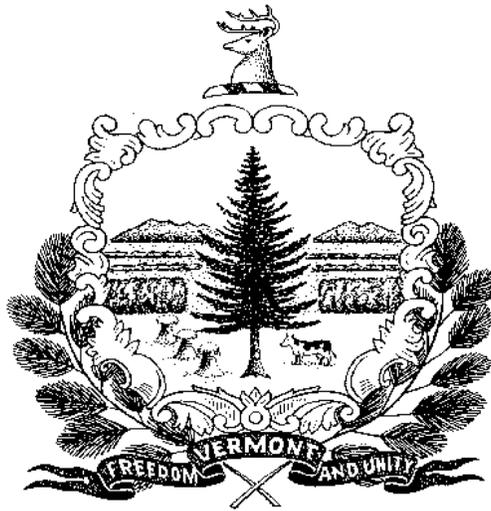


**CAPITAL DEBT AFFORDABILITY  
ADVISORY COMMITTEE**

**State of**



**Vermont**

**RECOMMENDED ANNUAL NET TAX-SUPPORTED  
DEBT AUTHORIZATION**

**December 2014**

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## 1. OVERVIEW

### **Purpose**

In accordance with 32 V.S.A., Chapter 13, Subchapter 8 “Management of State Debt,” the Capital Debt Affordability Advisory Committee (the “Committee” or “CDAAC”) is required to present to the Governor and the General Assembly each year, no later than September 30, an estimate of the maximum amount of new long-term net State tax-supported debt that Vermont may prudently authorize for the next fiscal year. In Sec. 1 of Act No. 104 of 2012, the General Assembly expressed its intent to move to a biennial capital budgeting cycle “to accelerate the construction dates of larger projects and thus create jobs for Vermonters sooner than would be possible under a one-year capital budgeting cycle.” In response, starting with its 2012 Report the Committee has formally presented a two-year debt recommendation.

### **Formal Recommendation**

Based upon consultation with the administration and legislative leadership, the Committee delayed its formal debt recommendation pending receipt of baseline economic and financial projections and issued on September 30, 2014, an Interim Report Pending Formal Recommendation. In November 2014, Economic and Policy Resources, Inc., (EPR) the administration’s economist, released final ten-year projections which were prepared concurrently for analysis of financing alternatives for Green Mountain Care, the State’s proposed single-payer health care plan. Furthermore, the also delayed Vermont Economic Outlook (New England Economic Partnership) (the “NEEP Report”), which has historically been included as part of the CDAAC report was released in October 2014.

Based upon the final economic and financial projections prepared by EPR, the Committee’s two-year debt recommendation for fiscal years 2016 and 2017 is \$144,000,000, reflecting a reduction of 9.9% from the previous biennium recommendation of \$159,900,000. CDAAC’s formal recommended debt authorization complies with the State’s triple-A debt affordability guidelines, is consistent with the current expectations of the rating agencies, and demonstrates that the State continues to manage its debt issuance program in a prudent and restrained manner.

From 2004 through 2011, the State was able to increase the amount of capital funding authorized, while at the same time improving or maintaining its position with regard to its debt guidelines. However, over the last few years, the State’s relative position has slipped compared to other states. Of concern is the most recent consensus ten-year projection of the State’s general and transportation fund revenues, which is substantially lower than last year’s for the next seven years, and then recovers in the last three years. The State’s annual cost of debt service as a percentage of revenues is perhaps the single most important affordability metric, and a factor constraining this year’s recommendation. See Section 5, “State Debt Guidelines and Recent Events” for a detailed discussion of CDAAC’s analytical process.

### **Definition of Vermont’s “Long-Term Net Tax-Supported Debt”**

As a matter of practice, while the CDAAC legislation refers to an authorization of “net tax-supported debt,” the amount of net tax-supported debt for the State means only general obligation (or “G.O.”) debt, and this report assumes only G.O. debt for authorization purposes and in calculating its projected debt ratios. As indicated in Section 5 of this report, the rating

**State of Vermont Capital Debt Affordability Advisory Committee – 2014 Report**

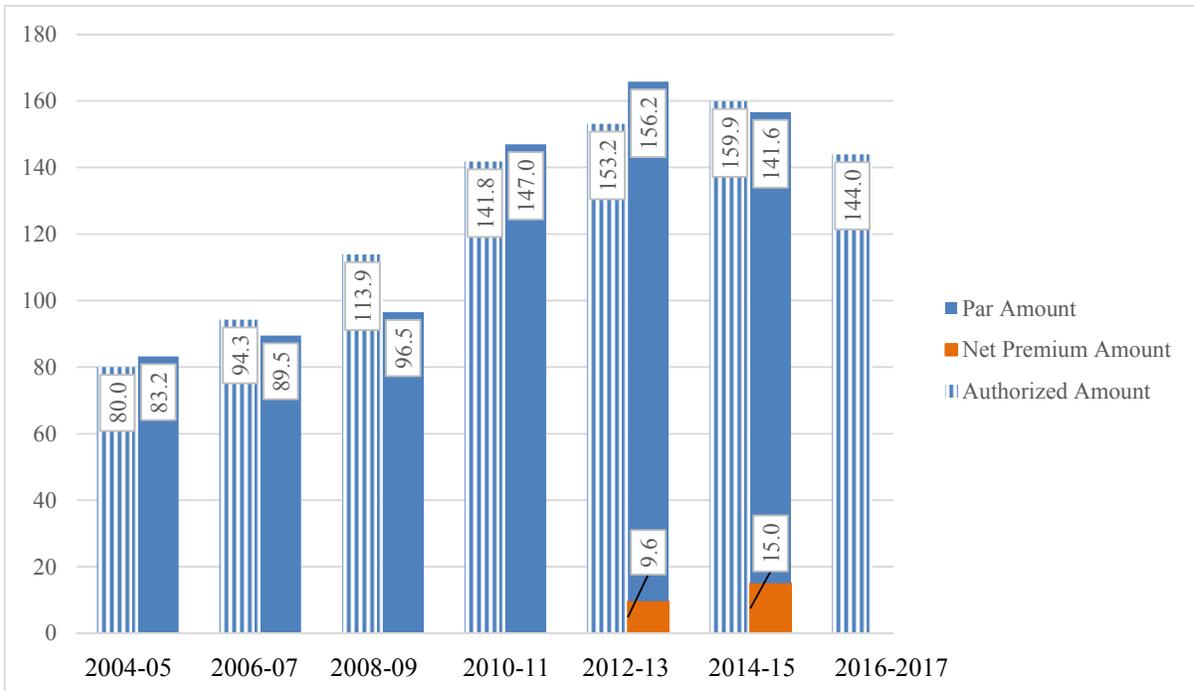
agencies generally include the State’s special obligation transportation infrastructure bonds (“TIBs”), issued by Vermont in 2010, 2012, and 2013, as part of net tax-supported debt, whereas the State treats this debt as self-supporting debt in its debt statement. While the CDAAC report includes “Dashboard Indicators” debt metrics calculated both with and without TIBs, it does not assume that such indebtedness is part of net tax-supported debt.

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**Debt Authorizations and Issuance Amounts**

The following chart presents the amounts of G.O. debt that have been authorized and issued by the State since fiscal year 2004 on a biennial basis. As shown below, the State has experienced a significant increase in debt authorizations and issuances over the last twelve years. For the period from 2004-2015, the biennial issuance has approximately doubled, and the compound annual growth rate in debt authorizations during this period has been 6.5%. Including the 2016-2017 recommended authorization amount, the compound annual growth rate in debt authorizations is 4.6%.

**STATE OF VERMONT  
HISTORICAL GENERAL OBLIGATION. BOND AUTHORIZATIONS AND ISSUANCE  
BY BIENNIUM<sup>(1)(2)(3)</sup>  
(IN MILLIONS OF DOLLARS)**



*Notes:*

- 1) Annual issuances do not include refunding bonds. Authorized but unissued debt has been carried forward and employed in subsequent years’ bond issuances.
- 2) Pursuant to Section 34 of Act 104 of 2011, commencing in fiscal year 2013, premium received from the sale of bonds may be applied towards the purposes for which such bonds were authorized. Accordingly, the “Issuance” amount reflected above, commencing with fiscal year 2013, represents total proceeds (par plus net premium) of the bonds issued that were or are expected to be made available for capital purposes.
- 3) For fiscal years 2014-15, the “Authorized” amount reflects the two-year authorized amount of the General Assembly in the 2013 Capital Bill (Act 51), as amended by the 2014 Capital Bill (Act 178), and the “Issuance” amount includes \$71.6 million of sale proceeds from the State’s November 2013 bond issue, plus \$85.0 million of expected sale proceeds of the State’s December 2014 bond issue.

The General Assembly previously authorized \$159,900,000 in new G.O. debt to fund capital projects for the 2014-2015 biennium; additionally \$11,416,234 of “unissued principal” authorization from the previous biennium is available primarily as a result of applying original issuance bond premium to fund projects<sup>1</sup>.

### **Capital Funding and Capital Plan**

For fiscal years 2014-2015, the General Assembly in the 2013 Capital Bill (Act 51), as amended by the 2014 Capital Bill Adjustment (Act 178) authorized \$173,346,312.21 in total revenues consisting of: \$159,900,000 in new G.O. debt, \$2,030,078 from the sale of a State building (Building 617 in Essex), and \$11,416,234 from “unissued principal.” In addition, a substantial amount of funding in Act 51 from transfers and reallocations of \$5,728,049.74 from previously approved projects resulted from the Administration and Legislature conducting a review of authorized capital projects, and reassigning debt authorization from projects delayed, cancelled or otherwise not ready for funding. The General Assembly created a formal review process by amending 32 V.S.A. § 701a to require Vermont’s Department of Building and General Services to prepare a report on or before each January 15<sup>th</sup> to provide information on encumbrances, spending and project progress for authorized capital projects based on reporting received by the agencies that have received capital appropriations. CDAAC believes that this will result in a more efficient funding process for State capital projects.

With the passage of 32 V.S.A. § 310, the Administration will need to prepare and revise a ten-year State capital program plan on an annual basis, submitting it for approval by the general assembly. The plan will include a list of all recommended projects in the current fiscal year, as well as the five fiscal years thereafter. These recommendations will include an assessment, projection of capital need, and a comprehensive financial assessment. The Committee expects to annually review and consider future capital improvement program plans. Currently, the Agency of Transportation provides a capital improvement plan, which includes the current year appropriations and three years of projections. The web address is <http://vtrans.vermont.gov/sites/aot/files/documents/aboutus/capprog/15a/FY15TransportationProgramAsPassed.pdf>

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<sup>1</sup> Effective in fiscal year 2013, 32 V.S.A. § 954 was amended to permit the use of bond premium received from the issuance of G.O. debt for capital purposes. Previously bond premium was used to pay debt service. In fiscal year 2013, the net bond premium was applied to capital appropriations, effectively reducing the par amount of the bonds issued, such that the par amount of the bonds plus the net original issue premium (bond proceeds) is applied to the capital appropriations amount and the difference (the net original issue premium) becomes additional bonding capacity and available for future years authorization. See Section 5, “State Guidelines and Recent Events, Statutory Change Relating to Use of Bond Premium and Effect on Affordability”.

## 2. STATE DEBT

In general, the State has borrowed money by issuing G.O. bonds, the payment of which the full faith and credit of the State are pledged. The State has also borrowed money to finance qualifying transportation capital projects by issuing TIBs, the payment of which is not secured by the full faith and credit of the State. The State also has established certain statewide authorities that have the power to issue revenue bonds and to incur, under certain circumstances, indebtedness for which the State has contingent or limited liability.

### **General Obligation Bonds**

As stated above, the Committee includes only the State's G.O. debt as State net tax supported debt for purposes of its recommendation.

#### ***Purpose***

The State has no constitutional or other limit on its power to issue G.O. bonds besides borrowing only for public purposes. Pursuant to various appropriation acts, the State has authorized and issued G.O. bonds for a variety of projects or purposes. Each appropriation act usually specifies projects or purposes and the amount of General Fund, Transportation Fund or Special Fund bonds to be issued, and provides that payment thereof is to be paid from the General, Transportation or Special Fund.

#### ***Structure***

The State Treasurer, with the approval of the Governor, is authorized to issue and sell bonds that mature not later than twenty (20) years after the date of such bonds and such bonds must be payable in substantially equal or diminishing amounts annually. Under the General Obligation Bond Law, except with respect to refunding bonds, the first of such annual payments is to be made not later than five years after the date of the bonds. All terms of the bonds shall be determined by the State Treasurer with the approval of the Governor as he or she may deem for the best interests of the State.

#### ***Current Status***

G.O. Debt Outstanding as of June 30, 2014: \$560,850,000. Amount authorized but unissued at June 30, 2014: \$101,695,860 (which includes, but is not limited to, the second half of a two year bond authorization).

#### ***Ratings***

The State of Vermont's general obligation ratings were affirmed in November 2014 by each of the agencies that currently rate the State. The State enjoys triple-A ratings from both Fitch Ratings ("Fitch") and Moody's Investors Service ("Moody's"). Fitch raised the State's rating in conjunction with a recalibration (generally meaning increased ratings) conducted in 2010. Moody's raised the State's rating to triple-A in February 2007. S&P rates Vermont's G.O. bonds AA+ with a "stable" outlook. Approximately two years ago, S&P raised its rating outlook from "stable" to "positive." Following its most recent credit review, S&P revised its outlook back to "stable."

*"The outlook is revised to stable from positive reflecting Vermont's slower than average economic recovery which continues to pressure the budget in our view. In addition, pension*

*and OPEB liabilities continue to be high relative to state peers. We believe that the state has a very strong budget management framework and should this lead to improved reserve levels in the future, a higher rating could be warranted. In addition, we believe that there has been progress in increasing pension contributions and certain actions have been taken to begin to address OPEB liability. Improved liability position could also translate to a higher rating level. While not envisioned at this time given the state’s history of pro-actively managing its budget and recent actions to address post-retirement liabilities, substantial deterioration of budget reserves or a deteriorating liability position could pressure the current rating."*

**Net Tax-Supported Debt Outstanding**

The State’s aggregate net tax-supported principal amount of debt increased from \$546.1 million as of June 30, 2013 to \$560.9 million as of June 30, 2014, an increase of 2.7%. The table below sets forth the sources of the change in net tax-supported debt outstanding from fiscal year 2013 to fiscal year 2014 (in thousands):

Net Tax-Supported Debt as of 6/30/13 .....	\$546,060
G.O. New Money Bonds Issued .....	67,810
G.O. Refunding Bonds Issued .....	18,935
Less: Retired G.O. Bonds.....	(52,475)
Less: Refunded G.O. Bonds.....	<u>(19,480)</u>
Net Tax-Supported Debt as of 6/30/14 .....	<u>\$560,850</u>

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**STATE OF VERMONT**  
**Debt Statement**  
 As of June 30, 2014 (In Thousands)

**General Obligation Bonds:**

General Fund	\$548,527
Transportation Fund	10,853
Special Fund	1,470

**Self-Supporting Debt:**

Special Obligation Transportation Infrastructure Bonds (TIBs)	\$32,865
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**Contingent Liabilities:**

VEDA Mortgage Insurance Program	\$3,500
VEDA Financial Access Program	1,000
VEDA Tech/Small Business Loan Program	691

**Reserve Fund Commitments:**

Vermont Municipal Bond Bank	\$591,060
Vermont Housing Finance Agency	155,000
VEDA Indebtedness	130,000
Vermont Student Assistance Corporation	50,000
Vermont Telecommunications Authority	40,000
Univ. of Vermont/State Colleges	100,000
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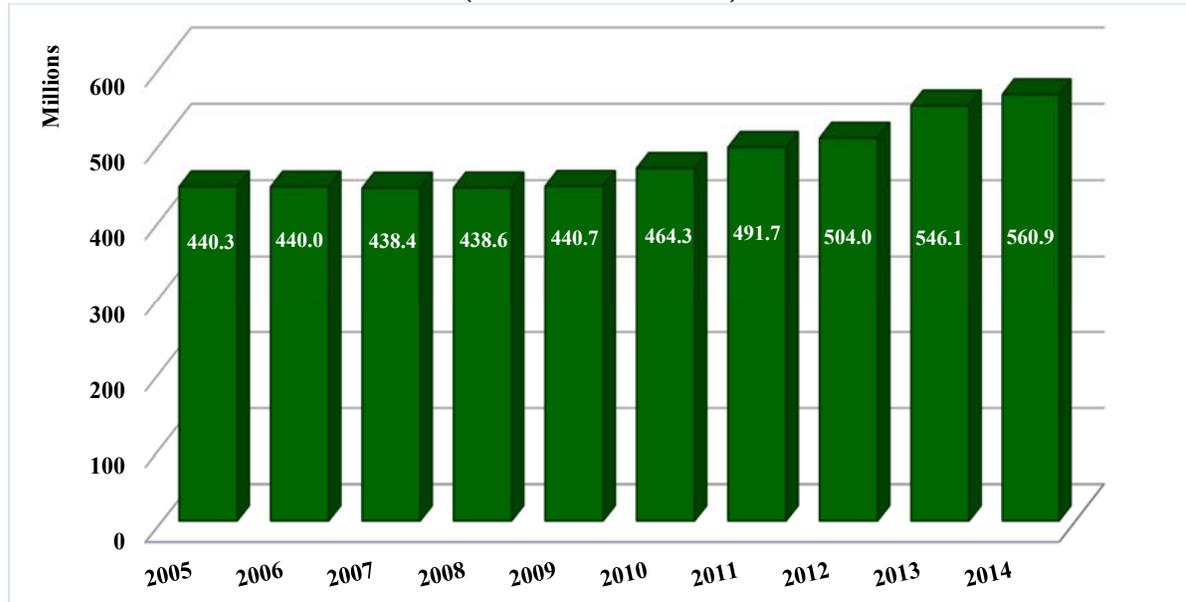
**Gross Direct and Contingent Debt** \$1,670,775

Less:

Self-Supporting Debt	(32,865)
Contingent Liabilities	(5,191)
Reserve Fund Commitments	(1,066,060)
	<hr/>

**Net Tax-Supported Debt** **\$560,850**

**STATE OF VERMONT  
GENERAL OBLIGATION BONDS OUTSTANDING FY 2005-2014  
(in millions of dollars)**



The table below sets forth the State’s existing principal amounts outstanding and annual debt service requirements, as of June 30, 2014, without the issuance of any additional G.O. debt. Rating agencies consider Vermont’s rapid debt amortization, with almost 70% of current principal retired by 2025, to be a positive credit factor.

**OUTSTANDING GENERAL OBLIGATION NET TAX-SUPPORTED DEBT  
(in thousands of dollars)**

Fiscal Year	GENERAL OBLIGATION BONDS (STATE DIRECT DEBT)							
	General Fund		Transportation Fund		Special Fund		Total	Total Debt Service*
	Principal Outstanding	Debt Service*	Principal Outstanding	Debt Service	Principal Outstanding	Debt Service	Principal Outstanding	
2014	548,527	71,775	10,853	2,415	1,470	629	560,850	74,819
2015	502,497	66,569	9,203	2,095	910	626	512,610	69,289
2016	459,578	61,217	7,652	1,947	320	628	467,550	63,792
2017	419,634	56,852	6,101	1,884	-	336	425,735	59,072
2018	381,946	53,179	4,649	1,709	-	-	386,595	54,889
2019	345,124	50,963	3,231	1,630	-	-	348,355	52,593
2020	309,097	48,837	2,813	560	-	-	311,910	49,398
2021	273,004	47,420	2,396	541	-	-	275,400	47,961
2022	239,632	43,278	1,978	522	-	-	241,610	43,800
2023	208,050	40,220	1,560	502	-	-	209,610	40,722
2024	178,775	36,760	1,300	327	-	-	180,075	37,088
2025	149,530	35,578	1,040	317	-	-	150,570	35,894

\* Debt service has been calculated using the net coupon rates on all Build America Bonds, taking into account the 35% interest subsidy from the federal government. The entire amount of the Build America Bonds is allocated to the General Fund. Totals may not agree due to rounding.

**General Obligation and General Fund Supported Bond Debt Service Projections**

The State’s projected annual general obligation (“G.O.”) debt service and debt outstanding are presented on the following pages and summarized below. The projected debt service (at estimated interest rates ranging from 5% to 6.5%) assumes the issuance of \$105,505,000 during fiscal year 2015 and \$72,000,000 in each fiscal year from 2016-2025.

**PROJECTED GENERAL OBLIGATION DEBT SERVICE AND DEBT OUTSTANDING  
(in thousands of dollars)**

<b>Fiscal Year Ending</b>	<b>G.O. Debt Service</b>	<b>G.O. Bonds Outstanding</b>
6/30/2014	74,819	560,850
6/30/2015	69,289	618,115
6/30/2016	74,347	639,775
6/30/2017	76,923	661,080
6/30/2018	80,198	681,460
6/30/2019	85,504	699,140
6/30/2020	89,677	715,015
6/30/2021	95,374	727,225
6/30/2022	98,113	738,555
6/30/2023	101,702	748,075
6/30/2024	104,499	756,460
6/30/2025	109,504	761,275

**State of Vermont Capital Debt Affordability Advisory Committee – 2014 Report**

EXISTING AND PROJECTED NET TAX-SUPPORTED G.O. DEBT SERVICE (\$000)													
		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
	Current	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Est.
FY	D/S	\$105.505M	72.000M	D/S									
		5.00%	5.50%	6.00%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	
2015	69,289	0	0	0	0	0	0	0	0	0	0	0	69,289
2016	63,792	10,555	0	0	0	0	0	0	0	0	0	0	74,347
2017	59,072	10,291	7,560	0	0	0	0	0	0	0	0	0	76,923
2018	54,889	10,027	7,362	7,920	0	0	0	0	0	0	0	0	80,198
2019	52,593	9,763	7,164	7,704	8,280	0	0	0	0	0	0	0	85,504
2020	49,398	9,499	6,966	7,488	8,046	8,280	0	0	0	0	0	0	89,677
2021	47,961	9,235	6,768	7,272	7,812	8,046	8,280	0	0	0	0	0	95,374
2022	43,800	8,971	6,570	7,056	7,578	7,812	8,046	8,280	0	0	0	0	98,113
2023	40,722	8,707	6,372	6,840	7,344	7,578	7,812	8,046	8,280	0	0	0	101,702
2024	37,088	8,443	6,174	6,624	7,110	7,344	7,578	7,812	8,046	8,280	0	0	104,499
2025	35,894	8,179	5,976	6,408	6,876	7,110	7,344	7,578	7,812	8,046	8,280	0	109,504

EXISTING AND PROJECTED NET TAX-SUPPORTED G.O. BOND PRINCIPAL PAYMENTS (\$000)													
		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
	Current	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Est.
FY	Principal	\$105.505M	72.000M	Principal									
2015	48,240	0	0	0	0	0	0	0	0	0	0	0	48,240
2016	45,060	5,280	0	0	0	0	0	0	0	0	0	0	50,340
2017	41,815	5,280	3,600	0	0	0	0	0	0	0	0	0	50,695
2018	39,140	5,280	3,600	3,600	0	0	0	0	0	0	0	0	51,620
2019	38,240	5,280	3,600	3,600	3,600	0	0	0	0	0	0	0	54,320
2020	36,445	5,280	3,600	3,600	3,600	3,600	0	0	0	0	0	0	56,125
2021	36,510	5,280	3,600	3,600	3,600	3,600	3,600	0	0	0	0	0	59,790
2022	33,790	5,280	3,600	3,600	3,600	3,600	3,600	3,600	0	0	0	0	60,670
2023	32,000	5,280	3,600	3,600	3,600	3,600	3,600	3,600	3,600	0	0	0	62,480
2024	29,535	5,280	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600	0	0	63,615
2025	29,505	5,280	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600	0	67,185

EXISTING AND PROJECTED NET TAX-SUPPORTED G.O. BONDS OUTSTANDING (\$000)													
		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
	Current	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Est.
FY	Debt	\$105.505M	72.000M	Debt									
2014	560,850	0	0	0	0	0	0	0	0	0	0	0	560,850
2015	512,610	105,505	0	0	0	0	0	0	0	0	0	0	618,115
2016	467,550	100,225	72,000	0	0	0	0	0	0	0	0	0	639,775
2017	425,735	94,945	68,400	72,000	0	0	0	0	0	0	0	0	661,080
2018	386,595	89,665	64,800	68,400	72,000	0	0	0	0	0	0	0	681,460
2019	348,355	84,385	61,200	64,800	68,400	72,000	0	0	0	0	0	0	699,140
2020	311,910	79,105	57,600	61,200	64,800	68,400	72,000	0	0	0	0	0	715,015
2021	275,400	73,825	54,000	57,600	61,200	64,800	68,400	72,000	0	0	0	0	727,225
2022	241,610	68,545	50,400	54,000	57,600	61,200	64,800	68,400	72,000	0	0	0	738,555
2023	209,610	63,265	46,800	50,400	54,000	57,600	61,200	64,800	68,400	72,000	0	0	748,075
2024	180,075	57,985	43,200	46,800	50,400	54,000	57,600	61,200	64,800	68,400	72,000	0	756,460
2025	150,570	52,705	39,600	43,200	46,800	50,400	54,000	57,600	61,200	64,800	68,400	72,000	761,275

**Net Tax-Supported Debt Service by Fiscal Year**

The State’s scheduled G.O. debt service requirement (“D/S”) for fiscal year 2015 is \$69.3 million, 7.4% less than the \$74.8 million paid in fiscal year 2014.

(in \$ thousands)

Net Tax-Supported D/S Paid in FY 2014 <sup>(1)</sup> .....	\$ 74,819
Decrease in D/S Requirement FY 2013-2014.....	(11,807)
D/S Decrease Due to G.O. Refunding in FY 2013.....	(134)
D/S Increase Due to G.O. Debt Issued in FY 2013.....	<u>6,411</u>
Net Tax-Supported D/S Due in FY 2015 <sup>(1)</sup> .....	<u>\$ 69,289</u>

<sup>(1)</sup>The debt service amount shown takes into account the 35% interest subsidy from the federal government (calculated to be \$1,250,108 during FY 2015), payable on the \$87,050,000 Build America Bonds as part of the 2010 Series A-2 and D-2 bond issues. See “Sequestration and Potential Impact on Build America Bonds Subsidy” herein for a discussion of the impact of sequestration on the State’s subsidy.

**STATE OF VERMONT  
HISTORICAL NET TAX-SUPPORTED DEBT SERVICE\***  
(\$’s in millions)



\*Consists of G.O. Bonds. Fiscal Year 2014 debt service includes an additional principal amortization of \$3,150,000 that was structured to expend bond funded original issuance premium within 12 months of the issue date to satisfy Internal Revenue Service requirements. Going forward this will not be necessary due to the 2012 amendment to 32 V.S.A. § 954 to permit the use of bond premium for capital projects.

### **Authorized, But Unissued Debt**

CDAAC believes the State’s historical practice to annually extinguish all or a large portion of the authorized amount of debt to avoid a rising residual amount of authorized but unissued debt has enhanced the State’s credit position as it is viewed favorably by the rating agencies.

As discussed in Section 6, “State Guidelines and Recent Events, Statutory Change Relating to Use of Bond Premium and Effect on Affordability” effective in fiscal year 2013, 32 V.S.A. § 954 was amended to permit the use of bond premium received from issuance of debt for capital purposes. The effect of this legislative change is that if future bonds are issued with a net original issuance premium, the par amount of bonds will be less than the authorized amount and the difference will become available for additional authorization as “unissued principal.” CDAAC believes that the advantage of additional funding capacity associated with this legislative change far outweighs the additional unissued amounts that may result, and that the annual amount of unissued bonds will continue to be manageable.

### **Special Obligation Transportation Infrastructure Bonds (TIBs)**

The State has historically sold only G.O. bonds for its capital infrastructure purposes. Beginning in 2010, however, the State began issuing Special Obligation Transportation Infrastructure Bonds (“TIBs”). The bonds are payable from new assessments on motor vehicle gasoline and motor vehicle diesel fuel, and the State is not obligated to use any other funds to cover debt service on TIBs.

In 2012, S&P upgraded the State’s Special Obligation Transportation Infrastructure Bonds from “AA” to “AA+” with a stable outlook. S&P indicated that the upgrade reflected strengthened debt service coverage, and further intention by the State to maintain coverage at no less than 3x, which is viewed as a strong level.

For additional information on the Vermont’s TIBs revenue bond debt capacity, please see Appendix F, which contains the Feasibility Study Associated with State of Vermont Special Obligation Transportation Infrastructure Bonds, 2013 Series A, prepared by Kavet, Rockler & Associates. See Chart 6 of the Feasibility Study for a summary of the revenue bond debt capacity.

### **Moral Obligation Indebtedness**

Provided below is a summary of the State’s moral obligation commitments as of June 30, 2014:

#### ***Reserve Fund Commitments (all figures as of June 30, 2014):***

1. Vermont Municipal Bond Bank (VMBB): VMBB had \$591.6 million of debt outstanding secured by reserve fund commitments from the State. At present, there is no limit on the amount of reserve fund (“moral obligation”) debt that VMBB may issue and have outstanding. The General Assembly is legally authorized, but not legally obligated, to appropriate money to maintain the reserve funds at their required levels. Since participating borrowers have always met their obligations on bonds of the VMBB, the State has not been required to appropriate money to the reserve fund for this program. Based on the long history of the VMBB program, the rating agencies credit assessment of the underlying loans of the portfolio, the G.O. pledge of the underlying borrowers for a high

percentage of the loan amounts and the State intercept provision for the payment of debt, it is not anticipated that it will be necessary for the State to appropriate money for the reserve fund

2. Vermont Housing Finance Agency (VHFA): The VHFA had previously received a legislative commitment of \$155 million of moral obligation debt secured by reserve fund replenishment mechanism from the State. It has not been necessary, over the years, for the State to appropriate money to fill up the debt service reserve fund. In 2009, the State authorized increased flexibility for VHFA's use of the moral obligation commitment specifically allowing for "pledged equity" contributions from the State's operating funds and increased flexibility in the use of the traditional debt service reserve structure.
3. Vermont Economic Development Authority (VEDA): has incurred indebtedness in an amount of \$130 million secured by the State's reserve fund commitment. Based upon VEDA's historical performance and the quality of the loans it has provided and expects to provide, it is not anticipated that it will be necessary for the State to appropriate money for the reserve fund.
4. Vermont Telecommunications Authority (VTA): was created in 2007 to facilitate broadband and related access to Vermonters, and received authorization for \$40 million of debt with the State's moral obligation pledge. However, with the passage of Act No. 190 of 2014, creating the Division for Connectivity as the successor entity to the VTA, the Treasurer's Office may recommend that the Legislature consider removing the VTA's moral obligation pledge.
5. Legislation was passed in 2008 to provide a moral obligation pledge from the State to the University of Vermont in the amount of \$66 million and to the Vermont State Colleges in the amount of \$34 million. No bonds have been issued to date. Currently, if bonds are issued, it is not expected that the State will need to appropriate money to the respective reserve funds for these purposes.
6. The State has provided \$50 million of moral obligation commitment by the State to Vermont Student Assistance Corporation (VSAC). Like VHFA, in 2009, the State authorized increased flexibility for VSAC's use of the moral obligation commitment specifically allowing for "pledged equity" contributions from the State's operating funds and increased flexibility in the use of the traditional debt service reserve structure. In 2011, VSAC issued \$15 million of moral obligation supported bonds, of which \$10.89 million is outstanding. It is not expected that the State will need to appropriate money to the respective reserve funds for VSAC.

Importantly, there has been a substantial increase in the State's moral obligation commitments over the past five (5) years. For the period ended June 30, 2009 the total amount of moral obligation commitment was approximately \$903.6 million. Currently the moral obligation commitment stands at a total \$1,066.1 million, with the VMBB and VEDA granted most of the difference. It should be noted that the actual amount of moral obligation debt outstanding is less than the amount authorized and the total commitment as of fiscal year 2009 (\$903.6 million). See the table below for a summary of the total reserve fund commitments and the outstanding bond amounts:

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***Reserve Fund Commitments (all figures as of June 30, 2014):***

**State of Vermont  
Moral Obligation Commitments and Debt Outstanding  
As of June 30, 2014**

Issuer Name	Amount Provided In Statute	Actual Par Amount Outstanding
Vermont Municipal Bond Bank*	\$591,060,000	\$591,060,000
Vermont Economic Development Authority	130,000,000	130,000,000
Vermont Housing Finance Agency	155,000,000	54,515,000
Vermont Student Assistance Corporation	50,000,000	10,890,000
University of Vermont	66,000,000	0
Vermont State Colleges	34,000,000	0
Vermont Telecommunications Authority	40,000,000	0
	<u>\$1,066,060,000</u>	<u>\$786,465,000</u>

\* The Vermont Municipal Bond Bank's debt obligations are secured first by the general obligation pledge of the participating municipalities, and second by State intercept of payments to municipalities, before the moral obligation is utilized.

As the State's rating has improved, the value of its moral obligation has also grown. It is therefore apparent that there has been greater pressure on the State to raise the size of its existing moral obligation commitments and/or to assign the moral obligation pledges to State borrowers. However, without some form of containment, it is possible that an ever-increasing moral obligation debt load could erode the State's credit position.

In accordance with the appropriate provisions from the enabling statute that created CDAAC, the Committee has already been authorized to consider "any other long-term debt of instrumentalities of the state not secured by the full faith and credit of the state, or for which the state legislature is permitted to replenish reserve funds." Therefore, it is appropriate for CDAAC to develop guidelines for Vermont regarding the size and use of the State's moral obligation debt.

In recent years, CDAAC has adjusted its debt load guidelines to take into account the comparative debt load statistics for triple-A rated states throughout the country. Unfortunately, none of the rating agencies prepare comparative data on the respective triple-A rated states on moral obligation or contingent debt. Moreover, there is little consistency among the triple-A rated states regarding the size, nature and role of such debt. The types of contingent debt are quite varied among the states, including state guarantees of local school debt, back-up support for revenue obligations, etc. Because of the mixture of contingent debt applied by triple-A states, it would not be possible to employ guidelines that are similar to the G.O. guidelines that have been utilized by CDAAC in connection with its annual recommendation of long-term G.O. debt to be authorized by the legislature.

There had been, for several years, discussions within CDAAC regarding the establishment of guidelines for limiting the amount of moral obligation debt that the State should authorize. In an accompanying chart, the State's net tax-supported debt statement, consisting entirely of the State's G.O. outstanding indebtedness, is presented, as of June 30, 2014, at \$560,850,000. Using 225% of G.O. debt for establishing a limit of moral obligation debt, the State would have had \$195,852,500 in additional moral obligation capacity. Using 200% of G.O. debt for establishing a limit of moral obligation debt, the State would have had \$55,640,000 in additional capacity. Using a more conservative 195%, the State still has \$27,597,500 in additional capacity.

At this point, CDAAC believes that a range of 200-225% is appropriate in determining the amount of moral obligation commitments that should be outstanding in comparison to the State's G.O. debt. Since CDAAC has not recommended legislative action to codify any statutory limits on the incurrence of moral obligation debt, CDAAC will continuously monitor the developing size of moral obligation commitments and report the results.

At some point, should a major infrastructure requirement or other critical financing need arise that would be appropriately funded through a financing agency, the State may, as appropriate, consider rescinding the existing but unused moral obligation authority and have it transferred – taking into account the limited availability for the State to provide additional moral obligation capability as a result of the 200-225% administrative limits.

Ultimately, the effect of contingent liabilities and reserve fund commitments on the State's debt affordability is a function of the level of dependency for the repayment of this particular debt on the State's general operating revenues. With respect to this matter, the principle that the rating agencies follow give us relevant guidance: Until such time that the State's guarantee or contingent obligation becomes actual (through a payment or a replenishment obligation being made), then such debt or guarantee is not included in the State's net tax-supported indebtedness. To the extent that the State has not been called upon to pay for the debt components, as envisioned in Subparagraph (5) of the CDAAC legislation, then those items should not become quantifiable factors included in the affordability analysis.

Information on the principal amount and the debt service associated with the moral obligation commitments is found the comprehensive annual financial statements for each of the entities:

Vermont Municipal Bond Bank\*:

<http://www.vmbb.org/about/annual-reports-audits/>

Vermont Economic Development Authority:

<http://www.veda.org/about-veda/annual-reports/>

Vermont Housing Finance Authority:

[http://www.vhfa.org/about/financial/annual\\_statements.php](http://www.vhfa.org/about/financial/annual_statements.php)

Vermont Student Assistance Corporation

<http://services.vsac.org/wps/wcm/connect/VSAC/VSAC/Investor+Relations/Audited+Financial+Statements/>

\*Financials are based on a December 31 year end.

*Contingent or Limited Liability Obligations (all figures as of June 30, 2014):*

1. VEDA Mortgage Insurance Program: The State had a contingent liability of \$3.5 million with respect to this Program.
2. VEDA Financial Access Program: The State had a contingent liability of \$1.0 million with respect to this Program.
3. VEDA Tech/Small Business Loan Program: The State had a contingent liability of \$0.7 million with respect to this Program.

*Municipal Debt*

In conformance with the standards followed by the rating agencies, this evaluation does not set forth or incorporate any debt obligations of Vermont municipalities. Should any such obligations be required to be payable by the State (e.g., through assumption or support of local debt as part of a financial emergency), a corresponding and appropriate amount related to the State's contribution would then be required to be included in the analysis. At present, no such liability has occurred, and, therefore, none has been included in this review.

*Analysis of Types of Debt and Structure.*

CDAAC annually goes through an extensive analysis to determine the “cost-benefit of various levels of debt financing.” The cost-benefit is demonstrated by CDAAC's determination of the amount of debt that the State should annually authorize and still achieve compliance with CDAAC's articulated affordability guidelines. This evaluation is fundamental to CDAAC's responsibility in recommending annually the amount of net tax-supported indebtedness (i.e., G.O., at present) that should be authorized by the State.

Second, with respect to the “types of debt,” Vermont and its financing agencies have utilized a great variety of debt types. At present, revenue bonds are sold by the State (TIBs), VSAC, VHFA, VEDA, among others. The State Treasurer's office has looked at a series of options for possible revenue bond issuance, but, because of Vermont's special circumstances, revenue bonds have generally not appeared to be a comprehensive answer to the State's direct infrastructure needs. Notwithstanding the fact that there have been no new revenue bond uses recently for funding Vermont infrastructure requirements, with the exception of TIBs, the State will continue to explore possible opportunities in this respect that would not cause debt load or debt management difficulties for Vermont. CDAAC and the State Treasurer's Office are constantly reviewing prospects for funding of required infrastructure through approaches that will not add to the State's net tax-supported indebtedness.

The maturity schedules employed for State indebtedness are directly tied to State statute. Moreover, as indicated elsewhere herein, Vermont's current debt repayment for its G.O. bonds allows the State to recapture debt capacity at an attractive pace. Shortening the debt service payments would have the effect of placing more fixed costs in the State's annual operating budget, leaving less funds available for discretionary spending. Lengthening debt payments would increase the aggregate amount of the State's outstanding indebtedness, which would cause Vermont's debt per capita and debt as a percentage of personal income to rise, reducing the State's ability to comply with its affordability guidelines. Notwithstanding these limitations, there may be opportunities for the State in the future to adjust the maturity of its indebtedness to achieve various debt management goals over time.

### 3. DEBT GUIDELINES

For a number of years Vermont has pursued a strategy to achieve a triple-A rating from all three nationally recognized credit rating agencies. To facilitate this goal, CDAAC and the State have employed conservative debt load guidelines that are consistent with the measures that the rating agencies use to measure debt burden. The most widely-employed guidelines are:

1. Debt Per Capita;
2. Debt as a Percentage of Personal Income;
3. Debt Service as a Percentage of Revenues; and
4. Debt as a Percentage of Gross State Product

CDAAC notes that Debt as a Percentage of Personal Income and Debt Service as a Percentage of Revenues are generally understood to be the better credit indicators of the State's ability to pay; however, the rating agencies continue to calculate and monitor the State's Debt Per Capita and Debt as a Percentage of Gross State Product. These guidelines are described in greater detail below. CDAAC has not used Debt as a Percentage of Gross State Product as a specific guideline due to the fact that this measure has a high correlation and tracks the trend of the Debt as a Percentage of Personal Income. Since 2011, CDAAC has tracked this information and included it on the "Dashboard Indicators." This report contains current and historical information on Vermont's Debt as a Percentage of Gross State Product compared to a peer group of other triple-A states.

At present, CDAAC uses a peer group made up of all states that have at least two triple-A ratings from the national rating agencies (the "Peer Group"). The Committee over time reviews the composition of the Peer Group. See "State Guidelines and Recent Events" for more information.

In addition, both Moody's and S&P have developed rating scorecards for state issuers which include an assigned specific criteria and weighting for "debt" as one of their factors in the overall rating of a state. The rationale given by the rating agencies for the score card process is to provide more transparency for state ratings. The specific criteria are described in greater detail below.

#### **Debt Per Capita**

Since, 2004, the Committee has adopted a guideline for the State to equal or perform better than the 5-year average of the mean and median debt per capita of a peer group of triple-A rated states over the nine year projection period. The 5-year average of the mean of the Peer Group is \$1,004 and the 5-year average of the median of the Peer Group is \$914. Based on data from Moody's, Vermont's 5-year average debt per capita figure is \$787, which is below the 5-year mean and median for triple-A rated states. This guideline of debt per capita relative to its Peer Group has been the State's limiting factor in terms of calculating debt capacity over the past few years. The State's most recent two year authorization amount for fiscal years 2014-2015 was \$159,900,000.

It should be emphasized that Vermont's debt per capita relative ranking, after improving for a number of years, has slipped modestly recently. According to Moody's most recent information, the State's relative position among states improved during the period 2003

through 2011 with respect to net tax-supported debt per capita, improving from 16<sup>th</sup> position in 2003 to 37<sup>th</sup> position in 2011 then down slightly to 34<sup>th</sup> in 2012 and 33<sup>rd</sup> in 2013 and 30<sup>th</sup> in 2014 (rankings are in numerically descending order, with the state having the highest debt per capita ranked 1<sup>st</sup> and the state having the lowest debt per capita ranked 50<sup>th</sup>).

### **Debt as a Percent of Personal Income**

The Committee also adopted a guideline for the State to equal or perform better than the 5-year mean and 5-year median of the Peer Group on the basis of debt as a percent of personal income. At present the targets are 2.5% for both the mean and the median (the five-year average of Moody's Mean and Moody's Median for the Peer Group is 2.6% and 2.5%, respectively). Based on data from Moody's, Vermont's 2014 net tax supported debt as a percent of personal income is 2.0% -- better than the 5-year mean and 5-year median for triple-A rated states. According to Moody's most recent information, the State's relative position among states improved during the period 2003 through 2010 with respect to net tax-supported debt as a percent of personal income, improving from 17<sup>th</sup> position in 2003 to 36<sup>th</sup> position in 2010 where it remained in 2011 and 2012. In 2013 the State's relative ranking dropped slightly to 35<sup>th</sup> position and in 2014 its ranking dropped slightly again to 34<sup>th</sup> position.

