



# Comments on Your Government

A SPECIAL PUBLICATION OF THE RHODE ISLAND PUBLIC EXPENDITURE COUNCIL

## Bond Issuance and Default

*This RIPEC comments provides an overview of the state's current debt position, types of bond issuance, and the variables impacting credit ratings. Default can damage credit ratings and drive up the cost of borrowing in the long-run because of perceived risk and probable credit contraction. The report concludes with issues to consider as the state deliberates the payment of the 38 Studios loan guaranty.*

### Overview

The Governor's capital budget funds long-term projects, accounting for funds from all public and quasi-public agencies. Bond issuance is frequently necessary to fund these long-term projects included in the capital budget. While bonds can provide needed funding for essential projects, there are short- and long-term costs associated with debt issuance. In the near-term, the cost of issuance includes underwriting and other legal fees. In the long-term, interest paid on state bonds represents the largest cost associated with bond issuance. In the case of debt issued by public agencies and backed by state budget appropriations, taxpayers are responsible for the total cost of borrowing.

State debt issuance comes from varied sources, beyond just the state itself, as shown in table 1. The state's overall credit ratings and market status impacts the debt position of quasi-public agencies as well. This report describes the state's current debt position, possible changes in its status, and projected implications for the state's debt issuance on the market in the future.

**Table 1**  
**Public and Quasi-Public Projected Debt, FY 2013-FY 2018**

	FY 2013	FY 2014	FY2015	FY 2016	FY 2017	FY2018
<b>Public Debt Issuance</b>						
General Obligation - Issued Proceeds	\$3,681,680.0	\$72,125,000.0	\$60,375,000.0	\$38,075,000.0	\$24,990,520.0	\$7,302,800.0
General Obligation - New Referenda				7,849,323.0	38,597,090.0	85,105,946.0
Certificates	47,123,730.0	37,920,300.0	19,763,000.0	5,202,716.0	5,000,000.0	
Revenue Bonds	76,730,160.0	38,558,000.0	38,275,000.0	38,175,000.0	38,275,000.0	38,397,200.0
RIHEBC bonds	17,686,699.0	19,731,686.0	20,813,494.0	28,612,519.0	4,196,911.0	39,079,359.0
Subtotal	\$145,222,269.0	\$168,334,986.0	\$139,226,494.0	\$117,914,558.0	\$111,059,521.0	\$169,885,305.0
<b>Quasi-Public Agency Debt Issuance</b>						
Airport Corp	\$20,521,184.0	\$49,422,356.0	\$39,354,975.0	\$41,842,136.0	\$34,654,644.0	\$36,738,531.0
RI Resource Recovery Corp	9,372,651.0	8,756,685.0	3,460,761.0	3,688,011.0	7,405,519.0	5,781,036.0
RI Turnpike and Bridge Authority	34,372,000.0	42,679,000.0	22,487,000.0	26,482,000.0	22,422,000.0	14,422,000.0
Subtotal	\$64,265,835.0	\$100,858,041.0	\$65,302,736.0	\$72,012,147.0	\$64,482,163.0	\$56,941,567.0
<b>Grand Total</b>	<b>\$209,488,104.0</b>	<b>\$269,193,027.0</b>	<b>\$204,529,230.0</b>	<b>\$189,926,705.0</b>	<b>\$175,541,684.0</b>	<b>\$226,826,872.0</b>

Source: Governor's Capital Budget FY 2014

NOTE: This is not a comprehensive list of debt-issuing agencies

## Current Capital Budget

The Governor's FY 2014 proposed capital budget is intended to anticipate the state's needs for capital project funding through FY 2018. Because of the nature of capital projects, the budgets include funding for multiple years. Capital budgets typically include projects that are:

- unique and unlikely to be repetitive;
- tangible and readily identifiable;
- of larger financial magnitude than many operating budget projects; and
- have long-term future consequences.

In total, the capital budget provides for \$4,477.3 million across all funding sources for capital projects between FY 2013 and FY 2018. However, this total excludes unforeseen projects, or those that have yet to be programmed, particularly for out-years FY 2017 and FY 2018. To the extent that out-years are less predictable for capital budgets, the capital budget best reflects the needs of the current fiscal year, and one to two subsequent years.

### *Capital Projects by Funding Source*

To finance anticipated capital projects, the state relies on a variety of funding sources, as shown in table 2. Federal funds make up the largest share of the total funding sources between FY 2014 and FY 2018 in the proposed budget, at 41.1 percent. Funds from the Rhode Island Capital Plan (RICAP), generally dedicated to funding pay-as-you-go physical asset projects, represent 15.5 percent of funding between FY 2014 and FY 2018. General obligation bonds, which require voter approved referenda, account for 10.9 percent of capital funding over the same period.

