State of Rhode Island

Public Finance Management Board

Debt Affordability Study

December 14, 2023

Acknowledgements

The 2023 Debt Affordability Study is the fourth to be published 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 viewed to be one of the most comprehensive debt affordability studies undertaken by any state government.

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James A. Diossa
Rhode Island General Treasurer

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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 $12.5 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.

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, 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 fourth debt affordability analysis conducted since the 2016 law was enacted, and this 2023 study refreshes the analysis contained in the 2021 Rhode Island Debt Affordability Study.

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. In recent years, the credit rating agencies have revised their methodologies to assess 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.

Part One: State Tax-Supported Debt.

The first part of the study considers all tax-supported debt of the State. As of June 30, 2023, the State had a total of $1.95 billion of tax-supported debt outstanding. In addition, as of June 30, 2023, the State had approximately $2.93 billion of unfunded actuarial accrued liability (UAAL) in connection with its four pension programs. The most recent actuarial study completed as of June 30, 2022 estimates the State's OPEB unfunded liability in FY 2023 at approximately $213.17 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. Moody's and Fitch Ratings both now report adjusted net pension liability for all states, using a common set of assumptions to improve the comparability of the pension liabilities across all states. Based on Moody's data, Rhode Island has the 18th highest level of Total Liabilities (Net Tax-Supported Debt + Adjusted Net Pension Liabilities + Adjusted Net OPEB Liabilities) relative to Personal Income and ranks 12th highest in the country in annual liability costs (Debt Service + Pension Contribution + OPEB Contribution) 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, 2023, Quasi-Public Agencies in the State had a total of almost $7.5 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, 39 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 2021-2022 was $3.0 billion[2], an increase of $314.5 million or 11.7% from the 2021 Debt Affordability Study. Total net pension liabilities in FY 2021-2022 were $4.36 billion, and total net OPEB liabilities were $2.79 billion. See the Aggregate Debt Outstanding table on the next page.

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[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 on the next page) and the debt of overlapping agencies.

[2] FY 21 data is used for Coventry and East Providence. FY 22 data used for all other municipalities.

Aggregate Debt Outstanding

Outstanding Debt	General Obligation	Other Tax-Supported Debt	Revenue (Public)	Revenue (Private/Non-Profit)	Pension Liability	OPEB Liability	Total Outstanding Liabilities
State of Rhode Island (FY 2023)*	$ 1,600,935,000	$ 546,152,702			$ 2,932,004,577	$ 213,165,936	$ 5,292,258,215
Quasi Public Agencies (FY 2023)							
Narragansett Bay Commission (Excluding RIIB Debt)			$ 772,936,942		$ 15,569,852	$ 2,223,344	$ 772,936,942
Rhode Island Turnpike and Bridge Authority			$ 43,030,000				$ 43,030,000
Tobacco Settlement Financing Corporation			$ 689,110,769				$ 689,110,769
Rhode Island Resource Recovery Corporation			$ -				$ -
Rhode Island Commerce Corporation							
GARVEEs			$ 454,660,000				$ 454,660,000
Airport Revenue Bonds			$ 225,809,958		$ 1,189,014	$ 161,972	$ 225,809,958
Other (based on June 30, 2022)				$ 76,169,195			$ 76,169,195
Rhode Island Health and Educational Building Corp.							
Education			$ 259,260,000	$ 1,420,830,448			$ 1,680,090,448
Healthcare				$ 390,915,024			$ 390,915,024
Rhode Island Housing and Mortgage Finance Corp.			$ 1,989,668,323				$ 1,989,668,323
Rhode Island Infrastructure Bank							
Water Pollution Control			$ 388,100,000				$ 388,100,000
Safe Drinking Water			$ 166,200,000				$ 166,200,000
Municipal Road and Bridge Revolving Loan Fund			$ 35,200,000				$ 35,200,000
Efficient Buildings Fund			$ 26,400,000				$ 26,400,000
Other			$ 37,900,000				$ 37,900,000
Rhode Island Student Loan Authority			$ 570,792,000				$ 570,792,000
Municipalities and Special Districts (FY 2021/2022)	$ 1,700,563,586	$ 452,084,947	$ 666,566,756	$ -	$ 4,364,131,427	$ 2,793,091,671	$ 9,976,438,387
GRAND TOTAL	**$ 3,301,498,586**	**$ 998,237,649**	**$ 6,325,634,748**	**$ 1,887,914,667**	**$ 7,296,136,004**	**$ 3,006,257,607**	**$ 22,815,679,261**

** State of Rhode Island debt includes $146,705,000 2023A and 2023B G.O. Bonds and $93,520,000 RIHEBC Central Falls Public School Project Bonds issued in FY 2024 and cash defeasance of $12,260,000 of 2022 Series B (Federally Taxable) G.O. bonds and $29,030,000 RICC I-195 Bonds on November 30, 2023.*
Note: NBC and RIAC Pension and OPEB liabilities are included in the State's total and therefore not calculated in total outstanding liabilities of quasi-agency. Note: RIHEBC Public School Revenue Bonds and RIHEBC Providence Public Building Authority included in municipality debt. RIIB Water Pollution Control and Safe Drinking Water debt shown as RIIB debt and not included in revenue (enterprise) debt of municipalities. Municipalities and Special Districts (FY 2021/2022) 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 2024 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.	5.2%
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.	2.9%
The PFMB recommends that Net Tax Supported Debt Service + Pension ADC + OPEB ADC to General Revenues not exceed 18%	Rating agencies and investors are 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%.	12.7%
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 9 years.	7.0%
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 $1.45 billion of new bonds in fiscal years 2025-2026 with total debt capacity of approximately $3.95 billion through 2035.

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 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>Current Level (FY 2023)</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>Debt Service Coverage: 1.55x</td></tr>
<tr><td>Rhode Island Turnpike and Bridge Authority</td><td>1.7x debt service coverage</td><td>Debt Service Coverage: 3.5x</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>Debt Service Coverage: 3.75x
As of May 31, 2023, the RIRRC no longer has any bonds outstanding.</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 increased, resulting in RIDOT being within the recommended limit. PFMB recommends monitoring the federal reimbursement level under the IIJA and future federal reauthorizations and maintain a minimum coverage of 3.5x with any additional debt.</td><td><u>2022-2023 Average Reimbursements</u>:
4.7x Coverage

<u>2016-2023 Average Reimbursements</u>:
3.7x Coverage</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>Debt Service Coverage: 2.49x</td></tr>
<tr><td>Debt per Enplaned Passenger: $92</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>4.8x Debt to Cash Flow</td></tr>
<tr><td>Rhode Island Infrastructure Bank</td><td>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><table>
<tr><th></th><th>DS Coverage</th><th>Asset to Liabilities</th></tr>
<tr><td>Clean Water</td><td>1.4x</td><td>1.8x</td></tr>
<tr><td>Drinking Water</td><td>1.7x</td><td>2.1x</td></tr>
<tr><td>EBF</td><td>1.6x</td><td>1.8x</td></tr>
<tr><td>MRBF</td><td>1.8x</td><td>2.3x</td></tr>
</table></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>PADR of 1.23x (Single Family)
PADR of 1.25x (Multi-Family)</td></tr>
<tr><td>Rhode Island Student Loan Authority</td><td>Minimum Parity Ratio limit of 110%</td><td>Parity Ratio of 135.0%</td></tr>
<tr><td>Meets recommended limit</td><td>Requires additional monitoring</td><td>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 current "Carrying Cost" metric. The metric isolates fixed obligation spending. As for states, Fitch considers a carrying cost metric of: • less than 10%: 'aaa' • less than 20%: 'aa' • less than 25%: 'a' • less than 30%: 'bbb' PFMB recommends 22.5% consistent with the mid-point of an 'a' rating. PFMB notes that Fitch has proposed new criteria for local governments, and in the next debt affordability study, PFMB will assess whether any changes to this ratio is warranted once Fitch has finalized its methodology.

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 exceed the recommended limits. Further, the PFMB recognizes certain municipalities have authorized debt but have not yet issued this debt. As municipalities issue the authorized debt, their debt ratios may be significantly impacted.

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 ADC + OPEB Required Payment to Governmental Expenditures Recommended Limit < 22.5%
Barrington	2.1%	2.1%	3.8%	14.4%
Bristol	1.3%	1.5%	3.5%	22.1%
Burrillville	0.7%	1.0%	3.0%	7.7%
Central Falls	0.8%	0.8%	14.1%	16.7%
Charlestown	0.1%	0.4%	0.5%	8.8%
Coventry	1.0%	1.0%	6.2%	16.1%
Cranston	1.0%	1.0%	5.3%	16.2%
Cumberland	0.9%	0.9%	4.6%	14.4%
East Greenwich	1.4%	1.4%	4.0%	15.6%
East Providence	4.0%	4.04%	10.6%	13.3%
Exeter	0.0%	0.5%	0.5%	0.3%
Foster	0.0%	0.9%	1.3%	4.5%
Glocester	0.1%	1.1%	1.7%	5.0%
Hopkinton	0.3%	1.1%	1.3%	3.3%
Jamestown	0.6%	0.6%	1.3%	13.0%
Johnston	0.7%	0.7%	14.8%	23.4%
Lincoln	2.7%	2.8%	8.1%	15.0%
Little Compton	0.5%	0.5%	0.9%	13.3%
Middletown	0.7%	0.7%	1.8%	11.3%
Narragansett	0.5%	0.5%	2.3%	23.4%
New Shoreham	1.2%	1.2%	2.0%	13.3%
Newport	1.5%	1.5%	5.4%	15.2%
North Kingstown	0.9%	0.9%	2.9%	13.0%
North Providence	2.3%	2.3%	10.8%	16.5%
North Smithfield	1.1%	1.1%	2.8%	15.2%
Pawtucket	2.7%	2.7%	17.1%	15.1%
Portsmouth	0.9%	1.0%	3.5%	16.7%
Providence	4.2%	4.2%	35.6%	21.8%
Richmond	0.2%	1.1%	1.4%	2.8%
Scituate	0.7%	0.7%	2.7%	13.7%
Smithfield	1.6%	1.6%	4.8%	12.0%
South Kingstown	0.3%	0.3%	1.1%	10.0%
Tiverton	1.1%	1.2%	3.0%	15.1%
Warren	2.3%	2.4%	3.7%	13.2%
Warwick	0.8%	0.8%	10.2%	19.8%
West Greenwich	0.4%	1.0%	1.2%	5.5%
West Warwick	1.5%	1.5%	11.9%	19.1%
Westerly	1.1%	1.1%	2.1%	15.6%
Woonsocket	5.7%	5.7%	24.5%	15.8%

Less than 75% of recommended limit	Exceeds recommended limit
Between 75% and 100% of 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, although there are ten municipalities that are above at least one of the recommended limits. For most municipalities, traditional debt is the largest component of liabilities but is within acceptable limits. However, for about one-third of the municipalities, unfunded pension liabilities are the largest and most costly liability, although OPEB liabilities are also significant for some municipalities (Johnston, Pawtucket, Providence, and Woonsocket).

Since the 2021 Debt Affordability Study, a few municipalities have increased their debt burden and all but one municipality have remained well below the recommended limits. East Providence issued $124.5 million of debt through RIHEBC in 2021, and the Net Direct Debt to Assessed Value increased from 0.9% to 4.0%, exceeding the recommended limit, and the Overall Debt to Assessed Value increased from 0.9% to 4.04%, just slightly over the 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. However, while Providence's Net Debt to Assessed Value fell from 4.4% in the 2017 Debt Affordability Study to 3.7% in then 2019 Debt Affordability Study and to 3.6% in the 2021 Debt Affordability Study, the ratio has increased to 4.2% in this study as a result of assessed value decreasing by 15% and despite Net Direct Debt decreasing.

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, 2023, the State had a total of $1.47 billion of outstanding general obligation bonds outstanding, and on November 2, 2023, the State issued an additional $146.7 million of general obligation bonds. In addition, as part of the FY 2024 Enacted Budget, the State appropriated $35 million to defease tax-supported debt and reduce debt service in future years ("FY 2024 Cash Defeasance"). On November 30, 2023, the State defeased $12.26 million of outstanding 2022 Series B (Federally Taxable) general obligation bonds.

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. The Rhode Island Commerce Corporation also has entered into performance-based obligations for which the State has made partial payments for debt service. As of June 30, 2023, the state had a total of $481.3 million of appropriation debt outstanding. Subsequently, in August 2023, the Rhode Island Health and Educational Building Corporation ("RIHEBC") issued $93.52 million State Appropriation-Backed Revenue Bonds (Central Falls Public School Projects) Series 2023. This is the first tranche of the $144.0 million authorization to finance the construction, renovation, improvement, alteration, repair, furnishing, and equipping of schools and school facilities in the City of Central Falls, and debt service payments are supported by annual appropriations to RIHEBC. In addition, as part of the FY 2024 Cash Defeasance, the State redeemed the outstanding $29,030,000 Rhode Island Commerce Corporation I-195 Redevelopment District Project bonds.

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 capital 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, 2023.

Issuer	Description	Outstanding as of June 30, 2023
Commerce Corporation	Fidelity Building II Performance Agreement	$3,262,702
Commerce Corporation	Fleet National Bank Performance Agreement	$3,205,000
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, 2023 plus the $146,705,000 2023A and 2023B G.O. Bonds, the $93,520,000 RIHEBC Central Falls Public School Project Bonds issued in FY 2024 and excluding the bonds redeemed as part of the FY 2024 Cash Defeasance.

Tax-Supported Debt	Outstanding as of June 30, 2023
General Obligation Bonds*	$1,600,935,000
Lease Participation Certificates	79,365,000
Convention Center Authority	160,725,000
Rhode Island Turnpike & Bridge Authority (Motor Fuel)	138,810,000
Commerce Corporation - Transportation (Motor Fuel)	15,075,000
Economic Development Corporation - I-195 Redevelopment District Project*	1,025,000
Loan Agreement - Historic Structures Tax Credit Fund	54,370,000
Commerce Corporation- Fidelity Building II Performance Based Agreement	3,262,702
Rhode Island Health and Educational Building Corporation - Central Falls School Project*	93,520,000
Total GO + Lease Participation Certificates + Other Tax-Supported Debt	$2,147,087,702

** Includes $146,705,000 2023A and 2023B G.O. Bonds issued on November 2, 2023 and excludes cash defeasance of $12,260,000 of 2022 Series B (Federally Taxable) G.O. bonds and $29,030,000 RICC I-195 Bonds on November 30, 2023. RIHEBC Central Falls Public School Projects Bonds issued on August 17, 2023.*

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 57,000 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 40% of required contribution to the teachers plan, and the districts are responsible for 60%).

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 2023	$1,785.42	$1,130.28	$20.60	($4.29)	$2,932.00
FY 2024	$1,718.73	$1,092.58	$19.68	($5.16)	$2,825.83
FY 2025	$1,644.97	$1,054.86	$18.99	($5.19)	$2,713.64
FY 2026	$1,559.95	$1,011.74	$18.16	($5.17)	$2,584.68
FY 2027	$1,407.22	$936.26	$17.22	($5.08)	$2,355.61
FY 2028	$1,237.84	$852.62	$14.90	($5.24)	$2,100.11
*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, Actuarial Valuation Reports as of June 30, 2022					

The State has made its full Pension Actuarially Determined Contribution (Pension ADC) every year since 1995. In FY 2023 the state's Pension ADC totaled $351.66 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 2023	$212.05	$130.71	$5.88	$3.02	$351.66
FY 2024	$215.17	$128.65	$5.70	$2.23	$351.75
FY 2025	$221.01	$131.16	$5.85	$2.17	$360.18
FY 2026	$226.62	$133.70	$5.97	$2.13	$368.42
FY 2027	$232.73	$136.52	$6.11	$2.16	$377.53
FY 2028	$239.09	$139.43	$6.27	$2.20	$386.99

*Amounts in millions. ^Projections assume all actuarial assumptions are met.
Source: Employees Retirement System of Rhode Island, Actuarial Valuation Reports as of June 30, 2022

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 Other Post-Employment Benefits or 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, 2022 Actuarial Valuation, there were 13,029 active members covered by the OPEB trust and 7,849 retirees receiving healthcare benefits under the OPEB system. The most recent actuarial study, completed as of June 30, 2022, estimates the State's OPEB unfunded liability on June 30, 2023 at approximately $213.17 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, 2023 was $44.87 million.

The table below summarizes the projections of 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, 2022 Actuarial Valuation*^							
Actuarial Valuation Date	**State Employees**	**Teachers**	**State Police**	**Judges**	**Board of Ed**	**Legislators**	**Total**
6/30/2023	$223.30	($8.16)	($4.28)	($5.83)	$11.48	($3.35)	$213.17
6/30/2024	$211.94	($8.56)	($5.55)	($6.12)	$10.24	($3.49)	$198.45
6/30/2025	$218.79	($8.37)	($2.14)	($6.19)	$12.19	($3.48)	$210.79
6/30/2026	$210.83	($8.79)	($2.15)	($6.50)	$11.64	($3.64)	$201.39
6/30/2027	$201.73	($9.23)	($2.16)	($6.82)	$11.03	($3.80)	$190.75
6/30/2028	$191.40	($9.69)	($2.17)	($7.16)	$10.38	($3.97)	$178.79

*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, Actuarial Valuation Reports as of June 30, 2022

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, 2022 Actuarial Valuation^							
Actuarial Valuation Date	**State Employees**	**Teachers**	**State Police**	**Judges**	**Board of Ed**	**Legislators**	**Total**
6/30/2023	$35.98	$0.00	$6.26	$0.00	$2.63	$0.00	$44.87
6/30/2024	$37.31	$0.00	$5.55	$0.00	$3.18	$0.00	$46.04
6/30/2025	$33.45	$0.00	$4.41	$0.00	$2.54	$0.00	$40.40
6/30/2026	$34.62	$0.00	$4.68	$0.00	$2.61	$0.00	$41.90
6/30/2027	$35.83	$0.00	$4.82	$0.00	$2.68	$0.00	$43.32
6/30/2028	$37.08	$0.00	$4.97	$0.00	$2.74	$0.00	$44.79

*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, Actuarial Valuation Reports as of June 30, 2022

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

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/AA-/AA-)			Outstanding and Authorized but Unissued Debt ≤ 160% of General Fund Tax Receipts		
Maine (Aa2/AA/AA)	5.0% of General Revenues				
Massachusetts (Aa1/AA+/AA+)	8.0% of Annual Budgeted Revenues				
New Hampshire (Aa1/AA/AA+)	10% of Unrestricted General Fund Revenues in Prior 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 "2023 State Liability Report," dated November 15, 2023, Rhode Island's long-term liability burden was 9.3%, which is above the state median of 4.0% (as reported in Fitch's 2023 State 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 (RI FY 2022 = 9.3%)*	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

**Rhode Island ratio as calculated by Fitch includes tobacco settlement bonds 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. This is not the case for Rhode Island. In its 2023 State Liability Report, Fitch reports the Debt plus Adjusted Net Pension Liability plus Net OPEB Liability to Personal Income for Rhode Island to be 9.6% compared with a median of 5.3% across all states.

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 FY 2022= 6.7%)*	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: In March 2022, Moody's updated its rating methodology for U.S. States. Under the revised methodology, Moody's updated the debt and pensions factor, which is renamed as the "leverage" factor. First, Moody's shifted the Fixed Costs Ratio from the finance factor to the leverage factor. In addition, the fixed costs will be adjusted to reflect a more standardized view of non-discretionary spending. Second, Moody's revised the debt and pensions to State GDP ratio to a ratio that will include OPEB liabilities and other liabilities reported on state balance sheets, such as compensated absences and claims and judgments, 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 increased from 25% to 30%. Below is a description of how the ratios for the leverage factor are calculated and how Moody's assesses the ratios for the scorecard:

- *Long-Term Liabilities Ratio:*

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

Measurement	Aaa	Aa	A	Baa	Ba
Long-Term Liability Ratio (20% Weight)	≤ 100%	100% - 200% (RI = 162.6%)*	200% - 350%	350% - 500%	500% - 700%

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

Total Net Tax-Supported Debt (NTSD) is debt secured by statewide taxes and other general resources, net of obligations that are self-supporting from pledged sources other than state taxes or resources such as utility or local government revenue.

Adjusted Net Pension Liabilities (ANPL) and Adjusted Net OPEB Liabilities, as in the previous U.S. States rating methodology, Moody's adjusts the reported pension liability and applies a similar methodology to adjust the reported OPEB liability. The ANPL and Adjusted Net OPEB Liabilities is the difference between the fair market value of a plan's assets and its adjusted liabilities. Moody's adjusts the reported pension and OPEB liabilities of U.S states to improve comparability and transparency based on a market-determined discount rate (the FTSE Pension Liability Index, which was 2.84% as of June 30, 2022) and the market value of assets.

Other long-term liabilities are the total amount of liabilities reported under the governmental activities in a state's financial statements for obligations such as claims and judgments, compensated absences and environmental remediation. Moody's may also include long-term liabilities that are reported in other activities in other sections of the financial statement where they reflect similar obligations, such as claims and judgments and environmental remediation, in order to improve comparability across states.

- *Fixed Costs Ratio:*

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

Measurement	Aaa	Aa	A	Baa	Ba
Fixed Costs / Own-Source Revenue (10% Weight)	≤ 10% (RI = 8.6%)*	10% - 15%	15% - 20%	20% - 25%	25% - 35%

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

Implied Debt Service will be calculated by Moody's using a common implied interest rate based on a 10-year rolling average of a high grade municipal bond index, such as the Bond Buyer 20-bond GO index or a comparable index, as of the end of the prior calendar year and 20-year amortization period. This calculation includes assumed debt service cost and assumed carrying cost of other long-term liabilities.

Tread Water Annual Pension Cost represents Moody's estimate of the pension contribution necessary to prevent reported unfunded pension liabilities from growing, year over year, in nominal dollars, if all actuarial assumptions are met. The pension tread water indicator is the sum of two components: the employer portion of the service cost and the implied interest on the net pension liability at the beginning of the plan's fiscal year.

OPEB Contribution is the actual contribution for a given period, typically the fiscal year.

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 2.3 score to Rhode Island's debt and liability profile in its last full analysis, dated July 24, 2023.

Indicator	Score:1	Score: 2	Score: 3	Score: 4
Debt Burden				
Debt per Capita	Below $500	$500 - $2,000 (RI = $1,762)*	$2,000 - $3,500	Above $3,500
Debt to Personal Income	Below 2%	2% - 4% (RI – 2.7%)*	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 = 2.7%)*	4% - 7%	Above 7%
Debt Amortization (10 Years)	80% - 100%	60% - 80% (RI = 69%)*	40% - 60%	Less than 40%
Pension Liabilities				
3-Year Avg Pension Funded Ratio	90% or above	80% - 90%	60% - 80% (RI = 60.6%)*	60% or below
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 = $2,713 – 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 = 4.2% - No adjustment to initial pension score)*			

Indicator	Score:1	Score: 2	Score: 3	Score: 4
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 Net OPEB Liability per capita = $193)*	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.*

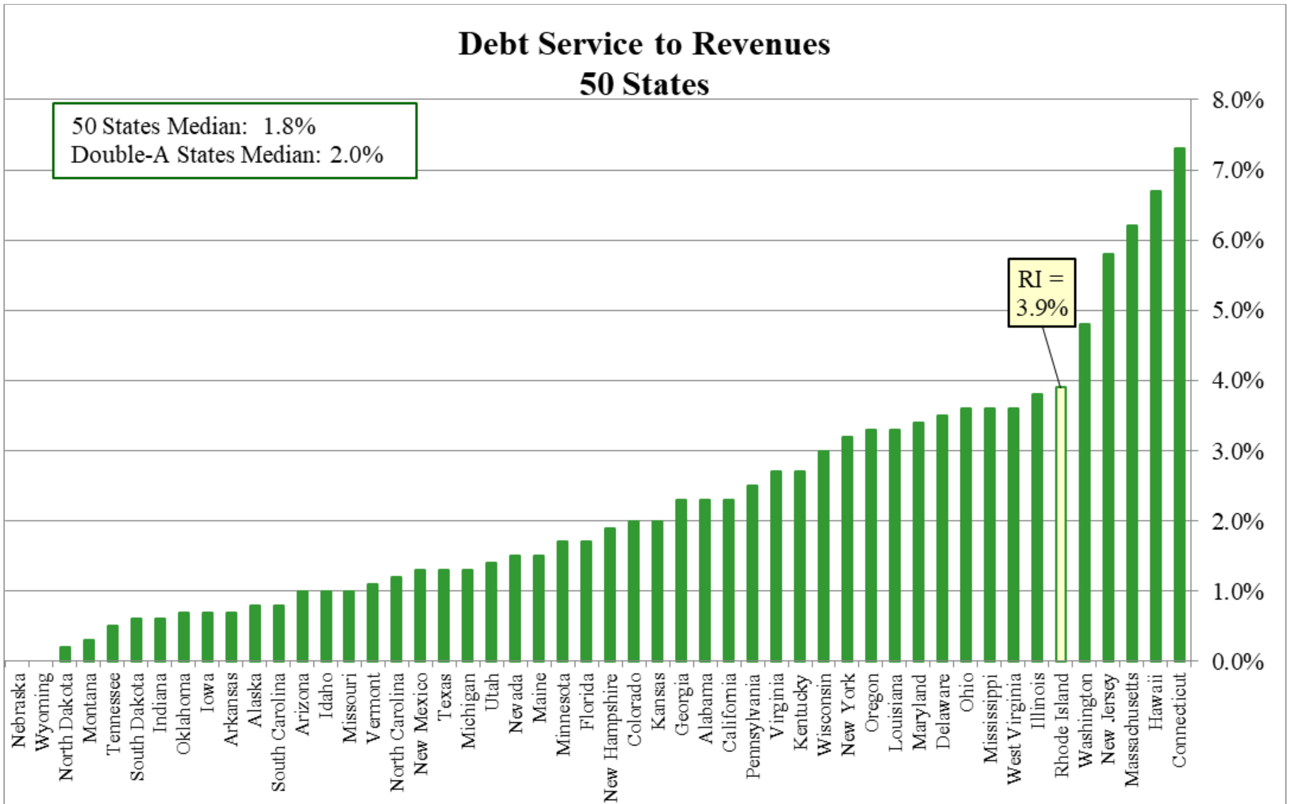
<u>Summary of Rating Agency Ratios</u>. The table below summarizes the debt and pension ratios used by the three major rating agencies, including those used in the respective scoring and those that the rating agencies also take into consideration but not used in scoring.

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	✓		✓
Pension Liability Per Capita		✓	✓
Pension Liability to Personal Income	✓	✓	✓
Pension Liability to Revenues		✓	
Pension Liability to Gross State Product		✓	
Debt + Pension + OPEB Ratios			
Debt + Pension Liability + OPEB Liability to Revenue		✓	
Debt + Pension Liability + OPEB Liability Per Capita		✓	✓
Debt + Pension Liability + OPEB Liability to Personal Income	✓	✓	
Debt + Pension Liability + OPEB Liability to Gross State Product		✓	
Fixed Cost (Debt Service + Pension & OPEB Annual Cost) to Revenues or Expenditures	✓	✓	
OPEB Risk Assessment			✓

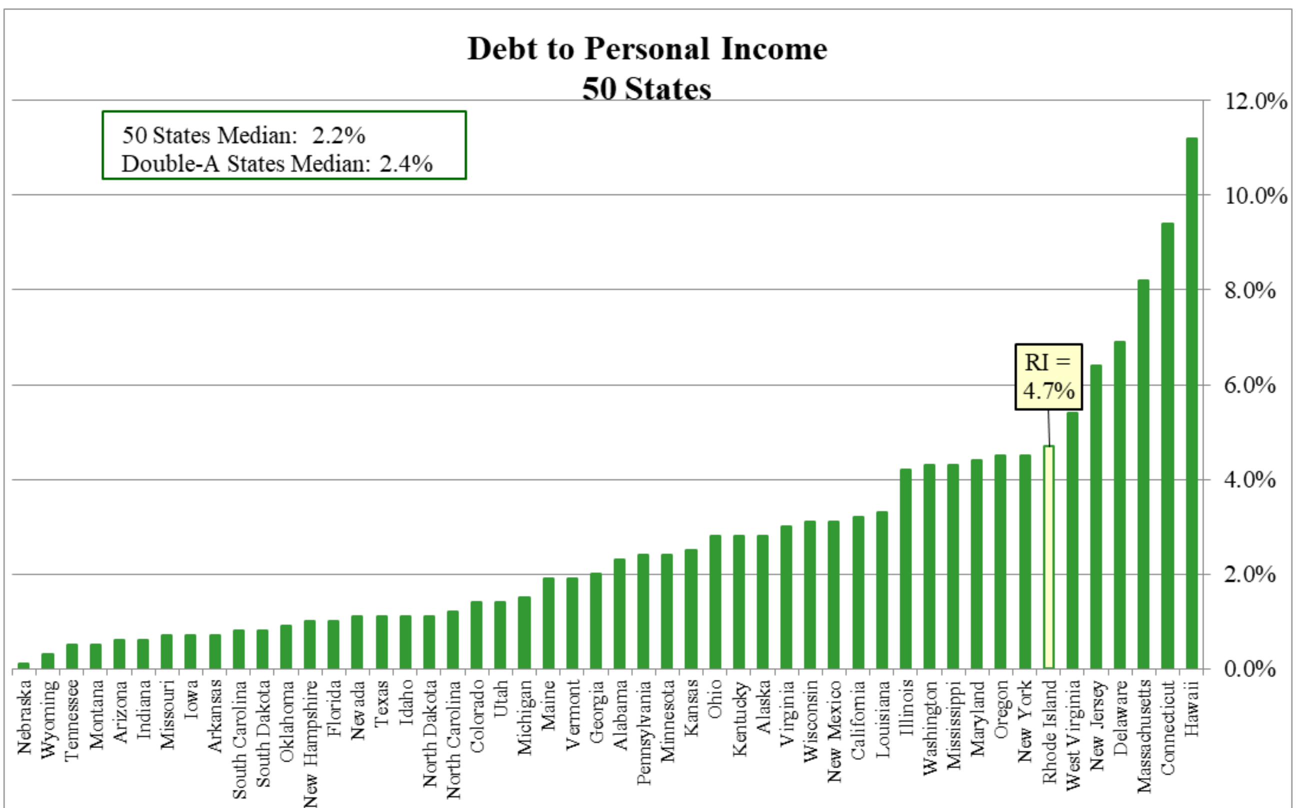
A full list of Rating Agency Debt and Liability Ratios and Medians, including a summary of each state's liability burden under the various Rating Agency criteria, can be found in the appendix.

50 State Comparisons

In addition to Rating Agency guidance, the PFMB found it useful to consider how Rhode Island's debt and pension and OPEB liability burdens compare to other states, as it can be helpful to understand the national context and the decision that other state-level policy makers have made. The following graphs show how the states compared on two commonly used debt affordability ratios, Debt Service to Revenues, and Debt to Personal Income.