### **Debt Service as a Percentage of Revenues**

This guideline does not create a compliance requirement for triple-A rated states. Rather, it is an absolute guideline, not a comparative one. CDAAC's adopted standard is a ratio of no greater than 6% for annual G.O. debt service as a percent of the annual aggregate of General and Transportation Funds revenue. At present, this ratio equals approximately 4.7%. Looking back, Vermont's debt service as a percentage of revenues improved from the 2002-2004 period where it was over 6%, to 5.4% in 2005. Since 2005, the State's debt service as a percent of revenue has been less than 5.1% except for the recession years of 2009 and 2010, where the statistic increased to 5.5% and 5.7%. Although CDAAC has maintained a standard of a 6.0% limit for debt service as a percent of revenues, the effect of the recent recession on this ratio has been taken into account. CDAAC notices the 0.4% to 0.6% increase in the ratio immediately after the start of the recession and believes that a comparable amount of cushion is appropriate for its final recommendation.

In terms of the debt service projections, the analysis assumes future interest rates (coupons) range on pro forma bond issues from 5.0% in fiscal year 2015, increasing annually by 0.5% to a maximum rate of 6.5% in fiscal years 2018 through 2025.

The CDAAC statute defines operating revenues as General and Transportation Fund revenues based upon the historic general flexibility in their uses of these funds for meeting financial operations of the State. In 2012, Moody's reintroduced a Moody's Median for debt service as a percent of operating revenues ("Debt Service Ratio"), and included the State's Education Fund as part of the State's operating revenue for purposes of this calculation (see Section 5, "State Guidelines and Recent Events"). Because Moody's uses a much larger revenue base in its analysis, Moody's Debt Service Ratio for Vermont, at 2.7%, is substantially lower than the CDAAC guideline, and results in Vermont's comparatively high (favorable) Moody's ranking of 38<sup>th</sup> out of the 50 states.

### **Debt as a Percent of Gross State Product**

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At present the 2014 Moody's mean and median for debt as a percentage of gross state product is 2.1% and 2.1%, respectively. (Moody's calculates their 2014 statistics based on 2013 net tax supported debt as a percentage of 2012 state gross domestic product.) Based on data from Moody's, Vermont's 2014 net tax supported debt as a percentage of gross state product is 2.0% -better than the median and the mean for the Peer Group states. According to Moody's most recent information, the State's relative position among states was 33<sup>rd</sup> in 2012 and 32 in 2013 and 2014.

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**STATE OF VERMONT  
2014 STATES RATED TRIPLE-A BY TWO OR MORE RATING AGENCIES  
(as of September 30, 2014)**

2014 Triple-A Rated States <sup>(2)</sup>	Moody's	S&P	Fitch
Alaska	Yes	Yes	Yes
Delaware	Yes	Yes	Yes
Florida	No	Yes	Yes
Georgia	Yes	Yes	Yes
Indiana <sup>(1)</sup>	Yes	Yes	Yes
Iowa <sup>(1)</sup>	Yes	Yes	Yes
Maryland	Yes	Yes	Yes
Missouri	Yes	Yes	Yes
North Carolina	Yes	Yes	Yes
South Carolina	Yes	No	Yes
Tennessee	Yes	No	Yes
Texas	Yes	Yes <sup>(1)</sup>	Yes
Utah	Yes	Yes	Yes
Virginia	Yes	Yes	Yes
VERMONT	Yes	No	Yes

- (1) Indicates issuer credit rating since state does not have any G.O. debt.  
 (2) Fitch raised Florida, Iowa, Vermont, Tennessee and Texas to triple-A in 2010 as part of their Ratings Recalibration effort. Moody's raised Indiana, Iowa, New Mexico, Tennessee and Texas to triple-A in 2010 as part of their Ratings Recalibration effort. Nineteen states are currently rated triple-A by one or more of the nationally recognized rating agencies. Fifteen states are currently rated triple-A by two or more of the nationally recognized rating agencies.

**STATE OF VERMONT  
MEAN DEBT RATIOS**

Per Capita	2010	2011	2012	2013	2014
All States	\$1,297	\$1,408	\$1,408	\$1,416	\$1,436
Triple-A <sup>1</sup>	935	1,014	1,024	1,021	1,027
VERMONT	<b>709</b>	<b>747</b>	<b>792</b>	<b>811</b>	<b>878</b>

% of Personal Income	2010	2011	2012	2013	2014
All States	3.2%	3.2%	3.4%	3.4%	3.2%
Triple-A <sup>1</sup>	2.5	2.7	2.7	2.6	2.4
VERMONT	<b>1.8</b>	<b>1.9</b>	<b>2.0</b>	<b>1.9</b>	<b>2.0</b>

<sup>1</sup> These calculations exclude all Vermont numbers and include only states rated triple-A by two or more of the three rating agencies during the year shown. See chart "Debt Per Capita Comparison" for complete listing of triple-A states and respective ratings and triple-A time periods.

**STATE OF VERMONT  
DEBT PER CAPITA COMPARISON**

**Peer Group States (All states with at least two triple-A rating)**  
**5-Year Average Mean and 5-Year Average Median Excluding Vermont:**  
**MEAN: \$1,004    MEDIAN: \$914**  
**5-Year Average Vermont: \$787**

Triple-A Rated States <sup>1</sup>	Moody's Ratings <sup>2</sup>	S&P Ratings <sup>2</sup>	Fitch Ratings <sup>2</sup>	Moody's Debt Per Capita				
				2010	2011	2012	2013	2014
Alaska	Aaa/Stable	AAA/Stable	AAA/Stable	\$1,345*	1,257*	1,454*	\$1,251	\$1,573
Delaware	Aaa/Stable	AAA/Stable	AAA/Stable	2,489	2,676	2,674	2,536	2,485
Florida	Aa1/Stable	AAA/Stable	AAA/Stable	1,123	1,150	1,167	1,087	1,008
Georgia	Aaa/Stable	AAA/Stable	AAA/Stable	1,120	1,103	1,099	1,061	1,064
Indiana	Aaa/Stable	AAA/Stable	AAA/Stable	492	471	446	424	533
Iowa	Aaa/Stable	AAA/Stable	AAA/Stable	73	270	310	287	275
Maryland	Aaa/Stable	AAA/Stable	AAA/Stable	1,608	1,681	1,742	1,799	1,791
Minnesota <sup>3</sup>	Aa1/Stable	AA+/Stable	AA+/Stable	1,037	1,159	1,148*	1,315*	1,402*
Missouri	Aaa/Stable	AAA/Stable	AAA/Stable	780	775	741	699	668
North Carolina	Aaa/Stable	AAA/Stable	AAA/Stable	765	782	815	853	806
South Carolina	Aaa/Stable	AA+/Stable	AAA/Stable	917	887	827	780	749
Tennessee	Aaa/Stable	AA+/Stable	AAA/Stable	318	345	343	343	324
Texas	Aaa/Stable	AAA/Stable <sup>4</sup>	AAA/Stable	520	612	588	580	614
Utah	Aaa/Stable	AAA/Stable	AAA/Stable	957	1,222	1,393	1,275	1,187
Virginia	Aaa/Stable	AAA/Stable	AAA/Stable	895	1,058	1,169	1,315	1,302
<b>MEAN<sup>5</sup></b>				<b>935</b>	<b>1,014</b>	<b>1,024</b>	<b>1,021</b>	<b>1,027</b>
<b>MEDIAN<sup>5</sup></b>				<b>906</b>	<b>973</b>	<b>827</b>	<b>957</b>	<b>907</b>
VERMONT	Aaa/Stable	AA+/Stable	AAA/Stable	709	747	792	811	878

<sup>1</sup>Carry at least two triple A ratings.

<sup>2</sup>Ratings as of September 30, 2014.

<sup>3</sup>Minnesota was downgraded by Fitch to AA+ from AAA on July 7, 2011 and it was downgraded by Standard and Poor's to AA+ from AAA on September 23, 2011. Minnesota is included in calculating the means and medians in the years from 2010 to 2011.

<sup>4</sup>Texas was upgraded by S&P to AAA from AA+ on September 27, 2013.

<sup>5</sup>These calculations exclude all Vermont numbers.

\*Indicates that the state was not rated triple-A thereby two or more of this rating agencies during the year shown. Amount not used in calculating the mean or median for the year.

**STATE OF VERMONT  
DEBT AS % OF PERSONAL INCOME COMPARISONS**

**Peer Group States (All states with at least two triple-A ratings)**  
**5-Year Average Mean and 5-Year Average Median Excluding Vermont:**  
**MEAN: 2.6% MEDIAN: 2.5%**  
**5-Year Average Vermont: 1.9%**

<b>Moody's Debt as % 2012 Personal Income</b>					
<b>Triple-A Rated States</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
Alaska	3.2%*	3.0%*	3.3%*	2.8%	3.2%
Delaware	6.2	6.8	6.8	6.2	5.7
Florida	2.9	3.0	3.0	2.8	2.5
Georgia	3.3	3.3	3.1	3.0	2.9
Indiana	1.5	1.4	1.3	1.2	1.4
Iowa	0.2	0.7	0.8	0.7	0.6
Maryland	3.4	3.5	3.6	3.6	3.4
Minnesota	2.4	2.8	2.7*	3.0*	3.0*
Missouri	2.2	2.2	2.0	1.8	1.7
North Carolina	2.3	2.3	2.3	2.4	2.1
South Carolina	2.9	2.7	2.5	2.3	2.2
Tennessee	0.9	1.0	1.0	0.9	0.8
Texas	1.4	1.6	1.5	1.5	1.5
Utah	3.2	3.9	4.4	3.8	3.4
Virginia	2.1	2.4	2.6	2.9	2.7
<b>MEAN<sup>1</sup></b>	<b>2.5</b>	<b>2.7</b>	<b>2.7</b>	<b>2.6</b>	<b>2.4</b>
<b>MEDIAN<sup>1</sup></b>	<b>2.4</b>	<b>2.6</b>	<b>2.5</b>	<b>2.6</b>	<b>2.4</b>
<b>VERMONT</b>	<b>1.8</b>	<b>1.9</b>	<b>2.0</b>	<b>1.9</b>	<b>2.0</b>

<sup>1</sup> These calculations exclude all Vermont numbers and include only states rated triple-A by two or more of the rating agencies during the periods shown, year ended June 30<sup>th</sup>.

\* Indicates that the state was not rated triple-A by two or more of the rating agencies during the year shown. Amount not used in calculating the mean or median for the year.

**STATE OF VERMONT  
DEBT AS % OF GROSS STATE DOMESTIC PRODUCT**

**Peer Group States (All states with at least two triple-A ratings)**  
**5-Year Average Mean and 5-Year Average Median Excluding Vermont:**

**MEAN: 2.1% MEDIAN: 2.1%**  
**5-Year Average Vermont: 1.9%**

<b>Moody's Debt as % 2012 Gross State Domestic Product</b>					
<b>Triple-A Rated States</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
Alaska	2.0%*	1.9%*	2.1%*	1.8%	2.2%
Delaware	3.6	4.0	3.9	3.5	3.5
Florida	2.8	2.9	3.0	2.8	2.5
Georgia	2.8	2.8	2.7	2.5	2.5
Indiana	1.2	1.2	1.1	1.0	1.2
Iowa	0.2	0.6	0.7	0.6	0.6
Maryland	3.4	3.4	3.4	3.5	3.3
Minnesota	2.1	2.4	2.3*	2.5*	2.6*
Missouri	2.0	2.0	1.8	1.7	1.6
North Carolina	1.8	1.9	1.9	1.9	1.7
South Carolina	2.7	2.6	2.4	2.2	2.0
Tennessee	0.8	0.9	0.9	0.8	0.8
Texas	1.1	1.4	1.3	1.2	1.2
Utah	2.4	3.1	3.4	2.9	2.6
Virginia	1.8	2.1	2.2	2.5	2.4
<b>MEAN<sup>1</sup></b>	<b>2.1</b>	<b>2.2</b>	<b>2.2</b>	<b>2.1</b>	<b>2.0</b>
<b>MEDIAN<sup>1</sup></b>	<b>2.1</b>	<b>2.3</b>	<b>2.2</b>	<b>2.1</b>	<b>2.1</b>
<b>VERMONT</b>	<b>1.7</b>	<b>1.9</b>	<b>1.9</b>	<b>2.0</b>	<b>2.0</b>

<sup>1</sup> These calculations exclude all Vermont numbers and include only states rated triple-A by two or more of the rating agencies during the periods shown, year ended June 30<sup>th</sup>.

\*Indicates that the state was not rated triple-A by two or more of the rating agencies during the year shown. Amount not used in calculating the mean or median for the year.

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**State of Vermont Capital Debt Affordability Advisory Committee – 2014 Report**

**STATE OF VERMONT  
HISTORIC AND PROJECTED DEBT RATIOS**

Fiscal Year (ending 6/30)	Net Tax-Supported Debt Per Capita (in \$)			Net Tax-Supported Debt as Percent of Personal Income			Net Tax-Supported Debt Service as Percent of Revenues <sup>(5)</sup>		
	State of Vermont	Moody's Median	State's Rank <sup>(4)</sup>	State of Vermont	Moody's Median	State's Rank <sup>(4)</sup>	State of Vermont <sup>(5)</sup>	Moody's Median	State's Rank <sup>(4)</sup>
Actual <sup>(1)</sup>									
2002	813	573	18	3.0	2.3	14	6.5	n.a.	n.a.
2003	861	606	16	3.0	2.2	17	6.7	n.a.	n.a.
2004	724	701	24	2.5	2.4	25	6.0	n.a.	n.a.
2005	716	703	25	2.3	2.4	27	5.4	n.a.	n.a.
2006	707	754	29	2.2	2.5	28	5.1	n.a.	n.a.
2007	706	787	28	2.1	2.4	30	5.1	n.a.	n.a.
2008	707	889	32	2.0	2.6	33	5.0	n.a.	n.a.
2009	692	865	34	1.8	2.5	35	5.5	n.a.	n.a.
2010	709	936	36	1.8	2.5	36	5.7	n.a.	n.a.
2011	747	1066	37	1.9	2.8	36	5.1	n.a.	n.a.
2012	792	1117	34	2.0	2.8	36	4.9	n.a.	n.a.
2013	811	1074	33	1.9	2.8	35	4.6	n.a.	n.a.
2014	878	1054	30	2.0	2.6	34	4.7	n.a.	n.a.
Current <sup>(2)</sup>	894	n.a.	n.a.	1.9	n.a.	n.a.	4.7	n.a.	n.a.
Projected (FYE 6/30) <sup>(3)</sup>		State Guideline <sup>(6)</sup>			State Guideline <sup>(7)</sup>			State Guideline	
2015	985	943		2.0	2.5		4.3	6.0	
2016	1,018	974		1.9	2.5		4.4	6.0	
2017	1,051	1,005		1.9	2.5		4.5	6.0	
2018	1,081	1,037		1.9	2.5		4.5	6.0	
2019	1,107	1,070		1.9	2.5		4.6	6.0	
2020	1,130	1,105		1.8	2.5		4.7	6.0	
2021	1,147	1,140		1.8	2.5		4.9	6.0	
2022	1,162	1,177		1.7	2.5		4.8	6.0	
2023	1,174	1,215		1.7	2.5		4.9	6.0	
2024	1,184	1,254		1.6	2.5		4.8	6.0	
2025	1,189	1,294		1.6	2.5		4.9	6.0	
5-Year Average of Moody's Mean for Triple-A States			1,004	2.4			n.a.		
5-Year Average of Moody's Median for Triple-A States			914	2.5			n.a.		

Note: Shaded figures in fiscal years 2015-2021 represent the period when Vermont's debt per capita is projected to exceed the projected State Guideline consistent with the current debt per capita guideline calculation methodology and the assumption that the State will issue bonds consistent with the proposed two-year authorization (footnote (3)). See Section 5, "State Guidelines and Recent Events, Debt Per Capita State Guideline – Future Debt Capacity Risk."

- (1) Actual data compiled by Moody's Investors Service, reflective of all 50 states. Moody's uses states' prior year figures to calculate the "Actual" year numbers in the table.
- (2) Calculated by Public Resources Advisory Group, using outstanding G.O. debt of \$560.85 million as of 6/30/14 divided by Vermont's 2015 population of 627,286 as projected by EPR.
- (3) Projections assume issuance of \$105.505 million of authorized but unissued G.O. debt in FY2015, and \$72.0 million of G.O. debt annually from FY2016 through FY2025.
- (4) Rankings are in numerically descending order (i.e., from high to low debt).
- (5) Revenues are adjusted reflecting "current law" revenue forecasts based on a consensus between the State's administration and legislature. Current debt service is net of the 35% federal interest subsidies on the Build America Bond issues, and projected debt service is based on estimated interest rates ranging from 5% to 6.5% over the project period. Calculated by Public Resources Advisory Group.
- (6) State Guideline equals the 5 year average of Moody's median for States with two triple-A ratings \$914 increasing annually at 3.21% (average increase for these states over the last 10 years).
- (7) The 5-year Moody's median for triple-A States (2.5%) has not been increased for the period 2015-2025 since the annual number is quite volatile, ranging from 2.2% to 2.6% over the last five years.

**“Dashboard” Indicators**

	Vermont <sup>(a)</sup>	Median Triple-A States <sup>(d)</sup>
Net Tax-Supported Debt:	\$560,850,000	\$3,806,662,000 <sup>(c)</sup>
Debt As A Percent Of Gross State Product:	1.99%	2.10% <sup>(c)</sup>
Debt Per Capita:	\$894	\$907 <sup>(c)</sup>
Debt As A Percent Of Personal Income:	1.89%	2.4% <sup>(c)</sup>
Debt Service As A Percent Of Operating Revenue <sup>(b)</sup> :	4.73%	N/A
Rapidity Of Debt Retirement:	37.9% (In 5 Years)	N/A
	67.9% (In 10 Years)	N/A
	90.6% (In 15 Years)	N/A
	100.00% (In 20 Years)	N/A
Proposed FY 2016 Debt Authorization:	\$72,000,000 <sup>(e)</sup>	N/A
Initial Year Biennium Limitation:	None <sup>(e)</sup>	N/A

- (a) Debt statistics for Vermont are as of June 30, 2014. Estimates of Gross State Product, Population, Personal Income and Operating Revenue prepared by EPR.
- (b) Aggregate of State’s General Fund and Transportation Fund.
- (c) Source: Moody’s Investors Service, 2014 State Debt Medians Report calculated by Public Resources Advisory Group.
- (d) These calculations exclude all Vermont numbers and include only states rated triple-A by two or more of the rating agencies during the periods shown, year ended June 30th.
- (e) Current year authorization amount equal to one-half of two year recommended authorization (\$144,000,000). See Section 1 “OVERVIEW,” above.

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## Standard & Poor’s Methodology for U.S. State Ratings

On January 3, 2011, Standard & Poor’s released the final version of its “U.S. State Ratings Methodology.” A copy of the methodology was included in the Appendices to the CDAAC 2011 report. This methodology provides, for the first time, a comprehensive presentation that sets forth in a systematic way a quantification approach to rating states. By assigning numerical values to its various rating criteria, the agency has moved closer to the establishment of state ratings through a quantification approach. The methodology includes the important categories of review, referred to as “factors,” by Standard & Poor's:

- (i) Government Framework,
- (ii) Financial Management,
- (iii) Economy,
- (iv) Budgetary Performance and Flexibility, and
- (v) Debt and Liability Profile.

In addition, the sub-categories, or “metrics” within each factor are weighed. Specifically, S&P assigns a score of 1 (strongest) to 4 (weakest) for twenty-eight metrics, grouped into the five factors listed above. Each of the metrics is given equal weight within the category, and then each factor is given equal weight in an overall 1 through 4 score. The overall scores correspond to the following indicative credit levels for the highest three ratings categories:

<u>Score</u>	<u>Indicative Credit Level</u>
1.0-1.5	AAA
1.6-1.8	AA+
1.9-2.0	AA
2.1-2.2	AA-
2.3-2.5	A+
2.5-2.6	A
2.7-3.0	A-
3.1-4	BBB category

In 2011, S&P reported that Vermont’s score was approximately 1.7, corresponding to the State’s AA+ rating from S&P. The major metrics where Vermont could improve, that to varying degrees are within the State’s control were consistent with what S&P outlined when they placed the State on positive outlook: (a) increasing formal budget-based reserves to 8%; (b) increasing pension funded ratios, and (c) planning for and accumulating assets to address other post-employment benefits.

In October 2013, S&P’s most recent report, Vermont’s composite score was 1.6, a slight improvement over the 2011 report. The scores for each factor are as follows:

1.6	Government Framework
1.0	Financial Management,
1.6	Economy,
1.4	Budgetary Performance and Flexibility, and
2.4	Debt and Liability Profile.

The debt and liability profile is the fifth of the five major factors in S&P’s assessment of the indicative credit level. S&P notes that they review debt service expenditures and how debt payments are prioritized versus funding of other long-term liabilities and operating costs for future tax streams and other revenue sources. They evaluate three key metrics which they score individually and weight equally: debt burden, pension liabilities, and other post employment benefits. For each metric there may be multiple indicators (as they are for the debt metric) that they score separately and then average to develop the overall score for the metric.

In terms of debt, the CDAAC reports since 2011 have incorporated certain new pieces of information such as debt as a percent of state domestic product and relative rapidity of debt retirement (See the “Dashboard Indicators”). Provided below is a table with S&P debt statistics and scores for Vermont.

**S&P’ Debt Score Card Metrics**

	Low Ranking (Score of 1)	Moderate Ranking (Score of 2)	Vermont’s Statistics <sup>1</sup>	Vermont’s Score
Debt per Capita	Below \$500	\$500 - \$2,000	970	2
Debt as a % of Personal Income	Below 2%	2% - 4%	2.3%	2
Debt Service as a % of Spending	Below 2%	2%- 6%	2.2%	2
Debt as a % of Gross State Product	Below 2%	2% - 4%	2.0%	2
Debt Amortization (10 year)	80% - 100%	60%-80%	70%	2

<sup>1</sup> As calculated and reported by S&P.

**Moody’s US States Rating Methodology**

On April 17, 2013, Moody’s Investors Services released the final version of its “US States Rating Methodology.”

This methodology provides an updated explanation of how Moody’s assigns ratings to US State G.O.s or their equivalents. The report provides market participants with insight into the factors Moody’s considers being most important to their state ratings. The report also introduces a new state methodology scorecard. The scorecard’s purpose is to provide a reference tool that can be used to approximate credit profiles for US states.

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The methodology includes the following “key factors” and “sub-factors” as referred to by Moody’s:

<b>Broad Rating Factors</b>	<b>Factor Weighting</b>	<b>Rating Sub-Factors</b>	<b>Sub-Factor Weighting</b>
Economy	20%	Income	10%
		Industrial Diversity	5%
		Employment Volatility	5%
Governance	30%	Financial Best Practices	15%
		Financial Flexibility/Constitutional Constraints	15%
Finances	30%	Revenues	10%
		Balances and Reserves	10%
		Liquidity	10%
Debt	20%	Bonded Debt	10%
		Adjusted Net Pension Liability	10%
<b>Total</b>	<b>100%</b>	<b>Total</b>	<b>100%</b>

Debt is the fourth factor of the four major factors in Moody's scorecard. The debt factor captures both debt and other long-term liabilities, such as unfunded pension liabilities. Moody’s treats pension liabilities as a form of debt, and looks at the state’s unfunded pension liabilities as a percent of state revenues.

In terms of Moody’s scorecard they look at debt and pension liability compared to revenues to measure the relative affordability of the state’s debt obligations based on current revenues sources.

<b>Sub-Factor</b>	<b>Measurement</b>	<b>Aaa</b>	<b>Aa1</b>	<b>Aa2</b>	<b>Aa3</b>	<b>A</b>	<b>Baa and below</b>
Debt Measure	NTSD/Total						
	Governmental Fund Revenues	Less than 15%	15%-30%	30%-50%	50%-90%	90%-130%	Greater than 130%
Pension Measure	3 year Average						
	Adjusted Net Pension Liability/Total Governmental Funds Revenues	Less than 25%	25%-40%	40-80%	80-120%	120-180%	Greater than 180%

For the debt measure Moody’s uses net-tax supported debt (NTSD) divided by total governmental fund revenues. Moody’s includes the State’s Education Fund as part of the State’s operating revenue for purpose of this calculation and its calculation of debt service as a percentage of operating revenues. See Section 5, “State Guidelines and Recent Events”. Also as discussed in the “Special Obligation Transportation Infrastructure Bonds (TIBs)” section of the report, the credit rating agencies include TIBs in their calculation of NTSD. Based on this assumption Moody’s debt measure for Vermont for FY 2014 is approximately 19%.

Based on the Moody's Median report titled "US Pension Medians Increase in Fiscal 2012" dated January 30, 2014, Vermont's 3 year Average Adjusted Net Pension Liability (ANPL) was \$3.0 billion. This as a percentage of 2012 governmental revenues was 80.6%, ranking Vermont 19 of the 50 states, with 1 being the worst and 50 being the best. See "Moody's Adjustment to Pension Data and Adjusted State Pension Liability Medians" herein for additional information regarding Vermont's relative standing to other triple-A states regarding pensions.

Moody's fundamental analytical framework also includes the following additional key rating factors and sub-factors that do not fall into the overall rating scorecard, but could shift a rating up or down anywhere from a half a notch to multiple notches from what the scorecard suggests. These factors include:

*I. Additional Economic Factors*

- A very narrow economy, with little expectation of growth and/or diversification, and/or shrinking
- Population due to outmigration (could bring rating down)
- A poverty rate that is greater than 30% (could bring rating down)
- Expected future status as a growth state (could bring rating up)

*II. Additional Governance Factors*

- Political polarization that makes budgeting and financial decisions difficult (could bring rating down)
- Lack of congressional representation (in the case of commonwealth or US territories) (could bring rating down)
- Weakness in fiscal best practices, such as late CAFR's, weakness in consensus revenue estimating process, etc. (could bring rating down)
- Heightened risk of lack of appropriation for debt service, or other nonpayment of debt service (could bring rating down)
- Long history of conservative financial management, and/or frequent revenues estimating (at least four times a year) (could bring rating up)

*III. Additional Financial Factors*

- Large structural imbalance, even in economic upswings (could bring rating down)
- Cash flow notes or other cash management tools used due to severe liquidity strain, may cross fiscal years or be rolled (could bring rating down)
- Lack of market access (could bring rating down)
- Delaying vendor payments due to cash flow strain (could bring rating down)

*IV. Additional Debt Factors*

- Significantly strong or weak pension characteristics (could bring rating up or down)
- Inflexible or risky debt structure, including high variable-rate and swap exposure relative to liquidity (could bring rating down)
- Extremely high debt ratios (debt/personal income greater than 50%, for example) (could bring rating down)
- Any structural subordination of GO debt (could bring rating down)
- Consolidated borrowing on behalf of local governments (could bring rating up)

*V. Additional Other Factors*

- Other factors specific to a state or credit that may affect rating
- Operating Environment

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**Special Obligation Transportation Infrastructure Bonds (TIBs)**

The rating agencies have effectively indicated the TIB debt, supported by the assessments, should be considered as part of the State’s general indebtedness. CDAAC has considered TIBs self-supporting revenue bonds, and not net tax-supported indebtedness of the State. For purposes of illustration, however, it is relevant to quantify the impact of TIBs inclusion in the more critical debt ratios, as shown below:

**STATE OF VERMONT  
DEBT RATIOS WITH AND WITHOUT CONSIDERING TIBS\*  
As of June 30, 2014**

	<u>With</u> <u>TIBs<sup>(a)(b)</sup></u>	<u>Without</u> <u>TIBs<sup>(b)</sup></u>
Net Tax-Supported Debt:	\$593,715,000	\$560,850,000
Debt As A Percent of Gross State Product:	2.11%	1.99%
Debt Per Capita:	\$946	\$894
Debt As A Percent of Personal Income:	2.00%	1.89%
Debt Service as a Percent of Operating Revenue <sup>(c)</sup> :	4.88%	4.73%

- 
- (a) As of June 30, 2014 the outstanding principal amount of the State’s Special Obligation Transportation Infrastructure Bonds, 2010 Series A, 2012 Series A and 2013 Series A, was \$12,075,000, \$9,965,000 and \$10,825,000 respectively.
  - (b) Debt statistics for Vermont are as of June 30, 2014. Estimates of Gross State Product, Population, Personal Income and Operating Revenue were prepared by EPR.
  - (c) Aggregate of State’s General Fund and Transportation Fund.

#### 4. ECONOMIC AND FINANCIAL FORECASTS

This section of the report is based on the economic analysis provided by the New England Economic Partnership (“NEEP”) for the State of Vermont and certain projections provided by Economic and Policy Resources, Inc. (“EPR”). NEEP’s report, “Vermont Economic Outlook,” dated October 9, 2014 (a copy of which is included in the appendices). The report states that “the Vermont economy calls for a continuation of the current economic upturn through calendar year 2018. While geopolitical instability in the Middle East and Eastern Europe remains a concern, at this point it does not reach the level of threatening the current economic expansion-recovery.”

“The data also shows that Vermont’s labor market recovery from the “Great Recession” is nearly complete. Through July, the State has re-captured 12,700 jobs (or 86.4%) of the 14,700 jobs the State lost during the downturn—despite the well-publicized job reductions at the State’s largest private employer IBM. As this forecast update is completed, Vermont is competing with the other states in the New England region to be the second fastest state in the region to complete its labor market recovery (following the lead of the state of Massachusetts).”

“State economic activity going forward will be underpinned by the general rising tide of the economy, and the ability of the State’s businesses to fill their niches in the local, regional, national and global market places. The Moody’s Analytics national forecast calls for a strengthening in U.S. economic activity across calendar year 2014 and into calendar years 2015 and 2016. Economic activity in calendar year 2017 and 2018 is expected to continue to increase, but fall back somewhat as the current business cycle ages further. Even though U.S. output and job growth are expected to slow significantly in calendar year 2018, the forward momentum gained through the current economic upturn is expected to continue to overcome these restraining factors. For Vermont, forward progress will be found across all but two of the State’s broad employment categories—the exceptions being the Information Sector and the Government Sector.”

“Compared to last fall’s NEEP forecast, the revised NEEP outlook is again mixed—with slightly lower near-term activity forecasted for calendar years 2014 and 2015 and somewhat higher activity levels forecasted for calendar years 2016 and 2017.”

“Improvement in the state’s unemployment rate will continue in the near term but flatten over the forecast period, but will occur at a slower pace than either the U.S. or New England regional economies. As mentioned in previous NEEP outlooks, this reflects Vermont’s significantly lower rate of unemployment to begin with, and the state’s aging demographic profile. The average annual unemployment rate in Vermont is expected to drop by 1.2 percentage points over the calendar year 2013-2018 forecast period, declining to an average annual rate of 3.2% for calendar year 2018.”

“The conference theme of this NEEP outlook update concerns the economic development challenges and opportunities for the New England states as we look to the future. Vermont, like her New England sister states, has many of the same economic development advantages and challenges. Chief among the state’s challenges is Vermont’s remote and northern location,

its aging population, its higher than average energy costs, its relative lack of available investment capital, and its reputation (whether deserved or undeserved) as a higher than average taxed state in what is viewed as a relatively higher taxed New England region. It is also evident that Vermont is a state with geographic disparities, and this offers a particular challenge to state economic development policy makers. In terms of economic development advantages, the state enjoys the advantage of a well-educated work force, strong commitment to K-12 education, a well-developed telecommunications system covering nearly all of the state, small-accessible size that makes business entry, networking, and government officials “accessible,” low crime rates, a reputation for high quality natural and recreation amenities, and a strong brand identity for certain types of products and services. The state recently completed a U.S. Economic Development Administration-funded Comprehensive Economic Development Strategy (CEDS) effort designed to better coordinate the efforts of the Agency of Commerce and Community Development and its partners under one umbrella strategy and to allow the state to more effectively compete for federal infrastructure and other economic development dollars.”

**STATE OF VERMONT  
POPULATION, PERSONAL INCOME AND REVENUE PROJECTIONS  
2014 COMPARED TO 2013 NEEP REPORT**

<b>Population (Thousands)</b>				<b>Nominal Dollar Personal Income (Millions of \$'s)</b>			
<u>Year</u>	<u>2013</u>	<u>2014</u>	<u>Change</u>	<u>Year</u>	<u>2013</u>	<u>2014</u>	<u>Change</u>
2014	630.009		n.a.	2014	27,931.574		n.a.
2015	632.146	627.621	-4.525	2015	29,100.980	31,135.507	2,034.527
2016	634.368	628.346	-6.022	2016	30,175.746	32,816.825	2,641.079
2017	636.737	629.289	-7.448	2017	30,903.760	34,392.032	3,488.272
2018	639.301	630.398	-8.904	2018	31,590.648	35,905.282	4,314.634
2019	641.987	631.598	-10.389	2019	32,425.594	37,377.398	4,951.804
2020	644.826	632.913	-11.913	2020	33,363.219	38,947.249	5,584.030
2021	647.529	634.225	-13.304	2021	34,348.910	40,621.980	6,273.070
2022	650.196	635.618	-14.578	2022	35,345.977	42,449.970	7,103.993
2023	652.982	637.182	-15.800	2023	36,374.875	44,360.218	7,985.343
2024	656.050	638.707	-17.343	2024	37,396.426	46,312.068	8,915.642
2025	n.a.	640.222	n.a.	2025	n.a.	48,303.487	n.a.

<b>General Fund and Transportation Fund Revenue (Millions of \$'s)</b>				<b>General Fund and Transportation Fund Revenue as Percent of Nominal Personal Income</b>			
<u>Year</u>	<u>2013</u>	<u>2014</u>	<u>Change</u>	<u>Year</u>	<u>2013</u>	<u>2014</u>	<u>Change</u>
2014	1,575.125		n.a.	2014	5.6%	n.a.	n.a.
2015	1,658.885	1,628.356	-30.529	2015	5.7%	5.2%	-0.5%
2016	1,719.740	1,675.665	-44.074	2016	5.7%	5.1%	-0.6%
2017	1,769.848	1,728.204	-41.644	2017	5.7%	5.0%	-0.7%
2018	1,817.585	1,784.738	-32.846	2018	5.8%	5.0%	-0.8%
2019	1,868.268	1,840.144	-28.123	2019	5.8%	4.9%	-0.8%
2020	1,920.081	1,898.843	-21.238	2020	5.8%	4.9%	-0.9%
2021	1,974.458	1,961.994	-12.464	2021	5.7%	4.8%	-0.9%
2022	2,030.757	2,026.086	-4.672	2022	5.7%	4.8%	-1.0%
2023	2,088.177	2,094.446	6.269	2023	5.7%	4.7%	-1.0%
2024	2,147.229	2,161.132	13.903	2024	5.7%	4.7%	-1.1%
2025	n.a.	2,229.849	n.a.	2025	n.a.	4.6%	n.a.

As shown above, the 2014 projections show a substantial decline in population increase and in General Fund and Transportation Fund revenue compared to the 2013 projections. Although the population and government revenue projections are less than the previous projection on a year by year basis, the 2014 nominal dollar personal income projections are higher than the 2013 projections on a year by year basis. Looking at the columns that compare revenues as a percentage of nominal personal income suggests that the State's general and transportation fund are expected to collect a lesser share of the state's personal income for government operations.

The growth reduction in projected population and project general fund and transportation fund revenue from the previous year forecast will put pressure on Vermont's debt guidelines and

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may lead to less capital debt capacity in future years. Lower population numbers will increase the State's debt per capital at a constant amount of debt. Lower general and transportation funds revenue will increase the State's debt service as a percent of revenue at a constant amount of debt.

Provided below are the forecasts of population, personal income, and nominal gross State product. As shown in the table below, population for fiscal year 2013 and 2014 is 626.6 thousand and 627.3 thousand, respectively, each an increase of 0.1% over the previous two fiscal years. Personal income for fiscal year 2013 and 2014 is \$28.5 billion and \$29.6 billion, respectively, an increase of 2.2% and 3.9%, over the previous fiscal year, respectively. Nominal gross State product for fiscal year 2013 and 2014 is \$27.7 billion and \$28.1 billion, respectively, an increase of 1.6% and 1.4%, over the previous fiscal year, respectively.

### STATE OF VERMONT PRIOR YEAR, CURRENT AND PROJECTED ECONOMIC DATA<sup>(1)</sup>

Year	Population (in thousands)	Personal Income (in \$ billions)	Nominal GSP (in \$ billions)
2012	626.0	27.9	27.3
2013	626.6	28.5	27.7
2014	627.3	29.6	28.1
2015	627.6	31.1	29.1
2016	628.3	32.8	30.2
2017	629.3	34.4	31.0
2018	630.4	35.9	31.8
2019	631.6	37.4	32.5
2020	632.9	38.9	33.1
2021	634.2	40.6	33.8
2022	635.6	42.4	34.6
2023	637.2	44.4	35.5
2024	638.7	46.3	36.3
2025	640.2	48.3	37.2

(1) Administration-Legislative Consensus Long-Term Forecast (Calendar Years 2015-2025). These figures were prepared by EPR, as of November 3, 2014.

As shown in the table below, total revenue for fiscal year 2014 is \$65.0 million more than in fiscal year 2013, an increase of 4.3%. Fiscal year 2015 total revenue is forecast to increase by \$46.6 million, or 2.9%; the average annual revenue growth rate during the fiscal year period, 2015 through 2025, inclusive, is projected to be approximately 3.27%.

**STATE OF VERMONT  
PRIOR YEAR, CURRENT AND PROJECTED STATE REVENUE <sup>(1)</sup>  
(in millions of dollars)**

<b>Fiscal Year</b>	<b>General Fund</b>	<b>Transportation Fund</b>	<b>Total Revenue <sup>(2)</sup></b>
2013	1,288.6	228.2	1,516.8
2014	1,328.4	253.4	1,581.8
2015	1,367.9	260.5	1,628.4
2016	1,411.7	263.9	1,675.7
2017	1,460.8	267.4	1,728.2
2018	1,514.2	270.6	1,784.7
2019	1,566.6	273.5	1,840.1
2020	1,622.2	276.7	1,898.8
2021	1,682.0	280.0	1,962.0
2022	1,742.8	283.3	2,026.1
2023	1,808.1	286.3	2,094.4
2024	1,872.4	288.8	2,161.1
2025	1,938.4	291.5	2,229.8

<sup>(1)</sup> Administration-Legislative Consensus Long-Term Forecast (Calendar Years 2015-2025). These figures were prepared by EPR. Amounts shown are “current law” revenue forecasts, based on a consensus between the State’s administration and legislature. As of November 3, 2014.

<sup>(2)</sup> Totals may not agree due to rounding.

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## 5. STATE GUIDELINES AND RECENT EVENTS

In order to recommend to the Governor and the General Assembly a maximum amount of net tax-supported indebtedness that the State may prudently issue for the ensuing fiscal year, CDAAC has adjusted its State guidelines and the method of calculating its State guidelines over time based on factors such as (i) changes in the rating agencies' criteria, (ii) changes in Vermont's ratings, (iii) changes to Vermont's peer group, (iv) substantial increases and decreases in the amount of debt issued due to market disruptions and tax law changes and (v) Vermont's relative debt position.

Examples of changes in rating criteria include Moody's dropping its State medians for "net tax supported debt as a percentage of effective full valuation" and "net tax supported debt service as a percentage of operating revenues" in 1996, reintroducing its "net tax supported debt service as a percentage of operating revenues" in 2012, Moody's and Fitch's recalibration of ratings in 2010, and the 2012 comparative research analysis that has combined State debt and pension liabilities as a method of evaluating states' financial position. The recalibration of ratings by Moody's and Fitch in 2010 and S&P rating changes over the past five years have also affected Vermont's peer group. Between 2002 and 2008, the number of states with two triple-A ratings remained fairly constant between eight and eleven states, compared to the current 15 states having at least two triple-A ratings.

While CDAAC has continued to make adjustments to the State guidelines and the way it calculates State guidelines, it has been consistent in its overall approach of projecting future State debt issuances and measuring the effect against prudent State guidelines based on Peer Group analysis. The Committee does not believe that adjustments in the credit markets or other recent events should alter its process; however, the Committee realizes that it and the State will need to keep the changing debt finance environment and other current circumstances in mind as the State develops its capital funding and debt management program.

### **Debt Per Capita State Guideline – Adjustments to Debt Per Capita State Guideline**

The debt per capita statistics, among the various debt guidelines, is used to establish the recommended limitations on the amount of G.O. debt that the State should authorize annually. The debt per capita State guideline calculation is based on a starting point, which since 2006 has consisted of a five-year average or median of the debt per capita median of peer group (triple-A) states, and an annual inflation factor, in order to achieve a realistic perspective on the future direction of debt per capita median for the peer group states. As recently as 2007 CDAAC used an inflator of 2.7% or 90% of an assumed 3% inflation rate. As part of the development of the 2009 report, CDAAC determined that it would be most appropriate to adopt an inflator based upon a percentage of the averaging of the annual increases in the median debt per capita of the triple-A States for the last five years. As the resulting five year average was 5.35%, it was determined that an inflator of less than 100% of Vermont's triple-A peers was deemed appropriate and an inflation number representing only 60% of the growth factor, or 3.18%, was used in order to be consistent with the expectations of the rating agencies and financial community and consistent with the State's debt management practices and the prior year's report. The 2009 through 2011 CDAAC reports noted that the approach in calculating the inflator should not be considered fixed as there are too many variables that could conceivably alter this number. First, should the agencies continue to change the number of triple-A rated states, the composition of Vermont's peer group could be altered. Second, the

amount of relative bond issuance by other triple-A states could affect the per capita median for the State's peer group which could alter the per capita growth rate. Third, Moody's has stated consistently in its credit reports that if the rating agency were to see a deterioration in the State's relative rankings with respect to debt per capita and debt as a percent of personal income, Vermont's triple-A rating could fall. CDAAC believes that it is imperative to continue to monitor the State's performance in these comparisons annually to determine if the inflation factor should be adjusted from time to time.

In conducting preliminary calculations for the 2012 report it was determined that two of the factors mentioned above were having a pronounced effect on the calculation of the State guideline. The Committee reviewed analysis of the possible effect on the starting point and the inflator based on the drop in total calendar year 2011 municipal bond issuance and the change in the Peer Group as a result of the State of Minnesota losing its two triple-A ratings. The analysis indicated that each of these factors significantly affected the State guideline calculation and modifications were necessary in order to maintain a stable and reliable recommendation.