Expenditures by Source	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	Total	% of Total
Federal Funds	\$361.3	\$325.9	\$256.6	\$276.3	\$296.5	\$321.9	\$1,838.5	41.1%
Rhode Island Capital Plan (RICAP)	135.8	169.8	122.1	104.3	81.5	79.3	692.8	15.5%
General Revenue	0.1	0.6	0.8	0.6	0.2	-	2.3	0.1%
Restricted Receipts	6.3	12.3	7.3	0.4	0.3	0.3	26.9	0.6%
General Obligation Bonds	120.2	100.6	60.4	45.9	63.6	95.1	485.8	10.9%
Revenue Bonds	76.7	38.6	38.3	38.2	38.4	38.4	268.6	6.0%
Revolved Capitalization Grants	17.7	17.7	18.0	18.1	18.0	18.0	107.5	2.4%
Certificates of Participation	47.1	37.9	19.8	5.2	5.0	-	115	2.6%
RI Health & Educational Building Corp.	17.7	19.7	20.8	28.6	4.2	39.1	130.1	2.9%
Land Sale Revenue	23.2	16.7	8.4	2.4	1.5	1.5	53.7	1.2%
Grant Anticipation Revenue Vehicle (GARVEE)	40.7	15.7	0.5	-	-	-	56.9	1.3%
Private Funding	6.3	2.8	-	-	-	0.2	9.3	0.2%
Other	159.8	150.1	126.9	98.0	64.1	91.0	689.9	15.4%
<b>Totals</b>	<b>\$1,012.9</b>	<b>\$908.4</b>	<b>\$679.9</b>	<b>\$618.0</b>	<b>\$573.3</b>	<b>\$684.8</b>	<b>\$4,477.3</b>	<b>100.0%</b>

SOURCE: Senate Fiscal Office, Governor's Proposed FY 2014 Budget, RIPEC calculations; totals may vary due to rounding

### *Capital Expenditures by Function*

Between FY 2013 and FY 2018, nearly half of the capital funding, or \$2,171.0 million is projected to be used for transportation. Combined, natural resources and education account for roughly another 40 percent of the capital budget through FY 2018 (22.8 percent and 16.9 percent, respectively). Overall, education was the only function with an increase in expenditures over the period, though this may be more related to unforeseen or not yet programmed projects in the out-years than a decline in funding for all other functions. To this point, the capital budget shown in tables 2 and 3 is projected to decline by almost a third between FY 2013 and FY 2018. As stated above, out-years for capital expenditures are unpredictable and best reflect the budget for the most immediate years.

**Table 3**  
**Governor's Recommended FY 2014 Capital Project Funding by Function (\$ millions)**

<b>Expenditures by Function</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>Total</b>	<b>% of Total</b>
Education	\$145.3	\$145.0	\$117.5	\$96.7	\$87.1	\$165.0	\$756.6	16.9%
General Government	75.5	84.9	45.6	22.1	16.4	9.4	253.9	5.7%
Human Services	15.7	22.8	30.5	43.9	23.0	11.2	147.1	3.3%
Natural Resources	274.7	220.7	162.0	126.2	103.2	132.1	1,018.9	22.8%
Public Safety	43.1	30.8	19.9	17.9	10.3	7.8	129.8	2.9%
Transportation	458.8	404.2	304.3	311.1	333.4	359.2	2,171.0	48.5%
Totals	\$1,013.1	\$908.4	\$679.8	\$617.9	\$573.4	\$684.7	\$4,477.3	100.0%

SOURCE: Senate Fiscal Office, Governor's Proposed FY 2014 Budget, RIPEC calculations

### **Rhode Island's Debt Profile**

While roughly three quarters of funding for the capital budget comes from current revenue streams, the remainder is accrued through bond issuance. Most of Rhode Island's bond financing is through general obligation bond issuance, which typically requires voter approval. General obligation debt is secured by the taxing authority of the issuer, and can be categorized as direct debt, guaranteed debt, contingent debt, and other obligations subject to appropriation. Direct debt requires voter authorization, as in general obligation bonds. Guaranteed debt includes bonds issued by or on behalf of an agency. Rhode Island's current distribution of debt is as follows:

- Direct debt: \$1.2 billion outstanding as of June 30, 2012, \$244.6 million authorized, but unissued, as of January 1, 2013; and
- Guaranteed debt: No outstanding bonds, or authorized but unissued debt, as of January 1, 2013.

Other obligations subject to appropriation, such as moral obligation bonds, are typically issued by a state agency or authority, and secured by the revenues from the financed project. Additionally, there is a non-binding understanding that the state legislature could appropriate state funds in the event of a payment shortfall. In this instance, moral obligation bonds do not

legally compel the legislature to make this appropriation. However, there is an understanding that the state will fulfill its moral obligation, and without this understanding, there would be no ability to borrow.

Another common financing mechanism subject to appropriation is a certificate of participation, in which the state enters into a long-term contractual agreement that is also subject to annual appropriation by the General Assembly. Table 4 summarizes the most common, general types of debt issuance used in Rhode Island.

