# CAPITAL DEBT AFFORDABILITY ADVISORY COMMITTEE

# **State of**





# RECOMMENDED ANNUAL NET TAX-SUPPORTED DEBT AUTHORIZATION

September 2012

Prepared by: PUBLIC RESOURCES ADVISORY GROUP 40 Rector Street, Suite 1600 New York, NY 10006 (212) 566-7800

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## **1. OVERVIEW**

## Purpose

In accordance with 32 V.S.A., Chapter 13, Subchapter 8, and Section 32 of Act 50 of 2009, as amended, creating the Capital Debt Affordability Advisory Committee of the State of Vermont (the "Committee" or "CDAAC"), the Committee is required to present to the Governor and the General Assembly each year, no later than September 30, a recommendation as to the maximum amount of net tax-supported debt that the State may prudently issue for the ensuing fiscal year. The recommendation is presented in accordance with certain debt affordability guidelines and other matters that may be relevant to the proposed debt to be authorized.

#### Recommendation

Based on feedback from the administration and legislative leaders, the Committee is again recommending a two year authorization. The Committee recommends that the State of Vermont authorize long-term net tax-supported debt for fiscal years 2014 and 2015 in an amount not to exceed \$159,900,000. CDAAC proposes this debt authorization for fiscal year 2014-15 because:

- 1. Authorization of this level of debt complies with the State's triple-A debt guidelines.
- 2. It produces an increase in the amount of capital funding for State purposes, and is consistent with the level of past debt authorizations.
- 3. Authorization of this level of debt in fiscal year 2014-15 is consistent with the current expectations of the rating agencies, and we believe this authorization demonstrates that the State continues to manage its debt issuance program in a prudent and restrained manner.

We caution that the State technically will not meet its debt affordability guideline (projected debt per capita State guideline for triple-A rated states) in fiscal 2014 to the extent the State issues more than \$100,775,000 of the two-year \$159,900,000 authorization in that year. However, the guideline will be met for the subsequent fiscal years.

## Nature of Vermont "Net Tax-Supported Debt"

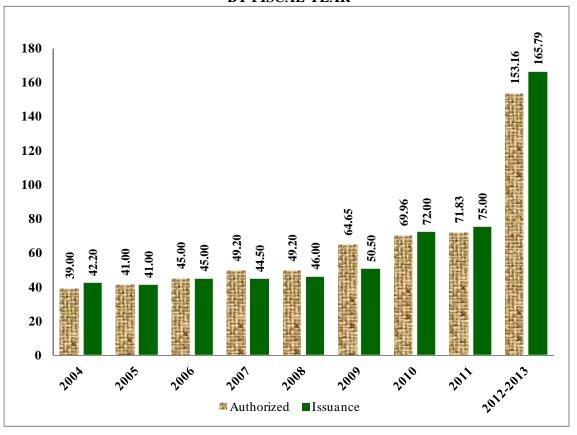
As a matter of practice, while the CDAAC legislation, as amended, refers to an authorization of "net tax-supported debt," the amount of net tax-supported debt for the State means only general obligation debt, and this report assumes only general obligation debt for authorization purposes and in calculating its projected debt ratios. As indicated in Section 5 of this report, the rating agencies generally include the State's special obligation transportation infrastructure bonds ("TIBs"), issued by Vermont in 2010 and 2012, as part of net tax-supported debt. While the CDAAC report includes "dashboard" debt metrics calculated both with and without TIBs, it does not assume that such indebtedness is part of net tax-supported debt. CDAAC believes that the TIBs, as explicitly represented to bondholders, are not general obligations of the State and are not

supported by the full faith and credit of the State, but rather are payable only by funds pledged to repayment of bonds by a trust agreement, held in trust for the benefit of the bondholders. Further, unlike general obligation bonds, TIBs are subject to, and capacity-constrained by, both a debt service coverage ratio and an additional bonds test.

## **Prior Years Debt Authorizations**

In fiscal year 2012, \$63,000,000 of new money debt was issued, representing \$56,773,865 authorized for that year plus \$6,226,135 of authorized but unissued debt remaining from prior years. During fiscal year 2013, \$102,790,859 of debt is assumed to be sold \$96,386,135 of which constitutes the balance of the 2012-13 authorization plus \$6,404,724 of authorized, but unissued debt remaining from prior year's authorizations. The following chart presents the amounts of general obligation debt that has been authorized and issued by the State since fiscal year 2004.

STATE OF VERMONT HISTORICAL GENERAL OBLIGATION BONDS AUTHORIZATION AND ISSUANCE BY FISCAL YEAR



Notes:

Annual issuances do not include refunding bonds. Authorized but unissued debt has been carried forward and employed in subsequent years' bond issuances.

For 2012 -2013 "Authorized" amount is the two year authorized amount of the General Assembly in the 2011 Capital Bill (Act 40) as amended by the 2012 Capital Bill (Act 104). The 2012-2013 "Issuance" amount is the \$63,000,000 issued in March 2012 plus the \$102,790,859 planned to be issued in September 2012.

As shown above, the State has experienced a significant increase in debt authorizations over the last ten years. For the period, 2004-2008, the average annual debt authorization amounted to \$43.7 million and for the period 2009-2013 the average annual debt authorization is \$72.7 million, which represents an increase of approximately 66% over the 2004-2008 period.

## **Recent Changes to the State's Ratings:**

## **General** Obligation

With the issue of its 2012 Series E and F general obligation bonds, Standard & Poor's Ratings Services, ("S&P") revised its outlook on Vermont's general obligation ("G.O.") debt rating to <u>positive</u> from stable. In addition, S&P assigned its AA+ long-term rating to Vermont's 2012 Series E and F bonds and affirmed its AA+ rating on the state's outstanding obligation bonds. According to S&P's report:

"The outlook revision reflects the potential for us to raise the rating if the state continues to make progress in improving its annual pension funding levels, strengthening its annual pension funded ratios, and increasing its budget reserve."

S&P further indicates that this revised outlook represents strong financial management that has helped the State maintain a good financial position in an environment of declining revenue in addition to rapid GO debt amortization. This positive outlook is indicative of the possibility of a rating increase over S&P's two-year outlook horizon if the State continues improvement in the areas particularly stated above.

## Special Obligation Transportation Infrastructure Bonds

S&P also recently raised to AA+ from AA its rating on Vermont's special obligation transportation infrastructure bonds. S&P indicates that this upgrade reflects 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.

The rating increase reflects:

- Broad-based, statewide nature of motor fuel tax revenues;
- Strong maximum annual debt service (MADS) coverage; and
- Good legal provisions, including an additional bonds test of 2x MADS and
- Fully funded debt service reserve.

Somewhat offsetting these strengths is their assumption that there will be additional debt issuance, and the susceptibility of the pledged revenue stream to economic conditions and changes in fuel prices.

## 2. DEBT GUIDELINES

The State of Vermont currently 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. In addition, S&P rates Vermont's general obligation bonds AA+ and raised its Rating Outlook from Stable to Positive in September 2012 as discussed in the prior section.

For a number of years Vermont has pursued a strategy to achieve a triple-A rating from all three nationally recognized credit rating agencies. In order to facilitate the achievement of this goal, CDAAC and the State have employed conservative debt load guidelines as follows:

## Debt Per Capita

The Committee has adopted a guideline for the State to equal or perform better than the 5-year mean and median of triple-A rated states on the basis of debt per capita. At present, the targets are \$947 for the mean and \$893 for the median. Based on data from Moody's, Vermont's 5-year mean and median debt per capita figures are lower than the 5-year mean and median for triple-A rated states (the "Peer Group"). Using the 5-year median for triple-A rated states and increasing it by 3.38% annually (the ten-year average of the annual increases for the Peer Group), combined with the assumption that the State will issue \$102,790,000 during fiscal year 2013 and \$79,950,000 in each fiscal year from 2014-2023, Vermont will continue to be below the Moody's 5-year mean and 5-year median for its Peer Group during fiscal years 2013-2023, inclusive (see "Historic and Projected Debt Ratios"). The methodology used to calculate the State guideline has changed over time and was again adjusted for this report (see Section 6, "State Guidelines and Recent Events"). It should be emphasized that the debt numbers for Vermont have generally been stabilizing while those of the other triple-A rated states, on a composite basis, have been rising. 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 (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 triple-A rated states on the basis of debt as a percent of personal income. At present the targets are 2.6% for both the mean and the median. Based on data from Moody's Vermont's debt as a percent of personal income figure is better than the 5-year mean and 5-year median for triple-A rated states. Assuming that the State will issue \$102,790,000 in fiscal year 2013 and \$79,950,000 in fiscal years 2014-2023, Vermont should be able to comply with the 5-year mean and 5-year median for triple-A rated states (see "Historic and Projected Debt Ratios"). 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  $17^{\text{th}}$  position in 2003 to  $36^{\text{th}}$  position in 2010. The State has remained in the  $36^{\text{th}}$  position in 2011 and 2012.

#### **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 general obligation debt service as a percent of the annual aggregate of General and Transportation Fund revenues. At present, this ratio equals approximately 4.9%, down from last year's ratio of 5.1%, assuming interest rates that range from 3.0% in fiscal year 2013, increasing annually by 0.5% to a maximum rate of 6.0% in fiscal years 2019 through 2023. With the projected issuance of general obligation debt at \$79,950,000 annually, this ratio is estimated to vary from 4.2% to 4.9% over the next ten years. Therefore, at present and for the foreseeable future, it is anticipated that the State will satisfy this standard. 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 percent of operating revenues and included the State's Education Fund as part of the State's operating revenue for purpose of this calculation (see Section 6, "State Guidelines and Recent Events").

#### STATE OF VERMONT 2012 TRIPLE-A RATED STATES (as of June 30, 2012)

2012 Triple-A Rated States	Fitch	Moody's	S&P
Alaska	No	Yes	No
Delaware	Yes	Yes	Yes
Florida	Yes	No	Yes
Georgia	Yes	Yes	Yes
Indiana	N/R	Yes	Yes
Iowa	Yes	Yes	Yes
Maryland	Yes	Yes	Yes
Missouri	Yes	Yes	Yes
Nebraska	N/R	N/R	Yes
New Mexico	N/R	Yes	No
North Carolina	Yes	Yes	Yes
South Carolina	Yes	Yes	No
Tennessee	Yes	Yes	No
Texas	Yes	Yes	No
Utah	Yes	Yes	Yes
Virginia	Yes	Yes	Yes
Wyoming	N/R	N/R	Yes
VERMONT	Yes	Yes	No

#### STATE OF VERMONT MEAN DEBT RATIOS

Per Capita	2008	2009	2010	2011	2012
All States	\$1,158	\$1,195	\$1,297	\$1,408	\$1,408
Triple-A <sup>1</sup>	951	899	966	964	956
VERMONT	707	692	709	747	792

% of Personal Income.	2008	2009	2010	2011	2012
All States	3.2%	3.1%	3.2%	3.2%	3.4%
Triple-A <sup>1</sup>	2.8	2.4	2.6	2.6	2.5
VERMONT	2.0	1.8	1.8	1.9	2.0

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

## STATE OF VERMONT DEBT PER CAPITA COMPARISON

#### <u>Triple-A Rated States (All states with at least one triple-A rating)</u> 5-Year Average Mean and 5-Year Average Median Excluding Vermont: MEAN: \$947 MEDIAN: \$893 5-Year Average Vermont: \$729

					Moody	's Debt Per	Capita	
<b>Triple-A</b> <b>Rated</b> States <sup>1</sup>	Moody's Ratings <sup>2</sup>	S&P Ratings <sup>2</sup>	<b>Fitch</b> <b>Rating</b> s <sup>2</sup>	2008	2009	2010	2011	2012
Alaska	Aaa/Stable	AA+/Stable	AA+/Stable	\$924*	\$861*	\$1,345*	\$1,257	\$1,454
Delaware	Aaa/Stable	AAA/Stable	AAA/Stable	2,002	2,128	2,489	2,676	2,674
Florida	Aa1/Stable	AAA/Stable	AAA/Negative	1,005	1,115	1,123	1,150	1,167
Georgia	Aaa/Stable	AAA/Stable	AAA/Stable	954	984	1,120	1,103	1,099
Indiana	Aaa/Stable	AAA/Stable	AA+/Stable	478	482	492	471	446
Iowa	Aaa/Stable	AAA/Stable	AAA/Stable	98*	79	73	270	310
Maryland	Aaa/Negative	AAA/Stable	AAA/Stable	1,297	1,507	1,608	1,681	1,742
Minnesota <sup>3</sup>	Aa1/Stable	AA+/Stable	AA+/Stable	879	866	1,037	1,159	1,148*
Missouri	Aaa/Stable	AAA/Stable	AAA/Stable	675	670	780	775	741
Nebraska	Not Rated	AAA/Stable	Not Rated	22*	17*	15*	13	15
New Mexico	Aaa/Negative	AA+/Stable	Not Rated	1,429*	1,394*	1,398	1,827	1,406
No. Carolina	Aaa/Stable	AAA/Stable	AAA/Stable	898	832	765	782	815
So. Carolina	Aaa/Stable	AA+/Stable	AAA/Stable	966	899	917	887	827
Tennessee	Aaa/Negative	AA+/Positive	AAA/Stable	221*	233*	318	345	343
Texas	Aaa/Stable	AA+/Stable	AAA/Stable	481*	520*	520	612	588
Utah	Aaa/Stable	AAA/Stable	AAA/Stable	542	447	957	1,222	1,393
Virginia	Aaa/Negative	AAA/Stable	AAA/Stable	764	782	895	1,058	1,169
Wyoming	Not Rated	AAA/Stable	Not Rated	91*	84*	77*	71	64
$\mathbf{MEAN}^4$				951	899	966	964	956
<b>MEDIAN</b> <sup>4</sup>				898	849	917	973	827
VERMONT	Aaa/Stable	AA+/Stable	AAA/Stable	707	692	709	747	792

<sup>1</sup>Indiana carries a Municipal Issuer Rating from S&P, assigned in 2008 and it is first reflected in 2008 numbers – this is a G.O. bond equivalent rating. The Fitch rating for Indiana (AA+) is for lease revenue bonds. Iowa carries a Municipal Issuer Rating of triple-A from Fitch – an implied G.O. rating. S&P assigned its respective rating on Iowa in 2009 and it is first reflected in 2009 numbers. 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. Eighteen states are currently rated triple-A by one or more of the nationally recognized rating agencies: Triple-A ratings assigned as follows: Delaware and Florida (2005), Georgia, Maryland, Missouri, North Carolina, South Carolina, Utah, Virginia and Vermont (2007), Indiana (2008), Iowa (2009), New Mexico, Tennessee and Texas (2010), Alaska, Nebraska and Wyoming (2011).

<sup>2</sup>Ratings as of June 30, 2012.

<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 2008 to 2011.

<sup>4</sup>These calculations exclude all Vermont numbers.

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

In addition to comparing the State's debt per capita ratios to all states with at least one triple-A rating, the following chart indicates the State also compares favorably with all the states that have triple-A ratings from all three national rating agencies ("Triple Triple-A States").