With the goal of limiting volatility in the State guideline calculation, it was determined to adjust the starting point calculation to be the five-year average of the medians of the triple-A Peer Group (instead of the median of the five-year Peer Group medians) and increase the time horizon from five years to ten years for the inflator, without adjustment. The Committee also reviewed other scenarios for adjusting the Peer Group, such as excluding states with the two highest and two lowest statistics and excluding states with a single triple-A rating. These scenarios resulted in State guidelines that were substantially the same as the recommended approach, indicating possible improvement in the reliability and stability of the methodology.

For the 2013 report, the methodology used was consistent with the one used in 2012. In this report (2014), the group of triple-A states that make up the peer group was adjusted. After again reviewing the states with only one triple-A a determination was made that these states should not be part of the comparison, mainly due to differences in their capital funding mechanisms and the natural resource dependent nature of their revenue and debt funding mix. Thus all the states with two triple-A are included as Peer Group states.

### **Statutory Change Relating to Use of Bond Premium and Effect on Affordability**

Effective in fiscal year 2013, 32 V.S.A. § 954 was amended to permit the use of bond premium received from issuance of debt for capital purposes. Previously bond premium was used to pay debt service. In fiscal year 2013, the net bond premium became available to pay capital appropriations, effectively reducing the par amount of bonds issued such that the par amount of bond plus the net original issue premium equals the capital appropriations amount.

The effect of this legislative change on the CDAAC numbers is as follows: if future bonds are issued with a net original issuance premium, the par amount of bonds will be less than estimated by the CDAAC report; however, the higher the original issue premium, the higher the average interest rate on the lower amount of debt. Due to the lower nominal interest rates in the market and the institutional investors' preference for higher coupon debt, the State expects to sell bonds with some original issue premium and reduce the size of its bond sales. To the extent that occurs, the State could authorize future additional capital appropriations in an amount equal to or less than the premium generated and still be in compliance with the CDAAC bond issuance recommendation.

### **Sequestration and Potential Impact on Build America Bonds Subsidy**

On September 14, 2012, the Office of Management and Budget (“OMB”) released its Report Pursuant to the Sequestration Transparency Act of 2012, which detailed, among its \$1.2 trillion of enumerated reductions to the federal budget, an ongoing cut of 5.1% (which resulting in an 8.7% cut in federal fiscal 2013 due to the fact that only 7 months remained in that year ending September 30) to the interest payment subsidy associated with the Build America Bonds (BABs) program. In September 2013, the Internal Revenue Service published guidance reducing subsidy payments by 7.2% for federal fiscal 2014. Finally, in February 2014, Congress voted to extend sequestration of BABs subsidies through 2024.

Through August of 2014, sequestration has reduced the subsidy payments that Vermont received for its 2010 Series A-2 and 2010 Series D-2 taxable G.O. Bonds by a total of \$144,753.85. If the 7.2% reduction continues, the subsidy will be reduced by another \$44,889.71 on February 15, 2015, for a total reduction of \$90,007.79 in State fiscal year 2015, with declining annual amounts through fiscal year 2024 totaling \$899,634.97 overall. While this sequestration impact is a very unfortunate development, it does not materially alter Vermont’s projected debt service as a percentage of revenue ratios; specifically, a \$90,007.79 reduction in fiscal year 2015 equates to approximately 0.13% of the projected \$69.289 million of debt service payments due that year.

### **Moody’s Adjustment to Pension Data and Adjusted State Pension Liability Medians**

On July 12, 2012, Moody’s published a Request for Comments regarding proposed adjustments to pension data. On April 17, 2013, the adopted adjustments were published. The adjustments are intended to enhance transparency and comparability. As discussed above, Moody’s considers debt and pension liabilities separately and has incorporated this decision into its US States Rating Methodology. The “debt” category reflects both bonded debt and adjusted net pension liabilities, with each accounting for half of the category, or, 10% each of the total score. While rating agencies have always taken pension funding into consideration, recent moves have involved increasing quantification. The measures used in the scorecard are not the conventional asset/liability of the debt related to tax base but instead are the debt related to total governmental revenue. At the present time, there is no indication that the new pension treatment or the scorecard will threaten existing ratings. However, it is indicative of the spotlight being placed on pension funding from several different sources.

On June 27, 2013 Moody’s published “Adjusted Pension Liability Medians for US States.” This inaugural report presents adjusted pension data for the 50 individual states for fiscal year 2011, based on Moody’s recently published methodology for analyzing state and local government pension liabilities. The report ranks states based on ratios measuring the size of their adjusted net pension liabilities (ANPL) relative to several measures of economic capacity: state revenues, GDP and personal income.

On January 30, 2014 Moody’s published a report titled “US State Pension Medians Increase in Fiscal 2012” which updated Moody’s ANPL for fiscal year 2012 for the 50 states. Key takeaways of the report are summarized below:

**State of Vermont Capital Debt Affordability Advisory Committee – 2014 Report**

- ANPL increased for 38 states in fiscal 2012 - the median ratio of ANPL to governmental revenues increased to 63.9% for fiscal 2012 from 45.1% in the 2011 publication.
- Low market returns and interest rates were the main drivers behind increased net liabilities.
- The State’s relative position among the 50 states with respect to its ANPL for 2011 and 2012 is as follows:

Moody’s Pension Ratios	State of Vermont Rankings	
	2011 <sup>1</sup>	2012 <sup>1</sup>
ANPL as % of Personal Income	15	11
ANPL as % of State Gross Domestic Product	14	11
ANPL Per Capita	17	11
ANPL as % of Revenues	24	19

Source: US State Pension Medians Increase in Fiscal 2012.

<sup>1</sup>Rankings are in numerically descending order, with the state having the highest Moody’s Adjusted Net Pension Liability statistic ranked 1<sup>st</sup> and the state having the lowest Adjusted Net Pension Liability statistic ranked 50<sup>th</sup>

**STATE OF VERMONT  
STATES' PENSION LIABILITIES COMPARED TO VARIOUS METRICS**

<b>Moody's Adjusted Net Pension Liability (ANPL)</b>				
<b>Triple-A Rated States</b>	<b>As % of PI</b>	<b>As % of State GDP</b>	<b>Per Capita</b>	<b>As % of Revenues</b>
Alaska	27.7	19.3	\$13,674	74.0
Delaware	14.2	8.7	6,286	98.6
Florida	2.7	2.8	1,127	33.5
Georgia	3.4	2.9	1,261	36.1
Indiana	8.1	6.7	3,077	70.3
Iowa	3.0	2.6	1,305	27.4
Maryland	15.3	15.3	8,257	169.3
Missouri	4.6	4.2	1,800	47.5
North Carolina	3.5	2.9	1,345	32.3
South Carolina	5.6	5.3	1,969	46.9
Tennessee	2.3	2.1	905	20.8
Texas	11.9	9.5	5,083	135.9
Utah	3.6	2.8	1,292	35.0
Virginia	2.5	2.2	1,216	31.6
<b>MEAN<sup>1</sup></b>	<b>7.7</b>	<b>6.2</b>	<b>3,471</b>	<b>61.4</b>
<b>MEDIAN<sup>1</sup></b>	<b>4.1</b>	<b>3.6</b>	<b>1,573</b>	<b>41.5</b>
<b>VERMONT's ANPL<sup>2</sup></b>	<b>14.2</b>	<b>14.6</b>	<b>6,346</b>	<b>80.6</b>
<b>VERMONT's 50 State Rank<sup>3</sup></b>	<b>11</b>	<b>11</b>	<b>11</b>	<b>19</b>

Source: US State Pension Medians Increase in Fiscal 2012.

<sup>1</sup> Calculated by Public Resources Advisory Group. These calculations exclude all Vermont numbers and include only states rated triple-A by two or more of the rating agencies, year ended June 30<sup>th</sup>, 2012.

<sup>2</sup> Vermont numbers include the combined defined benefits plans of the Vermont State Employees' Retirement System and the Vermont State Teachers' Retirement System.

<sup>3</sup> Rankings are in numerically descending order, with the state having the highest Moody's Adjusted Net Pension Liability statistic ranked 1<sup>st</sup> and the state having the lowest Adjusted Net Pension Liability statistic ranked 50<sup>th</sup>

### Reserve or Rainy Day Fund Balances

The rating agencies are also putting greater emphasis on the importance of having robust general fund reserve fund balances, commonly referred to as rainy day funds. In recent years a rainy day fund target of 5% of general fund expenditures was considered conservative and a credit positive by the rating agencies, but more recently the rating agencies have indicated that higher reserve funds are more consistent with triple-A ratings. In fact, Moody’s US States Rating Methodology cited “Available Balances greater than 10%, with Requirements to Rebuild Rainy Day Fund if drawn upon” for their sub-factor Finances Measurement of “Available Balances as % of Operating Revenue (5-year average)”. Additionally, the State’s most recent Standard and Poor’s report received in September 2012 in which the State’s outlook was changed from Stable to Positive, S&P cited increasing reserve fund levels as one of the three factors that would lead to a triple-A rating for the State from S&P. The table below shows the fiscal year 2012, 2013, and 2014 rainy day fund balances of the other triple-A states.

<b>Rainy Day Fund Balances</b>			
<b>As a Percentage of General Government Expenditures</b>			
<b>Triple-A</b>	<b>Fiscal</b>	<b>Fiscal</b>	<b>Fiscal</b>
<b>Rated States</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
Alaska	226.4	209.9	204.4
Delaware	5.2	5.4	5.3
Florida	2.1	2.9	3.4
Georgia	2.2	3.9	3.9 <sup>2</sup>
Indiana	2.6	3.6	6.3
Iowa	10	9.5	10
Maryland	4.5	4.6	4.9
Missouri	3.2	3.1	3.2
No. Carolina	2.1	3.2	3.2
So. Carolina	5.2	6.4	6.6
Tennessee	2.7	3.1	3.6
Texas	13.8	15.1	14
Utah	5.7	7.8	7.4
Virginia	1.9	2.6	3.9
<b>Median<sup>1</sup></b>	3.9	4.3	5.1
<b>VERMONT</b>	4.6	5.6	5.4

Source: For the fiscal year 2012 information “The Fiscal Survey of States 2013. A report by the National Governors Association and the National Association of State Budget Officers.” For the fiscal year 2013 and 2014 information “The Fiscal Survey of States 2014. A report by the National Governors Association and the National Association of State Budget Officers.” Fiscal Year 2012 and 2013 are “Actuals” and Fiscal Year 2014 are “Estimated.”

<sup>1</sup> Calculated by Public Resources Advisory Group. These calculations exclude all Vermont numbers and include only states rated triple-A by any two of the three rating agencies, year ended June 30<sup>th</sup>, 2014.

<sup>2</sup> Information for Georgia’s FY 2014 rainy day fund balance was not provided in the report. Rainy day fund balance was assumed to stay constant at the FY 2013 level.

## Capital Planning Program and the Impact of Capital Spending Upon the Economic Conditions of the State

All three rating agencies include the condition of Vermont’s economy as a significant factor in their respective ratings. Capital improvements – whether financed through the use of debt, funded through direct appropriation or federal funds, or advanced through public private collaboration - have a significant impact on the State’s economy. Further, the link between investment in infrastructure and economic development is widely accepted. As noted in a March 2012 report prepared by the United States Department of Treasury with the Council of Economic Advisors, titled *A New Economic Analysis of Infrastructure Investment*, states that “well-designed infrastructure investments can raise economic growth, productivity, and land values, while also providing significant positive spillovers to areas such as economic development, energy efficiency, public health, and manufacturing.” These points notwithstanding, the report also states that not every infrastructure project is worth the investment. Metrics are needed to ensure that economic growth through infrastructure investment is done in affordable and sustainable manner.

For several years, the Committee has discussed at length the need for a multi-year capital planning process to identify and prioritize Vermont’s capital needs. The Committee applauds the General Assembly for implementing first a six-year, and now ten-year State capital program plan in its latest capital construction and State bonding adjustment act. 32 V.S.A. § 310 thus provides that the Governor prepare and revise a plan on an annual basis, submitting it for approval by the general assembly. The plan will include a list of all recommended projects in the current fiscal year, as well as the five fiscal years thereafter. These recommendations will include an assessment, projection of capital need, and a comprehensive financial assessment. The Committee expects to annually review and consider future capital improvement program plans.

The Committee also recognizes that the process set forth in 32 V.S.A. § 310 must also incorporate a comprehensive review of our current capital stock, its condition, and future replacement needs. Significant efforts have been made in this area. The Department of Buildings and General Services (BGS) has undertaken such efforts with State buildings. The Agency of Transportation (AOT) has studied road infrastructure needs, including the condition of Vermont bridges. In 2009 the General Assembly charged the Treasurer and AOT to prepare a report containing a long-term needs assessment for repair, maintenance, and rehabilitation of bridges and culverts in the state with funding options for such long-term needs. This ultimately led to the creation of the Special Obligation Transportation Infrastructure Bond Program and the substantial leveraging of federal matching funds. While this increased funding corresponded with transportation infrastructure funding from other sources – namely ARRA and federal highway funds after Tropical Storm Irene – the condition of the State’s transportation infrastructure has improved dramatically since 2007. In particular, the percentage of federal, State and municipal bridges deemed “structurally deficient” decreased by half - from approximately 20% to approximately 10% - from 2007 through 2012.

As part of its discussions in 2014, the Committee reviewed information prepared by the Auditor of Accounts’ Office showing Vermont’s rankings on a series of measures both of economic health and quality of life compared to other triple-A rated states. Vermont scores quite well in most categories, and with respect to the economic data, this is reflected in

Vermont’s favorable rankings relative to other triple-A rated states based upon several rating agencies’ assessments. These charts are included as Appendix G to this Report.

There is always a concern at the rating agencies when a state meaningfully enlarges its debt program to ameliorate periodic economic downturns. The rating agencies will often advise that long-term annual costs, in the form of higher debt service and frequently higher administrative and operating expenses, can accompany such an increased debt program. The Committee believes it is of critical importance to strike the correct balance between infrastructure investment and economic growth on the one hand, and maintaining affordable and sustainable levels of debt authorizations and capital spending on the other.

### **Implementation of Financial Reporting Webpage**

In September of 2014, the Treasurer’s Office launched the State of Vermont’s Financial Reporting Web Page. This page organizes, in one location, ten items that the National Association of State Auditors, Comptrollers and Treasurers (NASACT) recommend that state government provide for interim disclosure. NASACT represents the elected or appointed government officials tasked with the management of state finances.

These ten items are: tax revenues, budget updates, cash flow, debt outstanding, economic forecasts, pension and other post-employment benefits (OPEBs), interest rate swaps and bank liquidity, investments, debt management policies, and filings made to the Electronic Municipal Market Access (EMMA) system. The page may be accessed at:

<http://www.vermonttreasurer.gov/cash-investments/financial-reporting/disclaimer>

At the time of publication, NASACT indicated that Vermont’s web page was the first statewide reporting site incorporating all ten of NASACT’s recommendations.

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## 6. ACKNOWLEDGEMENTS

We would like to express our gratitude to the State Treasurer’s Office, the Department of Finance and Management, EPR, NEEP, and various officers and staff members of the State, whose assistance has been invaluable in completing this report. Certain computations and projections were made based on interim population, personal income, and revenue projections provided by EPR. The numbers presented herein have not been audited and are, therefore, subject to change, possibly in a substantial manner.

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## 7. APPENDICES

- A. 2014 State Debt Medians (Moody’s Investors Service)
- B. Fitch Ratings Credit Report
- C. Moody’s Investors Service Credit Report
- D. Standard & Poor’s Credit Report
- E. Vermont Economic Outlook (New England Economic Partnership)
- F. Feasibility Study Associated with State of Vermont Special Obligation Transportation Infrastructure Bonds 2013 Series A, Prepared by Kavet, Rockler & Associates
- G. Comparison of Triple-A States with Various Economic Data, Prepared by the Office of Douglas R. Hoffer, Auditor of Accounts.
- H. Full Text of 32 V.S.A. §1001, Capital Debt Affordability Advisory Committee

## **APPENDIX A**

## MEDIAN REPORT

# 2014 State Debt Medians: Appetite for Borrowing Remains Weak

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This Median Report provides an in-depth discussion of credit rating(s) for 2014 State Debt Medians: Declining Debt Issuance Trend Continues and should be read in conjunction with Moody's most recent Credit Opinion and rating information available on [Moody's website](#).

### Summary

The rate of growth in outstanding state debt slowed for a fourth consecutive year in 2013, as anti-debt sentiment continued to reduce states' appetite for new money borrowing. We expect state debt levels to show only modest growth in 2014 based on current issuance trends and the uneven pace of the recovery in revenues.

Our analysis shows:

- » **Slow growth in state debt persists.** The modest 0.4% growth in outstanding net tax-supported debt (NTSD) in 2013 was well below the 6.5% average annual growth of the past 10 years and the 1.3% growth rate in 2012. About half the states experienced a decline in outstanding debt.
- » **Debt ratios declined against population and personal income.** NTSD per capita decreased by 2% to \$1,054, NTSD as a percentage of personal income declined to 2.6% from 2.8%, and NTSD as a percentage of gross state product declined slightly, to 2.4% from 2.5%.
- » **Debt service costs increased by 8% in 2013 compared to a 3% increase in 2012.** Growth in debt service costs reflects a return to a normal debt service schedule after years of artificially low debt service due to refunding activity in a low interest rate environment.
- » **Most state debt is fixed rate and publicly offered.** Variable rate demand debt represents only 4% of total state debt, while direct bank loans and private financings account for less than 1% of outstanding state debt. Review of the credit terms in private bank financings indicates no change from terms historically seen in bank support facilities for public debt in the sector.
- » **State debt growth will remain low in 2014.** Despite the need for large investments after years of low capital spending, sentiment about debt remains conservative. Uncertainties about the strength of economic recovery and the course of federal fiscal policy, while not as acute as in 2013, also linger.

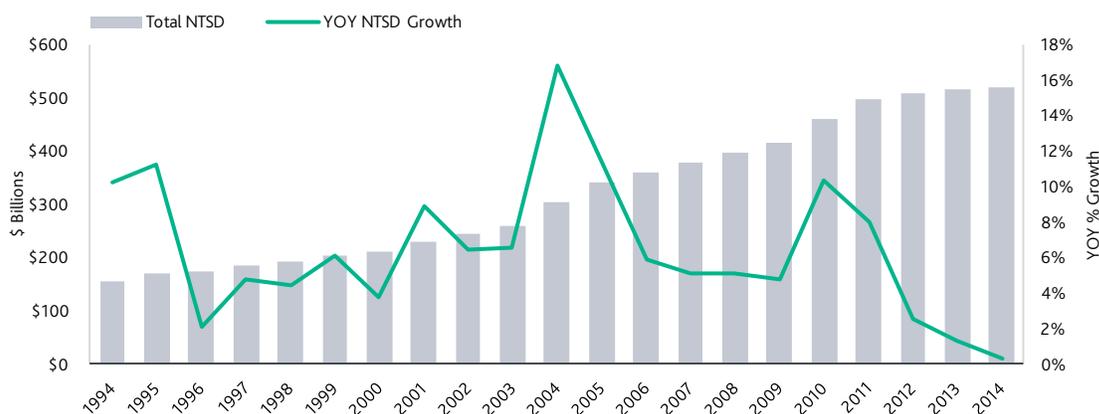
! THIS REPORT WAS REPUBLISHED ON MAY 22, 2014 WITH INCORRECT RATINGS ON TABLE 1 FOR CALIFORNIA AND DELAWARE AND DATE OF GROWTH REPORTED AS 2014 INSTEAD OF 2013.

## The Slow Growth in State Debt Persists in 2013

Total net-tax supported debt growth slowed for the fourth consecutive year to 0.4% in 2013, setting a new low-point for this metric for over the last 20 years, as Exhibit 1 shows. The modest growth rate is well below the 10 year average of 6.5% growth and considerably lower than the high post-recession growth rates seen in 2009 and 2004. The combined 2013 NTSD for all 50 states increased to \$518 billion in 2013 from \$516 billion in 2012. Approximately half of all states saw a decline in NTSD including historically large issuers like California.

EXHIBIT 1

### Slowest NTSD Growth in 20 Years



Source: Moody's Investors Service

The continued slowdown in NTSD growth can be attributed mainly to a new conservative attitude towards debt. As states continue to navigate through a slow and uneven recovery, and operating budgets remain tight, they are reluctant to embark on new, large bonding programs. Growing spending pressures coupled with inconsistent growth in revenue and uncertainty over future growth rates have forced states to take a cautious approach when considering the addition of new debt service costs to their budgets.

In addition to a general attitude shift, some states continue to be constrained by their own formal or informal debt policies. Many states have self-imposed limits on their outstanding debt relative to capacity-to-pay measures such as annual revenue or personal income. While some of these metrics have grown recently, states such as Florida and North Carolina reached their capacity for new debt during the recession and have only recently become able to issue new debt.

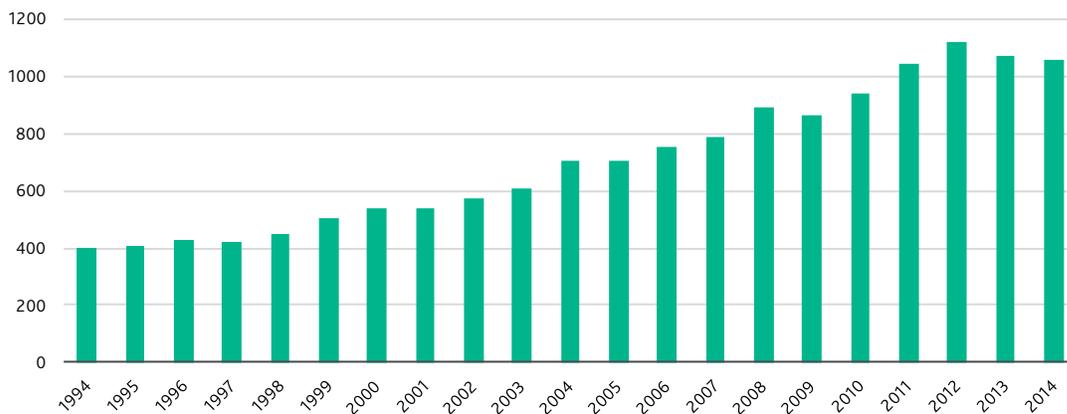
Uncertainty over federal fiscal policy has also put a damper on state debt plans. Over the past two years sequestration, threats to the municipal bond tax-exemption, and the government shutdown caused many states to put off debt issuance as the full economic impact of these developments remained unclear. States were reluctant to take on new debt service obligations, given that future economic growth and thus revenue growth could be jeopardized by federal inaction.

## Lower Overall Borrowing in 2013 Has Led to Declining Leverage Ratios

The slow growth rate in NTSD resulted in across-the-board lower debt leverage ratios for the most common measures of debt burden: debt per capita, debt as a percentage of personal income, and debt as a percentage of gross state product.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on [www.moodys.com](http://www.moodys.com) for the most updated credit rating action information and rating history.

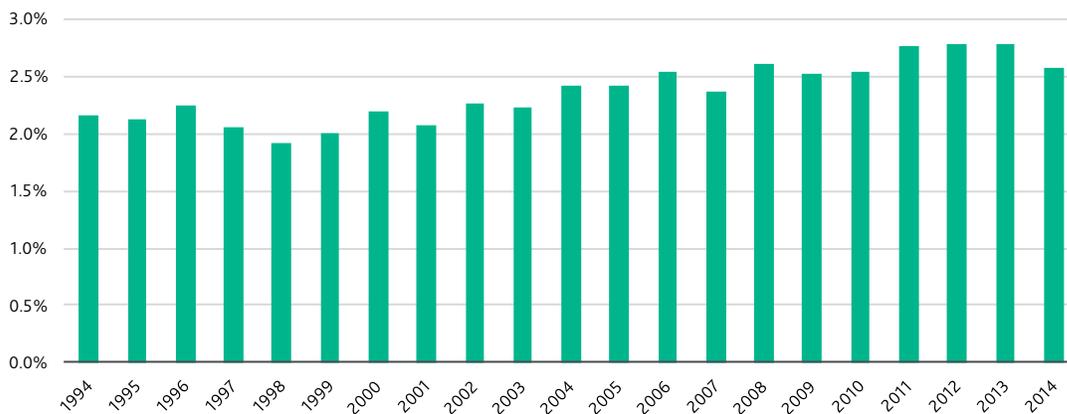
EXHIBIT 2

**NTSD Per Capita Declines 2%**

Source: Moody's Investors Service

Median NTSD per capita for all 50 states declined by 2% to \$1,054 from \$1,074, as Exhibit 2 shows. Although population growth was only 0.7% (the same as the prior year's growth rate), the decline in the median debt ratio reflects shifts in debt growth in the middle part of the 50-state distribution.

EXHIBIT 3

**NTSD as Percent of Personal Income Declines 7%**

Source: Moody's Investors Service

**NTSD as Percent of Personal Income Shows First Decline in Five Years**

NTSD as a percent of personal income declined to 2.6% from 2.8%, the first decline in five years. According to the Bureau of Economic Analysis, 2012 US personal Income grew to \$14 trillion, 3% higher than 2011 personal income, but at half the 6% growth the prior year. NTSD as a percent of gross state product also decreased slightly, to 2.4% from 2.5%, reflecting nominal state GDP growth of 4% in 2012.

**Debt Service Costs Rise After Years of Debt Refundings**

State debt service costs increased by 8% in 2013, much higher than the 3% growth they experienced in 2012. Growth in debt service costs primarily reflects the protracted low interest rate environment, which prompted many states in prior years to refund high coupon debt for upfront savings and

budgetary relief, which artificially lowered debt service in those years. The extended period of low interest rates also led to lower debt service costs on new debt. Lower revenue growth of 5% in 2013 only partially offsets the substantial debt service growth, leading to a 2013 debt service ratio of 5.1%, higher than the 2012 ratio of 4.8%.

### Most State Debt is Fixed Rate and Publicly Offered

Outstanding variable rate demand debt and other forms of short-term or puttable debt structures have been on a steady decline since the recession, reflecting fixed rate refunding activity by state issuers. In 2013, total demand debt in the state sector was \$21.6 billion, or 4% of NTSD. Based on our survey of state issuers, direct bank loans and private financings are an even smaller share of state debt. While these types of financing have received growing attention in the US market due to their private nature and weak disclosure requirements, we find very limited growth in the state sector and no evidence of risky credit terms relative to bank-supported public financings. As of the end of 2013, direct bank loans and private financings in the sector totaled only \$3.5 billion, less than 1% of total NTSD. This excludes any temporary borrowing for cash-flow purposes, as cash-flow borrowing is not included in NTSD.

### 2014 State Debt Outlook: Tax-Supported Debt Issuance Will Remain Low as States Continue to Explore Alternate Financing Vehicles; We Will View Some Alternative Structures as State Debt

We expect new money debt issuance from the states to remain low in 2014 because of the slow and uneven pace of revenue recovery. Although tax revenue has grown in each quarter for the past four years, the rate of growth has recently slowed, according to the Rockefeller Institute. Conservative fiscal management in an uncertain economic environment will cause states to defer placing additional leverage on tax revenues. Concerns over US federal fiscal policy also linger. Recent reports of funding pressures on the federal highway trust fund, for example, may impact the process of funding debt among those states that have issued federally supported transportation debt.

As this new era of conservative debt management persists, states continue to explore alternative forms of financing in an attempt to limit their leveraging of taxes and general revenues. The alternative financings include an uptick in toll revenue financings as well as public-private partnerships (P3s) to finance projects that traditional tax-backed debt might have financed in the past. States such as Florida and Indiana<sup>1</sup> have entered into P3 projects that incorporate a long-term contractual obligation of the state to make availability payments or other types of contractual payments to the private partner, which supports the debt service of the project. Unless limited solely to toll revenue as the source of state support, we view this contractual obligation as another form of general state debt and include the net present value of total concession payments in NTSD.

We expect debt service ratios to remain relatively flat in conjunction with the low amounts of new debt likely to be issued. Interest rates remain relatively low and refundings continue to be a part of states' 2014 debt management policies.

<sup>1</sup> Indiana's increase in NTSD is due to the new P3 project. In the future, the state plans to pay project O&M and availability payments from new toll revenues, with a backup state pledge in the event the project is not self-supporting from tolls.

## Basis for State Debt Medians

Moody's 2014 state debt medians are based on our analysis of calendar year 2013 debt issuance and fiscal year 2013 debt service. As in prior year reports, the presentation of debt trend data (Exhibits 1,2,3 and Table 2) incorporates a one-year lag (i.e., the data labeled 2014 reflect debt as of calendar year-end 2013)

In considering debt burden, our focus is largely on net tax-supported debt, which we characterize as debt secured by statewide taxes and other general resources, net of obligations that are self-supporting from pledged sources other than state taxes or operating resources—such as utility or local government revenues. We also examine gross debt, which captures debt supported by revenues other than state taxes and general resources. This includes self-supporting general obligation (G.O.) debt, special assessment bonds, and contingent debt liabilities that may not have direct tax support but represent commitments to make debt service payments under certain conditions (e.g., state guarantees and bonds backed by state moral obligation pledges that have never been tapped).

The following tables summarize our calculation of key debt metrics and rank the states accordingly. Debt burden—both on a state's balance sheet and in the context of budgetary flexibility—is one of many factors that we use to determine state credit quality. Therefore these metrics and rankings do not correlate directly to state G.O. ratings. The 50 state-medians exclude Puerto Rico, which is shown for comparison purposes only.

The debt and debt service ratios of some states are relatively high because they issue debt for purposes that in other states would be financed at the local level, such as for schools or mass transit. Some states' debt service ratios rank higher than their debt ratios due to conservative debt management practices, such as rapid debt amortization. Conversely, some states' debt service ratios rank relatively lower due to the use of capital appreciation bonds or long maturity schedules.

These ratios have been calculated based on our definition of net tax supported debt, debt service and operating revenues, and in most cases will differ from a state's own published calculations of debt limits or debt affordability. There is no correlation between our ratios and a state's compliance with their internal policies.

## New Annual Feature: Demand Debt and Direct Loans/Private Placements

As part of our effort to provide more robust and useful information to investors, this report for the first time also includes data relating to state-issued demand debt—defined as any debt exposed to unanticipated repayment or refinancing risk due to exercise of investor put options or occurrence of mandatory tenders within a one-year horizon—as well as direct bank loans and private placements. The latter has been obtained by surveying state issuers directly and reviewing the financing agreements.

The data in Appendix A show the 2013 state debt medians, outstanding debt tables, and debt service ratios. Appendix B shows the types of debt included in the gross debt and net debt categories.

## Appendix A

TABLE 1

## Net Tax-Supported Debt Per Capita

			Rating
1	Connecticut	\$5,457	Aa3
2	Massachusetts	\$4,999	Aa1
3	Hawaii	\$4,727	Aa2
4	New Jersey	\$3,989	A1
5	New York	\$3,204	Aa2
6	Washington	\$2,924	Aa1
7	Illinois	\$2,580	A3
8	Delaware	\$2,485	Aaa
9	California	\$2,465	A1
10	Rhode Island	\$2,064	Aa2
11	Kentucky	\$2,037	Aa2*
12	Oregon	\$1,920	Aa1
13	Wisconsin	\$1,845	Aa2
14	Maryland	\$1,791	Aaa
15	Mississippi	\$1,746	Aa2
16	Alaska	\$1,573	Aaa
17	Louisiana	\$1,464	Aa2
18	Minnesota	\$1,402	Aa1
19	Virginia	\$1,302	Aaa
20	New Mexico	\$1,208	Aaa
21	Utah	\$1,187	Aaa
22	Pennsylvania	\$1,172	Aa2
23	Kansas	\$1,097	Aa2*
24	Ohio	\$1,087	Aa1
25	Georgia	\$1,064	Aaa
26	West Virginia	\$1,044	Aa1
27	Florida	\$1,008	Aa1
28	Maine	\$951	Aa2
29	Arizona	\$889	Aa3*
30	Vermont	\$878	Aaa
31	Alabama	\$876	Aa1
32	New Hampshire	\$864	Aa1
33	North Carolina	\$806	Aaa
34	Michigan	\$785	Aa2
35	South Carolina	\$749	Aaa
36	Missouri	\$668	Aaa
37	Nevada	\$639	Aa2
38	Texas	\$614	Aaa
39	Arkansas	\$589	Aa1
40	Indiana	\$533	Aaa*
41	Oklahoma	\$529	Aa2
42	Colorado	\$517	Aa1*
43	Idaho	\$503	Aa1*
44	South Dakota	\$391	NGO**
45	Tennessee	\$324	Aaa
46	Montana	\$276	Aa1
47	Iowa	\$275	Aaa*
48	North Dakota	\$250	Aa1*
49	Wyoming	\$54	NGO**
50	Nebraska	\$12	NGO**
	<b>MEAN:</b>	<b>\$1,436</b>	
	<b>MEDIAN:</b>	<b>\$1,054</b>	
	<b>Puerto Rico</b>	<b>\$15,099</b>	<b>Ba2***</b>

\* Issuer Rating (No G.O. Debt)

\*\* No General Obligation Debt

\*\*\* This figure is not included in any totals, means, or median calculations but is provided for comparison purposes only.

TABLE 2

## Net Tax-Supported Debt as a % of 2012 Personal Income

1	Hawaii	10.6%
2	Connecticut	9.2%
3	Massachusetts	9.0%
4	New Jersey	7.3%
5	Washington	6.4%
6	New York	6.0%
7	Kentucky	5.7%
8	Delaware	5.7%
9	Illinois	5.6%
10	California	5.3%
11	Mississippi	5.2%
12	Oregon	4.9%
13	Rhode Island	4.5%
14	Wisconsin	4.4%
15	Louisiana	3.7%
16	Utah	3.4%
17	New Mexico	3.4%
18	Maryland	3.4%
19	Alaska	3.2%
20	Minnesota	3.0%
21	West Virginia	3.0%
22	Georgia	2.9%
23	Ohio	2.7%
24	Virginia	2.7%
25	Pennsylvania	2.6%
26	Kansas	2.6%
27	Florida	2.5%
28	Arizona	2.5%
29	Alabama	2.4%
30	Maine	2.4%
31	South Carolina	2.2%
32	North Carolina	2.1%
33	Michigan	2.1%
34	Vermont	2.0%
35	New Hampshire	1.8%
36	Missouri	1.7%
37	Nevada	1.7%
38	Arkansas	1.7%
39	Idaho	1.5%
40	Texas	1.5%
41	Indiana	1.4%
42	Oklahoma	1.3%
43	Colorado	1.1%
44	South Dakota	0.9%
45	Tennessee	0.8%
46	Montana	0.7%
47	Iowa	0.6%
48	North Dakota	0.5%
49	Wyoming	0.1%
50	Nebraska	0.0%
	<b>MEAN:</b>	<b>3.2%</b>
	<b>MEDIAN:</b>	<b>2.6%</b>
	<b>Puerto Rico**</b>	<b>87.5%</b>

\*\* This figure is based on 2010 Personal Income. It is not included in any totals, means, or median calculations but is provided for comparison purposes only.

TABLE 3

## Total Net Tax Supported Debt (\$000's)

			Rating
1	California	\$94,486,000	A1
2	New York	\$62,967,546	Aa2
3	New Jersey	\$35,495,064	A1
4	Massachusetts	\$33,455,411	Aa1
5	Illinois	\$33,229,742	A3
6	Washington	\$20,386,128	Aa1
7	Florida	\$19,703,400	Aa1
8	Connecticut	\$19,623,311	Aa3
9	Texas	\$16,242,854	Aaa
10	Pennsylvania	\$14,974,600	Aa2
11	Ohio	\$12,572,156	Aa1
12	Virginia	\$10,753,735	Aaa
13	Georgia	\$10,630,498	Aaa
14	Maryland	\$10,617,996	Aaa
15	Wisconsin	\$10,596,200	Aa2
16	Kentucky	\$8,951,945	Aa2*
17	North Carolina	\$7,936,108	Aaa
18	Michigan	\$7,764,300	Aa2
19	Minnesota	\$7,600,497	Aa1
20	Oregon	\$7,544,999	Aa1
21	Louisiana	\$6,773,311	Aa2
22	Hawaii	\$6,636,905	Aa2
23	Arizona	\$5,893,757	Aa3*
24	Mississippi	\$5,221,709	Aa2
25	Alabama	\$4,232,426	Aa1
26	Missouri	\$4,038,769	Aaa
27	South Carolina	\$3,574,555	Aaa
28	Indiana	\$3,504,368	Aaa*
29	Utah	\$3,442,235	Aaa
30	Kansas	\$3,174,651	Aa2*
31	Colorado	\$2,721,114	Aa1*
32	New Mexico	\$2,519,445	Aaa
33	Delaware	\$2,300,239	Aa2
34	Rhode Island	\$2,170,484	Aa2
35	Tennessee	\$2,107,251	Aaa
36	Oklahoma	\$2,035,424	Aa2
37	West Virginia	\$1,935,498	Aa1
38	Nevada	\$1,783,486	Aa2
39	Arkansas	\$1,743,397	Aa1
40	Maine	\$1,262,720	Aa2
41	Alaska	\$1,156,400	Aaa
42	New Hampshire	\$1,143,876	Aa1
43	Iowa	\$848,800	Aaa*
44	Idaho	\$811,441	Aa1*
45	Vermont	\$549,995	Aaa
46	South Dakota	\$330,199	NGO**
47	Montana	\$280,666	Aa1
48	North Dakota	\$181,087	Aa1*
49	Wyoming	\$31,246	NGO**
50	Nebraska	\$22,716	NGO**
<b>Totals</b>		<b>\$ 517,960,661</b>	
<b>MEAN:</b>		<b>\$10,359,213</b>	
<b>MEDIAN:</b>		<b>\$4,135,598</b>	
<b>Puerto Rico</b>		<b>\$54,583,542</b>	<b>Ba2***</b>

\* Issuer Rating (No G.O. Debt)

\*\* No General Obligation Debt

\*\*\* This figure is not included in any totals, means, or median calculations but is provided for comparison purposes only.

TABLE 4

## Gross Tax Supported Debt (\$000's)

			Gross to Net Ratio
1	California	\$101,382,000	1.07
2	New York	\$63,047,500	1.00
3	New Jersey	\$41,239,187	1.16
4	Texas	\$39,262,699	2.42
5	Illinois	\$35,918,702	1.08
6	Massachusetts	\$34,970,561	1.05
7	Washington	\$29,257,107	1.44
8	Florida	\$28,027,800	1.42
9	Connecticut	\$26,419,531	1.35
10	Michigan	\$24,943,552	3.21
11	Minnesota	\$22,925,952	3.02
12	Pennsylvania	\$19,585,500	1.31
13	Ohio	\$18,116,375	1.44
14	Oregon	\$16,693,513	2.21
15	Virginia	\$15,085,356	1.40
16	Wisconsin	\$13,625,202	1.29
17	Kentucky	\$12,035,114	1.34
18	Colorado	\$11,281,114	4.15
19	Georgia	\$10,630,498	1.00
20	Maryland	\$10,617,996	1.00
21	Alabama	\$9,071,929	2.14
22	Hawaii	\$8,942,085	1.35
23	Utah	\$8,136,185	2.36
24	Louisiana	\$7,936,108	1.00
25	North Carolina	\$7,912,920	1.17
26	Mississippi	\$6,026,579	1.15
27	Arizona	\$5,893,757	1.00
28	Tennessee	\$5,780,777	2.74
29	Indiana	\$5,111,154	1.46
30	Maine	\$5,058,239	4.01
31	Missouri	\$4,038,769	1.00
32	Alaska	\$3,932,800	3.40
33	South Carolina	\$3,875,081	1.08
34	Kansas	\$3,740,861	1.18
35	Delaware	\$3,485,237	1.52
36	West Virginia	\$3,382,771	1.75
37	Rhode Island	\$3,143,418	1.45
38	Nevada	\$2,939,991	1.65
39	New Hampshire	\$2,619,001	2.29
40	New Mexico	\$2,519,445	1.00
41	Iowa	\$2,321,150	2.73
42	Oklahoma	\$2,042,796	1.00
43	Idaho	\$1,944,538	2.40
44	Arkansas	\$1,743,397	1.00
45	Vermont	\$1,590,390	2.89
46	North Dakota	\$1,458,214	8.05
47	South Dakota	\$481,044	1.46
48	Montana	\$459,455	1.64
49	Wyoming	\$31,246	1.00
50	Nebraska	\$29,031	1.28
<b>Totals</b>		<b>\$ 690,713,628</b>	
<b>MEAN:</b>		<b>13,814,273</b>	<b>1.83</b>
<b>MEDIAN:</b>		<b>6,969,750</b>	<b>1.41</b>
<b>Puerto Rico**</b>		<b>\$60,952,542</b>	<b>1.12</b>

\*\* This figure is not included in any totals, means, or median calculations but is provided for comparison purposes only.

TABLE 5

## Net Tax-Supported Debt as % of Gross State Domestic Product

	2011 NTSD as % of 2010 State GDP	2012 NTSD as % of 2011 State GDP	2013 NTSD as % of 2012 State GDP		
1	Massachusetts	8.4%	1	Hawaii	9.2%
2	Hawaii	8.0%	2	Massachusetts	8.6%
3	Connecticut	7.7%	3	Connecticut	8.3%
4	New Jersey	7.2%	4	New Jersey	7.0%
5	Kentucky	5.4%	5	Washington	5.4%
6	New York	5.4%	6	New York	5.2%
7	Mississippi	5.3%	7	Kentucky	5.2%
8	Washington	5.2%	8	Mississippi	5.1%
9	California	5.1%	9	California	4.8%
10	Illinois	5.1%	10	Illinois	4.7%
11	Oregon	4.5%	11	Rhode Island	4.3%
12	Rhode Island	4.3%	12	Wisconsin	4.1%
13	Wisconsin	4.2%	13	Oregon	3.8%
14	Delaware	3.9%	14	Delaware	3.5%
15	New Mexico	3.7%	15	Maryland	3.3%
16	Maryland	3.4%	16	New Mexico	3.1%
17	Utah	3.4%	17	West Virginia	2.8%
18	West Virginia	3.4%	18	Utah	2.8%
19	Florida	3.0%	19	Florida	2.6%
20	Louisiana	2.9%	20	Pennsylvania	2.6%
21	Kansas	2.7%	21	Louisiana	2.5%
22	Georgia	2.7%	22	Georgia	2.5%
23	Pennsylvania	2.5%	23	Minnesota	2.5%
24	Arizona	2.5%	24	Virginia	2.5%
25	Ohio	2.4%	25	Ohio	2.4%
26	South Carolina	2.4%	26	Kansas	2.4%
27	Alabama	2.3%	27	Alabama	2.3%
28	Minnesota	2.3%	28	Arizona	2.3%
29	Virginia	2.2%	29	South Carolina	2.2%
30	Maine	2.2%	30	Maine	2.2%
31	Alaska	2.1%	31	Michigan	2.1%
32	Michigan	2.0%	32	Vermont	2.0%
33	Vermont	1.9%	33	North Carolina	1.9%
34	North Carolina	1.9%	34	New Hampshire	1.8%
35	Missouri	1.8%	35	Alaska	1.8%
36	Nevada	1.7%	36	Missouri	1.7%
37	New Hampshire	1.7%	37	Nevada	1.6%
38	Idaho	1.6%	38	Oklahoma	1.5%
39	Oklahoma	1.6%	39	Idaho	1.4%
40	Texas	1.3%	40	Texas	1.2%
41	Indiana	1.1%	41	Arkansas	1.1%
42	Colorado	1.1%	42	Colorado	1.0%
43	Montana	1.0%	43	Indiana	1.0%
44	Arkansas	1.0%	44	Tennessee	0.8%
45	Tennessee	0.9%	45	Montana	0.8%
46	South Dakota	0.7%	46	South Dakota	0.7%
47	Iowa	0.7%	47	Iowa	0.6%
48	North Dakota	0.5%	48	North Dakota	0.5%
49	Wyoming	0.1%	49	Wyoming	0.1%
50	Nebraska	0.0%	50	Nebraska	0.0%
	<b>MEAN:</b>	<b>3.0%</b>		<b>MEAN:</b>	<b>2.9%</b>
	<b>MEDIAN:</b>	<b>2.4%</b>		<b>MEDIAN:</b>	<b>2.4%</b>
	<b>Puerto Rico**</b>	<b>53.9%</b>		<b>Puerto Rico**</b>	<b>54.0%</b>

\* State GDP numbers have a 1-year lag.