**Table 4  
Definition of Bonds by Type**

Bond Type	Definition	In Event of Default
General Obligation	Bond secured by the full faith and credit of an issuer with taxing power	Bond holders have right to compel a tax levy or legislative appropriation to satisfy issuer's obligation
Moral Obligation	Bond secured by revenues from the financed project, and a non-binding undertaking that any deficiency in pledged revenues will be reported to the state legislature, which may apportion state moneys to make up the shortfall	Legislation authorizing the issuance of moral obligation bonds typically grants the state legislature the authority to apportion money to support the debt service payments, but does not legally obligate the legislature to do so
Appropriation	Broadly, bond relying on an appropriation from the state legislature for security	Depends on the more specific bond type
Revenue	Bond payable from a specific source of revenue, and to which the full faith and credit of an issuer with taxing power is not pledged; generally, no voter approval is required	Depends on source of pledged revenue

SOURCE: Governor's Proposed FY 2014 Capital Budget

## Debt Burden

**Table 5  
Projected Tax-Supported Debt Service as  
% of General Revenues (\$ millions)**

FY	Adj. General Revenues*	Net Tax-Supported Debt Service	Debt Ratio
2013	\$3,484.7	\$230.3	6.6%
2014	3,555.6	229.7	6.5%
2015	3,654.4	260.5	7.1%
2016	3,704.2	263.1	7.1%
2017	3,721.9	272.9	7.3%
2018	3,769.4	255.0	6.8%

SOURCE: FY 2014 Budget as Proposed  
\*Subtracts the projected dedicated gas tax

The state's debt level is partially guided by the 1999 Public Finance Management Board (PFMB) recommendations. Among the recommendations, like monitoring and requests for amendment, the guidelines suggest limits to tax-supported debt to a target range of 5.0 to 6.0 percent of personal income, and annual debt service for tax-supported debt at or below 7.5 percent of general revenues. These guidelines are subject to variation in general revenue and personal income growth, and may not represent ideal target ranges. Furthermore, out-year compliance is complicated by projections in economic conditions, in addition to anticipated capital needs.

Table 5 shows the debt ratio of projected tax-supported debt service to general revenues, while table 6 shows the projected tax-supported debt as a percent of personal income. The FY 2014 Budget as Proposed projects that the state will stay within the PFMB guidelines for both stipulations. The ratio of tax-supported debt service to general revenues is expected to peak in FY 2017, when general revenues are expected to grow by half a percent and debt service by 3.7 percent. Conversely, the state's tax-supported debt as a percent of personal income is expected to decline over the five years, from a ratio of 3.9 percent in FY 2013 to a projected 2.5 percent in FY 2018.

<b>FY</b>	<b>Personal Income</b>	<b>Net Tax- Supported Debt</b>	<b>Debt Ratio</b>
2013	\$47,955.5	\$1,888.8	3.9%
2014	50,401.8	1,940.3	3.8%
2015	53,936.5	1,852.2	3.4%
2016	57,460.3	1,803.8	3.1%
2017	60,707.4	1,683.9	2.8%
2018	63,384.4	1,598.2	2.5%

SOURCE: FY 2014 Budget as Proposed

Although Rhode Island is projected to comply with the PFMB guidelines in the current capital budget, the state still demonstrates a relatively high debt burden compared to other states, and the national average. According to calculations from Moody's and the September 2012 Public Finance Management Board Debt Study, Rhode Island ranks:

- 14<sup>th</sup> highest among all states in net tax-supported debt as a percent of personal income; and
- 12<sup>th</sup> highest among all states in net tax-supported debt per capita at \$1,997.

<b>Moody's</b>	<b>S&amp;P</b>	<b>Fitch</b>	<b>Categorization</b>
Aaa	AAA	AAA	Prime
Aa1	AA+	AA+	High grade
Aa2	AA	AA	
Aa3	AA-	AA-	
A1	A+	A+	Upper medium grade
A2	A	A	
A3	A-	A-	
Baa1	BBB+	BBB+	Lower medium grade
Baa2	BBB	BBB	
Baa3	BBB-	BBB-	
Ba1	BB+	BB+	Non-investment grade speculative
Ba2	BB	BB	
Ba3	BB-	BB-	
B1	B+	B+	Highly speculative
B2	B	B	
B3	B-	B-	
Caa1	CCC+	CCC	Substantial risks
Caa2	CCC+		Extremely speculative
Caa3	CCC-		Default imminent with little prospect for recovery
Ca	CC		
C	D	DDD	In default
-		DDD	
-		DDD	

Furthermore, increases in net tax-supported debt (2.1 percent) outstripped personal income growth (2.0 percent) between FY 2007 and FY 2011.

### **Cost of Bond Issuance**

Debt issuance involves the cost of issue (legal fees, underwriting, etc.), but more prominently, the interest paid to bondholders. A state's credit rating often reflects the cost of borrowing, since a credit rating measures a state's ability to meet scheduled interest and principal payments for these obligations, based on financial history, past payments, and assets and liabilities. Superior bond ratings often translate to lower borrowing costs for states because better ratings indicate less risk, and are more attractive to investors. Table 7 shows the long-term credit ratings, and their meanings, for the three major credit rating agencies.

*Credit Ratings*

Table 8 shows Rhode Island’s credit ratings for general obligation debt since 2009<sup>1</sup>. An “Aa” rating from Moody’s suggests a high quality bond with low credit risk. Since 2010, the state’s rating has been qualified by a “2,” suggesting a mid-range ranking for this category. Likewise, an “AA” from Fitch indicates a very high credit quality and low risk of default for debt issuance. Standard and Poor’s rating is similar to that of Fitch, with the improved outlook representative of the state’s positive progress in overall financial management.