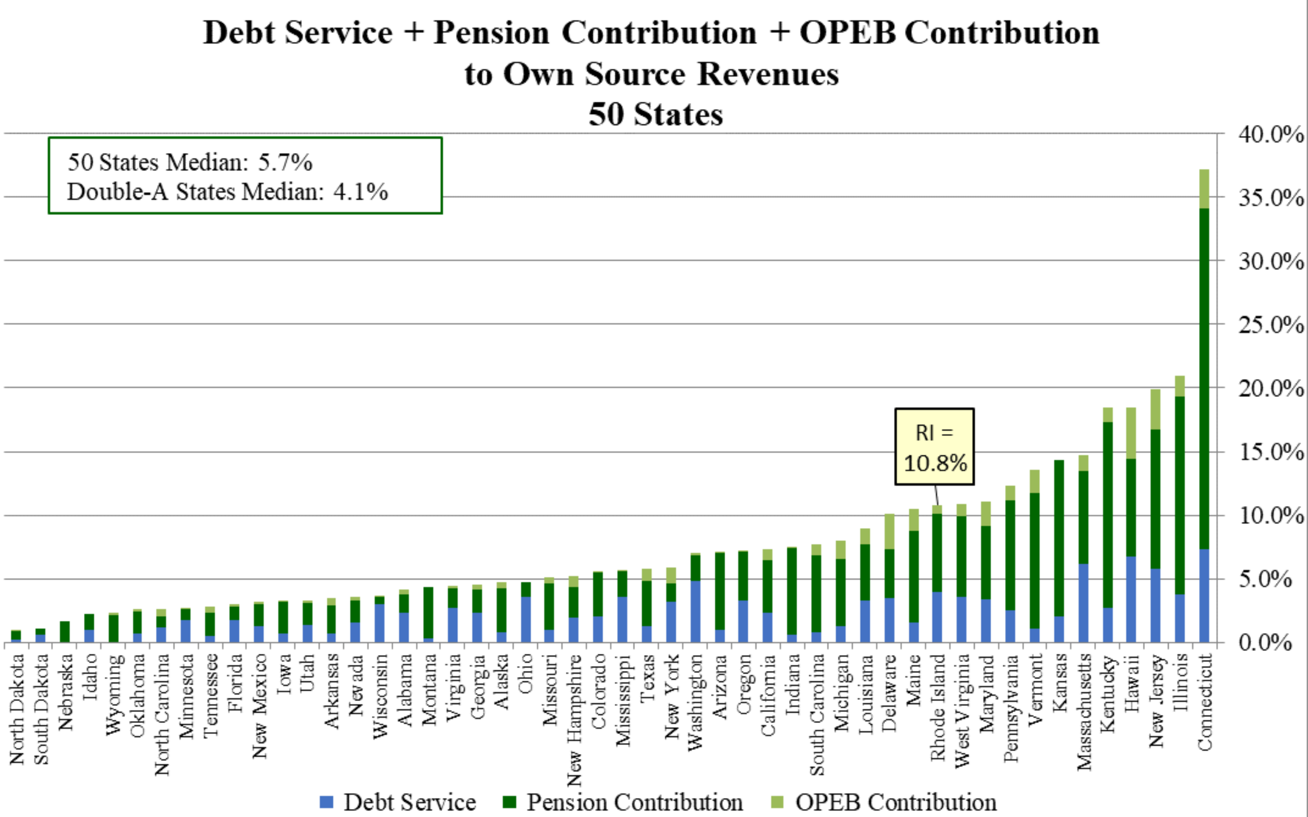
Source: Moody's, *Ability to Service Long-term Liabilities and Fixed Costs Improves*, September 26, 2023



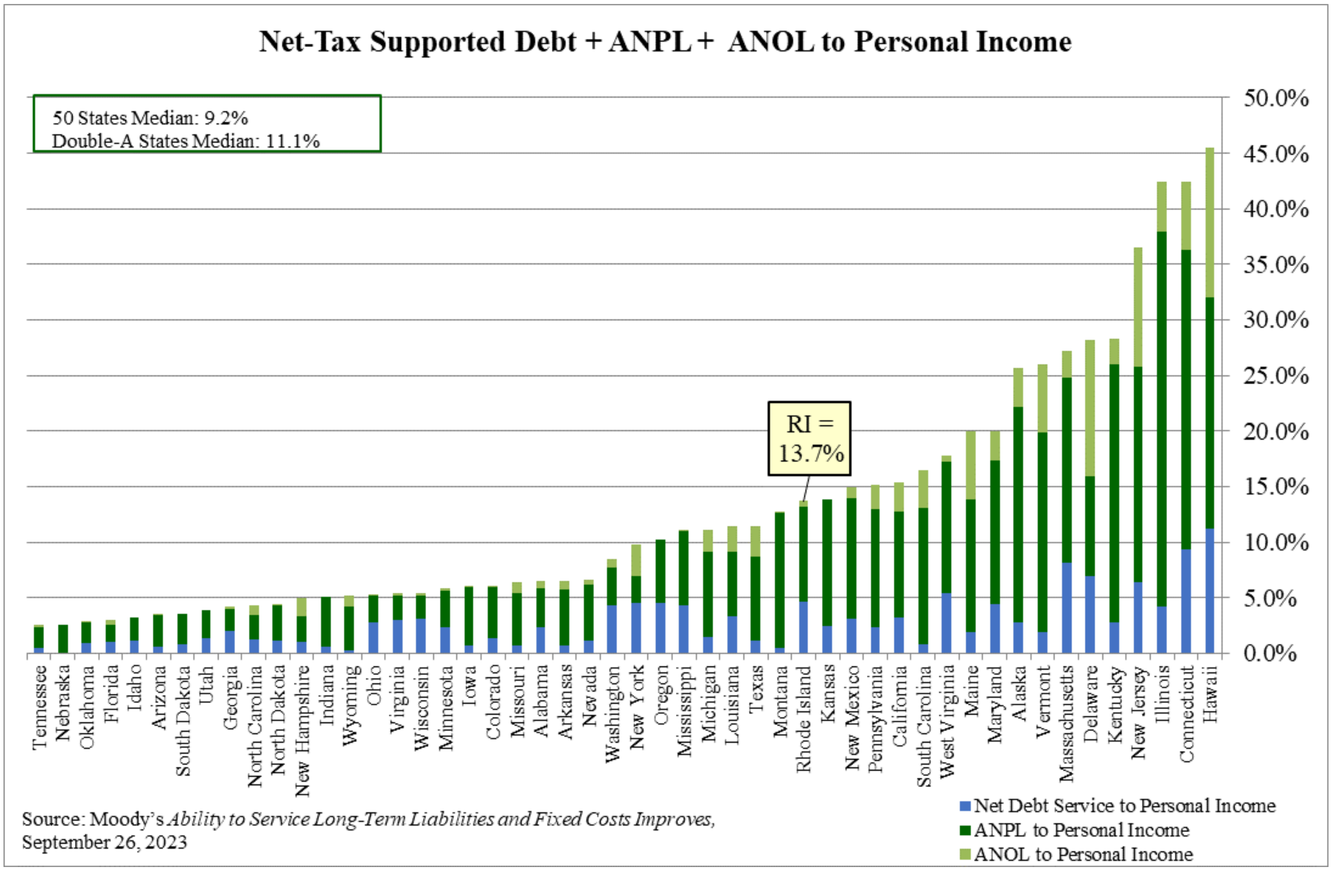
Source: Moody's, *Ability to Service Long-term Liabilities and Fixed Costs Improves*, September 26, 2023

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 recent years, the rating agencies have enhanced their comparison of liability ratios across the 50 states to include not only debt but also pension and OPEB liabilities. As discussed earlier, under its updated criteria adopted in 2022, Moody's adjusts an entity's reported net pension liabilities and net OPEB liabilities based on the same set of assumptions for rate of return and amortization period, and Fitch also adjusts the reported net pension liability based on an assumed rate of return of 6%. With this normalization, a true comparison of liabilities across states can be made. In contrast, S&P does not adjust the reported pension and OPEB liabilities.

The following graphs show the combined total liabilities of each state based on each rating agency's reported ratios. As the graphs show 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 12th in the country in Debt Service + Pension ADC + OPEB ADC relative to Own Source Revenues and ranks 18th in the level of Total Liabilities relative to Personal Income.



Source: Moody's, *Ability to Service Long-term Liabilities and Fixed Costs Improves*, September 26, 2023



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, and in the 2021 Debt Affordability Study, the PFMB recommended maintaining the limits established in the 2019 Debt Affordability Study. The 2021 Debt Affordability Study was developed in the aftermath of the significant impact that the COVID-19 pandemic had on State finances and operations, and it was unknown whether the FY 2020 and FY 2021 results, on which the liability measures were calculated, would be representative of long-term debt affordability. The PFMB recommended 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.

For this 2023 Debt Affordability Study, the PFMB recommends applying the same level of analysis and liability limits used in the 2019 Debt Affordability Study and the 2021 Debt Affordability Study. These liability limits for the State incorporate debt, pension and OPEB liabilities and thus, provide a comprehensive measure of affordability, and the recommended limits have provided reasonable guidelines.

Criteria	Debt Affordability Study Recommended Limit	FY 2024 Levels*
Debt Service on Tax-Supported Debt to General Revenues	7.00%	5.2%
Net Tax-Supported Debt as Percentage of Personal Income	4.00%	2.9%
Rapidity of Repayment over 10 Years	At least 50% in 10 years	64.0%
Net Tax-Supported Debt Service + Pension ADC + OPEB ADC as a Percentage of General Revenues	18.00%	12.7%
Net Tax-Supported Debt + Pension Liability (UAAL) + OPEB Liability as a Percentage of Personal Income	12.00%	7.0%
Pension ADC and OPEB ADC Funding	Fund 100% of Pension ADC, OPEB ADC	100%

** Includes $146,705,000 2023A and 2023B G.O. Bonds issued on November 2, 2023 and excludes cash defeasance of $12,260,000 of 2022 Series B (Federally Taxable) G.O. bonds and $29,030,000 RICC I-195 Bonds on November 30, 2023. Includes $93,520,000 RIHEBC State Appropriation-Backed Revenue Bonds (Central Falls Public School Projects) Series 2023.*

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 5.2%.

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 2.9%.

<u>Debt, Pension & OPEB Liability Ratios</u>

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 12.7%.

<u>Debt + Pension Unfunded Liability (UAAL)+ OPEB UAAL to Personal Income</u>

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 7.0%.

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 64.0%

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 23) and the impact on debt capacity over the next ten years if future debt issuance levels are constrained by the recommended limits (page 26). Over the next decade, the State is estimated to have approximately $3.95 billion in available bonding capacity (through 2035).

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 $471.55 million General Obligation debt is issued in equal amounts in FY 2025 through FY 2027 and the $50.48 million of appropriation debt for City of Central Falls schools is issued by RIHEBC in FY 2025.
5. General revenue projections through 2029 are based on the November 2023 Revenue Estimating Conference and growth after 2029 is assumed to be 1.50%.
6. Personal income projections through 2029 are from the November 2023 Revenue Estimating Conference and growth after 2029 is assumed to be 3.00%.

General Revenue and Personal Income Projections (November 2023 Revenue Estimating Conference)				
Fiscal Year	**General Revenue**	**Annual Growth**	**Personal Income**	**Annual Growth**
2023 Preliminary	$5,211,495,979	0.14%	$71,223,912,250	3.52%
2024	5,318,400,000	2.05%	74,072,250,964	4.00%
2025	5,454,200,000	2.55%	77,596,162,103	4.76%
2026	5,577,948,533	2.27%	80,913,430,042	4.28%
2027	5,720,294,739	2.55%	84,334,551,981	4.23%
2028	5,894,494,410	3.05%	88,009,414,002	4.36%
2029	6,057,707,247	2.77%	91,695,997,164	4.19%

Future Debt Capacity

The State has total debt capacity of almost $3.95 billion through FY 2035. The State's debt capacity is constrained by the recommended limit of 4.00% for the State Tax-Supported Debt to Personal Income in the years 2026 through 2033 and then constrained thereafter by the recommended limit of 7.0% for the Debt Service to General Revenues ratio.

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 (FY 2034 – FY 2036)
Net Tax-Supported Debt as Percentage of Personal Income	4.00% Maximum (FY 2026 – FY 2033)
Rapidity of Repayment over 10 Years	Minimum 54% (FY 2026 – FY 2027)
Net Tax-Supported Debt Service + Pension ADC + OPEB ADC as a Percentage of General Revenues	14.31% (FY 2034)
Net Tax-Supported Debt + Pension Liability (UAAL) + OPEB Liability as a Percentage of Personal Income	7.44% (FY 2026)

Outstanding Tax- Supported Debt
Including Authorized But Unissued Debt

	Outstanding Tax-Supported Debt Service (as of June 30, 2023 with GO 2023AB, RIHEBC Central Falls, FY 2024 Cash Defeasance)			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%**
2024	191,995,827	84,700,552	276,696,379			0	276,696,379	**5.20%**	**2.90%**	**12.68%**	**6.98%**
2025	179,309,697	79,438,652	258,748,349			0	258,748,349	**4.74%**	**2.52%**	**12.09%**	**6.29%**
2026	175,802,537	71,840,362	247,642,899	6,280,176	10,383,000	16,663,176	264,306,075	**4.74%**	**2.45%**	**12.09%**	**5.89%**
2027	162,444,641	64,601,539	227,046,180	11,347,866	17,928,241	29,276,107	256,322,286	**4.48%**	**2.32%**	**11.84%**	**5.34%**
2028	132,835,000	57,104,185	189,939,185	16,668,789	25,219,848	41,888,637	231,827,822	**3.93%**	**2.21%**	**11.26%**	**4.80%**
2029	111,665,000	51,691,720	163,356,720	17,502,228	24,386,409	41,888,637	205,245,356	**3.39%**	**1.95%**	**10.59%**	**4.21%**
2030	114,150,000	46,679,349	160,829,349	18,377,339	23,511,297	41,888,637	202,717,986	**3.30%**	**1.76%**	**10.46%**	**3.62%**
2031	105,675,000	41,716,629	147,391,629	19,296,206	22,592,430	41,888,637	189,280,265	**3.03%**	**1.57%**	**10.28%**	**3.08%**
2032	105,460,000	37,247,724	142,707,724	20,261,017	21,627,620	41,888,637	184,596,361	**2.91%**	**1.40%**	**10.13%**	**2.58%**
2033	94,710,000	33,107,596	127,817,596	21,274,068	20,614,569	41,888,637	169,706,233	**2.64%**	**1.24%**	**9.91%**	**2.08%**
2034	99,950,000	29,452,758	129,402,758	22,337,771	19,550,866	41,888,637	171,291,395	**2.62%**	**1.10%**	**9.94%**	**1.59%**
2035	96,920,000	25,563,667	122,483,667	23,454,660	18,433,977	41,888,637	164,372,303	**2.48%**	**0.95%**	**5.40%**	**1.15%**
2036	90,355,000	21,706,483	112,061,483	24,627,393	17,261,244	41,888,637	153,950,120	**2.29%**	**0.82%**	**5.19%**	**0.93%**
2037	88,825,000	18,287,914	107,112,914	25,858,762	16,029,874	41,888,637	149,001,550	**2.18%**	**0.69%**	**5.08%**	**0.71%**
2038	85,535,000	14,827,946	100,362,946	27,151,700	14,736,936	41,888,637	142,251,583	**2.05%**	**0.58%**	**3.72%**	**0.58%**
2039	78,035,000	11,544,561	89,579,561	28,509,285	13,379,351	41,888,637	131,468,198	**1.87%**	**0.47%**	**3.11%**	**0.47%**
2040	70,240,000	8,577,513	78,817,513	29,934,750	11,953,887	41,888,637	120,706,150	**1.69%**	**0.37%**	**2.88%**	**0.37%**
2041	62,045,000	5,790,721	67,835,721	31,431,487	10,457,150	41,888,637	109,724,358	**1.51%**	**0.28%**	**2.71%**	**0.28%**
2042	47,155,000	3,531,272	50,686,272	33,003,061	8,885,575	41,888,637	92,574,909	**1.26%**	**0.21%**	**2.47%**	**0.21%**
2043	37,230,000	1,731,053	38,961,053	34,653,214	7,235,422	41,888,637	80,849,690	**1.08%**	**0.14%**	**2.31%**	**0.14%**
2044	13,980,000	446,975	14,426,975	36,385,875	5,502,761	41,888,637	56,315,612	**0.74%**	**0.09%**	**1.99%**	**0.09%**
2045	2,770,000	55,400	2,825,400	38,205,169	3,683,468	41,888,637	44,714,037	**0.58%**	**0.05%**	**0.58%**	**0.05%**
2046				23,452,252	1,773,209	25,225,461	25,225,461	**0.32%**	**0.02%**	**0.32%**	**0.02%**
2047				12,011,933	600,597	12,612,530	12,612,530	**0.16%**	**0.01%**	**0.16%**	**0.01%**
	2,147,087,702	709,644,572	2,856,732,274	522,025,000	315,747,732	837,772,732	4,189,213,202				

Note: Assumes the full $522.0 million of authorized but unissued debt is issued in fiscal years 2025-2027. 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 2024 through FY 2029 and 1.50% annual growth thereafter. The projected personal income for FY 2024 through FY 2029 is based on the forecast in the November 2023 Revenue Estimating Conference report and 3.00% annual growth thereafter.

Net Tax-Supported Debt Capacity Through FY 2035

Fiscal Year	Additional Debt Capacity Through 2035**	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%
	Additional Debt Capacity Through 2035 @ 5.00% Interest, 20 Year Term Debt, Pension and OPEB Ratios						
2024		0	5.20%	2.90%	64%	12.68%	6.98%
2025	1,253,090,000	0	4.74%	2.52%	66%	12.09%	6.29%
2026	199,635,000	100,551,184	6.54%	**4.00%**	54%	13.90%	7.44%
2027	209,430,000	116,570,412	6.52%	**4.00%**	54%	13.88%	7.02%
2028	351,405,000	133,375,618	6.20%	**4.00%**	55%	13.52%	6.59%
2029	307,010,000	161,573,264	6.06%	**4.00%**	56%	13.26%	6.25%
2030	326,370,000	186,208,541	6.33%	**4.00%**	58%	13.49%	5.85%
2031	336,055,000	212,397,314	6.44%	**4.00%**	60%	13.68%	5.51%
2032	355,230,000	239,363,236	6.69%	**4.00%**	62%	13.91%	5.18%
2033	219,980,000	267,867,811	6.81%	**4.00%**	64%	14.07%	4.84%
2034	171,620,000	285,519,575	**7.00%**	3.86%	68%	14.31%	4.36%
2035	216,560,000	299,290,808	**7.00%**	3.67%	71%	9.92%	3.87%
2036	0	316,668,142	**7.00%**	3.51%	75%	9.90%	3.62%
2037	0	316,668,142	6.82%	3.17%	78%	9.72%	3.19%
2038	0	316,668,142	6.63%	2.84%	81%	8.29%	2.84%
2039	0	316,668,142	6.37%	2.52%	84%	7.61%	2.52%
	3,946,385,000	5,169,399,186					

*** 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 2039, 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)

FY 2026 Ballot	1,452,725,000	FY 2032 Ballot	691,285,000		
FY 2028 Ballot	560,835,000	FY 2034 Ballot	391,600,000		
FY 2030 Ballot	633,380,000	FY 2036 Ballot	216,560,000	TOTAL	3,946,385,000

Note: Assumes the full $522.0 million of authorized but unissued debt is issued in fiscal years 2025-2027. 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 2024 through FY 2029 and 1.50% annual growth thereafter. The projected personal income for FY 2024 through FY 2029 is based on the forecast in the November 2023 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, on 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, 2023, NBC had approximately $252.6 million of NBC issued bonded debt outstanding, $371.1 million in subsidized loans from the Rhode Island Infrastructure Bank's clean water state revolving loan fund and $520.3 million in three federal WIFIA Loans, for a total of $1.14 billion of total debt outstanding.

As reported in its Annual Comprehensive Financial Report for FY 2023, NBC's capital improvement program for FY 2024 through FY 2029 is an estimated $681.3 million, of which 70.0% is for the 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. The WIFIA loans are being used to fund portions of CSO Phase III, Bucklin Point Resiliency Improvements and the Field's Point Resiliency Improvements projects. 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 latest project schedule and cost estimates for the CSO Phase III program. The costs for Phase III C and Phase III D projects are derived from original cost estimates received in 2018. The costs for these phases have been escalated to 2023 costs by 18% based on the National Construction Cost Index increase for this period. Beyond 2023, these projects are forecasted to increase by 3% annually to account for inflation through midpoint of design and construction.

CSO Phase III Timeline and Costs			
Phase	**Timeline**		**Cost (in millions)***
	Start	***Complete***	
A	Apr-2013	Feb-2027	$893.2
B	Jan-2029	Jun-2031	$45.5
C	Jun-2032	Dec-2038	$290.4
D	Jan-2036	Dec-2041	$160.7
		Total	**$1,389.8**

Source: NBC, FY 2024 Annual Budget
** Excludes costs incurred prior to FY 2020*

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 as of June 30, 2023:

Quasi-Public Agency	Debt Outstanding	Net Pension Liability	Net OPEB Liability	Total Liabilities
Narragansett Bay Commission	NBC Revenue Bonds: $252,630,000 RIIB Loans: $371,125,653 WIFIA Loans: $520,306,942	$15,659,853 (ERSRI), also counted in Part One of this report $3,714,890 Net Pension Asset for Non-Union Defined Benefit Pension Plan	$2,223,344, also counted in Part One of this report	$1,243,108,671

Rating Agency Guidance and Peer Comparison

In its criteria for utilities, "U.S. Municipal Water, Sewer and Solid Waste Utilities: Methodology and Assumptions," published April 14, 2022, 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 (Senior) (M/S/F)	ABT/Rate Covenant	Debt Service Coverage	Days' Cash on Hand	Debt to Capitalization
Narragansett Bay Commission	**--/AA-/-- (AA from Kroll for WIFIA)**	**NBC: 1.25x RIIB: 1.35x[2]**	**1.55x (FY 2023)**	**120 days (FY 2021) (S&P)**	**62.9% (FY 2021) (S&P)**
Massachusetts Water Resources Authority	Aa1/AA+/AA+	Senior: 1.20x Sub.: 1.10x	Senior: 2.3x Sub.: 1.2x (FY 2022) (Moody's)	96 days (FY 2022) (Moody's)	74.6% (FY 2022)
Boston Water and Sewer Commission	Aa1/AAA/AA+	1.25x	1.4x (FY 2022) (S&P)	171 days (FY 2022) (S&P)	57.6% (FY 2022)
City of Philadelphia Water and Wastewater	A1/A+/A+	1.20x	1.66x (FY 2022) (Moody's)	136 days (FY 2022) (Moody's)	73.2% (FY 2022)
St. Louis Metropolitan Sewer District	Aa1/AAA/AA+	Senior: 1.25x Sub.: 1.15x	Senior: 3.4x Sub: 2.3x (FY 2022)	585 days (FY 2021) (Moody's)	36.4% (FY 2022)
City of Baltimore Water and Wastewater Bonds	Senior: Aa2/AA-/-- Sub: Aa3/A+/--	Senior: 1.15x Sub.: 1.10x	2.3x (FY 2022) (Moody's)	596 days (FY 2022) (Moody's)	52.4% (FY 2022)

Source: Rating reports and annual reports for each issuer and NBC's Annual Comprehensive Financial Report, FY 2023

(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 relates 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 1.55x) and peer wastewater programs have overall coverages ranging from 1.2x (Massachusetts) to 2.3x (St. Louis and Baltimore). 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-2.3x).**

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	1.55x (2023)

(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 three low-interest federal WIFIA loans totaling $514.8 million, which will assist in keeping the level of indebtedness within the recommended limit and mitigate ratepayer impact.

In the pro forma Long-Term Financial Plan included in NBC's FY 2024 Annual Budget, NBC shows the following projected user fee rate increases necessary to support the additional debt needed to finance the capital improvement plan, reflecting the 8.4% across-the-board rate increase on July 1, 2023 and rate increases in each of the subsequent fiscal years, totaling a projected 33.0% increase in user fee revenue over the six-year period.

Projected Increase in Sewer User Charges and Annual Fee						
	FY 2024	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**
Percentage Increase User Fees	8.40%	9.60%	6.60%	7.06%	3.00%	3.00%
Average Annual Single-Family Home	$562.78	$616.81	$657.52	$703.93	$725.05	$746.80

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 2029, the cost burden for many Rhode Island families could be significant.

The PFMB continues to recommend that NBC conduct a new, updated ratepayer affordability study to determine projected ratepayer impact 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.

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

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), Mount Hope Bridge, Jamestown Verrazzano and Sakonnet River Bridges along with 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, 2023, RITBA had $43,030,000 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, 2023, RITBA had $138,810,000 of motor fuel tax bonds outstanding.

Amount of Debt and Liabilities Outstanding

Quasi-Public Agency	Debt Outstanding as of 6/30/2023	Pension	OPEB	Other Long-Term Liabilities	Total
Rhode Island Turnpike and Bridge Authority	Toll Revenue Bonds: $43,030,000	N/A	N/A	N/A	$43,030,000

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).

<table>
<tr><th colspan="8">Rating Agency Criteria for Toll Revenue Bonds</th></tr>
<tr><td>Fitch Ratings</td><td colspan="7">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.</td></tr>
<tr><td rowspan="4">Standard & Poor's</td><td colspan="7">As part of the financial risk profile the following factors associated with debt are scored.</td></tr>
<tr><td></td><td>Extremely Strong</td><td>Very Strong</td><td>Strong</td><td>Adequate</td><td>Vulnerable</td><td>Highly Vulnerable</td></tr>
<tr><td>Debt Service Coverage</td><td>> 4.75x</td><td>4.75x-3x</td><td>3x-1.25x</td><td>1.25x-1.1x</td><td>1.1x-1x</td><td><1x</td></tr>
<tr><td>Debt to Net Revenues</td><td><5%</td><td>5%-10%</td><td>10%-15%</td><td>15%-20%</td><td>20%-30%</td><td>>30%</td></tr>
</table>

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**	**3.5x** (FY 2022)	**2.4x** (Fitch)
Richmond Metropolitan Authority (VA)	A1/--/A+	1.25x (1.0x on all obligations)	1.6x (FY 2022) (Fitch)	2.7x (Fitch)
Buffalo & Fort Erie Public Bridge Authority (NY)	--/A+/A	1.25x (1.0 on all obligations)	2.2x (FY 2022) (Fitch)	2.3x (Fitch)
Lee County (FL) Toll Bridges	A2/A+/--	1.20x (1.0 on all obligations)	3.0x (FY 2022)	2.7x
Greater New Orleans Expressway Commission	--/A/--	Senior: 1.2x (Gross revenues) Sub: 1.2x (1.0x on all obligations)	2.3x (Senior + Subordinate) (FY 2022)	N.A.
Niagara Falls Bridge Commission (NY)	--/A+/--	1.30x	2.20x (FY 2022)	N.A.

Source: Ratings reports, annual reports and official statements for issuer. *Coverage levels from Fitch Ratings, "Peer Review of U.S. Toll Roads," March 2022*

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 during the period 2009 through 2022. 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 1.6x to 3.0x. **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.	3.5x Debt Service Coverage (2022)

[(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 those two years, reflecting the impact of the coronavirus pandemic. With revenues returning to pre-pandemic levels in FY 2022, debt service coverage levels of at least 3.5x can be maintained through 2040, assuming no additional debt issuances.

RITBA has no plans to issue motor fuel or toll or combined revenue bonds in calendar year 2024. 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 2040/2041. RIRRC has implemented initiatives that have resulted in gaining an estimated six to seven years of additional disposal capacity and pushed the initial anticipated closure date of the central landfill out nearly two decades to the year 2040/2041. The RIRRC issued $40 million Resource Recovery System Revenue Bonds, Leachate Pretreatment Facility Project in 2013 and the final maturity on the bonds was May 31, 2023. The RIRRC no longer has any bonds outstanding.

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 $99.7 million in projected capital needs over the next six 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. **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.**

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 $689.1 million outstanding as of June 30, 2023. 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. With 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 FY2023 annual report, had over 50 different single-entities as underlying borrowers; the Rhode Island

Commerce Corporation has thirteen single-entity underlying borrowers as of June 30, 2023; and the Rhode Island Industrial Facilities Corporation has nine single-entity underlying borrowers as of June 30, 2022.

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.

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, 2022, there are $40,000,000 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. As of June 30, 2023, a total of $454,660,000 of GARVEE bonds was outstanding.

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

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

Federal Fiscal Year	Federal Reimbursement Available for Bond Payments	Year Over Year % Change
2013	$189,313,545	-8%
2014	$210,272,184	11%
2015	$209,860,242	-0.2%
2016	$214,685,748	-15%
2017	$217,764,218	1%
2018	$231,988,087	6%
2019	$224,627,862	-3%
2020	$238,763,991	6%
2021	$219,281,616	3%
2022	$297,148,680	36%
2023 (est.)	$324,000,000	9%

The Infrastructure Investments and Jobs Act ("IIJA"), enacted in 2021 reauthorized the federal surface transportation program for the period covering federal fiscal years 2022 through 2026, provided 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. Under the IIJA, based on formula funding alone, Rhode Island is expected 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 the prior authorization (FAST Act), which covered federal fiscal years 2016 through 2020. In federal fiscal year 2022 Rhode Island saw an increase of 36% over 2021 and another 9% increase in federal fiscal year 2023 in the federal reimbursement available for bond payments. 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. Further, with the inherent reauthorization risk associated with GARVEEs and uncertainty of whether federal reimbursement levels are sustainable at the IIJA levels, the PFMB will use two measures for Rhode Island's GARVEE bond debt service coverage levels: (i) the average annual federal reimbursements over the FAST Act period through the first two years of IIJA (2016 – 2023) and (ii) the average annual federal reimbursements under the IIJA to date (2022 – 2023).

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 FAST Act/IIJA average federal reimbursement levels and assuming IIJA average federal reimbursement levels.

Debt Service Coverage

FY	Outstanding Debt Service	Debt Service Coverage with FAST Act/IIJA Average Federal Reimbursement **$246,032,525**	Debt Service Coverage with IIJA Average Federal Reimbursement **$310,574,340**
2024	$65,813,000	3.7x	4.7x
2025	$62,434,000	3.9x	5.0x
2026	$62,431,000	3.9x	5.0x
2027	$62,433,500	3.9x	5.0x
2028	$62,431,000	3.9x	5.0x
2029	$62,433,250	3.9x	5.0x
2030	$62,434,250	3.9x	5.0x
2031	$62,428,000	3.9x	5.0x
2032	$19,928,500	12.3x	15.6x
2033	$19,928,750	12.3x	15.6x
2034	$19,933,000	12.3x	15.6x
2035	$19,929,000	12.3x	15.6x

Rating Agency Guidance and Peer Comparison

Based on the average federal highway reimbursements in the period 2016 through 2023 and the average reimbursements in the period 2022 through 2023, Rhode Island's minimum level of coverage under both measures is 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* 2023**
Rhode Island	A2/AA-/--	3.0x	3.7x (FAST Act/IIJA)/ 4.7x (IIJA)
Delaware	A1/AA/--	3.0x	10.4x
District of Columbia	A2/AA/--	3.0x	6.6x
Georgia	A2/AA/A+	3.0x	24.8x
Idaho	A2/--/A+	3.33x	5.1x
Kentucky	A2/AA/A+	4.0x	10.8x
Maine	A2/AA/A+	3.0x	7.4x
Michigan	A2/AA/--	3.0x	19.1x
North Carolina	A2/AA/A+	3.0x	7.8x
Ohio	Aa2/AA/--	5.0x	11.3x
Washington	A2/AA/--	3.5x	7.6x
West Virginia	A2/AA/--	3.0x	14.8x

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 FFY2023. 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 2023 OA: https://www.fhwa.dot.gov/legsregs/directives/notices/n4520278/n4520278_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 future federal reauthorizations and maintain a minimum of 3.5x debt service coverage with any additional debt.	<u>2022-2023 Average</u>: 4.7x Coverage <u>2016-2023 Average</u>: 3.7x 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 the increased funding levels, the minimum debt service coverage level has improved, and RIDOT is 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, 2023, T.F. Green was served by ten mainline carriers, ten domestic affiliate carriers, two international carriers and three all cargo carriers.

Amount of Debt and Liabilities Outstanding

As of June 30, 2023, RIAC had $96.1 million in privately placed general airport revenue tax-exempt bonds in addition to $57.0 million general airport revenue bonds, $34.2 million First Lien Special Facility Interlink Bonds, and $38.5 million in a federal TIFIA loan for the Interlink Facility.

Quasi-Public Agency	Debt Outstanding as of 6/302023	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: $153,056,852 Special Facility + TIFIA: $72,753,106 Private Placement: $96,076,852 (included in Airport Revenue Bonds above)	$1,189,014, also counted in Part 1 of this report	$161,972, also counted in Part 1 of this report	Due to other government units: $265,183	$277.9 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. In January 2023, S&P raised its ratings to A from A- on RIAC's general airport revenue bonds, and in April 2023, S&P raised its rating on the special facility revenue bonds from BBB+ to A, both rating actions reflecting S&P's view of a strong rebound in national air travel demand as well as a recovery in RIAC's passenger traffic in 2022 and 2023. S&P referenced the following credit strengths: (i) "very strong liquidity and financial flexibility, with several years of rising liquidity levels, reaching $85.5 million in unrestricted cash and equivalents at fiscal year-end 2022; (ii) 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; and (iii) very strong debt and liability capacity, with a manageable capital improvement plan and no additional debt needs in the near term."

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. On November 30, 2023, Fitch upgraded the rating on RIAC's airport revenue bonds to A- from BBB+. Fitch revised its assessment of passenger volume to mid-range from weaker and the strength and competitiveness of RIAC's contractual framework with its airline partners and other commercial operators (price) to stronger from mid-range. Given this risk profile (mid-range volume risk and stronger price risk), Fitch's rating guidance has RIAC ratings capped at the A rating category with ultimate rating factoring in liquidity, coverage and leverage: A Rating Category: Debt Service Coverage: ≥ 1.7x A Rating Category: Net Debt to Cash Flow Available for Debt Service (CFADS): ≤ 5x
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	Cash on Hand	Net Debt to Cash Flow Available for D/S	Debt per Enplaned Passenger
Rhode Island Airport Corporation	**Airport Revenue** **Baa1/A/A-**	**1.25x**	**1.97x (with rolling coverage account)** **1.3x (without coverage account)** (Fitch)	**928 days** (Moody's)	**4.0x** (Fitch)	**$92** **(2023)**
Hartford-Springfield (Bradley Airport)	--/A+/A	1.10x	2.35x (including rolling coverage account) 2.0x (without coverage account)	575days (Fitch)	1.7x (Fitch)	$39 (Fitch)
Manchester, NH	Baa2/BBB/--	1.25x	1.5x (2022)	453 days (Moody's)	N.A.	$264.10 (Moody's)
Dayton, OH	--/BBB+/BBB	1.25x Sub: 1.1x	1.83x (2022) (Fitch)	330 days (2022) (Fitch)	N/A	$102.87 (S&P)
Long Beach, CA	A3/--/A-	1.25x	1.90x (2021) (Moody's)	497 days (2021) (Moody's)	N/A	$220 (2021) (Moody's)

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 (Airport Revenue Bonds)
Rhode Island Airport Corporation	Airport Revenue Bonds: RIAC's net revenues (include rentals, fees, and other charges) and certain Passenger Facility Charge revenues must be 1.25x debt service (Baa1/A/A-) Special Facility Revenue Bonds: 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/A/--)	1.5x coverage when including the Coverage Account Ending Balance and debt per enplaned passenger to $100.	Debt Service Coverage: FY 2023: 2.49x Debt per Enplaned Passenger: FY 2023: $92

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 2023 coverage level was 2.49x, placing it above the PFMB's recommended limit, and RIAC has an all-time low debt per enplaned passenger at $92 in FY 2023. This is improved from the pre-pandemic levels of $109 in 2019. At this time, the PFMB is not changing the recommended debt affordability measure from the 2021 Debt Affordability Study.

2. Conduit Issuers – Pooled Bond Programs

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, 2023, URI has $71.0 million of Educational and General Revenue Bonds outstanding and $164.1 million 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.

<table>
<tr><th colspan="5">Rating Agency Criteria for Higher Education Issuers</th></tr>
<tr><td>Moody's Investors Service</td><td colspan="4">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.</td></tr>
<tr><td>Rating Category</td><td>Aaa</td><td>Aa</td><td>A</td><td>Baa</td></tr>
<tr><td>EBIDA to Adjusted Operating Revenue</td><td>≥ 22.5%</td><td>15 – 22.5%</td><td>8 – 15%</td><td>3 – 8%</td></tr>
<tr><td>Total Cash and Investments to Total Adjusted Debt</td><td>≥ 3x</td><td>1 – 3x</td><td>0.2 – 1x</td><td>0.1 – 0.2x</td></tr>
<tr><td>Debt Service Coverage</td><td>≥ 4x</td><td>2 – 4x</td><td>1.5 – 2x</td><td>1 – 1.15x</td></tr>
<tr><td>Standard & Poor's</td><td colspan="4">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%</td></tr>
</table>

<table>
<tr><th></th><th>Ratings (M/S/F)</th><th>ABT/Rate Covenant</th><th>Debt Service Coverage</th><th>Operating Cashflow Margin</th><th>MADS Burden</th><th>Total Debt to Cash Flow</th></tr>
<tr><td>University of Rhode Island – Educational and General Revenue Bonds[1]</td><td>Aa3/A+/--</td><td>1.00x</td><td>3.1x (FY 2022)</td><td rowspan="2">9.5% (FY 2022)</td><td rowspan="2">3.5% (FY 2022)</td><td rowspan="2">4.8x (FY 2022)</td></tr>
<tr><td>University of Rhode Island – Auxiliary Enterprise Revenue Bonds</td><td>A1/A+/--</td><td>1.2x</td><td>2.6x (FY 2022)</td></tr>
<tr><td>University of Connecticut</td><td>Aa3/AA-/--</td><td>1.25x</td><td>1.4x (FY22) Moody's</td><td>16.2% (FY22) Moody's</td><td>12.6% (FY22) S&P</td><td>8.0x (FY22) Moody's</td></tr>
<tr><td>University System of New Hampshire</td><td>Aa3/AA-/--</td><td>N/A</td><td>2.9x (FY22) Moody's</td><td>14.4% (FY22) Moody's</td><td>3.7% (FY22) S&P</td><td>3.0x (FY22) Moody's</td></tr>
<tr><td>University of Massachusetts</td><td>Aa2/AA-/AA</td><td>N/A</td><td>2.2x (FY21) Moody's</td><td>13.7% (FY21) Moody's</td><td>5.4% (FY22) S&P</td><td>6.5x (FY21) Moody's</td></tr>
<tr><td>University of Vermont & State Agricultural College</td><td>Aa3/A+/--</td><td>N/A</td><td>3.6x (FY22) Moody's</td><td>15.8% (FY22) Moody's</td><td>4.2% (FY22) S&P</td><td>4.4x (FY22) Moody's</td></tr>
</table>

* *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	4.8x 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 3.0x (UNH) to 8.0x (UCONN). URI is currently within the recommended limit and does not have any planned debt issuances in the coming year.