\*\* This figure is not included in any total, mean, or median calculations but is provided for comparison purposes only.

TABLE 6

## Net Tax Supported Debt as a Percentage of Personal Income

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Alabama	2.0	2.0	2.2	2.0	2.8	2.6	2.4	2.6	2.5	2.5	2.4%
Alaska	3.0	2.8	2.6	2.7	2.4	2.2	3.2	3.0	3.3	2.8	3.2%
Arizona	2.3	2.6	2.2	2.0	2.0	2.5	2.3	2.8	2.8	2.5	2.5%
Arkansas	1.8	1.6	1.6	1.4	1.7	1.3	1.0	1.1	1.0	1.2	1.7%
California	3.2	4.7	4.6	4.4	4.3	4.4	5.6	6.0	6.0	5.8	5.3%
Colorado	0.9	1.0	0.9	0.9	0.8	0.8	1.0	1.3	1.3	1.2	1.1%
Connecticut	8.4	8.5	8.0	7.8	7.3	8.2	8.7	9.5	9.1	9.1	9.2%
Delaware	5.6	5.5	5.3	5.5	5.2	5.4	6.2	6.8	6.8	6.2	5.7%
Florida	3.5	3.4	3.2	3.1	2.8	2.9	2.9	3.0	3.0	2.8	2.5%
Georgia	2.9	2.8	2.7	3.0	3.0	3.0	3.3	3.3	3.1	3.0	2.9%
Hawaii	10.4	11.1	12.1	10.6	9.9	9.4	9.9	10.1	9.6	10.0	10.6%
Idaho	0.5	0.6	0.6	0.6	1.2	1.6	1.7	1.6	1.7	1.6	1.5%
Illinois	5.8	6.2	5.9	5.5	5.2	4.6	4.4	5.7	6.0	5.7	5.6%
Indiana	1.3	1.4	1.6	2.1	1.5	1.5	1.5	1.4	1.3	1.2	1.4%
Iowa	0.5	0.5	0.4	0.3	0.3	0.2	0.2	0.7	0.8	0.7	0.6%
Kansas	3.3	4.0	3.8	3.7	3.5	3.2	3.0	3.2	3.1	2.8	2.6%
Kentucky	4.4	4.0	4.5	4.3	4.7	4.8	5.4	6.1	6.1	5.9	5.7%
Louisiana	2.6	2.4	3.1	4.9	4.3	3.3	3.6	3.5	3.7	3.7	3.7%
Maine	1.8	2.2	2.0	1.9	1.9	2.2	2.2	2.4	2.3	2.1	2.4%
Maryland	3.0	2.9	3.0	2.8	3.0	3.3	3.4	3.3	3.6	3.6	3.4%
Massachusetts	8.5	8.5	9.8	9.4	9.8	8.9	9.2	9.2	9.4	9.3	9.0%
Michigan	2.2	2.2	2.1	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.1%
Minnesota	2.0	2.0	2.1	2.2	2.3	2.1	2.4	2.5	2.7	3.0	3.0%
Mississippi	5.2	4.8	4.8	4.9	4.8	5.2	5.0	5.1	5.6	5.4	5.2%
Missouri	1.6	1.5	1.6	1.9	2.1	2.0	2.2	2.2	2.0	1.8	1.7%
Montana	1.3	1.1	1.4	1.5	1.2	1.2	1.1	1.1	1.0	0.9	0.7%
Nebraska	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0%
Nevada	2.0	2.0	2.2	1.7	2.0	2.2	2.3	2.4	2.2	1.9	1.7%
New Hampshire	1.5	1.3	1.4	1.3	1.3	1.3	1.6	1.9	1.8	1.9	1.8%
New Jersey	5.9	7.4	7.9	7.6	7.5	7.3	7.2	7.8	7.8	7.6	7.3%
New Mexico	4.1	5.3	4.7	5.3	4.8	4.6	4.4	5.6	4.2	3.8	3.4%
New York	6.7	7.2	6.7	6.7	6.3	6.3	6.5	6.7	6.6	6.3	6.0%
North Carolina	2.0	2.5	2.8	2.4	2.8	2.5	2.3	2.3	2.3	2.4	2.1%
North Dakota	0.9	0.6	1.2	1.0	1.1	1.0	0.8	0.8	0.6	0.7	0.5%
Ohio	2.7	2.9	2.9	3.0	2.9	2.8	2.6	2.8	2.8	2.8	2.7%
Oklahoma	1.2	1.2	1.4	1.5	1.5	1.5	1.6	1.8	1.7	1.6	1.3%
Oregon	4.5	4.7	4.5	4.6	5.0	4.6	5.2	5.6	5.5	5.2	4.9%
Pennsylvania	2.2	2.3	2.3	2.4	2.4	2.5	2.4	2.7	2.8	2.8	2.6%
Rhode Island	4.4	4.3	4.1	4.6	4.7	4.5	5.2	5.3	4.7	4.7	4.5%
South Carolina	2.4	2.2	2.5	2.3	3.3	2.9	2.9	2.7	2.5	2.3	2.2%
South Dakota	0.9	0.9	0.7	0.8	0.9	0.8	0.4	0.9	0.9	0.9	0.9%
Tennessee	0.8	0.7	0.8	0.7	0.7	0.7	0.9	1.0	1.0	0.9	0.8%
Texas	0.8	1.0	1.0	1.3	1.4	1.4	1.4	1.6	1.5	1.5	1.5%
Utah	3.5	3.2	2.7	2.3	1.9	1.5	3.2	4.1	4.4	3.8	3.4%
Vermont	2.5	2.3	2.2	2.1	2.0	1.8	1.8	1.9	2.0	1.9	2.0%
Virginia	1.7	1.8	1.7	1.8	1.9	1.9	2.1	2.4	2.6	2.9	2.7%
Washington	4.9	4.9	4.9	5.1	5.1	5.1	5.3	6.2	6.0	6.4	6.4%
West Virginia	3.6	4.6	4.4	3.9	3.9	3.6	3.5	3.8	3.6	3.3	3.0%
Wisconsin	4.5	4.7	4.3	4.2	4.1	4.0	4.6	4.8	4.8	4.7	4.4%
Wyoming	0.8	0.7	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1%
<b>Median</b>	<b>2.5</b>	<b>2.5</b>	<b>2.5</b>	<b>2.4</b>	<b>2.6</b>	<b>2.5</b>	<b>2.5</b>	<b>2.8</b>	<b>2.8</b>	<b>2.8</b>	<b>2.6%</b>

TABLE 7

## Debt Service Ratio

FY2011		FY2012		FY2013		
1	Connecticut	14.8%	12.7%	1	Connecticut	13.5%
2	Illinois	11.8%	11.5%	2	New York	11.4%
3	New York	11.3%	11.3%	3	Hawaii	11.1%
4	Massachusetts	10.9%	10.4%	4	Massachusetts	10.5%
5	Oregon	9.3%	10.4%	5	Illinois	10.1%
6	Washington	8.8%	9.5%	6	California	9.4%
7	Hawaii	8.7%	9.2%	7	Washington	9.1%
8	California	8.5%	9.0%	8	New Jersey	8.9%
9	New Jersey	8.4%	8.8%	9	Oregon	8.9%
10	Delaware	8.2%	7.8%	10	Kentucky	8.8%
11	Rhode Island	8.1%	7.7%	11	Nevada	8.1%
12	Florida	7.9%	7.6%	12	Rhode Island	7.8%
13	Kentucky	7.8%	7.3%	18	Delaware	7.6%
14	Mississippi	7.4%	7.2%	13	Utah	7.5%
15	Georgia	7.2%	7.2%	14	Florida	7.1%
16	Utah	7.0%	7.0%	15	Mississippi	6.9%
17	Nevada	6.1%	6.8%	16	Wisconsin	6.7%
18	New Hampshire	5.9%	6.6%	17	Georgia	6.7%
19	Maine	5.9%	6.4%	19	Maine	6.1%
20	Maryland	5.7%	5.7%	20	Alabama	5.6%
21	Arizona	5.6%	5.2%	21	Ohio	5.5%
22	New Mexico	5.4%	5.1%	22	Maryland	5.5%
23	Virginia	5.3%	5.1%	23	Virginia	5.4%
24	South Carolina	5.0%	5.0%	24	Arizona	5.3%
25	Kansas	5.0%	4.9%	25	Pennsylvania	5.1%
26	Pennsylvania	4.9%	4.8%	26	New Mexico**	5.1%
27	Louisiana	4.6%	4.5%	27	Louisiana	4.9%
28	Missouri	4.5%	4.5%	28	New Hampshire	4.9%
29	Ohio	4.4%	4.1%	29	South Carolina	4.6%
30	West Virginia	4.4%	3.9%	30	Kansas	4.5%
31	Alabama	4.4%	3.8%	31	North Carolina	3.7%
32	Wisconsin	4.2%	3.8%	32	West Virginia	3.7%
33	North Carolina	3.6%	3.6%	33	Missouri	3.6%
34	Texas	3.2%	3.1%	34	Texas	3.0%
35	Arkansas	3.2%	3.0%	35	Colorado	2.8%
36	Minnesota	3.1%	2.8%	36	Michigan	2.8%
37	Idaho	3.1%	2.8%	37	Idaho	2.7%
38	Vermont	2.9%	2.8%	38	Vermont	2.7%
39	Colorado	2.7%	2.7%	39	Oklahoma	2.3%
40	Montana	2.4%	2.6%	40	Arkansas	2.2%
41	Oklahoma	2.4%	2.4%	41	Montana	2.1%
42	Michigan	2.3%	2.2%	42	Minnesota	2.1%
43	Indiana	2.0%	1.9%	43	Indiana	1.9%
44	South Dakota	1.7%	1.6%	44	Alaska	1.6%
45	Tennessee	1.5%	1.5%	45	South Dakota	1.5%
46	North Dakota	1.2%	1.3%	46	Tennessee	1.5%
47	Alaska	1.2%	0.9%	47	Iowa	0.9%
48	Iowa	0.9%	0.8%	48	North Dakota	0.7%
49	Wyoming	0.2%	0.2%	49	Nebraska	0.2%
50	Nebraska	0.2%	0.2%	50	Wyoming	0.2%
	<b>MEAN:</b>	<b>5.3%</b>	<b>5.2%</b>		<b>MEAN:</b>	<b>5.3%</b>
	<b>MEDIAN:</b>	<b>4.9%</b>	<b>4.8%</b>		<b>MEDIAN:</b>	<b>5.1%</b>
	<b>Puerto Rico</b>	<b>19.4%</b>	<b>Puerto Rico*</b>	<b>21.7%</b>	<b>Puerto Rico**</b>	

\* Figures restated since last report to incorporate audited FY2012 revenues

\*\* Figures based on estimated FY2013 revenues; audited financial statements not available at time of publication

Figures for Puerto Rico are not included in any totals, means, or median calculations but is provided for comparison purposes only.

TABLE 8

## Demand Debt and Direct Loans/Private Placements

State	State Abrev.	NTSD (\$000)	Demand Debt (\$000)	Direct Loans/ Private Placements (\$000)	# Direct Loans/ Private Placements
Alabama	AL	\$ 4,232,426	\$ -	\$ 263,512	6
Alaska	AK	\$ 1,156,400	\$ -	\$ -	0
Arizona	AZ	\$ 5,893,757	\$ -	\$ -	0
Arkansas	AR	\$ 1,743,397	\$ -	\$ 2,000	1
California	CA	\$ 94,486,000	\$ 5,681,150	\$ -	0
Colorado	CO	\$ 2,721,114	\$ -	\$ -	0
Connecticut	CT	\$ 19,623,311	\$ -	\$ -	0
Delaware	DE	\$ 2,300,235	\$ -	\$ 3,325	4
Florida	FL	\$ 19,703,400	\$ 78,590	\$ -	0
Georgia	GA	\$ 10,630,498	\$ 127,305	\$ 127,305	1
Hawaii	HI	\$ 6,636,905	\$ -	\$ -	0
Idaho	ID	\$ 811,441	\$ 43,195	\$ -	0
Illinois	IL	\$ 33,229,742	\$ 600,000	\$ -	0
Indiana	IN	\$ 3,504,368	\$ 768,175	\$ 310,000	4
Iowa	IA	\$ 848,800	\$ -	\$ 11,490	1
Kansas	KS	\$ 3,174,651	\$ 511,510	\$ -	0
Kentucky	KY	\$ 8,951,945	\$ -	\$ -	0
Louisiana**	LA	\$ 6,773,311	\$ 424,375	\$ -	4
Maine	ME	\$ 1,262,720	\$ -	\$ -	0
Maryland	MD	\$ 10,617,996	\$ 59,450	\$ 52,922	8
Massachusetts	MA	\$ 33,455,411	\$ 2,473,595	\$ 446,000	3
Michigan	MI	\$ 7,764,300	\$ 348,275	\$ -	0
Minnesota	MN	\$ 7,600,497	\$ -	\$ -	0
Mississippi	MS	\$ 5,221,705	\$ 179,115	\$ -	0
Missouri	MO	\$ 4,038,765	\$ 30,625	\$ -	0
Montana	MT	\$ 280,666	\$ -	\$ -	0
Nebraska	NE	\$ 22,716	\$ -	\$ -	0
Nevada	NV	\$ 1,783,486	\$ -	\$ 10,835	2
New Hampshire	NH	\$ 1,143,876	\$ -	\$ -	0
New Jersey	NJ	\$ 35,495,064	\$ 1,444,252	\$ 796,460	3
New Mexico	NM	\$ 2,519,445	\$ 420,000	\$ 284,800	3
New York*	NY	\$ 62,967,546	\$ 1,891,545	\$ -	0
North Carolina	NC	\$ 7,936,108	\$ -	\$ -	0
North Dakota	ND	\$ 181,087	\$ -	\$ -	0
Ohio	OH	\$ 12,572,156	\$ 586,225	\$ -	0
Oklahoma	OK	\$ 2,035,424	\$ 98,125	\$ -	0
Oregon	OR	\$ 7,544,995	\$ 340,270	\$ 265,515	1
Pennsylvania	PA	\$ 14,974,600	\$ 594,615	\$ 81,800	1
Rhode Island	RI	\$ 2,170,484	\$ 38,400	\$ 43,510	3
South Carolina	SC	\$ 3,574,555	\$ -	\$ -	0
South Dakota	SD	\$ 330,195	\$ -	\$ -	0
Tennessee	TN	\$ 2,107,251	\$ 350,000	\$ -	0
Texas	TX	\$ 16,242,854	\$ 2,753,920	\$ 750,000	3
Utah	UT	\$ 3,442,235	\$ -	\$ -	0
Vermont	VT	\$ 549,995	\$ -	\$ -	0
Virginia	VA	\$ 10,753,735	\$ 139,555	\$ 6,680	1
Washington	WA	\$ 20,386,128	\$ -	\$ -	0
West Virginia	WV	\$ 1,935,498	\$ -	\$ -	0
Wisconsin**	WI	\$ 10,596,200	\$ 1,632,687	\$ -	5
Wyoming	WY	\$ 31,246	\$ -	\$ -	0
<b>TOTAL</b>		<b>\$ 517,960,661</b>	<b>\$ 21,614,954</b>	<b>\$ 3,456,154</b>	<b>54</b>
<b>Puerto Rico*</b>	<b>PR</b>	<b>\$ 54,583,542</b>	<b>\$1,394,000***</b>	<b>\$ 432,600</b>	<b>2</b>

\* State has not confirmed demand debt and/or private placement amount

\*\* State has a forward private placement agreement in place; \$0 currently outstanding

\*\*\* Some issues subsequently refunded with fixed rate debt in March 2014

## Appendix B: Comparison of NTSD and Gross Tax-Supported Debt (GTSD)

Generally Included in NTSD	Generally Excluded from NTSD/ Included in GTSD
General obligation debt paid from statewide taxes and fees	Self-supporting general obligation debt with an established history of being paid from sources other than taxes or general revenues
Appropriation backed bonds	Moral obligation debt with an established history of being paid from sources other than taxes or general revenues
Lease revenue bonds	Tobacco securitization bonds, with no state backup
Special tax bonds secured by statewide taxes and fees	Unemployment insurance obligation bonds
Highway bonds, secured by gas taxes and DMV fees	Debt guaranteed, but not paid, by the state
GARVEE bonds	Special assessment bonds
Lottery bonds	Revenue bonds of state enterprise (ex. Toll roads)
Moral obligation debt paid from statewide taxes and fees	
Capital leases	
P3's with state concession obligation	
Pension obligation bonds	

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## **APPENDIX B**

## **FITCH RATES VERMONT'S \$111MM GOS 'AAA'; OUTLOOK STABLE**

Fitch Ratings-New York-06 November 2014: Fitch Ratings assigns an 'AAA' rating to the following state of Vermont general obligation (GO) bonds:

- \$25 million GO bonds, 2014 series A (Vermont Citizen Bonds);
- \$50 million GO bonds, 2014 series B;
- \$36 million GO refunding bonds, 2014 series C.

The bonds are expected to sell the week of Nov. 17, 2014; the series A bonds through negotiation and the series B and C bonds through competitive bid.

In addition, Fitch affirms the 'AAA' rating on the state's outstanding \$560.85 million GO bonds.

The Rating Outlook is Stable.

### **SECURITY**

The bonds are general obligations of the state of Vermont backed by the state's full faith and credit.

### **KEY RATING DRIVERS**

**CONSERVATIVE FINANCIAL MANAGEMENT:** Vermont's revenue stream is diverse and revenue estimates are updated at least twice a year. The state takes timely action to maintain balance, and budget stabilization reserves have been maintained at statutory maximum levels despite periods of declining revenue.

**MODERATE LONG-TERM LIABILITY BURDEN:** The state's combined debt and unfunded pension liabilities pose a slightly above-average burden, but one that Fitch views as manageable.

Vermont's debt levels are at the low end of the moderate range and are expected to remain so, as affordability planning is employed. Funded ratios for Vermont's pension systems declined in recent years. Positively, the state regularly budgets for its full projected actuarially calculated annual required contribution (ARC) and has enacted plan modifications with the goal of gradually improving the funded status of the plans.

**RELATIVELY NARROW ECONOMY:** Vermont's economy has diversified but remains narrow with above-average exposure to the cyclical manufacturing sector. While statewide educational attainment and unemployment levels compare favorably to the nation, the state's median age is well above the national level.

### **RATING SENSITIVITIES**

The rating is sensitive to shifts in Vermont's fundamental credit characteristics, particularly its moderate long-term liability profile and fiscal discipline.

### **CREDIT PROFILE**

Vermont's 'AAA' rating reflects its low debt burden, maintained through adherence to debt affordability guidelines, as well as conservative financial management and maintenance of sound reserves. Outstanding debt, which is nearly entirely GO and matures rapidly, has increased slightly in recent years but the debt burden remains moderately low. Debt plus unfunded state pension liabilities as percentage of personal income is slightly above the states' median, but the burden is

very manageable as the state regularly budgets its full projected pension ARC payments. Vermont budgets conservatively, taking prompt action to address projected budget gaps. Its diverse revenue stream includes a state property tax for education, a relatively unique feature for state governments.

#### LIMITED ECONOMY, STILL RECOVERING

The relatively narrow state economy is characterized by larger-than-average reliance on tourism, health and educational services, and manufacturing. The state's relatively small population is older, but more well-educated than the rest of the country. During the recession, Vermont's peak-to-trough monthly employment loss of 4.8% (seasonally adjusted levels) was less severe than the national 6.3% decline. The recovery has been similarly more gradual than the national trend, as through September, the state had recovered 76.2% of the jobs it lost while the national recovery rate was 112.3%. On a non-seasonally adjusted basis, Vermont's 0.5% three-month moving average of year-over-year (yoy) employment growth trailed the national 1.9% rate.

Unemployment levels remain well below those of the nation, at 4.4% in September 2014 compared to 5.9% for the country, but the state's labor force has been flat to declining indicating some weakness in the labor market. The recent sale of IBM's chip manufacturing business to GlobalFoundries is a positive for the state as it should stabilize employment at one of the state's largest factories. Wealth levels are on par with the nation as 2013 per capita personal income of \$45,483 was just slightly ahead of the U.S. Vermont's total personal income growth has been line with national growth in recent years.

#### STABLE FISCAL PROFILE

Vermont's fiscal profile has largely recovered from the recession and remains stable despite a downward revenue forecast revision at the start of this fiscal year. Revenue performance from the state's major general fund tax sources in fiscals 2009 and 2010 was decidedly negative, though the state took prompt action to maintain balance. Revenue performance improved markedly in fiscal 2011 and this trend continued through 2013 with yoy general fund revenue growth of 7.7% in fiscal 2013. The state reported fiscal 2013 ended with a \$21.6 million general fund operating surplus, led by personal income tax (PIT) revenues which increased 10.7%. Prudently, the state recognized that income acceleration due to federal tax law changes inflated PIT collections in fiscal 2013, therefore forecasting much more moderate PIT growth in the enacted fiscal 2014 budget. After enactment, in July 2013 and January 2014, the state revised its revenue estimates upwards based on positive returns through the first half of the year.

Fiscal 2014 general fund revenues ended the year up 3.1% ahead of the prior year, but below the 3.4% rate projected in the state's January 2014 revenue forecast after disappointing second-half results. PIT increased 1.6% over the prior year, while sales and use tax (SUT) decreased 0.6%. The PIT increase was \$22.1 million below the January 2014 forecast of 4.9% yoy growth. While part of the SUT decline was attributable to an increased allocation to the education fund, the state also saw a modest \$1.7 million shortfall versus the January 2014 estimate. Importantly, the preliminary fiscal 2014 general fund results were in line with the forecast used for the enacted budget so the state did not need to make expense adjustments.

A reduction in the state's fiscal 2015 revenue outlook opened up a revenue gap, but the state took prompt action to address the modest shortfall. At its July meeting, the state's revenue forecasting body (Emergency Board) revised fiscal 2015 revenues downward due to a slightly more negative economic outlook and the below-forecast results for fiscal 2014. The state crafted its fiscal 2015 budget on the higher January 2014 forecast. Fitch notes positively that within three weeks of the \$28 million general fund forecast revision (2.1% of forecast revenues), the state enacted a recession plan to address the gap with a mix of one-time and recurring revenue and expense actions. The plan does not use any of the state's general fund budget reserves. Fitch views the current forecast as moderately aggressive given the assumption of robust 6.8% yoy growth in the PIT. Monthly revenue monitoring

and the annual January forecast update should provide the state with ample time to make adjustments to maintain balance if necessary.

Budget stabilization reserves (BSR) in each of the state's three major operating funds as of the close of fiscal 2014 were fully funded and are expected to remain so through the current fiscal year ending June 30, 2015. In addition to the general fund BSR, capped at 5% of prior year appropriations, Vermont also maintains a general fund balance reserve (BR; replacing the former revenue shortfall reserve). The BR also has a cap of 5% of prior year appropriations, and stood well below that at \$5 million ( or 0.4%) at the end of fiscal 2014. Vermont projects the BR will remain stable at \$4.4 million at the end of the current fiscal year. The state also projects the BSRs for the education and transportation funds, its other major operating funds, will remain fully funded at 5% of appropriations at fiscal year-end 2015.

#### LOW DEBT, HIGHER PENSION LIABILITIES

Vermont's tax-supported solid debt profile reflects a moderate burden, straightforward structure, and rapid amortization. Above-average unfunded pension liabilities offset these strengths, though the state has demonstrated its commitment to fully funding the projected pension ARC. As of June 30, 2014, pro forma net tax-supported debt (including the 2014 series A and B) equaled 2.3% of 2013 personal income, which is in line with the states' median. In 1990, the state established a Capital Debt Affordability Advisory Committee (CDAAC) to annually recommend debt authorizations based on a capacity analysis. After recent modest increases in the state's debt burden, the CDAAC's September 2014 preliminary recommendation is to modestly decrease the recommended authorization for fiscal 2016 and 2017 versus prior years. The state has never exceeded the committee's recommended levels. Fitch views the CDAAC as a useful check as the state has no other constitutional or statutory limitations on debt issuance.

Vermont has budgeted and appropriated full projected ARC payments into its pension systems since fiscal 2007, but the unfunded liability remains above-average relative to the state's economic resources. In recent years, the state implemented a series of changes to benefits, employee contributions, and actuarial assumptions to improve the funded status and reduce the long-term liabilities. Impressively, Vermont also made \$35 million in additional contributions on top of full ARC payments in the last two years, using annual operating surpluses. As of June 30, 2014, the state's Vermont State Retirement System (VSRS) was 68.7% funded on a Fitch-adjusted basis (77.9% reported). Similarly, the teachers' plan (for which the state is wholly responsible) was just 53.2% funded on a Fitch-adjusted basis (59.9% reported). Fitch anticipates funded ratios will remain relatively stable and gradually improve, subject to investment performance, as the state continues to make full ARC payments. Combined net-tax-supported debt (as of June 30, 2014) plus unfunded pension liabilities (as of June 30, 2014) was an above-average, but still manageable, 9.7% of 2013 personal income.

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Additional information is available at 'www.fitchratings.com'.

In addition to the sources of information identified in Fitch's Tax-Supported Rating Criteria, this action was additionally informed by information from IHS.

Applicable Criteria and Related Research:

--'Fitch Rates Virginia College Bldg Auth's \$291MM Revs 'AA+'; Outlook Stable' (Oct. 17, 2014);  
--'U.S. State Government Tax-Supported Rating Criteria' (Aug. 14, 2012).

Applicable Criteria and Related Research:

U.S. State Government Tax-Supported Rating Criteria

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## **APPENDIX C**

**New Issue: Moody's assigns Aaa to State of Vermont's \$111M Series 2014  
General Obligation Bonds**

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Global Credit Research - 06 Nov 2014

**Approximately \$559 million in general obligation debt outstanding**

VERMONT (STATE OF)  
State Governments (including Puerto Rico and US Territories)  
VT

**Moody's Rating  
ISSUE**

**RATING**

General Obligation Bonds 2014 Series A	Aaa
<b>Sale Amount</b>	\$25,000,000
<b>Expected Sale Date</b>	11/17/14
<b>Rating Description</b>	General Obligation
General Obligation Bonds 2014 Series B	Aaa
<b>Sale Amount</b>	\$50,000,000
<b>Expected Sale Date</b>	11/17/14
<b>Rating Description</b>	General Obligation
General Obligation Refunding Bonds 2014 Series C	Aaa
<b>Sale Amount</b>	\$36,000,000
<b>Expected Sale Date</b>	11/17/14
<b>Rating Description</b>	General Obligation

**Moody's Outlook** STA

**Opinion**

NEW YORK, November 06, 2014 --Moody's Investors Service has assigned a Aaa rating to the State of Vermont's \$111 million General Obligation Bonds 2014, consisting of Series A (\$25 million), Series B (\$50 million), and Series C Refunding (\$36 million). Proceeds of the Series 2014 A and B bonds will be used to fund various capital projects around the state, the Series 2014 C proceeds are being used to refund outstanding GO bonds for debt service savings. The bonds are expected to sell the week of November 17th. The outlook is stable.

**SUMMARY RATINGS RATIONALE**

Moody's highest rating level reflects Vermont's strong history of financial management, which includes conservative fiscal policies and the maintenance of healthy reserve balances that continue to provide a cushion against any unexpected revenue declines; and manageable debt profile that reflects the state's focused efforts to reduce its debt ratios and maintain well-funded pension systems.

Credit strengths are:

\*History of strong financial management and fiscal policies indicated by conservative budgeting practices.

\*History of prompt action to reduce spending following revenue weakening.

\*Maintenance of budget reserve levels at statutory limit.

\*Steady progress in reducing previously high debt ratios and maintaining an affordable debt profile.

Credit challenges are:

\*Potential service pressures due to a population that is aging at a relatively rapid pace.

\*Decline in job growth.

#### DETAILED CREDIT DISCUSSION

#### SECURITY FOR THE BONDS

The bonds are general obligations of the State, secured by the full faith and credit of the State to pay principal and interest on the bonds.

#### REVENUE WEAKNESS FISCAL 2014 STILL LINGERS IN FISCAL 2015

Fiscal 2014 revenues of \$1.32 billion came in 0.32% (\$4.3 million) under forecast. Vermont experienced underperformance in most of its main tax categories, with personal income tax showing the largest source of weakness. Like most other states, Vermont experienced a decline PIT performance due to the lingering impacts of the 2012 federal fiscal cliff accelerating capital gains revenue into fiscal year 2013. Personal income tax receipts provide roughly 50% of the state's general fund revenue. The state was able to address the small revenue shortfall with transfers from other funds.

In planning for the current fiscal 2015 budget the state passed a \$1.39 billion general fund budget based on the January 2014 consensus revenue forecast. After weaker than expected tax revenue performance in the last part of fiscal 2014, the state adjusted its forecast down by \$28 million to \$1.36 billion. The adjusted fiscal 2015 general fund budget reflects an increase of 2% over fiscal 2014 revenues. Year to date revenue performance through the first quarter of FY 2015 is running below target by 1.2%. While PIT performance remains muted, corporate income tax and sales and use tax receipts are coming in stronger than expected. Looking ahead to the remainder of fiscal 2015, the state is maintaining a conservative revenue outlook while economic and fiscal uncertainty remain. We expect the state to move quickly to resolve any potential shortfalls in revenue performance.

#### ECONOMIC AND FISCAL UNCERTAINTY BALANCED BY STATE'S TREND OF PROACTIVE FINANCIAL MANAGEMENT

While Vermont moved quickly to address budget deficits during the recession, it could still face challenges in its out-year budgets. As in many states, persistent weakness in the global and national economy and political uncertainty at the national level could pose a threat to a strong economic recovery for the state. The governor has been proactive in managing out year costs. During the downturn, the state also increased the frequency of its revenue forecasting, which traditionally was performed on a semi-annual basis. From January 2008 to January 2010, Vermont published quarterly economic and revenue forecasts which enabled the state to identify and provide solutions for any sudden revenue declines. Moody's expects that, like other Aaa-rated states, Vermont will continue its trend of conservative financial management and aggressive approach to dealing with budget shortfalls to manage its current fiscal challenges.

#### BUDGET RESERVE LEVELS MAINTAINED AT STATUTORY FUNDING LEVELS OF 5%

Vermont avoided using any of its fully funded budget stabilization reserve funds (BSR) during the recession. At the end of fiscal 2013, Vermont's General Fund BSR was \$66.16 million which reflects the statutorily required funding level of 5% of prior year budgetary appropriations, a level that has been maintained since 2004. Vermont also maintains a fully funded Transportation Fund BSR, also at 5% of prior year appropriations (\$11.5 million), and the Education Fund BSR at the statutory required level of 3.5% to 5% of prior year expenditures (\$30.34 million). Vermont expects to maintain its budget stabilization reserves at the statutory level through the end of fiscal 2015. During the 2012 legislative session, the state established an additional reserve fund, the General Fund Balance Reserve (GFBR). After satisfying the funding requirements for the General Fund BSR and other statutory reserves, any unreserved undesignated General Fund surplus at the end of the year will be placed in the new GFBR. The GFBR has a balance of \$5 million, as of June 30, 2014. In total, the state has approximately \$123 million (9% of total operating funds) to mitigate revenue fluctuations that may occur.

#### EMPLOYMENT GROWTH OUTPACES THE NATIONAL GROWTH RATE

Continuous job growth in education and health services, Vermont's largest employment sector, has helped offset persistent weakness in other areas of the economy, primarily manufacturing and construction. Vermont never fully recovered manufacturing job losses from the prior economic recession in 2001-2002, and so far the state has recovered about 80% of the payroll jobs lost during the 2007-2010 economic recession. On a year-over-year basis through August 2014, the state has experienced 1.8% growth in private sector jobs, led by the professional and business services sector. According to Moody's Analytics, 2014 full year employment growth is expected to be 1.2%, followed by 2.0% in 2015. The state's unemployment level, which has historically been low, rose rapidly during 2009 but has since stabilized at 4.4% (September 2014) versus 5.9% for the nation. One of the states largest private employers IBM recently sold its operations to Global Foundries which includes infrastructure and a workforce of approximately 4,000. Global foundries is a semi-conductor company and will focus on manufacturing semi-conductor chips in Vermont.

#### DEBT RATIOS ARE LOWER THAN THE U.S. MEDIANS

Vermont's debt levels have declined considerably over the past decade and are now below average relative to Moody's 2014 50-state median, on both a per capita and personal income basis. Debt per capita of \$878, compared to the state median of \$1,054, ranked Vermont 30th among the fifty states. Debt to total personal income of 2.0%, compared to the 2.6% state median ranked Vermont 34th. Both ratios represent steady improvement in Vermont's debt profile, reflecting efforts by the state's Capital Debt Affordability Advisory Committee which oversees long-term capital planning for the state.

Vermont's overall pension funding levels have historically been strong relative to other states. Due to the broad based market losses experienced in 2008, the state's two pension systems have seen a decline in funding ratios, particularly in 2009. Based on Vermont's fiscal 2012 pension data, we have calculated that the overall retirement systems' adjusted net pension liability (ANPL) was \$3.9 billion, 80% of state governmental revenues, above the 50-state median of 63.9%. Other pension ratios such as ANPL to personal income, GDP, and population are similarly slightly above the median. The state has taken steps to address the liability, since 2012 Vermont has appropriated contributions in excess of the ARC to each of its main retirement systems. Approximately \$37.2 million in excess was appropriated to the state employees retirement system and \$14.1 million in excess was appropriated for the teachers retirement system since 2012.

As of June 30, 2014 Vermont's assessment of its other post employment benefit (OPEB) liability reflects \$1.07 billion for state employees and \$766.7 million for teachers. The state has not decided on a funding mechanism for either of the OPEB liabilities, however they have set up an irrevocable trust fund for the state employees to initially be funded with excess revenues from Medicaid part D reimbursements. As of June 30, 2014 this trust fund held \$18.9 million of assets.

#### Outlook

The outlook for Vermont's general obligation debt is stable. Moody's expects that the state will continue its trend of proactive and conservative fiscal management in light of slower economic recovery. We believe that Vermont will continue to demonstrate the willingness and ability to respond with budget adjustments as needed to maintain budget balance.

#### What could make the rating go - DOWN

- \*A break from the state's history of conservative fiscal management.
- \*Emergence of ongoing structurally imbalanced budgets.
- \*Depletion of budget reserves without swift replenishment.
- \*Liquidity strain resulting in multiyear cash flow borrowing

The principal methodology used in this rating was US States Rating Methodology published in April 2013. Please see the Credit Policy page on [www.moody.com](http://www.moody.com) for a copy of this methodology.

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## **APPENDIX D**

# Research

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## Vermont; General Obligation

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# Vermont; General Obligation

## Credit Profile

US\$50.0 mil GO bnds ser 2014 B due 08/15/2034		
<i>Long Term Rating</i>	AA+/Stable	New
US\$36.055 mil GO rfdg bnds ser 2014 C due 08/15/2027		
<i>Long Term Rating</i>	AA+/Stable	New
US\$25.0 mil GO bnds (Citizen Bnds) ser 2014 A due 08/15/2024		
<i>Long Term Rating</i>	AA+/Stable	New
Vermont GO		
<i>Long Term Rating</i>	AA+/Stable	Outlook Revised

## Rationale

Standard & Poor's Ratings Services revised the outlook on Vermont's general obligation (GO) bonds to stable from positive, and affirmed its 'AA+' rating on the bonds. At the same time, Standard & Poor's assigned its 'AA+' rating, with a stable outlook, to Vermont's series 2014 A, B, and C GO bonds.

The outlook revision reflects Vermont's slower-than-average economic recovery, which continues to pressure the budget, in our view.

The ratings reflect our opinion of the state's:

- Diversifying economic base that is characterized by above-average income levels and low unemployment rates but a slower-than-average pace of growth by most measures recently;
- Strong financial and budget management policies that have contributed to consistent reserve and liquidity levels over time;
- Well-defined debt affordability and capital planning processes, in our view, that have limited leverage and contributed to a modest tax-supported debt burden with rapid amortization of tax-supported debt; and
- Significant pension and other postemployment benefits (OPEB), which remain sizable relative to those of state peers despite some recent reform efforts.

The state's GO bonds are secured by Vermont's full faith and credit pledge. The bond proceeds will be used for various capital projects and refunding of certain outstanding debt for interest cost savings.

Demographic trends for Vermont have been weak relative to the region and national trends. The estimated population of 627,000 in 2013 is only 0.1% above 2010 levels. Despite this weaker demographic pattern, income levels have expanded at a healthy pace and per capita personal income has been above the U.S. for the past three years. Vermont's pace of economic recovery has been uneven and more recently, growth has lagged the U.S.; we expect this to continue.

The state has actively managed its budget over time, which is a credit strength, and has consistently maintained financial reserves, providing flexibility to address midyear budget imbalance. Unaudited budgetary basis results for

fiscal 2014 indicate a \$14 million operating surplus in the general fund before transfers. After transfers, the state projects a slight decline in the total general fund reserve balance to \$71.2 million (5.1% of general fund expenditures) from \$74.4 million. For the general fund, the budget stabilization reserve increased to \$66.2 million and an additional \$5 million was available in the reserve for general fund surplus/revenue shortfall reserve. This additional reserve was established by the legislature in 2012. This reserve can be funded with budget surpluses after the existing budget stabilization fund and other statutory requirements are funded, up to a level of 5% of prior-year appropriations. The education and transportation fund reserves were also maintained at their statutory maximum of 5% at year-end. General fund tax revenues for fiscal 2014 of 3.6% were above fiscal 2013's. Growth in fiscal 2013 was 8%, which we consider strong, due to federal tax policy changes during that year.

The revenue projection for the fiscal 2015 general fund budget is now \$1.37 billion following a downward adjustment in July of this year of \$28.8 million, or about 2%. The most significant adjustment was corporate income tax revenue, which was adjusted down by 1%. There were also slight revisions in the education and transportation fund revenues. Despite these revisions, the budgets for the general, education, and transportation funds project ending balances at statutory maximums at the end of fiscal 2015. The state immediately implemented a rescission plan that reduces certain appropriations and adjusts certain revenue items. We believe this swift action should ensure balance at year-end; however, year-to-date tax revenue collections are below the revised estimate, which we think could lead to additional revisions.

Officials indicate that through the first four months of fiscal 2015, general fund tax revenues are about 2.7% below forecast, with the primary negative variance in personal income tax collections. The transportation and education fund revenues are performing in line with revised estimates.

The state has expanded Medicaid under the Affordable Care Act (ACA) and has established a health benefits exchange. Vermont currently enrolls individuals who earn up to 350% of the poverty line in state health programs so the ACA eligibility expansion has resulted in some recurring federal revenue to the state as well as federal funds for other elements of implementation including grants to develop its health benefits exchange. The state has had some technical and security issues with the exchange but officials indicate they have been able to continue enrollment. We believe that ACA implementation and general caseload activity could pressure the state's budget in the future. Vermont currently plans to implement universal health care coverage for all residents by calendar year 2017 but it will need a federal waiver to implement and other triggers must be met before implementation occurs.

Vermont's debt burden is moderate overall and all tax-supported debt issuance is governed by a comprehensive capital and debt affordability process. Pension liabilities have grown considerably during the past several years and funded ratios steadily deteriorated through fiscal 2013. The state has increased pension funding toward annual required contribution (ARC) levels, and contributions in fiscal years 2012-2014 were significantly above the actuarially determined annual pension costs of the two pension systems. We expect that these higher contributions should improve funding levels in future years. The updated pension valuations for fiscal 2014 indicate that funding levels improved under the new GASB 67 reporting requirements with assets reported on a market value basis. Despite this improvement, funded ratios have been below those of state peers. OPEB liabilities also remain high, with limited asset accumulation despite the creation of a trust fund.

Based on the analytical factors we evaluate for states, on a scale of '1' (strongest) to '4' (weakest), we have assigned Vermont a composite score of '1.7'.

## Outlook

The stable outlook reflects Vermont's slower-than-average economic recovery, which continues to pressure the budget, in our view. In addition, pension and OPEB liabilities remain high relative to those of state peers. We believe that the state has a very strong budget management framework and should this lead to improved reserve levels in the future, a higher rating could be warranted. In addition, we believe that there has been progress in increasing pension contributions and the state has taken certain actions to begin to address OPEB liability. Improved liability position could also translate to a higher rating. Although we do not envision it at this time, given Vermont's history of proactively managing its budget and recent actions to address retirement liabilities, substantial deterioration of budget reserves or a deteriorating liability position could negatively pressure the current rating.

## Government Framework

Vermont does not have a constitutional or statutory requirement to enact or maintain a balanced budget, but it has consistently maintained sound finances. In our view, the state has significant flexibility to increase the rate and base of its major tax revenues, which include income taxes, sales taxes, and a statewide property tax that funds the state's support of local education. We view the state's revenue sources as diverse. Voter initiatives cannot affect the state. Vermont maintains the ability to adjust disbursements in order to maintain sufficient liquidity. Debt service can be paid without a budget, but there is no other legal priority for debt.

Vermont's tax structure is broad, and its revenue sources are diverse across several operating funds. The general fund relies primarily on unrestricted revenues from personal and corporate income, sales and use, and meal taxes.

The education fund relies primarily on a statewide property tax, and an appropriation from the general fund. The education stabilization reserve ended the year at the statutory maximum of 5% of expenditures. The transportation fund relies primarily on federal-match grant revenues, a motor vehicle license fee, and a motor fuel tax.

On a scale of '1' (strongest) to '4' (weakest), we have assigned a '1.6' to Vermont's government framework.

## Financial Management

### Financial Management Assessment: 'Strong'

Standard & Poor's considers Vermont's financial management practices "strong" under its FMA methodology, indicating financial practices are strong, well embedded, and likely sustainable.