Agency	2009	2010	2011	2012	2013
Moody's	Aa3 (negative)	Aa2 (stable)	Aa2 (stable)	Aa2 (negative)	Aa2 (negative)
Fitch	AA- (negative)	AA (negative)	AA- (stable)	AA (stable)	AA (stable)
Standard and Poor's	AA (stable)	AA (negative)	AA (negative)	AA (stable)	AA (stable)

SOURCE: Senate Fiscal Office

**38 Studios Bond Issuance**

The Rhode Island Economic Development Corporation administered \$75.0 million of taxable revenue bonds (considered moral obligation bonds) under the Job Creation Guaranty Program to 38 Studios in November of 2010. The company’s subsequent bankruptcy filing left the state with a shortfall amounting to \$89.2 million over eight years. The estimated schedule for the debt service for the bonds is shown in table 9.

**Consequences of Bond Default**

Broadly, default on the payment for the 38 Studios loan guaranty will have an impact on the state in many ways, both seen and unseen. However, there are no current precedents for the consequences of state default. In fact, no state has defaulted on a bond since the Depression, when Arkansas defaulted on a 1933 payment. Although Arkansas underwent debt restructuring and eventually repaid its debt in full, the state continues to battle the association of poor creditworthiness.

FY	Projected Debt Service
2014	\$2.4
2015	12.5
2016	12.5
2017	12.4
2018	12.4
2019	12.4
2020	12.3
2021	12.3
<b>Total</b>	<b>\$89.2</b>

SOURCE: Governor's Capital Budget FY 2014

Similarly, Rhode Island’s consideration of default could have several detrimental impacts. First, the perception of the state’s creditworthiness in the market may be damaged. Consequently, the cost of borrowing would most likely increase with investors’ perceived risk. Secondly, the

<sup>1</sup> The 2013 credit rating is as of January 2013.

state's bond rating could be downgraded in response to default. This could also increase the cost of borrowing commensurate with increased risk. In addition to general obligation bonds, the state's lower rating could also impact the cost of the following types of debt issuances:

- Appropriation-backed;
- Credit-supported;
- Public and quasi-public; and
- Municipal.

On June 17, 2013, Moody's Investors Service downgraded Rhode Island's 38 Studios bonds from A2 to Baa1, illustrating the potential consequences of default. Moody's also placed those bonds, as well as other state general obligation and appropriation debt, under review for downgrade. According to Moody's, "The potential for a decision by the legislature to withhold funds to replenish the debt service reserve signals potential unwillingness to honor its obligations to bondholders. Selectivity regarding which obligations to honor leads us to question our confidence in the full faith and credit of the state and its willingness to honor its other debt obligations compared to otherwise similarly-rated states." This warning of future ratings is clear evidence that Rhode Island's bond rating will decline if default occurs.

Municipality***	Bond Project	Year Sold	Year of Default	Moody's Investors Service		Standard & Poor's	
				Action	Levels Downgraded**	Action	Levels Downgraded**
Spokane, WA	\$31.5 million in bonds to finance the River Square Parking Garage	1998	2001 Technical; 2003 Monetary	Spokane's general obligation debt was downgraded from A1 to A2.	The city's general obligation debt was downgraded 1 level.	Downgraded the city from A+ to BBB; and the parking garage bonds from BBB- to D (junk status).*	Standard and Poor's downgraded the city 4 levels and the parking garage 10 levels.
Cicero, NY	\$15.3 million in bonds sold to finance a the Cicero Commons Recreation Facility	2001	2003	The town of Cicero was downgraded twice and fell to below investment grade rating, from A3 to Ba2. The issuing agency's rating fell from Baa2 to Caa1.	Moody's downgraded the town's rating by 5 levels and the issuing agency's rating by 8 levels.	N/A	N/A
Vadnais Heights, MN	Approximately \$27 million in bonds sold to finance a sports center	2010	2013	Moody's did not rate the revenue bonds, but did downgrade the city's ordinary general obligation bonds from Aa2 to Ba1.	Moody's downgraded the city's ordinary general obligation bond rating by 8 levels.	Lowered city's issuer rating from A to B. Lowered the rating for the issuing agency from A- to CC.	Standard & Poor's downgraded the city's rating by 9 levels and the rating for the issuing agency by 13 levels.
Moberly, MO	\$39 million in bonds sold to construct an artificial sweetner plant	2010	2011	Not rated	N/A	Lowered the city's credit from A to B, and the project's bonds from A- to CC, and then to D.	Standard & Poor's downgraded the city's rating by 9 levels and ultimately lowered the rating for the issuing agency by 15 levels.
<b>Average number of levels downgraded</b>				4.6 levels downgraded, on average, for the 3 cities rated by Moody's; average issuing agency downgrade was 8 levels		7.3 levels downgraded, on average, for the 3 cities rated by Standard & Poor's; average issuing agency downgrade was 12 levels	