[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.

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, 2023 for the above were:

Loan Programs	Debt Outstanding (June 30, 2023)
Clean Water (Water Pollution Control Revenue Bonds)	$388,100,000
Drinking Water (Safe Drinking Water Revenue Bonds)	$166,190,000
Municipal Road and Bridge Revolving Loan Fund	$35,170,000
Efficient Buildings Fund	$26,370,000
Other Water Pollution Control and Drinking Water (non-SRF conduit bonds)	$37,885,000

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 6/30/2023	Pension	OPEB	Total Liabilities
Rhode Island Infrastructure Bank	$653,715,000	N/A	N/A	$653,715,000

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.
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)**	**42.7%(CW)/ 31.8%(DW)**	**AA-**
Connecticut SRF	Aaa/AAA/	1.3x	1.3x	40.3%	AA
Florida Water Pollution Control Corporation	--/--/AAA	2.9x	2.6x	11.3%	A+
Maryland Water Quality Financing Administration	Aaa/AAA/AAA	6.6x	6.1x	13.1%	AA-
Arizona Water Infrastructure Finance Authority	Aaa/AAA/AAA	1.9x	1.5x	11.0%	AA

Source: Fitch State Revolving Fund and Municipal Loan Pool Peer Review: 2022, November 4, 2022

Rating Agency Commentary for Rhode Island Infrastructure Bank Efficient Buildings Fund Revenue Bonds	
Standard & Poor's	The AA 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 high default tolerance, 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/-**	**1.4x**	**1.2x**	**38.3%**	**East Providence: A1/AA/--**

Source: S&P rating report, September 21, 2023.

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 statute and an extremely strong financial risk score, reflecting a high default tolerance, solid 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/-**	**1.5x**	**1.2x**	**Providence Pub. Bldg. Auth. (25.8%) Westerly (21.6%) Pawtucket (15.9%) Warwick (8.1%)**	**Providence Pub. Bldg. Auth [(1)]: Baa2/BBB/- Westerly: Aa3/AA/- Pawtucket: A3/A/A+ Warwick: -/AA/-**

Source: S&P rating report, September 21, 2023.

(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 1.4x Asset to liabilities ratio of 1.8x
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 1.7x Asset to liabilities ratio of 2.1x
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 1.6x Asset to liabilities ratio of 1.8x
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 1.8x Asset to liabilities ratio of 2.3x

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 2024.

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. 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, 2023)
Single-Family Homeownership Opportunity Bonds	$1,254,950,000
Multi-Family Funding Bonds	$23,930,000
Multi-Family Development Bonds	$317,985,000

Source: Audited Financial Statements for year ended June 30, 2023.

As of June 30, 2022, Rhode Island Housing no longer has any bonds outstanding under the Single Family Home Funding Bond program. 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, 2023, all such moral obligation debt is no longer outstanding. Another program is the multi-family mortgage revenue bonds for which Rhode Island Housing acts as a conduit issuer for developers to provide financing for the acquisition, construction and rehabilitation for multi-family housing for low-income renters. The properties financed are pledged as collateral, and the bonds are payable solely from payments received by the developers on the underlying mortgage or promissory notes. As of June 30, 2023, these bonds have an aggregate outstanding principal amount of $128,108,101.

Quasi-Public Agency	Debt Outstanding as of 6/30/2023	Pension	OPEB	Other Long-Term Liabilities	Total Liabilities
Rhode Island Housing	Bonds and notes payable: $2,019,686,868[1]	N/A	N/A	Escrow Deposits $528.5 million[2]	$2,582.7 million of long-term liabilities

[1] Includes $392.8 million of Operating Funds Bonds and Notes.

[2] 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.

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	**Program Ratings (M/S/F)**	**PADR (2021)**	**Profitability (2021)**	**Ratings (M/S/F)**	**PADR (2021)**	**Profitability (2021)**
Rhode Island Housing	**Aa1/AA+/--** (Homeownership Opportunity Bonds)	**1.23x**	**9.0%**	**Aa2/--/--** (Multi-Family Development Bonds)	**1.25x**	**41.1%**
Connecticut	Aaa/AAA/-- (Housing Mortgage Finance Program)	1.33x	11.8%	Aaa/AAA/--	1.33x	11.8%
Maine	Aa1/AA+/--	1.22x	7.7%	Aa1/AA+/--	1.22x	7.7%
Massachusetts	Aa1/AA+/-- (Single Family Housing)	1.24x	7.0%	Aa2/AA/-- (Housing Bonds)	1.17x	19.4%
New Hampshire	Aa1/--/-- (Single Family Mtg Acq)	1.47x	39.8%	Aa2/--/--	1.14x	15.7%
Vermont	Aa1/--/AA+ (Multi-Purpose Bonds)	1.35x	20.6%	Aa2/A+/-- (Multi-Family Mortgage)	1.19x	28.2%

**Source: Moody's State Housing Finance Agencies, December 2022.*

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 1.23x (Single-Family) and PADR of 1.25x (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 1.23x for Single-Family and 1.25x 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 1.23x and 1.25x, respectively, in 2021.

Rhode Island Student Loan Authority

The Rhode Island Student Loan Authority ("RISLA") uses its 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 6/30/2023	Pension	OPEB	Total Liabilities
Rhode Island Student Loan Authority	Student Loan Program Revenue Bonds: $560,531,000, includes - FFELP Loan Program Revenue Bonds: $70,900,000 Notes Payable: $10,261,000	N/A	N/A	$587.2 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 as of June 30, 2023 was 135.0%.

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 (2023)	Credit Enhancement (% to Total Assets)
Rhode Island Student Loan Authority	**--/AA(sf)/AAsf**	**Rating Affirmation**	**135.0%**	**11.3% - 11.8%**
Massachusetts Educational Financing Authority (MEFA)	--/AA(sf)*/--	Rating Affirmation	116.2% (S&P)	12.8% (S&P)
Connecticut (CHESLA)	Aa3/--/--	Credit based on State Special Capital Reserve Fund Make-Up		
Vermont (VSAC)	--/A(sf)/Asf	None	135.5% (S&P)	27.0% - 27.5% (S&P)
New Jersey Higher Education Student Assistance Authority (HESAA)	Senior: Aa1/AA(sf)/-- Sub:A2/BBB(sf)/	Min. Parity %: 107 (Moody's) 112% (S&P)	125.1% (S&P)	Senior: 12.7% - 13.3% Sub: 9.3% - 9.7% (S&P)
Iowa Student Loan Liquidity Corporation	--/AA+(sf)/Asf	Rating Affirmation	135.8% (Senior) 126.1% (Sub.) (S&P)	30.3% - 31.4% (S&P)

**Source: Most recent S&P 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 135.0%

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 2023, the cumulative default rate for RISLA has been 1.13% with a maximum annual default rate of 7.85% 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 considered 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.

The PFMB notes that seven municipalities approved school bonds and other bonds in their November 2023 election, as summarized below.

- Barrington: $250 Million for Schools
- Bristol, Warren: $200 million for Schools
- Coventry: $25 million for Schools
- Cumberland: $52 million for Schools
- East Greenwich: $150 million for Schools
- Lincoln: $25M for Schools, $14M for Centralized Rescue Station
- Middletown: $190 million for Schools

Further, the PFMB recognizes other municipalities have authorized debt prior to November 2023 but have not yet issued this debt. As municipalities issue the authorized debt, their debt ratios may be significantly impacted.

Since the 2021 Debt Affordability Study, the long-term liability profiles of the State's municipalities have mostly improved with over 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. Certain other municipalities have taken on more debt and remain below the recommended limits, except East Providence is now exceeding the recommended limit.

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 2021-2022[1]. This study measures municipal liabilities according to four separate ratios, each with recommended limits. The liabilities of 29 of Rhode Island's 39 municipalities are below all four recommended limits.
- The liabilities of ten communities exceeded at least one of the four recommended affordability limits, with four communities exceeding multiple recommended limits (East Providence, Johnston, Providence, and Woonsocket).
- For most municipalities, debt is the largest component of liabilities. However, for about one-third of the municipalities, unfunded pension liabilities are the largest and most costly liability, although OPEB liabilities are also significant for several municipalities (Johnston, Pawtucket, Providence, Warwick and Woonsocket).
- Overall municipal debt[2] increased by $314.5 million, from $2.689 billion to $3.00 billion or 11.7% between the 2021 Debt Affordability Study and this current study.
- Since the 2021 Debt Affordability Study, a few municipalities have increased their debt burden and all but one municipality have remained well below the recommended limits.
    - East Providence issued $124.5 million of debt through RIHEBC in 2021, and the Net Direct Debt to Assessed Value increased from 0.9% to 4.0%, exceeding the recommended limit, and the Overall Debt to Assessed Value increased from 0.9% to 4.04%, just slightly over the 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 2022 audit is used for all communities, except Coventry and East Providence, which are based on FY 2021, the latest available audit for both.

[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 and declined even further to 5.7% in FY 2022.
- Providence's Net Debt to Assessed Value has fallen from 4.4% to 3.7% to 3.6% across the three prior debt affordability studies, but despite a decline in the net direct debt, the Net Debt to Assessed Value increased to the current 4.2% level as assessed value declined almost 15% between FY 2020 and FY 2022. The PFMB recommends monitoring trends in assessed value in Providence.

- Net pension liability decreased by $564.7 million, or 11.5% between FY 2019-2020 and FY 2021-2022 with 37 of the 39 municipalities reporting a decrease in the net pension liability. New Shoreham and Warwick are the only municipalities reporting an increase with New Shoreham increasing by $1.97 million or 38% and Warwick increasing by $15.4 million or a 3% increase.
- Most municipalities are meeting their full annual pension required payments; however, a few (Little Compton, North Providence, Smithfield, and Warwick) fell shy of annual required payments in their most recently reported fiscal year.
- 31 of Rhode Island's municipalities have OPEB liabilities, and of these communities, 16 made their full OPEB required contributions in their most recently reported fiscal years. Of the $124.5 million in annual required municipal OPEB contributions across all communities, $118.4 million, or 95.1% of payments were made in FY2021-2022.

Rhode Island Municipalities

Rhode Island has 39 municipalities. The table below summarizes the current general obligation ratings of the municipalities as of November 20, 2023.

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	AA	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	A+	A+
Cranston	A1	AA-	AA+	Portsmouth	Aa2	AAA	NR
Cumberland	Aa3	AA+	NR	Providence	A3	BBB+	A
East Greenwich	Aa1	AA+	NR	Richmond	Aa3	NR	NR
East Providence	NR	AA	NR	Scituate	NR	AA	NR
Exeter	NR	NR	NR	Smithfield	Aa2	AA	NR
Foster	Aa2	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	A1	AA	NR	West Greenwich	NR	AA+	NR
Lincoln	Aa2	NR	AAA	West Warwick	A3	NR	NR
Little Compton	NR	AAA	NR	Westerly	Aa3	AA	NR
Middletown	Aa1	NR	NR	Woonsocket	Baa2	A+	A+
Narragansett	Aa2	AA+	NR				

* *Central Falls rating reflects Moody's assigned rating of A3 to RIHEBC Public School Revenue Bonds Financing Program Revenue Bonds, Series 2007B (Pooled Issue), which reflects the credit quality of Central Falls, the remaining pool participant.*

The following charts provide 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 Coventry and East Providence, had published their FY 2022 audited financial statements, and for Coventry and East Providence, the latest audited financial statements are for FY 2021. This report includes the most recently reported data for each community.

Municipality Outstanding Debt[1,2]
(Fiscal Year 2022 Audits)

	Governmental Activities - Tax-Supported				Business Activities			
Municipality	**General Obligation/ Tax-Supported Bonds**	**Loans Payable**	**Capital Leases/ Leases Payable**	**Net Direct Debt**	**Enterprise Debt**	**Gross Direct Debt**	**Overlapping Debt**	**Overall Debt**
Barrington	8,715,000	65,078,011	218,973	74,011,984	18,513,229	92,525,213	0	92,525,213
Bristol	41,360,002	1,583,244	134,204	43,077,450	52,179,242	95,256,692	4,635,519	99,892,211
Burrillville	12,915,400	0	0	12,915,400	15,320,620	28,236,020	5,464,496	33,700,516
Central Falls	4,170,000	490,000	0	4,660,000	48,048,754	52,708,754	0	52,708,754
Charlestown	2,940,000	0	0	2,940,000	0	2,940,000	7,486,071	10,426,071
Coventry	37,480,000	738,576	30,568	38,249,144	22,375,508	60,624,652	889,818	61,514,470
Cranston	66,210,000	24,515,000	1,956,118	92,681,118	17,692,802	110,373,920	0	110,373,920
Cumberland	18,555,000	14,895,475	6,180,754	39,631,229	81,496,717	121,127,946	464,022	121,591,968
East Greenwich	39,770,836	0	0	39,770,836	15,812,928	55,583,764	0	55,583,764
East Providence	178,262,848	535,000	1,071,815	179,869,663	78,252,340	258,122,003	0	258,122,003
Exeter	45,023	0	0	45,023	0	45,023	5,329,848	5,374,871
Foster	0	0	119,609	119,609	0	119,609	5,552,625	5,672,234
Glocester	925,000	388,729	0	1,313,729	0	1,313,729	11,184,853	12,498,582
Hopkinton	2,665,000	158,104	97,014	2,920,118	0	2,920,118	9,438,719	12,358,837
Jamestown	10,370,002	4,450,000	0	14,820,002	4,024,528	18,844,530	0	18,844,530
Johnston	18,130,765	0	1,125,000	19,255,765	72,924,997	92,180,762	0	92,180,762
Lincoln	68,970,000	0	116,780	69,086,780	68,150,155	137,236,935	1,368,466	138,605,401
Little Compton	9,885,000	0	343,222	10,228,222	0	10,228,222	0	10,228,222
Middletown	24,262,000	0	488,227	24,750,227	5,572,000	30,322,227	0	30,322,227
Narragansett	29,285,000	519,099	25,030	29,829,129	519,307	30,348,436	0	30,348,436
New Shoreham	20,927,000	0	50,914	20,977,914	5,177,737	26,155,651	0	26,155,651
Newport	120,880,000	0	37,120	120,917,120	122,671,357	243,588,477	0	243,588,477
North Kingstown	40,888,000	0	1,254,253	42,142,253	13,705,002	55,847,255	0	55,847,255
North Providence	61,700,000	0	884,462	62,584,462	95,999,199	158,583,661	0	158,583,661
North Smithfield	18,923,223	1,450,000	0	20,373,223	2,869,035	23,242,258	0	23,242,258
Pawtucket	23,959,998	105,320,800	7,404,324	136,685,122	271,251,298	407,936,420	0	407,936,420
Portsmouth	34,977,000	0	1,440,424	36,417,424	319,802	36,737,226	3,655,000	40,392,226
Providence	142,330,000	0	342,311,000	484,641,000	779,232,735	1,263,873,735	0	1,263,873,735
Richmond	2,275,000	0	0	2,275,000	1,865,003	4,140,003	8,804,207	12,944,210
Scituate	12,348,000	0	0	12,348,000	313,611	12,661,611	0	12,661,611
Smithfield	50,485,000	0	0	50,485,000	6,852,119	57,337,119	0	57,337,119
South Kingstown	17,126,000	0	207,459	17,333,459	408,321	17,741,780	991,271	18,733,051
Tiverton	28,625,000	0	1,116,683	29,741,683	0	29,741,683	4,921,654	34,663,337
Warren	9,354,145	22,297,982	247,200	31,899,327	8,947,607	40,846,934	2,819,481	43,666,415
Warwick	83,621,163	0	0	83,621,163	61,159,728	144,780,891	0	144,780,891
West Greenwich	2,775,000	496,646	0	3,271,646	268,605	3,540,251	5,630,152	9,170,403
West Warwick	15,374,000	20,256,515	2,970,297	38,600,812	20,504,324	59,105,136	0	59,105,136
Westerly	59,749,000	9,351,000	2,639,387	71,739,387	5,403,589	77,142,976	977,908	78,120,884
Woonsocket	106,805,000	0	0	106,805,000	95,971,495	202,776,495	0	202,776,495

[1] Coventry and East Providence debt are based on FY 2021.
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 (FY 2022)

Municipality	Overall Debt	Net Pension Liability	Net OPEB Liability	Total Liabilities: Overall Debt + Pensions + OPEB
Barrington	92,525,213	39,384,136	0	131,909,349
Bristol	99,892,211	13,736,328	0	113,628,539
Burrillville	29,658,775	19,769,053	3,567,704	52,995,532
Central Falls	54,539,254	25,613,012	2,539,377	82,691,643
Charlestown	10,640,849	2,406,669	0	13,047,518
Coventry	61,176,141	157,478,181	27,478,181	246,132,503
Cranston	110,831,545	326,557,637	51,653,651	489,042,833
Cumberland	122,660,953	62,669,929	19,018,237	204,349,119
East Greenwich	55,583,764	33,474,471	20,556,036	109,614,271
East Providence	277,113,442	196,376,148	17,411,199	490,900,789
Exeter	5,374,871	0	0	5,374,871
Foster	5,672,234	2,819,674	40,439	8,532,347
Glocester	12,336,104	6,175,997	1,553,919	20,066,020
Hopkinton	12,439,607	2,089,411	0	14,529,018
Jamestown	18,844,530	7,301,632	8,103,341	34,249,503
Johnston	90,121,450	169,343,408	152,398,758	411,863,616
Lincoln	142,237,372	51,388,241	15,431,789	209,057,402
Little Compton	10,228,222	7,137,521	1,929,361	19,295,104
Middletown	30,322,227	28,001,605	7,055,770	65,379,602
Narragansett	30,348,436	80,138,526	32,411,543	142,898,505
New Shoreham	26,155,651	7,157,069	295,092	33,607,812
Newport	243,588,477	120,885,559	61,857,578	426,331,614
North Kingstown	55,847,255	63,390,338	18,554,473	137,792,066
North Providence	158,914,532	92,210,170	40,449,624	291,574,326
North Smithfield	23,242,258	17,513,402	9,838,369	50,594,029
Pawtucket	413,098,331	256,650,996	199,744,241	869,493,568
Portsmouth	41,218,226	72,201,089	20,342,578	133,761,893
Providence	1,187,663,764	1,481,140,000	1,378,641,000	4,047,444,764
Richmond	11,341,797	954,352	0	12,296,149
Scituate	12,661,611	27,985,865	5,359,304	46,006,780
Smithfield	56,421,869	49,752,386	38,991,073	145,165,328
South Kingstown	19,017,427	41,048,263	0	60,065,690
Tiverton	35,162,606	25,341,165	24,481,335	84,985,106
Warren	43,666,415	3,569,469	5,299,334	52,535,218
Warwick	144,780,891	526,365,241	410,721,950	1,081,868,082
West Greenwich	9,170,403	1,364,843	0	10,535,246
West Warwick	59,105,136	182,332,097	60,950,686	302,387,919
Westerly	78,606,781	47,558,697	11,711,067	137,876,545
Woonsocket	200,286,496	114,848,847	144,704,662	459,840,005
Total	**4,092,497,129**	**4,364,131,427**	**2,793,091,671**	**11,249,720,227**

Source: FY 2022 Financial Statements. Coventry and East Providence debt are based on FY 2021. Note: Barrington, Burrillville, Coventry, Foster, Providence and Warwick used Actual OPEB contribution, OPEB ADC used not reported.

Fire Districts

Based on FY 2022 information from the Division of Municipal Finance, there are 39 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	Bonnet Shores	Narragansett
Nasonville	Burrillville	Pojac Point	North Kingstown
Charlestown	Charlestown	Portsmouth Water and Fire	Portsmouth
Quonochontaug Central	Charlestown	Richmond Carolina	Richmond
Shady Harbor	Charlestown	Indian Lake	South Kingstown
Central Coventry	Coventry	Kingston	South Kingstown
Coventry	Coventry	Union	South Kingstown
Hopkins Hill	Coventry	North Tiverton	Tiverton
Western Coventry	Coventry	Stone Bridge	Tiverton
Cumberland	Cumberland	Buttonwoods	Warwick
Exeter	Exeter	Bradford	Westerly
Chepachet	Glocester	Misquamicut	Westerly
Harmony	Glocester	Shelter Harbor	Westerly
West Glocester	Glocester	Watch Hill	Westerly
Ashaway	Hopkinton	Weekapaug	Westerly
Hope Valley-Wyoming	Hopkinton-Richmond	Westerly	Westerly
Lime Rock	Lincoln	Dunn's Corners	Westerly-Charlestown
Lincoln Fire District	Lincoln		

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 2022, as compiled by the Division of Municipal Finance (the "Division") from the data self-reported by the fire districts in the Division's FY 2022 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 based on the latest annual reports available, which is generally FY 2022 or FY 2023, but in some cases annual reports have been delayed and financial information is only available for prior fiscal years.

Special Districts/Local Authorities	Moody's	S&P	Fitch
Bristol-Warren Regional School District[1]	NR	NR	NR
Bristol County Water Authority[1]	NR	NR	NR
Burrillville Housing Authority[1]	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[1]	NR	NR	NR
Foster-Glocester Regional School District	Aa3	NR	NR
Kent County Water Authority[3]	NR	AA-	NR
North Providence Housing Authority	NR	AA-	NR
Pascoag Utility District[4]	NR	A	NR
Pawtucket Housing Authority	NR	AA-	NR
Providence Housing Development Corp. [1]	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/or 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. Ratings were withdrawn by Moody's.
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*: Harrisville 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, Harrisville 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>. On September 23, 2023, Fitch released a proposed update to their Local Government Criteria titled "Exposure Draft: U.S. Public Finance Local Government Rating Criteria." Since the new criteria is not yet finalized and may be subject to change, the PFMB will assess the final criteria to determine if any of the recommended ratios and/or limits will need modification in the next debt affordability study. For this 2023 Debt Affordability Study, the PFMB will continue to use the existing methodology as guidance. Fitch believes the new criteria will allow users to conduct peer analysis more easily and differentiate the positioning within a certain score level (e.g., a user will be able to assess the difference between a 'AA' rating on the lower end of the range versus one more solidly positioned at the same 'AA' rating). Long-term liability burden, which will carry an aggregate weight of 20% of the rating score, will continue to be a key rating driver, and under the proposed methodology the following subfactors will be used:

- Overall Debt + Fitch Adjusted Net Pension Liability as a Percentage of Personal Income
- Direct Debt + Fitch Adjusted Net Pension Liability as a Percentage of Governmental Revenue
- Carrying Costs (to be included as part of the long-term liability burden measure rather than as part of the expenditure flexibility factor in the current methodology)

\- *Liabilities to Personal Income*

Under the existing methodology, Fitch uses the following metric to measure long-term liability burden for local governments and will continue to use this metric under the proposed methodology:

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

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 table below summarizes how Fitch currently scores the long-term liability burden, but the scoring is subject to change under the new methodology:

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

- *Carrying Cost*

Fitch was the first rating agency to include 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 currently assesses the carrying cost metric as summarized below but the scoring is subject to change under the new methodology:

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%

- *Liabilities to Revenue*

In its proposed methodology, Fitch notes that a local government's revenue base may be narrower or broader than its economic base, and proposes to add an additional subfactor in measuring the long-term liability burden but does not provide how they will score this subfactor:

$$\frac{\text{Direct Local Government Debt + Fitch's Adjusted Direct Net Pension Liability}}{\text{Governmental Revenue}}$$

Moody's Investors Service. In November 2022, Moody's revised their rating methodology for U.S. cities and counties to align with the rating methodology for U.S. states and incorporates the Long-Term Liabilities Ratio and Fixed Costs Ratio. For Moody's, liabilities comprise 30% of a municipality's overall rating score.

- *Long-Term Liabilities Ratio:*

$$\frac{\text{(Debt + Adjusted Net Pension Liability + Adjusted Net OPEB + Other Long-term Liabilities)}}{\text{Revenue}}$$

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

Debt includes the long-term bonds and other obligations and includes all forms of debt on a municipality's governmental activities and business type activities balance sheets, and for Adjusted Net Pension Liability (ANPL) and Adjusted Net OPEB, as in the U.S. States rating methodology, Moody's adjusts the reported pension liability and applies a similar methodology to adjust the reported OPEB liability. Other long-term liabilities typically comprise the miscellaneous liabilities reported under the governmental and business-type activities entries in a municipality's financial statements that are not included in debt, ANPL or adjusted net OPEB liabilities. These liabilities typically include compensated absences, claims and judgments, or liabilities related to environmental remediation

- *Fixed Costs Ratio:*

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

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

Implied debt service represents the annual cost to amortize debt over 20 years with level payments using a common implied interest rate based on a 10-year rolling average of a high grade municipal bond index, such as the Bond Buyer 20-bond GO index or a comparable index. The Tread Water Annual Pension Cost indicator represents Moody's estimate of the pension contribution necessary to prevent reported unfunded pension liabilities from growing, year over year, in nominal dollars, if all actuarial assumptions are met. The pension tread water indicator is the sum of two components: the employer portion of the service cost and the implied interest on the reported net pension liability at the beginning of the plan's fiscal year. The OPEB Contribution is the municipality's actual contribution in a given period, typically a fiscal year. Moody's also adds to the numerator an implied cost of other long-term liabilities.

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 current and prior rating 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:** In its previous rating methodology, Moody's provided suggested levels of net direct debt to full value for each rating category. A ratio of 3% was 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 Actual Payment to Governmental Expenditures***: **Less than 22.5%**
    - This ratio compares total governmental debt service, pension ADC (actuarial determined contribution) and OPEB actual 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 current "Carrying Cost" metric. 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 PFMB notes that under the Moody's methodology implemented in 2022, Moody's assesses a Fixed Costs Ratio of 15% to 20% as an 'A' rating and 25% to 30% as a 'Baa' rating. After Fitch implements its new methodology, the PFMB will assess the final criteria to determine if any of the recommended ratios and/or limits will need modification in the next debt affordability study.

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 (FY 2022)

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*	6,393,678	6,075,239	105.24%	893,251	893,251	100.00%
Bristol	7,589,291	7,584,888	100.06%	979,828	206,219	475.14%
Burrillville*	2,739,878	2,739,878	100.00%	217,795	217,795	100.00%
Central Falls	3,347,871	3,347,871	100.00%	184,497	228,885	80.61%
Charlestown	1,773,641	1,773,641	100.00%	463,716	325,330	142.54%
Coventry (FY21)*	13,557,787	13,669,268	99.18%	1,144,680	1,144,680	100.00%
Cranston	41,100,265	41,100,265	100.00%	5,143,497	5,143,497	100.00%
Cumberland	8,798,573	8,751,628	100.54%	1,359,163	1,363,187	99.70%
East Greenwich	5,244,509	5,244,509	100.00%	827,853	2,139,639	38.69%
East Providence (FY21)	18,879,445	18,879,445	100.00%	5,416,522	4,219,890	128.36%
Exeter	-	-	-	-	-	-
Foster*	612,308	612,308	100.00%	66,189	66,189	100.00%
Glocester	1,352,447	1,352,447	100.00%	90,209	163,392	55.21%
Hopkinton	414,634	414,634	100.00%	-	-	-
Jamestown	1,458,301	1,458,301	100.00%	358,913	954,917	37.59%
Johnston	15,635,048	15,635,048	100.00%	11,513,989	12,184,751	94.50%
Lincoln	6,565,935	6,565,935	100.00%	2,773,063	1,445,415	191.85%
Little Compton	787,235	857,750	91.78%	161,717	161,717	100.00%
Middletown	4,635,433	4,500,897	102.99%	2,656,962	869,388	305.61%
Narragansett	9,406,135	9,241,567	101.78%	5,010,921	4,164,385	120.33%
New Shoreham	626,906	626,906	100.00%	36,500	73,454	49.69%
Newport	6,353,123	6,353,123	100.00%	7,128,176	6,460,170	110.34%
North Kingstown	9,499,701	9,499,701	100.00%	1,636,629	1,977,841	82.75%
North Providence	11,099,574	13,360,687	83.08%	2,879,715	3,652,570	78.84%
North Smithfield	2,798,269	2,798,269	100.00%	821,847	1,347,652	60.98%
Pawtucket	27,655,713	27,655,713	100.00%	8,229,958	9,723,150	84.64%
Portsmouth	8,294,240	8,033,613	103.24%	1,199,269	1,696,125	70.71%
Providence*	118,828,000	118,828,000	100.00%	33,115,000	33,115,000	100.00%
Richmond	222,567	222,567	100.00%	-	-	-
Scituate	3,569,606	3,568,716	100.02%	248,633	843,342	29.48%
Smithfield	7,191,888	7,398,189	97.21%	1,732,575	4,699,076	36.87%
South Kingstown	6,811,937	6,811,937	100.00%	1,653,565	1,353,977	122.13%
Tiverton	3,446,158	3,075,610	112.05%	1,288,916	1,782,980	72.29%
Warren	823,151	823,151	100.00%	198,547	447,330	44.38%
Warwick*	50,762,673	51,296,741	98.96%	13,148,953	13,148,953	100.00%
West Greenwich	446,527	446,527	100.00%	-	-	-
West Warwick	15,185,381	15,185,369	100.00%	4,061,755	5,641,265	72.00%
Westerly	6,115,899	6,115,899	100.00%	1,276,541	1,104,980	115.53%
Woonsocket	15,265,142	15,265,142	100.00%	514,224	1,557,436	33.02%

Source: Data compiled from FY 2022 Financial Statements (FY 2021 Finacial Statements for Conventy and East Providence)

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

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 FY2023 through FY2034.

The table on the following page shows the current levels of the recommended 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. 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.

With respect to the debt only ratios, East Providence, Providence and Woonsocket exceed the recommended limits of 3.0% for the *Net Direct Debt to Assessed Value* ratio and 4.0% for the *Overall Net Debt to Assessed Value* ratio.

- The PFMB notes that with East Providence's issuance of $124.5 million of Public Schools Revenue Bonds through RIHEBC in 2021, its debt ratios increased from 0.9% in the 2021 Debt Affordability Study to 4.0% in this 2023 Debt Affordability Study, exceeding the recommended limit for the *Net Direct Debt to Assessed Value* and is just over the recommended limit for the *Overall Net Debt to Assessed Value* ratio.
- The PFMB notes that Providence's ratios have increased from the 3.6% levels in the 2021 Debt Affordability Study to 4.2% in this current study despite a decline in Net Direct Debt. The higher ratio is the result of a decrease of almost 15% in assessed value.
- The PFMB also notes that Woonsocket's ratios have improved from the 6.4% levels in the 2021 Debt Affordability Study to 5.7% in this 2023 Debt Affordability Study but still exceed the recommended limits.

For the ratios that include pension and OPEB liabilities, as in the 2021 Debt Affordability Study, Central Falls, Johnston, North Providence, Pawtucket, Providence, Warwick, West Warwick and Woonsocket all exceed the 9.2% recommended limit for the ratio of *Overall Debt + Net Pension Liability + OPEB Liability to Assessed Value*, and East Providence is also now exceeding the recommended limit. For the ratio of *Governmental Debt Service + Pension ADC + OPEB Actual Payment to Governmental Expenditures* Johnston exceeds the recommended limit, as it did in the 2021 Debt Affordability Study, and Narragansett also exceeds the recommended limit with the ratio at 23.4% compared to 21.1% in the 2021 Debt Affordability Study. Bristol, Providence, Warwick and West Warwick are above 75% of the recommended limit, but the PFMB notes Warwick's level has fallen from 26.9% in the 2021 Debt Affordability Study to 19.8%.

These affordability ratios do not net out the 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.