Much of Vermont's debt and financial management practices are embedded in state statute. These, along with internally developed policies, guide the state's long-term budget and capital planning, debt management, and investing practices.

The state has a well-established consensus revenue-estimating process. According to statute, the joint fiscal office and administration provide their respective revenue estimates for the general, transportation, and federal funds for the current and next succeeding fiscal year to the Vermont Emergency Board.

Vermont law also requires a long-term capital plan. The governor submits a capital budget annually to the General Assembly based on debt management provisions outlined by the state's capital debt affordability advisory committee. The committee's estimate is nonbinding, but the state legislature has never authorized new long-term GO debt in excess of the committee's estimated amount. The state has formal debt management policies, including a statutory debt affordability analysis developed by the capital debt affordability advisory committee that Vermont integrates into the operating budget development process and updates at least annually. Vermont has not entered into any interest rate swaps and does not have an adopted swap management policy. Statutory restrictions and adopted administrative policies govern investment management, and the office of the state treasurer monitors compliance.

### **Budget management framework**

The state has multiple tools to assist financial management. Vermont monitors revenues and publishes results monthly; and the emergency board meets at least twice annually, in July and January, to evaluate the revenue forecast and make adjustments, if necessary. The state forecasts also include Medicaid revenues and spending. These consensus forecasting meetings can be convened more frequently, and were held quarterly during fiscal years 2008 through 2010, due to the recession and the potential impact on revenues and expenditures. The emergency board includes the governor and the legislative chairs of the house and senate fiscal appropriations committees. The forecasting process includes traditional economic and revenue forecasting, which Vermont performs with the assistance of outside economists, for the current and next succeeding fiscal year, as well as a less detailed forecast for the next eight years. The state also forecasts Medicaid revenues and spending.

The governor has statutory authorization to adjust the budget within certain revenue and expenditure change limits when the Vermont Legislature is not in session. Vermont maintains stabilization reserve funds at statutory levels to reduce their effect on annual revenue variations. In 1993, the state created separate budget stabilization reserves within the general and transportation funds. The amount in each of these reserves is not to exceed 5% of previous-year appropriations. In fiscal 1999, the state created an education fund budget stabilization reserve, which is to fund in a range between 3.5%-5.0% of expenditures. Vermont statute requires annual funding of such reserves. The governor included a proposal in the fiscal 2013 executive budget to increase the general fund stabilization fund to 5.25% from 5%, but instead, the legislature added a second general fund reserve fund with a separate cap of 5% of expenditures.

On a scale of '1' (strongest) to '4' (weakest), we have assigned a '1.0' to Vermont's financial management.

## **Economy**

Vermont's population has grown more slowly than the nation as a whole; for 2000-2010, its population grew by only 0.26% compared with the nation's 0.9%. The state's age dependency ratio in 2013 grew to 56.7%, which is still 3.1% below the U.S. level, although the difference has narrowed from previous years. Although the state's per capita personal income in 2013 was slightly above the nation's, at 103% of the national level, its nominal gross state product (GSP) was only 89% of the U.S. level. Still, real GSP growth was in line with the U.S. through 2013, growing at about

0.34% on average per year since 2010. Vermont's unemployment rate has historically remained well below the nation's, including 4.4% in 2013 compared with 7.4% nationally. In September 2014, the state's unemployment rate remained at 4.4% compared with 5.9% for the nation.

The state reports it has recovered more than 76% of the jobs lost during the recession and we expect it will reach its pre-recession peak in mid-2015, based on IHS Global Insight forecasts. Health care employment, in particular, will be a driver of growth; however, IHS Global Insight forecasts very slow total employment growth of 0.6% in 2014 and an average annual growth rate of 0.64% between 2015 and 2017, which is well below forecast national employment growth rates. Despite the slow forecast employment growth, IHS projects unemployment rates to remain low in the next few years at about 3.5%, as labor force growth will be stagnant. It projects real GSP and personal income growth to average 2% and 4.5%, respectively, during the 2015 to 2017 period. Although housing starts in the state declined in the first quarter of 2014 due to difficult winter weather, we expect slow growth in home construction and recovery of home prices in the near term similar to trends in the New England region (see "U.S. State And Local Government Credit Conditions Forecast," Oct. 15, 2014,). Vermont's quality of life and well-educated workforce provide economic development opportunities; however, the state ranks low among the states in its business tax and regulatory environment and its slow labor force growth could stifle future economic growth prospects.

Vermont's employment diversity by sector is generally in line with the nation's, in our view, and has not demonstrated more cyclical than the U.S. However, IBM, the second-largest private-sector employer in the state, accounts for a large portion of the state's manufacturing employment and exports. IBM employed about 4,000 at its Essex Junction plant, which manufactures semiconductors for consumer electronic products, including chips for cell phones and other devices. According to IHS Global Insight, a large portion of the state's manufacturing exports includes computers and electronics products from the IBM facility. In October 2014, GlobalFoundries announced it acquired IBM's semiconductor manufacturing operations, including the Vermont facility. We understand GlobalFoundries has indicated it intends to keep the site open and has no current plans for layoffs. The Vermont Yankee nuclear power plant is expected to cease power production by the end of 2014, although state officials indicated that this closure is not expected to immediately affect employment -- as the transition to site restoration will take multiple years -- or power prices, given that Vermont power companies do not purchase power from this plant.

On a scale of '1' (strongest) to '4' (weakest), we have assigned a '1.8' to Vermont's economy

## Budgetary Performance

Vermont ended fiscal 2013 -- the last audited year -- with the budget stabilization reserves in the general fund, transportation fund, and education fund fully funded at their maximum statutory levels of 5% of the previous year's budgetary appropriations, along with some additional reserves in the general fund. These three funds' stabilization reserves remained funded at their statutory maximums through the recent recession. Total general fund balance decreased by \$19.2 million to \$159.2 million.

The state maintains separate budget stabilization funds in its general, transportation, and education funds that are available to offset undesignated fund deficits. The statutory maximum for the three stabilization reserves is 5% of the

prior-year budgetary appropriations, and the education stabilization fund also has a statutory minimum of 3.5% of the prior-year appropriation. The three stabilization funds have been at their statutory maximums since fiscal 2007. Vermont pools the cash reserves for these major funds, which results in sufficient liquidity for operations during the fiscal year. Officials indicated that the state has not externally borrowed for liquidity since fiscal 2004.

On a scale of '1' (strongest) to '4' (weakest), we have assigned a '1.4' to Vermont's budgetary performance.

## Debt And Liability Profile

### Debt

Including this issue, Vermont's total tax-supported debt was about \$1,004 per capita, or 2.2% of personal income and 2.1% of GSP. The fiscal 2014 tax-supported debt service was about 2.3% of general governmental expenditures. Vermont's debt portfolio consists of only fixed-rate debt, without any exposure to interest rate swaps. We consider the debt amortization to be rapid, with officials retiring more than 67.9% of GO debt over the next 10 years. The state has a debt affordability committee that annually recommends a maximum amount of debt issuance for the next fiscal year, and while the committee's recommendations are not binding, Vermont has consistently adhered to them. The recommendation for fiscal 2016 and 2017 has not been finalized but based on preliminary information, debt issuance could be lower in both years based on current revenues estimates. Debt service can be paid without a budget, but there is no other priority for the payment of debt before other general state expenditures.

### Pensions

Vermont maintains three statutory pension plans: the Vermont State Teachers' Retirement System (VSTRS), with about 9,950 active members; the Vermont State Retirement System (VSRS), which includes general state employees and state police and has about 8,300 active members; and the municipal employees' retirement system (6,664 members). The state appropriates funding for the first two systems; the municipal system is supported entirely by municipal employers and employees. The pension systems' funded ratio for the combined VSTRS and VSRS systems is below average, in our view, at 67.6% as of June 30, 2014, and has declined from 72.7% as of June 30, 2010. The valuation uses a "select and ultimate" method for developing interest rate assumptions, which results in an effective expected rate of return of 8.1% for VSRS and 7.9% for VSTRS, which is somewhat high relative to state peers. The combined unfunded actuarial accrued liability (UAAL) at June 30, 2014 was \$1.5 billion, or \$2,426 per capita, which we also view as below average; however, the state estimates that the combined pension UAAL is lower at \$1.3 billion as of June 30, 2014, and about \$2,100 per capita under GASB 67 standards, reflecting higher actuarial value of assets based on market value and an assumed 8.2% expected rate of return.

The state budgets for pension contributions based on percentage rates of each member's annual earnable compensation and the actuarial valuations from the prior fiscal year. It budgets for the VSTRS ARC appropriation at the beginning of the year. The VSRS ARC accrues as a percentage of salary expenses throughout the year and the state adjusts subsequent appropriations to reconcile variations in actual payroll from year to year in order to meet the projected ARC. Since fiscal 2012, actual annual contributions to the systems have exceeded the respective ARCs, which state officials attribute to conservative budgeting. In fiscal 2014, actual contributions of \$56.5 million to VSRS represented 132% of the pension ARC. The actual contribution to the VSTRS system in fiscal 2014 represented 106%

of the ARC, which included amounts to be used toward the payment of retiree health care expenses.

## OPEB

The state's unfunded OPEB liability is relatively high, in our view, at \$2,937 per capita, although the state has recently made plan adjustments to manage the liability. Vermont offers postemployment medical insurance, dental insurance, and life insurance benefits to retirees of the single-employer VSRS and the multiemployer VSTRS. The VSTRS plan's OPEB UAAL improved to \$713 million as of June 30, 2013, from \$827 million in June 2012, primarily reflecting a change to a Medicare Part D Employer Group Waiver Plan (EGWP) for prescription drug benefits from a retiree drug subsidy (RDS) program. As of June 30, 2014, however, the VSTRS OPEB UAAL increased to almost \$767 million, reflecting recent demographic experience and other refinements of estimated savings related to the EGWP implementation. The fiscal 2015 OPEB cost is almost \$45 million compared with \$42.8 million in fiscal 2014. The VSTRS contributes to the liability on a pay-as-you-go basis, but Vermont did not historically break out the actual employer contribution, including it, instead, through the pension contribution without an explicit appropriation. In 2014, Vermont passed legislation to establish a separate retired teachers benefit fund to fund current-year health care expenses, which will receive funding from general fund appropriations, EGWP subsidies, and a future health care fee for new hires.

The state has established an OPEB trust fund for the VSRS, but as of June 30, 2014, it contained only \$18.9 million of assets, for a 1% actuarial asset funded ratio. The actuarial annual OPEB cost in fiscal 2014 was \$67 million for the VSRS, of which Vermont paid almost 36% under pay-as-you-go funding. We understand the VSRS will also offer Medicare prescription drug benefits through an EGWP beginning Jan. 1, 2015. Before this change, the VSRS actuarial valuation had assumed the system contributed Medicare Part D refunds from the RDS program into the irrevocable trust fund. Assuming no future contributions to the trust after implementation of EGWP, the June 30, 2014 OPEB valuation assumed a lower 4% discount rate (from 4.25%) which, along with rising assumed per capita costs and demographic experience -- and despite the savings from the EGWP implementation -- increased the estimated OPEB UAAL to about \$1 billion from \$932 million as of June 30, 2013. The separate multiemployer Vermont Municipal Employees Health Benefit Fund for local government is administered by the state, but has no liability to the state, and is not included in our OPEB calculations.

On a scale of '1' (strongest) to '4' (weakest), we have assigned a '2.6' to Vermont's debt and liability profile.

## Related Criteria And Research

### Related Criteria

- USPF Criteria: State Ratings Methodology, Jan. 3, 2011
- Ratings Above The Sovereign: Corporate And Government Ratings—Methodology And Assumptions, Nov. 19, 2013
- USPF Criteria: Financial Management Assessment, June 27, 2006

### Related Research

- U.S. State And Local Government Credit Conditions Forecast, Oct. 15, 2014
- State And Local Government Ratings Are Not Directly Constrained By That Of The U.S. Sovereign, Aug. 8, 2011

### Ratings Detail (As Of November 10, 2014)

**Ratings Detail (As Of November 10, 2014) (cont.)**

Vermont GO bnds		
<i>Long Term Rating</i>	AA+/Stable	Outlook Revised
Vermont GO bnds (Citizen bnds)		
<i>Long Term Rating</i>	AA+/Stable	Outlook Revised
Vermont GO bnds (Vermont Citizen Bnds)		
<i>Long Term Rating</i>	AA+/Stable	Outlook Revised
Vermont GO bnds (Vt Citizen Bnds)		
<i>Long Term Rating</i>	AA+/Stable	Outlook Revised
Vermont GO bnds (Vt Citizen Bnds)		
<i>Long Term Rating</i>	AA+/Stable	Outlook Revised

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## **APPENDIX E**

## VERMONT ECONOMIC OUTLOOK

### *Executive Summary*

- This NEEP<sup>1</sup> forecast for the Vermont economy calls for a continuation of the current economic upturn through calendar year 2018. While geopolitical instability in the Middle East and Eastern Europe remains a concern, at this point it does not reach the level of threatening the current economic expansion-recovery.
  - Seasonally adjusted payroll job data from the Vermont Department of Labor through July 2014 indicate that the State has added a total of 1,300 payroll jobs since last December—a 0.4% rate of increase. Throughout calendar year 2014, month-to-month data show the uneven character of month-to-month job changes. Through July, there have been no two consecutive months of seasonally adjusted job increases or declines across the entire calendar year.
- The data also show that Vermont’s labor market recovery from the “Great Recession” is nearly complete. Through July, the State has re-captured 12,700 jobs (or 86.4%) of the 14,700 jobs the State lost during the downturn—despite the well-publicized job reductions at the State’s largest private employer IBM.
  - As this forecast update is completed, Vermont is competing with the other states in the New England region to be the second fastest state in the region to complete its labor market recovery (following the lead of the state of Massachusetts).
  - There is no doubt that, but for the 410 layoffs at IBM over the mid-2012 to mid-2013 period, the State by now would have easily completed its labor market recovery and numerically re-captured all of the employment ground lost during the last recession.
- State economic activity going forward will be underpinned by the general rising tide of the U.S. economy, and the ability of the State’s businesses to fill their niches in the local, regional, national and global market places.
  - The Moody’s Analytics national forecast calls from a strengthening in U.S. economic activity across calendar year 2014 and into calendar years 2015 and 2016. Economic activity in calendar year 2017 and 2018 is expected to continue to increase, but fall back somewhat as the current business cycle ages further. Even though U.S. output and job growth are expected to slow significantly in calendar year 2018, the forward momentum gained through the current economic upturn is expected to continue to overcome these restraining factors.
  - For Vermont, forward progress will be found across all but two of the State’s broad employment categories—the exceptions being the Information Sector and the Government Sector.
    - Job gains in the goods-producing sector will be paced by the construction sector and food manufacturing sector. The forecast also expects that job growth in the trade, transportation, and utilities sector will be slowed by the closure of the Vermont Yankee nuclear power plant located in Vernon.

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<sup>1</sup> NEEP refers to the New England Economic Partnership.

- Repairs and restoration activity related to the aftermath of Tropical Storm Irene continue to assist in providing some forward momentum continue through calendar year 2015—as storm recovery activity continues, but tails off through the initial stages of the current forecast update period.
- Compared to last fall’s NEEP forecast, the revised NEEP outlook is again mixed—with slightly lower near-term activity forecasted for calendar years 2014 and 2015 and somewhat higher activity levels forecasted for calendar years 2016 and 2017 versus the NEEP forecast last fall.
  - The forecast once again expects that the pace of economic activity will pick up to more typical rates of increase after dealing with the near-term effects of the transitory factors that underpinned the economic “speed bump” that occurred during the first half of calendar year 2014.
- Improvement in the state’s unemployment rate will continue in the near term but flatten over the forecast period, but will occur at a slower pace than either the U.S. or New England regional economies. As mentioned in previous NEEP outlooks, this reflects Vermont’s significantly lower rate of unemployment to begin with, and the state’s aging demographic profile.
  - The average annual unemployment rate in Vermont is expected to drop by 1.2 percentage points over the calendar year 2013-2018 forecast period, declining to an average annual rate of 3.2% for calendar year 2018.
- The conference theme of this NEEP outlook update concerns the economic development challenges and opportunities for the New England states as we look to the future.
  - Vermont, like her New England sister states, has many of the same economic development advantages and challenges. Chief among the state’s challenges is Vermont’s remote and northern location, its aging population, its higher than average energy costs, its relative lack of available investment capital, and its reputation (whether deserved or undeserved) as a higher than average taxed state in what is viewed as a relatively higher taxed New England region. It is also evident that Vermont is a state with geographic disparities, and this offers a particular challenge to state economic development policy makers.
  - In terms of economic development advantages, the state enjoys the advantage of a well-educated work force, strong commitment to K-12 education, a well-developed telecommunications system covering nearly all of the state, small-accessible size that makes business entry, networking, and government officials “accessible,” low crime rates, a reputation for high quality natural and recreation amenities, and a strong brand identity for certain types of products and services.
- Vermont’s collective economic development effort is executed by the State Agency of Commerce and Community Development in cooperation with roughly a dozen regional economic development corporations (of varying sophistication in terms of their services), other partners such as VEDA and the Vermont Technology Council, a system of regional marketing organizations and chambers of commerce, and municipal development departments throughout the state.

- The state recently completed a U.S. Economic Development Administration-funded Comprehensive Economic Development Strategy (CEDS) effort designed to better coordinate the efforts of the Agency of Commerce and Community Development and its partners under one umbrella strategy and to allow the state to more effectively compete for federal infrastructure and other economic development dollars.
  - Although it is Vermont’s first statewide CEDS effort, it is the fourth statewide economic development strategy since 1997.
  - The CEDS is part of an effort to become more strategic and to unify current, sometimes widely divergent efforts under the same strategy umbrella.
  - The CEDS process had broad support from a number of stakeholders involved in economic development. The broad input process hopefully has resulted in the type of Buy-in needed for full and complete efforts implementation. Only time will tell if this latest effort to leverage federal infrastructure and other dollars in the aftermath of Tropical Storm Irene will ultimately be successful.

**Review of Recent U.S. Economic Developments:** Although U.S. output growth hit a speed bump during the first half of calendar year 2014, national economic fundamentals continue to look relatively strong. Following a surprising 2.1% decline in U.S. GDP<sup>2</sup> during the first quarter of calendar year 2014—output growth rebounded to increase at a 4.2% annualized rate during the second quarter, reinforcing the view that the first quarter decline was more an aberration than the start of a trend.<sup>3</sup> In the labor market, total nonfarm payroll jobs averaged just north of 225,000 new jobs per month over the first half of calendar 2014, a noticeably stronger pace of month-to-month job increases versus the same time period in 2013. In fact, payroll job additions through August in the U.S. economy have been enough to push the total job increase so far during the recovery from the “Great Recession” to more than 9 million jobs.<sup>4</sup> The unemployment rate also has fallen significantly over the recovery to 6.1% in August, representing an improvement of just over 1.0 percentage points during the past year. Moreover, despite the sharp decline in GDP during the first quarter of calendar 2014, recent indicators on spending and production suggest that growth has rebounded.

Activity in the housing sector, however, bears close watching. Since the end of the “Great Recession,” housing has made little forward progress after the initial flush of activity tied to investor activity. Most of the slowdown in housing activity over the past year appears tied to last year’s increase in mortgage interest rates and a lack of new household formation in the age categories that typically correspond to first time home-buyers.<sup>5</sup> Housing market activity so far in calendar year 2014 has continued to be disappointing overall, and it is difficult to imagine the U.S. economy shifting into a higher gear without the full participation of the housing sector.

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<sup>2</sup> GDP refers to Gross Domestic Product.

<sup>3</sup> Many of the factors that led to the first quarter decline in GDP looked either temporary (e.g. due to the weather) or due to faulty preliminary assumptions (e.g. in health care services).

<sup>4</sup> Where the labor market recovery from the “Great Recession” was recently completed. However, it should be noted that the full labor market recovery is only true in terms of the number of jobs only. Early on in the labor market recovery, there was a widely reported difference in the quality of jobs recovered versus those lost during the downturn. While reports indicate the quality of the jobs added recently have improved, the overall track record of the labor market recovery from the “Great Recession” is one of lower quality new jobs replacing the higher quality jobs lost during the downturn.

<sup>5</sup> Which, in some respects, may be tied to the recent increases in student loan debt.

While there has in fact been good—albeit it slow—forward progress in the national economy since the end of the “Great Recession,” the U.S. economy continues to operate below potential. The unemployment rate still remains above the level associated with long run full employment. Labor force participation is still below normal—and has shown a disquieting declining trend in recent times that exceeds what would be expected by an aging population. Those indicators are among those that point to the still significant amount of slack that remains in labor markets today. This slack is underpinning the on-going slow pace of increase in key measures of hourly compensation that have characterized the current recovery to-date.

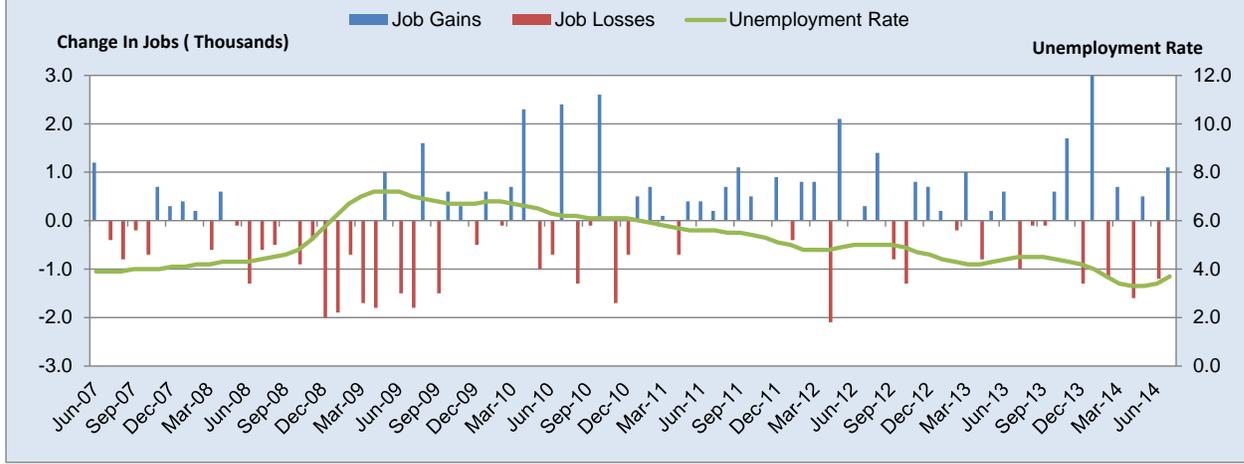
The other side of the double-edged sword associated with the slower than expected forward recovery progress is that the inflation rate remains low—and is apparently a “non-factor” in the economic and monetary policy formulation process. Although the inflation rate has pinged up somewhat higher in recent months, it still remains below the 2.0% level—which is the reported long term inflation target of Federal Reserve policy makers. Pressures in food and energy prices have pushed the Personal Consumption Expenditures (PCE) price index up to around 2.0% over the first half of calendar year 2014. The total core inflation rate, a price increase measure that excludes food and energy prices, is expected to increase by less than 2.0% for all of calendar year 2014. Those types of price increases are indicative of an economy that still has a way to go before reaching a level of activity that could be considered healthy and “normal,” at least in terms of price changes

**Review of Recent Vermont Economic Developments:** In Vermont, the state’s continued low unemployment rate (which has ticked up slightly in recent months to 3.7% in July—but is down from 4.5% a year ago on a seasonally adjusted basis)—continues to track as the lowest in the New England region and among the lowest states (e.g. tied for second lowest in July among the 50 states) in the U.S. as a whole. The Vermont Department of Labor (VDOL) in mid-August also reported a seasonally adjusted job increase of 1,100 jobs in July from the revised June labor market data—continuing a one month up-one month down, or “see-saw” pattern to seasonally adjusted month-to-month job changes in the state.

Overall since the end of last calendar year (2013), month-to-month seasonally adjusted nonfarm payroll job changes in Vermont have essentially moved sideways. The data show that Vermont has added 1,300 payroll jobs since last December—corresponding to a 0.4% rate of seasonally-adjusted job additions. The data through the month of July also continued the trend of alternating months of seasonally adjusted employment increases or declines—with no two consecutive months of seasonally adjusted job gains or losses across the entire 2014 calendar year to-date (see below).

## Vermont Jobs-Unemployment (S.A.), June 2007 - July 2014

Source: U.S. Bureau of Labor Statistics; Boston Federal Reserve Bank



Looking at the labor market recovery to-date from the “Great Recession” in Vermont, the data show that the State has re-captured 12,700 jobs, or 86.4% of the 14,700 jobs the State lost during the downturn. Vermont is competing in this area with the other states in the New England region to be the second state to make a full labor market recovery (following the lead of the state of Massachusetts). No doubt, but for the 410 layoffs at IBM over the mid-calendar year 2012 to mid-calendar year 2013 period, the State by now would have very likely re-captured all of the employment ground lost during the last recession.

The year-over-year job change numbers for July 2014 show a similar up and down character reflecting the saw-toothed pattern described above. Vermont’s best year-over-year performance is found in the construction sector with job additions on a year-over-year basis of +5.8%. That performance corresponded to Vermont’s ranking in the highest U.S. (at 12<sup>th</sup>—along with the government sector at +1.1% year-over-year and 12<sup>th</sup> nationally) and its highest England ranking (1st—again along with the government sector), and reflected the significant volume of construction projects in the Northeast Kingdom region and in Northwest Vermont. Financial activities at +2.4% year-over-year through July 2014 (ranking Vermont 13<sup>th</sup> in the U.S. and 2<sup>nd</sup> in New England) and professional and business services at +2.2% (ranking Vermont 31<sup>st</sup> in the U.S. and 4<sup>th</sup> in New England) round out the employment categories making significant gains in July 2014. Among the other categories, the leisure and hospitality sector (at +0.9% year-over-year change—ranking the sector at 44<sup>th</sup> nationally and 6<sup>th</sup> in New England) and the education and health services sector (at +0.5% year-over-year—ranking the sector 46<sup>th</sup> nationally and 5<sup>th</sup> in the New England region) round out the larger employment sectors.

The weakest year-over-year job changes have come in the information sector (at -10.6% in July of 2014 versus July of 2013) and the manufacturing sector (at -0.3% in July of 2014 versus July of 2013). This is not surprising given the state’s factory sector has had to deal with two significant layoffs at IBM over the last 18 months in this category.

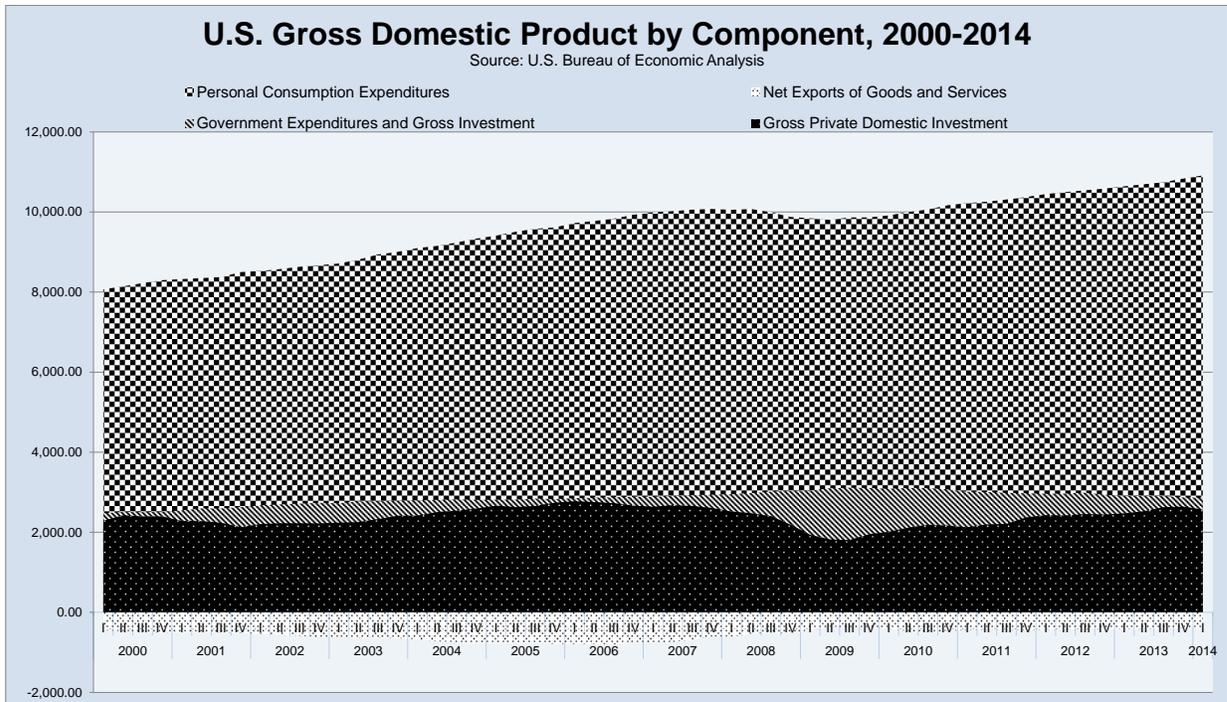
However, looking only at year-over-year job changes can sometimes be misleading since they emphasize only recent job labor market developments. Looking back at the job change numbers of the last three years indicate that progress toward a labor market recovery is still being made in the Vermont economy, with many of the same sectors that have been flat or down over the last year

actually experiencing modest job gains over the longer three-year time horizon. Since July of 2011, the Vermont economy has added 7,600 nonfarm payroll jobs overall—including 6,800 private sector nonfarm payroll jobs—corresponding to growth rates of 2.5% and 2.8%, respectively. This is consistent with a Vermont labor market that: (1) did not lose as many jobs as its national or New England regional counterparts did during the “Great Recession,” and (2) made more significant recovery earlier in the labor market recovery process than was the case nationally and in many other states.

**Overview of Key Factors Impacting the Short-Term Economic Outlook:** Even though the economy appears to possess the underlying fundamentals to move forward on a somewhat higher performance plane, there remain a number of factors that will shape the pace and profile of the economy’s continued forward progress—at least over the short-term. Some of these factors have been generally supportive of the economic recovery-upturn, while others have exerted a drag. Some are short-term factors, while some others appear to be more secular, or long-term, in nature. These factors include the following:

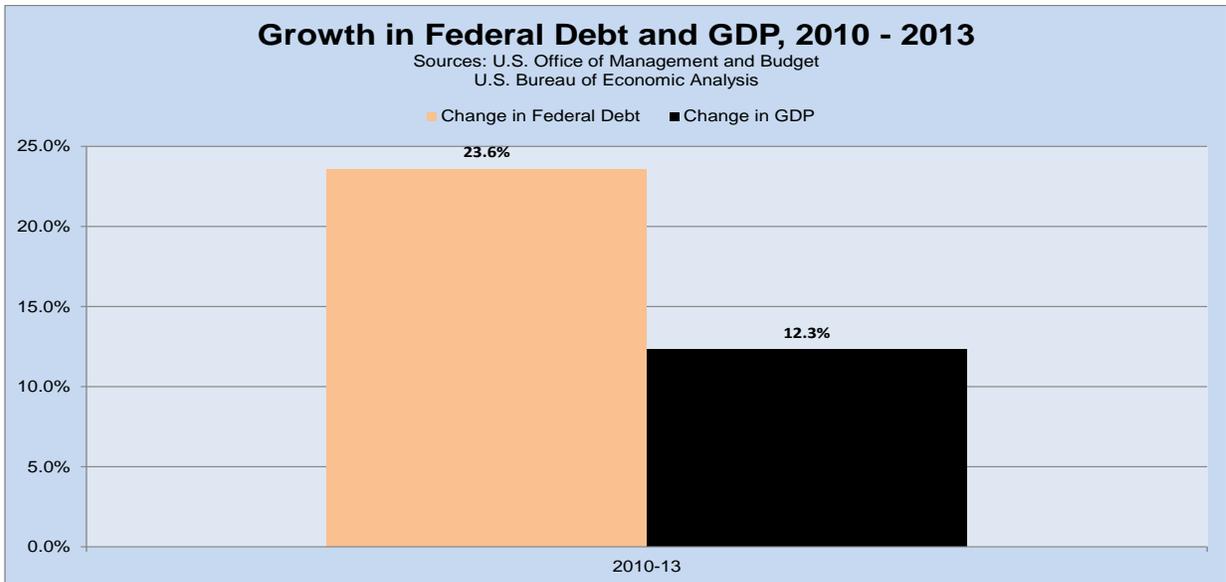
- (1) Whether or not the Fed will be successful in unwinding its Quantitative Easing (or “QE”) policy in an orderly way (at least as it impacts the changing sources of demand and future inflation-interest rate levels),
- (2) Whether or not the current pause in the fiscal policy acrimony and uncertainty in Washington will continue after the November elections, and how any on-going uncertainty will impact the federal budget deficit, the upcoming debt ceiling debate, and the still rising federal debt,
- (3) Whether or not the on-going plight of the long-term unemployed and the underemployed will impact economic performance through restraining household income growth and consumption behavior,
- (4) Whether or not the still fledgling housing market recovery will find its stride after the pull-back in investor activity and the absence of first-time homebuyers as mortgage interest rates have risen, and
- (5) The improving, but still fragile level of household and business confidence, which so far during this upturn has acted to restrain a more typical business and household response to the improving—but still historically restrained—recovery/expansion.

Regarding the first, there is some disagreement among analysts regarding the effectiveness of the federal stimulus program and what the Federal Reserve has done on the monetary policy front to help keep interest rates low to encourage a turnaround in housing markets and the overall economy. Labeled as “quantitative easing” or “QE,” these policies along with the federal fiscal stimulus policies from have underpinned the evolving factors-forces supporting economic activity. Regardless of where any analyst stands on the above fiscal and monetary policy matters, the sources of final demand underpinning GDP growth have changed and continue to evolve since 2000—with the support provided by fiscal and monetary policy ebbing in recent years. For the near-term economic outlook, it appears it will be up to the business sector and individuals to carry the “economic ball” farther down the field as the public sector’s support provided through deficit spending further wanes and monetary policy begins to eventually “tighten” as the Federal Reserve’s QE program ends.

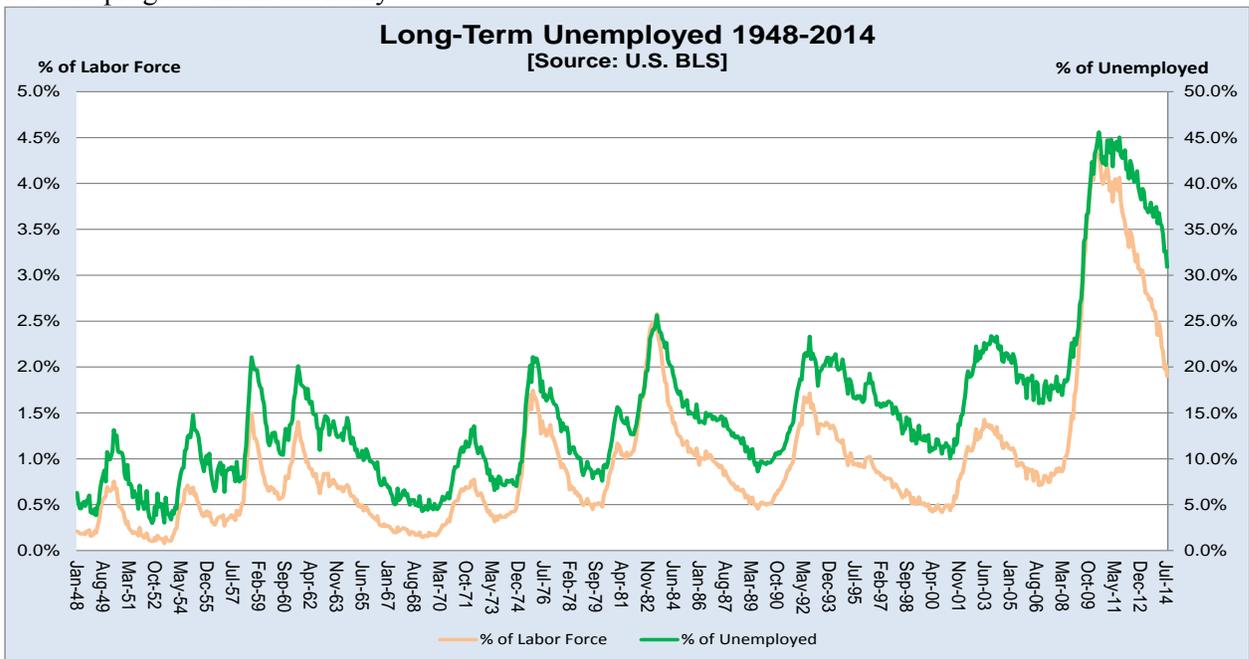


Regarding the second, the current lull in what could be termed “manufactured fiscal crises in Washington” has come as a welcome development. However, the data show the federal debt is still increasing even as the deficit has begun to narrow. This increase in the national debt comes on top of the already significant growth in the federal debt that has occurred just over the 2010 to 2013 period. Over the calendar year 2010 to 2013 period, the federal debt increased at a rate roughly two times as fast as the increase in output over the same period.

This dynamic is likely to continue to produce tension in the execution of national fiscal policy. The tension will rise around budget and appropriations discussions and it will almost certainly affect future debates around the U.S. debt ceiling. While this tension is not expected to be expansion-threatening, it could act to keep a somewhat dark cloud of concern about the negative consequences of past fiscal stalemates hanging over the near term economic outlook.

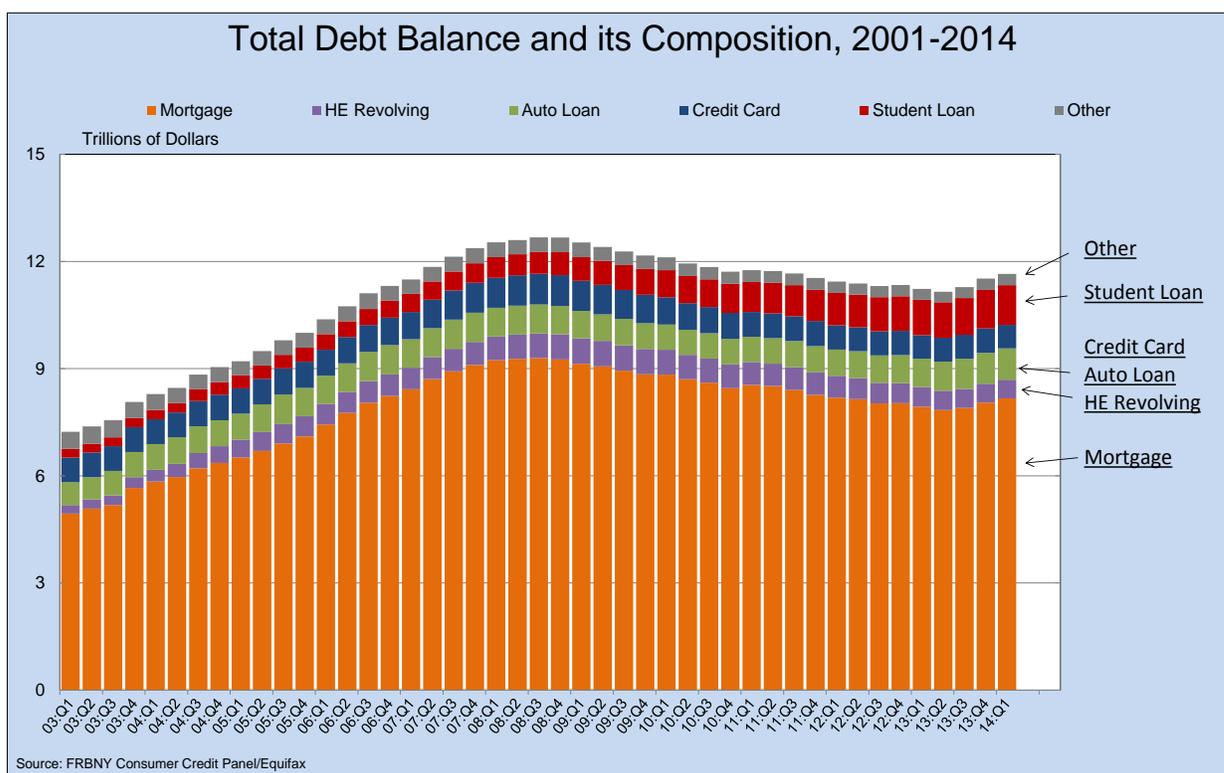


Regarding the third, the number of long-term unemployed has been and continues to be a drag on the pace of the labor market recovery—even though it has recently been improving. The percentage of long-term unemployed remains very high by historical standards (at roughly third of the total number of unemployed or nearly 3.1 million) relative to this point in the any past U.S. economic recovery-expansion dating all of the way back to World War II.<sup>6</sup> Since consumption drives the U.S. economy, the large number of long-term unemployed and the chronic nature of their unemployment tenure threatened to slow consumption activity to the detriment of continued forward progress in the economy.



<sup>6</sup> The closest prior recovery-expansion experience was the roughly 25% figure associated with the early 1980s recession-recovery. That recession-recovery-expansion was similar in that the 1981-82 recession had financial sector underpinnings as the Fed tried to wring inflation out of the U.S. economy and financial system by increasing short-term and long-term interest rates.