\*In 2003, the parking garage switched to "Not Rated"

\*\*Based on Moody's and Standard & Poor's Long-term credit rating tables

\*\*\* According to June 6, 2013 House Finance committee testimony from Matt Fabian of Municipal Market Advisors, these are the most relevant examples of municipal default

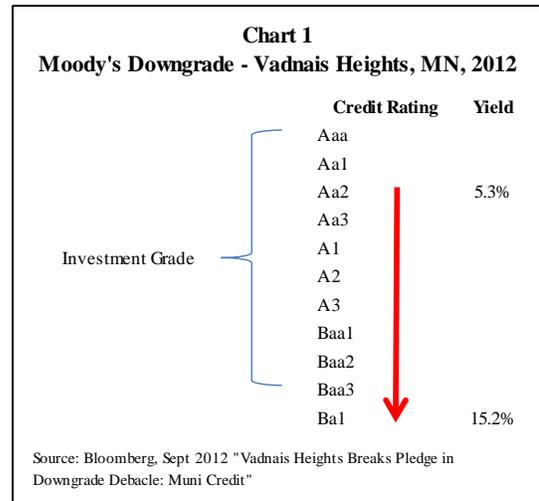
SOURCE: Bloomberg, Publicbonds.org, various local news sources

*Examples of Municipal Default*

To illustrate the potential impact of default, RIPEC examined examples of municipal bond default. As table 10 indicates, four municipalities have defaulted in the recent past, including Spokane, WA; Cicero, NY; Vadnais Heights, MN; and Moberly, MO. In response to default, all four municipalities suffered credit rating downgrades by either Moody’s or Standard & Poor’s. In some cases, these rating agencies downgraded both the city’s general obligation debt rating, as well as the rating of the individual bonding authority or project.

Of the four municipalities, there were three instances in which Moody’s downgraded the overall city’s bond rating (Spokane, Cicero, and Vadnais Heights). The average number of levels Moody’s downgraded city bond ratings was 4.6 levels (see table 7 for a list of bond levels). Standard & Poor’s downgraded the bond rating of each of the four cities, on average, by 7.3 levels.

Specifically, the city of Vadnais Heights, MN was downgraded eight notches by Moody’s as a result of its 2013 default, from a rating of Aa2 to a non-investment grade rating of Ba1. As chart 1 indicates, interest rates on Vadnais Heights municipal bonds subsequently increased from 5.3 percent to 15.2 percent in less than two weeks after defaulting on a \$27 million revenue bond.



*Impact of Credit Downgrades*

Though municipal defaults are not directly comparable to potential state defaults, these examples illustrate that the potential rating decline could be as much as 4.6 to 7.3 rating levels (from Moody’s and Standard & Poor’s, respectively). As reflected in table 10, a change of more than one rating level for either Moody’s or Standard & Poor’s would result in a negative change in Rhode Island’s credit rating grade (from “high” grade to potentially “upper medium” or “lower medium” grade). The magnitude of the decline could directly impact interest rates. For example, table 11 demonstrates the incremental impact of a downgrade in terms of bond yields for municipalities. For 20 year bonds, the decline of an Aa rating to an A rating would result in an increase in yield of more than 50 basis points. A more substantial downgrade, to a Baa rating, would result in an increase in more than 100 basis points.

**Modeling the Cost of Default**

At present, the market’s response to Rhode Island’s potential unwillingness to pay is unknown. However, there is a probability of a credit downgrade (if the state could go to the market at all) and, consequently,

**Table 11**  
**Municipal Market Data General**  
**Obligation Yields**

Maturity	Aaa	Aa	A	Baa
2014	0.2	0.2	0.4	1.0
2015	0.3	0.3	0.5	1.3
2018	1.1	1.3	1.6	2.3
2023	2.3	2.6	3.0	3.6
2028	2.8	3.1	3.6	4.2
<b>2033</b>	<b>3.2</b>	<b>3.4</b>	<b>4.0</b>	<b>4.5</b>
2038	2.4	3.7	4.2	4.7
2043	3.5	3.8	4.1	4.8

SOURCE: Bondbuyer.com, June 12, 2013

an increase in the interest rate paid to bondholders. Moody's recent decision to place the state on credit watch, and to downgrade the 38 Studios loan guaranty debt by two levels, illustrates the potential negative impact of default. Moody's also indicated that all debt issued by the state will be under review. It is important to note that the recent Moody's debt downgrade occurred prior to any actual default, reflecting "uncertainty regarding the state legislature's willingness to appropriate funds." Therefore, the actual default could have more severe consequences.

The state's bonds subject to appropriation would most likely experience an increase in the cost of borrowing, due to uncertainty regarding the General Assembly's willingness to make the necessary appropriations. By extension, general obligation bonds would also suffer from the damage to the state's creditworthiness. Local entities would likely experience an increase in the cost of borrowing as well, though the magnitude of the increase is challenging to estimate due to the variance among local bonding authorities. For instance, school debt issued with state support would also be subject to measures of the state's creditworthiness.