Municipality Liability Ratios[1]

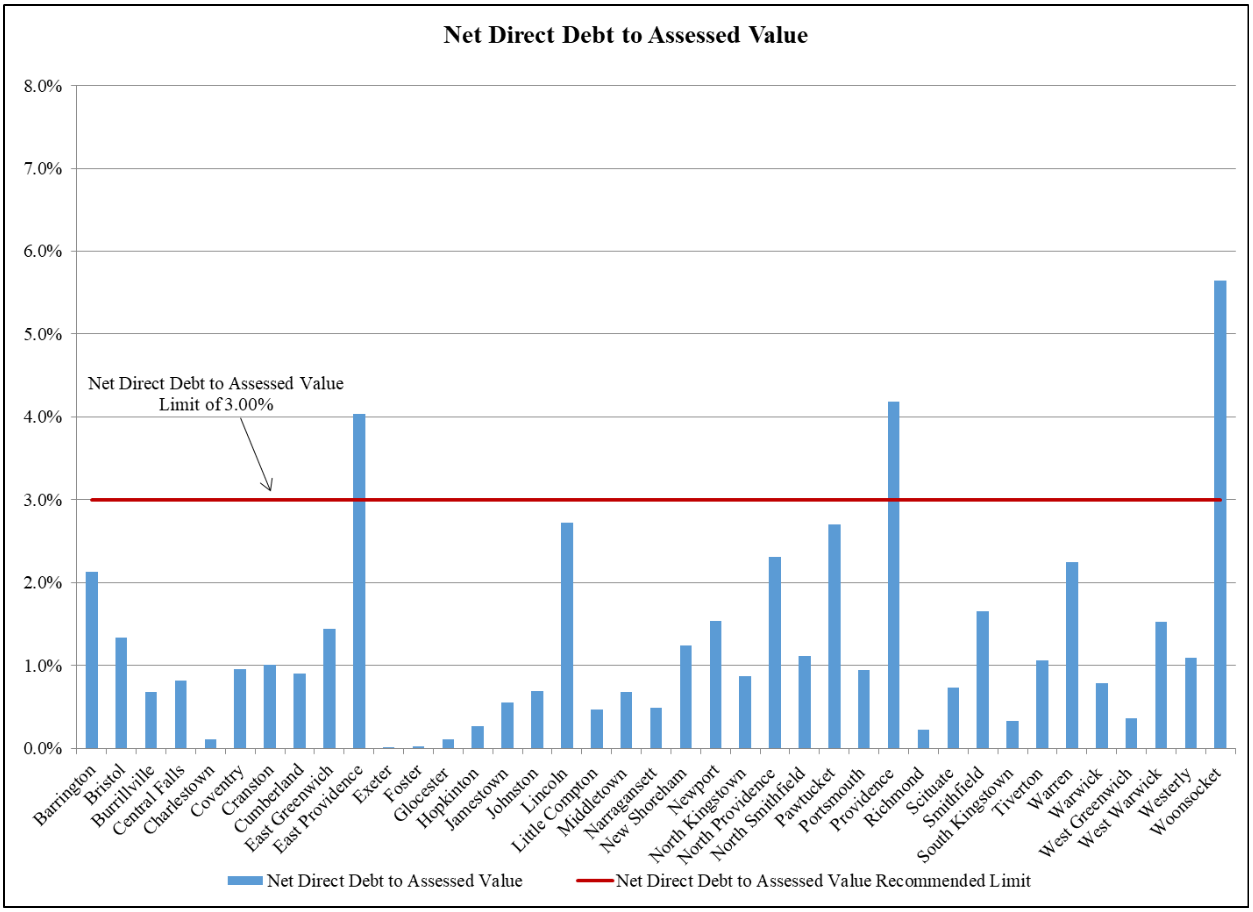
Municipality	Net Direct Debt to Assessed Value Recommended Limit < 3.00%	Overall Net Debt to Assessed Value Recommended Limit < 4.00%	Overall Debt + Net Pension Liability + OPEB Liability to Assessed Value Recommended Limit < 9.2%	Governmental Debt Service + Pension ADC + OPEB Required Payment to Governmental Expenditures Recommended Limit < 22.5%
Barrington	2.1%	2.1%	3.8%	14.4%
Bristol	1.3%	1.5%	3.5%	22.1%
Burrillville	0.7%	1.0%	3.0%	7.7%
Central Falls	0.8%	0.8%	14.1%	16.7%
Charlestown	0.1%	0.4%	0.5%	8.8%
Coventry	1.0%	1.0%	6.2%	16.1%
Cranston	1.0%	1.0%	5.3%	16.2%
Cumberland	0.9%	0.9%	4.6%	14.4%
East Greenwich	1.4%	1.4%	4.0%	15.6%
East Providence	4.0%	4.04%	10.6%	13.3%
Exeter	0.0%	0.5%	0.5%	0.3%
Foster	0.0%	0.9%	1.3%	4.5%
Glocester	0.1%	1.1%	1.7%	5.0%
Hopkinton	0.3%	1.1%	1.3%	3.3%
Jamestown	0.6%	0.6%	1.3%	13.0%
Johnston	0.7%	0.7%	14.8%	23.4%
Lincoln	2.7%	2.8%	8.1%	15.0%
Little Compton	0.5%	0.5%	0.9%	13.3%
Middletown	0.7%	0.7%	1.8%	11.3%
Narragansett	0.5%	0.5%	2.3%	23.4%
New Shoreham	1.2%	1.2%	2.0%	13.3%
Newport	1.5%	1.5%	5.4%	15.2%
North Kingstown	0.9%	0.9%	2.9%	13.0%
North Providence	2.3%	2.3%	10.8%	16.5%
North Smithfield	1.1%	1.1%	2.8%	15.2%
Pawtucket	2.7%	2.7%	17.1%	15.1%
Portsmouth	0.9%	1.0%	3.5%	16.7%
Providence	4.2%	4.2%	35.6%	21.8%
Richmond	0.2%	1.1%	1.4%	2.8%
Scituate	0.7%	0.7%	2.7%	13.7%
Smithfield	1.6%	1.6%	4.8%	12.0%
South Kingstown	0.3%	0.3%	1.1%	10.0%
Tiverton	1.1%	1.2%	3.0%	15.1%
Warren	2.3%	2.4%	3.7%	13.2%
Warwick	0.8%	0.8%	10.2%	19.8%
West Greenwich	0.4%	1.0%	1.2%	5.5%
West Warwick	1.5%	1.5%	11.9%	19.1%
Westerly	1.1%	1.1%	2.1%	15.6%
Woonsocket	5.7%	5.7%	24.5%	15.8%

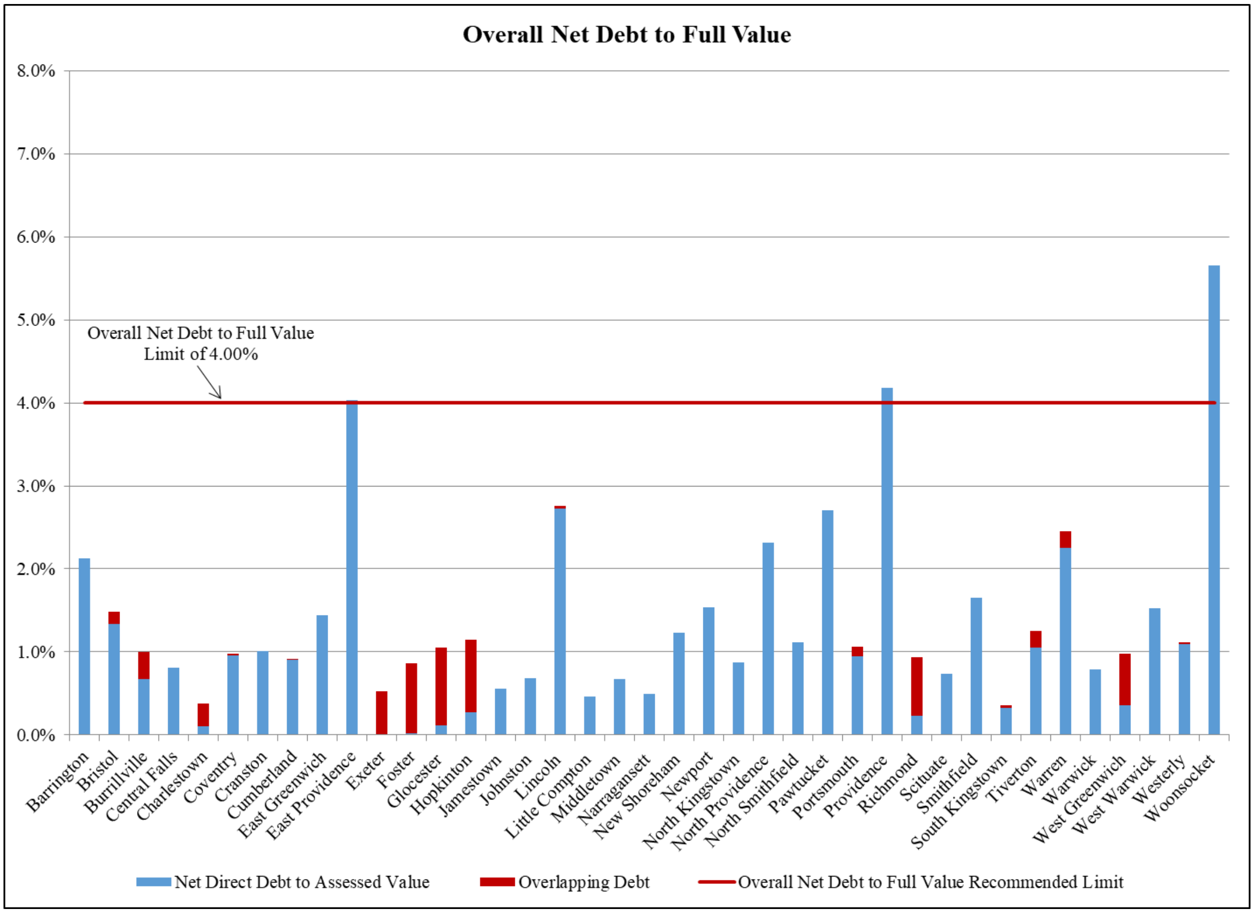
Less than 75% of recommended limit	Exceeds recommended limit
Between 75% and 100% of limit	

[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.

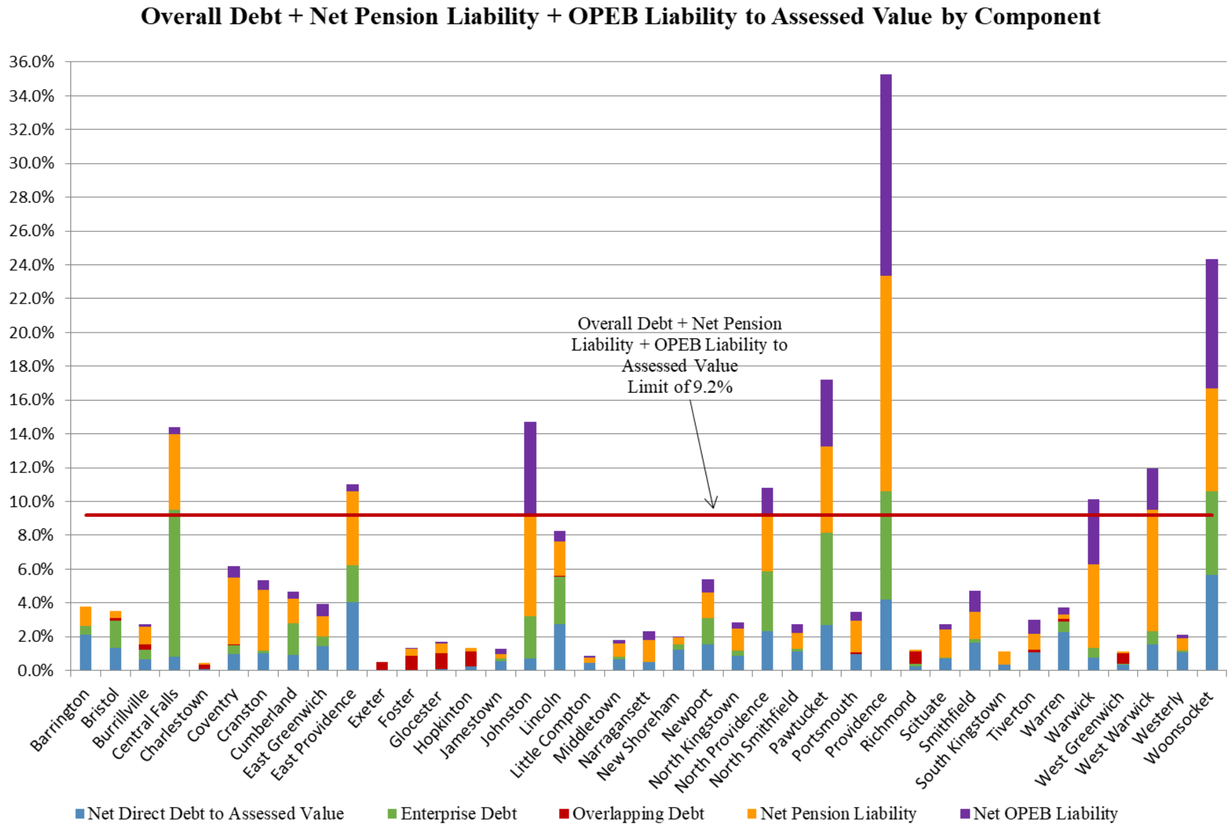
Net Direct Debt: All debt of an issuer less self-supporting enterprise debt. Enterprise Debt: Debt for essential service utilities that is self-supporting from user fees. Overlapping Debt: Issuer's proportionate share of the debt of other local governmental units that either overlap or underlie it. Overall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

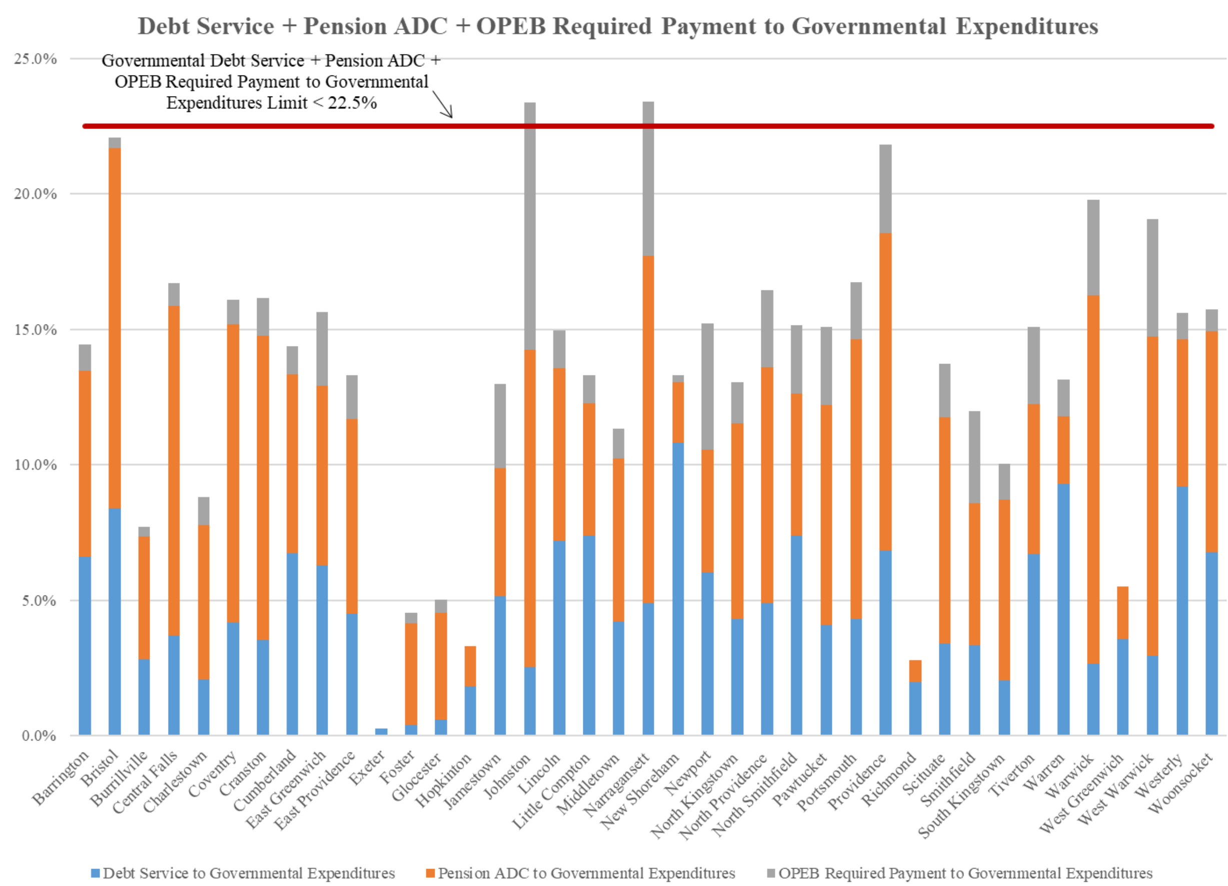




The charts below show the combined debt, pension and OPEB ratios for the municipalities.



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, the Commerce Corporation, and in 2023, RIHEBC issued $93,520,000 State Appropriation-Backed Revenue Bonds (Central Falls Public School Projects) Series 2023. In addition, the State has issued Certificates of Participation and performance-based obligations. The State has identified different categories of net tax-supported debt:

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

Debt Structuring Practices

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

Method of Sale: Municipal bonds are typically sold by negotiated sale or competitive sale. With a negotiated sale, the issuer selects an underwriter, or more likely a group of underwriters, called a syndicate, to sell the bonds in a public offering. The book-running senior manager acts as the lead representative of the syndicate. The issuer, with advice from its financial advisor, will negotiate with the senior manager to determine the optimal structure, price, underwriter's discount and institutional and retail placement of the bonds. Negotiation may provide more flexibility as to timing, structure and pricing of the transaction. With a competitive sale, the issuer prepares 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 Moody's Investors Service, Inc. and S&P Global Ratings and a positive outlook from Fitch Rating, Inc. 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, 2019E, 2023A and 2023B 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. The Series 2023A and 2023B bonds also were sold on a negotiated basis to target retail investors and to leverage the State's first Investor Conference. The sale included a one day retail order period, which resulted in $196.3 million of retail orders, including $17.3 million from Rhode Island retail invetstors.

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.

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

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

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

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

Call Provisions: Bonds issued without call provisions generally carry lower interest costs. However, issuing non-callable debt may inhibit a government's ability to effectively restructure future debt payments, if needed, and take advantage of current refunding opportunities, thus reducing the debt service interest payments. It is standard for most tax-exempt 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. For taxable bonds, a make-whole call is more standard, but a ten-year par call with a make-whole call prior to the ten-year par call has become increasingly common in the municipal market, providing issuers with more flexibility. 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. With Variable Rate Debt, the issuer is subject to interest rate risk. *Generally, no more than 20% of an issuer's aggregate outstanding debt should be in a variable rate mode,* and 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. The difference between short versus long-term rates varies with the shape of the yield curve and historically has ranged from 100-300 basis points (or 1.0% to 3.0%), but in the current interest rate environment with an inverted yield curve, short-term rates are higher than long-term rates. Issuers may want to refrain from issuing Variable Rate Debt until the yield curve normalizes.

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 Liability Ratios for States

APPENDIX A
TABLE OF CONTENTS

Moody's State Debt Medians				
State	**Debt Service to Revenues**	**Debt to Personal Income**	**Debt Per Capita**	**Debt to Gross State Product**
50 States Median	**1.8%**	**2.2%**	**$1,179**	**2.0%**
Double-A States Median	**2.0%**	**2.4%**	**$1,487**	**2.2%**
Rhode Island (Aa2/AA/AA)	**3.9%**	**4.7%**	**$3,103**	**4.8%**
Alabama (Aa1/AA/AA+)	2.3%	2.3%	$1,184	2.2%
Alaska (Aa3/AA-/A+)	0.8%	2.8%	$1,942	2.2%
Arizona (Aa1/AA/--)	1.0%	0.6%	$341	0.5%
Arkansas (Aa1/AA/--)	0.7%	0.7%	$355	0.7%
California (Aa2/AA-/AA)	2.3%	3.2%	$2,460	2.7%
Colorado (Aa1/AA/--)	2.0%	1.4%	$1,048	1.3%
Connecticut (Aa3/AA-/AA-)	7.3%	9.4%	$7,988	9.0%
Delaware (Aaa/AAA/AAA)	3.5%	6.9%	$4,266	5.0%
Florida (Aaa/AAA/AAA)	1.7%	1.0%	$661	1.1%
Georgia (Aaa/AAA/AAA)	2.3%	2.0%	$1,144	1.7%
Hawaii (Aa2/AA+/AA)	6.7%	11.2%	$6,877	10.1%
Idaho (Aaa/AA+/AAA)	1.0%	1.1%	$591	1.0%
Illinois (A3/A-/A-)	3.8%	4.2%	$2,903	3.5%
Indiana (Aaa/AAA/AAA)	0.6%	0.6%	$366	0.5%
Iowa (Aaa/AAA/AAA)	0.7%	0.7%	$392	0.5%
Kansas (Aa2/AA-/--)	2.0%	2.5%	$1,487	2.1%
Kentucky (Aa3/A+/AA)	2.7%	2.8%	$1,466	2.5%
Louisiana (Aa2/AA-/AA-)	3.3%	3.3%	$1,809	3.0%
Maine (Aa2/AA/AA)	1.5%	1.9%	$1,153	1.9%
Maryland (Aaa/AAA/AAA)	3.4%	4.4%	$3,147	4.1%
Massachusetts (Aa1/AA+/AA+)	6.2%	8.2%	$6,973	7.1%
Michigan (Aa1/AA/AA+)	1.3%	1.5%	$865	1.4%
Minnesota (Aaa/AAA/AAA)	1.7%	2.4%	$1,638	2.1%
Mississippi (Aa2/AA/AA)	3.6%	4.3%	$1,995	4.2%
Missouri (Aaa/AAA/AAA)	1.0%	0.7%	$378	0.6%
Montana (Aa1/--/AA+)	0.3%	0.5%	$287	0.5%

Moody's State Debt Medians				
State	**Debt Service to Revenues**	**Debt to Personal Income**	**Debt Per Capita**	**Debt to Gross State Product**
Nebraska (Aa1/AAA/--)	0.0%	0.1%	$40	0.0%
Nevada (Aa1/AA+/AA+)	1.5%	1.1%	$649	1.0%
New Hampshire (Aa1/AA/AA+)	1.9%	1.0%	$756	1.0%
New Jersey (A1/A/A+)	5.8%	6.4%	$5,030	6.2%
New Mexico (Aa2/AA/--)	1.3%	3.1%	$1,578	2.7%
New York (Aa1/AA+/AA+)	3.2%	4.5%	$3,539	3.4%
North Carolina (Aaa/AAA/AAA)	1.2%	1.2%	$700	1.0%
North Dakota (Aa1/AA+/--)	0.2%	1.1%	$705	0.7%
Ohio (Aaa/AA+/AAA)	3.6%	2.8%	$1,642	2.3%
Oklahoma (Aa2/AA/AA)	0.7%	0.9%	$488	0.8%
Oregon (Aa1/AA+/AA+)	3.3%	4.5%	$2,820	4.0%
Pennsylvania (Aa3/A+/AA)	2.5%	2.4%	$1,565	2.2%
South Carolina (Aaa/AA+/AAA)	0.8%	0.8%	$444	0.8%
South Dakota (Aaa/AAA/AAA)	0.6%	0.8%	$557	0.7%
Tennessee (Aaa/AAA/AAA)	0.5%	0.5%	$294	0.4%
Texas (Aaa/AAA/AAA)	1.3%	1.1%	$680	0.9%
Utah (Aaa/AAA/AAA)	1.4%	1.4%	$827	1.1%
Vermont (Aa1/AA+/AA+)	1.1%	1.9%	$1,173	1.9%
Virginia (Aaa/AAA/AAA)	2.7%	3.0%	$2,047	2.7%
Washington (Aaa/AA+/AA+)	4.8%	4.3%	$3,275	3.5%
West Virginia (Aa2/AA-/AA)	3.6%	5.4%	$2,653	4.9%
Wisconsin (Aa1/AA+/AA+)	3.0%	3.1%	$1,906	2.8%
Wyoming (--/AA/--)	0.0%	0.3%	$206	0.3%

Source: Moody's - Ability to service long-term liabilities and fixed costs improves; 26 Sept. 2023
*California - Fiscal 2022 debt and revenue figures are estimated by Moody's based on available unaudited.

Moody's State Pension Medians				
State	2022 ANPL as % of Own-Source Revenues	ANPL as % of Personal Income	ANPL as % of Gross State Product	ANPL Per Capita
50 States Median	**80%**	**5.2%**	**4.7%**	**$3,111**
Double-A States Median	**81%**	**5.1%**	**4.7%**	**$3,111**
Rhode Island (Aa2/AA/AA)	**99%**	**8.5%**	**8.5%**	**$5,611**
Alabama (Aa1/AA/AA+)	51%	3.6%	3.3%	$2,567
Alaska (Aa3/AA-/A+)	92%	19.4%	15.4%	$12,106
Arizona (Aa1/AA/--)	46%	2.8%	2.5%	$1,894
Arkansas (Aa1/AA/--)	64%	5.0%	4.7%	$3,115
California (Aa2/AA-/AA)	95%	9.5%	7.9%	$5,561
Colorado (Aa1/AA/--)	112%	4.6%	4.1%	$2,655
Connecticut (Aa3/AA-/AA-)	297%	26.9%	25.7%	$22,840
Delaware (Aaa/AAA/AAA)	68%	9.0%	6.5%	$4,292
Florida (Aaa/AAA/AAA)	35%	1.6%	1.7%	$1,039
Georgia (Aaa/AAA/AAA)	35%	2.0%	1.7%	$1,125
Hawaii (Aa2/AA+/AA)	177%	20.8%	18.7%	$13,346
Idaho (Aaa/AA+/AAA)	28%	2.1%	2.0%	$1,422
Illinois (A3/A-/A-)	418%	33.7%	28.2%	$23,199
Indiana (Aaa/AAA/AAA)	67%	4.5%	3.9%	$2,596
Iowa (Aaa/AAA/AAA)	75%	5.3%	4.3%	$3,095
Kansas (Aa2/AA-/--)	138%	11.3%	9.4%	$5,783
Kentucky (Aa3/A+/AA)	280%	23.2%	21.0%	$15,236
Louisiana (Aa2/AA-/AA-)	81%	5.8%	5.1%	$3,432
Maine (Aa2/AA/AA)	141%	12.0%	11.7%	$6,967
Maryland (Aaa/AAA/AAA)	162%	13.0%	12.1%	$9,198
Massachusetts (Aa1/AA+/AA+)	182%	16.6%	14.3%	$11,407
Michigan (Aa1/AA/AA+)	97%	7.6%	6.9%	$5,548
Minnesota (Aaa/AAA/AAA)	35%	3.2%	2.8%	$2,101
Mississippi (Aa2/AA/AA)	81%	6.7%	6.6%	$4,713
Missouri (Aaa/AAA/AAA)	93%	4.7%	4.2%	$2,752
Montana (Aa1/AA/AA+)	157%	12.1%	12.0%	$7,322

Moody's State Pension Medians				
State	**2022 ANPL as % of Own-Source Revenues**	**ANPL as % of Personal Income**	**ANPL as % of Gross State Product**	**ANPL Per Capita**
Nebraska (Aa1/AAA/--)	41%	2.5%	2.0%	$1,610
Nevada (Aa1/AA+/AA+)	96%	5.1%	4.6%	$3,107
New Hampshire (Aa1/AA/AA+)	53%	2.3%	2.3%	$1,800
New Jersey (A1/A/A+)	232%	19.4%	18.9%	$14,089
New Mexico (Aa2/AA/--)	78%	10.9%	9.7%	$6,776
New York (Aa1/AA+/AA+)	25%	2.4%	1.8%	$1,241
North Carolina (Aaa/AAA/AAA)	32%	2.2%	1.8%	$1,151
North Dakota (Aa1/AA+/--)	32%	3.2%	2.2%	$1,745
Ohio (Aaa/AA+/AAA)	42%	2.4%	2.0%	$1,578
Oklahoma (Aa2/AA/AA)	27%	1.9%	1.7%	$1,047
Oregon (Aa1/AA+/AA+)	65%	5.7%	5.1%	$3,155
Pennsylvania (Aa3/A+/AA)	153%	10.6%	9.7%	$6,570
South Carolina (Aaa/AA+/AAA)	169%	12.3%	11.7%	$7,135
South Dakota (Aaa/AAA/AAA)	30%	2.8%	2.5%	$1,839
Tennessee (Aaa/AAA/AAA)	27%	1.8%	1.5%	$1,021
Texas (Aaa/AAA/AAA)	134%	7.6%	6.0%	$3,580
Utah (Aaa/AAA/AAA)	32%	2.5%	1.9%	$1,411
Vermont (Aa1/AA+/AA+)	155%	18.0%	18.2%	$12,726
Virginia (Aaa/AAA/AAA)	33%	2.2%	2.0%	$1,521
Washington (Aaa/AA+/AA+)	55%	3.4%	2.8%	$2,165
West Virginia (Aa2/AA-/AA)	113%	11.8%	10.7%	$6,880
Wisconsin (Aa1/AA+/AA+)	29%	2.1%	1.9%	$1,272
Wyoming (--/AA/--)	92%	3.9%	3.4%	$2,596

Source: Moody's - Ability to service long-term liabilities and fixed costs improves; 26 Sept. 2023.
*California - Fiscal 2022 figures are estimated by Moody's based on available unaudited disclosure.
ANPL is adjusted net pension liability.

Moody's State Adjusted Net OPEB Liability (ANOL)						
State	**Reported Net OPEB Liability ($ Thousands)**	**Adjusted Net OPEB Liability ($ Thousands)**	**ANOL as a % Of Ownsource**	**ANOL Per Capita**	**ANOL as a % of Personal Income**	**ANOL as a % of State GDP**
50 State Median	**$895,099**	**$1,371,775**	**8.8%**	**$378**	**0.7%**	**0.6%**
Double-A States Median	**$782,224**	**$946,273**	**8.4%**	**$413**	**0.8%**	**0.7%**
Rhode Island (Aa2/AA/AA)	**$190,830**	**$373,780**	**6.1%**	**$342**	**0.5%**	**0.5%**
Alabama (Aa1/AA/AA+)	$807,846	$1,520,690	8.4%	$300	0.6%	0.5%
Alaska (Aa3/AA-/A+)	-$1,937,603	$1,764,659	16.6%	$2,406	3.5%	2.8%
Arizona (Aa1/AA/--)	$655,213	$584,845	2.3%	$79	0.1%	0.1%
Arkansas (Aa1/AA/--)	$1,428,766	$1,256,646	10.2%	$413	0.8%	0.8%
California (Aa2/AA-/AA)	$76,991,716	$81,428,054	27.1%	$2,086	2.7%	2.3%
Colorado (Aa1/AA/--)	$182,721	$336,391	1.9%	$58	0.1%	0.1%
Connecticut (Aa3/AA-/AA-)	$20,916,477	$18,923,981	67.8%	$5,219	6.1%	5.9%
Delaware (Aaa/AAA/AAA)	$8,755,620	$7,696,263	92.2%	$7,557	12.3%	8.8%
Florida (Aaa/AAA/AAA)	$7,085,962	$6,133,018	9.1%	$276	0.4%	0.4%
Georgia (Aaa/AAA/AAA)	-$302,526	$1,097,530	3.0%	$101	0.2%	0.1%
Hawaii (Aa2/AA+/AA)	$5,207,792	$11,869,841	114.8%	$8,242	13.5%	12.1%
Idaho (Aaa/AA+/AAA)	-$72,500	-$65,101	-0.8%	-$34	-0.1%	-0.1%
Illinois (A3/A-/A-)	$46,502,507	$39,383,175	56.4%	$3,130	4.5%	3.8%
Indiana (Aaa/AAA/AAA)	$37,442	$139,774	0.5%	$20	0.0%	0.0%
Iowa (Aaa/AAA/AAA)	$216,773	$204,057	1.5%	$64	0.1%	0.1%
Kansas (Aa2/AA-/--)	$51,722	$50,866	0.4%	$17	0.0%	0.0%
Kentucky (Aa3/A+/AA)	$2,699,082	$5,335,872	27.4%	$1,183	2.3%	2.0%
Louisiana (Aa2/AA-/AA-)	$6,491,962	$5,775,814	32.4%	$1,258	2.3%	2.1%
Maine (Aa2/AA/AA)	$2,567,085	$5,004,066	71.4%	$3,612	6.1%	5.9%
Maryland (Aaa/AAA/AAA)	$13,434,828	$11,288,811	32.3%	$1,831	2.6%	2.4%
Massachusetts (Aa1/AA+/AA+)	$14,459,035	$14,273,684	26.4%	$2,044	2.4%	2.1%
Michigan (Aa1/AA/AA+)	$5,506,217	$11,375,708	25.5%	$1,134	2.0%	1.8%
Minnesota (Aaa/AAA/AAA)	$629,756	$600,312	1.7%	$105	0.2%	0.1%
Mississippi (Aa2/AA/AA)	$141,983	$131,909	1.2%	$45	0.1%	0.1%
Missouri (Aaa/AAA/AAA)	$3,165,973	$3,571,262	20.1%	$578	1.0%	0.9%

Moody's State Adjusted Net OPEB Liability (ANOL)						
State	**Reported Net OPEB Liability ($ Thousands)**	**Adjusted Net OPEB Liability ($ Thousands)**	**ANOL as a % Of Ownsource**	**ANOL Per Capita**	**ANOL as a % of Personal Income**	**ANOL as a % of State GDP**
Montana (Aa1/--/AA+)	$118,518	$112,357	2.3%	$100	0.2%	0.2%
Nebraska (Aa1/AAA/--)	$24,606	$23,454	0.3%	$12	0.0%	0.0%
Nevada (Aa1/AA+/AA+)	$895,099	$849,578	8.2%	$267	0.4%	0.4%
New Hampshire (Aa1/AA/AA+)	$1,924,811	$1,731,070	37.4%	$1,241	1.7%	1.6%
New Jersey (A1/A/A+)	$88,854,450	$78,334,309	129.0%	$8,458	10.7%	10.5%
New Mexico (Aa2/AA/--)	$782,224	$946,273	6.2%	$448	0.9%	0.8%
New York (Aa1/AA+/AA+)	$52,062,000	$44,206,540	29.5%	$2,247	2.9%	2.2%
North Carolina (Aaa/AAA/AAA)	$6,306,642	$5,562,279	13.4%	$520	0.9%	0.8%
North Dakota (Aa1/AA+/--)	$21,743	$64,741	1.3%	$83	0.1%	0.1%
Ohio (Aaa/AA+/AAA)	-$243,755	$654,734	1.6%	$56	0.1%	0.1%
Oklahoma (Aa2/AA/AA)	$19,923	$187,784	1.2%	$47	0.1%	0.1%
Oregon (Aa1/AA+/AA+)	-$32,872	$24,592	0.1%	$6	0.0%	0.0%
Pennsylvania (Aa3/A+/AA)	$18,889,327	$18,715,377	32.2%	$1,443	2.2%	2.0%
South Carolina (Aaa/AA+/AAA)	$11,557,794	$9,606,281	46.8%	$1,818	3.4%	3.2%
South Dakota (Aaa/AAA/AAA)	NA	$0	0.0%	$0	0.0%	0.0%
Tennessee (Aaa/AAA/AAA)	$1,176,637	$1,311,694	4.8%	$186	0.3%	0.3%
Texas (Aaa/AAA/AAA)	$56,855,704	$49,616,905	47.0%	$1,652	2.7%	2.1%
Utah (Aaa/AAA/AAA)	-$27,785	-$41,611	-0.3%	-$12	0.0%	0.0%
Vermont (Aa1/AA+/AA+)	$2,734,591	$2,488,392	52.1%	$3,846	6.1%	6.1%
Virginia (Aaa/AAA/AAA)	$826,023	$1,431,856	3.5%	$165	0.2%	0.2%
Washington (Aaa/AA+/AA+)	$5,556,460	$4,833,011	13.1%	$621	0.8%	0.7%
West Virginia (Aa2/AA-/AA)	-$18,894	$525,365	5.8%	$296	0.6%	0.5%
Wisconsin (Aa1/AA+/AA+)	$550,427	$655,053	2.5%	$111	0.2%	0.2%
Wyoming (--/AA/--)	$499,095	$425,215	24.5%	$731	1.0%	0.9%

Source: Moody's - Ability to service long-term liabilities and fixed costs improves; 26 Sept. 2023

*California: Fiscal 2021 OPEB data based on 2021 audited financial statements and fiscal 2022 revenue estimated by Moody's based on available unaudited.