## STATE OF VERMONT DEBT PER CAPITA COMPARISON

#### <u>Triple Triple-A Rated States (All states with three triple-A ratings)</u> 5-Year Average Mean and 5-Year Average Median Excluding Vermont: MEAN: \$1,095 MEDIAN: \$969 5-Year Average Vermont: \$729

					Moody	's Debt Per	Capita	
Triple								
Triple-A								
Rated States	$Moody's^1$	$S\&P^1$	<b>Fitch</b> <sup>1</sup>	2008	2009	2010	2011	2012
Delaware	Aaa/Stable	AAA/Stable	AAA/Stable	2,002	2,128	2,489	2,676	2,674
Georgia	Aaa/Stable	AAA/Stable	AAA/Stable	954	984	1,120	1,103	1,099
Iowa	Aaa/Stable	AAA/Stable	AAA/Stable	98*	79*	73	270	310
Maryland	Aaa/Negative	AAA/Stable	AAA/Stable	1,297	1,507	1,608	1,681	1,742
Missouri	Aaa/Stable	AAA/Stable	AAA/Stable	675	670	780	775	741
No. Carolina	Aaa/Stable	AAA/Stable	AAA/Stable	898	832	765	782	815
Utah	Aaa/Stable	AAA/Stable	AAA/Stable	542	447	957	1,222	1,393
Virginia	Aaa/Negative	AAA/Stable	AAA/Stable	764	782	895	1,058	1,169
MEAN <sup>2</sup>				1,019	929	1,086	1,196	1,243
MEDIAN <sup>2</sup>				898	807	926	1,081	1,134
VERMONT	Aaa/Stable	AA+/Stable	AAA/Stable	707	692	709	747	792

<sup>1</sup>Ratings as of June 30, 2012.

<sup>2</sup>These calculations exclude all Vermont numbers.

\*Indicates that the state was not rated triple-A by all three 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

#### <u>Triple-A Rated States (All states with at least one triple-A rating)</u> 5-Year Average Mean and 5-Year Average Median Excluding Vermont: MEAN: 2.6% MEDIAN: 2.6% 5-Year Average Vermont: 1.9%

	Moody's Investors Service						
Triple-A Rated States	2008	2009	2010	2011	2012		
Alaska	2.4%*	2.2%*	3.2%*	3.00%	3.30%		
Delaware	5.2	5.4	6.2	6.8	6.8		
Florida	2.8	2.9	2.9	3.0	3.0		
Georgia	3.0	3.0	3.3	3.3	3.1		
Indiana	1.5	1.5	1.5	1.4	1.3		
Iowa	0.3*	0.2	0.2	0.7	0.8		
Maryland	3.0	3.3	3.4	3.5	3.6		
Minnesota	2.3	2.1	2.4	2.8	2.7*		
Missouri	2.1	2.0	2.2	2.2	2.0		
Nebraska	0.1*	0.0*	0.0*	0.0	0.0		
New Mexico	4.8	4.6	4.4	5.6	4.2		
North Carolina	2.8	2.5	2.3	2.3	2.3		
South Carolina	3.3	2.9	2.9	2.7	2.5		
Tennessee	0.7*	0.7*	0.9	1.0	1.0		
Texas	1.4*	1.4*	1.4	1.6	1.5		
Utah	1.9	1.5	3.2	3.9	4.4		
Virginia	1.9	1.9	2.1	2.4	2.6		
Wyoming	0.2*	0.2*	0.2*	0.1	0.1		
MEAN <sup>1</sup>	2.8	2.4	2.6	2.6	2.5		
<b>MEDIAN</b> <sup>1</sup>	2.8	2.3	2.6	2.6	2.5		
VERMONT	2.0	1.8	1.8	1.9	2.0		

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

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

In addition to comparing Vermont's debt as a percentage of personal income ratios to all states with at least one triple-A rating, the following chart indicates Vermont also compares favorably with all the states that have triple-A ratings from all three national rating agencies ("Triple Triple-A States").

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

#### <u>Triple Triple-A Rated States (All states with three triple-A ratings)</u> 5-Year Average Mean and 5-Year Average Median Excluding Vermont: MEAN: 2.9% MEDIAN: 2.7% 5-Year Average Vermont: 1.9%

Triple-A					
Rated States	2008	2009	2010	2011	2012
Delaware	5.2	5.4	6.2	6.8	6.8
Georgia	3.0	3.0	3.3	3.3	3.1
Iowa	0.3*	0.2*	0.2	0.7	0.8
Maryland	3.0	3.3	3.4	3.5	3.6
Missouri	2.1	2.0	2.2	2.2	2.0
North Carolina	2.8	2.5	2.3	2.3	2.3
Utah	1.9	1.5	3.2	3.9	4.4
Virginia	1.9	1.9	2.1	2.4	2.6
MEAN <sup>1</sup>	2.8	2.5	2.9	3.1	3.2
MEDIAN <sup>1</sup>	2.8	2.3	2.8	2.9	2.9
VERMONT	2.0	1.8	1.8	1.9	2.0

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

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

	Net Tax-Supported Debt		Net Ta	Net Tax-Supported Debt as			Net Tax-Supported Debt Service		
	Per Capita (in \$)		Percent of Personal Income			as Perc	ent of Reven	ues <sup>(5)</sup>	
Fiscal Year	State of	Moody's	State's	State of	Moody's	State's	State of	Moody's	State's
(ending 6/30)	Vermont	Median	Rank <sup>(4)</sup>	Vermont	Median	Rank <sup>(4)</sup>	Vermont <sup>(2)</sup>	Median	Rank <sup>(4)</sup>
Actual <sup>(1)</sup>									
2001	828	541	15	3.3	2.1	14	6.8	n.a.	n.a.
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.
Current <sup>(2)</sup>	802	n.a.	n.a.	1.9	n.a.	n.a.	4.9	n.a.	n.a.
Projected		State			State			State	
(FYE 6/30) <sup>(3)</sup>		Guideline <sup>(6)</sup>			Guideline <sup>(7)</sup>			Guideline	
2013	882	923		2.0	2.6		4.6	6.0	
2014	921	954		1.9	2.6		4.6	6.0	
2015	966	987		1.9	2.6		4.2	6.0	
2016	1,010	1,020		1.9	2.6		4.2	6.0	
2017	1,051	1,054		1.9	2.6		4.2	6.0	
2018	1,090	1,090		1.9	2.6		4.3	6.0	
2019	1,124	1,127		1.9	2.6		4.4	6.0	
2020	1,153	1,165		1.9	2.6		4.6	6.0	
2021	1,177	1,204		1.9	2.6		4.8	6.0	
2022	1,198	1,245		1.9	2.6		4.8	6.0	
2023	1,216	1,287		1.8	2.6		4.9	6.0	
5-Year Average of Moody's									
Mean for Trip	Mean for Triple-A States 947 2.6 n.a.								
U U	5-Year Average of Moody's								
Median for Tr	ple-A States	s 893			2.6			n.a.	

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

(1) Actual data compiled by Moody's Investors Service, reflective of all 50 states. Actual calculations are based on prior fiscal year numbers.

(2) Calculated by Public Resources Advisory Group.

(3) Projections assume the issuance of \$102,790,000 of G.O. debt during fiscal year 2013 and \$79,950,000 of G.O. debt annually thereafter through 2023.

- (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 3% to 6% over the project period.

(6) State Guideline equals the 5 year average of Moody's median for triple-A states of \$893 increasing annually at 3.38%.

(7) The 5-year Moody's median for triple-A States (2.6%) has not been increased for the period 2013-2023 since the annual number is quite volatile, ranging from 2.3% to 2.8% over the last five years.

## **3. DEBT STATISTICS**

## "Dash Board" Indicators

		Median
		Triple-A
	Vermont <sup>(a)</sup>	States
Net Tax-Supported Debt:	\$504,005,000	\$4,242,808,000 <sup>(c)</sup>
Debt As A Percent Of Gross State Product:	1.95%	2.45% <sup>(c)</sup>
Debt Per Capita:	\$802	\$1,117 <sup>(c)</sup>
Debt As A Percent Of Personal Income:	1.86%	2.80% <sup>(c)</sup>
Debt Service As A Percent Of Operating Revenue <sup>(b)</sup> :	4.9%	N/A
Rapidity Of Debt Retirement:	41.7% (In 5 years)	N/A
	70.3% (In 10 Years	) N/A
	90.9% (In 15 Years	) N/A
	100.00% (In 20 Yea	ars) N/A
Proposed FY 2014 Debt Authorization:	\$79,950,000 <sup>(d)</sup>	N/A
Initial Year Limitation:	None <sup>(d)</sup>	N/A

<sup>(a)</sup>Debt statistics for Vermont are as of June 30, 2012. Estimates of Gross State Product, Population, Personal Income and Operating Revenue prepared by EPR.

<sup>(b)</sup>Aggregate of State's General Fund and Transportation Fund.

<sup>(d)</sup>Authorization amount equal to one-half of two year recommended authorization (\$159,900,000). See Section 1."OVERVIEW, Recommendation", above.

<sup>&</sup>lt;sup>(c)</sup>Moody's: 2012 State Debt Medians Report.

## Net Tax-Supported Debt Outstanding

The State's aggregate net tax-supported principal amount of debt increased from \$491.7 million as of June 30, 2011 to \$504.0 million as of June 30, 2012, an increase of 2.5%. The table below sets forth the sources of the change in net tax-supported debt outstanding from fiscal year 2011 to fiscal year 2012 (in thousands):

Net Tax-Supported Debt as of 6/30/11	\$491,748
G.O. New Money Bonds Issued	63,000
G.O. Refunding Bonds Issued	69,060
Less: Retired G.O. Bonds	(49,523)
Less: Refunded G.O. Bonds	<u>(70,280)</u>
Net Tax-Supported Debt as of 6/30/12	<u>\$504,005</u>

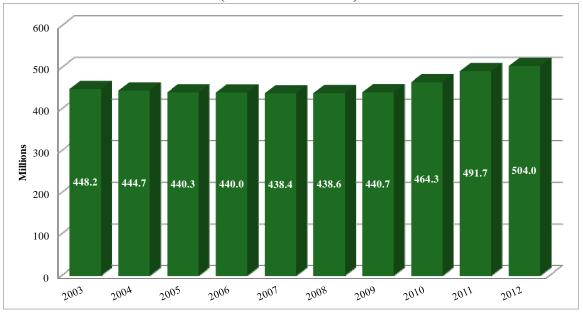
#### STATE OF VERMONT Debt Statement

As of June 30, 2012 (\$ Thousands)

General Obligation Bonds <sup>*(1)</sup> :	
General Fund	\$486,821
Transportation Fund	14,679
Special Fund	2,505
Contingent Liabilities:	
VEDA Mortgage Insurance Program	\$9,000
VEDA Financial Access Program	1,000
VEDA Tech/Small Business Loan Program	1,000
<b>Reserve Fund Commitments:</b>	
Vermont Municipal Bond Bank	\$556,190
Vermont Housing Finance Agency	155,000
VEDA Indebtedness	115,000
Vermont Student Assistance Corporation	50,000
Vermont Telecommunications Authority	40,000
Univ. of Vermont/State Colleges	100,000
Gross Direct and Contingent Debt	\$1,531,195
Contingent Liabilities	(11,000)
Reserve Fund Commitments	(1,016,190)
Net Tax-Supported Debt	\$504,005

\* Includes original principal amounts of Capital Appreciation Bonds.

<sup>1</sup>Does not include (i) \$2,333,946, which is the accreted value of capital appreciation bonds, less the original principal amount of such bonds, and (ii) the present value of outstanding capitalized leases in the amount of \$3,619,308.



STATE OF VERMONT GENERAL OBLIGATION BONDS OUTSTANDING FY 2003-2012 (in millions of dollars)

#### **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 3% to 6%) assumes the issuance of \$102,790,000 in G.O. debt during fiscal year 2013, and \$79,950,000 annually for fiscal years 2014-2023.

Fiscal Year	G.O. Debt	G.O. Bonds
Ending	Service	Outstanding
6/30/2012	69,962	504,005
6/30/2013	69,099	555,665
6/30/2014	72,883	582,660
6/30/2015	68,930	613,150
6/30/2016	71,171	642,880
6/30/2017	73,848	671,835
6/30/2018	77,328	699,465
6/30/2019	82,826	724,085
6/30/2020	87,716	746,500
6/30/2021	94,171	764,850
6/30/2022	97,721	781,920
6/30/2023	102,138	796,780

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

Note: This table sets forth the projected general obligation debt with the issuance of projected new debt during fiscal years 2013 through 2023, consistent with the assumptions presented on the table above "STATE OF VERMONT HISTORIC AND PROJECTED DEBT RATIOS"

State of Vermont Capital Debt Affordability Advisory Committee - 2012 Report

The table below sets forth the State's existing principal amounts outstanding and annual debt service requirements, as of June 30, 2012, without the issuance of any additional general obligation debt. Please refer to the table on the previous page for the State's projected principal amounts outstanding and annual debt service requirements assuming the issuance of G.O. debt.

#### OUTSTANDING GENERAL OBLIGATION NET TAX-SUPPORTED DEBT As of June 30, 2012 (in thousands of dollars)

		<b>F DEBT</b> )						
	General	Fund	Transportati	on Fund	Special Fund		Total	
	Beginning		Beginning		Beginning		Beginning	Total
Fiscal	Principal	Debt	Principal	Debt	Principal	Debt	Principal	Debt
Year	Outstanding	Service*	Outstanding	Service	Outstanding	Service	Outstanding	Service*
2013	438,110	65,989	12,765	2,482	2,000	628	452,875	69,099
2014	392,737	61,615	10,853	2,415	1,470	629	405,060	64,659
2015	354,627	51,335	9,203	2,095	910	633	364,740	54,063
2016	319,688	46,817	7,652	1,947	320	636	327,660	49,400
2017	287,704	42,713	6,101	1,884	-	336	293,805	44,933
2018	257,976	39,341	4,649	1,709	-	-	262,625	41,050
2019	229,204	37,355	3,231	1,630	-	-	232,435	38,985
2020	201,227	35,571	2,813	560	-	-	204,040	36,131
2021	173,184	34,543	2,396	541	-	-	175,580	35,084
2022	147,862	30,850	1,978	522	-	-	149,840	31,371
2023	124,330	28,263	1,560	502	-	-	125,890	28,765

\* 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.

On the following page is a table showing the projected G.O. debt service, G.O. bond principal payments, and G.O. bonds outstanding during each of the fiscal years 2013 through 2023, inclusive. This table shows the projected issuance of \$102,790,000 in fiscal year 2013 and \$79,950,000 during fiscal years 2014 through 2023, inclusive.