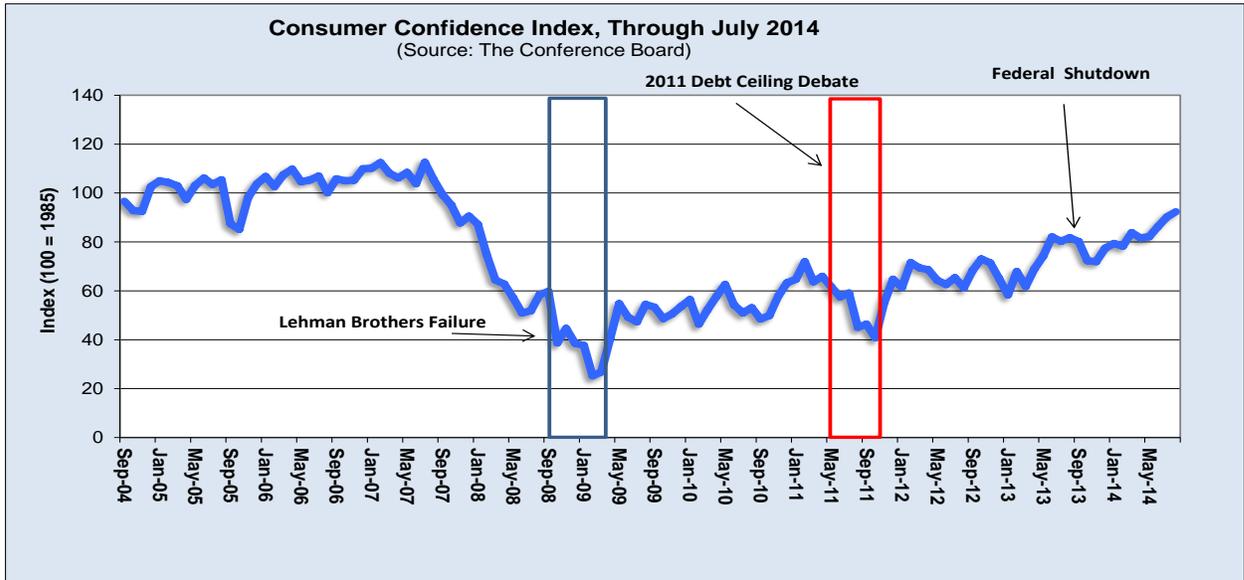
Regarding the fourth, it is difficult to envision a “typical pace and character” to the U.S. upturn without a normalizing in U.S. housing market activity. At this point, the first time buyer component appears to be lagging in the aftermath of last year’s increase in mortgage interest rates and the slowdown in investor-induced housing activity. At least part of the reason underpinning the sluggish first time homebuyer component of the housing market is the unprecedented level of student debt outstanding which has grown to roughly \$1.1 trillion—or to account for about 1/8 of the level of total mortgage debt outstanding. Student debt outstanding in 2014 exceeds the total amount of credit card debt or auto revolving credit, and is now impacting even the upper age categories. This situation has become a significant negative both for the health and performance of the housing sector and for future consumption activity that is important to future GDP and job



growth.

Regarding the fifth and last key factor that is impacting the economy, even as the negative psychological effects of the “Great Recession” are now fading, there are still lingering fears that maybe the current upturn is not really sustainable even though we are more than four years “beyond the bottom.” That still fragile level of confidence in the current upturn—in combination with the other factors listed above—appear significant enough to negatively affect current and future consumption (from households), current and future business investment and hiring (by businesses), and current and future investment (by investors) going forward. This negative psychology manifests itself by periodic retreats in the various equity market indices at the first sight of something negative in either the current economic environment and/or in the current unsettled geopolitical situation (e.g. in places like the Middle East and the Ukraine). In some respects, it seems as though analysts, regarding anything positive that is reported about the U.S. economy, are intentionally looking for why it could not possibly be so. It seems as though this anxiety will not dissipate unless or until there is a plethora of unequivocal positive evidence to

once and for all rebut all the “analytic negativism” that currently seems common in analytical publications.



Given the above, there is a considerable amount of uncertainty surrounding any forecast of economic recovery-growth for any time horizon. While the forecast risks appear to generally be evenly balanced at this point in the current economic cycle, it is unusual for forecast risks to not have significant upside—for this point in the economic cycle. This is at least in part attributable to the factors mentioned above which in many ways appear to be establishing a “new normal” for the economy. At the minimum, these factors and the ever present forecast risks warrant close monitoring over the upcoming months.

### ***The Moody's Analytics National Economic Forecast Assumptions***

The economic outlook for Vermont for the calendar years 2013–2018 period is based on a comprehensive national economic outlook assembled by Moody's Analytics, a respected national economic forecasting firm. The statistics in the Moody's Analytics economic forecast in Table 1 (below) reflect this underlying national economic forecast as completed in August 2014. This forecast includes the expectation that "firmer" consumer spending, job creation, and business investment will boost the underlying pace of U.S. GDP growth over the forecast period, aided by an expected revival in U.S. housing markets (driven by favorable demographics). In addition, the Moody's Analytics' national forecast expects national economic growth will also be aided by a subsiding fiscal drag—with the federal government's deficit stabilizing and the fiscal condition of state and local governments gradually improving. Moody's identifies political and military conflicts overseas as the largest threats to the economic outlook. However, Moody's notes that the U.S.' position as a safe haven for assets will help cushion the effects of any overseas disruptions. Overall, the forecast calls for the continuation of the rebound in economic activity from the first quarter of calendar year 2014 "hiccup." Calendar year 2014 in total is expected to post a moderate 2.1% rate of increase, followed by a more robust but still historically restrained pace of output growth for the U.S. economy of 3.5% in calendar year 2015 and 3.3% in calendar year 2016. For the 2013-18 time frame as a whole, U.S. GDP growth is expected to average 2.7% per year.

The Moody's Analytics national outlook for U.S. labor markets predicts an annual average increase in payroll jobs of 1.8% in calendar year 2014, averaging a total of 1.7% per year over the 2013 through 2018 forecast period. The U.S. unemployment rate, which is expected to average 6.3% in calendar year 2014, is expected to improve significantly over the forecast update period. By calendar year 2018, the U.S. unemployment rate is expected to average 5.1% for all of calendar year 2018. That would represent a 2.2 percentage point decline in the U.S. unemployment rate over the forecast period to a level last experienced prior to the "Great Recession."

Consumer prices, as measured by the Consumer Price Index (CPI), are expected in the Moody's Analytics forecast to increase by 1.9% in calendar year 2014, rising modestly to increase at a rate of 2.2% in calendar year 2015. Consumer prices are then expected to continue to inflate at a rate above 2.0% for the remainder of the forecast horizon. The Moody's Analytics forecast for monetary policy expects a "graceful exit" from QE by the Federal Reserve, with a tightening of monetary policy and therefore an increase in interest rates expected to commence in calendar year 2015 as the U.S. unemployment rate slips below 6.0% in the fourth quarter of calendar year 2014.

### ***The Vermont Economic Outlook***

The Vermont near-term economic outlook, which is based on the Moody's Analytics' national forecast as described above (and reflected in Table 1 below), assumes a Vermont economy that will follow a path similar to that of the U.S. economy's through the calendar year 2014-2018 period. A review of the State's major macro variables under the revised NEEP forecast includes the expectation that current economic upturn will continue through 2018 in: (1) real output (as measured by Gross State Product or GSP), (2) inflation-adjusted or real personal income, and (3) in the labor market. It is also expected that the pace of recovery-expansion will continue to be moderate. As mentioned in previous NEEP outlook revisions, the more moderate rate of recovery-expansion in Vermont is the result of the less than average declines in output, income, and jobs that the State experienced during the "Great Recession"—that is, in comparison to its U.S. and New England counterparts.

For Vermont's key macro variables, the calendar year 2014-2018 forecast update for Vermont

expects an annualized 2.4% increase in output for all of calendar year 2014. Calendar year 2015's output is then expected to follow a more typical 3.9% annual rate of increase. For calendar year 2016, GSP growth is expected to pull back, increasing at a 3.0% annual rate, followed by a 2.3% GSP growth rate in calendar year 2017 and a 1.8% in calendar year 2018. The forecast reflects an anticipated slowing in GSP growth over the back end of the forecast period as the U.S. economy slows due to the maturing economic cycle. The rate of payroll job growth is expected to be 1.2% in calendar year 2014, followed by increases of 2.0% in calendar year 2015 and 1.9% in calendar year 2016. The rate of payroll job additions is expected to fall back to 1.5% in calendar year 2017 and 0.9% in calendar year 2018—again as the U.S. economic growth/recovery slows. Even so, payroll job growth is expected to average 1.5% per year over the calendar year 2013-18 period—a healthy uptick versus the -0.1% average for the calendar year 2008-13 period covering the timeline of the last recession, and the 0.5% annual rate of change over the calendar year 2003 to 2008 time period.

Nominal dollar personal income is expected to have a performance similar to GSP and employment growth, posting the strongest rates of growth during the initial years of the forecast horizon then tapering off during the out-years of the forecast as the other macro variables are expected to do. For calendar years 2014 through 2016, nominal dollar personal income growth is expected to increase by more than 4.0% per year. After calendar year 2016, nominal dollar personal income is expected to increase by more restrained rates of 3.1% in calendar year 2017 and 2.3% in calendar year 2018. The final two years of the forecast horizon show this metric perform consistently with the other macro variables discussed above. The state's unemployment rate is expected to continue in its current position as lowest in New England (as it has for the last 3 years) and to perform consistently superior to U.S. unemployment rate (the State's unemployment rate has ranked it second lowest in the U.S. in recent times) throughout the calendar year 2014–2018 forecast timeline. The Federal Housing Finance Agency (FHFA) Housing Price Index for Vermont is also expected to post a more modest and restrained rate of increase over the forecast update period than in previous analyses, reflecting the mid-2013 slowdown and the outright decline in housing prices during the first quarter of calendar year 2014, where the index declined by 1.8% in Vermont versus the first quarter of calendar year 2013. During 2014:Q1, only five states in the country experienced a housing price decline (three other states in New England also experienced a FHFA housing price decline (including Connecticut, Maine and Rhode Island). Although these data are often revised (and since sales volume is typically very low during the Winter, revisions can, at times, be substantial), this was not a price change reading that would ordinarily be thought of as supportive of typical levels of residential construction activity.<sup>7</sup>

While the Vermont economy is not expected to establish any new records for output, job, and income growth robustness over the 2014-2018 forecast period, the revised forecast calls for the continuation of very “tight” labor market conditions and for a modest recovery in housing prices in the Vermont housing market. The state's annual average unemployment rate is expected to fall through the entire calendar year 2014-2018 forecast update period. For calendar year 2014, the State unemployment rate is expected to average 3.5%—down roughly 0.8 percentage points versus the annual average for calendar year 2013. Over the calendar year 2015 through 2018 time line, the unemployment rate is expected to decline to an annual average rate of 3.2% by calendar year

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<sup>7</sup> This has in fact been the case. Residential construction activity which was started during the 12 month period ending in June 2014 totaled approximately \$290 million. That total was up by 25% from the 12 months ending in June of 2013, but stood more than 60% below the prior peak level in March 2006 of \$697 million in spending. Nonresidential construction, which has benefitted from both strong commercial and public building starts in the past 12 months, in June of 2014 exceeded residential construction by \$100 million. That represented the largest differential in these two building types ever recorded in the F.W. Dodge construction expenditures statistics for such a period.

2018—corresponding to a forecasted 1.2 percentage point decline in the unemployment rate over the period. If the updated forecast as presented is in fact met, the forecast would result in an average annual Vermont unemployment rate during calendar year 2018 that will be 1.9 percentage points below the U.S. annual average unemployment rate and 1.7 points below the New England annual average unemployment rate in that year.

For the revised forecast, positive job gains are expected in seven of the state's eight private-sector NAICS supersectors.<sup>8</sup> Outside the private sector, the government NAICS supersector is not expected to add jobs overall during the forecast period. The forecasted job gains in the manufacturing NAICS supersector is due to the food sector (including Keurig Green Mountain, Ben & Jerry's, Vermont Hard Cider, King Arthur Flour, and plethora of craft brewers<sup>9</sup> and specialty food manufacturers that characterize that part of the state's factory sector), and is predicated on no significantly adverse developments at the state's largest private sector manufacturing employer IBM.<sup>10</sup> The rumored sale of IBM's Microelectronics Division has been discussed on and off since last spring, with rumor after rumor discussed in the financial press and by key players in the union that represents a significant share of the IBM workers. Most recently, discussions have again re-surfaced as this write-up "goes to press" regarding the "on again-off again" discussions with Global Foundries being back on again. The last time negotiations broke down this past summer, the reported transfer of roughly \$1.0 billion in cash in terms of a payment that would be made by IBM to Global Foundries to take over IBM's fabrication facilities was not enough to reach agreement. Should the long-rumored sale actually go through (which certainly is possible at press time), it is likely that the forecast for the state's manufacturing supersector will very likely need to be re-evaluated.

Among the notable gaining sectors are the construction sector (at a +4.5% per year over the calendar year 2013-2018 period) and the leisure and hospitality sector (at +2.7% per year over the calendar year 2013-2018 period). Activity in the construction sector continues to be bolstered by repairs and restoration activity related to the aftermath of Tropical Storm Irene. Expenditures on Irene-related repairs are expected to contribute some forward momentum through calendar year 2015 but will tail off after the initial stages of the forecast update period. The impacts of the Tropical Storm Irene recovery efforts in this sector are clearly illustrated by the small year-over-year decline in Construction jobs in calendar year 2013. Following the peak of this recovery-related construction activity in 2011 and 2012 was a retrenchment during 2013.

Other positive performances over the forecast period are also expected in the professional and business services sector (at a +2.5% annual average over the calendar year 2013-2018 period) and the education and health sector (at a +1.8% annual average over the calendar year 2013-2018 period). One NAICS supersector that remains slightly positive (at +1.1% per year over the calendar year 2013-2018 time period), but lower than it would otherwise be, is the trade, transportation, and Utilities super sector. This supersector's job performance would have been somewhat higher but for the expected loss of high paying jobs associated with the closure of the Vermont Yankee electric generating facility. While it is expected that a number of jobs would be needed post-closure, those jobs' pay levels will be lower than the plant workers that they will partially replace.

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<sup>8</sup> NAICS means North American Industry Classification System. Labor data reported by the Bureau of Labor Statistics is classified by NAICS sector. Public and private reporting agencies follow this paradigm.

<sup>9</sup> Including Magic Hat Brewery, well-known brands such as Long Trail and Switchback, and some of the world's best microbreweries such as Trapp Lager, Hill Farmstead, Lawson's, and The Alchemist.

<sup>10</sup> During the late summer, IBM has had "Help Wanted" signs posted on its corporate signposts at each of its street entrances).

With respect to the State’s housing market recovery, the revised NEEP forecast expects the gradual recovery in activity, and prices will continue over the forecast period. Improvement in sales and construction activity in the Vermont housing market will be made at a historically restrained pace—at least early on in the forecast period. Housing prices, as measured by the FHFA Price Index, are expected to build some momentum beginning in calendar year 2015 (after an “up and down” calendar year 2014 which is expected to see an increase of only 0.4 percent versus calendar year 2013). Beyond calendar year 2014, the forecast calls for prices to realize the following schedule of annual increases: a 1.7% increase in calendar year 2015, 2.9% increase in calendar year 2016, a 3.6% increase in calendar year 2017, culminating in a 5.1% increase in calendar year 2018. While the Vermont housing price performance has generally been superior to the U.S. and New England averages over the calendar year 2008 to calendar year 2012 time frame, the more restrained housing price growth in Vermont over the calendar year 2014 through 2018 time frame (including the first quarter decline in calendar year 2014) is expected given the fact that Vermont housing prices as measured by the FHFA index did not experience nearly the rate of housing price decline as what was experienced by many other states, as well as relative to the New England and U.S. averages during the depth of the housing market recession.

**Table 1: Forecast Comparison: U.S., New England, and Vermont**

**Forecast Comparison: United States, New England, and Vermont (November 2014 NEEP Forecast) [1]**

	Actual					Forecast				
	2009	2010	2011 [2]	2012 [2]	2013 [2]	2014	2015	2016	2017	2018
<b>Real Output (\$2000-% Change)</b>										
U.S. Gross Domestic Product	-2.8	2.5	1.6	2.3	2.2	2.1	3.5	3.3	2.7	2.1
N.E. Gross Domestic Product	-2.9	2.4	0.9	1.6	1.3	1.7	2.9	2.7	2.5	2.2
Vermont Gross State Product	-2.5	4.4	2.2	1.0	1.9	2.4	3.9	3.0	2.3	1.8
<b>Non-Farm Payroll Jobs (% Change)</b>										
U.S.	-4.3	-0.7	1.2	1.7	1.7	1.8	2.4	2.4	1.3	0.5
New England	-3.6	-0.2	1.0	1.3	1.1	1.3	1.5	1.7	1.1	0.4
Vermont	-3.3	0.3	0.8	1.3	0.5	1.2	2.0	1.9	1.5	0.9
<b>Inflation-Adjusted Personal Income %Change (2000 Dollars)</b>										
U.S.	-2.7	1.1	3.7	3.3	0.8	3.0	3.7	3.9	3.0	2.5
New England	-2.0	1.3	3.0	1.7	1.2	2.4	3.3	3.7	2.7	1.7
Vermont	-1.4	0.0	4.6	1.8	1.8	2.6	1.4	1.3	0.4	0.0
<b>Unemployment (Percent)</b>										
U.S.	9.3	9.6	8.9	8.1	7.3	6.3	5.7	5.6	5.3	5.1
New England	8.1	8.5	7.8	7.2	7.1	6.0	5.7	5.5	5.1	4.9
Vermont	6.9	6.4	5.6	4.9	4.4	3.5	3.5	3.5	3.3	3.2
<b>FHFA Housing Price Index [3]</b>										
U.S.	-5.5	-4.0	-3.7	-0.1	4.1	4.8	3.3	2.1	3.1	3.4
New England	-4.9	-2.8	-2.3	-0.9	1.2	3.0	4.0	2.8	2.1	3.3
Vermont	-2.1	-1.2	-0.6	0.5	0.2	0.4	1.7	2.9	3.6	5.1

**Notes:**

[1] U.S. data reflect the Moody’s Analytics Baseline Forecast for August 2014.

[2] 2012 and 2013 variables are subject to further revision, and 2014 through 2018 values in this table reflect projected data as of October 2014.

[3] FHFA refers to the Federal Housing Finance Agency (formerly the Office of Federal Housing and Enterprise Oversight).

Sources: Moody’s Analytics (U.S.), New England Economic Partnership Forecast October 2014 Update (U.S., New England, Vermont)

**NEEP Fall 2014 Conference Theme: Challenges and Opportunities in Economic Development**

The conference theme of this NEEP outlook update concerns the economic development challenges and opportunities for the New England states as we look into the future. Vermont has many of the same economic development advantages and challenges as her New England sister states. Chief among the state’s challenges is Vermont’s remote and northern location, its aging population, its higher than average energy costs (even though they are low in comparison to the New England region), its relative lack of available “early stage” investment capital and other forms of financing, and its reputation (whether deserved or undeserved) as a higher than average taxed state in what is viewed as a relatively higher taxed New England region. In terms of economic development advantages, the state enjoys the advantages of a well-educated work force, strong

commitment to K-12 education, a well-developed telecommunications system covering nearly all of the state,<sup>11</sup> small-accessible size or scale that facilitates business entry, business networking, and access to government officials, low crime rates, a reputation for high quality natural and recreation amenities, and a strong brand identity for certain types of products and services.

Vermont's collective economic development effort is executed by the State Agency of Commerce and Community Development<sup>12</sup> (ACCD) in cooperation with 12 regional economic development corporations (or RDCs) of varying sophistication in terms of their services<sup>13</sup>, a system of Chambers of Commerce and regional marketing programs, and development staff at some municipalities (such as the City of Burlington) that are found throughout the state. In addition, the State coordinates job training and work force development efforts through a myriad of organizations (including the Vermont Department of Labor and the ACCD's own training program) and works cooperatively through the regional development corporations and state educational institutions—including Vermont's system of State Colleges. Also affiliated with the state as partners are entities such as the Center for Emerging Technologies, a cooperative public-private partnership located at the University of Vermont, the Vermont Economic Development Authority (VEDA) which is a key economic development finance lender in Vermont, and the Vermont Technology Council, a cooperative effort that focuses on preparing Vermonters to work productively in the technology sector through apprenticeships and STEM<sup>14</sup> education programs to boost the State's competitiveness.

Over the years there have been a number of statewide efforts to develop and implement a statewide economic development strategy. Since 1997, there have been a total of four efforts that have met with varying degrees of implementation success. The latest effort was undertaken by the ACCD over a period of roughly a year, from mid-2013 through mid-2014. It was funded by the U.S. Economic Development Administration (or the U.S. EDA), where Vermont was invited to undertake a statewide Comprehensive Economic Development Strategy effort—a Vermont CEDS<sup>15</sup>—in part as a response to the need for building economic resiliency in the wake of Tropical Storm Irene. Following that August 2011 storm, roughly 500 miles of state roads were destroyed, 200 bridges were damaged, and 1,000 homes were lost, a level of infrastructure damage that significantly disrupted the state's economy. In total, of the state's 251 towns, 225 municipalities had significant damage to their infrastructure.

During the CEDS process, a Steering Committee was formed of more than 30 representatives of business, education, non-profits, government, labor groups, and other stakeholders to coordinate the effort. The CEDS process systematically assessed the Vermont economy and identified 4 key components of the State economy to be approached with an array of strategies in a systematic way. The strategies would be organized and, ideally, funded to achieve the following goals.<sup>16</sup>

- 1. Accessible Financing and Capital:** Create financial structures and programs that give Vermont enterprises access to capital and the means to grow.

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<sup>11</sup> As of December 31, 2013, the State of Vermont reports that over 99% of Vermonters have access to high speed internet service. The remaining roughly 1% had an identified solution for service. See State of Vermont Comprehensive Economic Development Strategy 2014-2020; Page 52.

<sup>12</sup> Which is home to the Vermont Employment Growth Incentive (VEGI) Program.

<sup>13</sup> Most Regional Development Corporations (RDCs) in Vermont have a wide variety of services in-house resulting from their partnerships with Small Business Development Centers and other programs associated with the U.S. Small Business Administration and USDA's Rural Development initiatives.

<sup>14</sup> STEM refers to Science, Technology, Engineering, and Math programs.

<sup>15</sup> The acronym CEDS refers to Comprehensive Economic Development Strategy.

<sup>16</sup> See State of Vermont Comprehensive Economic Development Strategy 2014-2020; Page 5.

2. **A Skilled Workforce:** Ensure that all Vermont citizens have the skills they need to produce a robust livelihood and that Vermont businesses have the skilled talent they need to succeed.
3. **Sound Infrastructure:** Provide or improve infrastructure that is critical to economic and community development in Vermont.
4. **A Competitive Business Environment:** Create a hospitable environment for the establishment, cultivation and growth of businesses at all stages and for entrepreneurial innovation.

The CEDS also sought to put the above goals into the uniquely Vermont context of fostering a working landscape, enhancing Vermont's brand, encouraging the state's efforts to enhance its entrepreneurial culture, and broadly improving Vermonters' "quality of life" by spreading the net of prosperity more widely than it currently is spread.

What also is interesting about the state's CEDS effort, which is characteristic of all CEDS efforts, is the identification of key industry sectors (or "clusters" ala Michael Porter) for the state as a whole. This is somewhat unusual in that states typically have to label nearly all its industries "strategic" for political reasons—lest some key constituency may feel left out of the state's economic nurturing process. However, the state CEDS went forward and targeted these industry sectors for strategic "focus." The CEDS document indicated that these key sectors would be where "the deployment of the state's limited capital and human resources on certain economic sectors that can provide the greatest return on those investments in terms of benefits to businesses, workers, and the Vermont economy."<sup>17</sup> The key sectors were selected from the broader economic landscape through a series of filtering criteria which included:

1. Potential for growth
2. Existing concentration in Vermont
3. Strong leadership
4. Higher than average wages
5. Meeting other policy goals
6. Building on Vermont strengths such as the Vermont brand and quality of life

Although the selection process for identifying key industry sectors included quantitative measures, the CEDS process was careful to include consideration of the 5<sup>th</sup> and 6<sup>th</sup> evaluative criteria listed above that were not quantitative. The end result of the CEDS selection process was the following 12 key sectors:

1. Advanced Manufacturing
2. Arts and Culture\*
3. Biotechnology
4. Education\*
5. Financial Services and Insurance (including Captive Insurance)
6. Food Systems\*
7. Forest Products
8. Green Businesses
9. Health Care\*
10. Renewable Energy and Efficiency\*

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<sup>17</sup> Ibid; Page 74.

11. Software Development and IT
12. Tourism

*Note: The target sectors that meet one of the last two criteria are marked with an asterisk (\*).*

Given the recent EDA approval of the Vermont CEDS, the CEDS document is now in a position to become a strategic strategy umbrella for the ACCD and its partners—both its equity partners (e.g. those who are recipients of the State ACCD funds) and its broader list of economic development collaborators and stakeholders. Ideally, this strategy umbrella would help guide strategic economic development efforts and, potentially, funding support decisions going forward for the many groups involved with economic development in Vermont which currently may not be going in the same direction as the state and its partners.

CEDS efforts are relatively rare for an entire state. The Vermont effort included participation of more than 300 citizens and more than 12 state departments. Because of this broad participation, it is hoped that the final CEDS document will carry with it the credibility needed for full, long-term implementation. With full and long-term implementation, it is possible that this laudable effort to re-organize what is currently a fractionalized statewide economic development effort will in the end become a more structured and strategic mosaic of high value services. If this latest statewide effort to be strategic about economic development is successful, it will avoid the all-too-common fate of past efforts, where the final strategy was not accepted broadly enough to allow for full, long-term implementation. Only time will tell in this regard with respect to the State's latest effort to bring a higher level of strategic organization to the economic development effort in Vermont.

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## **APPENDIX F**



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# Feasibility Study Associated With State of Vermont Special Obligation Transportation Infrastructure Bonds - 2013 Series A

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Prepared for the  
Office of the Vermont State Treasurer  
Elizabeth A. Pearce, Treasurer

July 23, 2013

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# Feasibility Study Associated With State of Vermont Special Obligation Transportation Infrastructure Bonds 2013 Series A

*Prepared by Kavet, Rockler & Associates, LLC – July 23, 2013*

## 1) Background and Study Purpose

The purpose of this analysis is to evaluate the likely future revenue streams, relative to expected debt service and other bond-related costs, associated with (i) the \$11.095 million<sup>1</sup> State of Vermont Special Obligation Transportation Infrastructure Bonds, 2013 Series A (hereafter, 2013A TIBs), as authorized in Vermont Statute, Title 32, Chapter 13, 32 V.S.A. § 972 (hereafter, the TIB Statute), and (ii) the previously issued State of Vermont Special Obligation Transportation Infrastructure Bonds, 2010 Series A (hereafter, 2010A TIBs) and 2012 Series A (hereafter, 2012A TIBs), which are currently outstanding in the amount of \$12.675 million and \$10.415 million, respectively, for a combined bonding amount totaling \$34.185 million.<sup>2</sup>

The TIB Statute authorizes the State Treasurer to issue bonds supported by certain revenues as detailed below for transportation projects in the State of Vermont (the “State”) that include the rehabilitation, reconstruction or replacement of State and municipal bridges and culverts and State roads, railroads, airports and necessary buildings, which, after such work, have a remaining useful life of 30 years or more.

The Transportation Infrastructure Bond Fund (hereafter, the TIB Fund) was created as a special account of the State’s Transportation Fund pursuant to Vermont Statute, Title 19, Section 11f. Monies in the TIB Fund are available to pay principal, interest and related costs of bonds issued pursuant to the TIB Statute (Transportation Infrastructure Bonds, hereafter, TIBs), including the 2013A TIBs, the 2012A TIBs and the 2010A TIBs.

The TIB Fund contains revenues derived from an assessment of 2% of the retail price per gallon of regular motor vehicle gasoline sold in the State and a 3 cent per gallon assessment on motor vehicle diesel fuel sold in the State.<sup>3</sup> This blend of revenue sources makes future revenue streams dependent upon both the volume of gasoline and diesel fuel sold in the State, as well as the retail price of gasoline.

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<sup>1</sup> Preliminary; subject to change.

<sup>2</sup> Preliminary; subject to change.

<sup>3</sup> These assessments on gasoline and diesel fuel have been collected in the TIB Fund since July 2009 with respect to the assessment on gasoline and since December 2009 with respect to the assessment on diesel fuel.

At the request of the Vermont State Treasurer, this study provides revenue projections supporting the issuance of the 2013A TIBs,<sup>4</sup> which are expected to be issued in early fiscal year 2014, outlines forecast methodologies, considers risks to the forecasts and assesses the capacity of this revenue stream to cover debt service and other bond-related costs of both these bonds and other bonds previously issued under the TIB Statute.

Although this study focuses on the 2013A TIBs, the State previously issued the 2010A TIBs in fiscal year 2011 and the 2012A TIBs in fiscal year 2013, which are currently outstanding in the aggregate principal amount of \$12.675 million and \$10.415 million, respectively, and are supported by the TIB Fund. Further, the State currently anticipates issuing additional TIBs pursuant to the TIB Statute, on parity with the 2010A TIBs, the 2012A TIBs and the 2013A TIBs, from time to time in amounts as authorized by the General Assembly, as part of the State's transportation program. Although the actual amount and timing of any such issuance is not currently known, the State has provided a pro forma cumulative issuance schedule of \$99.625 million aggregate par amount of additional TIBs through fiscal year 2018, including the 2010A TIBs, the 2012A TIBs and the 2013A TIBs.

The issuance of additional TIBs will have the effect of reducing debt service coverage below the levels projected for the 2010A TIBs, the 2012A TIBs and 2013A TIBs alone. Appendix B presents a pro forma schedule of debt service requirements and debt service coverage through fiscal year 2037 for the \$99.625 million Transportation Infrastructure Bond program, based on the State's anticipated issuance of TIBs during the period and certain assumptions further noted in this report and in Appendices A and B. The State is not obligated to follow the pro forma schedule shown in Appendix B and, subject to compliance with the terms of the Trust Agreement, may choose to issue more or less additional TIBs and do so at different times than shown in the schedule.

## 2) Revenue Projections

### Data Sources and Modeling Overview

The revenue projections generated in connection with this analysis are based on more than 25 years of monthly revenue and related Vermont-specific data from the Vermont Department of Motor Vehicles, the Vermont Department of Taxes, the Vermont Joint Fiscal Office, the Vermont Public Service Department and the Vermont Department of

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<sup>4</sup> Although additional offerings are expected in subsequent fiscal years and analysis of expected costs and revenues of all anticipated TIB bonding is presented in an appendix to this report, this analysis is confined to the 2010A TIBs outstanding in the aggregate principal amount of \$12.675M, the 2012A TIBs outstanding in the aggregate principal amount of \$10.415M, and the proposed issuance of \$11.095M of 2013A TIBs, for a total of \$34.185M in bonds to be currently supported by the TIB Fund.

Finance and Management. The analyses in support of the revenue projections herein are based on statistical and econometric models and professional analytic judgment.<sup>5</sup>

The primary external macroeconomic forecasts used in this analysis were prepared by Moody's Analytics, the New England Economic Partnership (NEEP), the Vermont Legislative Joint Fiscal Office (JFO) and the U.S. Energy Information Administration (EIA). Moody's U.S. and Vermont economic forecasts are used as the basis for the official State economic and revenue projections prepared by the JFO and the Vermont Agency of Administration and are the primary inputs to the NEEP forecasts.

Revenue streams in this analysis were projected through calendar year 2040 in order to assess capacity for the 2010A TIBs, the 2012A TIBs and the 2013A TIBs, and expected subsequent offerings. It should be noted that the further into the future a forecast extends, the larger the potential error. Long term forecasts such as these are best understood as "reasonable" projections of events, given specific assumptions. Major unforeseen events, structural change in industries and factors of production, and other fundamental changes in social, political, technological and environmental conditions could have a significant impact on the revenue projections and other assumptions employed herein.<sup>6</sup>

Oil and derivative gasoline prices, upon which these forecasts are based in part, are subject to considerable volatility, as evidenced over the past 30 years and especially in the past decade (see charts on following two pages). Market concentration in oil production and cartels, such as OPEC (which can artificially constrict supply), speculative investment (which can exacerbate market fluctuations), and supply disruption vulnerability from both political and natural causes, all serve to amplify oil price volatility. Even short term oil price projections can have relatively wide potential error ranges, as measured by the statistical concept known as "confidence intervals."

Confidence intervals provide a range within which an expected outcome is likely to occur with a given confidence level or probability (often 95% in forecasting applications), based on a given set of data. The EIA has developed a set of confidence intervals for various energy prices, including those for West Texas Intermediate Crude Oil (WTI), based on data derived from New York Mercantile Exchange (NYMEX) options markets<sup>7</sup> at various

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<sup>5</sup> Kavet, Rockler & Associates (KRA) has been the State Economist and Principal Economic Advisor to the Vermont State Legislature for the past 17 years and prepares all official State revenue forecasts and revenue impact analyses for the State legislature. Prior to forming KRA, the principals in the firm were senior economists and executives with Data Resources, Inc./McGraw-Hill, now IHS Global Insight, the nation's largest economic consulting and forecasting firm. For more information on KRA professional experience and related analyses performed by KRA, see: [www.kavetrockler.com](http://www.kavetrockler.com).

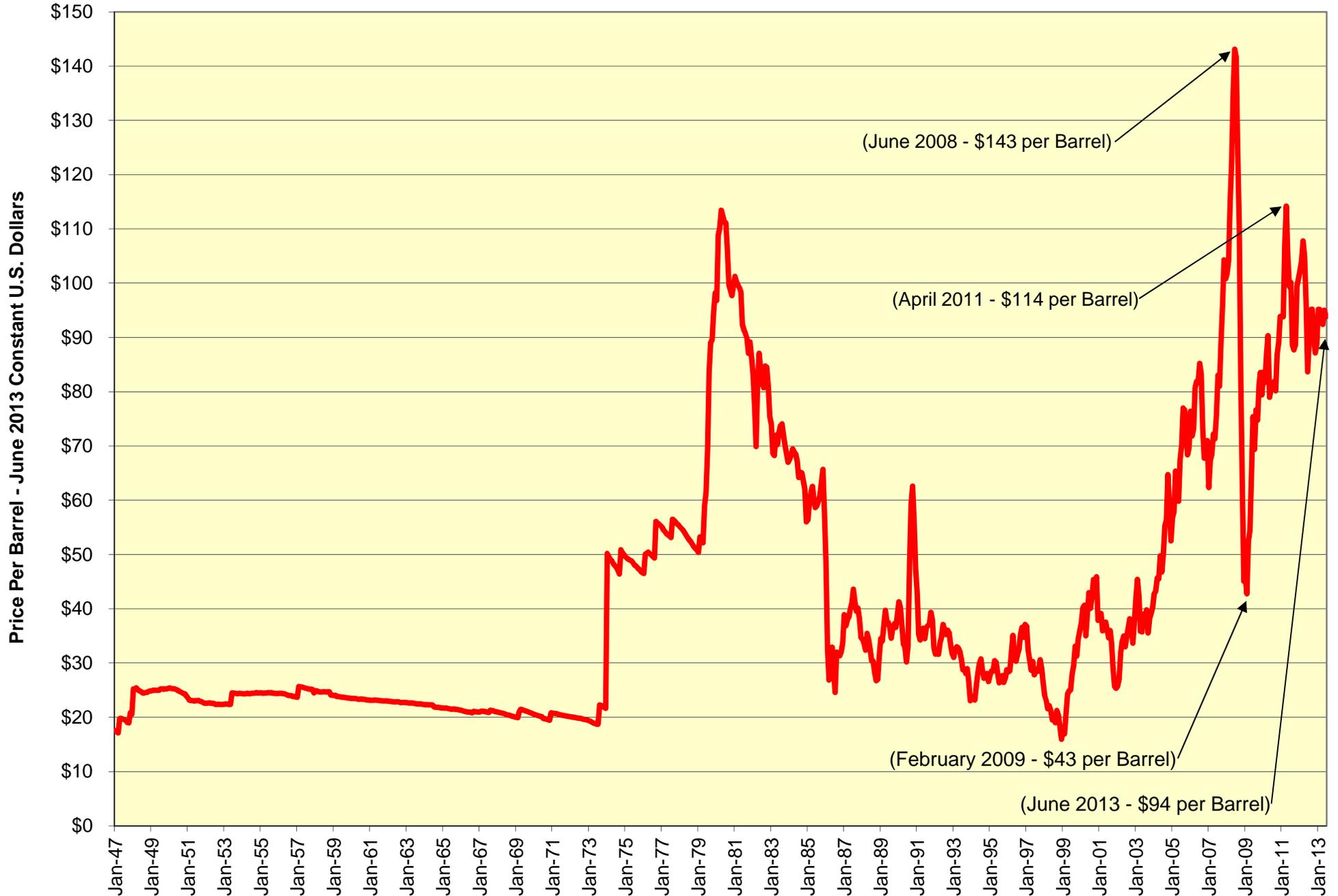
<sup>6</sup> Moody's projections are generally available through 2033 and were extended to 2040 using extrapolations of longer term trend growth rates, NEEP projections are generally available through 2018, JFO projections are available through 2018, and EIA projections are available through 2040, with shorter term 2-year projections updated more frequently, but not integrated into longer term EIA forecasts on a regular basis.

<sup>7</sup> EIA quantifies market uncertainty and risk by using a concept they call "implied volatilities." Implied volatility is calculated from trading option prices using the Black commodity option pricing model. The confidence intervals reflect the range in which those prices are likely to trade. For more information, see:

[http://www.eia.doe.gov/emeu/steo/pub/special/2009\\_sp\\_05.html](http://www.eia.doe.gov/emeu/steo/pub/special/2009_sp_05.html)

# Real Oil Prices Exhibit Pronounced Historical Volatility

(West Texas Intermediate Crude Oil, PPB in June 2013 Constant Dollars)

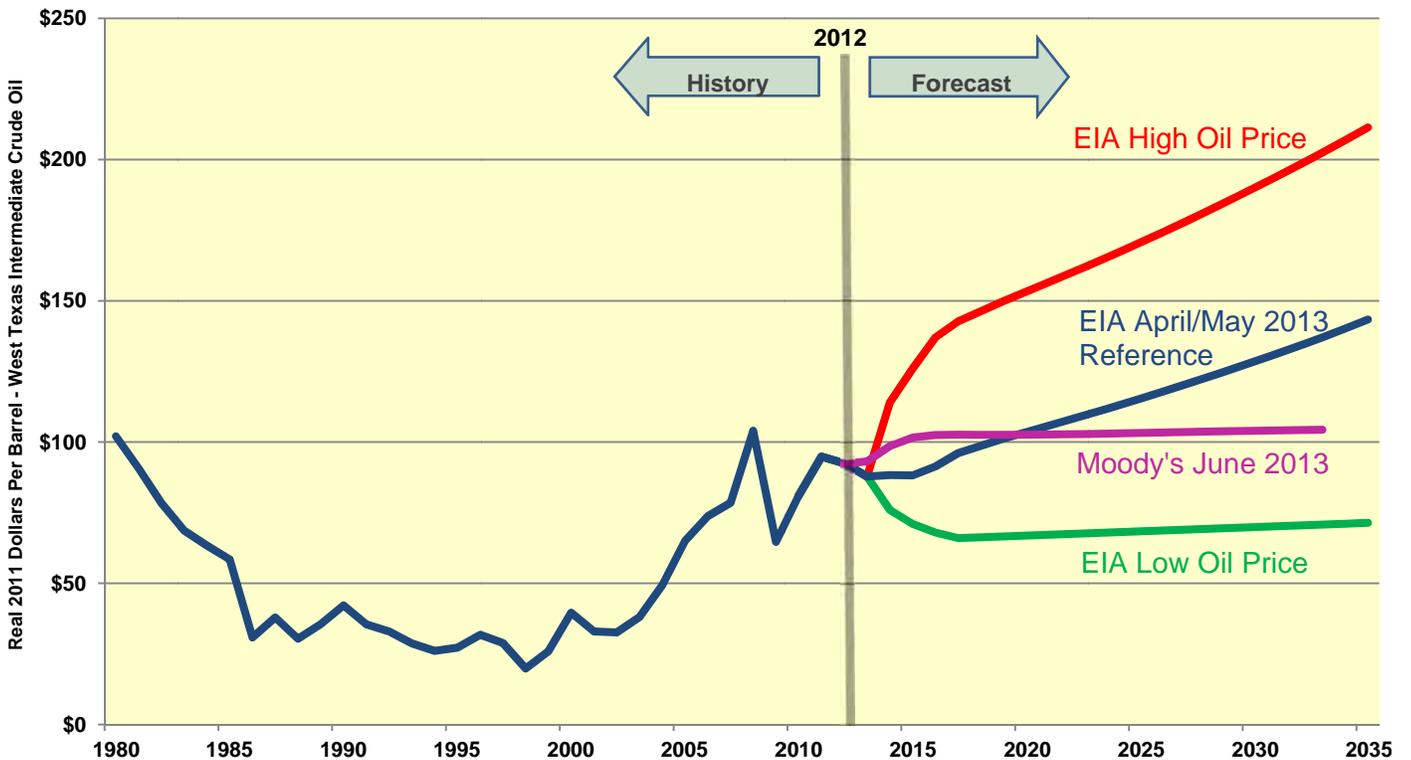


Sources: Wall Street Journal, Moody's Analytics, KRA

confidence levels.<sup>8</sup> As the EIA notes, “Confidence intervals for oil and derivative products tend to be wide, in part because even small imbalances in oil markets can trigger large movements in prices given that both the production and use of oil tend to be relatively insensitive to price changes in the short-run. Increased uncertainty in consumption, production, or other factors influencing oil prices tend to induce an increase in implied volatility and a widening of the confidence intervals.”<sup>9</sup>

The chart below shows April/May 2013 EIA WTI crude oil forecast ranges consistent with 95% confidence intervals through 2040 and June 2013 Moody’s Analytics control forecasts of the same through 2033. The EIA alternative projections illustrate the wide range of possible prices at this confidence interval. Based on this, the real price in 2011 dollars of a barrel of crude oil could vary by a factor of two (\$68 vs. \$137) by 2016, and by a factor of three (\$71 vs. \$211) by 2035. Moody’s Analytics forecasts are slightly higher than EIA projections through 2019, but then diverge in the opposite direction, ending their forecast period in 2033 more than \$30 below EIA estimates. The inherent volatility in oil and gas prices could make actual year-to-year TIB revenue changes more erratic than those derived from the control forecast assumptions used herein.

**Uncertainty Characterizes Oil Price Forecasts (Spring 2013 Projections)**  
 (Sources: Moody’s Analytics - June 2013, EIA Annual Energy Outlook - April/May 2013)



<sup>8</sup> EIA confidence levels represent the probability that the final market price for a particular futures contract will fall somewhere within the upper and lower limits of the range of prices predicted. For example, if a confidence level of 95% is specified, then a range of prices can be estimated within which there is a 95% probability the delivered price for the commodity in the contract's delivery month will fall within that range. The higher the specified confidence level, the wider the range between the lower and upper limits.

<sup>9</sup> See: [http://www.eia.doe.gov/emeu/steo/pub/special/2009\\_sp\\_05.html](http://www.eia.doe.gov/emeu/steo/pub/special/2009_sp_05.html)

## Economic Model Construct

There are two revenue sources modeled as a part of this analysis. The largest, which is projected to represent more than 90% of all TIB revenues in most years forecast herein, is based on expenditures in Vermont on taxable motor fuel gasoline (affected by both the volume of gallons sold and the average State retail price excluding taxes in the preceding quarter). The other is based on the volume of diesel fuel sold (gallons).