ANOL stands for adjusted net OPEB liability.

Moody's Fixed Costs as Percent of Own Source Revenues					
State	**Debt Service**	**Pension Contribution**	**Debt Service + Pension Contribution**	**OPEB Contribution**	**Total Fixed Costs**
50 States Median	**1.8%**	**3.5%**	**4.8%**	**0.5%**	**5.7%**
Double-A States Median	**2.3%**	**1.5%**	**3.8%**	**0.3%**	**4.1%**
Rhode Island (Aa2/AA/AA)	**3.9%**	**6.2%**	**10.1%**	**0.7%**	**10.8%**
Alabama (Aa1/AA/AA+)	2.3%	1.5%	3.8%	0.3%	4.1%
Alaska (Aa3/AA-/A+)	0.8%	3.4%	4.2%	0.5%	4.7%
Arizona (Aa1/AA/--)	1.0%	6.0%	7.0%	0.1%	7.1%
Arkansas (Aa1/AA/--)	0.7%	2.2%	2.9%	0.6%	3.5%
California (Aa2/AA-/AA)	2.3%	4.1%	6.4%	0.9%	7.3%
Colorado (Aa1/AA/--)	2.0%	3.5%	5.5%	0.1%	5.6%
Connecticut (Aa3/AA-/AA-)	7.3%	26.8%	34.1%	3.1%	37.2%
Delaware (Aaa/AAA/AAA)	3.5%	3.8%	7.3%	2.8%	10.1%
Florida (Aaa/AAA/AAA)	1.7%	1.1%	2.8%	0.2%	3.0%
Georgia (Aaa/AAA/AAA)	2.3%	1.8%	4.1%	0.4%	4.5%
Hawaii (Aa2/AA+/AA)	6.7%	7.7%	14.4%	4.1%	18.5%
Idaho (Aaa/AA+/AAA)	1.0%	1.2%	2.2%	0.0%	2.2%
Illinois (A3/A-/A-)	3.8%	15.5%	19.3%	1.7%	21.0%
Indiana (Aaa/AAA/AAA)	0.6%	6.8%	7.4%	0.1%	7.5%
Iowa (Aaa/AAA/AAA)	0.7%	2.5%	3.2%	0.1%	3.3%
Kansas (Aa2/AA-/--)	2.0%	12.3%	14.3%	0.0%	14.3%
Kentucky (Aa3/A+/AA)	2.7%	14.6%	17.3%	1.2%	18.5%
Louisiana (Aa2/AA-/AA-)	3.3%	4.4%	7.7%	1.2%	8.9%
Maine (Aa2/AA/AA)	1.5%	7.3%	8.8%	1.7%	10.5%
Maryland (Aaa/AAA/AAA)	3.4%	5.7%	9.1%	2.0%	11.1%
Massachusetts (Aa1/AA+/AA+)	6.2%	7.3%	13.5%	1.2%	14.7%
Michigan (Aa1/AA/AA+)	1.3%	5.2%	6.5%	1.5%	8.0%
Minnesota (Aaa/AAA/AAA)	1.7%	0.9%	2.6%	0.1%	2.7%
Mississippi (Aa2/AA/AA)	3.6%	2.0%	5.6%	0.1%	5.7%
Missouri (Aaa/AAA/AAA)	1.0%	3.6%	4.6%	0.5%	5.1%
Montana (Aa1/--/AA+)	0.3%	4.0%	4.3%	0.0%	4.3%

Moody's Fixed Costs as Percent of Own Source Revenues					
State	**Debt Service**	**Pension Contribution**	**Debt Service + Pension Contribution**	**OPEB Contribution**	**Total Fixed Costs**
Nebraska (Aa1/AAA/--)	0.0%	1.6%	1.6%	0.0%	1.6%
Nevada (Aa1/AA+/AA+)	1.5%	1.8%	3.3%	0.3%	3.6%
New Hampshire (Aa1/AA/AA+)	1.9%	2.4%	4.3%	0.9%	5.2%
New Jersey (A1/A/A+)	5.8%	10.9%	16.7%	3.2%	19.9%
New Mexico (Aa2/AA/--)	1.3%	1.7%	3.0%	0.2%	3.2%
New York (Aa1/AA+/AA+)	3.2%	1.4%	4.6%	1.3%	5.9%
North Carolina (Aaa/AAA/AAA)	1.2%	0.8%	2.0%	0.6%	2.6%
North Dakota (Aa1/AA+/--)	0.2%	0.7%	0.9%	0.1%	1.0%
Ohio (Aaa/AA+/AAA)	3.6%	1.1%	4.7%	0.0%	4.7%
Oklahoma (Aa2/AA/AA)	0.7%	1.7%	2.4%	0.2%	2.6%
Oregon (Aa1/AA+/AA+)	3.3%	3.8%	7.1%	0.1%	7.2%
Pennsylvania (Aa3/A+/AA)	2.5%	8.7%	11.2%	1.1%	12.3%
South Carolina (Aaa/AA+/AAA)	0.8%	6.0%	6.8%	0.9%	7.7%
South Dakota (Aaa/AAA/AAA)	0.6%	0.5%	1.1%	0.0%	1.1%
Tennessee (Aaa/AAA/AAA)	0.5%	1.8%	2.3%	0.5%	2.8%
Texas (Aaa/AAA/AAA)	1.3%	3.5%	4.8%	1.0%	5.8%
Utah (Aaa/AAA/AAA)	1.4%	1.7%	3.1%	0.2%	3.3%
Vermont (Aa1/AA+/AA+)	1.1%	10.6%	11.7%	1.9%	13.6%
Virginia (Aaa/AAA/AAA)	2.7%	1.5%	4.2%	0.2%	4.4%
Washington (Aaa/AA+/AA+)	4.8%	2.0%	6.8%	0.2%	7.0%
West Virginia (Aa2/AA-/AA)	3.6%	6.3%	9.9%	1.0%	10.9%
Wisconsin (Aa1/AA+/AA+)	3.0%	0.6%	3.6%	0.1%	3.7%
Wyoming (--/AA/--)	0.0%	2.1%	2.1%	0.2%	2.3%

Source: Moody's - Ability to service long-term liabilities and fixed costs improves; 26 Sept. 2023

*California - Fiscal 2022 fixed costs based on fiscal 2021 OPEB contribution and pension tread water, and fiscal 2022 implied debt service, other long-term liabilities carrying costs and revenue estimated by Moody's based on available unaudited disclosure.

Moody's Net Debt Service per Capita + ANPL per Capita + ANOL per Capita				
State	**Debt Service**	**ANPL per Capita**	**ANOL per Capita**	**Net Debt Service per Capita + ANPL per Capita + ANOL per Capita**
50 State Median	**$1,179**	**$3,111**	**$378**	**$5,689**
Double-A States Median	**$1,487**	**$3,432**	**$413**	**$6,406**
Rhode Island (Aa2/AA/AA)	**$3,103**	**$5,561**	**$342**	**$9,006**
Alabama (Aa1/AA/AA+)	$1,184	$1,800	$300	$3,284
Alaska (Aa3/AA-/A+)	$1,942	$13,346	$2,406	$17,694
Arizona (Aa1/AA/--)	$341	$1,578	$79	$1,998
Arkansas (Aa1/AA/--)	$355	$2,567	$413	$3,335
California (Aa2/AA-/AA)	$2,460	$7,322	$2,086	$11,868
Colorado (Aa1/AA/--)	$1,048	$3,432	$58	$4,538
Connecticut (Aa3/AA-/AA-)	$7,988	$22,840	$5,219	$36,047
Delaware (Aaa/AAA/AAA)	$4,266	$5,548	$7,557	$17,371
Florida (Aaa/AAA/AAA)	$661	$1,047	$276	$1,984
Georgia (Aaa/AAA/AAA)	$1,144	$1,151	$101	$2,396
Hawaii (Aa2/AA+/AA)	$6,877	$12,726	$8,242	$27,845
Idaho (Aaa/AA+/AAA)	$591	$1,125	-$34	$1,682
Illinois (A3/A-/A-)	$2,903	$23,199	$3,130	$29,232
Indiana (Aaa/AAA/AAA)	$366	$2,596	$20	$2,982
Iowa (Aaa/AAA/AAA)	$392	$3,095	$64	$3,551
Kansas (Aa2/AA-/--)	$1,487	$6,776	$17	$8,280
Kentucky (Aa3/A+/AA)	$1,466	$12,106	$1,183	$14,755
Louisiana (Aa2/AA-/AA-)	$1,809	$3,155	$1,258	$6,222
Maine (Aa2/AA/AA)	$1,153	$7,135	$3,612	$11,900
Maryland (Aaa/AAA/AAA)	$3,147	$9,198	$1,831	$14,176
Massachusetts (Aa1/AA+/AA+)	$6,973	$14,089	$2,044	$23,106
Michigan (Aa1/AA/AA+)	$865	$4,292	$1,134	$6,291
Minnesota (Aaa/AAA/AAA)	$1,638	$2,165	$105	$3,908
Mississippi (Aa2/AA/AA)	$1,995	$3,115	$45	$5,155
Missouri (Aaa/AAA/AAA)	$378	$2,655	$578	$3,611

Moody's Net Debt Service per Capita + ANPL per Capita + ANOL per Capita				
State	**Debt Service**	**ANPL per Capita**	**ANOL per Capita**	**Net Debt Service per Capita + ANPL per Capita + ANOL per Capita**
Montana (Aa1/--/AA+)	$287	$6,967	$100	$7,354
Nebraska (Aa1/AAA/--)	$40	$1,610	$12	$1,662
Nevada (Aa1/AA+/AA+)	$649	$3,107	$267	$4,023
New Hampshire (Aa1/AA/AA+)	$756	$1,745	$1,241	$3,742
New Jersey (A1/A/A+)	$5,030	$15,236	$8,458	$28,724
New Mexico (Aa2/AA/--)	$1,578	$5,611	$448	$7,637
New York (Aa1/AA+/AA+)	$3,539	$1,894	$2,247	$7,680
North Carolina (Aaa/AAA/AAA)	$700	$1,241	$520	$2,461
North Dakota (Aa1/AA+/--)	$705	$2,101	$83	$2,889
Ohio (Aaa/AA+/AAA)	$1,642	$1,411	$56	$3,109
Oklahoma (Aa2/AA/AA)	$488	$1,021	$47	$1,556
Oregon (Aa1/AA+/AA+)	$2,820	$3,580	$6	$6,406
Pennsylvania (Aa3/A+/AA)	$1,565	$6,880	$1,443	$9,888
South Carolina (Aaa/AA+/AAA)	$444	$6,570	$1,818	$8,832
South Dakota (Aaa/AAA/AAA)	$557	$1,839	$0	$2,396
Tennessee (Aaa/AAA/AAA)	$294	$1,039	$186	$1,519
Texas (Aaa/AAA/AAA)	$680	$4,713	$1,652	$7,045
Utah (Aaa/AAA/AAA)	$827	$1,422	-$12	$2,237
Vermont (Aa1/AA+/AA+)	$1,173	$11,407	$3,846	$16,426
Virginia (Aaa/AAA/AAA)	$2,047	$1,521	$165	$3,733
Washington (Aaa/AA+/AA+)	$3,275	$2,596	$621	$6,492
West Virginia (Aa2/AA-/AA)	$2,653	$5,783	$296	$8,732
Wisconsin (Aa1/AA+/AA+)	$1,906	$1,272	$111	$3,289
Wyoming (--/AA/--)	$206	$2,752	$731	$3,689

Source: Moody's - Ability to service long-term liabilities and fixed costs improves; 26 Sept. 2023

*California - Fiscal 2022 fixed costs based on fiscal 2021 OPEB contribution and pension tread water, and fiscal 2022 implied debt service, other long-term liabilities carrying costs and revenue estimated by Moody's based on available unaudited disclosure.

Moody's Net Tax Supported Debt as % of State GDP + ANPL as a % of State GDP + ANOL as a % of State GDP				
State	Debt Service	ANPL as a % of State GDP	ANOL as a % of State GDP	Net Tax Supported Debt as % of State GDP + ANPL as a % of State GDP + ANOL as a % of State GDP
50 State Median	**2.0%**	**4.7%**	**0.6%**	**7.2%**
Double-A States Median	**2.2%**	**5.1%**	**0.7%**	**10.1%**
Rhode Island (Aa2/AA/AA)	**4.8%**	**8.5%**	**0.5%**	**13.8%**
Alabama (Aa1/AA/AA+)	2.2%	3.3%	0.5%	6.0%
Alaska (Aa3/AA-/A+)	2.2%	15.4%	2.8%	20.4%
Arizona (Aa1/AA/--)	0.5%	2.5%	0.1%	3.1%
Arkansas (Aa1/AA/--)	0.7%	4.7%	0.8%	6.2%
California (Aa2/AA-/AA)	2.7%	7.9%	2.3%	12.9%
Colorado (Aa1/AA/--)	1.3%	4.1%	0.1%	5.5%
Connecticut (Aa3/AA-/AA-)	9.0%	25.7%	5.9%	40.6%
Delaware (Aaa/AAA/AAA)	5.0%	6.5%	8.8%	20.3%
Florida (Aaa/AAA/AAA)	1.1%	1.7%	0.4%	3.2%
Georgia (Aaa/AAA/AAA)	1.7%	1.7%	0.1%	3.5%
Hawaii (Aa2/AA+/AA)	10.1%	18.7%	12.1%	40.9%
Idaho (Aaa/AA+/AAA)	1.0%	2.0%	-0.1%	2.9%
Illinois (A3/A-/A-)	3.5%	28.2%	3.8%	35.5%
Indiana (Aaa/AAA/AAA)	0.5%	3.9%	0.0%	4.4%
Iowa (Aaa/AAA/AAA)	0.5%	4.3%	0.1%	4.9%
Kansas (Aa2/AA-/--)	2.1%	9.4%	0.0%	11.5%
Kentucky (Aa3/A+/AA)	2.5%	21.0%	2.0%	25.5%
Louisiana (Aa2/AA-/AA-)	3.0%	5.1%	2.1%	10.2%
Maine (Aa2/AA/AA)	1.9%	11.7%	5.9%	19.5%
Maryland (Aaa/AAA/AAA)	4.1%	12.1%	2.4%	18.6%
Massachusetts (Aa1/AA+/AA+)	7.1%	14.3%	2.1%	23.5%
Michigan (Aa1/AA/AA+)	1.4%	6.9%	1.8%	10.1%
Minnesota (Aaa/AAA/AAA)	2.1%	2.8%	0.1%	5.0%
Mississippi (Aa2/AA/AA)	4.2%	6.6%	0.1%	10.9%
Missouri (Aaa/AAA/AAA)	0.6%	4.2%	0.9%	5.7%

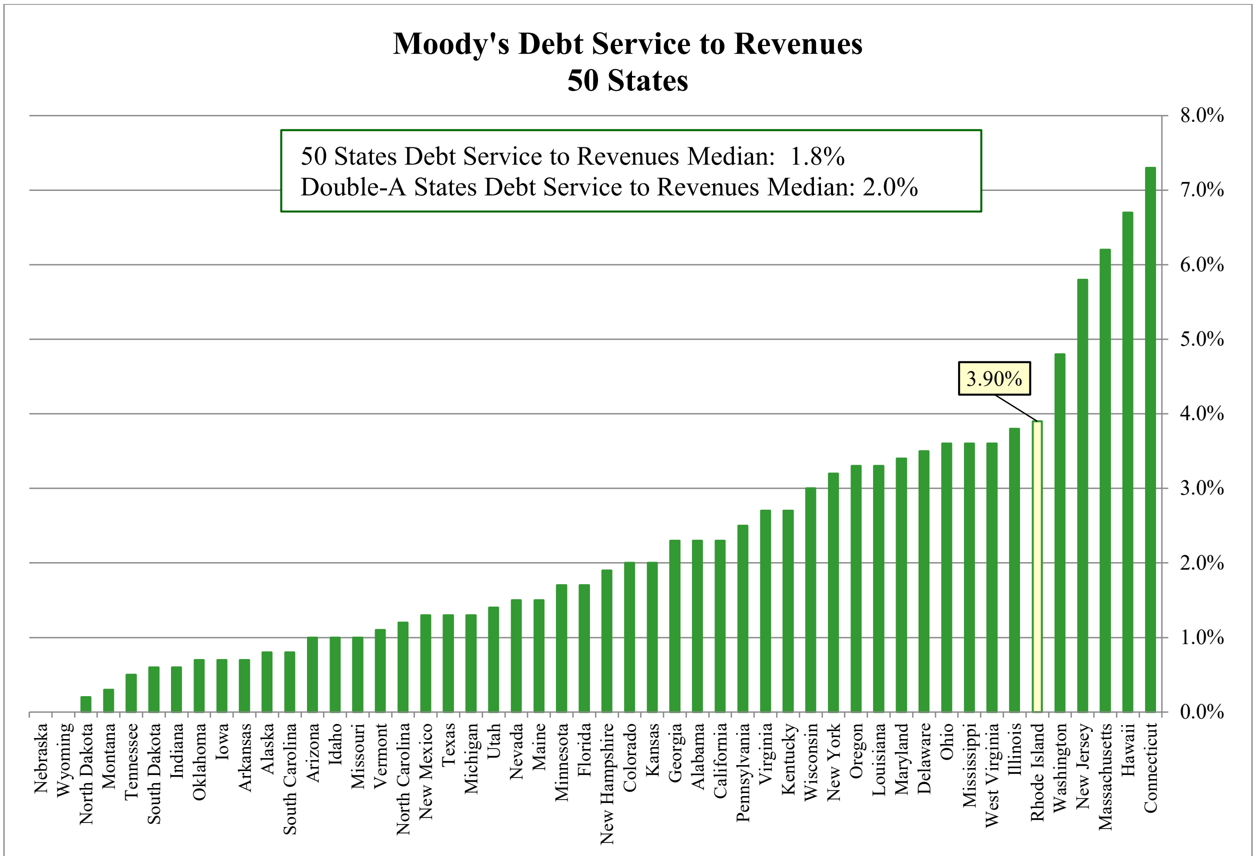
Moody's Net Tax Supported Debt as % of State GDP + ANPL as a % of State GDP + ANOL as a % of State GDP				
State	Debt Service	ANPL as a % of State GDP	ANOL as a % of State GDP	Net Tax Supported Debt as % of State GDP + ANPL as a % of State GDP + ANOL as a % of State GDP
Montana (Aa1/--/AA+)	0.5%	12.0%	0.2%	12.7%
Nebraska (Aa1/AAA/--)	0.0%	2.0%	0.0%	2.0%
Nevada (Aa1/AA+/AA+)	1.0%	4.6%	0.4%	6.0%
New Hampshire (Aa1/AA/AA+)	1.0%	2.3%	1.6%	4.9%
New Jersey (A1/A/A+)	6.2%	18.9%	10.5%	35.6%
New Mexico (Aa2/AA/--)	2.7%	9.7%	0.8%	13.2%
New York (Aa1/AA+/AA+)	3.4%	1.8%	2.2%	7.4%
North Carolina (Aaa/AAA/AAA)	1.0%	1.8%	0.8%	3.6%
North Dakota (Aa1/AA+/--)	0.7%	2.2%	0.1%	3.0%
Ohio (Aaa/AA+/AAA)	2.3%	2.0%	0.1%	4.4%
Oklahoma (Aa2/AA/AA)	0.8%	1.7%	0.1%	2.6%
Oregon (Aa1/AA+/AA+)	4.0%	5.1%	0.0%	9.1%
Pennsylvania (Aa3/A+/AA)	2.2%	9.7%	2.0%	13.9%
South Carolina (Aaa/AA+/AAA)	0.8%	11.7%	3.2%	15.7%
South Dakota (Aaa/AAA/AAA)	0.7%	2.5%	0.0%	3.2%
Tennessee (Aaa/AAA/AAA)	0.4%	1.5%	0.3%	2.2%
Texas (Aaa/AAA/AAA)	0.9%	6.0%	2.1%	9.0%
Utah (Aaa/AAA/AAA)	1.1%	1.9%	0.0%	3.0%
Vermont (Aa1/AA+/AA+)	1.9%	18.2%	6.1%	26.2%
Virginia (Aaa/AAA/AAA)	2.7%	2.0%	0.2%	4.9%
Washington (Aaa/AA+/AA+)	3.5%	2.8%	0.7%	7.0%
West Virginia (Aa2/AA-/AA)	4.9%	10.7%	0.5%	16.1%
Wisconsin (Aa1/AA+/AA+)	2.8%	1.9%	0.2%	4.9%
Wyoming (--/AA/--)	0.3%	3.4%	0.9%	4.6%

Source: Moody’s Ability to service long-term liabilities and fixed costs improves - Sept. 26, 2023.
*California: Fiscal 2021 OPEB data based on 2021 audited financial statements and fiscal 2022 revenue estimated by Moody's based on available unaudited disclosure.

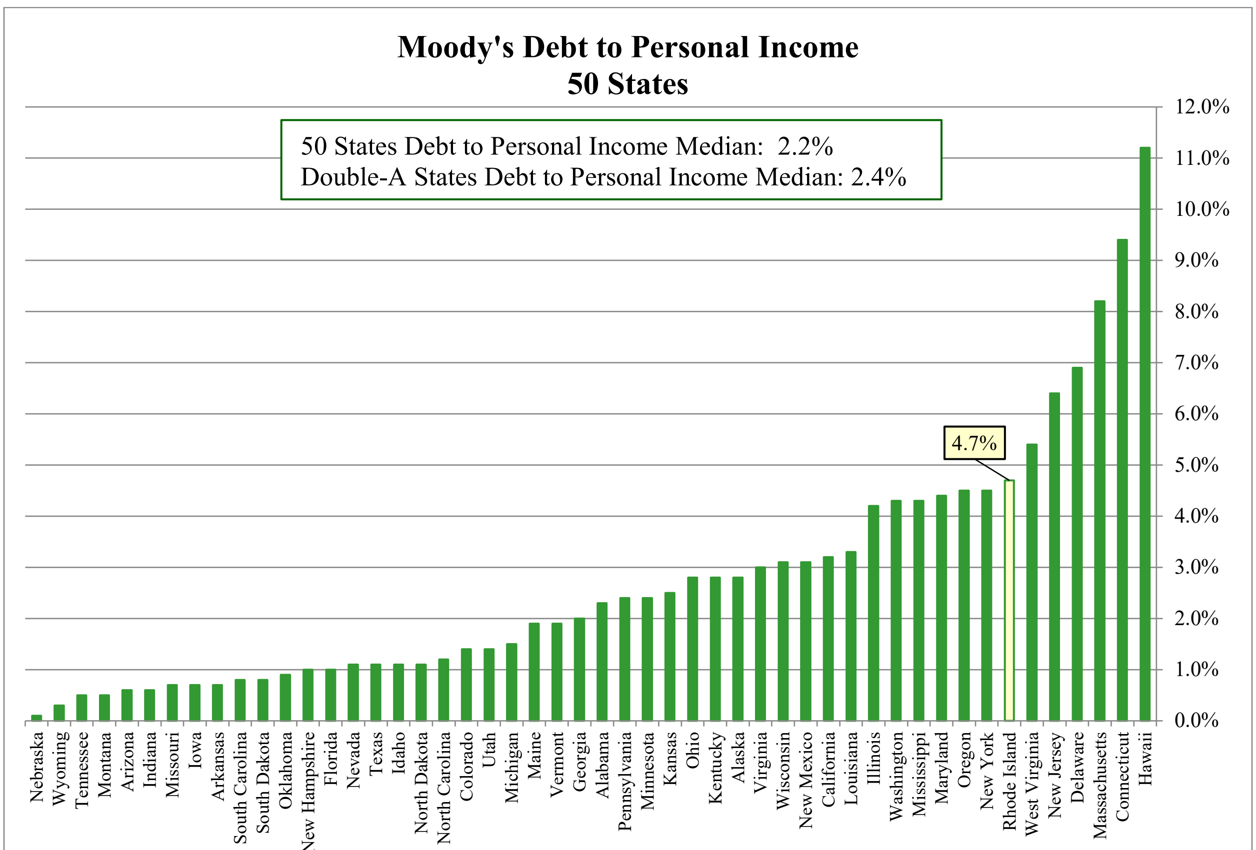
Moody's Net Debt Service to Personal Income + ANPL to Personal Income + ANOL to Personal Income				
State	**Debt Service**	**ANPL to Personal Income**	**ANOL to Personal Income**	**Net DS to Personal Income + ANPL to Personal Income + ANOL to Personal Income**
50 State Median	**2.2%**	**5.2%**	**0.7%**	**9.2%**
Double-A States Median	**2.4%**	**5.8%**	**0.8%**	**11.1%**
Rhode Island (Aa2/AA/AA)	**4.7%**	**8.5%**	**0.5%**	**13.7%**
Alabama (Aa1/AA/AA+)	2.3%	3.6%	0.6%	6.5%
Alaska (Aa3/AA-/A+)	2.8%	19.4%	3.5%	25.7%
Arizona (Aa1/AA/--)	0.6%	2.8%	0.1%	3.5%
Arkansas (Aa1/AA/--)	0.7%	5.0%	0.8%	6.5%
California (Aa2/AA-/AA)	3.2%	9.5%	2.7%	15.4%
Colorado (Aa1/AA/--)	1.4%	4.6%	0.1%	6.1%
Connecticut (Aa3/AA-/AA-)	9.4%	26.9%	6.1%	42.4%
Delaware (Aaa/AAA/AAA)	6.9%	9.0%	12.3%	28.2%
Florida (Aaa/AAA/AAA)	1.0%	1.6%	0.4%	3.0%
Georgia (Aaa/AAA/AAA)	2.0%	2.0%	0.2%	4.2%
Hawaii (Aa2/AA+/AA)	11.2%	20.8%	13.5%	45.5%
Idaho (Aaa/AA+/AAA)	1.1%	2.1%	-0.1%	3.1%
Illinois (A3/A-/A-)	4.2%	33.7%	4.5%	42.4%
Indiana (Aaa/AAA/AAA)	0.6%	4.5%	0.0%	5.1%
Iowa (Aaa/AAA/AAA)	0.7%	5.3%	0.1%	6.1%
Kansas (Aa2/AA-/--)	2.5%	11.3%	0.0%	13.8%
Kentucky (Aa3/A+/AA)	2.8%	23.2%	2.3%	28.3%
Louisiana (Aa2/AA-/AA-)	3.3%	5.8%	2.3%	11.4%
Maine (Aa2/AA/AA)	1.9%	12.0%	6.1%	20.0%
Maryland (Aaa/AAA/AAA)	4.4%	13.0%	2.6%	20.0%
Massachusetts (Aa1/AA+/AA+)	8.2%	16.6%	2.4%	27.2%
Michigan (Aa1/AA/AA+)	1.5%	7.6%	2.0%	11.1%
Minnesota (Aaa/AAA/AAA)	2.4%	3.2%	0.2%	5.8%
Mississippi (Aa2/AA/AA)	4.3%	6.7%	0.1%	11.1%
Missouri (Aaa/AAA/AAA)	0.7%	4.7%	1.0%	6.4%

Moody's Net Debt Service to Personal Income + ANPL to Personal Income + ANOL to Personal Income				
State	**Debt Service**	**ANPL to Personal Income**	**ANOL to Personal Income**	**Net DS to Personal Income + ANPL to Personal Income + ANOL to Personal Income**
Montana (Aa1/--/AA+)	0.5%	12.1%	0.2%	12.8%
Nebraska (Aa1/AAA/--)	0.1%	2.5%	0.0%	2.6%
Nevada (Aa1/AA+/AA+)	1.1%	5.1%	0.4%	6.6%
New Hampshire (Aa1/AA/AA+)	1.0%	2.3%	1.7%	5.0%
New Jersey (A1/A/A+)	6.4%	19.4%	10.7%	36.5%
New Mexico (Aa2/AA/--)	3.1%	10.9%	0.9%	14.9%
New York (Aa1/AA+/AA+)	4.5%	2.4%	2.9%	9.8%
North Carolina (Aaa/AAA/AAA)	1.2%	2.2%	0.9%	4.3%
North Dakota (Aa1/AA+/--)	1.1%	3.2%	0.1%	4.4%
Ohio (Aaa/AA+/AAA)	2.8%	2.4%	0.1%	5.3%
Oklahoma (Aa2/AA/AA)	0.9%	1.9%	0.1%	2.9%
Oregon (Aa1/AA+/AA+)	4.5%	5.7%	0.0%	10.2%
Pennsylvania (Aa3/A+/AA)	2.4%	10.6%	2.2%	15.2%
South Carolina (Aaa/AA+/AAA)	0.8%	12.3%	3.4%	16.5%
South Dakota (Aaa/AAA/AAA)	0.8%	2.8%	0.0%	3.6%
Tennessee (Aaa/AAA/AAA)	0.5%	1.8%	0.3%	2.6%
Texas (Aaa/AAA/AAA)	1.1%	7.6%	2.7%	11.4%
Utah (Aaa/AAA/AAA)	1.4%	2.5%	0.0%	3.9%
Vermont (Aa1/AA+/AA+)	1.9%	18.0%	6.1%	26.0%
Virginia (Aaa/AAA/AAA)	3.0%	2.2%	0.2%	5.4%
Washington (Aaa/AA+/AA+)	4.3%	3.4%	0.8%	8.5%
West Virginia (Aa2/AA-/AA)	5.4%	11.8%	0.6%	17.8%
Wisconsin (Aa1/AA+/AA+)	3.1%	2.1%	0.2%	5.4%
Wyoming (--/AA/--)	0.3%	3.9%	1.0%	5.2%

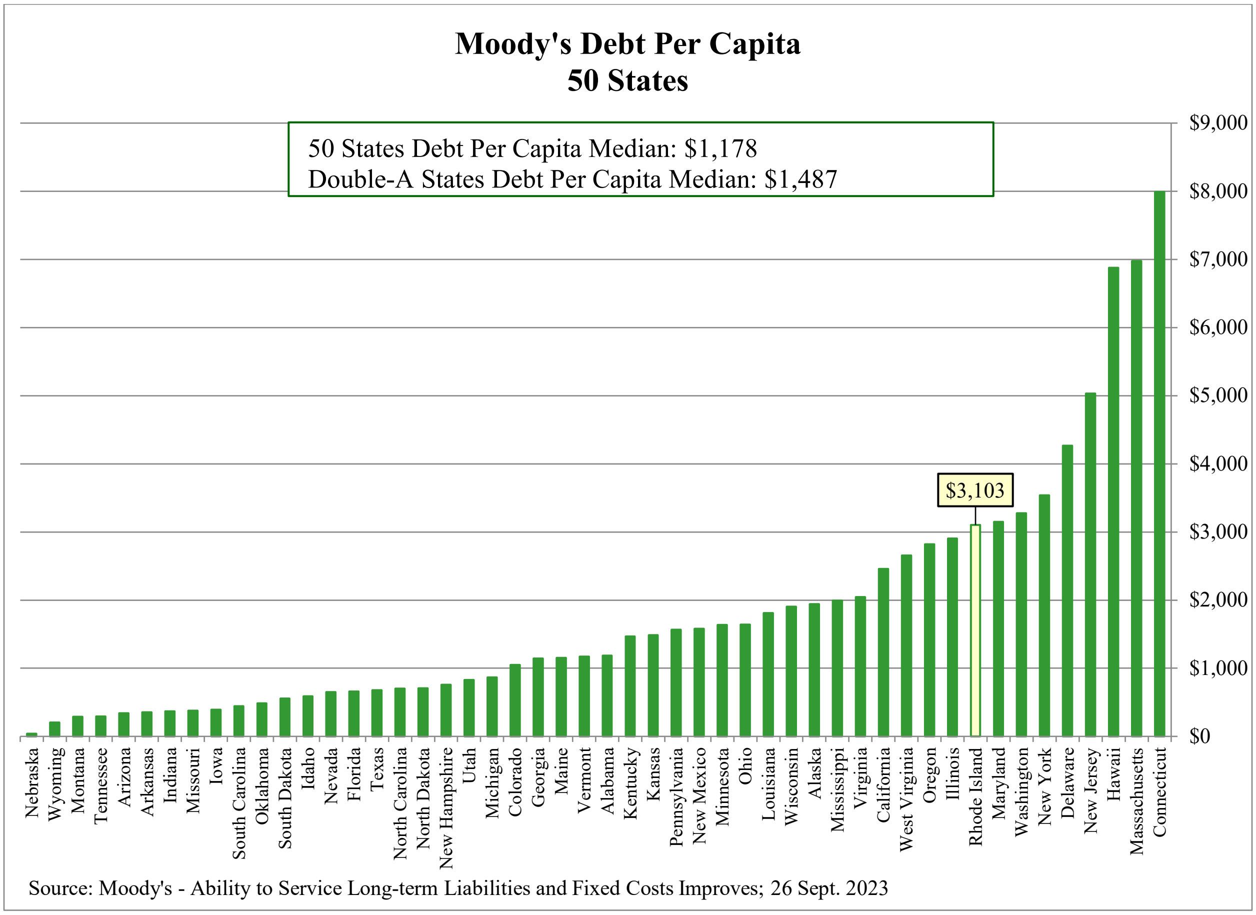
Source: Moody’s Ability to service long-term liabilities and fixed costs improves - Sept. 26, 2023