## State of Vermont Capital Debt Affordability Advisory Committee – 2012 Report

	EXISTING AND PROJECTED NET TAX-SUPPORTED G.O. DEBT SERVICE (\$000)												
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
	Current	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Est.
FY	D/S	\$102.790M	79.950M	D/S*									
		3.00%	3.50%	4.00%	4.50%	5.00%	5.50%	6.00%	6.00%	6.00%	6.00%	6.00%	
2013	69,099	0 0	0	0	0	0	0	0	0	0	0	0	69,099
2014	64,659	8,224		0	0	0	0	0	0	0	0	0	72,883
2015	54,063	8 8,070	6,798	0	0	0	0	0	0	0	0	0	68,930
2016	49,400	7,915	6,658	7,198	0	0	0	0	0	0	0	0	71,171
2017	44,933	7,761	6,518	7,038	7,598	0	0	0	0	0	0	0	73,848
2018	41,050	7,607	6,378	6,878	7,418	7,998	0	0	0	0	0	0	77,328
2019	38,985	5 7,453	6,238	6,718	7,238	7,798	8,397	0	0	0	0	0	82,826
2020	36,131	7,299	6,098	6,558	7,058	7,598	8,177	8,797	0	0	0	0	87,716
2021	35,084	7,144	5,958	6,398	6,878	7,398	7,957	8,557	8,797	0	0	0	94,171
2022	31,371	6,990	5,818	6,238	6,698	7,198	7,737	8,317	8,557	8,797	0	0	97,721
2023	28,765	6,836	5,678	6,078	6,518	6,998	7,517	8,077	8,317	8,557	8,797	0	102,138

	EXISTING AND PROJECTED NET TAX-SUPPORTED G.O. BOND PRINCIPAL PAYMENTS (\$000)												
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
	Current	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Est.
FY	Principal	\$102.790M	79.950M	Principal*									
2013	51,130	0	0	0	0	0	0	0	0	0	0	(	51,130
2014	47,815	5,140	0	0	0	0	0	0	0	0	0	(	52,955
2015	40,320	5,140	4,000	0	0	0	0	0	0	0	0	(	49,460
2016	37,080	5,140	4,000	4,000	0	0	0	0	0	0	0	(	50,220
2017	33,855	5,140	4,000	4,000	4,000	0	0	0	0	0	0	(	50,995
2018	31,180	5,140	4,000	4,000	4,000	4,000	0	0	0	0	0	(	52,320
2019	30,190	5,140	4,000	4,000	4,000	4,000	4,000	0	0	0	0	(	55,330
2020	28,395	5,140	4,000	4,000	4,000	4,000	4,000	4,000	0	0	0	(	57,535
2021	28,460	5,140	4,000	4,000	4,000	4,000	4,000	4,000	4,000	0	0	(	61,600
2022	25,740	5,140	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	0	(	62,880
2023	23,950	5,140	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	(	65,090

	EXISTING AND PROJECTED NET TAX-SUPPORTED G.O. BONDS OUTSTANDING (\$000)												
		2013	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
	Current	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Issue	Est.
FY	Debt	\$102.790M	79.950M	Debt*									
2012	504,005	0	0	0	0	0	0	0	0	0	0	0	504,005
2013	452,875	102,790	0	0	0	0	0	0	0	0	0	0	555,665
2014	405,060	97,650	79,950	0	0	0	0	0	0	0	0	0	582,660
2015	364,740	92,510	75,950	79,950	0	0	0	0	0	0	0	0	613,150
2016	327,660	87,370	71,950	75,950	79,950	0	0	0	0	0	0	0	642,880
2017	293,805	82,230	67,950	71,950	75,950	79,950	0	0	0	0	0	0	671,835
2018	262,625	77,090	63,950	67,950	71,950	75,950	79,950	0	0	0	0	0	699,465
2019	232,435	71,950	59,950	63,950	67,950	71,950	75,950	79,950	0	0	0	0	724,085
2020	204,040	66,810	55,950	59,950	63,950	67,950	71,950	75,950	79,950	0	0	0	746,500
2021	175,580	61,670	51,950	55,950	59,950	63,950	67,950	71,950	75,950	79,950	0	0	764,850
2022	149,840	56,530	47,950	51,950	55,950	59,950	63,950	67,950	71,950	75,950	79,950	0	781,920
2023	125,890	51,390	43,950	47,950	51,950	55,950	59,950	63,950	67,950	71,950	75,950	79,950	796,780

\*Totals may not agree due to rounding.

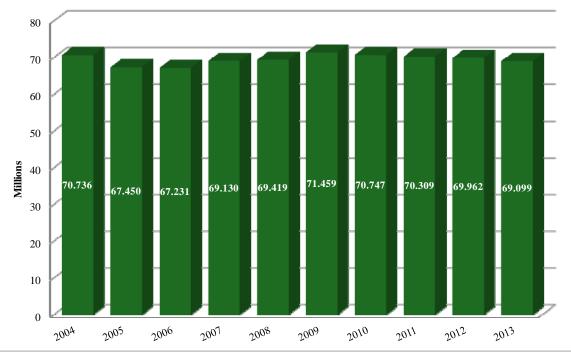
## Net Tax-Supported Debt Service by Fiscal Year

The State's scheduled general obligation debt service requirement ("D/S") for fiscal year 2013 is \$69.1 million, 1.23% less than the \$69.962 million paid in fiscal year 2012.

(in \$ thousands)	
Net Tax-Supported D/S Paid in FY 2012 <sup>(1)</sup>	\$69,962
Decrease in D/S Requirement FY 2012-2013	(7,886)
D/S Decrease Due to G.O. Refunding in FY 2012	(639)
D/S Increase Due to G.O. Debt Issued in FY 2012	
Net Tax-Supported D/S Due in FY 2013 <sup>(1)</sup>	<u>\$69,099</u>

<sup>&</sup>lt;sup>(1)</sup>The debt service amount shown takes into account the 35% interest subsidy from the federal government (calculated to be \$1,253,280 during FY 2013), payable on the \$87,050,000 Build America Bonds as part of the 2010 Series A-2 and D-2 bond issues.





<sup>\*</sup>Consists of General Obligation Bonds.

## 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 May 31, 2012 (a copy of which is included in the appendices), states that "Because the U.S. economy is the most significant driving force for the state economy, the Vermont NEEP forecast update generally tracks the directional trend and roughly the pace of the U.S. economic forecast."

"Vermont's proportionally better performance relative to the U.S. and New England economies during the "Great Recession" and the subsequently slow national and regional recovery has Vermont on a historically slow labor market recovery track. While a slower rate of recovery should be expected for a state that is recovering from a shallower economic trough, it is of little comfort to the still too many Vermonters that remain un- or under-employed. The re-benchmarking process shows definitively that Vermont has made less progress from the very bottom of the employment trough of the last recession than originally thought. The Vermont recovery of lost payroll jobs now stands, after the re-benchmarking process, at 5,600 jobs—or 39.2% of the 14,300 payroll jobs lost during the "Great Recession."

"The outlook for the Vermont economy over the calendar year 2012-16 period is for moderate recovery followed by moderate growth in the out-years of the forecast. If this forecast holds, the state economy will re-capture all of the statewide payroll jobs lost during the "Great Recession" by the 2014:Q3. This recovery is expected to be fueled by a revival in the global economy, good niche positioning by major Vermont firms to take advantage of that growth, a return to normally functioning financial markets, and eventual resumption of positive price movement in Vermont's residential and second home markets."

"Improvement in the state's unemployment rate will continue at a faster pace than either the U.S. and New England economies as a whole. Average annual unemployment rate in Vermont is expected to drop over 2 percentage points over the calendar 2012-16 forecast period, settling in at an average annual rate of 3.9% by calendar 2016. Positive job gains are expected in all North American Industry Classification System (NAICS) supersectors under this Spring 2012 NEEP outlook revision for Vermont—including the Business and Professional Services sector (at a +3.1% percent annual average over the calendar year 2012-16 period) and the Construction sector (at a +1.1% percent annual average over the calendar year 2012-16 period)."

"For the greater part of three decades, policy in Vermont has tried to address what many believe has been a significant skills mismatch in Vermont's labor markets. For a number of years, Vermont's demographics have indicated that there has been a contraction in the supply of young adults—which comprise a vital portion of the modern workforce. Employers have reported significant shortages in the supply of individuals with basic technical or job-specific skills they require, as evidenced by the high amount of vacancies in middle-skill occupations. While it is true that the educational attainment of the over 25 years population in Vermont has been high and continues to rise, this has apparently done little to assist many state employers with filling the type of jobs employers report as in demand and vacant. Instead, attainment appears to be on the rise more because a highly educated, older population is continuing to choose to reside in Vermont, while younger, newly graduated college degree holders appear to be moving away. Although this trend seems to be impacting other New England states as well, it is of little comfort to state employers who have good job opportunities available but no one readily available to fill them—unless they move into Vermont from out-of-state."

Year	Population (in thousands)	Personal Income (in \$ billions)	Gross State Product (in \$ billions)
2011	626.4	26.2	25.905
2012	628.3	27.1	26.946
2013	630.3	28.3	28.212
2014	632.3	30.0	29.737
2015	634.5	31.8	31.457
2016	636.7	33.4	32.897
2017	639.1	34.8	34.074
2018	641.7	36.0	35.292
2019	644.4	37.2	36.573
2020	647.2	38.7	37.934
2021	649.9	40.2	39.386
2022	652.6	41.8	40.929
2023	655.4	43.4	42.526

## Prior Year, Current and Projected Economic Data<sup>(1)</sup>

<sup>(1)</sup>These figures were prepared by EPR.

#### State of Vermont Capital Debt Affordability Advisory Committee - 2012 Report

As shown in the table below, total revenue for fiscal year 2012 is \$43.7 million more than in fiscal year 2011, an increase of 3.2%. Fiscal year 2013 total revenue is forecast to increase by \$73.9 million, or 5.2%; the average annual revenue growth rate during the fiscal year period, 2013 through 2023, inclusive, is projected to be approximately 3.56%.

Fiscal	General	Transportation	Total
Year	Fund	Fund	Revenue <sup>(2)</sup>
2011	1,157.4	217.6	1,375.0
2012	1,197.0	221.7	1,418.7
2013	1,260.2	232.4	1,492.6
2014	1,331.3	239.3	1,570.6
2015	1,392.6	243.8	1,636.4
2016	1,448.0	249.4	1,697.4
2017	1,499.2	253.5	1,752.7
2018	1,551.2	257.7	1,808.9
2019	1,602.1	262.2	1,864.2
2020	1,655.1	267.0	1,922.1
2021	1,707.3	271.9	1,979.2
2022	1,757.8	277.0	2,034.8
2023	1,810.0	282.4	2,092.4

## Prior Year, Current and Projected Revenue<sup>(1)</sup> (in millions of dollars)

<sup>(1)</sup>Amounts shown are "current law" revenue forecasts, based on a consensus between the State's administration and legislature. The official forecast is shown as of May 31, 2012.

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

## **5. OTHER DEBT FACTORS**

## **Moral Obligation Indebtedness**

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 general obligation guidelines that have been utilized by CDAAC in connection with its annual recommendation of long-term general obligation debt to be authorized by the legislature.

Over the last four years, a number of actions have been taken by the legislature that increased the State's moral obligation exposure, consisting of the following:

\$55,000,000 increase for Vermont Housing Finance Agency ("VHFA")
\$50,000,000 program for Vermont Student Assistance Corporation ("VSAC")
\$40,000,000 program for Vermont Telecommunications Authority ("VTA")
\$65,000,000 program for University of Vermont ("UVM")
\$35,000,000 program for Vermont State Colleges ("VSC")
\$45,000,000 increase for Vermont Economic Development Authority ("VEDA")

A new form of moral obligation support was created in 2009 for both VHFA and VSAC. Normally, the State's moral obligation support attaches to a debt service reserve fund that must be filled up by the State if the agency draws down on the fund. However, for both VSAC and VHFA, the State is committed to increase certain reserves if individual trusts do not provide requisite parity levels. This provision for a pledged equity moral obligation authority. The pledged equity program for the two agencies was adopted to allow each agency to more effectively deal with the market problems that surfaced in 2008.

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, 2012, at \$504,005,000. Using 225% of G.O. debt for establishing a limit of moral obligation debt, the State would have had \$106,821,000 in additional moral obligation capacity. Using 200% of G.O. debt for establishing a limit of moral obligation debt, the State would have had \$106,821,000 in additional moral obligation debt, the State would have had (\$19,180,000) in negative capacity; in other words, at 200%, the State could not comply with the administrative guideline and using a more conservative 195%, the State would have had (\$44,380,000) in negative 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 general obligation 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.

With the exception of VEDA, which has specific plans for utilizing its enhanced moral obligation commitment, the new authorizations shown above have not been part of financing strategies for the particular agencies. 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.

## Contingent or Limited Liability Obligations (all figures as of June 30, 2012):

- 1. VEDA Mortgage Insurance Program: The State had a contingent liability of \$9.0 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 \$1.0 million with respect to this Program.

## Reserve Fund Commitments (all figures as of June 30, 2012):

- 1. Vermont Municipal Bond Bank: The Bank had \$556.19 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 the Bank 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 Bank, the State has not been required to appropriate money to the reserve fund for this program. Based on the long history of the bond bank program, the rating agencies credit assessment of the underlying loans of the portfolio, the general obligation pledge of the underlying borrowers for a high percentage of the loan amounts and the State intercept provision for the payment 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: The VHFA had previously received a legislative commitment of \$155 million of moral obligation debt secured by reserve fund fill-up 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. It should also be noted that the State has authorized the VEDA to incur indebtedness in an amount of \$115 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. Legislation was passed in 2007 to create the Vermont Telecommunications Authority to facilitate broadband and related access to an increased number of Vermonters. In this connection, the State has authorized \$40 million of debt that has a moral obligation pledge from the State. The legislation requires that projects must be self-supporting in order to utilize the moral obligation support. Considering the fact that no debt has yet been issued by the Authority, the report has not included any portion of such debt in the State's net tax-supported debt computations.
- 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. It is not expected that the State will need to appropriate money to the respective reserve funds for these purposes.
- 6. As described in "Moral Obligation Indebtedness," the State has provided \$50 million of moral obligation commitment by the State to VSAC. In 2011, VSAC issued \$15 million of moral obligation supported bonds.

Finally, it should be noted that the actual amount of moral obligation debt outstanding is somewhat less than the amount authorized, as shown in the table below:

State of Vermont Moral Obligation Commitments and Debt Outstanding As of June 30, 2012						
Issuer Name	Amount Provided In Statute	Actual Par Amount Outstanding	Credit Ratings with Moral Obligation (Moody's/S&P/Fitch)	Assumed Underlying Credit Ratings (Moody's/S&P/Fitch)		
Vermont Municipal Bond Bank*	\$556,189,561	\$556,189,561	Aa2/AA+/	n/a		
Vermont Economic Development Authority	115,000,000	115,000,000	n/a	n/a		
Vermont Housing Finance Agency	155,000,000	55,435,000	Aa3/A+/	/888+/		
Vermont Student Assistance Authority	50,000,000	15,000,000	Aa2//AA	//A+		
University of Vermont	66,000,000	0	n/a	n/a		
Vermont State Colleges	34,000,000	0	n/a	n/a		
Vermont Telecommunications Authority	40,000,000	0	n/a	n/a		
	\$1,016,189,561	\$741,624,561				

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

## Authorized, But Unissued Debt

In fiscal year 2012, \$63,000,000 of new money debt was issued, representing \$56,773,865 authorized for that year plus \$6,226,135 of authorized but unissued debt remaining from prior years. During fiscal year 2013, \$102,790,859 of debt is assumed to be sold \$96,386,135 of which constitutes the balance of the 2012-13 authorization plus \$6,404,724 of authorized, but unissued debt remaining from prior year's authorizations.