The revenue assessment on gasoline that supports the TIB bonds is a departure from most gasoline taxes in that it is levied as a percentage (2%) of total gasoline sales, collected by distributors, rather than a cents per gallon tax. Despite potential price volatility, this tax structure will probably enhance both the revenue potential and longer term growth of this revenue source. Traditional gasoline taxes are most commonly assessed as a per gallon charge, and thus do not grow with public infrastructure needs as gasoline prices rise.<sup>10</sup> This often necessitates rate increases over time as general inflation and, in particular, oil prices escalate. Because higher gasoline prices are a primary variable in reducing gasoline consumption, the TIB gas tax structure provides some protection against revenue loss from declining consumption over time caused by rising gas prices. Despite expectations of very low gasoline demand growth over the forecast period (0.5% per year), revenue growth is expected to be more than 3% (at compound average annual rates), due to expected continued upward price pressure.

The TIB diesel assessment is a more traditional per gallon tax (3 cents) that relies on the volume of diesel fuel sold. Both taxes are collected at the distributor level, which can accentuate month to month volatility in revenues due to inventory swings, but which generally enhances compliance, due to the size and relatively small number of taxpayers.

TIB revenues are currently monitored and forecast by the State as part of a regular consensus forecasting process that is updated at least every six months.<sup>11</sup> These forecasts allow for constant adjustment based on changing economic conditions and are available for the current and subsequent four fiscal years (currently through FY2018).

As illustrated in the table on the following page, TIB Fund revenues have been relatively close to near-term projections, with fluctuations in gasoline prices primarily responsible for the variance in actual vs. forecast revenues.

Based on preliminary data, TIB revenues for FY2013 are expected to end the fiscal year very close to prior projections (-1.0% variance). Relatively flat oil and gasoline prices projected during the next 12 months will leave FY2014 TIB Fund revenues slightly below

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<sup>10</sup> In the 2013-2014 legislative session, however, Vermont enacted a hybrid gasoline tax that combines a per gallon tax and a variable rate tax based on the price of gasoline, with a floor and cap on the effective variable rate. While this tax law change does not affect the structure or collection of the TIB assessments, by raising the effective retail price of gasoline, it is expected to have a slight negative impact on gasoline consumption and therefore the TIB gasoline revenues forecast herein.

<sup>11</sup> The regular revenue forecasting process is conducted in January and July of each year; however, in times of elevated economic uncertainty, such as during the Great Recession and its immediate aftermath, forecasts are updated more frequently, usually four times per year. These forecasts are performed as a part of a consensus revenue estimation process involving economists for the Agency of Administration and the JFO. KRA is the State Economist in this process for the JFO.

FY2013 levels (-0.6%), before strengthening global economic expansion in FY2015 and FY2016 create conditions for both stronger prices and increased consumption that will lead to above average TIB revenue growth for several years. As detailed in Table 5 in Appendix A hereto, longer-term average annual growth in State gasoline prices, at 2.7%, is conservatively estimated to only moderately exceed underlying rates of inflation as measured by the Consumer Price Index (CPI), at 2.1%.

<b>PRIOR REVENUE FORECASTS VS. ACTUALS</b>				
<b>(\$Millions)</b>				
		<b>Gasoline</b>	<b>Diesel</b>	<b>Total</b>
<b>For FY11</b>				
	Actual (final)	\$16.5	\$2.0	\$18.5
	July 2010 Forecast	\$16.1	\$1.9	\$18.0
	<i>Variance %</i>	2.6%	3.3%	2.6%
	January 2011 Forecast	\$16.5	\$1.9	\$18.4
	<i>Variance %</i>	0.1%	3.3%	0.4%
<b>For FY12</b>				
	Actual (final)	\$20.9	\$1.9	\$22.8
	July 2011 Forecast	\$18.6	\$1.9	\$20.5
	<i>Variance %</i>	12.3%	1.9%	11.3%
	January 2012 Forecast	\$20.6	\$1.9	\$22.5
	<i>Variance %</i>	1.5%	1.9%	1.5%
<b>For FY13</b>				
	Actual (preliminary)	\$21.2	\$1.8	\$23.0
	July 2012 Forecast	\$21.0	\$2.1	\$23.1
	<i>Variance %</i>	0.8%	-13.9%	-0.6%
	January 2013 Forecast	\$21.3	\$1.9	\$23.2
	<i>Variance %</i>	-0.6%	-5.7%	-1.0%

The basic forecasting models used in the State consensus forecasting process were employed in this analysis to generate the revenue projections herein. These models use Moody's and NEEP macroeconomic projections and a blended gasoline price forecast that considers both EIA and Moody's projections. Over the forecast period from 2013 to 2040, EIA assumes somewhat higher gasoline price increases (2.7% per year) than Moody's (2.6% per year). As noted above, the blended gasoline price assumption for the State of Vermont is detailed in Table 5 in Appendix A hereto.

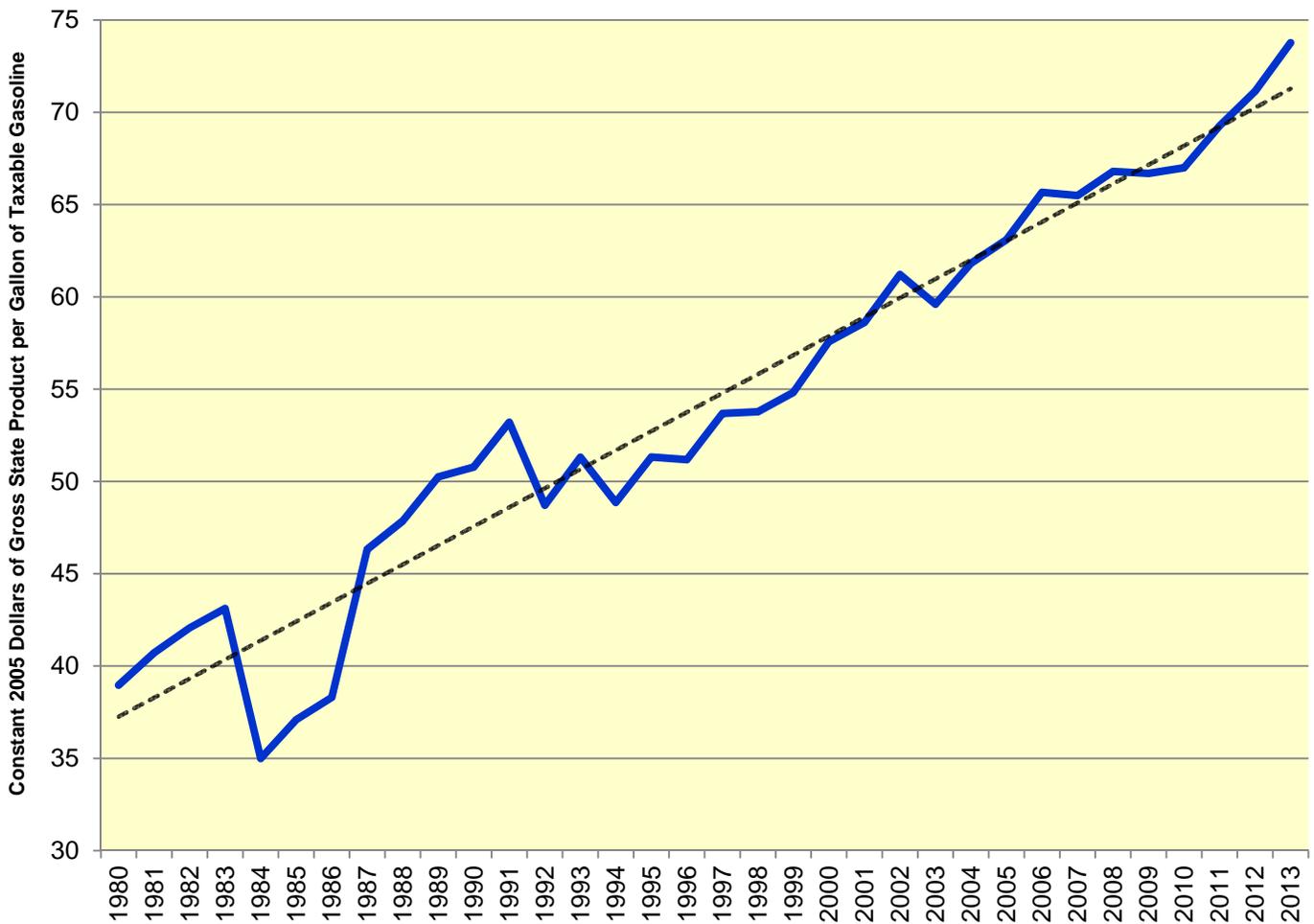
Taxable gasoline consumption in Vermont has grown at a rate of approximately 1.0% per year (at compound average annual rates) between 1981 and 2012, which is slightly higher than State population growth at 0.6% per year over the same period, as detailed in Tables 1 and 3 in Appendix A hereto. Population growth over the forecast period from 2013 to 2040 is expected to slow to 0.4% per year, with growth in gasoline demand dropping to 0.5% per year. As a relatively rural state with few urban centers and limited public transportation availability, Vermont has among the highest per capita consumption

of motor fuel in the nation (see chart on page 9, which reflects the latest available data). Although the fuel efficiency of the vehicle fleet in the State will continue to improve, the disproportionate number of per capita miles driven due to the dispersed population and rural character of the State will continue to support slight growth in gasoline demand.

The variables influencing gasoline consumption in the State include population, economic output (as measured by Gross State Product), personal income, gasoline prices and the transportation vehicle efficiency mix employed in the State. Historical and forecasted values used in this analysis for selected economic, demographic and revenue metrics of relevance are illustrated in Tables 2-5 in Appendix A hereto.

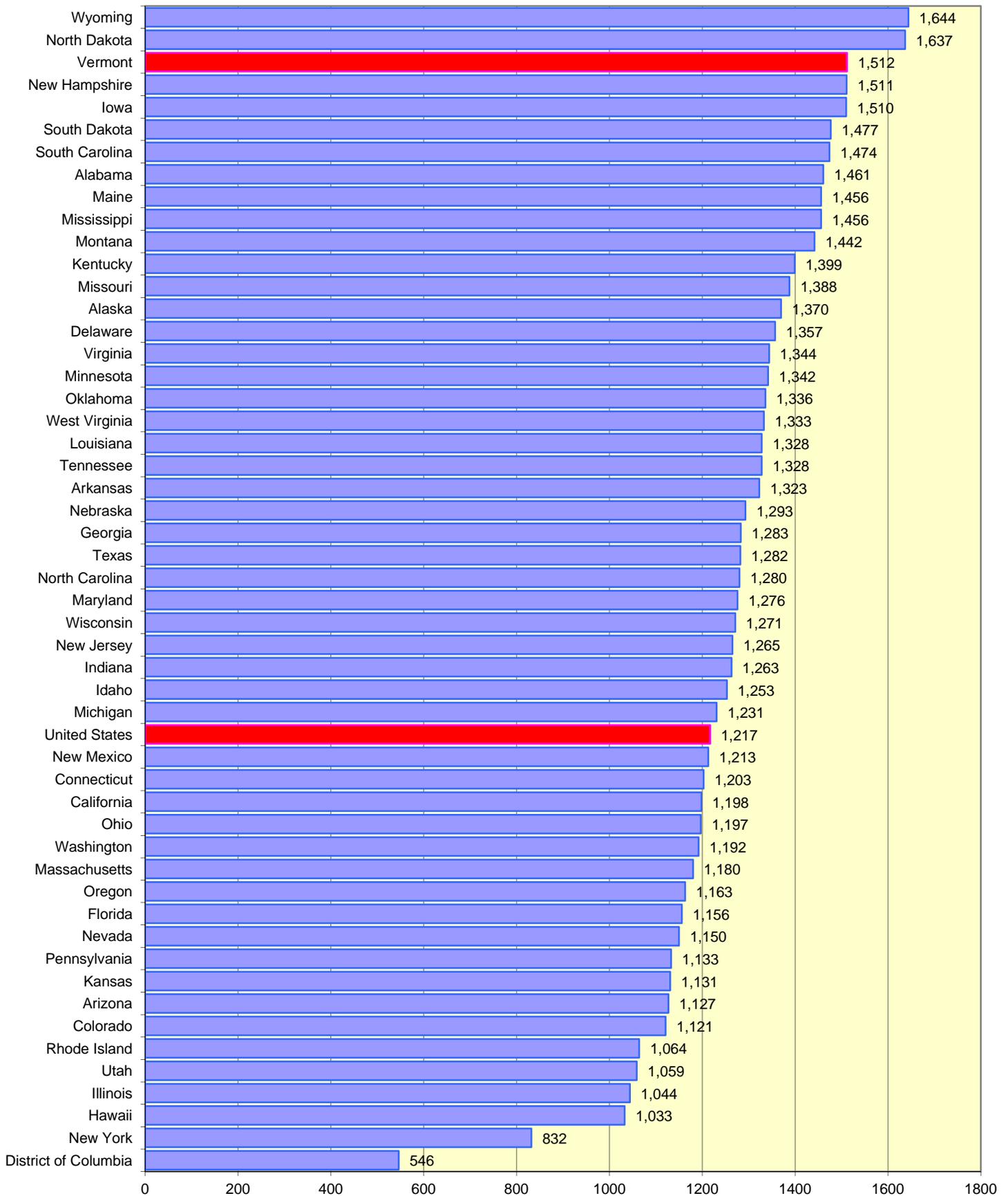
As illustrated in the below chart, constant dollar Gross State Product per gallon of gasoline consumed in Vermont has grown steadily over the past 33 years, nearly doubling between 1980 and 2013. This response to rising real gasoline prices reflects both exceptional productivity and efficiency gains as well as broader economic restructuring away from energy-intensive manufacturing and agriculture, in favor of service sector and high value-added manufacturing growth.

**Real Dollars of GSP Per Gallon of Taxable Gasoline in Vermont**  
 (Implied Gallons Per Constant 2005 Dollars, Actual FY and 33 Year Trend, Source: Vermont JFO)



# Per Capita Motor Gasoline Expenditures - 2010

Source: U.S. Energy Information Administration



This improvement in productivity, expressed as the ratio of real output to gasoline consumption, is expected to continue and accelerate over the forecast period, as real gasoline prices continue to rise. Between 2013 and 2040, Vermont gasoline prices are expected to grow at a compound annual rate of about 2.7%, while general inflation is expected to grow 2.1% per year over the same period. This will result in very little growth in taxable gasoline gallonage, with total consumption in 2040 expected to exceed prior peak levels reached in 2005 by less than 3%.

Diesel fuel demand is also affected by many of the same variables as gasoline, although it tends to be more cyclically sensitive, due to the commercial and industrial functions associated with its use. Although there has been some productivity improvement over time, it has not been as pronounced as for gasoline. Smaller, more fuel efficient cars are more readily substituted for larger gas-guzzlers than smaller trucks can be for tractor trailers hauling goods. As a result, demand for diesel fuel is expected to grow at about 1.5% per year between 2013 and 2040, with TIB-related revenues growing in tandem.

### **Changes in the Economic Outlook**

This study is the third TIB Feasibility Study prepared in connection with the issuance of Transportation Infrastructure Bonds by the State. Since the most recent TIB Feasibility Study, which was prepared in July 2012 in connection with the issuance of the 2012A TIBs, there have been relatively minor changes to the economic variables affecting TIB Fund revenues that are incorporated into the economic model and forecast. In particular, more aggressive efficiency growth assumptions, oil supply growth from domestic hydraulic fracturing and the delayed global economic recovery will combine to reduce near-term upward gasoline price pressures somewhat and also keep the demand for gasoline in check, reducing total TIB revenues slightly through about FY2036. However, higher longer-term gasoline price assumptions will result in slightly higher net TIB revenues in FY2037 and beyond.

### **Forecast Risks**

Most of the revenue forecast risk is associated with lower gasoline prices than are currently assumed. In the baseline forecast, Vermont gasoline prices are expected to rise from an annual average of \$3.77 per gallon in 2013 to \$7.58 per gallon in 2040. Much of this upward price pressure is the result of strong projected international demand, especially in the developing economies of China, India and Brazil, and ever more expensive processes for extracting limited global oil supplies. If this demand fails to materialize or substantial new easily-accessed oil supplies are discovered, prices could rise more slowly or decline at some time during the forecast period.

Accelerated transportation energy efficiency efforts and unforeseen technological breakthroughs affecting alternative energy adoption and utilization rates could also negatively impact the gasoline price increases assumed herein – especially in the latter years of the forecast period.

Although much recent media attention has been given to the growth in new electric car sales and the potential impact of such growth on gasoline consumption and related tax revenues, the impact in Vermont has been miniscule to date. As of April 2013, only 238 electric passenger cars were registered in the State, less than 0.05% of the vehicle fleet. In general, adoption rates for electric vehicles have been lower in rural states like Vermont because: 1) distances between charging stations are greater than in more urbanized areas, 2) the average per trip travel distance is greater than in urban areas and in many cases is beyond the range of electric-only vehicles, 3) there is a relatively higher preference for light trucks versus cars in the vehicle mix and there are currently no mass-produced hybrid or electric trucks on the market, and 4) the absence to date of 4WD options for most electric vehicles limits their use in rural, and especially far northern, settings. The efficiency growth rates assumed herein are consistent with those articulated in the Vermont Public Service Department 2011 Comprehensive Energy Plan, which, in turn, are generally consistent with current Federal vehicle mileage standards and goals.

Although any alternative simulation would also need to take into account additional gasoline demand that would result from declining prices, a simple reduction in gasoline prices by 50%, without changing gasoline demand, would result in a concomitant 50% reduction in TIB gasoline revenues. Diesel revenues under such a scenario would be likely to increase slightly, as lower oil prices increase fuel demand and general economic activity.

As detailed in Table 1 on the following page and Table 6 in Appendix B hereto, however, even with a 50% reduction in revenues, there is ample revenue to service the 2010A TIBs, the 2012A TIBs and the 2013A TIBs, as well as the additional bond issuance outlined in Appendix B.

### 3) Summary

#### **Debt Service Coverage Analysis**

Table 1 on the following page presents the results of the debt service coverage analysis based on revenue projections herein and debt service calculations provided to KRA by Public Resources Advisory Group (PRAG). This analysis projects that in no fiscal year would available TIB revenues fall below nine times (9x) the projected debt service costs for the 2010A TIBs, the 2012A TIBs and the 2013A TIBs. This would mean that it is likely the entire annual debt service costs for the 2010A TIBs, the 2012A TIBs and the 2013A TIBs could be generated by revenues collected in less than just two average months of each fiscal year. This is sufficient capacity to cover debt service and other bond-related costs, even under extremely pessimistic forecast assumptions. Actual coverage, however, will be lower as a result of additional debt expected to be issued and could also be lower if there are variances from the assumptions used in these forecasts.

**TABLE 1**  
**State of Vermont**  
**Transportation Infrastructure Revenue Bonds**

**2010A, 2012A and 2013A TIBs Debt Service Coverage**

Maturity Date	Fiscal Year	2010A TIBs Debt Service* (Actual)	2012A TIBs Debt Service* (Actual)	2013A TIBs Debt Service** (Estimated)	Total Fiscal Year Debt Service (Estimated)	MFTIA Revenue (Projected)	Debt Service Coverage (Projected)
6/15/2013	2013					\$22,971,842	
6/15/2014	2014	\$993,363	\$694,063	\$706,562	\$2,393,987	\$22,833,353	9.54
6/15/2015	2015	\$991,363	\$695,063	\$836,738	\$2,523,163	\$23,886,477	9.47
6/15/2016	2016	\$994,163	\$695,863	\$836,738	\$2,526,763	\$25,762,194	10.20
6/15/2017	2017	\$991,663	\$696,463	\$836,138	\$2,524,263	\$26,765,247	10.60
6/15/2018	2018	\$990,788	\$696,863	\$839,938	\$2,527,588	\$27,459,239	10.86
6/15/2019	2019	\$994,538	\$697,063	\$837,938	\$2,529,538	\$28,135,585	11.12
6/15/2020	2020	\$991,113	\$692,063	\$840,938	\$2,524,113	\$28,745,017	11.39
6/15/2021	2021	\$990,563	\$696,963	\$837,688	\$2,525,213	\$29,592,615	11.72
6/15/2022	2022	\$994,413	\$696,563	\$838,438	\$2,529,413	\$30,588,088	12.09
6/15/2023	2023	\$992,513	\$695,963	\$837,938	\$2,526,413	\$31,499,003	12.47
6/15/2024	2024	\$995,013	\$695,163	\$836,188	\$2,526,363	\$32,295,853	12.78
6/15/2025	2025	\$994,825	\$696,413	\$838,788	\$2,530,025	\$33,064,142	13.07
6/15/2026	2026	\$991,825	\$693,700	\$840,388	\$2,525,913	\$33,858,426	13.40
6/15/2027	2027	\$992,950	\$694,325	\$840,988	\$2,528,263	\$34,845,559	13.78
6/15/2028	2028	\$990,888	\$694,575	\$840,588	\$2,526,050	\$35,877,730	14.20
6/15/2029	2029	\$992,700	\$694,450	\$839,188	\$2,526,338	\$36,989,734	14.64
6/15/2030	2030	\$993,200	\$693,950	\$836,788	\$2,523,938	\$38,156,162	15.12
6/15/2031	2031		\$694,900	\$838,388	\$1,533,288	\$39,337,498	25.66
6/15/2032	2032		\$695,250	\$836,938	\$1,532,188	\$40,564,702	26.48
6/15/2033	2033			\$839,213	\$839,213	\$41,886,950	49.91
<b>TOTAL</b>		<b>\$16,875,875</b>	<b>\$13,209,650</b>	<b>\$16,636,500</b>	<b>\$46,722,025</b>	<b>\$665,115,416</b>	

\* Debt service schedule was provided to KRA by Public Resources Advisory Group, Inc. and reflects actual debt service on the 2010A TIBs and 2012A TIBs.

\*\* Preliminary; subject to change. Debt service schedule was provided to KRA by Public Resources Advisory Group, Inc. and reflects an assumed rate of interest of approximately 4.11% on the 2013A TIBs.

## **Conclusion and Professional Opinion**

In conclusion, based upon the baseline revenue forecast assumptions outlined in this analysis and debt service projections provided to KRA by PRAG, it is KRA's opinion that each fiscal year ending on June 30 of each forecast year will achieve an amount that is adequate to pay the aggregate debt service and bond-related costs associated with the 2010A TIBs, the 2012A TIBs and the 2013A TIBs.

## **4) Disclaimer**

It should be noted that estimates and opinions included in this report are based on exploratory level analysis and the best available information at the time of the study. Current professional practices and procedures were used in the development of these findings. However, there is considerable uncertainty inherent in projecting future tax revenue collections for any governmental entity. There may be differences between forecasted and actual results caused by events and circumstances beyond the control or knowledge of the forecasters. These differences could be material. The tax revenue forecasts in this document are intended to reflect long-term trends based on specified assumptions. Actual experience in any given year may vary due to economic conditions and other factors.

# APPENDIX A

## TABLES 2-5:

### SELECTED ECONOMIC, DEMOGRAPHIC AND REVENUE METRICS AND GRAPHIC DISPLAY OF PRO FORMA TIB ASSESSMENT REVENUES<sup>12</sup>

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<sup>12</sup> The TIB assessments on gasoline and diesel fuel have been collected in the TIB Fund since July 2009 with respect to the assessment on gasoline and since December 2009 with respect to the assessment on diesel fuel. Table 3 and related charts in this Appendix contain pro forma estimates of what the revenue from such assessments would have been if such assessments had been collected prior to fiscal year 2010, based on available historical data relating to retail gasoline prices and gallons of gasoline and diesel fuel sold in the State. The pro forma estimates are provided in order to allow comparisons to other historical information in this study, but do not represent actual revenues of the State. If the assessments had been collected prior to fiscal year 2010, it is likely that the actual amounts collected would differ from the estimates.

**TABLE 2**  
**Selected Economic and Demographic Metrics**  
**Transportation Infrastructure Bond Analysis - July 2013**

Vermont Gross State Product (GSP) Constant 2005 Dollars Fiscal Year Basis			Vermont Gross State Product (GSP) Nominal Dollars Fiscal Year Basis			Total Population Vermont Fiscal Year Basis			Median Household Income Vermont Fiscal Year Basis		
	\$Billions	%ch		\$Billions	%ch		Thousands	%ch		\$Thousands	%ch
1981	9.7		1981	5.0		1981	514.7		1981	17.9	
1982	9.8	1.6%	1982	5.5	9.0%	1982	517.7	0.6%	1982	18.6	4.1%
1983	9.9	1.1%	1983	5.9	6.7%	1983	521.8	0.8%	1983	18.4	-1.0%
1984	10.4	5.0%	1984	6.4	4.4%	1984	525.4	0.7%	1984	20.7	12.3%
1985	11.0	5.3%	1985	7.0	3.5%	1985	528.7	0.6%	1985	24.7	19.7%
1986	11.6	5.5%	1986	7.7	1.9%	1986	532.5	0.7%	1986	25.5	3.1%
1987	12.2	5.6%	1987	8.4	3.7%	1987	537.7	1.0%	1987	24.5	-3.9%
1988	13.4	9.5%	1988	9.5	12.6%	1988	546.1	1.6%	1988	27.2	10.9%
1989	14.5	8.1%	1989	10.6	4.8%	1989	554.8	1.6%	1989	30.4	11.8%
1990	14.8	2.3%	1990	11.2	5.4%	1990	562.3	1.3%	1990	31.5	3.6%
1991	14.5	-1.9%	1991	11.4	1.5%	1991	567.3	0.9%	1991	29.8	-5.3%
1992	14.7	1.4%	1992	11.9	4.1%	1992	571.1	0.7%	1992	30.9	3.5%
1993	15.2	3.1%	1993	12.5	5.3%	1993	575.8	0.8%	1993	31.9	3.5%
1994	15.7	3.1%	1994	13.2	5.5%	1994	581.5	1.0%	1994	33.3	4.3%
1995	15.8	1.0%	1995	13.5	2.6%	1995	587.1	1.0%	1995	35.5	6.6%
1996	16.2	2.1%	1996	14.0	2.9%	1996	592.0	0.8%	1996	32.6	-8.3%
1997	16.9	4.7%	1997	14.8	5.9%	1997	596.0	0.7%	1997	33.4	2.6%
1998	17.7	4.6%	1998	15.6	5.5%	1998	599.2	0.5%	1998	37.1	11.2%
1999	18.4	4.2%	1999	16.4	5.1%	1999	603.0	0.6%	1999	41.1	10.6%
2000	19.6	6.4%	2000	17.6	7.4%	2000	607.9	0.8%	2000	41.5	1.1%
2001	20.2	3.2%	2001	18.5	4.8%	2001	611.3	0.6%	2001	42.4	2.0%
2002	20.6	1.8%	2002	19.1	3.6%	2002	614.2	0.5%	2002	43.5	2.8%
2003	21.2	2.7%	2003	20.0	4.4%	2003	617.0	0.5%	2003	43.7	0.3%
2004	22.1	4.2%	2004	21.2	6.2%	2004	619.2	0.4%	2004	45.0	3.2%
2005	22.7	2.8%	2005	22.4	5.5%	2005	620.8	0.3%	2005	46.5	3.2%
2006	23.0	1.3%	2006	23.3	4.1%	2006	622.3	0.2%	2006	46.2	-0.6%
2007	22.8	-0.7%	2007	23.8	2.1%	2007	623.3	0.2%	2007	48.9	5.9%
2008	22.9	0.4%	2008	24.3	2.2%	2008	623.9	0.1%	2008	51.0	4.4%
2009	22.2	-3.1%	2009	24.2	-0.3%	2009	624.5	0.1%	2009	52.4	2.6%
2010	22.7	2.4%	2010	25.1	3.7%	2010	625.5	0.2%	2010	50.4	-3.7%
2011	23.6	4.0%	2011	26.3	4.8%	2011	626.4	0.1%	2011	49.3	-2.2%
2012	23.8	0.7%	2012	27.0	2.4%	2012	626.4	0.0%	2012	49.7	0.9%
2013	24.0	0.7%	2013	27.6	2.3%	2013	627.2	0.1%	2013	50.1	0.7%
2014	24.5	2.3%	2014	28.7	4.0%	2014	629.2	0.3%	2014	50.4	0.8%
2015	25.5	4.0%	2015	30.4	6.1%	2015	631.3	0.3%	2015	51.6	2.3%
2016	26.4	3.6%	2016	32.2	5.8%	2016	633.5	0.3%	2016	53.1	3.0%
2017	27.1	2.6%	2017	33.7	4.8%	2017	635.8	0.4%	2017	54.5	2.5%
2018	27.6	2.0%	2018	35.1	4.2%	2018	638.3	0.4%	2018	55.6	2.2%
2019	28.1	1.8%	2019	36.5	3.9%	2019	641.0	0.4%	2019	56.9	2.2%
2020	28.6	1.8%	2020	37.9	3.7%	2020	643.8	0.4%	2020	58.0	2.1%
2021	29.2	2.0%	2021	39.4	3.9%	2021	646.5	0.4%	2021	59.2	2.1%
2022	29.8	2.1%	2022	41.0	4.0%	2022	649.2	0.4%	2022	60.5	2.1%
2023	30.4	2.1%	2023	42.6	4.1%	2023	651.9	0.4%	2023	61.8	2.1%
2024	31.1	2.0%	2024	44.3	4.0%	2024	654.7	0.4%	2024	63.1	2.1%
2025	31.7	2.0%	2025	46.1	4.0%	2025	657.5	0.4%	2025	64.5	2.1%
2026	32.3	2.0%	2026	47.9	4.0%	2026	660.2	0.4%	2026	65.8	2.1%
2027	33.0	2.1%	2027	49.9	4.1%	2027	662.7	0.4%	2027	67.1	2.0%
2028	33.7	2.2%	2028	52.0	4.2%	2028	665.2	0.4%	2028	68.5	2.0%
2029	34.5	2.2%	2029	54.1	4.2%	2029	667.8	0.4%	2029	69.8	1.9%
2030	35.2	2.2%	2030	56.4	4.2%	2030	670.5	0.4%	2030	71.2	2.0%
2031	36.0	2.2%	2031	58.7	4.1%	2031	673.0	0.4%	2031	72.6	2.0%
2032	36.8	2.1%	2032	61.1	4.0%	2032	675.4	0.4%	2032	74.0	2.0%
2033	37.6	2.2%	2033	63.5	4.0%	2033	678.1	0.4%	2033	75.6	2.1%
2034	38.4	2.2%	2034	66.1	4.1%	2034	680.8	0.4%	2034	77.2	2.1%
2035	39.3	2.2%	2035	68.8	4.1%	2035	683.5	0.4%	2035	78.8	2.1%
2036	40.2	2.2%	2036	71.7	4.1%	2036	686.2	0.4%	2036	80.5	2.1%
2037	41.0	2.2%	2037	74.6	4.1%	2037	688.9	0.4%	2037	82.2	2.1%
2038	42.0	2.2%	2038	77.6	4.1%	2038	691.6	0.4%	2038	83.9	2.1%
2039	42.9	2.2%	2039	80.8	4.1%	2039	694.3	0.4%	2039	85.7	2.1%
2040	43.9	2.2%	2040	84.1	4.1%	2040	697.0	0.4%	2040	87.5	2.1%

**Compound Average Annual Percent Change**

1981-2012	3.0%	5.6%	0.6%	3.4%
2013-2040	2.3%	4.2%	0.4%	2.1%

Primary Source: Moody's Analytics

Moody's Analytics

Moody's Analytics

Moody's Analytics

**TABLE 3**  
**Selected Economic and Revenue Metrics**  
**Transportation Infrastructure Bond Analysis - July 2013**

West Texas Intermediate Crude Price Per Barrel Fiscal Year Basis			U.S. Consumer Price Index Urban Consumer, All Items Fiscal Year Basis			Pro Forma VT TIB Revenues* from Gasoline Assessment Fiscal Year Basis			Pro Forma VT TIB Revenues* from Diesel Assessment Fiscal Year Basis		
	\$ Per BBL	%ch		Index	%ch		\$Millions	%ch		\$Millions	%ch
1981	37.4		1981	86.6		1981			1981		
1982	34.4	-8.1%	1982	94.2	8.7%	1982			1982		
1983	32.2	-6.4%	1983	98.2	4.3%	1983			1983		
1984	30.5	-5.2%	1984	101.8	3.7%	1984			1984		
1985	27.9	-8.6%	1985	105.8	3.9%	1985	2.9		1985	0.6	
1986	22.0	-21.1%	1986	108.9	2.9%	1986	2.7	-6.4%	1986	0.6	8.7%
1987	16.7	-24.0%	1987	111.3	2.2%	1987	2.1	-23.3%	1987	0.7	12.3%
1988	18.3	9.3%	1988	115.9	4.1%	1988	2.3	10.0%	1988	0.7	2.7%
1989	17.2	-6.1%	1989	121.2	4.6%	1989	2.4	8.0%	1989	0.8	6.6%
1990	19.8	15.4%	1990	127.0	4.8%	1990	3.4	38.3%	1990	1.2	52.7%
1991	25.2	27.4%	1991	133.9	5.5%	1991	3.7	8.7%	1991	1.3	7.5%
1992	20.9	-17.2%	1992	138.2	3.2%	1992	4.0	8.0%	1992	1.2	-2.6%
1993	20.4	-2.1%	1993	142.5	3.1%	1993	3.6	-8.0%	1993	1.3	8.8%
1994	16.7	-18.2%	1994	146.2	2.6%	1994	3.7	1.9%	1994	1.3	-6.0%
1995	18.5	10.5%	1995	150.4	2.8%	1995	3.7	-0.2%	1995	1.3	5.9%
1996	19.4	5.0%	1996	154.5	2.7%	1996	4.0	8.2%	1996	1.3	-0.6%
1997	22.4	15.8%	1997	158.9	2.8%	1997	4.5	10.8%	1997	1.3	-1.3%
1998	17.6	-21.7%	1998	161.8	1.8%	1998	5.3	17.9%	1998	1.6	23.2%
1999	14.4	-17.9%	1999	164.5	1.7%	1999	4.2	-19.5%	1999	1.7	7.4%
2000	26.0	80.1%	2000	169.3	2.9%	2000	5.9	39.3%	2000	1.8	2.9%
2001	30.1	15.8%	2001	175.1	3.4%	2001	7.9	33.8%	2001	2.1	19.3%
2002	23.7	-21.1%	2002	178.2	1.8%	2002	6.8	-13.2%	2002	2.0	-6.7%
2003	29.9	26.1%	2003	182.1	2.2%	2003	7.4	8.5%	2003	2.0	-1.3%
2004	33.7	12.8%	2004	186.1	2.2%	2004	8.5	14.8%	2004	2.2	9.7%
2005	48.7	44.4%	2005	191.7	3.0%	2005	10.9	28.3%	2005	1.9	-13.8%
2006	64.2	31.8%	2006	198.9	3.8%	2006	13.7	25.5%	2006	2.1	14.0%
2007	63.4	-1.3%	2007	204.1	2.6%	2007	15.1	10.1%	2007	2.2	1.7%
2008	97.1	53.1%	2008	211.7	3.7%	2008	17.4	15.2%	2008	2.0	-7.8%
2009	69.7	-28.2%	2009	214.7	1.4%	2009	17.2	-1.3%	2009	1.9	-6.5%
2010	75.2	7.9%	2010	216.8	1.0%	2010	13.4	-22.2%	2010	1.8	-3.7%
2011	89.4	18.9%	2011	221.1	2.0%	2011	16.5	23.6%	2011	2.0	10.0%
2012	95.0	6.3%	2012	227.6	2.9%	2012	20.9	26.6%	2012	1.9	-2.1%
2013	92.6	-2.6%	2013	231.6	1.8%	2013	21.2	1.4%	2013	1.8	-8.1%
2014	101.1	9.3%	2014	235.8	1.8%	2014	21.0	-0.9%	2014	1.8	3.3%
2015	107.4	6.2%	2015	241.2	2.3%	2015	22.0	4.6%	2015	1.9	5.3%
2016	112.0	4.3%	2016	247.0	2.4%	2016	23.7	8.1%	2016	2.0	4.5%
2017	115.6	3.2%	2017	253.1	2.5%	2017	24.7	4.1%	2017	2.1	1.8%
2018	118.3	2.3%	2018	259.3	2.4%	2018	25.4	2.7%	2018	2.1	1.2%
2019	121.0	2.3%	2019	265.5	2.4%	2019	26.0	2.6%	2019	2.1	0.8%
2020	123.7	2.3%	2020	271.4	2.3%	2020	26.6	2.3%	2020	2.1	0.9%
2021	126.5	2.3%	2021	277.4	2.2%	2021	27.5	3.1%	2021	2.1	1.1%
2022	129.4	2.3%	2022	283.3	2.2%	2022	28.4	3.5%	2022	2.2	1.2%
2023	132.3	2.3%	2023	289.3	2.1%	2023	29.3	3.1%	2023	2.2	1.3%
2024	135.3	2.3%	2024	295.5	2.1%	2024	30.1	2.6%	2024	2.2	1.2%
2025	138.3	2.3%	2025	301.7	2.1%	2025	30.8	2.5%	2025	2.2	1.2%
2026	141.4	2.2%	2026	308.0	2.1%	2026	31.6	2.5%	2026	2.3	1.3%
2027	144.6	2.2%	2027	314.3	2.1%	2027	32.5	3.0%	2027	2.3	1.3%
2028	147.8	2.2%	2028	320.8	2.0%	2028	33.5	3.1%	2028	2.3	1.3%
2029	151.0	2.2%	2029	327.3	2.0%	2029	34.6	3.2%	2029	2.4	1.3%
2030	154.3	2.2%	2030	333.9	2.0%	2030	35.8	3.3%	2030	2.4	1.3%
2031	157.6	2.2%	2031	340.8	2.0%	2031	36.9	3.2%	2031	2.4	1.3%
2032	161.1	2.2%	2032	347.8	2.1%	2032	38.1	3.2%	2032	2.5	1.3%
2033	164.6	2.2%	2033	355.0	2.1%	2033	39.4	3.4%	2033	2.5	1.3%
2034	168.2	2.2%	2034	362.4	2.1%	2034	40.8	3.5%	2034	2.5	1.3%
2035	172.0	2.2%	2035	369.9	2.1%	2035	42.2	3.5%	2035	2.5	1.3%
2036	175.7	2.2%	2036	377.6	2.1%	2036	43.7	3.6%	2036	2.6	1.3%
2037	179.6	2.2%	2037	385.5	2.1%	2037	45.3	3.6%	2037	2.6	1.3%
2038	183.6	2.2%	2038	393.5	2.1%	2038	46.9	3.6%	2038	2.7	1.3%
2039	187.6	2.2%	2039	401.6	2.1%	2039	48.6	3.6%	2039	2.7	1.3%
2040	191.8	2.2%	2040	410.0	2.1%	2040	50.4	3.7%	2040	2.7	1.3%

**Compound Average Annual Percent Change**

1981-2012	3.1%	3.2%	7.0% (1985-2011)	4.8% (1985-2011)
2013-2040	2.7%	2.1%	3.3%	1.6%

Primary Source: Moody's Analytics

Moody's Analytics

KRA

KRA

\* These estimates are for illustrative purposes only,  
since there were no TIB assessments prior to FY2010.