To illustrate the potential impact of credit downgrades and the influence of a downgrade on the cost of borrowing, RIPEC developed a model based on projected general obligation and appropriation debt issuance over ten years. The experiences of the four municipal defaults explained above, current municipal market data, and the recent downgrade of the 38 Studios debt, provided estimates for the change in credit rating, and marginal increase in interest rates. To this end, the models project the potential cost increase associated with a state downgrade similar to either the municipal defaults, or the proposed Moody's downgrades. However, because state debt is generally perceived differently than municipal debt, the potential impact of the state downgrades was reduced. Further explanation of the model can be found in the methodology section at the conclusion of the report.

#### *Appropriation Bonds*

Table 12 models the cost to the state for a marginal increase in the interest rate on appropriation bonds. The table shows the first ten years of a hypothetical payment schedule for 1.1 percent in additional interest for \$40.0 million of bonds subject to appropriation, issued annually for the next ten years, with a 20 year semiannual repayment schedule. If bonds subject to appropriation experienced a 1.1 percent increase in the interest rate, the state would pay an additional \$20.6 million in interest over the first ten years. The additional interest due over 29 years (covering the obligation for each bond issued in the ten-year period) would total \$46.7 million.

#### *General Obligation Bonds*

General obligation bonds would likely also face an increase in interest rates in the market, though possibly to a lesser degree. Table 13 uses a 0.6 percent increase in the interest rate for \$70.0 million of general obligation bonds issued annually for ten years, under the same repayment schedule as table 12. The state would pay an additional \$19.5 million in interest payments for the first ten years, and a total of \$43.9 million in additional interest over 29 years to cover the obligation for all bonds issued in the period.

**Table 12**  
**Hypothetical Additional Interest Schedule for 10 Years of Appropriation Bonds (1.1% Interest, 20 Year Repayment)**

Payment	Cumulative Interest Payments										
	Bond Yr 1	Bond Yr 2	Bond Yr 3	Bond Yr 4	Bond Yr 5	Bond Yr 6	Bond Yr 7	Bond Yr 8	Bond Yr 9	Bond Yr 10	
Year 1	1	220,000.0									
	2	435,067.8									
Year 2	3	645,176.2	220,000.0								
	4	850,298.1	435,067.8								
Year 3	5	1,050,405.8	645,176.2	220,000.0							
	6	1,245,472.0	850,298.1	435,067.8							
Year 4	7	1,435,468.8	1,050,405.8	645,176.2	220,000.0						
	8	1,620,368.3	1,245,472.0	850,298.1	435,067.8						
Year 5	9	1,800,142.6	1,435,468.8	1,050,405.8	645,176.2	220,000.0					
	10	1,974,763.5	1,620,368.3	1,245,472.0	850,298.1	435,067.8					
Year 6	11	2,144,202.5	1,800,142.6	1,435,468.8	1,050,405.8	645,176.2	220,000.0				
	12	2,308,431.3	1,974,763.5	1,620,368.3	1,245,472.0	850,298.1	435,067.8				
Year 7	13	2,467,421.0	2,144,202.5	1,800,142.6	1,435,468.8	1,050,405.8	645,176.2	220,000.0			
	14	2,621,143.0	2,308,431.3	1,974,763.5	1,620,368.3	1,245,472.0	850,298.1	435,067.8			
Year 8	15	2,769,568.3	2,467,421.0	2,144,202.5	1,800,142.6	1,435,468.8	1,050,405.8	645,176.2	220,000.0		
	16	2,912,667.7	2,621,143.0	2,308,431.3	1,974,763.5	1,620,368.3	1,245,472.0	850,298.1	435,067.8		
Year 9	17	3,050,411.9	2,769,568.3	2,467,421.0	2,144,202.5	1,800,142.6	1,435,468.8	1,050,405.8	645,176.2	220,000.0	
	18	3,182,771.5	2,912,667.7	2,621,143.0	2,308,431.3	1,974,763.5	1,620,368.3	1,245,472.0	850,298.1	435,067.8	
Year 10	19	3,309,716.9	3,050,411.9	2,769,568.3	2,467,421.0	2,144,202.5	1,800,142.6	1,435,468.8	1,050,405.8	645,176.2	220,000.0
	20	3,431,218.2	3,182,771.5	2,912,667.7	2,621,143.0	2,308,431.3	1,974,763.5	1,620,368.3	1,245,472.0	850,298.1	435,067.8

Over 29 years, the period required for repayment of all obligations through bond year 10, the additional costs associated with the higher interest rate would total \$46.7 million.