We believe 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.

The legislature also recognized the need to review authorized capital projects, which have not been ready for funding and created a formal review process. Effective in fiscal year 2013, 32 V.S.A. § 701a was amended 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. We believe that this will result in a more efficient funding process for State capital projects.

## **Information and Technology Indebtedness**

In December of 2010, the Commissioner of the Department of Information and Innovation, the Commissioner of Finance and Management, and the State Treasurer delivered a report to the Legislature entitled "Information Technology Infrastructure Needs – A Study of Financing Options," that enumerated several strategies for financing capital costs of information technology improvements. Further, Sec. 39 of Act 104 of 2012 requires the Secretary of Administration, working in collaboration with the State Treasurer, to present alternatives for funding information technology projects to the House Committee on Corrections and Institutions, and the Senate Committee on Institutions, no later than January 15, 2013. CDAAC does not have concerns about debt financing for information technology projects in general, but emphasizes that over the years, the State has sold 20-year debt, generally with level principal amounts, for capital projects that have had useful economic lives significantly exceeding the period of the related debt repayment. Since the useful lives of information systems and technology innovation may be somewhat shorter than those of traditional capital projects for which Vermont has issued long-term debt in the past, it will be crucial for the State to continue to relate its debt repayment structure to the overall useful life profile for the underlying capital projects that are being financed, including any potentially shorter useful lives from the funding of information systems and technology innovation. The State has benefited from the existing repayment debt structure, as viewed by the rating agencies, since the useful lives of the capital projects have extended beyond the period of debt repayment; in a related manner, Vermont has also recaptured its debt capacity rapidly as a result of its amortization schedules - another factor that has been positively noted by the rating agencies. While the State makes adjustments to the projects for which it incurs long-term indebtedness, it will continue to be important for Vermont to adhere to those practices that have resulted in favorable rating agency responses.

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

The State has historically sold only general obligation bonds for its capital infrastructure purposes. Recently, however, the State did issue securities that clearly can be described as revenue bonds through the sale of 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. 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, 2012

	With TIBs	Without TIBs
Net Tax-Supported Debt:	517,265,075	\$504,005,075
Debt As A Percent of Gross State Product:	2.00%	1.95%
Debt Per Capita:	\$823	\$802
Debt As A Percent of Personal Income:	1.91%	1.86%

\* As of June 30, 2012 the outstanding principal amount of the State's Special Obligation Transportation Infrastructure Bonds, 2010 Series A was \$13,260,000. On July 31, 2012 the State issued an additional \$10,820,000 of Special Obligation Transportation Infrastructure Bonds, 2012 Series A, this amount is not included in the above numbers.

For additional information on the Vermont's TIBs revenue bond debt capacity, please see Appendix G. which contains the Feasibility Study Associated with State of Vermont Special Obligation Transportation Infrastructure Bonds 2012 Series A, prepared by Kavet, Rockler & Associates. See Chart 6 of the Feasibility Study for a summary of the revenue bond debt capacity.

## 6. STATE GUIDELINES AND RECENT EVENTS

In order to recommend to the Governor and the General Assembly of the maximum amount of new long-term, 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 to Vermont's peer group, (iii) substantial increases and decreases in the amount of debt issued due to market disruptions and tax law changes and (iv) 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 recent 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 triple-A ratings remained fairly constant between eight and eleven states, compared to the current 18 states having at least one triple-A rating.

In terms of market disruptions, the past five years since the summer 2007 beginnings of the global financial crisis have been memorable for the state and local credit markets. At one point in late 2008, the tax-exempt bond market actually closed down in most respects, a phenomenon that had not been experienced in modern times. Moreover, major new, taxable financing options became available for state and local borrowers in 2009 and 2010. In calendar year 2011, U.S. municipal bond issuance volume was approximately 34% lower than the volume from 2010 according to the Securities Industry and Financial Markets Association (SIFMA). This is the most dramatic year-over-year reduction in bond issuance since the acceleration of bonding in 1985, and subsequent halving of bond issuance the following year with the passage of the Tax Reform Act of 1986. The primary reasons for the drop include issuers avoiding incurring more debt in the face of economic weakness and uncertainty, and also that 2010 was a record issuance year as issuers accelerated bond sales ahead of the expiration of American Recovery and Reinvestment Act (ARRA) bond programs, primarily Build America Bonds (BABs), on December 31, 2010. Finally, 2011 saw the unprecedented downgrade of the United States' AAA long term debt rating by S&P, as well as one of the worst natural disasters in Vermont's history. 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.

## Adjustment to Debt Per Capita State Guideline

As indicated above, the debt per capita statistics, among the various debt guidelines, is used to establish the recommended limitations on the amount of general obligation 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 triple-A states, and an annual inflation factor, in order to achieve a realistic perspective on the future direction debt per capita median for 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. Therefore, CDAAC believes that it was imperative 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 affect 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 goals 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 current year, the 5-year average of the

Peer Group medians is 893 (starting point) and the 10-year average annual growth factor of the triple-A states Peer Group is 3.38%.

#### Moody's Reconstituted Debt Service as a Percentage of Operating Revenues Median

On January 26, 2012, Moody's published a Special Comment report titled U.S. State Debt Service Ratios which calculated ratios of debt service to operating revenues. The report indicated that the ratio was an important measure of budgetary flexibility and was being issued to enhance comparability across states, improve the transparency of Moody's adjustments to reported financial data, and clarify the rating agency's use of the ratios in terms of opinions on credit quality. Moody's also stated that the debt service ratio would be included in future Debt Median reports. Moody's had previously published debt service medians, but ended the publications in 1996.

On May 22, 2012, Moody's published its 2012 State Debt Medians Report. The report contained the calculated Vermont Debt Service Ratio and the State Medians for both 2010 and 2011. After reviewing the report, the Treasurer's Office confirmed that Moody's calculated their Debt Service Ratio using the General Fund, the Transportation Fund and the Education Fund as operating revenues and included both General Obligation and Transportation Infrastructure Bonds debt in their debt service calculation. As mentioned above, the CDAAC statute defines operating revenues as General and Transportation Funds based upon the historic general flexibility in their uses of these funds for meeting financial operating revenue consistent with the CDAAC statute, and will monitor its ratios against the Moody's Debt Service Ratio on a year to year basis. Moody's Debt Service Ratio statistics for FY 2010 and FY 2011 are provided below and are generally consistent with the debt service as a percentage of revenues provided above.

## STATE OF VERMONT MOODY'S 2012 DEBT SERVICE RATIOS\*

	<u>FY 2010</u>	<u>FY 2011</u>
Vermont:	3.0%	2.9%
Mean:	5.3%	5.3%
Median:	4.9%	4.9%
Vermont's State Rank	35	38

\* As calculated by Moody's and provided in the 2012 State Debt Median Report.

## 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 can be used to pay capital appropriations, effectively by 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 will be the following: 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.

The legislature recognized this possibility in its latest capital bill (Act 104 of 2012) and authorized an additional capital appropriation of up to \$2 million from any original issue premium generated from the State's upcoming bond sale.

## **Tropical Storm Irene**

On August 28 and 29, 2011 Tropical Storm Irene caused the worst flood-related damage in the State of Vermont since the historic flooding of 1927. This storm resulted in heavy rains and record flooding, closed and/or destroyed 260 roads and 30 bridges (totaling more than 500 miles), and closed over 350 schools. The storm also left many communities isolated—most with their main streets literally flooded out—and caused roughly 50,000 State residents to be without electric power for days. As of the date of this report, an enormous amount of recovery and repairs have already been completed. All of the State bridges and all of the closed miles of State road were re-opened by January 1, 2012. Repairs and restoration were completed as part of an unprecedented cooperative effort between multiple agencies of the State, recovery crews from National Guard units from multiple neighboring states and from large crews from neighboring state agencies of transportation.

The official federal disaster declaration qualified the State government, municipalities and citizens for emergency relief through the Federal Emergency Management Agency ("FEMA"), the Federal Highway Administration ("FHWA"), and the National Resources Conservation Service ("NRCS"). The majority of emergency repairs to State roads, highways and bridges are expected to be funded 100% by the FHWA, but all permanent repairs require a 20% State match. VTrans estimates the total State road, bridge and culvert repair bill could be approximately \$250 million. In addition, Tropical Storm Irene caused \$24.3 million in damages to State-owned track and rail bridges. Railroad emergency funds flow through FEMA and are expected to require a 10% State match. In

total, VTrans estimates approximately \$27 million in Irene-related repairs to roads, bridges, rail, and culverts which have been funded primarily from the State's Transportation Funds.

In addition to the widespread damage to the State's infrastructure described above, the storm also caused damage to many State-owned buildings. In particular, the Vermont State Hospital and Waterbury State Office Complex, which housed over 1,300 of the State's governmental employees, experienced significant damage as a result of the storm. The State currently estimates the total cost of repairs at the Vermont State Hospital to be approximately \$45 million, and the high-end estimate of costs to reconstruct the Waterbury State Office Complex could be as much as \$125 million (although this would be contingent on the receipt of adequate supplemental FEMA funding to assist with the repairs). The State cannot predict whether and to what extent FEMA will provide assistance with the repairs to these facilities and intends to scale back the plans for the Waterbury complex if federal assistance is not received. Nevertheless, plans for the reconstruction of these facilities are underway – the State began appropriating funds to these projects in fiscal year 2012 and the fiscal year 2013 budget includes further appropriations for these purposes.

While the Committee recognizes the pressures to fund these projects, we believe it is prudent not to recommend a dollar amount or sources of revenue (general taxing authority, revenues, etc.), until such time as the net cost is known. Accordingly, the recommendation in this Report should be viewed as a recommendation to balance our "normal" capital needs with capacity and the criteria set forth in statute and policies adopted by CDAAC to maintain prudent long-term capital financing consistent with the State's superior credit rating.

The Administration is evaluating potential changes in the project scope, joint development and other initiatives that may off-set less than full FEMA participation on these projects. In addition, the State may be able to capture lost federal revenue associated with coming back into compliance with regard to the State hospital facility. Any significant bonding proposal will require an examination of the revenue sources currently used to pay for capital, maintenance and repair and a frank discussion of the potential sources of funds and the effects on the State's debt ratios and guidelines. The Committee will be ready to evaluate alternatives for consideration by the Administration and the Legislature and we expect to be your partners in addressing these important State capital projects.

## **Downgrade of United States Credit Rating**

On August 5, 2011, Standard & Poor's downgraded the long-term debt rating of the United States from AAA to AA+, and assigned a negative outlook to the rating, citing lack of credible progress by the Administration and Congress in reducing the Country's long-term deficit outlook. This was the first time the U.S. was rated less than triple-A since Moody's first assigned the rating to the Country in 1917. Moody's placed the U.S. on review for possible downgrade, and also placed five triple-A rated states – Maryland, New Mexico, South Carolina, Tennessee and the Commonwealth of Virginia – on review

for possible downgrade if the U.S. were downgraded from Aaa to Aa1 or lower. Fitch Ratings did not report an imminent threat of downgrade either for the U.S. or the states from ongoing Federal debt negotiations.

While none of the three rating agencies reported an immediate threat to Vermont's credit ratings, if the U.S. were to be further downgraded, then Vermont's rating likely would be impacted eventually. The rating agencies generally have reported that it would be unlikely for Vermont or other states to maintain ratings more than one "notch" above the United States' rating.

#### 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, a cut of 7.6% to the interest payment subsidy associated with the Build America Bonds program. This could potentially reduce the subsidy payments that Vermont receives each August 15 and February 15 for its 2010 Series A-2 and 2010 Series D-2 taxable General Obligation Bonds by \$47,625 in fiscal year 2013, \$95,250 in fiscal year 2014, with declining annual amounts through fiscal year 2030 totaling \$1,183,129 overall. While this sequestration impact would be a very unfortunate development, it would not materially alter Vermont's projected debt service as a percentage of revenue ratios; specifically, the maximum potential reduction in fiscal year 2014 equates to approximately one-tenth of one percent of the projected \$72.883 million of debt service payments due that year.

## **Combining Pension Liabilities with Debt Obligations**

Fitch, Moody's, and S&P include pension liabilities in their assessment of the overall financial health of states. On March 11, 2011, Moody's published a special comment entitled "Combining Debt and Pension Liabilities of U.S. States Enhances Comparability," and ranked the fifty states according to four metrics, combining pension and long-term debt liabilities, as follows:

- 1. As a percent of personal income
- 2. As a percent of gross domestic (state) product
- 3. Dollars per capita
- 4. As a percent of (general fund) revenues

This study takes a significant step in identifying pension liabilities as a serious consideration in reviewing and assessing the long-term liabilities of a state or local jurisdiction. While CDAAC takes the position that the pension obligation is a "soft" liability, more likely to fluctuate over time as compared to a hard debt number, Moody's correctly reports that demographic factors including increasing numbers of retirees and increasing life expectancy of retirees have placed additional stresses on funding. Many systems have also experienced significant increases in their unfunded liabilities due to the investment losses of the "Great Recession," although returns over the past two years have had a positive impact.

This information, while illustrative, is not included in the development of debt indicators since the CDAAC uses a five year moving average and historical data is not available for the peer triple-A states. The CDAAC also notes that there is considerable variation in the actuarial methods and assumptions used to generate the unfunded liabilities and that this makes comparisons difficult. Current accepted accounting standards by the Government Accounting Standards Board ("GASB") recognize six accepted actuarial methods. These can produce different results, spreading the total cost in the actuarially required contribution ("ARC") differently between normal cost and the amortization of the unfunded liability. Simply stated, varying methods yield different results. While somewhere between 60% and 70% of states use the "entry age normal" method (the method which GASB will require in the future if current standards in the GASB exposure draft are adopted), there are variances in the underlying assumptions that also result in varied results. As noted in the Moody's report, "states use actuarial projections, which incorporate assumptions about employee retirement ages, longevity, investment performance, and other factors." This limits the comparability of data. Rate of return for investments is an important consideration. While studies completed by some rating agencies to recalculate liabilities on the basis of a "standardized investment rate", have provided a useful look through the numbers, the rate of inflation may still vary resulting in differing net "effective rates". In addition the impact demographic factors and assumed labor negotiated steps and raises also impact the result. States have varying methods of amortizing the unfunded liability that impact funding. For instance, the Vermont systems use a closed amortization period with a set year (2038) to fully fund the liability. Other systems may amortize over a shorter period (20 years for instance) but reset each year (open system), which is a less conservative funding policy.

The Moody's special comment and other reports recognize the importance of funding the ARC as an indicator of fiscal discipline to resolve long-term pension funding issues. As Moody's and other rating agencies further define their criteria and GASB's efforts to standardize actuarial methods and practices for pension liabilities takes further form, use of unfunded liabilities and progress in funding the ARC may, in combination with key debt indicators, take on an increasing role in defining the long-term obligation of states.