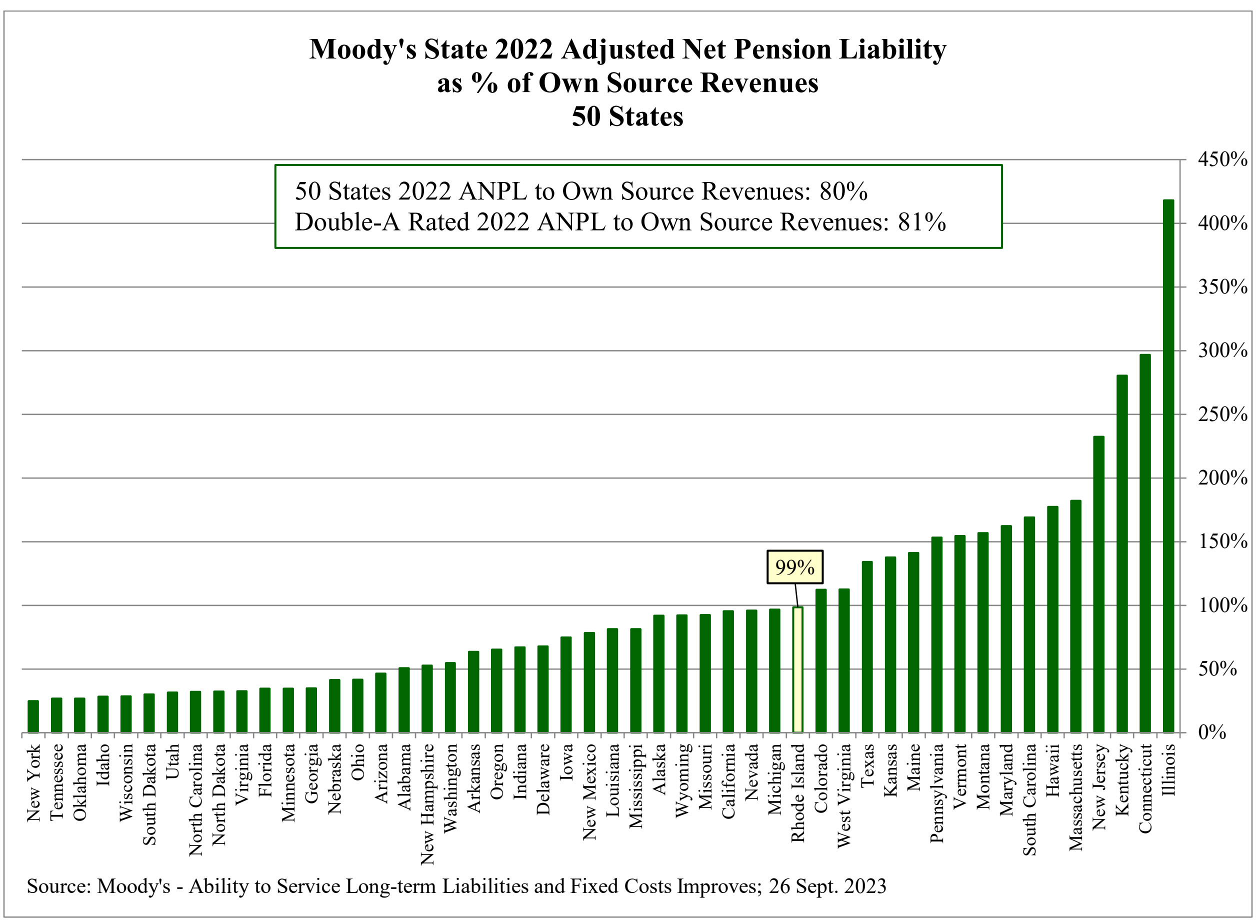


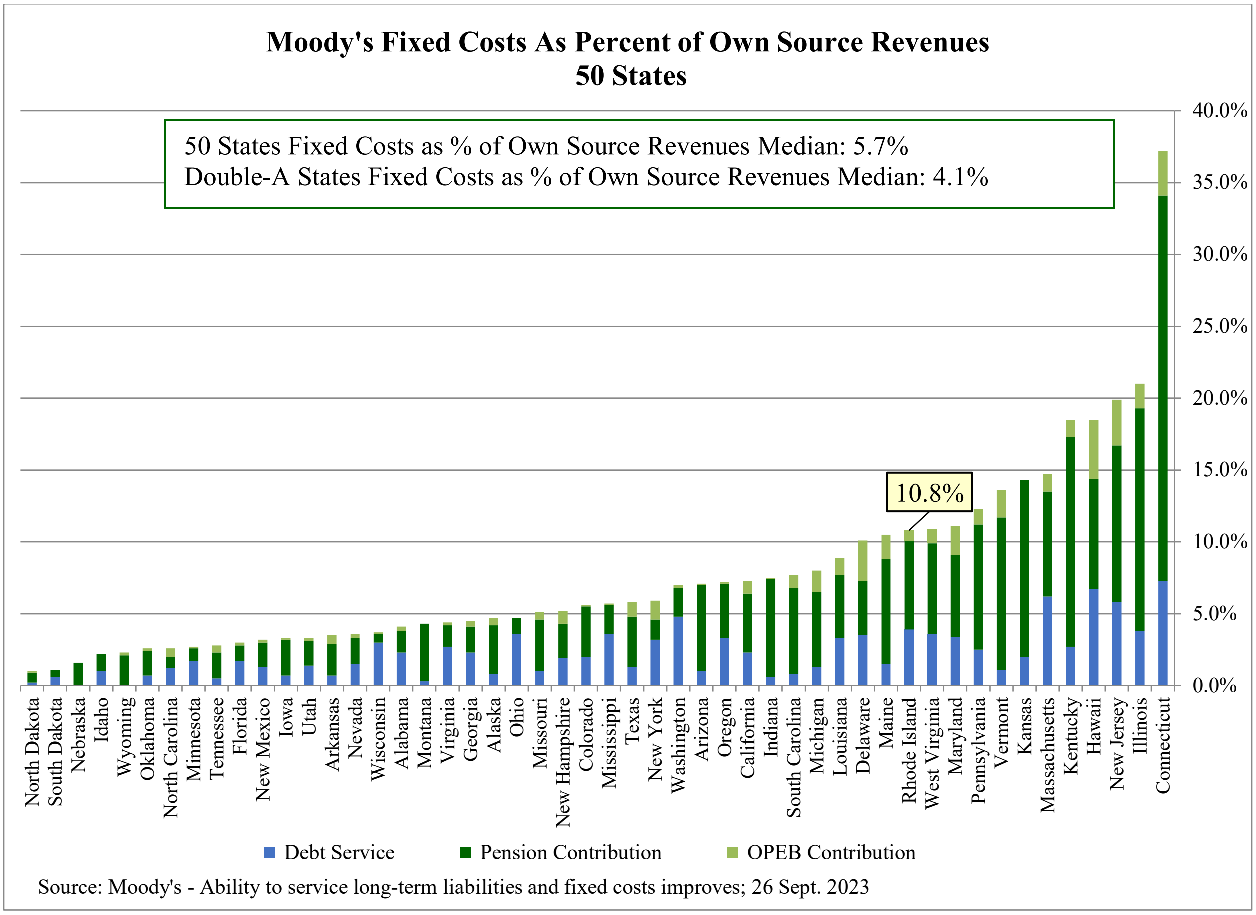
Source: Moody's - Ability to Service Long-term Liabilities and Fixed Costs Improves; 26 Sept. 2023

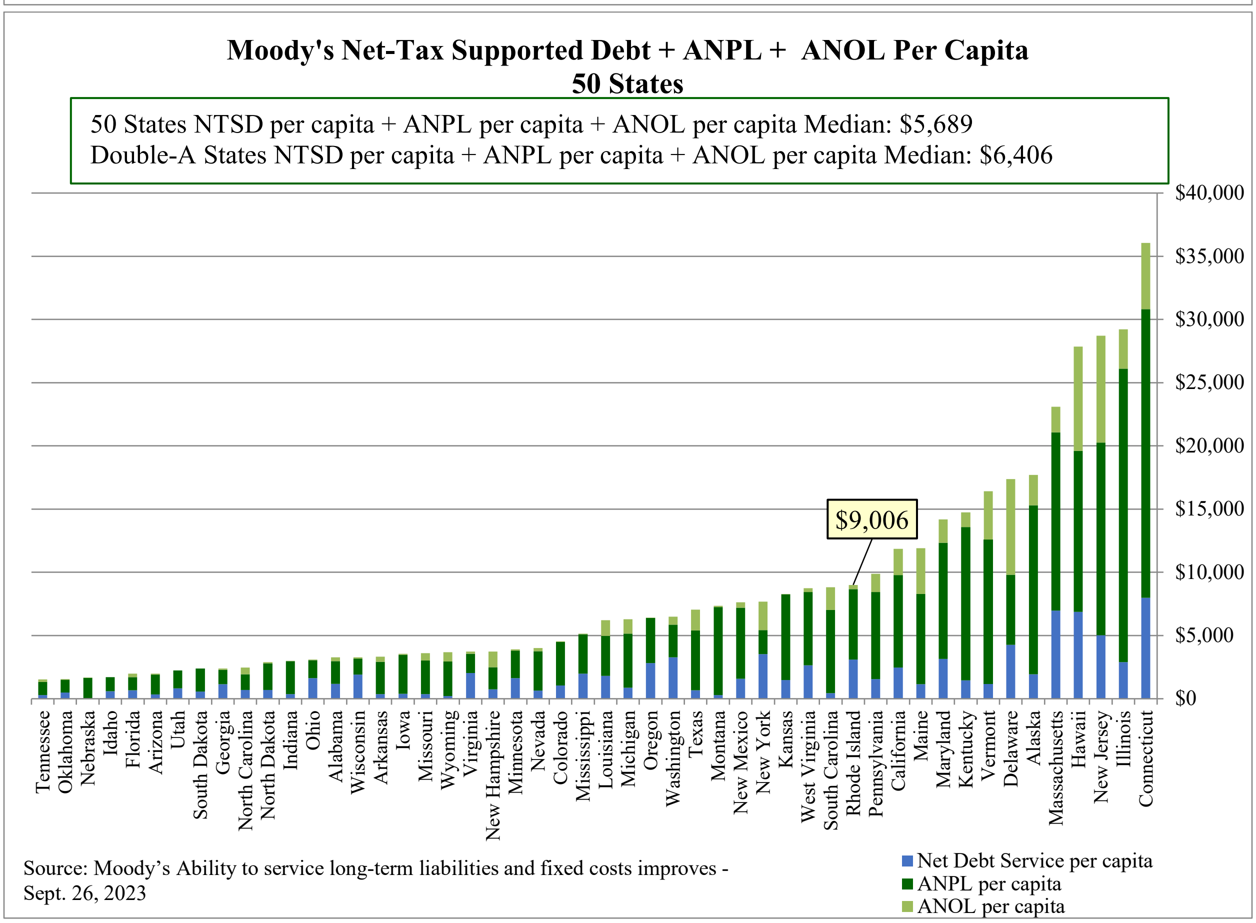


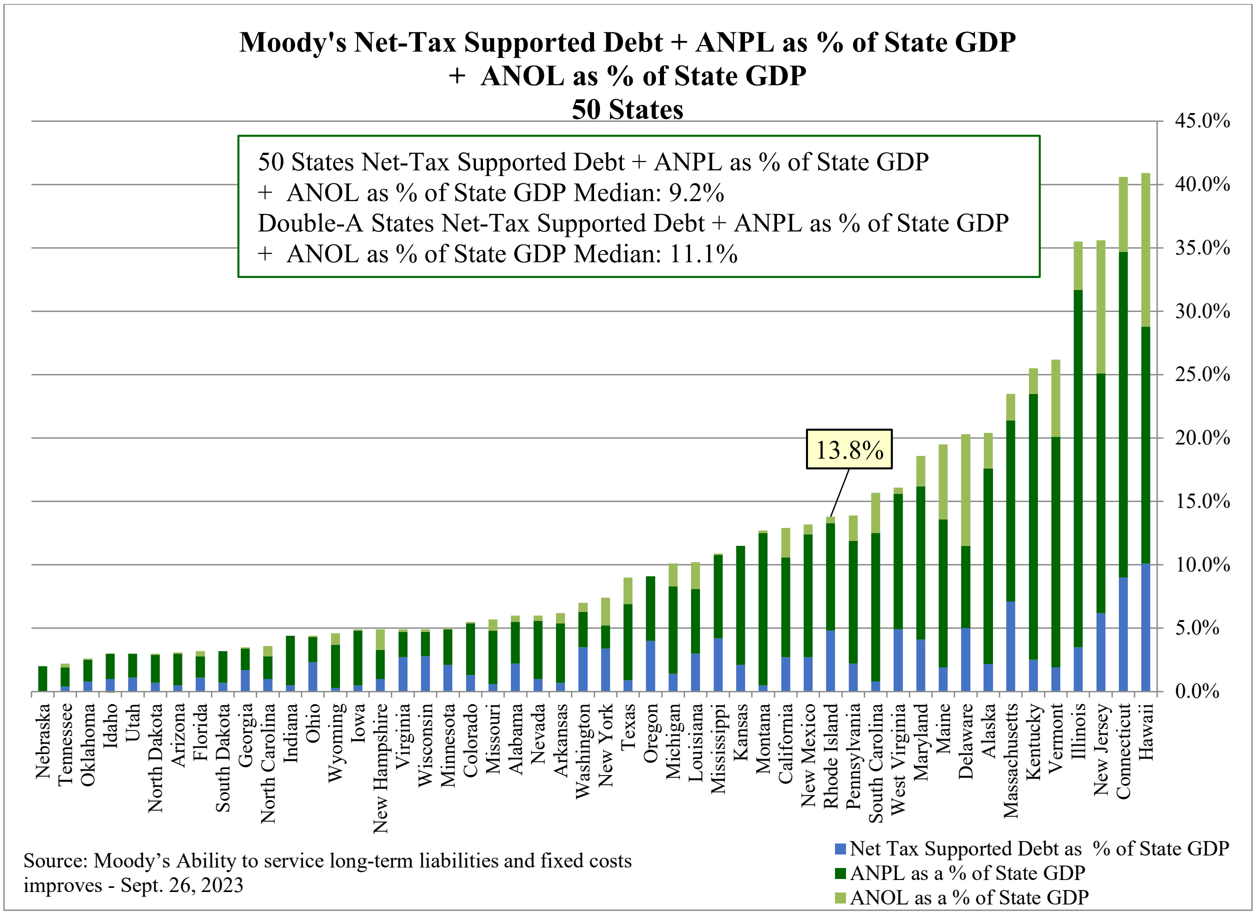
Source: Moody's - Ability to Service Long-term Liabilities and Fixed Costs Improves; 26 Sept. 2023


Moody's Debt Per Capita
50 States
50 States Debt Per Capita Median: $1,178
Double-A States Debt Per Capita Median: $1,487
$3,103
$9,000
$8,000
$7,000
$6,000
$5,000
$4,000
$3,000
$2,000
$1,000
$0
Nebraska
Wyoming
Montana
Tennessee
Arizona
Arkansas
Indiana
Missouri
Iowa
South Carolina
Oklahoma
South Dakota
Idaho
Nevada
Florida
Texas
North Carolina
North Dakota
New Hampshire
Utah
Michigan
Colorado
Georgia
Maine
Vermont
Alabama
Kentucky
Kansas
Pennsylvania
New Mexico
Minnesota
Ohio
Louisiana
Wisconsin
Alaska
Mississippi
Virginia
California
West Virginia
Oregon
Illinois
Rhode Island
Maryland
Washington
New York
Delaware
New Jersey
Hawaii
Massachusetts
Connecticut
Source: Moody's - Ability to Service Long-term Liabilities and Fixed Costs Improves; 26 Sept. 2023

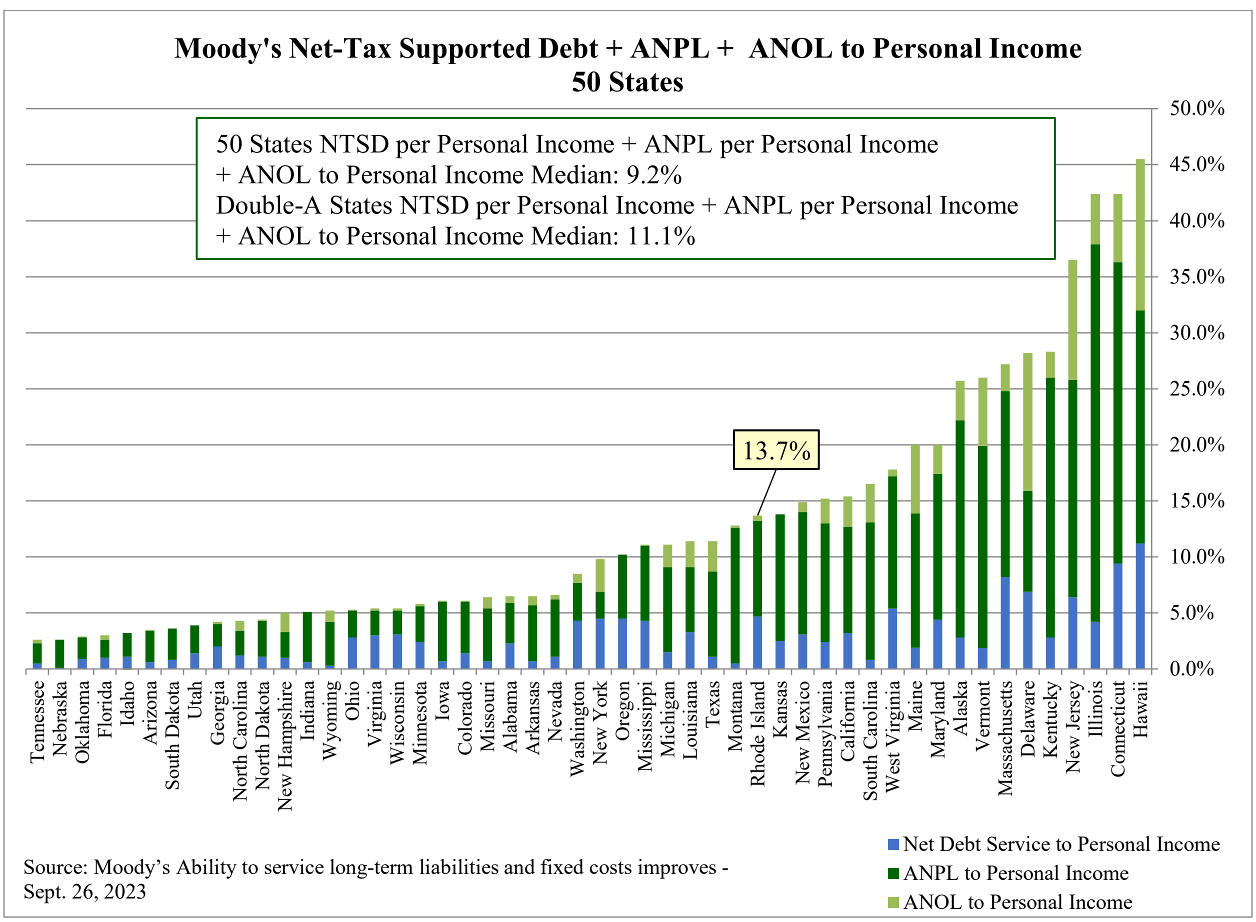

Moody's State 2022 Adjusted Net Pension Liability
as % of Own Source Revenues
50 States
50 States 2022 ANPL to Own Source Revenues: 80%
Double-A Rated 2022 ANPL to Own Source Revenues: 81%
99%
450%
400%
350%
300%
250%
200%
150%
100%
50%
0%
New York
Tennessee
Oklahoma
Idaho
Wisconsin
South Dakota
Utah
North Carolina
North Dakota
Virginia
Florida
Minnesota
Georgia
Nebraska
Ohio
Arizona
Alabama
New Hampshire
Washington
Arkansas
Oregon
Indiana
Delaware
Iowa
New Mexico
Louisiana
Mississippi
Alaska
Wyoming
Missouri
California
Nevada
Michigan
Rhode Island
Colorado
West Virginia
Texas
Kansas
Maine
Pennsylvania
Vermont
Montana
Maryland
South Carolina
Hawaii
Massachusetts
New Jersey
Kentucky
Connecticut
Illinois
Source: Moody's - Ability to Service Long-term Liabilities and Fixed Costs Improves; 26 Sept. 2023


Moody's Fixed Costs As Percent of Own Source Revenues
50 States
50 States Fixed Costs as % of Own Source Revenues Median: 5.7%
Double-A States Fixed Costs as % of Own Source Revenues Median: 4.1%
10.8%
Debt Service
Pension Contribution
OPEB Contribution
Source: Moody's - Ability to service long-term liabilities and fixed costs improves; 26 Sept. 2023


Moody's Net-Tax Supported Debt + ANPL + ANOL Per Capita
50 States
50 States NTSD per capita + ANPL per capita + ANOL per capita Median: $5,689
Double-A States NTSD per capita + ANPL per capita + ANOL per capita Median: $6,406
$9,006
Source: Moody's Ability to service long-term liabilities and fixed costs improves - Sept. 26, 2023
Net Debt Service per capita
ANPL per capita
ANOL per capita



Moody's Net-Tax Supported Debt + ANPL as % of State GDP
+ ANOL as % of State GDP
50 States
50 States Net-Tax Supported Debt + ANPL as % of State GDP
+ ANOL as % of State GDP Median: 9.2%
Double-A States Net-Tax Supported Debt + ANPL as % of State GDP
+ ANOL as % of State GDP Median: 11.1%
13.8%
45.0%
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Nebraska
Tennessee
Oklahoma
Idaho
Utah
North Dakota
Arizona
Florida
South Dakota
Georgia
North Carolina
Indiana
Ohio
Wyoming
Iowa
New Hampshire
Virginia
Wisconsin
Minnesota
Colorado
Missouri
Alabama
Nevada
Arkansas
Washington
New York
Texas
Oregon
Michigan
Louisiana
Mississippi
Kansas
Montana
California
New Mexico
Rhode Island
Pennsylvania
South Carolina
West Virginia
Maryland
Maine
Delaware
Alaska
Massachusetts
Kentucky
Vermont
Illinois
New Jersey
Connecticut
Hawaii
Source: Moody's Ability to service long-term liabilities and fixed costs improves - Sept. 26, 2023
Net Tax Supported Debt as % of State GDP
ANPL as a % of State GDP
ANOL as a % of State GDP



Moody's Net-Tax Supported Debt + ANPL + ANOL to Personal Income
50 States
50 States NTSD per Personal Income + ANPL per Personal Income
+ ANOL to Personal Income Median: 9.2%
Double-A States NTSD per Personal Income + ANPL per Personal Income
+ ANOL to Personal Income Median: 11.1%
13.7%
50.0%
45.0%
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Tennessee
Nebraska
Oklahoma
Florida
Idaho
Arizona
South Dakota
Utah
Georgia
North Carolina
North Dakota
New Hampshire
Indiana
Wyoming
Ohio
Virginia
Wisconsin
Minnesota
Iowa
Colorado
Missouri
Alabama
Arkansas
Nevada
Washington
New York
Oregon
Mississippi
Michigan
Louisiana
Texas
Montana
Rhode Island
Kansas
New Mexico
Pennsylvania
California
South Carolina
West Virginia
Maine
Maryland
Alaska
Vermont
Massachusetts
Delaware
Kentucky
New Jersey
Illinois
Connecticut
Hawaii
Source: Moody's Ability to service long-term liabilities and fixed costs improves - Sept. 26, 2023
Net Debt Service to Personal Income
ANPL to Personal Income
ANOL to Personal Income

Fitch Estimated State Net Tax-Supported Debt and Unfunded Pension Obligations				
State	**Debt as % of Personal Income**	**Adjusted Pension Allocation as % of Personal Income**	**OPEB NOL to Personal Income**	**Debt & Adjusted Pension Allocation & OPEB NOL as % of Personal Income**
50-State Median	**2.0%**	**1.7%**	**0.9%**	**5.4%**
Double-A Median	**2.3%**	**2.0%**	**0.9%**	**5.5%**
Rhode Island (Aa2/AA/AA)	4.2%	5.0%	0.3%	9.6%
Alabama (Aa1/AA/AA+)	2.2%	5.8%	1.0%	9.0%
Alaska (Aa3/AA-/A+)	2.2%	9.4%	0.0%	11.6%
Arizona (Aa1/AA/--)	0.5%	1.4%	0.3%	2.1%
Arkansas (Aa1/AA/--)	0.7%	1.6%	0.9%	3.1%
California (Aa2/AA-/AA)	3.0%	3.5%	3.2%	9.7%
Colorado (Aa1/AA/--)	0.9%	2.9%	0.4%	4.2%
Connecticut (Aa3/AA-/AA-)	8.8%	14.8%	7.0%	30.6%
Delaware (Aaa/AAA/AAA)	7.0%	0.9%	14.2%	22.1%
Florida (Aaa/AAA/AAA)	0.9%	0.4%	0.8%	2.1%
Georgia (Aaa/AAA/AAA)	1.8%	1.4%	2.3%	5.5%
Hawaii (Aa2/AA+/AA)	10.4%	9.7%	8.6%	28.7%
Idaho (Aaa/AA+/AAA)	1.0%	0.2%	0.1%	1.3%
Illinois (A3/A-/A-)	4.1%	19.0%	5.7%	28.8%
Indiana (Aaa/AAA/AAA)	0.3%	2.6%	0.0%	2.9%
Iowa (Aaa/AAA/AAA)	1.3%	0.6%	0.2%	2.1%
Kansas (Aa2/AA-/--)	2.4%	1.7%	0.0%	4.1%
Kentucky (Aa3/A+/AA)	2.6%	13.0%	1.8%	17.4%
Louisiana (Aa2/AA-/AA-)	3.1%	3.0%	2.7%	8.8%
Maine (Aa2/AA/AA)	1.7%	3.0%	3.2%	7.8%
Maryland (Aaa/AAA/AAA)	4.1%	5.2%	3.1%	12.4%
Massachusetts (Aa1/AA+/AA+)	7.4%	8.2%	3.1%	18.7%
Michigan (Aa1/AA/AA+)	1.2%	1.1%	1.0%	3.3%
Minnesota (Aaa/AAA/AAA)	2.5%	0.9%	0.2%	3.5%
Mississippi (Aa2/AA/AA)	4.3%	3.2%	0.1%	7.6%
Missouri (Aaa/AAA/AAA)	0.6%	2.8%	0.9%	4.3%

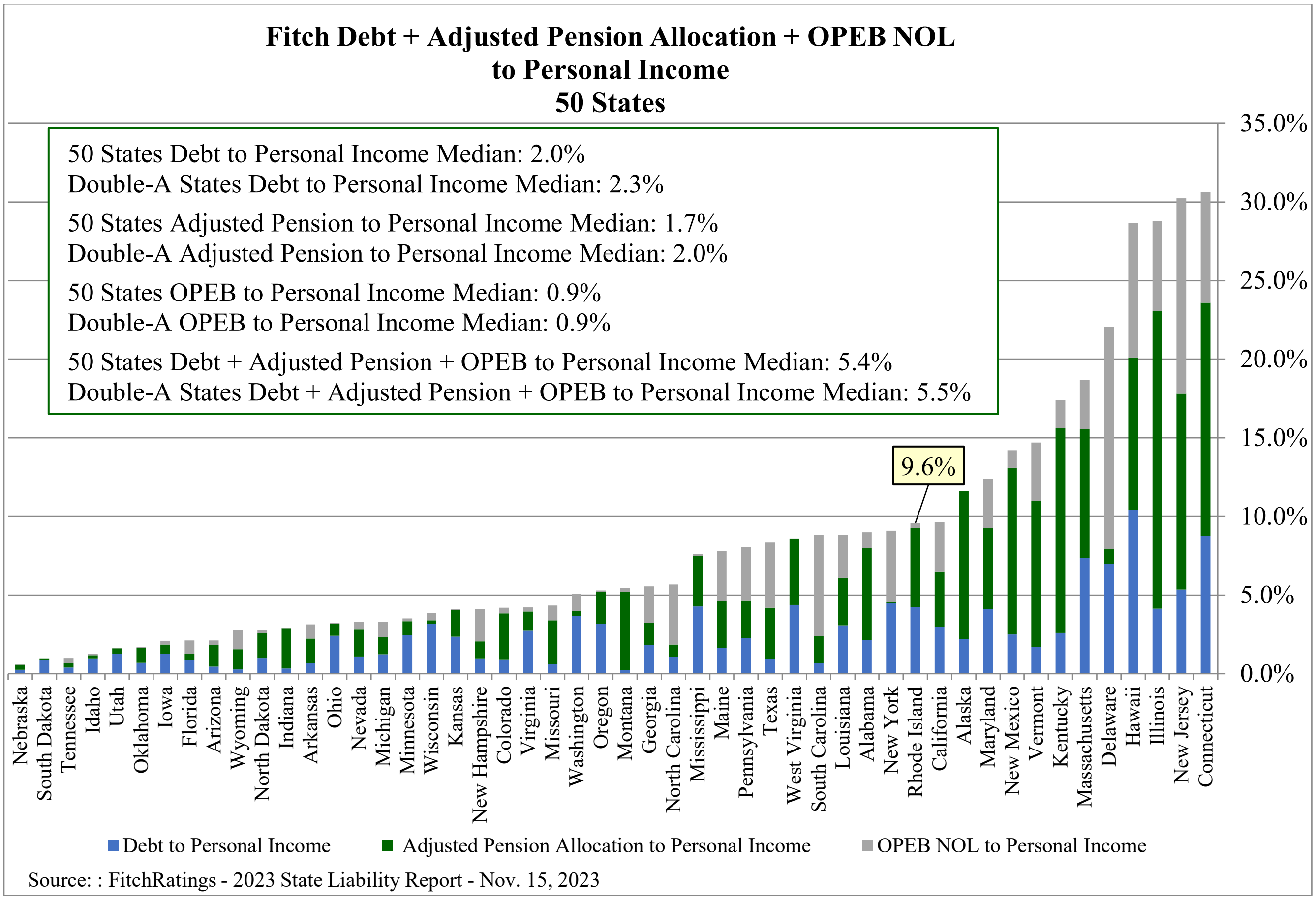
Fitch Estimated State Net Tax-Supported Debt and Unfunded Pension Obligations				
State	**Debt as % of Personal Income**	**Adjusted Pension Allocation as % of Personal Income**	**OPEB NOL to Personal Income**	**Debt & Adjusted Pension Allocation & OPEB NOL as % of Personal Income**
Montana (Aa1/--/AA+)	0.2%	5.0%	0.3%	5.5%
Nebraska (Aa1/AAA/--)	0.3%	0.3%	0.0%	0.6%
Nevada (Aa1/AA+/AA+)	1.1%	1.7%	0.5%	3.3%
New Hampshire (Aa1/AA/AA+)	1.0%	1.1%	2.1%	4.1%
New Jersey (A1/A/A+)	5.4%	12.4%	12.4%	30.2%
New Mexico (Aa2/AA/--)	2.5%	10.6%	1.1%	14.2%
New York (Aa1/AA+/AA+)	4.5%	0.1%	4.5%	9.1%
North Carolina (Aaa/AAA/AAA)	1.1%	0.8%	3.8%	5.7%
North Dakota (Aa1/AA+/--)	1.0%	1.6%	0.2%	2.8%
Ohio (Aaa/AA+/AAA)	2.4%	0.8%	0.1%	3.2%
Oklahoma (Aa2/AA/AA)	0.7%	1.0%	0.1%	1.7%
Oregon (Aa1/AA+/AA+)	3.2%	2.0%	0.1%	5.3%
Pennsylvania (Aa3/A+/AA)	2.3%	2.4%	3.4%	8.0%
South Carolina (Aaa/AA+/AAA)	0.7%	1.7%	6.4%	8.8%
South Dakota (Aaa/AAA/AAA)	0.9%	0.1%	0.0%	1.0%
Tennessee (Aaa/AAA/AAA)	0.4%	0.3%	0.3%	1.0%
Texas (Aaa/AAA/AAA)	1.0%	3.2%	4.1%	8.3%
Utah (Aaa/AAA/AAA)	1.3%	0.4%	0.0%	1.6%
Vermont (Aa1/AA+/AA+)	1.7%	9.3%	3.7%	14.7%
Virginia (Aaa/AAA/AAA)	2.7%	1.2%	0.2%	4.2%
Washington (Aaa/AA+/AA+)	3.7%	0.3%	1.1%	5.1%
West Virginia (Aa2/AA-/AA)	4.4%	4.2%	0.0%	8.6%
Wisconsin (Aa1/AA+/AA+)	3.2%	0.2%	0.5%	3.8%
Wyoming (--/AA/--)	0.3%	1.3%	1.2%	2.8%