**10-Year Total** **\$20.6 million**

SOURCE: Rhode Island Office of Management & Budget, Rhode Island Budget Office, Governor's FY 2014 Budget as Proposed

**Table 13**  
**Hypothetical Additional Interest Schedule for 10 Years of General Obligation Bonds (0.6% Interest, 20 Year Repayment)**

Payment	Cumulative Interest Payments										
	Bond Yr 1	Bond Yr 2	Bond Yr 3	Bond Yr 4	Bond Yr 5	Bond Yr 6	Bond Yr 7	Bond Yr 8	Bond Yr 9	Bond Yr 10	
Year 1	1	\$210,000.0									
	2	415,050.8									
Year 2	3	615,137.7	\$210,000.0								
	4	810,245.6	415,050.8								
Year 3	5	1,000,359.7	615,137.7	\$210,000.0							
	6	1,185,465.0	810,245.6	415,050.8							
Year 4	7	1,365,546.4	1,000,359.7	615,137.7	\$210,000.0						
	8	1,540,588.9	1,185,465.0	810,245.6	415,050.8						
Year 5	9	1,710,577.4	1,365,546.4	1,000,359.7	615,137.7	\$210,000.0					
	10	1,875,496.7	1,540,588.9	1,185,465.0	810,245.6	415,050.8					
Year 6	11	2,035,331.6	1,710,577.4	1,365,546.4	1,000,359.7	615,137.7	\$210,000.0				
	12	2,190,066.8	1,875,496.7	1,540,588.9	1,185,465.0	810,245.6	415,050.8				
Year 7	13	2,339,687.1	2,035,331.6	1,710,577.4	1,365,546.4	1,000,359.7	615,137.7	\$210,000.0			
	14	2,484,177.1	2,190,066.8	1,875,496.7	1,540,588.9	1,185,465.0	810,245.6	415,050.8			
Year 8	15	2,623,521.4	2,339,687.1	2,035,331.6	1,710,577.4	1,365,546.4	1,000,359.7	615,137.7	\$210,000.0		
	16	2,757,704.5	2,484,177.1	2,190,066.8	1,875,496.7	1,540,588.9	1,185,465.0	810,245.6	415,050.8		
Year 9	17	2,886,711.1	2,623,521.4	2,339,687.1	2,035,331.6	1,710,577.4	1,365,546.4	1,000,359.7	615,137.7	\$210,000.0	
	18	3,010,525.5	2,757,704.5	2,484,177.1	2,190,066.8	1,875,496.7	1,540,588.9	1,185,465.0	810,245.6	415,050.8	
Year 10	19	3,129,132.2	2,886,711.1	2,623,521.4	2,339,687.1	2,035,331.6	1,710,577.4	1,365,546.4	1,000,359.7	615,137.7	\$210,000.0
	20	3,242,515.6	3,010,525.5	2,757,704.5	2,484,177.1	2,190,066.8	1,875,496.7	1,540,588.9	1,185,465.0	810,245.6	415,050.8

Over 29 years, the period required for repayment of all obligations through bond year 10, the additional costs associated with the higher interest rate would total \$43.9 million.

**10-Year Total** **\$19.5 million**

SOURCE: Rhode Island Office of Management & Budget, Rhode Island Budget Office, Governor's FY 2014 Budget as Proposed

According to the model, the state would pay an additional \$90.6 million in interest to cover the obligation for the appropriation and general obligation bonds issued in the ten-year period. As shown in table 14, nearly half of this marginal increase in interest would be paid in the first ten years.

Bond Type	First 10 Years	Obligation (29 years)
Appropriation Bonds	\$20.6	\$46.7
General Obligation Bonds	19.5	43.9
<b>Total</b>	<b>\$40.1</b>	<b>\$90.6</b>

*Impact on Other Debt*

The state has various public and quasi-public agencies, such as the Rhode Island Airport Corporation, Rhode Island Housing Authority, Rhode Island Resource Recovery Corporation, Rhode Island Turnpike and Bridge Authority, Rhode Island Clean Water Finance Authority, and others, that issue debt partially backed or authorized by the state. However, the impact of the state’s default and subsequent credit downgrade on the issuance of this debt is unknown. It is also unknown to what extent municipal debt would be impacted. Similarly, debt secured by the promise of state appropriation, such as school construction, would be subject to the same credit analysis, and therefore the potential additional cost associated with the state’s downgrade.

Lastly, it is anticipated that the state would have to issue an additional \$150 million to cover the reinstatement of the historic tax credits, which are financed through appropriation debt. This would increase the amount of the state’s appropriation requirement, and therefore the magnitude of the impact based on the change in the interest rate. RIPEC was unable to determine the total future needs from all state agencies, both public and quasi, municipal and other entities, thus could not create a model. However, even a small five to ten basis point increase in cost would be significant for debt other than the state’s general obligation and appropriation debt.

**Comments**

As the state considers repayment of the 38 Studios bond, attention must be granted to the consequences of default, and not necessarily focused on whether the initial loan guaranty decision was appropriate. For the past two decades, Rhode Island has worked to improve and protect the state’s credit rating. Any decision regarding the 38 Studios bond repayment should keep the state’s status in the credit market at the forefront, as the decision to default could harm the state’s image and market stature in one action, which can never be undone. Default will have a significant impact upon the state and its future.

As indicated by the recent Moody’s downgrade, some impacts of default can be determined. For example, it is evident that default would result in a credit downgrade by rating agencies, which will result in an increased cost of borrowing. More expensive borrowing will have a ripple effect on the cost of all other state debt. It is currently difficult to measure the reputational effect of being the first state in the nation to default on its moral obligation since the Great Depression. The discussion surrounding default must consider both the known and incalculable impacts.