The Treasurer's Office discussed the analysis with the special comment's authors, and concurred with them that although pension obligations have the same legal and statutory priority as net tax supported-debt, pension liabilities and debt substantially differ in how they are calculated. Traditional fixed rate debt obligations are simply the sum of regularly-scheduled principal and interest payments, and the liability is fixed and can be calculated to the penny.

Because pension liabilities pose myriad challenges from an analytical standpoint, the Committee has decided not to combine pension liabilities with debt at this time for the purpose of the annual recommendation and computing projected debt ratios. However, the Committee will track the means and medians of Moody's four metrics against Vermont's triple-A rated Peer Group going forward.

#### STATE OF VERMONT STATES' COMBINED PENSION AND LONG-TERM DEBT LIABILITIES COMPARED TO VARIOUS METRICS

	Moody's Investors Service						
Triple-A Rated States	Personal Income	GDP	Per Capita	As % of Revenues			
Alaska	15.1%	9.3%	6,407	64.1%			
Delaware	7.4	4.3	2,974	70.7			
Florida	5.4	5.2	2,073	123.4			
Georgia	6.2	5.1	2,067	111.4			
Indiana	7.0	6.0	2,383	123.4			
Iowa	4.8	3.9	1,764	60.0			
Maryland	9.8	9.8	4,677	172.7			
Minnesota	8.7	7.4	3,688	127.9			
Missouri	3.2	2.8	1,099	69.8			
Nebraska	0.1	0.1	43	2.3			
New Mexico	15.3	12.2	4,842	162.6			
North Carolina	2.4	1.9	818	42.0			
South Carolina	11.4	10.4	3,560	264.0			
Tennessee	2.2	1.9	750	37.2			
Texas	4.0	3.1	1,517	86.8			
Utah	7.4	5.6	2,207	118.3			
Virginia	5.3	4.5	2,257	114.6			
Wyoming	5.6	4.2	2,731	67.9			
MEAN <sup>1</sup>	6.7	5.4	2,548	101.1			
<b>MEDIAN</b> <sup>1</sup>	5.9	4.8	2,232	99.1			
VERMONT	6.3	6.0	2,462	66.1			

Source: "Combining Debt and Pension Liabilities of the U.S. States Enhances Comparability," Moody's Investors Service.

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

# Six Year Capital Program Plan

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 legislature for implementing a six-year state capital program plan in its latest capital construction and state bonding adjustment act. 32 V.S.A. § 310 was amended providing for a plan to be prepared, and revised annually, by the governor and approved by the general assembly. The plan will include a list of all projects which will be recommended for funding in the current and ensuring five fiscal years State of Vermont and include: both an assessment and projection of capital need and a comprehensive cost and financing assessment.

# 7. 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 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.

# (THIS SPACE INTENTIONALLY LEFT BLANK)

# 8. PROVISIONS OF ENABLING LEGISLATION AND METHODOLOGY

The Committee is responsible for the submission of a recommendation to the Governor and the General Assembly of the maximum amount of new long-term, net tax-supported indebtedness (at this point, general obligation debt) that the State may prudently issue for the ensuing fiscal year. Such recommendation includes guidelines and other matters that may be relevant to the proposed debt to be authorized. The deadline for the Committee's annual recommendation is September 30<sup>th</sup>.

In 2008, the legislature, among other changes, replaced in the enabling legislation, "general obligation," with "net tax-supported indebtedness." At this point, all of the State's net tax-supported indebtedness actually consists of only general obligation debt. However, in practical terms, the State's debt load, as computed by the nationally recognized rating agencies, in determining the overall State debt, as reflected in the comparative debt statistics, is based, not just on a state's general obligation debt, but on its net tax-supported indebtedness. Now that the State has transportation infrastructure bonds ("TIBs") outstanding, the use of "net tax-supported indebtedness," instead of "general obligation," becomes more relevant; indeed, it is likely that more of the rating agencies will, in fact, start to include TIBs in the State's debt statement, although the State will likely decide, over time, not to include such indebtedness.

In making its recommendation, CDAAC has the responsibility to consider the following provisions of the enabling legislation:

# SUBPARAGRAPH (1):

The amount of state 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) have been authorized but not yet issued.

SUBPARAGRAPH (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.

SUBPARAGRAPH (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.

SUBPARAGRAPH (4)

The criteria that recognized bond rating agencies use to judge the quality of issues of state bonds, including but not limited to:

- (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.

SUBPARAGRAPH (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.

In regards to (A) and (B) above, see section 5. OTHER DEBT FACTORS, Moral Obligation Bonds.

# 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.

### SUBPARAGRAPH (6):

The impact of capital spending upon the economic conditions and outlook for the state.

In 2008, new language, "impact of capital spending upon the," was added to this subparagraph. It should be noted that CDAAC routinely considers this factor in the context of its deliberations. Indeed, in the early 1990s, CDAAC recommended significantly higher debt authorization during an economic downturn. 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.

# SUBPARAGRAPH (7):

### The cost-benefit of various levels of debt financing, types of debt, and maturity schedules.

This subparagraph was added to the enabling legislation in 2008.

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., general obligation, 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 (see "Transportation Infrastructure Bonds ("TIBs")" elsewhere in this document), 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.

Further, quasi-revenue bonds, such as moral obligation or reserve fund commitments, have also been employed by VMBB, VEDA, and VHFA, and such debt is now authorized for issuance by VTA, VSAC, UVM and State Colleges. There is a more extensive discussion of the State's moral obligation commitments elsewhere in this report. In addition, the State, in the past, has directly employed capital lease debt, largely in the form of certificates of participation; however, this type of debt was proven to be expensive and created an undue complexity for the State's net tax-supported debt statement, and the State decided in the late 1990s to refund the certificate of participation indebtedness with general obligation debt – with the rating agencies indicating at the time and subsequently their pleasure with the State's actions. At present, as indicated in a footnote to the State's debt statement, Vermont does have a \$4.7 million capitalized lease, but the debt service payments on this lease are funded from energy savings, which

are guaranteed by the contractor; as a result, this debt is not added to the State's net taxsupported indebtedness. The State will continue to review the extent to which efficient employment of lease financings can be achieved in Vermont's debt program without adversely affecting the State's debt management operations or credit position.

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 general obligation bonds allows the State to recapture debt capacity at an attractive pace. By shortening the debt service payments, it would have the effect of placing more fixed costs in the State's annual operating budget, leaving less funds available for discretionary spending. By lengthening debt payments, that 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.

SUBPARAGRAPH (8):

Any projections of capital needs authorized or prepared by the agency of transportation, the joint fiscal office, or other agencies or departments.

This subparagraph was added to the enabling legislation in 2008.

CDAAC is proceeding in its compliance with this provision. Material on various infrastructure capital requirements will be considered as this information is provided to CDAAC over time.

### 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.

There are numerous factors that can affect the State's affordability to incur future indebtedness, including the prospective State economy and the availability of adequate financial resources. Of course, it should be recognized that even though the debt load indices employed in this report are generally also used by the rating agencies for determining the amount of net tax-supported indebtedness that the State can effectively support, these indices do not take into consideration the possibility for deterioration in the State's financial results. For example, if the State were to confront a significantly

increased or new financial liability that was not contemplated in the context of this analysis, the appropriateness of this debt load would become less certain. Similarly, if the State were to incur serious deficits or face a dangerously eroding economy, the ability of the State to incur debt in the future could be affected. These managerial and unpredictable aspects of debt affordability have not been considered in this analysis. It will be important for State officials to monitor Vermont's annual financial condition and results, together with the State's economic trends, in order to evaluate the State's credit position to determine whether annual issuance of debt should be adjusted to reflect a changing financial outlook and credit condition for the State under altered circumstances.

With respect to the interest rate and credit ratings assumed in the evaluation, the report has made conservative assumptions. For anticipated debt issuances, the interest rate on future State G.O. indebtedness ranges from 3.00% to 6.00%, which is well above the interest rate at which the State could currently sell long-term general obligation bonds.

At the same time, we have assumed that the State will maintain its current ratings: "Aaa" from Moody's, "AA+" from S&P, and "AAA" from Fitch. Of course, a negative change in the State's ratings in the future could adversely affect the comparative interest rates that Vermont pays on its bond issues, thereby increasing the amount of the State's annual fixed costs for debt service. This effect could reduce the amount of long-term, net tax-supported indebtedness that the State can annually afford to issue.

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# 9. APPENDICES

- A. 2012 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. Detailed Calculations for Debt Per Capita Debt Guideline State Guideline
- G. Feasibility Study Associated with State of Vermont Special Obligation Transportation Infrastructure Bonds 2012 Series A, Prepared by Kavet, Rockler & Associates
- H. Full Text of 32 V.S.A. §1001, Capital Debt Affordability Advisory Committee

**APPENDIX** A

# Moody's INVESTORS SERVICE

# MEDIAN REPORT

# 2012 State Debt Medians Report

Growth in 2011 State Debt Slows Substantially, but Debt Service Costs Continue to Rise

#### **Table of Contents:**

GROWTH IN NET TAX-SUPPORTED DEBT SLOWS SIGNIFICANTLY IN 2011	2
STATE DEBT SERVICE COSTS RISE BUT	
REMAIN STABLE RELATIVE TO REVENUES	4
2012 STATE DEBT OUTLOOK: SLOWDOWN IN DEBT ISSUANCE TO CONTINUE	5
DEBT TABLES AND COMPARATIVE	-
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#### **Analyst Contacts:**

NEW YORK	+1.212.553.1653
Baye Larsen Vice President - Senior An	+1.212.553.0818
baye.larsen@moodys.com	2
Andrew Nowicki Associate Analyst andrew.nowicki@moody	+1.212.553.2846
Tim Blake	+1.212.553.2846
Managing Director – Publ timothy.blake@moodys.	
Robert Canfield Associate Analyst robert.canfield@moodys	+1.212.553.3801
Ted Hampton Vice President – Senior Ar ted.hampton@moodys.c	2
Lisa Heller Vice President – Senior Ar lisa.heller@moodys.com	
Nicole Johnson Senior Vice President nicole.johnson@moodys	+1.212.553.4573
Robert Kurtter Managing Director – Publ robert.kurtter@moodys.	

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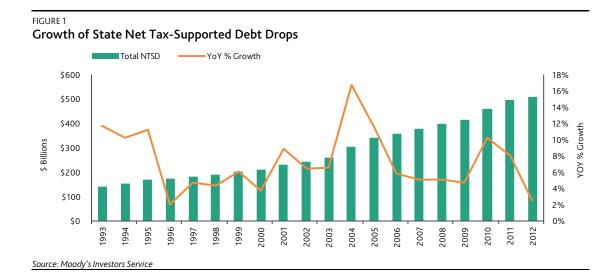
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Growth in outstanding state debt slowed dramatically in calendar year 2011 compared to the rapid growth of the prior two years. After 10% and 8% growth in outstanding net taxsupported debt (NTSD) in 2009 and 2010, NTSD was relatively flat in 2011 with only 2.5% growth. The combined 2011 NTSD for all 50 states increased to \$510 billion from \$497 billion in 2010. In this year's report, we present both the 2011 data and ratios measuring state NTSD, as well as the associated debt service costs and ratios for the fiscal year. Among our findings:

- States slowed their borrowing in 2011, despite the low interest rate environment. New » money issuance was constrained both by legal debt limitations and anti-debt sentiment that arose during the recession and the U.S. debt ceiling debate. Additionally, during 2010 many states accelerated their borrowing calendars to participate in Build America Bonds (BABs) which reduced their capital borrowing needs in 2011.
  - Although overall borrowing in 2011 was lower, measures of state leverage were mixed. Median NTSD per capita increased by 7% amid the weakest population growth in more than 70 years, while NTSD as a percentage of personal income was flat at 2.8%. NTSD as a percentage of gross state product also remained flat at 2.4%.
  - State's total debt service costs increased by 8.6% in 2011 as repayments began on the substantial amount of debt issued during the downturn. Favorably, total revenue available for debt service also grew a healthy 8.9% in fiscal 2011, and the median debt service ratio remained flat at 4.9%.
  - Growth in state NTSD is expected to remain subdued in 2012, amid policy and legal constraints to new issuance, and a move in some high debt states toward more pay-go capital funding. The 2012 growth in NTSD will be comparable or slightly higher than 2011 levels, but well below the large increases of 2009 and 2010.

» contacts continued on the last page



Analysts commonly use three measures of debt to compare state debt burdens: debt per capita, debt as a percentage of personal income, and debt as a percentage of gross state product. In considering debt burden, the focus is largely on net tax-supported debt, which we characterize as debt secured by state taxes and other operating 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 includes 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).

Net Tax-Supported Debt is defined as debt secured by state taxes or other operating resources which could otherwise be used for state operations, net of obligations that are self-supporting from pledged sources other than state taxes or operating resources.

This report examines states' net state tax-supported debt as of calendar year-end 2011. As in prior years' reports, the presentation of debt trend data (Figures 1, 2, 3 and Table 6) incorporates a one-year lag (i.e. the data labeled 2012 reflect debt as of calendar year-end 2011).

#### Growth in Net Tax-Supported Debt Slows Significantly in 2011

Total state net tax-supported debt growth slowed to 2.5% in 2011, following 10% and 8% growth in 2009 and 2010, respectively. The slowdown in growth in part reflects states' reduced capital funding needs after a significant surge of borrowing in late 2010 as they took advantage of the low borrowing costs of BABs. Many states accelerated parts of their 2011 borrowing plans into 2010, and as a result needed less new money borrowing during the past year.

Some 2011 borrowing plans were also deferred as formal or informal debt policies constrained states' ability to issue new debt. Many states set debt limits relative to revenue or personal income, and as these measures declined or stagnated during the recession, so did states' debt issuing capacity. Additionally, ongoing budgetary pressures that include rising costs for pension and other post-employment benefit (OPEB) obligations have led to increased anti-debt sentiment in some states recently, discouraging them from adding to their long-term liabilities.

As is typical when interest rates are low, during 2011 state governments refunded existing debt to achieve interest rate savings. As we have observed over the past two years, a significant portion of the savings achieved through refunding transactions in 2011 was used to balance budget gaps. Although their revenue performance overall was positive in 2011, some states were challenged to balance growing fixed costs with slow-to-recover revenues. Some of these states continued to use debt restructuring, in the form of issuing new bonds to defer debt service costs to later years, to solve budgetary problems. While this trend does not materially increase total NTSD outstanding, it may add volatility to some states' debt service ratios during the next few years. In addition to restructuring debt, several states issued long-term debt to fund operations. Notably, the State of Illinois issued deficit bonds for the second consecutive year to relieve budget pressures, using the proceeds of approximately \$3.7 billion of general obligation bonds to help fund its annual pension contribution.

The largest contributors to growth in NTSD in 2011 were California, Illinois, and Massachusetts, which added \$1.7 billion, \$2.2 billion, and \$1.6 billion of NTSD, respectively, net of principal repayments. New Jersey, New York and Virginia also increased NTSD by about \$1 billion each. Of these states, Virginia saw the largest percentage growth in NTSD, at 13% increase, primarily due to issuance through the Virginia Commonwealth Transportation Board, and its increased focus on transportation capital spending needs. These increases were partially offset by notable NTSD declines (on a dollar basis) in ten states including Texas, Nevada and Rhode Island. On a percentage basis, Nevada and Rhode Island's declines were among the highest, at 10% and 9%, respectively.