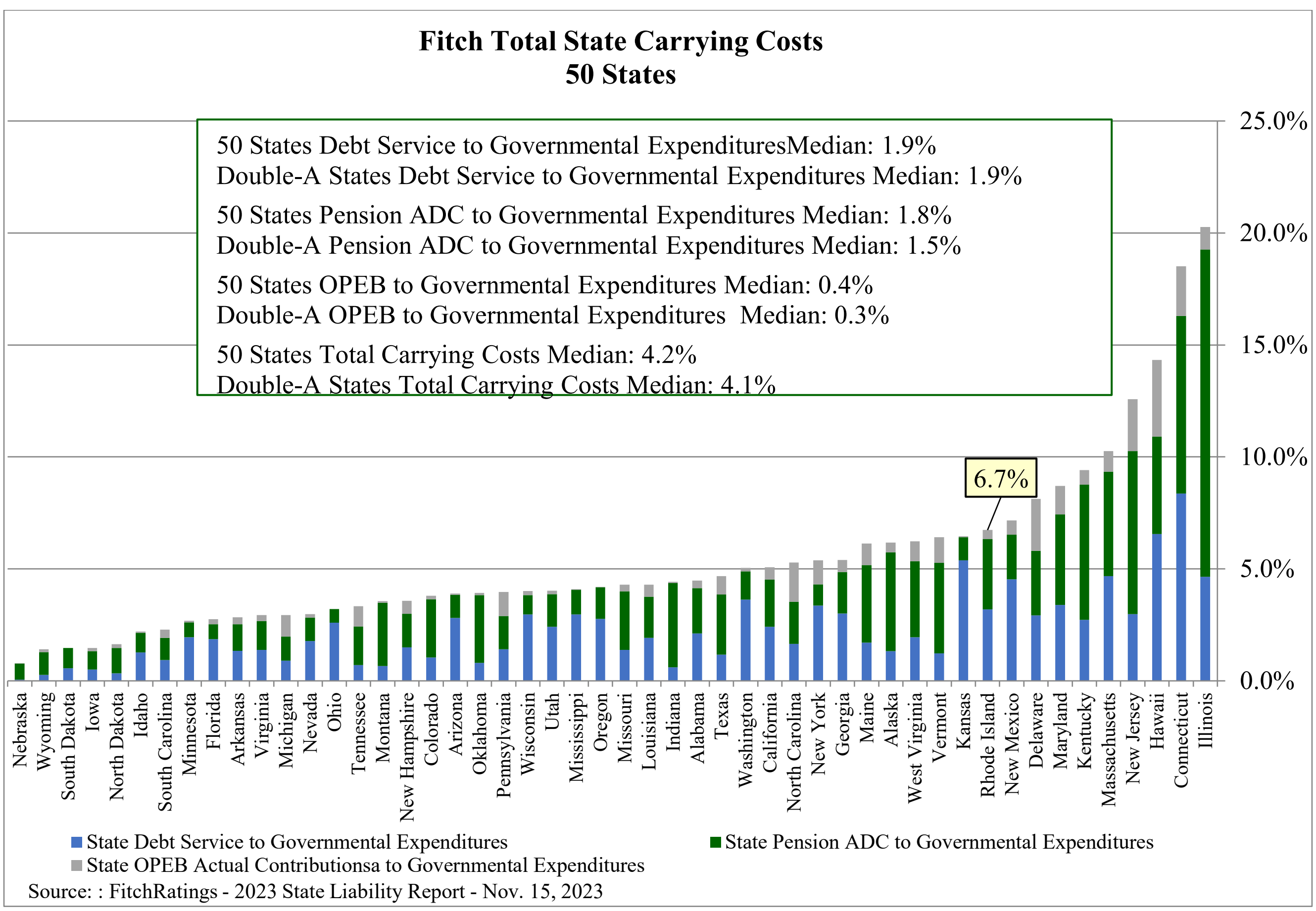
Source: FitchRatings - 2023 State Liability Report - Nov. 15, 2023

Fitch Total State Carrying Costs				
State	**State Debt Service to Governmental Expenditures**	**State Pension ADC to Governmental Expenditures**	**State OPEB Actual Contributions to Governmental Expenditures**	**Debt & Adjusted Pension Allocation & OPEB NOL as % of Personal Income**
50-State Median	**1.9%**	**1.8%**	**0.4%**	**4.2%**
Double-A Median	**1.9%**	**1.5%**	**0.3%**	**4.1%**
Rhode Island (Aa2/AA/AA)	3.2%	3.1%	0.4%	6.7%
Alabama (Aa1/AA/AA+)	2.1%	2.0%	0.3%	4.5%
Alaska (Aa3/AA-/A+)	1.3%	4.4%	0.4%	6.2%
Arizona (Aa1/AA/--)	2.8%	1.0%	0.1%	3.9%
Arkansas (Aa1/AA/--)	1.3%	1.2%	0.3%	2.8%
California (Aa2/AA-/AA)	2.4%	2.1%	0.5%	5.1%
Colorado (Aa1/AA/--)	1.0%	2.6%	0.2%	3.8%
Connecticut (Aa3/AA-/AA-)	8.4%	7.9%	2.2%	18.5%
Delaware (Aaa/AAA/AAA)	2.9%	2.9%	2.3%	8.1%
Florida (Aaa/AAA/AAA)	1.9%	0.7%	0.2%	2.8%
Georgia (Aaa/AAA/AAA)	3.0%	1.9%	0.5%	5.4%
Hawaii (Aa2/AA+/AA)	6.6%	4.3%	3.4%	14.3%
Idaho (Aaa/AA+/AAA)	1.3%	0.9%	0.0%	2.2%
Illinois (A3/A-/A-)	4.6%	14.6%	1.0%	20.3%
Indiana (Aaa/AAA/AAA)	0.6%	3.8%	0.0%	4.4%
Iowa (Aaa/AAA/AAA)	0.5%	0.8%	0.1%	1.5%
Kansas (Aa2/AA-/--)	5.4%	1.0%	0.0%	6.5%
Kentucky (Aa3/A+/AA)	2.7%	6.0%	0.6%	9.4%
Louisiana (Aa2/AA-/AA-)	1.9%	1.8%	0.5%	4.3%
Maine (Aa2/AA/AA)	1.7%	3.5%	1.0%	6.1%
Maryland (Aaa/AAA/AAA)	3.4%	4.0%	1.3%	8.7%
Massachusetts (Aa1/AA+/AA+)	4.7%	4.7%	0.9%	10.3%
Michigan (Aa1/AA/AA+)	0.9%	1.1%	1.0%	2.9%
Minnesota (Aaa/AAA/AAA)	1.9%	0.7%	0.1%	2.7%
Mississippi (Aa2/AA/AA)	3.0%	1.1%	0.0%	4.1%

Fitch Total State Carrying Costs				
State	**State Debt Service to Governmental Expenditures**	**State Pension ADC to Governmental Expenditures**	**State OPEB Actual Contributionsa to Governmental Expenditures**	**Debt & Adjusted Pension Allocation & OPEB NOL as % of Personal Income**
Missouri (Aaa/AAA/AAA)	1.4%	2.6%	0.3%	4.3%
Montana (Aa1/--/AA+)	0.7%	2.8%	0.1%	3.6%
Nebraska (Aa1/AAA/--)	0.1%	0.7%	0.0%	0.8%
Nevada (Aa1/AA+/AA+)	1.8%	1.1%	0.1%	3.0%
New Hampshire (Aa1/AA/AA+)	1.5%	1.5%	0.6%	3.6%
New Jersey (A1/A/A+)	3.0%	7.3%	2.3%	12.6%
New Mexico (Aa2/AA/--)	4.5%	2.0%	0.6%	7.2%
New York (Aa1/AA+/AA+)	3.4%	1.0%	1.1%	5.4%
North Carolina (Aaa/AAA/AAA)	1.6%	1.9%	1.8%	5.3%
North Dakota (Aa1/AA+/--)	0.3%	1.1%	0.2%	1.6%
Ohio (Aaa/AA+/AAA)	2.6%	0.6%	0.0%	3.2%
Oklahoma (Aa2/AA/AA)	0.8%	3.0%	0.1%	3.9%
Oregon (Aa1/AA+/AA+)	2.8%	1.4%	0.0%	4.2%
Pennsylvania (Aa3/A+/AA)	1.4%	1.5%	1.1%	4.0%
South Carolina (Aaa/AA+/AAA)	0.9%	1.0%	0.4%	2.3%
South Dakota (Aaa/AAA/AAA)	0.6%	0.9%	0.0%	1.5%
Tennessee (Aaa/AAA/AAA)	0.7%	1.7%	0.9%	3.3%
Texas (Aaa/AAA/AAA)	1.2%	2.7%	0.8%	4.7%
Utah (Aaa/AAA/AAA)	2.4%	1.5%	0.2%	4.0%
Vermont (Aa1/AA+/AA+)	1.2%	4.0%	1.1%	6.4%
Virginia (Aaa/AAA/AAA)	1.4%	1.3%	0.3%	2.9%
Washington (Aaa/AA+/AA+)	3.6%	1.2%	0.2%	5.0%
West Virginia (Aa2/AA-/AA)	2.0%	3.4%	0.9%	6.2%
Wisconsin (Aa1/AA+/AA+)	3.0%	0.9%	0.2%	4.0%
Wyoming (--/AA/--)	0.3%	1.0%	0.1%	1.4%

Source: FitchRatings - 2023 State Liability Report - Nov. 15, 2023


Fitch Debt + Adjusted Pension Allocation + OPEB NOL
to Personal Income
50 States
50 States Debt to Personal Income Median: 2.0%
Double-A States Debt to Personal Income Median: 2.3%
50 States Adjusted Pension to Personal Income Median: 1.7%
Double-A Adjusted Pension to Personal Income Median: 2.0%
50 States OPEB to Personal Income Median: 0.9%
Double-A OPEB to Personal Income Median: 0.9%
50 States Debt + Adjusted Pension + OPEB to Personal Income Median: 5.4%
Double-A States Debt + Adjusted Pension + OPEB to Personal Income Median: 5.5%
9.6%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Nebraska
South Dakota
Tennessee
Idaho
Utah
Oklahoma
Iowa
Florida
Arizona
Wyoming
North Dakota
Indiana
Arkansas
Ohio
Nevada
Michigan
Minnesota
Wisconsin
Kansas
New Hampshire
Colorado
Virginia
Missouri
Washington
Oregon
Montana
Georgia
North Carolina
Mississippi
Maine
Pennsylvania
Texas
West Virginia
South Carolina
Louisiana
Alabama
New York
Rhode Island
California
Alaska
Maryland
New Mexico
Vermont
Kentucky
Massachusetts
Delaware
Hawaii
Illinois
New Jersey
Connecticut
Debt to Personal Income
Adjusted Pension Allocation to Personal Income
OPEB NOL to Personal Income
Source: : FitchRatings - 2023 State Liability Report - Nov. 15, 2023


Fitch Total State Carrying Costs
50 States
50 States Debt Service to Governmental ExpendituresMedian: 1.9%
Double-A States Debt Service to Governmental Expenditures Median: 1.9%
50 States Pension ADC to Governmental Expenditures Median: 1.8%
Double-A Pension ADC to Governmental Expenditures Median: 1.5%
50 States OPEB to Governmental Expenditures Median: 0.4%
Double-A OPEB to Governmental Expenditures Median: 0.3%
50 States Total Carrying Costs Median: 4.2%
Double-A States Total Carrying Costs Median: 4.1%
6.7%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Nebraska
Wyoming
South Dakota
Iowa
North Dakota
Idaho
South Carolina
Minnesota
Florida
Arkansas
Virginia
Michigan
Nevada
Ohio
Tennessee
Montana
New Hampshire
Colorado
Arizona
Oklahoma
Pennsylvania
Wisconsin
Utah
Mississippi
Oregon
Missouri
Louisiana
Indiana
Alabama
Texas
Washington
California
North Carolina
New York
Georgia
Maine
Alaska
West Virginia
Vermont
Kansas
Rhode Island
New Mexico
Delaware
Maryland
Kentucky
Massachusetts
New Jersey
Hawaii
Connecticut
Illinois
State Debt Service to Governmental Expenditures
State Pension ADC to Governmental Expenditures
State OPEB Actual Contributionsa to Governmental Expenditures
Source: : FitchRatings - 2023 State Liability Report - Nov. 15, 2023

Standard & Poor's Debt Ratios				
State	**Debt Per Capita**	**Debt as % Personal income**	**Debt as % GSP**	**Debt Service as % General Spending**
50 State Median	**$1,006**	**1.68%**	**1.48%**	**3.01%**
Double-A States Median	**$1,158**	**2.04%**	**1.77%**	**2.91%**
Rhode Island (Aa2/AA/AA)	$1,763	2.70%	2.70%	5.69%
Alabama (Aa1/AA/AA+)	$1,143	2.26%	2.09%	4.15%
Alaska (Aa3/AA-/A+)	$1,243	1.80%	1.43%	1.89%
Arizona (Aa1/AA/--)	$315	0.56%	0.51%	0.82%
Arkansas (Aa1/AA/--)	$333	0.64%	0.61%	2.91%
California (Aa2/AA-/AA)	$2,075	2.68%	2.25%	3.50%
Colorado (Aa1/AA/--)	$745	1.01%	0.90%	2.02%
Connecticut (Aa3/AA-/AA-)	$7,098	8.35%	8.00%	14.11%
Delaware (Aaa/AAA/AAA)	$2,428	3.96%	2.83%	6.09%
Florida (Aaa/AAA/AAA)	$605	0.95%	0.97%	4.70%
Georgia (Aaa/AAA/AAA)	$986	1.73%	1.43%	5.57%
Hawaii (Aa2/AA+/AA)	$6,453	10.54%	9.46%	12.78%
Idaho (Aaa/AA+/AAA)	$198	0.36%	0.35%	0.57%
Illinois (A3/A-/A-)	$2,792	4.05%	3.40%	6.21%
Indiana (Aaa/AAA/AAA)	$213	0.37%	0.32%	0.92%
Iowa (Aaa/AAA/AAA)	$170	0.29%	0.23%	0.99%
Kansas (Aa2/AA-/--)	$1,425	2.37%	1.99%	2.44%
Kentucky (Aa3/A+/AA)	$1,158	2.22%	2.01%	2.60%
Louisiana (Aa2/AA-/AA-)	$1,575	2.88%	2.57%	4.96%
Maine (Aa2/AA/AA)	$935	1.57%	1.53%	2.62%
Maryland (Aaa/AAA/AAA)	$2,466	3.49%	3.23%	5.86%
Massachusetts (Aa1/AA+/AA+)	$5,955	7.01%	6.04%	6.50%
Michigan (Aa1/AA/AA+)	$683	1.20%	1.10%	0.80%
Minnesota (Aaa/AAA/AAA)	$1,385	2.04%	1.77%	2.99%
Mississippi (Aa2/AA/AA)	$1,922	4.16%	4.07%	6.83%
Missouri (Aaa/AAA/AAA)	$344	0.61%	0.54%	3.02%

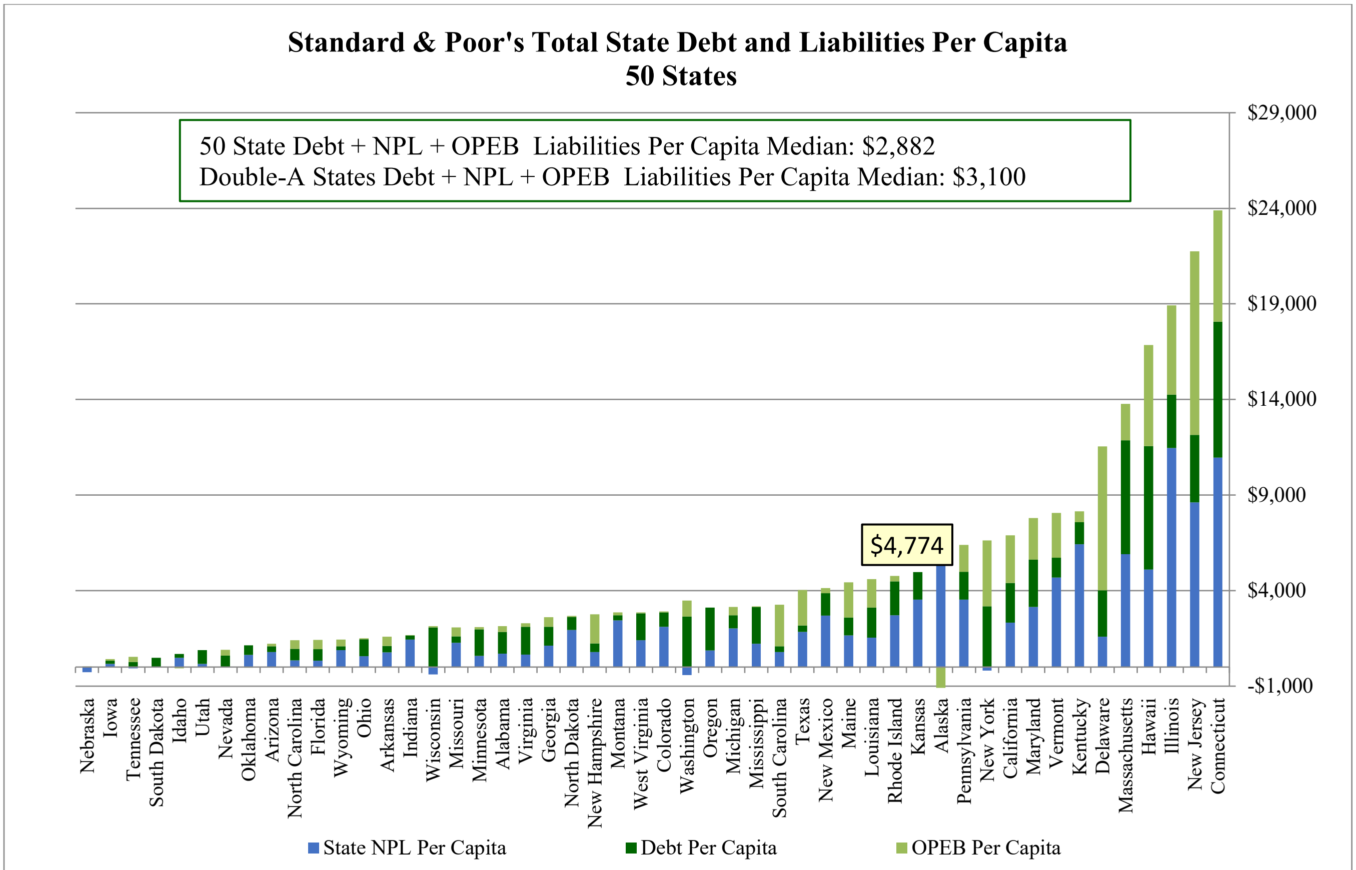
Standard & Poor's Debt Ratios				
State	Debt Per Capita	Debt as % Personal income	Debt as % GSP	Debt Service as % General Spending
Montana (Aa1/--/AA+)	$264	0.46%	0.46%	0.85%
Nebraska (Aa1/AAA/--)	$17	0.03%	0.02%	0.19%
Nevada (Aa1/AA+/AA+)	$605	0.99%	0.89%	2.20%
New Hampshire (Aa1/AA/AA+)	$459	0.61%	0.61%	2.81%
New Jersey (A1/A/A+)	$3,542	4.50%	4.40%	9.04%
New Mexico (Aa2/AA/--)	$1,159	2.25%	2.01%	4.84%
New York (Aa1/AA+/AA+)	$3,177	4.07%	3.04%	4.49%
North Carolina (Aaa/AAA/AAA)	$610	1.06%	0.90%	1.88%
North Dakota (Aa1/AA+/--)	$683	1.03%	0.73%	0.17%
Ohio (Aaa/AA+/AAA)	$896	1.55%	1.28%	4.59%
Oklahoma (Aa2/AA/AA)	$491	0.89%	0.82%	1.29%
Oregon (Aa1/AA+/AA+)	$2,232	3.55%	3.16%	5.07%
Pennsylvania (Aa3/A+/AA)	$1,458	2.24%	2.05%	4.73%
South Carolina (Aaa/AA+/AAA)	$299	0.56%	0.54%	1.50%
South Dakota (Aaa/AAA/AAA)	$480	0.73%	0.65%	1.70%
Tennessee (Aaa/AAA/AAA)	$271	0.47%	0.40%	1.78%
Texas (Aaa/AAA/AAA)	$337	0.54%	0.43%	2.65%
Utah (Aaa/AAA/AAA)	$718	1.24%	0.98%	4.32%
Vermont (Aa1/AA+/AA+)	$1,025	1.62%	1.63%	1.66%
Virginia (Aaa/AAA/AAA)	$1,456	2.13%	1.95%	4.05%
Washington (Aaa/AA+/AA+)	$2,644	3.50%	2.84%	6.38%
West Virginia (Aa2/AA-/AA)	$1,411	2.87%	2.62%	3.17%
Wisconsin (Aa1/AA+/AA+)	$2,076	3.39%	3.05%	5.50%
Wyoming (--/AA/--)	$205	0.29%	0.25%	0.12%

Source: Standard & Poor's - U.S. State Debt: Lower For Now; 10 July 2023.

Standard & Poor's Pension Ratio & Total State Debt + Liabilities Per Capita					
State	**Funded Ratio**	**State NPL Per Capita**	**Debt Per Capita**	**OPEB Per Capita**	**Debt, Pension & OPEB Per Capita**
50 State Median	**73.7%**	**$1,241**	**$1,006**	**$321**	**$2,882**
Double-A States Median	**71.8%**	**$1,398**	**$1,158**	**$286**	**$3,100**
Rhode Island (Aa2/AA/AA)	61.8%	$2,713	$1,763	$298	$4,774
Alabama (Aa1/AA/AA+)	63.0%	$704	$1,143	$285	$2,132
Alaska (Aa3/AA-/A+)	71.8%	$5,637	$1,243	-$1,659	$5,221
Arizona (Aa1/AA/--)	71.9%	$778	$315	$133	$1,226
Arkansas (Aa1/AA/--)	84.8%	$772	$333	$484	$1,589
California (Aa2/AA-/AA)	77.6%	$2,322	$2,075	$2,488	$6,885
Colorado (Aa1/AA/--)	61.5%	$2,114	$745	$45	$2,904
Connecticut (Aa3/AA-/AA-)	49.5%	$10,965	$7,098	$5,834	$23,897
Delaware (Aaa/AAA/AAA)	87.4%	$1,584	$2,428	$7,525	$11,537
Florida (Aaa/AAA/AAA)	79.1%	$336	$605	$474	$1,415
Georgia (Aaa/AAA/AAA)	72.2%	$1,123	$986	$502	$2,611
Hawaii (Aa2/AA+/AA)	62.8%	$5,105	$6,453	$5,296	$16,854
Idaho (Aaa/AA+/AAA)	84.1%	$485	$198	-$70	$613
Illinois (A3/A-/A-)	42.6%	$11,465	$2,792	$4,662	$18,919
Indiana (Aaa/AAA/AAA)	69.3%	$1,445	$213	$9	$1,667
Iowa (Aaa/AAA/AAA)	91.8%	$169	$170	$84	$423
Kansas (Aa2/AA-/--)	69.8%	$3,536	$1,425	$0	$4,961
Kentucky (Aa3/A+/AA)	46.5%	$6,421	$1,158	$570	$8,149
Louisiana (Aa2/AA-/AA-)	69.8%	$1,531	$1,575	$1,494	$4,600
Maine (Aa2/AA/AA)	85.9%	$1,650	$935	$1,854	$4,439
Maryland (Aaa/AAA/AAA)	75.8%	$3,147	$2,466	$2,179	$7,792
Massachusetts (Aa1/AA+/AA+)	64.3%	$5,909	$5,955	$1,912	$13,776
Michigan (Aa1/AA/AA+)	62.1%	$2,030	$683	$436	$3,149
Minnesota (Aaa/AAA/AAA)	78.9%	$585	$1,385	$126	$2,096
Mississippi (Aa2/AA/AA)	60.2%	$1,218	$1,922	$38	$3,178
Missouri (Aaa/AAA/AAA)	56.3%	$1,264	$344	$468	$2,076

Standard & Poor's Pension Ratio & Total State Debt + Liabilities Per Capita					
State	**Funded Ratio**	**State NPL Per Capita**	**Debt Per Capita**	**OPEB Per Capita**	**Debt, Pension & OPEB Per Capita**
Montana (Aa1/--/AA+)	72.8%	$2,442	$264	$152	$2,858
Nebraska (Aa1/AAA/--)	105.1%	-$271	$17	$13	-$241
Nevada (Aa1/AA+/AA+)	75.2%	$3	$605	$286	$894
New Hampshire (Aa1/AA/AA+)	65.2%	$782	$459	$1,520	$2,761
New Jersey (A1/A/A+)	45.0%	$8,610	$3,542	$9,594	$21,746
New Mexico (Aa2/AA/--)	69.6%	$2,700	$1,159	$280	$4,139
New York (Aa1/AA+/AA+)	101.4%	-$185	$3,177	$3,439	$6,431
North Carolina (Aaa/AAA/AAA)	84.2%	$343	$610	$459	$1,412
North Dakota (Aa1/AA+/--)	60.4%	$1,941	$683	$54	$2,678
Ohio (Aaa/AA+/AAA)	77.4%	$560	$896	$43	$1,499
Oklahoma (Aa2/AA/AA)	79.2%	$637	$491	-$32	$1,096
Oregon (Aa1/AA+/AA+)	84.6%	$874	$2,232	-$6	$3,100
Pennsylvania (Aa3/A+/AA)	61.4%	$3,522	$1,458	$1,408	$6,388
South Carolina (Aaa/AA+/AAA)	58.3%	$782	$299	$2,182	$3,263
South Dakota (Aaa/AAA/AAA)	100.1%	-$2	$480	$0	$478
Tennessee (Aaa/AAA/AAA)	103.7%	-$69	$271	$260	$462
Texas (Aaa/AAA/AAA)	74.5%	$1,834	$337	$1,863	$4,034
Utah (Aaa/AAA/AAA)	95.2%	$165	$718	-$8	$875
Vermont (Aa1/AA+/AA+)	60.2%	$4,690	$1,025	$2,341	$8,056
Virginia (Aaa/AAA/AAA)	82.3%	$645	$1,456	$190	$2,291
Washington (Aaa/AA+/AA+)	104.0%	-$416	$2,644	$831	$3,059
West Virginia (Aa2/AA-/AA)	87.4%	$1,398	$1,411	$50	$2,859
Wisconsin (Aa1/AA+/AA+)	106.0%	-$390	$2,076	$65	$1,751
Wyoming (--/AA/--)	75.6%	$881	$205	$344	$1,430

Source: Standard & Poor's - U.S. State Pension And OPEBs: Funding Progress Is Likely To Pick Up In 2023 After Slipping In 2022; 7 Sept. 2023.



Source: Standard & Poor's - U.S. State Pension And OPEBs: Funding Progress Is Likely To Pick Up In 2023 After Slipping In 2022; 7 Sept. 2023.

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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 6/30/2023
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	$1,068,320,000
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	$259,260,000
Achievement First Rhode Island, Inc., Series A & B	Secured by revenues derived solely from the organization for which the project was financed.	--	$53,073,756
Bishop Hendricken High School, Series A & B	Secured by revenues derived solely from the organization for which the project was financed.	--	
Blackstone Valley Prep	Secured by revenues derived solely from the organization for which the project was financed.	--	$42,733,532
Brown University	General obligation of Brown University	No additional bonds test	$441,535,000
Bryant University	General obligation of Bryant University	If rated below investment grade, additional bonds must be secured by a letter or credit.	$93,327,556
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.	$2,695,000
Immaculate Conception Catholic Regional School	Secured by revenues derived solely from the organization for which the project was financed.	--	$2,843,750
International Institute of RI, Inc.	Secured by revenues derived solely from the organization for which the project was financed.	--	$1,115,000
Johnson & Wales University	Secured by pledge of tuition fees similar to other Johnson & Wales debt	Additional bonds permitted	$16,431,345
Kingston Hill Academy	Secured by revenues derived solely from the organization for which the project was financed.	--	$6,008,000
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.	$21,951,755
Mercymount Country Day School	Secured by revenues derived solely from the organization for which the project was financed.	--	$2,142,463
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.	$17,549,968
Mount Saint Charles Academy	Secured by revenues derived solely from the organization for which the project was financed.	--	$3,314,895

Outstanding Debt of Quasi-Public Agencies – Pooled Bond Programs

Issuer/Debt Program	Security	Indenture Required Additional Bonds Test	Outstanding as of 6/30/2023
New England Institute of Technology	General obligation of New England Institute of Technology and a mortgage.	Additional bonds permitted with DSRF	$83,305,223
Paul Cuffee School	Secured by revenues derived solely from the organization for which the project was financed.	--	$62,000
Portsmouth Abbey School	Secured by revenues derived solely from the organization for which the project was financed.	--	$15,688,292
Providence College	General obligation secured by a pledge of certain Tuition Fees up to 1.1x MADs	Additional bonds test: 1.1x MADs	$243,980,000
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	$123,865,000
Rhode Island School of Design	Pledge of Unrestricted College Revenues.	Additional bonds must have a letter of credit and ratings confirmation.	$183,658,000
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.	$76,340,424
Saint Philomena School	Secured by revenues derived solely from the organization for which the project was financed.	--	$1,252,706
Salve Regina University	Secured by Tuition Fees and Mortgage	--	$32,396,450
St. Andrew's School	Secured by revenues derived solely from the organization for which the project was financed.	--	$18,487,955
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.	$44,300,000
The Compass School	Secured by revenues derived solely from the organization for which the project was financed.	--	$4,138,161
The Learning Community Charter School	Secured by revenues derived solely from the organization for which the project was financed.	--	$2,774,000
Trinity Academy for Performing Arts	Secured by revenues derived solely from the organization for which the project was financed.	--	$6,188,514
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	$4,920,322
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	$114,220,000
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.	$5,812,308

Outstanding Debt of Quasi-Public Agencies – Pooled Bond Programs

Issuer/Debt Program	Security	Indenture Required Additional Bonds Test	Outstanding as of 6/30/2023
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.	$10,156,345
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.	$167,315,000
Newport Hospital	Secured by Borrower's Gross Receipts, letter of credit and Guaranty.	Additional bonds permitted with a letter of credit and ratings confirmation.	$10,494,000
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.	$2,050,000
Ocean State Assisted Living	Secured by pledge of borrower's gross receipts and a mortgage	No additional bonds test	$6,706,000
Saint Elizabeth Home, East Greenwich	Secured by pledge of borrower's gross receipts and a mortgage	No additional bonds test	$11,613,113
Scandinavian Home, Inc	Secured by pledge of borrower's gross receipts and a mortgage	No additional bonds test	$3,130,402
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.	$34,528,750
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.	$3,531,000
Tamarisk, Inc	Secured by pledge of borrower's gross receipts and a mortgage	No additional bonds test	$7,230,697
The Frassati	Secured by pledge of borrower's gross receipts	No additional bonds test	$3,536,053
The Providence Community Health Centers, Inc.	Secured by pledge of borrower's gross receipts	No additional bonds test	$7,725,379
Thundermist Health Center	General obligation of the borrower and a mortgage	No additional bonds test	$1,481,708

Outstanding Debt of Quasi-Public Agencies – Pooled Bond Programs

Issuer/Debt Program	Security	Indenture Required Additional Bonds Test	Outstanding as of 6/30/2023
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.	$388,100,000
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.	$166,190,000
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.	$35,170,000
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.	$26,370,000
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.	$37,885,000

Outstanding Debt of Quasi-Public Agencies – Pooled Bond Programs

Issuer/Debt Program	Security	Indenture Required Additional Bonds Test	Outstanding as of 6/30/2023
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	$1,254,950,000
Multi-Family Funding Bonds	Mortgage loans and revenues	Certificate stating revenues are sufficient to provide for the payment of bonds	$23,930,000
Multi-Family Development Bonds	Mortgage loans and revenues	Certificate stating revenues are sufficient to provide for the payment of bonds	$317,985,000
Multi-Family Mortgage Revenue Bonds (Conduit Bonds)	Freddie Mac credit enhancement. Mortgage loans and revenues	Certificate stating revenues are sufficient to provide for the payment of bonds	$128,108,101
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.	$489,631,000
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.	$70,900,000
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.	$10,261,000

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

Vermont

- 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/ Tax-Supported 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	8,715,000	65,078,011	218,973	74,011,984	(9,419,067)	893,738	5,023,287	208,375	6,125,400	18,513,229	2,681,177	92,525,213	0	92,525,213
Bristol	Aa2	AA+	NR	41,360,002	1,583,244	134,204	43,077,450	(2,753,108)	4,780,057	-	-	4,780,057	52,179,242	5,259,212	95,256,692	4,635,519	99,892,211
Burrillville	NR	AA	NR	12,915,400	0	0	12,915,400	(3,891,346)	1,706,421	0	0	1,706,421	15,320,620	1,225,335	28,236,020	5,464,496	33,700,516
Central Falls	A3*	NR	NR	4,170,000	490,000	0	4,660,000	(436,964)	1,014,254	-	-	1,014,254	48,048,754	1,831,575	52,708,754	0	52,708,754
Charlestown	Aa2	NR	NR	2,940,000	0	0	2,940,000	(1,777,150)	646,941	0	0	646,941	0	0	2,940,000	7,486,071	10,426,071
Coventry	A1	NR	NR	37,480,000	738,576	30,568	38,249,144	(2,587,601)	5,029,056	110,479	30,568	5,170,103	22,375,508	1,643,421	60,624,652	889,818	61,514,470
Cranston	A1	AA-	AA-	66,210,000	24,515,000	1,956,118	92,681,118	(17,044,263)	9,033,549	2,389,123	1,489,556	12,912,228	17,692,802	2,861,104	110,373,920	0	110,373,920
Cumberland	Aa3	AA+	NR	18,555,000	14,895,475	6,180,754	39,631,229	(8,866,920)	5,513,000	1,916,946	1,535,010	8,964,956	81,496,717	3,913,600	121,127,946	464,022	121,591,968
East Greenwich	Aa1	AA+	NR	39,770,836	0	0	39,770,836	(11,774,358)	4,957,807	-	-	4,957,807	15,812,928	2,473,920	55,583,764	0	55,583,764
East Providence	NR	AA	NR	178,262,848	535,000	1,071,815	179,869,663	(48,083,553)	11,310,484	-	457,721	11,768,205	78,252,340	7,142,604	258,122,003	0	258,122,003
Exeter	NR	NR	NR	45,023	0	0	45,023	(2,339,347)	45,769	-	-	45,769	0	0	45,023	5,329,848	5,374,871
Foster	Aa2	NR	NR	0	0	119,609	119,609	(3,506,380)	0	0	62,863	62,863	0	0	119,609	5,552,625	5,672,234
Glocester	NR	AA+	NR	925,000	388,729	0	1,313,729	(6,325,823)	205,438	na	0	205,438	0	0	1,313,729	11,184,853	12,498,582
Hopkinton	Aa3	NR	NR	2,665,000	158,104	97,014	2,920,118	(2,678,271)	240,281	232,321	45,648	518,250	0	0	2,920,118	9,438,719	12,358,837
Jamestown	Aa1	NR	NR	10,370,002	4,450,000	0	14,820,002	(1,167,678)	1,191,438	394,858	0	1,586,296	4,024,528	970,149	18,844,530	0	18,844,530
Johnston	A1	AA	NR	18,130,765	0	1,125,000	19,255,765	(607,421)	3,163,668	0	197,597	3,361,265	72,924,997	3,059,792	92,180,762	0	92,180,762
Lincoln	Aa2	NR	AA	68,970,000	0	116,780	69,086,780	(18,274,954)	7,354,525	0	61,675	7,416,200	68,150,155	3,034,434	137,236,935	1,368,466	138,605,401
Little Compton	NR	AAA	NR	9,885,000	0	343,222	10,228,222	(3,062,094)	1,031,856	0	152,747	1,184,603	0	0	10,228,222	0	10,228,222
Middletown	Aa1	NR	NR	24,262,000	0	488,227	24,750,227	(2,569,079)	3,053,321	-	188,548	3,241,869	5,572,000	1,264,874	30,322,227	0	30,322,227
Narragansett	Aa2	AA+	NR	29,285,000	519,099	25,030	29,829,129	(2,679,000)	3,403,340	185,392	6,675	3,595,407	519,307	178,137	30,348,436	0	30,348,436
New Shoreham	NR	AA	NR	20,927,000	0	50,914	20,977,914	(764,100)	3,039,487	0	na	3,039,487	5,177,737	292,309	26,155,651	0	26,155,651
Newport	NR	A+	NR	120,880,000	0	37,120	120,917,120	(8,290,879)	8,340,381	0	34,680	8,375,061	122,671,357	13,752,538	243,588,477	0	243,588,477
North Kingstown	Aa2	AA+	NR	40,888,000	0	1,254,253	42,142,253	(7,958,346)	5,378,246	0	282,321	5,660,567	13,705,002	1,333,508	55,847,255	0	55,847,255
North Providence	A1	AA-	NR	61,700,000	0	884,462	62,584,462	(22,308,035)	5,953,338	0	304,123	6,257,461	95,872,445	3,761,911	158,456,907	0	158,456,907
North Smithfield	Aa2	NR	NR	18,923,223	1,450,000	0	20,373,223	(6,027,990)	3,571,420	375,680	0	3,947,100	2,869,035	345,057	23,242,258	0	23,242,258
Pawtucket	A3	A+	A-	23,959,998	105,320,800	7,404,324	136,685,122	(39,279,486)	2,752,550	8,658,653	2,406,803	13,818,006	271,251,298	16,723,527	407,936,420	0	407,936,420
Portsmouth	Aa2	AAA	NR	34,977,000	0	1,440,424	36,417,424	(699,134)	2,817,015	0	651,487	3,468,502	319,802	101,431	36,737,226	3,655,000	40,392,226
Providence	A3	BBB+	BBB+	142,330,000	0	342,311,000	484,641,000	(141,751,925)	7,202,000	0	61,992,000	69,194,000	779,232,735	34,411,358	1,263,873,735	0	1,263,873,735
Richmond	Aa3	NR	NR	2,275,000	0	0	2,275,000	(2,713,398)	548,458	0	0	548,458	1,865,003	91,431	4,140,003	8,804,207	12,944,210
Scituate	NR	AA	NR	12,348,000	0	0	12,348,000	(1,980,087)	1,461,226	0	0	1,461,226	313,611	17,807	12,661,611	0	12,661,611
Smithfield	Aa2	AA	NR	50,485,000	0	0	50,485,000	(10,267,147)	4,596,601	0	na	4,596,601	6,852,119	667,620	57,337,119	0	57,337,119
South Kingstown	Aa1	NR	NR	17,126,000	0	207,459	17,333,459	(1,234,069)	2,013,678	0	90,778	2,104,456	408,321	216,154	17,741,780	991,271	18,733,051
Tiverton	A1	AA	NR	28,625,000	0	1,116,683	29,741,683	(7,056,122)	4,030,588	0	141,425	4,172,013	0	0	29,741,683	4,921,654	34,663,337
Warren	Aa3	NR	NR	9,354,145	22,297,982	247,200	31,899,327	(1,674,534)	1,115,825	1,877,206	53,788	3,046,819	8,947,607	1,084,546	40,846,934	2,819,481	43,666,415
Warwick	NR	AA	NR	83,621,163	0	0	83,621,163	(13,317,557)	9,930,833	0	0	9,930,833	61,159,728	10,493,240	144,780,891	0	144,780,891
West Greenwich	NR	AA+	NR	2,775,000	496,646	0	3,271,646	(2,471,155)	581,188	242,844	0	824,032	268,605	15,252	3,540,251	5,630,152	9,170,403
West Warwick	A3	NR	NR	15,374,000	20,256,515	2,970,297	38,600,812	(1,828,369)	1,577,288	1,831,990	423,922	3,833,200	20,504,324	3,047,493	59,105,136	0	59,105,136
Westerly	Aa3	AA	NR	59,749,000	9,351,000	2,639,387	71,739,387	(11,325,877)	8,684,691	567,141	1,085,861	10,337,693	5,403,589	403,806	77,142,976	977,908	78,120,884
Woonsocket	Baa2	A+	A-	106,805,000	0	0	106,805,000	(39,076,225)	12,660,047	na	na	12,660,047	95,971,495	7,844,378	202,776,495	0	202,776,495

** Central Falls rating reflects Moody's assigned rating of A3 to RIHEBC Public School Revenue Bonds Financing Program Revenue Bonds, Series 2007B (Pooled Issue), which reflects the credit quality of Central Falls, the remaining pool participant*

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.

