipal debt that is secured by fees charged in the exchange for goods services provided, usually associated with public utilities, revenue generating recreation, transportation and other business activities.
17. GARVEE - Grant Anticipation Revenue Vehicle; a security structure most often used in transportation finance for which the revenue source is future expected Federal-aid reimbursements.
18. General obligation - Municipal bonds backed by the full faith and credit of the issuing jurisdiction rather than the revenue from a given project; for government entities that have taxing power.
19. Gross Direct Debt - The sum of the total bonded debt and any short-term debt of the issuer. This debt includes: (i) general obligation bonds; (ii) other obligations such as loan agreements secured by taxes; (iii) capital lease obligations that are secured by lease rental or contract payments subject to appropriation; (iv) special assessment obligations; and (v) any enterprise debt
20. Guaranteed debt - Debt which was guaranteed by an entity, to be paid if the issuer and/or obligated party defaults due to insolvency or bankruptcy.
21. Guaranteed investment contracts (GICs) - Financial service company contracts that guarantee the owner principal repayment and a fixed or floating interest rate for a predetermined period of time.
22. Interest rate swaps - An agreement between two counterparties in which one stream of future interest payments is exchanged for another based on a specified principal or notional amount; usually involve the exchange of a fixed interest rate for a floating rate, or vice versa.
23. Moral obligation debt - Represents a promise by a government obligor to seek future appropriations for debt service payments, typically in order to make up deficits in a reserve fund should it fall below its required level. There is no legal requirement to appropriate funds to make the payment.
24. Net tax supported debt - Long-term and short-term indebtedness payable from tax revenues less self-supporting debt.
25. Net Direct debt - Gross direct debt less all self-supporting debt. Net Direct Debt excludes enterprise bonds (water, sewer, solid waste and electric revenue bonds), where enterprise fund revenues cover debt service by at least 1.0x for at least the last three fiscal years.
26. Obligated party - An entity that is responsible for the repayment of the bonds.
27. Official Statement - 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 issuer. It must fully disclose all facts that would be of interest to potential investors evaluating the bonds; the ultimate responsibility for the document rests with the Issuer or the Obligated party.
28. Original issue discount - Discount from par value at the time a bond is issued; it is the difference between the stated redemption price at maturity and the actual issue price.
29. Original issue premium – Premium from par value at the time a bond is issued; amount a bond is priced higher than its par value at the time a bond is issued.
30. Other post-employment benefits (OPEB) - Retirement benefits other than pension; can include healthcare benefits, insurance premiums, and deferred-compensation arrangements.
31. Overall Debt - Gross direct debt plus the issuer's applicable share of the total debt of all overlapping jurisdictions.
32. Overall Net Debt - Net direct debt plus the issuer's applicable share of the net direct debt of all overlapping jurisdictions. Excludes enterprise bonds (water, sewer, solid waste and electric revenue bonds), where enterprise fund revenues cover debt service by at least 1.0x for at least the last three fiscal years.
33. Overlapping debt - The issuer's proportionate share of the debt of other local governmental units that either overlap it (the issuer is located either wholly or partly within the geographic limits of the other units) or underlie it (the other units are located within the geographic limits of the issuer).

34. Pooled bond program - Municipal bond offering in which a sponsor sells an issue of bonds with proceeds used by two or more parties, usually municipalities or other tax-exempt organizations.
35. Private placements - Bonds that are not publicly offered and sold directly to qualified investors; i.e. bank loans, bank funding agreements, direct investor purchase securities and master lease programs.
36. Quasi-Public entities - Corporation in the public sector that is established by a higher-level unit of government that has a public mandate to provide a given service.
37. Rate covenant - Legal commitment by a revenue bond issuer to maintain rates, fees, charges, etc. at levels necessary to generate sufficient revenues to exceed projected debt service in order to provide "debt service coverage".
38. Ratings agency - Moody's Investors Service, Standard & Poor's (S&P), Fitch Ratings, and Kroll Bond Rating Agency are the four most prominent national agencies that provide credit ratings for municipal bonds.
39. Refunding – Process of retiring or redeeming an outstanding bond issue at maturity by using the proceeds from a new debt issue with the objective of ensuring significant reduction in interest expense for the issuer.
40. Revenue bonds - Debt service is payable solely from the revenues derived from; a dedicated revenue source, operating businesses or the facilities acquired or constructed with proceeds of the bonds, or under a loan or financing agreement.
41. Self-supporting debt - Bonds that have dedicated non-tax revenues sufficient to fully repay the required debt service amounts.
42. Sinking fund - Fund formed by periodically setting aside money for the gradual repayment of a debt; a means of repaying funds borrowed through a bond issue through periodic payments to a bond trustee who retires part of the issue by redeeming the bonds.
43. Special district - A political subdivision established to provide a single public service (as water supply or fire services) within a specific geographic area.
44. State revolving loan fund - A fund administered by a state or state agency for the purpose of providing low-interest loans, usually for investments in water and sanitation infrastructure.
45. Takedown - The price at which underwriters obtain securities to be offered to the public usually calculated on a dollar per bond basis and fluctuates with the size of a transaction.
46. True interest cost (TIC) - The actual cost of issuing a bond, expressed as yield percentage, including underwriting fees and costs, as well as factors related to the time value of money.
47. Trust Indenture - An agreement in the bond contract made between a bond issuer and a trustee that represents the bondholder's interests by highlighting the rules and responsibilities that each party must adhere to.
48. Unfunded actuarial accrued liability (UAAL) - The amount of retirement that is owed to pension participants in future years that exceed current assets and their projected growth; the difference between the actuarial values of assets (AVA) and the actuarial accrued liabilities (AAL) of a plan.
49. Variable rate debt - Any type of debt instrument that does not have a fixed rate of interest over the life of the instrument.
50. Weighted average maturity - weighted average amount of time until the debt matures; a reflection of the rapidity with which the principal of an issue is expected to be paid