The modest growth in NTSD caused mixed results in states' leverage ratios. Median NTSD per capita increased 6.9% to \$1,117 as total debt grew faster than the population. According to Census data, the aggregate population of the 50 states grew only 0.8% in 2011 to 312 million, the slowest growth in more than 70 years. Median NTSD as a percent of personal income, however, remained flat at 2.8%, reflecting the positive impact of early economic recovery. According to Bureau of Economic Analysis data, 2011 U.S. personal income grew to \$13 trillion, 3.6% higher than estimated 2010 personal income at the time of last year's report. Median NTSD as a percent of gross state product also remained flat at 2.4% in 2011.

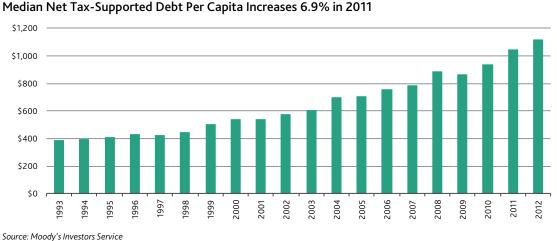
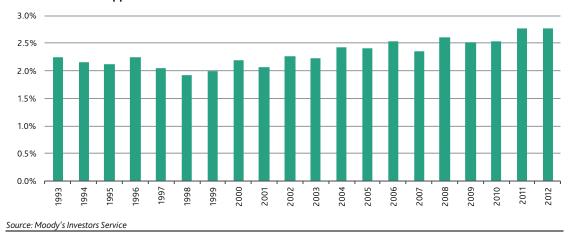


FIGURE 2 Median Net Tax-Supported Debt Per Capita Increases 6.9% in 2011

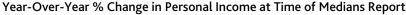
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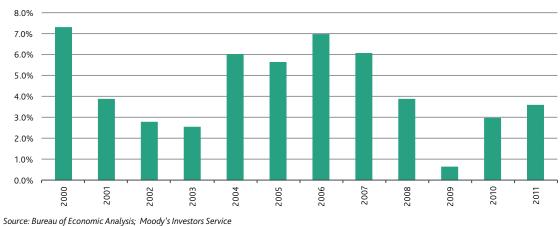
FIGURE 3











#### State Debt Service Costs Rise but Remain Stable Relative to Revenues

State debt service costs increased by 8.6% in 2011 due to the continued phased-in of debt service on bonds issued in the previous two years. Despite this increase, states' debt service costs remain relatively affordable due to a return to growth in operating revenues, which contributed to 8.9% growth in revenues available to pay debt service. The median 2011 debt service ratio remained flat at 4.9%. We define the debt service ratio as our calculation of aggregate debt service for all state net tax-supported debt as a percentage of pledged revenues. Revenues include all Moody's-defined operating fund revenues (primarily the General Fund for most states) and revenues pledged to any special tax bonds or other bonds that are not included in our calculation of operating revenue.

 $Debt \ Service \ Ratio = \frac{Debt \ Service \ on \ Net \ Tax \ Supported \ Debt}{Operating \ Fund \ Revenues \ + \ Pledged \ Revenues}$ 

For a more detailed description of our debt service ratio calculation, please refer to "<u>U.S. State Debt</u> <u>Service Ratios</u>" published January 26, 2012.

### 2012 State Debt Outlook: Slowdown in Debt Issuance to Continue

State new money debt issuance is expected to remain subdued in 2012 due to anti-debt political sentiment and continued revenue and debt limit constraints. Budgetary imbalances and expanding fixed cost obligations have forced many states to severely cut services or raise revenues, which in part has helped to increase anti-debt sentiment in some states. Uncertainty regarding U.S. federal debt levels and the Euro zone debt situation have also contributed to a generally debt averse attitude, and some states are trying to reduce their long-term debt burden. Favorably, the debt burden of U.S. states is substantially lower than that of the federal government and European sovereigns. Even so, fiscal stress and anti-debt sentiment is having a direct impact on the debt issuance plans of many states, including some that are typically high-volume issuers such as California, Florida and New Jersey. These states are moving to reducing new borrowing and increasing pay-go capital funding, which may keep NTSD growth subdued for several years.

We also expect states' 2012 new money borrowing to be constrained by debt policies and greater fiscal conservatism. A major component of states' management practices includes active monitoring of state debt affordability. The majority of states employ some form of a debt affordability/capacity measure to monitor their debt burdens. Debt as a percentage of personal income and debt as a percentage of operating revenues are the most common metrics used to determine debt limits. Some states, like North Carolina and Oregon, have specifically reduced their borrowing plans in response to revenue declines and reduced debt capacity. Although both state revenues and personal income generally will grow in the next year, low debt capacity and heightened fiscal management concerns will result in less new borrowing than experienced in the past several years.

Generally, growth in next year's debt service expenditures will subside in conjunction with this year's slowdown in new borrowing. However, the debt service ratio trend over the next few years may be variable as states manage through the economic recovery. States that have issued or restructured debt for budgetary relief in the near term will experience spikes in their debt service ratios, while states with rapid revenue recovery will see larger declines in their ratios. Market volatility stemming from bank rating changes could further affect debt service costs in the next year. Some states have interest rate swap agreements and letters of credit supporting variable rate debt with banks that are currently on review for possible downgrade. If bank ratings change, state's interest costs may increase as they restructure variable rate debt to fixed rates, pay higher interest rates on unremarketed variable rate bonds, or enter into more expensive replacement liquidity facilities. This activity should primarily impact debt service costs; however, to the extent that states issue debt to terminate swap agreements, there would be some marginal increase in net tax supported debt as well.

#### **Debt Tables and Comparative Measures**

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 their ratings. The 50 state-medians exclude Puerto Rico, which is shown for comparison purposes only. Debt ratios are generally calculated using calendar year 2011 data, while the debt service ratio uses fiscal year figures.

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. In addition, states that have issued pension obligation bonds have increased their debt ratios but offset this with slightly lower pension liabilities— a trade-off which is not fully captured in this report. 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.

#### Net Tax-Supported Debt Per Capita

	ax-Supported Debt	F	Rating
1	Connecticut	\$5,096	Aa3
2	Massachusetts	\$4,814	Aa1
3	New Jersey	\$3,964	Aa3
4	Hawaii	\$3,899	Aa2
5	New York	\$3,208	Aa2
5	Delaware	\$2,674	Aaa
7	Washington	\$2,588	Aa1
3	Illinois	\$2,564	A2
Э	California	\$2,559	A1
10	Kentucky	\$2,035	Aa2*
11	Oregon	\$2,015	Aa1
12	Rhode Island	\$1,997	Aa2
13	Wisconsin	\$1,827	Aa2
14	Maryland	\$1,742	Aaa
15	Mississippi	\$1,734	Aa2
16	Alaska	\$1,454	Aaa
17	New Mexico	\$1,406	Aaa
18	Louisiana	\$1,398	Aa2
19	Utah	\$1,393	Aaa
20	Kansas	\$1,215	Aa1*
21	Virginia	\$1,169	Aaa
22	West Virginia	\$1,168	Aa1
23	Florida	\$1,167	Aa1
24	Minnesota	\$1,148	Aa1
25	Pennsylvania	\$1,134	Aa1
26	Georgia	\$1,099	Aaa
27	Ohio	\$1,012	Aa1
28	Arizona	\$966	Aa3
29	Maine	\$845	Aa2
30	Alabama	\$839	Aa1
31	South Carolina	\$827	Aaa
32	North Carolina	\$815	Aaa
33	Nevada	\$793	Aa2
34	Vermont	\$792	Aaa
35	Michigan	\$785	Aa2
36	New Hampshire	\$776	Aa1
37	Missouri	\$741	Aaa
38	Oklahoma	\$615	Aa2
39	Texas	\$588	Aaa
40	Idaho	\$558	Aa1*
41	Colorado	\$550	Aa1*
42	Indiana	\$446	Aaa*
43	South Dakota	\$358	NGO**
44	Montana	\$348	Aa1
45	Tennessee	\$343	Aaa
46	Arkansas	\$333	Aaa
+0 47	lowa	\$310	Aaa*
+/ 48	North Dakota	\$255	Aaa*
+o 49	Wyoming	\$64	NGO**
+9 50	Nebraska	\$15	NGO**
	MEAN:	\$1,408	NUU
	MEDIAN:		
		· · · · · · · · · · · · · · · · · · ·	B1***
* lc	Puerto Rico suer Rating (No G.O. Debt)	<b>\$1,117</b> \$14,004	Baa1***

Issuer Rating (No G.O. Debt)
 No General Obligation 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 2011 Personal Income

1	Hawaii	9.6%
2	Massachusetts	9.4%
3	Connecticut	9.1%
4	New Jersey	7.8%
5	Delaware	6.8%
6	New York	6.6%
7	Kentucky	6.1%
8	California	6.0%
9	Illinois	6.0%
10	Washington	6.0%
11	Mississippi	5.6%
12	Oregon	5.5%
13	Wisconsin	4.8%
14	Rhode Island	4.7%
15	Utah	4.4%
16	New Mexico	4.2%
17	Louisiana	3.7%
18	Maryland	3.6%
19	West Virginia	3.6%
20	Alaska	3.3%
21	Georgia	3.1%
22	Kansas	3.1%
23	Florida	3.0%
24	Arizona	2.8%
25	Ohio	2.8%
26	Pennsylvania	2.8%
27	Minnesota	2.7%
28	Virginia	2.6%
29	Alabama	2.5%
30	South Carolina	2.5%
31	Maine	2.3%
32	North Carolina	2.3%
33	Michigan	2.2%
34	Nevada	2.2%
35	Missouri	2.0%
36	Vermont	2.0%
37	New Hampshire	1.8%
38	Idaho	1.7%
39	Oklahoma	1.7%
40	Texas	1.5%
41	Colorado	1.3%
42	Indiana	1.3%
43	Arkansas	1.0%
44	Montana	1.0%
45	Tennessee	1.0%
46	South Dakota	0.9%
47	lowa	0.8%
48	North Dakota	0.6%
49	Wyoming	0.1%
50	Nebraska	0.0%
50		
50	MEAN:	3.4%
50	MEAN: MEDIAN:	<u>3.4%</u> 2.8%

\*\* 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.

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

			Rating
1	California	\$96,436,000	A1
2	New York	\$62,441,000	Aa2
3	New Jersey	\$34,970,970	Aa3
4	Illinois	\$32,999,133	A2
5	Massachusetts	\$31,714,847	Aa1
6	Florida	\$22,241,600	Aa1
7	Connecticut	\$18,247,554	Aa3
8	Washington	\$17,677,697	Aa1
9	Texas	\$15,104,282	Aaa
10	Pennsylvania	\$14,452,460	Aa1
11	Ohio	\$11,680,586	Aa1
12	Georgia	\$10,788,109	Aaa
13	Wisconsin	\$10,433,142	Aa2
14	Maryland	\$10,150,628	Aaa
15	Virginia	\$9,465,659	Aaa
16	Kentucky	\$8,890,275	Aa2*
7	North Carolina	\$7,866,993	Aaa
8	Oregon	\$7,801,979	Aa1
19	Michigan	\$7,754,300	Aa2
20	Louisiana	\$6,393,977	Aa2 Aa2
21	Arizona	\$6,260,047	Aa3
22	Minnesota	\$6,135,991	Aa1
23	Hawaii	\$5,360,242	Aa2
24	Mississippi	\$5,166,121	Aa2
25	Missouri	\$4,455,406	Aaa
26	Alabama	\$4,030,210	Aa1
27	Utah	\$3,924,092	Aaa
28	South Carolina	\$3,867,416	Aaa
29	Kansas	\$3,487,289	Aa1*
30	New Mexico	\$2,927,952	Aaa
31	Indiana	\$2,905,401	Aaa*
32	Colorado	\$2,708,806	Aa1*
33	Delaware	\$2,425,352	Aaa
34	Oklahoma	\$2,331,057	Aa2
35	Tennessee	\$2,195,780	Aaa
36	West Virginia	\$2,166,591	Aa1
37	Nevada	\$2,160,035	Aa2
38	Rhode Island	\$2,099,618	Aa2
39	Maine	\$1,122,509	Aa2
10	Alaska	\$1,050,800	Aaa
41	New Hampshire	\$1,030,300	Aa1
12	Arkansas	\$977,007	Aa1
+ <u>2</u> 43		\$947,959	
	lowa		Aaa* Aa1*
44 4 E	Idaho Vermont	\$883,967	
15	Vermont	\$496,088	Aaa
46	Montana	\$347,637	Aa1
47	South Dakota	\$295,107	NGO**
18	North Dakota	\$174,572	Aa1*
49	Wyoming	\$36,115	NGO**
50	Nebraska	\$27,308	NGO**
	Totals:	\$509,499,970	
	MEAN:	\$10,189,999	
	MEDIAN:	\$4,242,808	
	Puerto Rico	\$51,907,000	Baa1***
*			Baa1***

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

No General Obligation Debt

Includes restated figures. See "Revised Calculations Show Higher Puerto Rico Debt" published May 18, 2012 for more info. \*\*\*

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#### TABLE 4

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

			Gross to Net Ratio
1	California	\$102,297,000	1.06
2	New York	\$62,563,000	1.00
3	New Jersey	\$40,492,148	1.16
4	Illinois	\$34,672,633	1.05
5	Massachusetts	\$33,627,342	1.06
6	Florida	\$32,251,200	1.45
7	Washington	\$26,518,198	1.50
8	Connecticut	\$25,627,069	1.40
9	Texas	\$23,895,512	1.58
10	Michigan	\$22,842,400	2.95
11	Minnesota	\$20,560,766	3.35
12	Pennsylvania	\$19,285,195	1.33
13	Ohio	\$17,050,350	1.46
14	Oregon	\$16,675,974	2.14
15	Virginia	\$13,578,371	1.43
16	Wisconsin	\$12,929,029	1.24
17	Kentucky	\$11,911,177	1.34
18	Colorado	\$11,178,806	4.13
19	Georgia	\$10,788,109	1.00
20	Maryland	\$10,150,628	1.00
21	Alabama	\$8,641,178	2.14
22	Utah	\$8,308,456	2.12
23	Hawaii	\$7,896,900	1.47
24	North Carolina	\$7,866,993	1.00
25	Louisiana	\$7,634,214	1.19
26	Arizona	\$6,397,917	1.02
27	Tennessee	\$6,118,900	2.79
28	Maine	\$5,226,762	4.66
29	Mississippi	\$5,166,121	1.00
30	Indiana	\$4,677,354	1.61
31	Missouri	\$4,509,731	1.01
32	South Carolina	\$4,284,944	1.11
33	West Virginia	\$4,007,914	1.85
34	Kansas	\$3,877,939	1.11
35	Delaware	\$3,864,558	1.59
36	Arkansas	\$3,829,269	3.92
37	Alaska	\$3,767,100	3.58
38	Rhode Island	\$3,304,175	1.57
39	New Mexico	\$2,927,952	1.00
40	Nevada	\$2,858,255	1.32
41	New Hampshire	\$2,480,779	2.43
42	lowa	\$2,427,454	2.56
43	Oklahoma	\$2,354,499	1.01
44	Idaho	\$1,697,454	1.92
45	Vermont	\$1,479,423	2.98
46	North Dakota	\$1,229,971	7.05
47	Montana	\$654,272	1.88
48	South Dakota	\$493,605	1.67
49	Nebraska	\$43,528	1.59
50	Wyoming	\$36,115	1.00
	Totals:	\$666,958,639	
	MEAN:	\$13,339,173	1.88
	MEDIAN:	\$7,016,066	1.47