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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	39,384,136	131,909,349	6,393,678	6,075,239	893,251	893,251	93,162,861	92,855,856	17,113	2,023,686,916	3,483,815,256
Bristol	0	13,736,328	113,628,539	7,589,291	7,584,888	979,828	206,219	56,208,309	56,976,441	22,128	1,596,529,842	3,224,988,237
Burrillville	3,567,704	19,769,053	53,469,569	2,739,878	2,739,878	217,795	217,795	59,814,906	60,407,271	16,300	1,040,563,440	1,916,093,371
Central Falls	2,539,377	25,613,012	78,321,766	3,347,871	3,347,871	184,497	228,885	27,751,141	27,487,010	22,490	653,368,180	574,255,136
Charlestown	0	2,406,669	12,832,740	1,773,641	1,773,641	463,716	325,330	28,323,814	31,150,631	8,044	682,547,216	2,847,794,415
Coventry	27,478,181	157,478,181	218,992,651	13,557,787	13,669,268	1,144,680	1,144,680	122,795,136	123,413,924	35,898	2,344,768,598	3,993,000,422
Cranston	51,653,651	326,557,637	436,931,557	41,100,265	41,100,265	5,143,497	5,143,497	349,577,481	365,964,185	82,421	5,101,510,979	9,177,237,087
Cumberland	19,018,237	62,669,929	184,261,897	8,798,573	8,751,628	1,359,163	1,363,187	125,509,575	133,095,806	36,382	2,717,345,907	4,372,633,168
East Greenwich	20,556,036	33,474,471	89,058,235	5,244,509	5,244,509	827,853	2,139,639	78,812,343	78,927,626	14,573	1,634,290,008	2,764,243,129
East Providence	17,411,199	196,376,148	454,498,151	18,879,445	18,879,445	5,416,522	4,219,890	194,618,758	262,189,766	46,691	2,923,580,480	4,455,878,265
Exeter	0	0	5,374,871	0	0	0	0	16,910,232	17,026,291	6,661	463,320,496	1,018,376,576
Foster	40,439	2,819,674	8,491,908	612,308	612,308	66,189	66,189	18,228,383	16,297,146	4,468	270,140,395	658,411,155
Glocester	1,553,919	6,175,997	18,674,579	1,352,447	1,352,447	90,209	163,392	32,788,685	34,363,764	10,110	649,868,721	1,175,705,289
Hopkinton	0	2,089,411	14,448,248	414,634	414,634	0	0	28,191,261	28,323,802	8,415	608,333,043	1,082,349,368
Jamestown	8,103,341	7,301,632	26,146,162	1,458,301	1,458,301	358,913	954,917	28,144,989	30,828,708	5,538	663,470,131	2,676,518,279
Johnston	152,398,758	169,343,408	261,524,170	15,635,048	15,635,048	11,513,989	12,184,751	135,249,472	133,311,849	29,506	1,729,992,266	2,796,775,875
Lincoln	15,431,789	51,388,241	189,993,642	6,565,935	6,565,935	2,773,063	1,445,415	101,274,273	103,082,796	22,605	1,613,620,767	2,536,284,531
Little Compton	1,929,361	7,137,521	17,365,743	787,235	857,750	161,717	161,717	17,115,276	16,049,006	3,589	474,925,565	2,194,110,155
Middletown	7,055,770	28,001,605	58,323,832	4,635,433	4,500,897	2,656,962	869,388	75,465,469	77,079,376	16,815	1,296,126,105	3,657,431,785
Narragansett	32,411,543	80,138,526	110,486,962	9,406,135	9,241,567	5,010,921	4,164,385	75,539,816	73,364,302	14,504	1,091,319,631	6,091,459,769
New Shoreham	295,092	7,157,069	33,312,720	626,906	626,906	36,500	73,454	17,457,879	28,082,512	1,406	88,291,124	1,697,771,104
Newport	61,857,578	120,885,559	364,474,036	6,353,123	6,353,123	7,128,176	6,460,170	137,681,177	139,349,964	24,684	1,946,106,562	7,889,871,767
North Kingstown	18,554,473	63,390,338	119,237,593	9,499,701	9,499,701	1,636,629	1,977,841	126,374,004	131,384,909	27,802	2,450,845,228	4,818,785,631
North Providence	40,449,624	92,210,170	250,793,831	11,099,574	13,360,687	2,879,715	3,652,570	126,088,728	127,633,402	33,871	1,963,569,164	2,703,821,821
North Smithfield	9,838,369	17,513,402	40,755,660	2,798,269	2,798,269	821,847	1,347,652	54,062,108	53,347,677	12,477	884,898,798	1,834,294,826
Pawtucket	199,744,241	256,650,996	664,587,416	27,655,713	27,655,713	8,229,958	9,723,150	314,646,025	339,573,997	75,066	3,672,189,247	5,059,704,915
Portsmouth	20,342,578	72,201,089	112,593,315	8,294,240	8,033,613	1,199,269	1,696,125	79,338,231	80,405,532	17,659	1,568,495,586	3,840,215,514
Providence	1,378,641,000	1,481,140,000	2,745,013,735	118,828,000	118,828,000	33,115,000	33,115,000	975,320,000	1,013,448,000	189,563	9,736,589,819	11,590,684,000
Richmond	0	954,352	13,898,562	222,567	222,567	0	0	28,508,024	27,654,544	8,144	619,536,763	1,008,226,901
Scituate	5,359,304	27,985,865	40,647,476	3,569,606	3,568,716	248,633	843,342	42,309,237	42,807,741	10,409	842,223,395	1,687,544,755
Smithfield	38,991,073	49,752,386	107,089,505	7,191,888	7,398,189	1,732,575	4,699,076	86,104,303	137,516,336	21,987	1,440,062,071	3,062,194,681
South Kingstown	0	41,048,263	59,781,314	6,811,937	6,811,937	1,653,565	1,353,977	97,552,966	102,200,714	32,056	2,285,227,012	5,262,711,041
Tiverton	24,481,335	25,341,165	60,004,502	3,446,158	3,075,610	1,288,916	1,782,980	63,975,145	62,288,404	16,196	1,156,522,931	2,818,390,340
Warren	5,299,334	3,569,469	47,235,884	823,151	823,151	198,547	447,330	30,466,095	32,807,750	11,119	802,703,312	1,417,314,369
Warwick	410,721,950	526,365,241	671,146,132	50,762,673	51,296,741	13,148,953	13,148,953	358,135,405	373,392,453	83,016	5,431,173,328	10,656,161,416
West Greenwich	0	1,364,843	10,535,246	446,527	446,527	0	0	23,194,724	23,062,576	6,673	467,946,573	911,998,168
West Warwick	60,950,686	182,332,097	241,437,233	15,185,381	15,185,369	4,061,755	5,641,265	123,792,148	129,211,513	31,115	1,774,144,839	2,532,617,707
Westerly	11,711,067	47,558,697	125,679,581	6,115,899	6,115,899	1,276,541	1,104,980	108,662,525	112,506,769	23,298	1,851,638,215	6,564,938,919
Woonsocket	144,704,662	114,848,847	317,625,342	15,265,142	15,265,142	514,224	1,557,436	185,663,392	187,187,369	42,942	1,844,762,755	1,890,324,247

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SUMMARY OF FIRE DISTRICTS

			FY22 Debt Service Payment			
Fire District	Town	**Debt Limit***	**Principal***	**Interest***	**Total***	**Long-Term Debt FY22****
Oakland-Mapleville	Burillville	3% of assessed	48,799	25,310	74,109	48,799
Pascoag	Burillville	1,000,000	424,571	26,309	450,880	194,644
Harrisville	Burrillville	None	63,750	14,711	78,461	5,221,053
Nasonville	Burrillville	3% of assessed	0	0	0	0
Charlestown	Charlestown	5,000,000	124,615	105,582	230,197	2,830,075
Quonochontaug Central	Charlestown	1.5% of assessed	11,477	2,933	14,410	53,738
Shady Harbor	Charlestown	3% of assessed	29,718 total	0	0	80,750
Central Coventry	Coventry	1/2 of annual budget	0	0	0	0
Coventry	Coventry	1 year of tax revenue	105,798	7,668	113,466	989,040
Hopkins Hill	Coventry	1,000,000	51,950	28,364	80,314	716,287
Western Coventry	Coventry	.5% of assessed	35,763	35,446	71,209	889,818
Cumberland	Cumberland	$100,000 unless voted	127,695	0	127,695	464,022
Exeter	Exeter	1% of assessed	0	0	0	0
Chepachet	Glocester	9% of assessed	0	0	0	0
Harmony	Glocester	3% of assessed	31,562	3,166	34,728	66,223
West Glocester	Glocester	3% of assessed	48,222	5,529	53,751	96,255
Ashaway	Hopkinton	3% of assessed	83,611	101,665	185,276	2,284,652
Hope Valley-Wyoming	Hopkinton-Richmond	None	131,686	32,466	164,152	1,028,687
Lincoln Fire District	Lincoln	Unk	1,193,714	72,505	1,266,219	1,368,466
Lime Rock	Lincoln	1,000,000	94,933	2,532	97,465	0
Manville	Lincoln	None	0	0	0	0
Quinnville	Lincoln	50,000	NR	NR	0	NR
Bonnet Shores	Narragansett	None	None	None	0	0
Pojac Point	North Kingstown	1,500	0	0	0	0
Portsmouth Water & Fire	Portsmouth	None	281,000	93,929	374,929	3,655,000
Richmond Carolina	Richmond	1% of assessed	163,903	63,167	227,070	1,599,768
Indian Lake Shores	South Kingston	9% of assessed	0	0	0	0
Kingston	South Kingston	2,000,000	159,005	41,096	200,101	991,271
Union	South Kingston	10,000,000	0	0	0	0
North Tiverton	Tiverton	None	153,001	144,222	297,223	3,898,427
Stone Bridge	Tiverton	2,274,167	na	na	228,186	1,023,227
Buttonwoods	Warwick	20,000	0	0	0	0
Bradford	Westerly	<9% of assessed	0	0	0	0
Misquamicut	Westerly	3% of assessed with adjmts	86,767	2,828	89,595	0
Shelter Harbor	Westerly	None	0	0	0	0
Watch Hill	Westerly	TAN limit of $100,000	46,462	30,350	76,812	683,153
Weekapaug	Westerly	10% of assessed	70,000	1,036	71,036	0
Westerly	Westerly	1% of assessed	80,000	10,000	90,000	319,397
Dunn's Corners	Westerly-Charlestown	None	112,552	13,207	125,759	422,616

*Source: RI Division of Municipal Finance, based on FY22 RI Fire District Adopted Budget Survey (based on self-reported data)

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

Former Albion and Saylesville fire districts have consolidated into the Lincoln Fire District for FY22

Other Special Districts

Special Districts	Moody's	S&P	Fitch	GO/Revenue Bonds (FY2022)	Loans Payable (FY2022)	Capital Leases (FY2022)	Total Outstanding (FY2022)	Housing Aid (2020-2033)	GO/Revenue Bond Debt Service (2022/2023)	Loans Debt Service (2023)	Lease Payments (2023)	Total Debt Service (2023)
Bristol-Warren Regional SD (FY 2022)	NR	NR	NR	7,455,000	0	0	7,455,000	(4,427,642)	1,582,250	0	0	1,582,250
Bristol Cnty Wtr Auth (FY 2023)	NR	NR	NR	33,442,709	7,082,654	0	40,525,363	0	4,081,002	831,106	0	4,912,108
Burrillville Hsg Auth (FY 2023)	NR	NR	NR	0	0	0	0	0	0	0	0	0
Chariho Regional School District (FY 2022)	Aa3	NR	NR	17,444,000	279,466	0	17,723,466	(7,168,820)	na	na	na	1,747,123
Coventry Hsg Auth (FY 2020)	NR	AA-	NR	0	397,903	0	397,903	0	0	47,619	0	47,619
Cumberland Hsg Auth (FY 2022)	NR	AA-	NR	0	327,887	0	327,887	0	41,000			41,000
Exeter-West Greenwich Regional S.D. (FY 2023	NR	NR	NR	0	10,960,000	0	10,960,000	(4,810,502)	0	685,175	0	685,175
Foster-Glocester School District (FY 2022)	Aa3	NR	NR	15,965,000	610,000	0	16,575,000	(9,394,117)	3,173,375	na	0	3,173,375
Kent County Water Authority (FY 2023)	NR	AA-	NR	19,161,000	0	0	19,161,000	0	1,088,000	0	0	1,088,000
North Providence Hsg Auth (FY 2023)	NR	AA-	NR	0	0	0	0	0	0	0	0	0
Pascoag Util Dist (FY 2022)	NR	A	NR	4,909,620	0	0	4,909,620	0	345,108	0	0	345,108
Pawtucket Hsg Auth (FY 2022)	NR	AA-	NR	5,363,465	0	0	5,363,465	0	394,550	0	0	394,550
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 2021)	NR	AA-	NR	2,489,999	0	0	2,489,999		601,410	0	0	601,410

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	FY2024 Debt Service
772,936,942	371,125,653	1,144,062,595	44,891,540

Municipality	% of Revenues FY2021*	NBC Debt	NBC RIIB Debt	Total Debt	Allocation of Debt Service
Central Falls	4.08%	31,535,827	15,141,927	46,677,754	1,831,575
Cranston	0.19%	1,468,580	705,139	2,173,719	85,294
Cumberland	5.70%	44,057,406	21,154,162	65,211,568	2,558,818
East Providence	1.77%	13,680,984	6,568,924	20,249,908	794,580
Johnston	6.29%	48,617,734	23,343,804	71,961,537	2,823,678
Lincoln	5.60%	43,284,469	20,783,037	64,067,505	2,513,926
North Providence	8.38%	64,772,116	31,100,330	95,872,445	3,761,911
Pawtucket	17.30%	133,718,091	64,204,738	197,922,829	7,766,236
Providence	50.38%	389,405,631	186,973,104	576,378,735	22,616,358
Smithfield	0.19%	1,468,580	705,139	2,173,719	85,294
Other	0.12%	927,524	445,351	1,372,875	53,870
Total	100.00%	772,936,942	371,125,653	1,144,062,595	44,891,540

* From Narragansett Bay Commission, Scotton, John <JScotton@narrabay.com>

Debt and debt service: NBC Annual Report FY2023

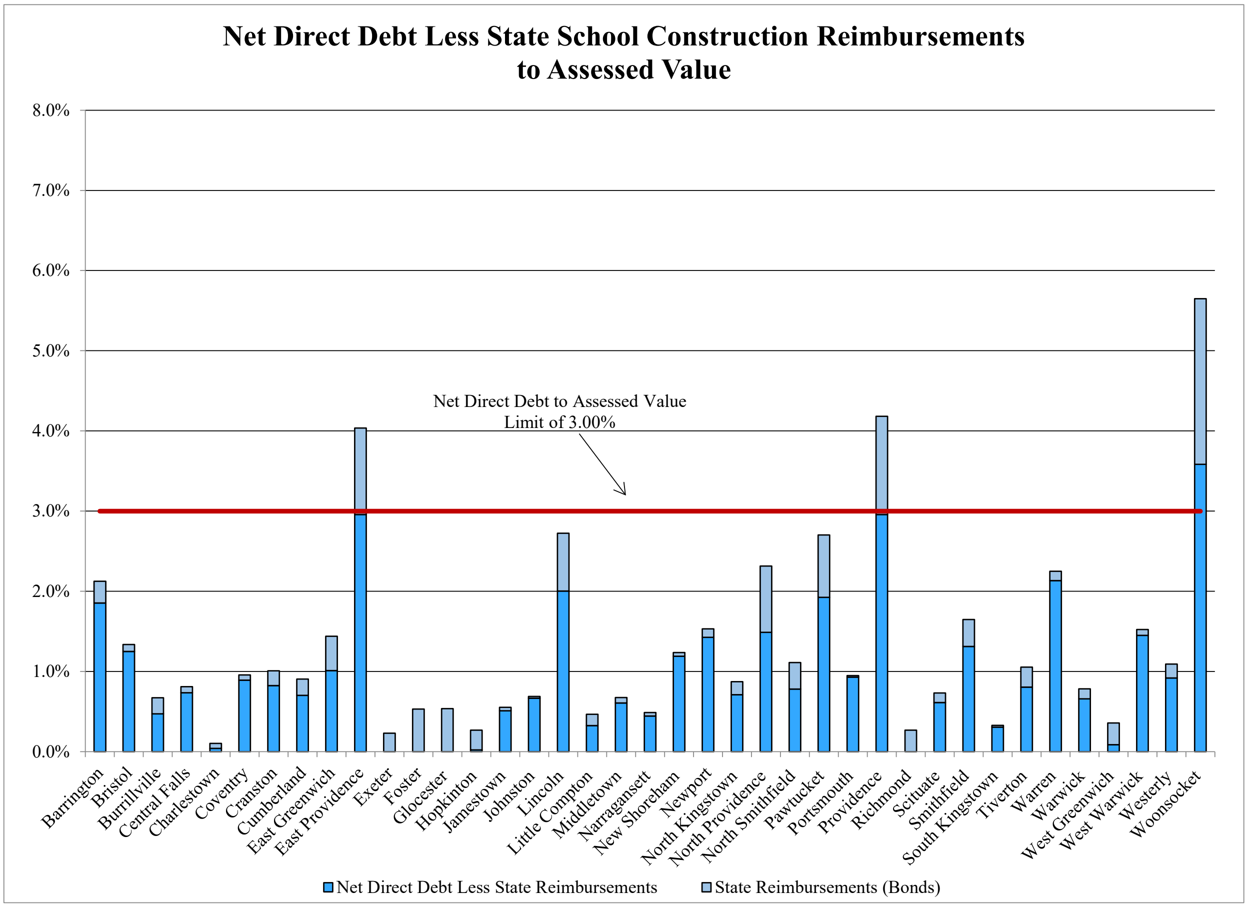
State Reimbursements for School Building Projects (FY2023-FY2034) – Bonds Only

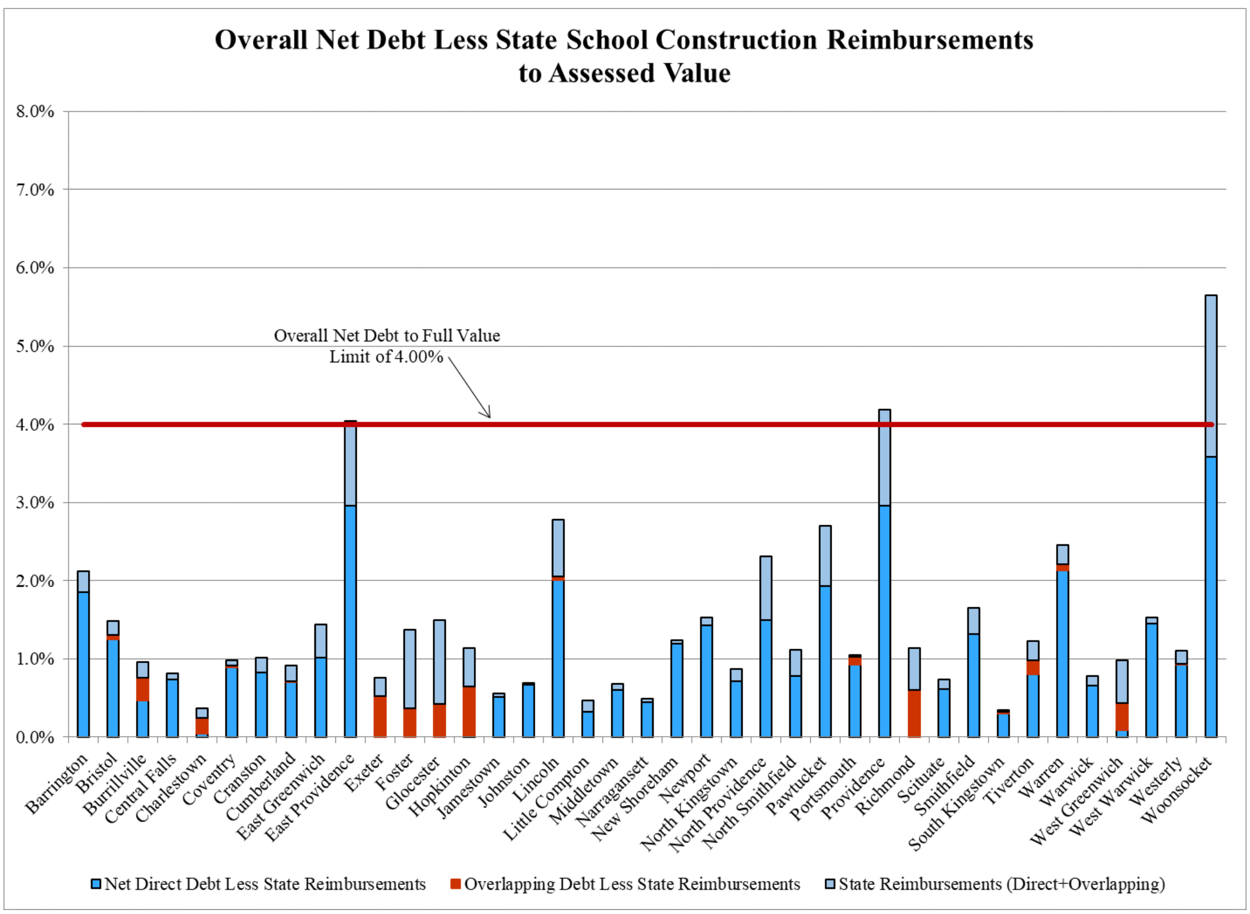
State Housing Aid - Construction Entitlements (Bonds-Principal)

District	Total (2023-2034)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Barrington	9,419,067	620,158	638,496	666,837	700,178	733,520	770,196	810,207	833,546	858,552	893,561	928,570	965,246
Bristol Warren	4,427,642	726,107	758,708	797,236	835,764	812,361	497,466	0	0	0	0	0	0
Burrillville	3,891,346	200,146	419,931	588,416	466,885	276,996	276,996	276,996	276,996	276,996	276,996	276,996	276,996
Central Falls	436,964	75,519	80,321	84,783	93,708	102,633	0	0	0	0	0	0	0
Chariho	7,168,820	1,017,044	1,048,344	1,076,994	1,108,294	1,149,144	411,750	430,050	454,450	472,750	0	0	0
Coventry	2,587,601	491,431	209,617	209,617	209,617	209,617	209,617	209,617	209,617	209,617	209,617	209,617	0
Cranston	17,044,263	1,305,932	1,350,384	1,938,370	1,630,571	1,297,606	1,359,114	1,413,719	1,208,353	1,297,345	1,356,232	1,412,467	1,474,170
Cumberland	8,866,920	930,253	914,787	871,490	903,490	1,140,194	1,163,558	433,148	454,311	478,297	500,871	524,857	551,664
East Greenwich	11,774,358	1,117,072	1,089,896	1,139,540	1,082,131	1,090,454	1,074,877	1,069,457	811,283	821,553	836,117	849,273	792,705
East Providence	48,083,553	3,936,895	4,082,265	4,026,279	3,545,435	3,651,421	3,792,237	3,944,911	4,097,588	4,256,596	4,421,938	4,081,664	4,246,324
Exeter-West Greenwich	4,810,502	171,267	168,314	481,112	490,887	497,709	512,371	524,081	371,447	376,335	390,997	405,660	420,322
Foster	359,351	21,804	218,547	119,000	0	0	0	0	0	0	0	0	0
Foster-Glocester	9,394,117	1,432,632	1,471,908	1,547,243	1,616,782	1,697,911	799,816	827,825	0	0	0	0	0
Glocester	78,735	14,915	15,955	15,955	15,955	15,955	0	0	0	0	0	0	0
Jamestown	1,167,678	106,498	141,677	97,056	91,383	91,383	91,383	91,383	91,383	91,383	91,383	91,383	91,383
Johnston	607,421	162,358	148,131	115,656	24,106	24,588	25,070	25,552	26,516	27,481	27,963	0	0
Lincoln	18,274,954	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	1,585,818
Little Compton	3,062,094	201,939	209,706	217,473	225,240	236,890	248,540	258,249	269,899	279,608	291,258	304,850	318,442
Middletown	2,569,079	369,166	192,650	171,041	176,937	184,802	190,700	196,598	204,461	210,359	218,224	224,121	230,020
Narragansett	2,679,000	333,000	348,000	363,000	381,000	399,000	418,500	436,500	0	0	0	0	0
New Shoreham	764,100	182,250	200,550	200,550	50,550	32,550	32,550	32,550	32,550	0	0	0	0
Newport	8,290,879	911,107	887,175	865,443	853,154	728,200	715,000	697,400	679,800	662,200	651,200	640,200	0
North Kingstown	7,958,346	848,892	1,314,667	1,282,452	1,283,844	1,286,757	313,101	308,408	306,061	299,877	297,531	292,838	123,918
North Providence	22,308,035	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	2,331,593
North Smithfield	6,027,990	842,185	890,165	932,054	988,152	830,663	869,951	112,470	112,470	112,470	112,470	112,470	112,470
Pawtucket	39,279,486	2,833,941	2,908,458	3,007,840	4,394,427	3,227,659	3,359,474	3,257,108	3,015,945	3,127,190	3,245,619	3,376,303	3,525,522
Portsmouth	699,134	138,185	138,582	123,672	124,070	31,600	32,129	17,071	17,600	18,130	18,791	19,321	19,983
Providence	141,751,925	15,939,591	18,348,971	19,979,875	17,965,382	18,815,418	15,555,974	6,058,884	5,303,841	5,563,730	5,833,551	6,072,528	6,314,180
Scituate	1,980,087	121,965	126,438	185,746	191,689	200,268	207,712	219,260	133,704	140,754	145,170	152,218	155,163
Smithfield	10,267,147	742,743	771,929	718,616	750,234	781,852	815,902	852,384	888,868	927,782	969,130	1,005,612	1,042,095
South Kingstown	1,234,069	170,741	159,078	124,224	116,525	105,748	90,351	90,351	90,351	71,675	71,675	71,675	71,675
Tiverton	7,056,122	793,534	827,270	867,710	906,150	893,477	701,388	498,694	290,352	302,366	314,381	326,395	334,405
Warwick	13,317,557	1,009,240	1,086,750	1,581,862	1,123,941	1,143,195	981,611	1,025,081	1,064,253	1,109,852	1,154,914	1,044,453	992,405
West Warwick	1,828,369	480,290	107,674	110,192	115,230	110,817	115,854	118,373	123,410	128,447	133,484	138,521	146,077
Westerly	11,325,877	1,325,864	1,359,364	2,310,968	1,151,739	947,739	782,689	782,689	778,294	771,701	371,610	371,610	371,610
Woonsocket	39,076,225	3,026,887	2,813,435	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	3,964,413

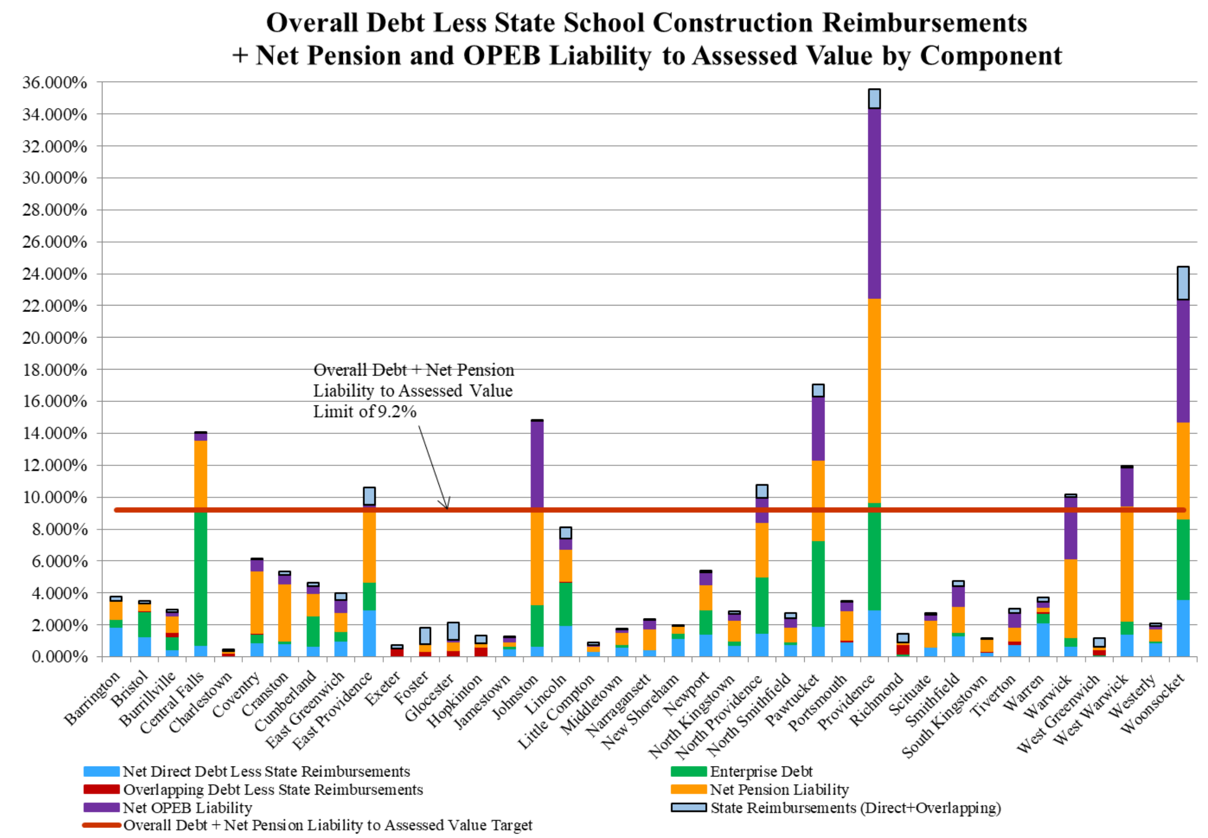
Source: RI Department of Elementary and Secondary Education

State Reimbursements for School Building Projects (FY2023-FY2034) – Bonds Only





State Reimbursements for School Building Projects (FY2023-FY2034) – 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