If there is a default, the rating agencies and the capital markets will treat Rhode Island unfavorably in the future. By extension, investors who currently hold Rhode Island debt will be treated unfavorably, because the value of outstanding debt will decrease. Deferral to an insurer, while fulfilling the expectation for bondholders, does nothing to fortify the state's borrowing stature or encourage future investment. Ultimately, the entire loan guaranty program would be discredited by default, further reducing the supply of capital for Rhode Island's economic initiatives.

It must be noted that such consequences would affect the state unevenly. Appropriation bonds would likely experience a much steeper decline in ratings than general obligation bonds. Significantly, a default could negatively affect bonded debt issued by other agencies dependent upon state appropriations, such as school construction debt. Of note, the increase of 60 basis points in general obligation bond interest rate payments in the model reflects a conservative market response (see table 13), as estimates for the rate change can exceed 100 basis points. The assumptions made are in the context of a historically low interest rate environment. Over the next ten years, it is unlikely that these interest rates will be maintained. As the environment changes, the spread in interest rates could increase, leading to a larger incremental change at the margin.

There is also chance that the state would be challenged to find willing investors after a default, and credit contraction could drive up the cost of borrowing even further. Compounding this challenge is Rhode Island's small issuance of debt in relation to the total market; the purchasers of bonds have many other investment alternatives and options. Furthermore, this impact does not take into account the influence of the state's credit rating on cities, towns, quasi-state agencies, and other bond issuances. These circumstances could increase the cumulative cost of bond issuance for the state and its taxpayers.

Moreover, as the first state to default on a bond since Arkansas in 1933, Rhode Island's credit market is likely to experience a long-term downturn. Although Arkansas eventually repaid its bonds and restructured its debt, it continues to be associated with poor credit. As stated in testimony related to the creditworthiness of Rhode Island, a state bond default could negatively impact the state and all of its debt-issuing agencies.

Finally, a state default would have an overall impact on the national market. Such action would be the first example in which a state did not meet its commitment. The first state default would likely call into question the validity of moral obligation debt nationwide, making it highly unlikely for Rhode Island to enter into moral obligation borrowing in the future.

To uphold the state's moral obligation, the bond repayment should be supported by the state. In this case, Rhode Island should provide the necessary funds to meet its moral obligation. There is a difference between unwillingness to pay a bond and the inability to do so; Rhode Island is capable of paying back the bonds in full. To do otherwise could have a long-term effect more costly than the bond payments required by the obligation, as well as its inability to access the capital market when necessary. Also, Rhode Island's future stature in the bond market or the

state's brand would be forever defined by the state's failure to fulfill a moral obligation authorized by the General Assembly.

## **Methodology**

In an attempt to determine a potential cost of Rhode Island's default on the 38 Studios bond, RIPEC created a model showing certain impacts based upon the following methodology. For the purpose of this analysis, only general obligation and appropriation-backed debt were considered. Using the state's current rating and borrowing schedule, the model projects the potential cost incurred due to a change in credit rating.

### **Timeframe**

In this model, debt is issued over a ten-year period, with a 20 year, semiannual repayment schedule. However, the full cost of the obligation of debt issued over ten years is 29 years, as the bond issued in year 10 of the model would be repaid in full in year 29. In this way, the more immediate impact (first ten years of issuance), and the long-term impact on those ten-years of bond issuance are approximated. While future borrowings may occur after the ten-year period, they were not included in this model.

### **Determining Annual Debt Issuance**

RIPEC used existing documents and sources to explore Rhode Island's current debt profile, and to project the magnitude of default. Only two different types of debt are considered to determine some order of magnitude of default: general obligation bonds and appropriation bonds. On average, estimates for general obligation bonds, on an annual basis, were calculated to be about \$70.0 million. Appropriation bonds, including certificates of participation, were estimated at \$40.0 million annually, though this value varies based on the programs initiated each year.

### **Determining the Cost of Borrowing**

Under the premise that default would lower the bond rating and increase the cost of borrowing over the long-term, the model uses a conservative increase in the interest rate to measure the marginal change. A June 12, 2013 Bondbuyer.com report (see table 11) indicated that a decline from an Aa general obligation bond rating to a A rating resulted in yield increase from 3.4 to 4.0 percent. A further decline to Baa resulted in a yield of 4.5 percent. These net changes in yield relative to the decline in bond ratings were used as the benchmarks for the model (0.6 percent for general obligation bonds, and 1.1 percent for appropriation bonds).

Ultimately, the General Assembly's decision not to appropriate funds to the shortfall caused by the 38 Studios bankruptcy would impact the risk of the state's appropriation bonds most significantly. As such, an increase of 110 basis points (1.1 percent) was applied to the estimated appropriation bond issuance over the ten-year period. In contrast to appropriation bonds, the decline in rating and increase in the interest rate for general obligation bonds may be of a lesser magnitude. Nonetheless, the risk associated with the state's debt would likely increase the

interest rate for general obligation bonds. To compensate for the lesser degree of impact, the model uses an increase of 60 basis points (0.6 percent) on general obligation bonds over the ten-year period.