**TABLE 4**  
**Selected Economic and Revenue Metrics**  
**Transportation Infrastructure Bond Analysis - July 2013**

Vermont Transportation Fund Gasoline Tax Revenue - FY Basis Excluding TIB Assessments*			Vermont Transportation Fund Diesel Tax Revenue - FY Basis Excluding TIB Assessments*			Vermont Transportation Fund Gasoline Tax Base (Implied**) Fiscal Year Basis			Vermont Transportation Fund Diesel Tax Base (Implied**) Fiscal Year Basis		
	\$Millions	%ch		\$Millions	%ch		Millions of Gallons	%ch		Millions of Gallons	%ch
1981	21.4		1981	0.0		1981	237.3		1981		
1982	25.4	18.8%	1982	0.0		1982	233.3	-1.7%	1982		
1983	25.3	-0.2%	1983	NM		1983	230.2	-1.3%	1983		
1984	32.8	29.5%	1984	4.2		1984	298.0	29.5%	1984	29.9	
1985	32.6	-0.7%	1985	4.8	15.4%	1985	296.0	-0.7%	1985	34.5	15.4%
1986	33.3	2.1%	1986	5.3	8.7%	1986	302.3	2.1%	1986	37.5	8.7%
1987	34.3	3.2%	1987	5.9	12.3%	1987	263.9	-12.7%	1987	42.2	12.3%
1988	36.4	6.0%	1988	6.1	2.7%	1988	279.8	6.0%	1988	43.3	2.7%
1989	37.4	2.9%	1989	6.5	6.6%	1989	288.0	2.9%	1989	46.1	6.6%
1990	43.7	16.8%	1990	9.9	52.7%	1990	291.4	1.2%	1990	49.3	6.8%
1991	40.9	-6.3%	1991	10.6	7.5%	1991	272.9	-6.3%	1991	48.2	-2.3%
1992	45.4	10.8%	1992	10.3	-2.6%	1992	302.4	10.8%	1992	46.9	-2.6%
1993	44.4	-2.1%	1993	11.2	8.8%	1993	296.0	-2.1%	1993	51.0	8.8%
1994	48.1	8.3%	1994	10.6	-6.0%	1994	320.5	8.3%	1994	48.0	-6.0%
1995	46.2	-3.9%	1995	11.2	5.9%	1995	308.2	-3.9%	1995	50.8	5.9%
1996	47.3	2.4%	1996	11.1	-0.6%	1996	315.6	2.4%	1996	50.5	-0.6%
1997	47.3	-0.1%	1997	11.0	-1.3%	1997	315.2	-0.1%	1997	49.8	-1.3%
1998	59.1	25.0%	1998	13.6	24.1%	1998	328.9	4.4%	1998	61.9	24.1%
1999	61.3	3.7%	1999	14.5	6.6%	1999	336.1	2.2%	1999	65.9	6.6%
2000	62.1	1.3%	2000	14.9	2.9%	2000	340.5	1.3%	2000	67.9	2.9%
2001	63.0	1.4%	2001	17.8	19.3%	2001	345.2	1.4%	2001	71.3	5.1%
2002	63.1	0.2%	2002	15.5	-12.9%	2002	336.6	-2.5%	2002	62.1	-12.9%
2003	64.8	2.6%	2003	16.4	5.7%	2003	355.2	5.5%	2003	65.7	5.7%
2004	65.1	0.5%	2004	17.2	4.6%	2004	356.8	0.5%	2004	68.7	4.6%
2005	65.5	0.7%	2005	16.4	-4.6%	2005	359.4	0.7%	2005	65.5	-4.6%
2006	63.8	-2.7%	2006	17.7	8.3%	2006	350.0	-2.6%	2006	70.9	8.3%
2007	63.6	-0.3%	2007	18.5	4.1%	2007	348.6	-0.4%	2007	73.9	4.1%
2008	62.6	-1.6%	2008	16.6	-10.2%	2008	343.0	-1.6%	2008	66.4	-10.2%
2009	60.6	-3.1%	2009	15.5	-6.5%	2009	332.4	-3.1%	2009	62.0	-6.5%
2010	61.0	0.6%	2010	15.1	-2.6%	2010	334.4	0.6%	2010	60.4	-2.6%
2011	60.6	-0.6%	2011	15.4	2.0%	2011	332.4	-0.6%	2011	61.6	2.0%
2012	59.3	-2.2%	2012	16.0	3.9%	2012	324.9	-2.2%	2012	64.0	3.9%
2013	58.3	-1.6%	2013	15.6	-2.2%	2013	319.8	-1.6%	2013	62.6	-2.2%
2014	58.6	0.4%	2014	15.9	1.6%	2014	321.2	0.4%	2014	63.6	1.6%
2015	59.4	1.4%	2015	16.4	3.1%	2015	325.6	1.4%	2015	65.6	3.1%
2016	60.2	1.3%	2016	16.8	2.4%	2016	330.0	1.3%	2016	67.2	2.4%
2017	60.6	0.7%	2017	17.1	1.8%	2017	332.1	0.7%	2017	68.4	1.8%
2018	60.9	0.5%	2018	17.3	1.2%	2018	333.8	0.5%	2018	69.2	1.2%
2019	61.0	0.2%	2019	17.4	0.8%	2019	334.5	0.2%	2019	69.7	0.8%
2020	61.2	0.3%	2020	17.6	0.9%	2020	335.4	0.3%	2020	70.4	0.9%
2021	61.4	0.3%	2021	17.8	1.1%	2021	336.4	0.3%	2021	71.1	1.1%
2022	61.6	0.4%	2022	18.0	1.2%	2022	337.6	0.4%	2022	71.9	1.2%
2023	61.8	0.3%	2023	18.2	1.3%	2023	338.8	0.3%	2023	72.9	1.3%
2024	62.0	0.3%	2024	18.4	1.2%	2024	339.8	0.3%	2024	73.8	1.2%
2025	62.2	0.3%	2025	18.7	1.2%	2025	340.9	0.3%	2025	74.7	1.2%
2026	62.4	0.4%	2026	18.9	1.3%	2026	342.2	0.4%	2026	75.6	1.3%
2027	62.7	0.5%	2027	19.2	1.3%	2027	343.8	0.5%	2027	76.6	1.3%
2028	63.1	0.5%	2028	19.4	1.3%	2028	345.7	0.5%	2028	77.6	1.3%
2029	63.4	0.5%	2029	19.7	1.3%	2029	347.5	0.5%	2029	78.6	1.3%
2030	63.7	0.5%	2030	19.9	1.3%	2030	349.4	0.5%	2030	79.7	1.3%
2031	64.1	0.5%	2031	20.2	1.3%	2031	351.1	0.5%	2031	80.7	1.3%
2032	64.3	0.4%	2032	20.4	1.3%	2032	352.6	0.4%	2032	81.7	1.3%
2033	64.7	0.5%	2033	20.7	1.3%	2033	354.5	0.5%	2033	82.8	1.3%
2034	65.0	0.5%	2034	21.0	1.3%	2034	356.3	0.5%	2034	83.9	1.3%
2035	65.3	0.5%	2035	21.2	1.3%	2035	358.1	0.5%	2035	85.0	1.3%
2036	65.7	0.5%	2036	21.5	1.3%	2036	360.0	0.5%	2036	86.1	1.3%
2037	66.0	0.5%	2037	21.8	1.3%	2037	361.8	0.5%	2037	87.3	1.3%
2038	66.3	0.5%	2038	22.1	1.3%	2038	363.7	0.5%	2038	88.4	1.3%
2039	66.7	0.5%	2039	22.4	1.3%	2039	365.5	0.5%	2039	89.6	1.3%
2040	67.0	0.5%	2040	22.7	1.3%	2040	367.4	0.5%	2040	90.8	1.3%

**Compound Average Annual Percent Change**

1981-2012	3.3%	4.9% (1984-2012)	1.0%	2.8% (1984-2012)
2013-2040	0.5%	1.4%	0.5%	1.4%

Primary Sources: Vermont JFO and KRA

Vermont JFO and KRA

Vermont JFO and KRA

Vermont JFO and KRA

\* Pro forma \$0.18245 constant rate basis for Gasoline Tax. Excludes TIB assessments, which were first implemented in FY2010.

\*\* Taxable gallonage figures derived from actual revenue data.

**TABLE 5**  
**Selected Economic and Revenue Metrics**  
**Transportation Infrastructure Bond Analysis - July 2013**

Vermont "Blended" Average Gasoline Price Calendar Year Basis			Vermont TIB Revenues from Gasoline Assessment Fiscal Year Basis		Vermont TIB Revenues from Diesel Assessment Fiscal Year Basis		Vermont TIB Revenues Total Assessments Fiscal Year Basis			
\$ per Gallon	%ch		\$Millions	%ch	\$Millions	%ch	\$Millions	%ch		
1981			1981		1981		1981			
1982			1982		1982		1982			
1983			1983		1983		1983			
1984			1984		1984		1984			
1985	1.21		1985		1985		1985			
1986	0.94	-22.2%	1986		1986		1986			
1987	0.97	2.8%	1987		1987		1987			
1988	0.97	0.6%	1988		1988		1988			
1989	1.07	10.1%	1989		1989		1989			
1990	1.23	14.8%	1990		1990		1990			
1991	1.22	-0.8%	1991		1991		1991			
1992	1.16	-4.6%	1992		1992		1992			
1993	1.12	-3.5%	1993		1993		1993			
1994	1.12	-0.2%	1994		1994		1994			
1995	1.18	5.1%	1995		1995		1995			
1996	1.24	4.9%	1996		1996		1996			
1997	1.26	1.8%	1997		1997		1997			
1998	1.07	-14.7%	1998		1998		1998			
1999	1.16	8.0%	1999		1999		1999			
2000	1.55	33.4%	2000		2000		2000			
2001	1.47	-5.1%	2001		2001		2001			
2002	1.36	-7.4%	2002		2002		2002			
2003	1.59	17.3%	2003		2003		2003			
2004	1.88	17.8%	2004		2004		2004			
2005	2.31	23.2%	2005		2005		2005			
2006	2.59	12.1%	2006		2006		2006			
2007	2.81	8.4%	2007		2007		2007			
2008	3.35	19.2%	2008		2008		2008			
2009	2.34	-30.0%	2009		2009		2009			
2010	2.82	20.4%	2010	13.4		1.5	2010	14.9		
2011	3.59	27.3%	2011	16.5	23.6%	2.0	32.1%	2011	18.5	24.4%
2012	3.74	4.2%	2012	20.9	26.6%	1.9	-2.1%	2012	22.8	23.5%
2013	3.72	-0.7%	2013	21.2	1.4%	1.8	-8.1%	2013	23.0	0.6%
2014	3.77	1.4%	2014	21.0	-0.9%	1.8	3.3%	2014	22.8	-0.6%
2015	4.03	6.9%	2015	22.0	4.6%	1.9	5.3%	2015	23.9	4.6%
2016	4.17	3.5%	2016	23.7	8.1%	2.0	4.5%	2016	25.8	7.9%
2017	4.25	1.9%	2017	24.7	4.1%	2.1	1.8%	2017	26.8	3.9%
2018	4.35	2.4%	2018	25.4	2.7%	2.1	1.2%	2018	27.5	2.6%
2019	4.42	1.6%	2019	26.0	2.6%	2.1	0.8%	2019	28.1	2.5%
2020	4.53	2.4%	2020	26.6	2.3%	2.1	0.9%	2020	28.7	2.2%
2021	4.66	3.0%	2021	27.5	3.1%	2.1	1.1%	2021	29.6	2.9%
2022	4.79	2.6%	2022	28.4	3.5%	2.2	1.2%	2022	30.6	3.4%
2023	4.89	2.2%	2023	29.3	3.1%	2.2	1.3%	2023	31.5	3.0%
2024	4.99	2.0%	2024	30.1	2.6%	2.2	1.2%	2024	32.3	2.5%
2025	5.08	1.8%	2025	30.8	2.5%	2.2	1.2%	2025	33.1	2.4%
2026	5.20	2.4%	2026	31.6	2.5%	2.3	1.3%	2026	33.9	2.4%
2027	5.32	2.3%	2027	32.5	3.0%	2.3	1.3%	2027	34.8	2.9%
2028	5.45	2.4%	2028	33.5	3.1%	2.3	1.3%	2028	35.9	3.0%
2029	5.59	2.6%	2029	34.6	3.2%	2.4	1.3%	2029	37.0	3.1%
2030	5.73	2.5%	2030	35.8	3.3%	2.4	1.3%	2030	38.2	3.2%
2031	5.88	2.6%	2031	36.9	3.2%	2.4	1.3%	2031	39.3	3.1%
2032	6.03	2.6%	2032	38.1	3.2%	2.5	1.3%	2032	40.6	3.1%
2033	6.20	2.9%	2033	39.4	3.4%	2.5	1.3%	2033	41.9	3.3%
2034	6.37	2.7%	2034	40.8	3.5%	2.5	1.3%	2034	43.3	3.4%
2035	6.56	2.9%	2035	42.2	3.5%	2.5	1.3%	2035	44.8	3.3%
2036	6.75	2.9%	2036	43.7	3.6%	2.6	1.3%	2036	46.3	3.5%
2037	6.94	2.9%	2037	45.3	3.6%	2.6	1.3%	2037	47.9	3.5%
2038	7.14	2.9%	2038	46.9	3.6%	2.7	1.3%	2038	49.6	3.5%
2039	7.36	3.0%	2039	48.6	3.6%	2.7	1.3%	2039	51.3	3.5%
2040	7.58	3.0%	2040	50.4	3.7%	2.7	1.3%	2040	53.1	3.6%

**Compound Average Annual Percent Change**

1991-2012	5.5%	NM	NM	NM
2013-2040	2.7%	3.3%	1.6%	3.2%

Primary Sources: VT PSD, Moody's, EIA, KRA

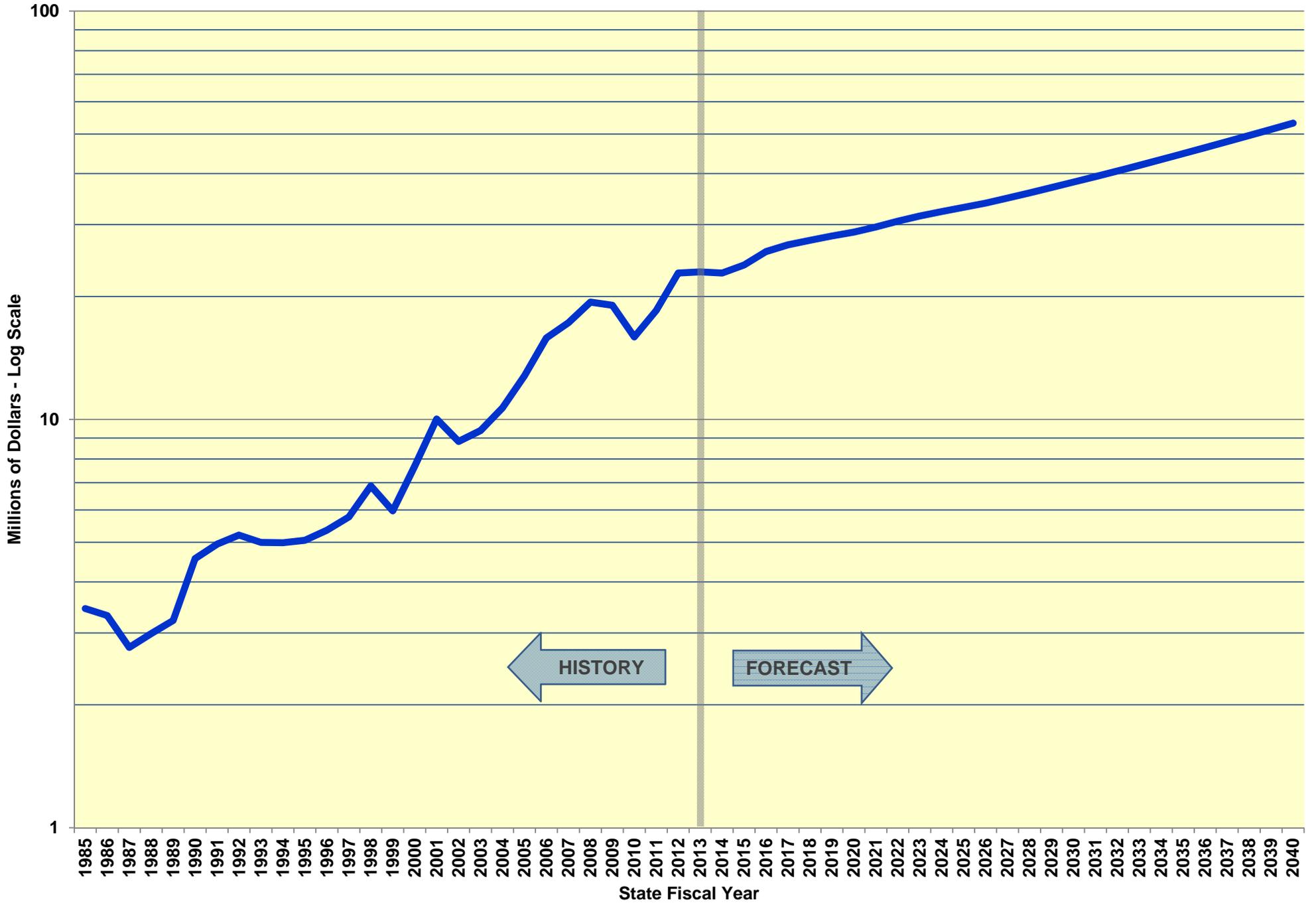
KRA

KRA

KRA

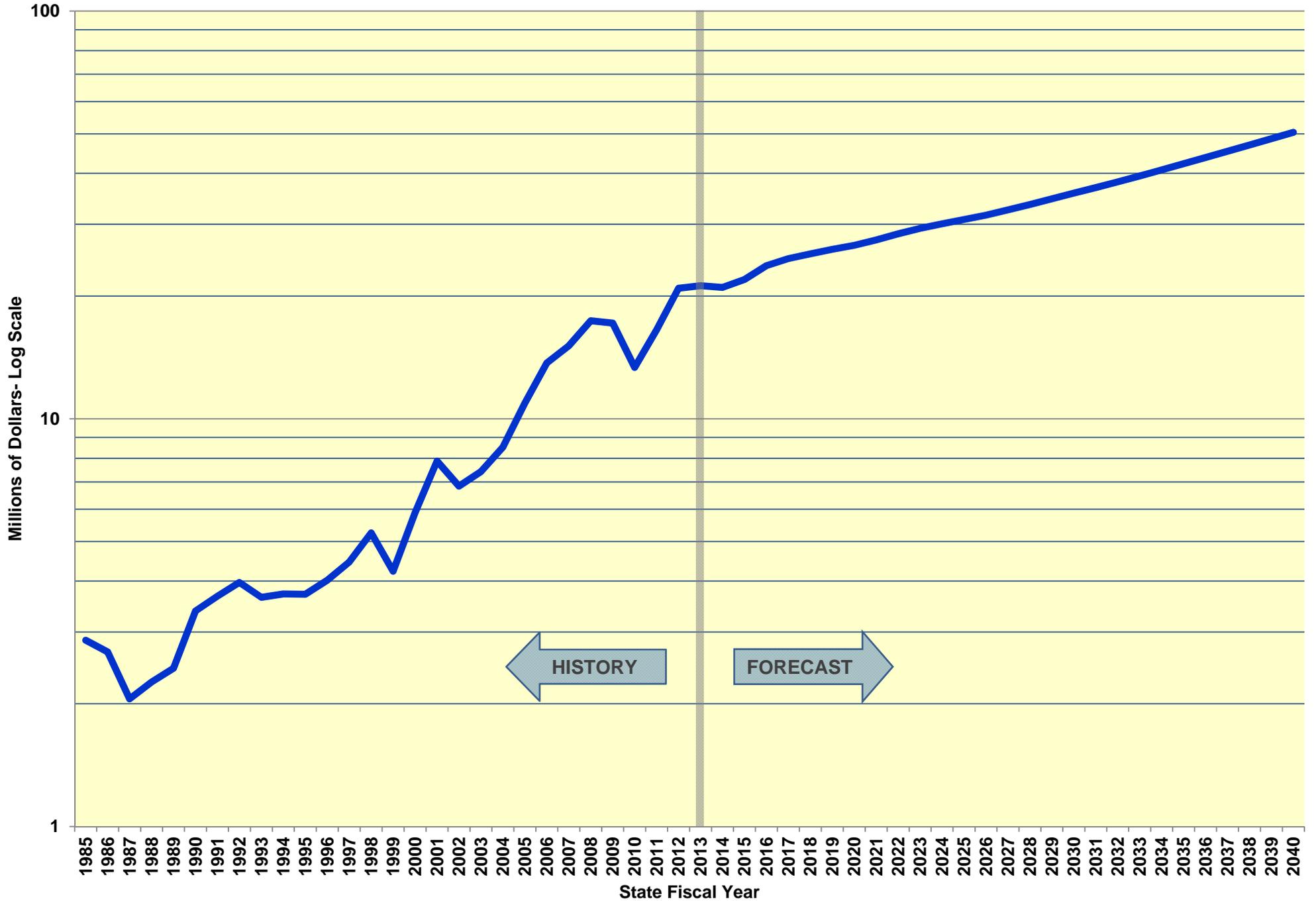
# Pro Forma Vermont Total TIB Assessment Revenues

Sources: Vermont Joint Fiscal Office, KRA



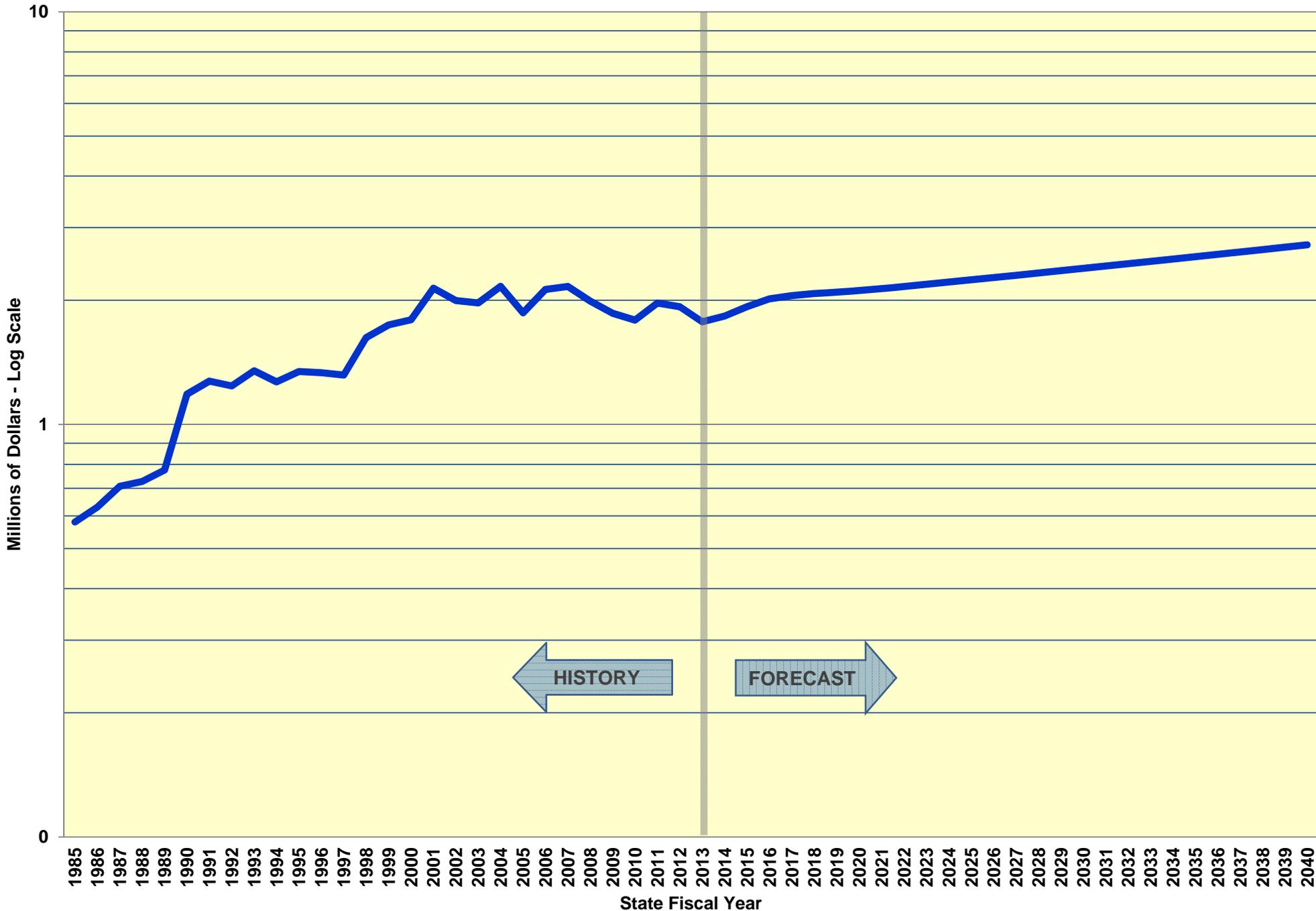
# Pro Forma Vermont TIB Gasoline Assessment Revenues

Sources: Vermont Joint Fiscal Office, KRA



# Pro Forma Vermont TIB Diesel Assessment Revenues

Sources: Vermont Joint Fiscal Office, KRA



# APPENDIX B

## TABLE 6:

**DEBT SERVICE CAPACITY SUMMARY  
FOR PRO FORMA \$99.625M  
AGGREGATE PAR AMOUNT OF TIBS,  
BASED ON REVENUE PROJECTIONS IN  
FEASIBILITY STUDY ASSOCIATED WITH STATE OF VERMONT  
TRANSPORTATION INFRASTRUCTURE BONDS  
DATED JULY 23, 2013**

**TABLE 6**  
**State of Vermont**  
**Transportation Infrastructure Revenue Bonds**

**Pro Forma Debt Service Schedule for TIBs Issued Through FY2018\***

Maturity Date	Fiscal Year	\$23.09 Million** Existing TIBs Debt Service (Actual)	2013 Series A Debt Service (Estimated)	2014 Series A Debt Service (Projected)	2015 Series A Debt Service (Projected)	2016 Series A Debt Service (Projected)	2017 Series A Debt Service (Projected)	Grand Total Fiscal Year Debt Service (Projected)	MFTIA Revenue (FY13 Preliminary - All Other Projected)	Debt Service Coverage (Projected)
6/15/2013	2013								\$22,971,842	
6/15/2014	2014	\$1,687,425	\$706,562					\$2,393,987	\$22,833,353	9.54
6/15/2015	2015	\$1,686,425	\$836,738	\$1,104,880				\$3,628,043	\$23,886,477	6.58
6/15/2016	2016	\$1,690,025	\$836,738	\$1,191,955	\$1,148,611			\$4,867,329	\$25,762,194	5.29
6/15/2017	2017	\$1,688,125	\$836,138	\$1,189,155	\$1,250,890	\$1,198,084		\$6,162,392	\$26,765,247	4.34
6/15/2018	2018	\$1,687,650	\$839,938	\$1,188,870	\$1,250,540	\$1,310,895	\$1,247,783	\$7,525,676	\$27,459,239	3.65
6/15/2019	2019	\$1,691,600	\$837,938	\$1,191,570	\$1,247,670	\$1,308,245	\$1,371,415	\$7,648,438	\$28,135,585	3.68
6/15/2020	2020	\$1,683,175	\$840,938	\$1,191,450	\$1,247,795	\$1,308,125	\$1,371,715	\$7,643,198	\$28,745,017	3.76
6/15/2021	2021	\$1,687,525	\$837,688	\$1,189,035	\$1,250,105	\$1,310,875	\$1,369,435	\$7,644,663	\$29,592,615	3.87
6/15/2022	2022	\$1,690,975	\$838,438	\$1,189,235	\$1,249,945	\$1,310,645	\$1,370,010	\$7,649,248	\$30,588,088	4.00
6/15/2023	2023	\$1,688,475	\$837,938	\$1,191,795	\$1,247,195	\$1,307,890	\$1,372,585	\$7,645,878	\$31,499,003	4.12
6/15/2024	2024	\$1,690,175	\$836,188	\$1,191,415	\$1,251,735	\$1,312,490	\$1,372,385	\$7,654,388	\$32,295,853	4.22
6/15/2025	2025	\$1,691,238	\$838,788	\$1,188,675	\$1,248,035	\$1,308,895	\$1,369,260	\$7,644,890	\$33,064,142	4.32
6/15/2026	2026	\$1,685,525	\$840,388	\$1,193,475	\$1,251,860	\$1,312,155	\$1,373,060	\$7,656,463	\$33,858,426	4.42
6/15/2027	2027	\$1,687,275	\$840,988	\$1,191,085	\$1,247,660	\$1,307,355	\$1,373,125	\$7,647,488	\$34,845,559	4.56
6/15/2028	2028	\$1,685,463	\$840,588	\$1,190,825	\$1,251,320	\$1,309,605	\$1,369,965	\$7,647,765	\$35,877,730	4.69
6/15/2029	2029	\$1,687,150	\$839,188	\$1,192,350	\$1,251,480	\$1,309,060	\$1,373,440	\$7,652,668	\$36,989,734	4.83
6/15/2030	2030	\$1,687,150	\$836,788	\$1,191,180	\$1,247,980	\$1,309,805	\$1,373,640	\$7,646,543	\$38,156,162	4.99
6/15/2031	2031	\$694,900	\$838,388	\$1,192,235	\$1,251,570	\$1,311,405	\$1,369,630	\$6,658,128	\$39,337,498	5.91
6/15/2032	2032	\$695,250	\$836,938	\$1,189,215	\$1,246,650	\$1,309,325	\$1,371,230	\$6,648,608	\$40,564,702	6.10
6/15/2033	2033		\$839,213	\$1,192,965	\$1,247,380	\$1,308,465	\$1,373,585	\$5,961,608	\$41,886,950	7.03
6/15/2034	2034			\$1,192,885	\$1,249,080	\$1,312,400	\$1,371,275	\$5,125,640	\$43,314,254	8.45
6/15/2035	2035				\$1,251,360	\$1,311,400	\$1,373,115	\$3,935,875	\$44,760,254	11.37
6/15/2036	2036					\$1,310,335	\$1,369,340	\$2,679,675	\$46,318,674	17.29
6/15/2037	2037						\$1,369,810	\$1,369,810	\$47,931,240	34.99
<b>TOTAL</b>		<b>\$30,085,525</b>	<b>\$16,636,500</b>	<b>\$23,734,250</b>	<b>\$24,888,861</b>	<b>\$26,087,454</b>	<b>\$27,305,803</b>	<b>\$148,738,394</b>	<b>\$847,439,838</b>	

\* Debt service schedule was provided to KRA by Public Resources Advisory Group, Inc. It reflects actual debt service on the 2010A and 2012A TIBs and estimated debt service on the 2013A TIBs assuming a par amount of \$11.095 million and an assumed rate of interest of 4.11%. Projected debt service for Bonds to be issued subsequent to the 2013A TIBs is based upon bond par amounts sized to generate approximately \$14.225 million in annual project fund proceeds and interest rates that are assumed to increase 50 basis points annually. The actual bond issues are also expected to fund debt service reserve fund deposits and costs of issuance. The State is not obligated to follow this pro forma schedule and, subject to compliance with the terms of the Trust Agreement, may choose to issue more or fewer Bonds and to do so at different times than shown in this table.

\*\* Combined current outstanding aggregate principal amount of the 2010A TIBs originally issued in FY11 and the 2012A TIBs originally issued in FY13.

## **APPENDIX G**

## States With At Least Two Triple-A Ratings as of June 30, 2014: Raw data

Triple-A Rated States	unemployment		% change in total jobs <sup>3</sup>		% change in real per capita GSP <sup>4</sup>	median HH income <sup>6</sup>	median family income	Real per capita income <sup>7</sup>		Poverty <sup>8</sup>			% w/BA or higher <sup>9</sup>	Bridges <sup>10</sup>	Roads
	U-3 <sup>1</sup>	U-6 <sup>2</sup>	last 12 months	2007 - 2014	2007 - 2013	2012		2012	change from 2008	2000	2012	Δ	2012	Struct. Deficient	Poor or mediocre
Alaska	6.5%	11.7%	-0.8%	5.2%	3.5%	\$69,917	\$81,752	\$43,601	2.2%	14.6%	10.8%	-26%	27.5%	10.9%	49%
Delaware	6.2%	12.4%	2.8%	-0.4%	-4.4%	\$60,119	\$72,069	\$40,848	2.1%	8.7%	12.7%	46%	28.5%	6.1%	36%
Florida	6.2%	13.9%	3.1%	-2.9%	-12.3%	\$47,309	\$57,128	\$39,225	-1.4%	11.7%	17.2%	47%	26.2%	2.2%	26%
Georgia	7.8%	13.4%	1.8%	-1.6%	-6.9%	\$49,604	\$59,198	\$38,479	1.4%	12.3%	19.2%	56%	27.8%	6.0%	19%
Indiana	5.9%	12.0%	2.2%	-0.2%	0.9%	\$48,374	\$60,012	\$39,553	3.9%	8.8%	15.5%	76%	23.0%	10.8%	17%
Iowa	4.5%	9.0%	1.5%	1.9%	2.8%	\$51,129	\$64,772	\$46,376	4.7%	8.3%	12.7%	53%	25.3%	21.2%	46%
Maryland	6.1%	11.7%	0.9%	0.4%	1.5%	\$72,999	\$88,092	\$45,702	1.0%	7.9%	10.4%	32%	36.3%	7.0%	55%
Missouri	6.5%	11.5%	1.6%	-1.1%	-0.4%	\$47,333	\$59,395	\$41,961	-0.7%	10.6%	16.2%	53%	25.8%	14.5%	31%
N. Carolina	6.5%	13.0%	2.0%	-0.7%	-2.4%	\$46,450	\$57,146	\$39,103	1.0%	11.7%	18.0%	54%	26.8%	12.1%	45%
S. Carolina	5.7%	12.4%	2.2%	-0.8%	-4.5%	\$44,623	\$55,058	\$36,507	0.8%	12.8%	18.3%	43%	24.6%	12.3%	40%
Tennessee	7.1%	13.6%	1.9%	0.1%	0.3%	\$44,140	\$54,737	\$40,371	4.8%	12.6%	18.0%	43%	23.5%	6.0%	38%
Texas	5.1%	10.9%	3.4%	11.2%	7.3%	\$51,563	\$60,621	\$41,733	2.1%	14.6%	17.9%	23%	26.3%	2.6%	38%
Utah	3.6%	8.5%	3.5%	6.2%	-1.1%	\$58,164	\$66,014	\$34,580	-3.2%	8.8%	13.0%	48%	29.9%	4.3%	25%
Vermont	3.7%	8.5%	0.0%	-1.0%	6.8%	\$54,168	\$67,274	\$41,726	3.9%	8.8%	11.9%	35%	34.2%	10.6%	45%
Virginia	5.4%	11.1%	0.4%	0.0%	-1.5%	\$63,636	\$76,566	\$44,313	0.4%	8.9%	11.8%	33%	34.7%	9.1%	47%

<sup>1</sup> **U-3** = total unemployed, as a percent of the civilian labor force (this is the definition used for the official unemployment rate);

<sup>2</sup> **U-6** = total unemployed, plus all marginally attached workers, those employed PT for economic reasons, as a percent of the civilian labor force plus marginally attached workers

**Discouraged workers** are persons who are not in the labor force, want and are available for work, and had looked for a job sometime in the prior 12 months. They are not counted as unemployed because they had not searched for work in the prior 4 weeks, because they believed no jobs were available for them.

The **marginally attached** are a group that includes discouraged workers. The criteria for the marginally attached are the same as for discouraged workers, with the exception that any reason could have been cited for the lack of job search in the prior 4 weeks.

Persons employed **part time for economic reasons** are those working less than 35 hrs/wk who want to work FT, are available to do so, and gave an economic reason (hours had been cut back or they were unable to find a FT job) for working PT. These individuals are sometimes referred to as involuntary part-time workers.

<sup>3</sup> Source: U.S. Dept. of Labor, Bureau of Labor Statistics, Current Employment Statistics, Total Non-Farm jobs, Seasonally Adjusted, June - June

<sup>4</sup> Source: U.S. Dept. of Commerce, Bureau of Economic Analysis. Chose 2007 because it was just before the recession.

<sup>6</sup> Source: Census Bureau, ACS, five-year average 2008 - 2012

<sup>7</sup> Source: U.S. Dept. of Commerce, Bureau of Economic Analysis. Figures are chained 2008 dollars.

<sup>8</sup> Source: Census Bureau, SAIPE

<sup>9</sup> Source: Census Bureau

<sup>10</sup> Source: American Society of Civil Engineers, 2013 Report Card for America's Infrastructure

**States With At Least Two Triple-A Ratings as of June 30, 2014: Rankings**

State	Unemployment		% change in real per capita GSP	% change in total jobs (07 - 14)	median HH income	median family income	Real per capita income		Poverty		% w/BA or higher	Bridges	Roads	Total
	U-3	U-6					2012	change from 2008	2012	Change from 2000		Struct. Deficient	Poor or mediocre	
Alaska	11	7	3	3	2	2	4	5	2	1	7	11	7	<b>65</b>
Maryland	8	8	5	5	1	1	2	9	1	3	1	7	15	<b>66</b>
Texas	4	4	1	1	7	8	6	7	11	2	9	2	6	<b>68</b>
Virginia	5	5	10	7	3	3	3	12	3	4	2	8	5	<b>70</b>
<b>Vermont</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>12</b>	<b>6</b>	<b>5</b>	<b>7</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>3</b>	<b>9</b>	<b>10</b>	<b>70</b>
Utah	1	1	9	2	5	6	15	15	7	10	4	3	4	<b>82</b>
Iowa	3	3	4	4	8	7	1	2	6	12	12	15	13	<b>90</b>
Delaware	9	10	12	9	4	4	8	6	5	8	5	6	12	<b>98</b>
Tennessee	14	14	7	6	15	15	9	1	13	6	14	5	1	<b>120</b>
Indiana	7	9	6	8	10	9	10	4	8	15	15	10	9	<b>120</b>
Missouri	12	6	8	13	11	10	5	13	9	11	11	14	11	<b>134</b>
Georgia	15	13	14	14	9	11	13	8	15	14	6	4	2	<b>138</b>
So. Carolina	6	11	13	11	14	14	14	11	14	7	13	13	3	<b>144</b>
No. Carolina	13	12	11	10	13	12	12	10	12	13	8	12	8	<b>146</b>
Florida	10	15	15	15	12	13	11	14	10	9	10	1	14	<b>149</b>

Scoring: 1 is best, 15 is lowest.

**States With At Least Two Triple-A Ratings as of June 30, 2014:  
Quality of life - Raw data**

State	Violent crime <sup>1</sup>	Teen birth rate <sup>2</sup>	HS grad. rate <sup>3</sup>	Diabetes <sup>4</sup>	Per capita <sup>5</sup> CO <sub>2</sub>
Alaska	603	34.5	68%	7.2%	52.71
Delaware	547	25.0	78%	8.7%	14.44
Florida	487	28.0	71%	9.9%	11.90
Georgia	379	33.8	67%	9.6%	15.69
Indiana	346	33.0	86%	10.1%	31.77
Iowa	264	24.1	88%	8.6%	28.53
Maryland	477	22.1	83%	9.4%	10.96
Missouri	451	32.2	81%	9.6%	22.56
No. Carolina	353	31.8	78%	9.7%	12.74
So. Carolina	559	36.6	74%	10.6%	17.16
Tennessee	644	38.5	86%	10.9%	16.09
Texas	409	44.4	86%	10.6%	25.59
Utah	206	23.3	76%	7.9%	22.74
Vermont	143	16.3	87%	6.4%	9.42
Virginia	190	22.9	82%	9.8%	11.97

<sup>1</sup>. Source: 2012 FBI Uniform Crime Reports, rate per 100,000 inhabitants

<sup>2</sup>. Source: CDC, 2012; births per 1,000 women in specified age group (15 - 19)

[http://www.cdc.gov/nchs/data/nvsr/nvsr62/nvsr62\\_09.pdf#table02](http://www.cdc.gov/nchs/data/nvsr/nvsr62/nvsr62_09.pdf#table02)

<sup>3</sup>. Source: U.S. Dept. of Education, 2010 - 2011 four-year regulatory adjusted graduation rates

<http://www2.ed.gov/documents/press-releases/state-2010-11-graduation-rate-data.pdf>

<sup>4</sup>. Source: CDC, 2011; age-adjusted rate of diagnosed diabetes

[http://www.cdc.gov/diabetes/atlas/obesityrisk/State\\_EXCELstatelistDM.html](http://www.cdc.gov/diabetes/atlas/obesityrisk/State_EXCELstatelistDM.html)

<sup>5</sup>. Sources: EPA and EIA, metric tons of CO<sub>2</sub> per capita (from all sources)

**States With At Least Two Triple-A Ratings as of June 30, 2014:  
Quality of Life Rankings**

State	Violent crime	Teen birth rate	HS grad. Rate	Diabetes	Per capita CO <sub>2</sub>	Total
<b>Vermont</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>6</b>
Maryland	10	2	6	6	2	<b>26</b>
Virginia	2	3	7	10	4	<b>26</b>
Iowa	4	5	1	4	13	<b>27</b>
Utah	3	4	11	3	11	<b>32</b>
No. Carolina	6	8	10	9	5	<b>38</b>
Delaware	12	6	9	5	6	<b>38</b>
Missouri	9	9	8	8	10	<b>44</b>
Indiana	5	10	3	12	14	<b>44</b>
Florida	11	7	13	11	3	<b>45</b>
Georgia	7	11	15	7	7	<b>47</b>
Texas	8	15	5	14	12	<b>54</b>
Tennessee	15	14	4	15	8	<b>56</b>
Alaska	14	12	14	2	15	<b>57</b>
So. Carolina	13	13	12	13	9	<b>60</b>

## **APPENDIX H**

# Title 32: Taxation and Finance

## Chapter 13: DEBTS AND CLAIMS

### Sub-Chapter 08: Management Of State Debt

#### 32 V.S.A. § 1001. Capital Debt Affordability Advisory Committee

##### § 1001. Capital Debt Affordability Advisory Committee

(a) Committee established. A Capital Debt Affordability Advisory Committee is hereby created with the duties and composition provided by this section.

(b)(1) Committee duties. The Committee shall review annually the size and affordability of the net State tax-supported indebtedness and submit to the Governor and to the General Assembly an estimate of the maximum amount of new long-term net State tax-supported debt that prudently may be authorized for the next fiscal year. The estimate of the Committee shall be advisory and in no way bind the Governor or the General Assembly.

(2) The Committee shall conduct ongoing reviews of the amount and condition of bonds, notes, and other obligations of instrumentalities of the State for which the State has a contingent or limited liability or for which the State Legislature is permitted to replenish reserve funds, and, when deemed appropriate, recommend limits on the occurrence of such additional obligations to the Governor and to the General Assembly.

(3) The Committee shall conduct ongoing reviews of the amount and condition of the Transportation Infrastructure Bond Fund established in 19 V.S.A. § 11f and of bonds and notes issued against the fund for which the state has a contingent or limited liability.

(c) Committee estimate of a prudent amount of net State tax-supported debt; affordability considerations. On or before September 30 of each year, the Committee shall submit to the Governor and the General Assembly the Committee's estimate of net State tax-supported debt which prudently may be authorized for the next fiscal year, together with a report explaining the basis for the estimate. In developing its annual estimate, and in preparing its annual report, the Committee shall consider:

(1) The amount of net State tax-supported indebtedness that, during the next fiscal year, and annually for the following nine fiscal years:

(A) will be outstanding; and

(B) has been authorized but not yet issued.

(2) A projected schedule of affordable State net state tax-supported bond authorizations, for the next fiscal year and annually for the following nine fiscal years. The assessment of the affordability of the projected authorizations shall be based on all of the remaining considerations specified in this section.

(3) Projected debt service requirements during the next fiscal year, and annually for the following nine fiscal years, based upon:

(A) existing outstanding debt;

(B) previously authorized but unissued debt; and

(C) projected bond authorizations.

(4) The criteria that recognized bond rating agencies use to judge the quality of issues of State bonds, including:

(A) existing and projected total debt service on net tax-supported debt as a percentage of combined General and Transportation Fund revenues, excluding surpluses in these revenues which may occur in an individual fiscal year; and

(B) existing and projected total net tax-supported debt outstanding as a percentage of total state personal income.

(5) The principal amounts currently outstanding, and balances for the next fiscal year, and annually for the following nine fiscal years, of existing:

(A) obligations of instrumentalities of the State for which the State has a contingent or limited liability;

(B) any other long-term debt of instrumentalities of the State not secured by the full faith and credit of the State, or for which the State Legislature is permitted to replenish reserve funds; and

(C) to the maximum extent obtainable, all long-term debt of municipal governments in Vermont which is secured by general tax or user fee revenues.

(6) The impact of capital spending upon the economic conditions and outlook for the State.

(7) The cost-benefit of various levels of debt financing, types of debt, and maturity schedules.

(8) Any projections of capital needs authorized or prepared by the Agency of Transportation, the Joint Fiscal Office, or other agencies or departments.

(9) Any other factor that is relevant to:

(A) the ability of the State to meet its projected debt service requirements for the next five fiscal years; or

(B) the interest rate to be borne by, the credit rating on, or other factors affecting the

marketability of State bonds.

(10) The effect of authorizations of new State debt on each of the considerations of this section.

(d) Committee composition.

(1) Membership. Committee membership shall consist of:

(A) As ex officio members:

(i) the State Treasurer;

(ii) the Secretary of Administration; and

(iii) a representative of the Vermont Municipal Bond Bank chosen by the directors of the Bank.

(B) Two individuals with experience in accounting or finance, who are not officials or employees of State government appointed by the Governor for six-year terms.

(C) The Auditor of Accounts who shall be a nonvoting ex officio member.

(D) One person who is not an official or employee of State government with experience in accounting or finance appointed by the State Treasurer for a six-year term.

(2) The State Treasurer shall be the Chairperson of the Committee.

(e) Other attendants of committee meetings. Staff of the Legislative Council and the Joint Fiscal Committee shall be invited to attend Committee meetings for the purpose of fostering a mutual understanding between the Executive and Legislative Branches on the appropriate statistics to be used in committee reviews, debt affordability considerations, and recommendations.

(f) Information. All public entities whose liabilities are to be considered by the Committee shall annually provide the State Treasurer with the information the Committee deems necessary for it to carry out the requirements of this subchapter. (Added 1989, No. 258 (Adj. Sess.), § 1; amended 2007, No. 121 (Adj. Sess.), § 28; 2007, No. 200 (Adj. Sess.), § 25, eff. June 9, 2008; 2009, No. 50, § 31.)

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