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

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

	2011	2010 NTSD as % of 2009 State GDP
1	Connecticut	8.38%
2	Hawaii	8.38%
3	Massachusetts	8.30%
3 4	New Jersey	7.09%
5	New York	5.64%
6	Kentucky	5.51%
7	Washington	5.27%
, 8	California	5.03%
9	New Mexico	5.00%
9 10		
	Illinois Dhada Island	4.97%
11	Rhode Island	4.86%
12	Mississippi	4.78%
13	Oregon	4.68%
14	Wisconsin	4.26%
15	Delaware	4.02%
16	West Virginia	3.58%
17	Maryland	3.23%
18	Utah	3.18%
19	Florida	2.94%
20	Kansas	2.85%
21	Louisiana	2.84%
22	Georgia	2.78%
23	South Carolina	2.58%
24	Pennsylvania	2.54%
25	Ohio	2.49%
26	Alabama	2.40%
27	Arizona	2.39%
28	Minnesota	2.38%
29	Maine	2.24%
30	Michigan	2.10%
31	Virginia	2.07%
32	Missouri	1.97%
33	Alaska	1.91%
34	Nevada	1.91%
35	North Carolina	1.85%
36	Vermont	1.85%
37	New Hampshire	1.82%
38	Oklahoma	1.53%
39	Idaho	1.51%
40	Texas	1.35%
41	Indiana	1.18%
42	Colorado	1.07%
43	Arkansas	1.04%
44	Montana	1.02%
45	Tennessee	0.90%
46	South Dakota	0.69%
47	North Dakota	0.65%
48	lowa	0.60%
49	Wyoming	0.10%
50	Nebraska	0.03%
	MEAN:	3.03%
	MEDIAN:	2.45%

\* State GDP numbers have a 1-year lag

	2012	2011 NTSD as % of 2010 State GDP
1	Massachusetts	8.37%
2	Hawaii	8.03%
3	Connecticut	7.69%
4	New Jersey	7.18%
5	Kentucky	5.45%
6	New York	5.38%
7	Mississippi	5.30%
8	Washington	5.19%
9	California	5.07%
10	Illinois	5.06%
11	Oregon	4.48%
12	Rhode Island	4.26%
13	Wisconsin	4.20%
14	Delaware	3.89%
15	New Mexico	3.67%
16	Maryland	3.44%
17	Utah	3.43%
18	West Virginia	3.35%
19	Florida	2.97%
20	Louisiana	2.92%
21	Kansas	2.74%
22	Georgia	2.68%
23	Pennsylvania	2.54%
	,	
24	Arizona	2.47%
25	Ohio South Carolina	2.45%
26	South Carolina	2.35%
27	Alabama	2.34%
28	Minnesota	2.27%
29	Virginia	2.23%
30	Maine	2.17%
31	Alaska	2.14%
32	Michigan	2.02%
33	Vermont	1.94%
34	North Carolina	1.85%
35	Missouri	1.83%
36	Nevada	1.72%
37	New Hampshire	1.70%
38	Idaho	1.59%
39	Oklahoma	1.58%
40	Texas	1.25%
41	Colorado	1.05%
42	Indiana	1.05%
43	Montana	0.96%
44	Arkansas	0.95%
45	Tennessee	0.86%
46	South Dakota	0.74%
47	lowa	0.66%
48	North Dakota	0.50%
49	Wyoming	0.09%
50	Nebraska	0.03%
	MEAN:	2.96%
	MEDIAN:	2.40%

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

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Alabama	2.2	2.0	2.0	2.2	2.0	2.8	2.6	2.4	2.6	2.5
Alaska	0.3	3.0	2.8	2.6	2.7	2.4	2.2	3.2	3.0	3.3
Arizona	2.1	2.3	2.6	2.2	2.0	2.0	2.5	2.3	2.8	2.8
Arkansas	1.4	1.8	1.6	1.6	1.4	1.7	1.3	1.0	1.1	1.0
California	2.5	3.2	4.7	4.6	4.4	4.3	4.4	5.6	6.0	6.0
Colorado	0.9	0.9	1.0	0.9	0.9	0.8	0.8	1.0	1.3	1.3
Connecticut	8.2	8.4	8.5	8.0	7.8	7.3	8.2	8.7	9.5	9.1
Delaware	5.0	5.6	5.5	5.3	5.5	5.2	5.4	6.2	6.8	6.8
Florida	3.5	3.5	3.4	3.2	3.1	2.8	2.9	2.9	3.0	3.0
Georgia	2.9	2.9	2.8	2.7	3.0	3.0	3.0	3.3	3.3	3.1
Hawaii	10.9	10.4	11.1	12.1	10.6	9.9	9.4	9.9	10.1	9.6
Idaho	0.3	0.5	0.6	0.6	0.6	1.2	1.6	1.7	1.6	1.7
Illinois	3.2	5.8	6.2	5.9	5.5	5.2	4.6	4.4	5.7	6.0
Indiana	1.1	1.3	1.4	1.6	2.1	1.5	1.5	1.5	1.4	1.3
lowa	0.6	0.5	0.5	0.4	0.3	0.3	0.2	0.2	0.7	0.8
Kansas	3.0	3.3	4.0	3.8	3.7	3.5	3.2	3.0	3.2	3.1
Kentucky	4.4	4.4	4.0	4.5	4.3	4.7	4.8	5.4	6.1	6.1
Louisiana	2.7	2.6	2.4	3.1	4.9	4.3	3.3	3.6	3.5	3.7
Maine	1.8	1.8	2.2	2.0	1.9	1.9	2.2	2.2	2.4	2.3
Maryland	2.8	3.0	2.9	3.0	2.8	3.0	3.3	3.4	3.3	3.6
Massachusetts	8.5	8.5	8.5	9.8	9.4	9.8	8.9	9.2	9.2	9.4
Michigan	1.8	2.2	2.2	2.1	2.2	2.2	2.2	2.1	2.2	2.2
Minnesota	1.9	2.0	2.0	2.1	2.2	2.3	2.1	2.4	2.5	2.7
Mississippi	5.6	5.2	4.8	4.8	4.9	4.8	5.2	5.0	5.1	5.6
Missouri	1.3	1.6	1.5	1.6	1.9	2.1	2.0	2.2	2.2	2.0
Montana	1.4	1.3	1.1	1.4	1.5	1.2	1.2	1.1	1.1	1.0
Nebraska	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Nevada	1.4	2.0	2.0	2.2	1.7	2.0	2.2	2.3	2.4	2.2
New Hampshire	1.4	1.5	1.3	1.4	1.3	1.3	1.3	1.6	1.9	1.8
New Jersey	5.5	5.9	7.4	7.9	7.6	7.5	7.3	7.2	7.8	7.8
New Mexico	3.7	4.1	5.3	4.7	5.3	4.8	4.6	4.4	5.6	4.2
New York	5.9	6.7	7.2	6.7	6.7	6.3	6.3	6.5	6.7	6.6
North Carolina	1.6	2.0	2.5	2.8	2.4	2.8	2.5	2.3	2.3	2.3
North Dakota	0.9	0.9	0.6	1.2	1.0	1.1	1.0	0.8	0.8	0.6
Ohio	2.6	2.7	2.9	2.9	3.0	2.9	2.8	2.6	2.8	2.8
Oklahoma	1.2	1.2	1.2	1.4	1.5	1.5	1.5	1.6	1.8	1.7
Oregon	1.6	4.5	4.7	4.5	4.6	5.0	4.6	5.2	5.6	5.5
Pennsylvania	2.3	2.2	2.3	2.3	2.4	2.4	2.5	2.4	2.7	2.8
Rhode Island	5.0	4.4	4.3	4.1	4.6	4.7	4.5	5.2	5.3	4.7
South Carolina	2.4	2.4	2.2	2.5	2.3	3.3	2.9	2.9	2.7	2.5
South Dakota	0.7	0.9	0.9	0.7	0.8	0.9	0.8	0.4	0.9	0.9
Tennessee	0.8	0.8	0.7	0.8	0.7	0.7	0.7	0.9	1.0	1.0
Texas	0.9	0.8	1.0	1.0	1.3	1.4	1.4	1.4	1.6	1.5
Utah	2.9	3.5	3.2	2.7	2.3	1.9	1.5	3.2	4.1	4.4
Vermont	3.0	2.5	2.3	2.2	2.1	2.0	1.8	1.8	1.9	2.0
Virginia	1.7	1.7	1.8	1.7	1.8	1.9	1.9	2.1	2.4	2.6
Washington	4.8	4.9	4.9	4.9	5.1	5.1	5.1	5.3	6.2	6.0
West Virginia	4.1	3.6	4.6	4.4	3.9	3.9	3.6	3.5	3.8	3.6
Wisconsin	3.3	4.5	4.7	4.3	4.2	4.1	4.0	4.6	4.8	4.8
Wyoming	0.9	0.8	0.7	0.3	0.3	0.2	0.2	0.2	0.1	0.1
MEDIAN:	2.2	2.5	2.5	2.5	2.4	2.6	2.5	2.5	2.8	2.8

#### **Debt Service Ratio**

	MEAN: MEDIAN: Puerto Rico	5.3% 4.9% 16.9%		MEDIAN: Puerto Rico*
	MEAN:	5.3%		MEAN:
				MEAN:
50	Nebraska	0.2%	50	Wyoming
49	Wyoming	0.3%	49	Nebraska
48	lowa	0.7%	48	lowa
47	South Dakota	1.3%	47	South Dakota*
46	Alaska	1.3%	46	North Dakota
45	Tennessee	1.6%	45	Alaska
44	North Dakota	1.9%	44	Tennessee
43	Arkansas	1.9%	43	Indiana
42	Indiana	2.2%	42	Oklahoma
41	Idaho	2.6%	41	Montana
40	Colorado	2.6%	40	Michigan
39	Oklahoma	2.8%	39	Colorado
38	Minnesota	2.8%	38	Vermont
37	Montana	2.9%	37	Minnesota
36	Michigan	2.9%	36	Idaho
35	Vermont	3.0%	35	Texas
34	Texas	3.3%	34	Arkansas
33	North Carolina	3.6%	33	North Carolina
32	West Virginia	3.9%	32	Wisconsin
31	Wisconsin	4.3%	31	West Virginia
30	Missouri	4.4%	30	Ohio
29	Pennsylvania	4.7%	29	Alabama
28	Louisiana	4.7%	28	Missouri
27	Kansas	4.7%	27	Louisiana
26	Alabama	4.8%	26	Pennsylvania
25	Arizona	4.9%	25	South Carolina
24	New Hampshire	5.1%	24	Kansas
23	Virginia	5.2%	23	Virginia
22	Ohio	5.3%	22	New Mexico*
21	South Carolina	5.5%	21	Arizona
20	New Mexico	5.5%	20	Maryland
19	Maryland	5.7%	10 19	Maine
18	Maine	6.0%	18	New Hampshi
10	Utah	6.1%	17	Nevada
16	Nevada	6.9%	16	Utah
14	Mississippi	7.4%	14	Georgia
15	Delaware	7.4%	15 14	Mississippi
12	Georgia	7.6%	12	Kentucky
12	Kentucky Florida	7.7%	12	Florida
10		7.9%	10	Rhode Island
9 10	California	8.4%	<u>9</u> 10	Delaware
<u>8</u> 9	Washington Rhode Island	<u>9.0%</u> 8.6%	<u>8</u> 9	New Jersey California
<u>/</u> 8	New Jersey Washington	9.5%	<u>/</u> 8	
6 7		9.5%	6 7	Washington Hawaii
5 6	Oregon Hawaii	9.6%	5 6	Oregon Washington
4 5		9.7%	<u>4</u> 5	
<u>3</u> 4	Illinois	10.8%	<u>3</u> 4	Massachusetts
2 3	New York	10.8%		Illinois* New York
	Massachusetts	11.6%	2	
1	Connecticut	FY2010 16.1%	1	Connecticut

		FY2011
1	Connecticut	14.8%
2	Illinois*	12.4%
3	New York	11.3%
4	Massachusetts	10.9%
5	Oregon	9.3%
6	Washington	8.8%
7	Hawaii	8.7%
8	New Jersey	8.7%
9	California	8.5%
10	Delaware	8.2%
11	Rhode Island	8.1%
12	Florida	7.9%
13	Kentucky	7.8%
14	Mississippi	7.4%
15	Georgia	7.2%
16	Utah	6.8%
17	Nevada	6.4%
17	New Hampshire	6.0%
19		5.9%
	Maine	
20	Maryland	5.7%
21	Arizona	5.6%
22	New Mexico*	5.5%
23	Virginia	5.3%
24	Kansas	5.0%
25	South Carolina	5.0%
26	Pennsylvania	4.9%
27	Louisiana	4.6%
28	Missouri	4.5%
29	Alabama	4.4%
30	Ohio	4.4%
31	West Virginia	4.4%
32	Wisconsin	4.2%
33	North Carolina	3.6%
34	Arkansas	3.2%
35	Texas	3.2%
36	Idaho	3.1%
37	Minnesota	3.1%
38	Vermont	2.9%
39	Colorado	2.7%
40	Michigan	2.7%
41	Montana	2.4%
42	Oklahoma	2.4%
43	Indiana	2.0%
44	Tennessee	1.5%
45	Alaska	1.2%
46	North Dakota	1.2%
47	South Dakota*	1.2%
48	lowa	0.9%
49	Nebraska	0.2%
50	Wyoming	0.2%
	MEAN:	5.3%
	MEDIAN:	4.9%

\* Fiscal 2011 Comprehensive Annual Report not available at the time of publication. Available revenues calculated using a combination of fiscal 2010 revenues and Moody's-adjusted projections for fiscal 2011 revenues.

18.7%

» contacts continued from page 1

#### Analyst Contacts:

NEW YORK	+1.212.553.1653	
Kimberly Lyons Assistant Vice President kimberly.lyons@moodys.c	+1.212.553.4673	
Justin Nicholson Associate Analyst justin.nicholson@moodys	+1.212.553.1127 .com	
Emily Raimes Vice President – Senior And emily.raimes@moodys.co		
Nicholas Samuel Vice President – Senior An nicholas.samuels@mood	2	
Xavier Smith Associate Analyst xavier.smith@moodys.com	+1.212.553.7108	
Marcia Van Wagner Vice President – Senior Ana marcia.vanwagner@mood		
Julius Vizner Assistant Vice President julius.vizner@moodys.cor	+1.212.553.0334 m	
SAN FRANCISCO	+1.415.274.1700	
Konnoth Kurtz	1 /1E 27/ 1727	

Kenneth Kurtz +1.415.274.1737 Senior Vice President kenneth.kurtz@moodys.com

# MOODY'S

#### Report Number: 141767

Author Baye Larsen

Senior Production Associate Diana Brimson

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**APPENDIX B** 

# **Fitch**Ratings

# Fitch Rates Vermont's \$90MM GOs 'AAA'; Outlook Stable Ratings Endorsement Policy 17 Sep 2012 3:52 PM (EDT)

Fitch Ratings-New York-17 September 2012: Fitch Ratings assigns an 'AAA' rating to the following State of Vermont general obligation (GO) bonds:

--\$27.3 million GO bonds, 2012 series E (Vermont Citizen Bonds); --\$62.4 million GO bonds, 2012 series F.

The bonds are expected to sell the week of Sept. 24, 2012, the series E bonds through negotiation and the series F bonds through competitive bid.

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

The Rating Outlook is Stable.

#### SECURITY

General obligations of the State of Vermont secured by the full faith and credit of the state.

#### **KEY RATING DRIVERS**

LOW DEBT LEVELS: Vermont's debt levels are low and are expected to remain so, as affordability planning is employed. The state's debt profile reflects nearly exclusive use of GO debt and rapid principal amortization.

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

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, median resident age levels are well above the national average.

PENSION SYSTEM MODIFICATIONS IMPLEMENTED: The funded ratios for Vermont's pension systems have declined in recent years, though the state has funded its actuarially required contributions and has made modifications to benefits and employee contribution level.

#### **CREDIT PROFILE**

Vermont's 'AAA' rating reflects its low debt burden, which is maintained through adherence to debt affordability guidelines, as well as its conservative financial management and maintenance of sound reserves. Outstanding debt, which is nearly entirely GO and matures rapidly, has declined from previously moderate levels. The state budgets conservatively, and its diverse revenue stream includes a state property tax for education.

Reserves in each of the state's three major operating funds as of the close of fiscal 2012 were fully funded and are expected to remain so through the current fiscal 2013. In addition to the general fund budget stabilization reserve, sized at 5% of prior year appropriations, the state has set aside additional monies to offset potential federal funding reductions. Additionally, during the 2012 legislative session, the legislature established the general fund balance reserve, replacing the former revenue shortfall reserve effective July 1, 2012. The general fund balance reserve will be funded going forward with general fund surpluses, up to a 5% of prior year appropriations cap.

The relatively narrow state economy is supported by larger-than-average employment in tourism, health and educational services, and manufacturing. The state has a relatively small income base with an older and well-educated population.

During the recession, Vermont employment dropped 3.5%, well below the national decline of 5.6%; the state saw small year-over-year growth in 2010 as U.S. employment continued to fall. In 2011, Vermont experienced a year-over-year increase of 0.7% compared to the nation's 1.1%, and 2% growth in July 2012 versus 2011 was above the 1.4% U.S. growth rate. Unemployment levels remain well below those of the nation, at 5% in July compared to 8.3% for the country. Although manufacturing sector employment, led by an IBM facility near Burlington, still exceeds the national level on a percentage basis, both employment and personal income reliance on this sector have dropped in recent years. Per capita personal income in 2011 totaled \$41,832, in line with the national level.

Heavy rains from Tropical Storm Irene, which passed through Vermont in late August 2011, resulted in heavy flooding throughout the state. As a result, the state's office complex and the Vermont State Hospital, both in Waterbury, were heavily damaged, and more than 500 miles of roads and 30 bridges were impassable or destroyed. The state estimates cost for the recovery at about \$600 million, with much of that expected to be federally funded. A portion of the state's share of costs will be financed through reallocated capital funds over the next few years. All closed bridges and state roads were re-opened by Jan. 1, 2012.

Revenue performance from the state's major tax sources in fiscal years 2009 and 2010 was decidedly negative as a result of the national recession, though the state took prompt action to maintain balance through expenditure reductions, the use of carried forward balances, and application of stimulus funds; operating surpluses in the state's general fund were achieved in each year. Revenue performance improved markedly in fiscal 2011, with 11.1% growth in personal income tax revenues and 4.7% growth in sales tax revenues, and the state closed the fiscal year with a \$65 million general fund operating surplus on a \$1.2 billion budget.

The fiscal 2012 general fund budget addressed a \$176 million budget gap through utilization of \$29 million from the human services caseload reserve, which was funded with the prior year's surplus, a reduced contribution from the state's general fund for support of the Education Fund, increased health care provider taxes, realization of labor savings related to pensions, and agency spending reductions. Revenue recovery continued during the year, with personal income tax revenues up 7.9% and sales and use tax revenues up 5%.

The enacted general fund budget for fiscal 2013 addressed a smaller gap, projected at \$50 million. General fund revenues are projected to rise by 5.3%, with growth of 6.1% in personal income taxes and 3.1% in sales and use taxes. Base appropriations rise 5.9%. As noted earlier, reserve levels across the state's three major operating funds are expected to remain at their statutory maximum levels.

Vermont's tax-supported debt is nearly exclusively GO, and it amortizes rapidly. The state's debt burden is low. As of June 30, 2012, net tax-supported debt equaled 2% of 2010 personal income. Debt has declined since the 1990s as a result of a focus on debt affordability, and while annual issuance levels are projected to grow, Fitch expects debt ratios to remain low to moderate. Vermont continues to appropriate required contributions to its pension systems although funded ratios declined in recent years in part due to asset valuation declines. The state in recent years has implemented a series of changes to benefits, employee contributions, and actuarial assumptions.

Contact: Primary Analyst Ken Weinstein Senior Director +1-212-908-0571 Fitch, Inc. One State Street Plaza New York, NY 10004

Secondary Analyst Karen Krop Senior Director +1-212-908-0661

Committee Chairperson Laura Porter Managing Director +1-212-908-0575 Media Relations: Elizabeth Fogerty, New York, Tel: +1 (212) 908 0526, Email: elizabeth.fogerty@fitchratings.com.

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

Applicable Criteria and Related Research:

--'Tax-Supported Rating Criteria' (Aug. 14, 2012);

--'U.S. State Government Tax-Supported Rating Criteria' (Aug. 14, 2012).

#### Applicable Criteria and Related Research:

Tax-Supported Rating Criteria

U.S. Local Government Tax-Supported Rating Criteria

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# **APPENDIX C**

# MOODY'S INVESTORS SERVICE

# New Issue: Moody's assigns Aaa rating to the State of Vermont \$89.7 million General Obligation Bonds 2012

Global Credit Research - 17 Sep 2012

#### **Outlook is stable**

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

Moody's Rating		
ISSUE		RATING
General Obligation Bonds, 201	12 Series F	Aaa
Sale Amount	\$62,400,000	
Expected Sale Date	10/01/12	
Rating Description	General Obligation	

General Obligation Bonds, 2012 Series E (Vermont Citizen Bonds)AaaSale Amount\$27,300,000Expected Sale Date10/01/12Rating DescriptionGeneral Obligation

#### Moody's Outlook

#### Opinion

NEW YORK, September 17, 2012 --Moody's Investors Service has assigned a Aaa rating and stable outlook to the State of Vermont's \$89.7 million General Obligation Bonds 2012, consisting of Series E (\$27.3 million) and Series F (\$62.4 million). Proceeds of the Series 2012 bonds will be used to fund various capital projects around the state. The bonds are expected to sell the week of September 24th. 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. The state's credit outlook is stable.

#### 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

#### ENACTED FY 2013 BUDGET ASSUMES REVENUE GROWTH OF 5.3%

The enacted fiscal 2013 general fund budget of \$1.258 billion reflected an increase of 5.3% over fiscal 2012 revenues. The budget, based on the January 2012 economic and revenue forecast produced by the state, was subsequently revised upward by a slight \$2.3 million (less than a percent) in the July 2012 consensus forecast. Year to date revenues through August 2012 were tracking slightly ahead of the updated forecast. Personal income tax receipts provide roughly 50% of the state's general fund revenue. The 5% growth rate projected for FY 2013 may be optimistic considering the expected slower rate of growth in the global economy., However, it should be noted that the year-over-year growth is off of a lower revenue base. The state has just returned to FY 2008 revenue levels, the revenue level reached right before the great recession's fiscal impact on the state. Looking ahead to fiscal 2014, the state is forecasting revenue growth of 5.6%, reflecting growth in personal income tax. 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 outyear 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. In 2010 he negotiated labor contracts that reduced wages by 3% for two years and was able to negotiate benefit changes in the state teachers retirement system. 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 the state published quarterly economic and revenue forecasts which enabled them 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 2012, Vermont's General Fund BSR was \$58.1 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 (\$10.7 million), Education Fund BSR at the statutory required level of 3.5% to 5% of prior year expenditures (\$29.8 million), and the Human Services Caseload Reserve for purposes of Medicaid relief of \$18.5 million, excluding General Fund transfers. Vermont expects to maintain its budget stabilization reserves at the statutory level through the end of fiscal 2013. 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 current balance of \$3.8 million and is projected to end FY 2013 with a balance of \$4.9 million. In total, the state has approximately \$121 million (10% of total operating funds) to mitigate revenue fluctuations.

#### HURRICANE IRENE DAMAGE ESTIMATED BETWEEN \$521 MILLION and \$591 MILLION

Vermont was one of 13 states to be impacted by Hurricane Irene, which touched down in the state August 2011. The entire state was declared a disaster area by the Federal Emergency Management Agency (FEMA). Current damage estimates related to the hurricane range between \$521 million and \$591 million, of which \$202 million is related to state transportation infrastructure. Federal funding will cover much of the estimated damage. The estimated total state share is \$88 million, after accounting for federal funds. The state plans to fund its share of Irene related costs, through a combination of operating revenues and capital funds.

#### 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 60% of the payroll jobs lost during the 2007-2010 economic recession. On a year-over-year basis through June 2012, the state has experienced 1.8% growth in private sector jobs, led by the professional and business services sector. 2013 full year employment growth is expected to yield similar results of 1.5%. The state's unemployment level, which has historically been low, rose rapidly during 2009 but has since stabilized at 5% (July 2012) versus 8.1% for the nation. The states largest private employers, IBM and Fletcher Allen, have continued to hire on an as needed basis which is also positive for the state's economy.

#### 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 50-state median, on both a per capita and personal income basis. Debt per capita of \$792, compared to the state median of \$1117, ranked Vermont 34th among the fifty states in Moody's 2012 state debt medians. Debt to total personal income of 2.0%, compared to the 2.8% state median ranked Vermont 36th. 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. As of June 30, 2011 the state employees' system had a 79.6% funding ratio, down from the 81.2% funded ratio reported June 30, 2010. The teachers' system had a funded ratio of 63.8% on June 30, 2011, down from 66.5% reported June 30, 2010. The declines in the funding ratio from 2010 to 2011 were largely due to lower actuarial assumed rates of return. The state continues to be committed to the full annual funding requirements. Vermont's assessment of its other post employment benefit (OPEB) liability reflects \$998.6 million for state employees and \$780 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, 2011 this trust fund held \$11.2 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 states 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.

#### RATING METHODOLOGY

The principal methodology used in this rating was Moody's State Rating Methodology published in November 2004. Please see the Credit Policy page on www.moodys.com for a copy of this methodology.

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#### Analysts

Kimberly Lyons Lead Analyst Public Finance Group Moody's Investors Service

Nicole Johnson Additional Contact Public Finance Group Moody's Investors Service

#### Contacts

Journalists: (212) 553-0376 Research Clients: (212) 553-1653

Moody's Investors Service, Inc.

250 Greenwich Street New York, NY 10007 USA



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**APPENDIX D** 

#### **S&P** CAPITAL IQ Global Credit Portal<sup>®</sup> RatingsDirect

### Research

# Vermont; General Obligation

18-Sep-2012

		Current Ratings			
Credit Profile					
US\$62.425 mil GO bnds ser 2012 F due 08/15/2032					
Long Term Rating	AA+/Positive	New			
US\$27.3 mil GO bnds (Vermont Citizen Bonds) ser 2012 E due 08/15/2032					
Long Term Rating	AA+/Positive	New			
Vermont GO					
Long Term Rating	AA+/Positive	Outlook Revised			

## Rationale

Standard & Poor's Ratings Services has revised its outlook on Vermont's general obligation (GO) debt rating to positive from stable, reflecting the potential that we could raise the rating if the state continues to make progress in improving its annual pension funding levels, strengthening its annual pension funded ratios, and increasing its budget reserves through funding of a recently created additional general fund budget stabilization fund. In addition, Standard & Poor's has assigned its 'AA+' long-term rating to Vermont's series 2012 E and F GO bonds and affirmed its 'AA+' rating on the state's GO bonds outstanding.

The ratings reflect our opinion of the state's:

- Strong financial management that has helped Vermont maintain a good financial position in an environment of declining revenue; and
- Rapid GO debt amortization.

The state's GO bonds are secured by the state's full faith and credit pledge. The bond proceeds will be used for various capital projects.

Vermont, with a 2011 population of 626,000, is in northern New England, bordered by Canada to the north, and the U.S. states of New York, Massachusetts, and New Hampshire to the west, south, and east, respectively.

The state ended fiscal 2011 -- the last audited year -- with the reserves in the general fund, transportation fund, and education fund fully funded at their maximum statutory levels of 5% of the previous year's expenditures, and a general fund operating surplus of \$65.6 million. These three funds' stabilization reserves were funded at their statutory maximums in fiscals 2009 through 2012, spanning the recent recession.

Unaudited budgetary basis results for fiscal 2012 indicate a slight \$6.3 million operating loss, although officials estimate that the state again ended the year with the reserves at the three major funds again at their maximum levels. As well, there were additional general fund reserves funded at the end of fiscal 2012: \$18.5 million in a human caseload reserve; \$7.0 million to offset federal reductions; and \$3.88 million in a revenue shortfall reserve. The slight loss is notable because the fiscal year included two significant events that negatively affected revenues or expenditures: Tropical Storm

Irene caused significant flooding in August 2011, which was followed by a mild winter that reduced ski lift ticket sales by an estimated 10%. The 2012 results included \$16.5 million of one-time appropriations: \$11.3 million to repair a state office building damaged by the storm and \$5.1 million to replace reduced federal funds for a heating assistance program. An additional \$16 million was transferred to the emergency relief fund for future storm-related capital expenditures. However, the results did include the appropriation of \$41.7 million of funds from a human service caseload reserve fund that began the year at \$60 million.

Fiscal 2012 general fund revenues were \$7.6 million above the January 2012 consensus revenue forecast, with all but two major revenue sources ending the year above projections. The largest general fund revenue components are the personal income tax, which ended fiscal 2012 7.9% above the prior year, and the sales and use tax, which ended the year 5.0% above 2011.

The enacted fiscal 2013 budget closed a projected \$50.5 million budget gap (4.0% of revenues) without the use of budget stabilization reserves or broad-based tax increases. To close the gap, the budget contains about \$50 million of human services program reductions and appropriates \$16.0 million of the \$18.5 million 2012 year-end balance of the human services caseload fund. The fiscal 2013 general fund revenues are based on the January 2012 consensus forecast of \$1.26 billion, which is 5.1% larger than the estimated 2012 actual level. The largest general revenue sources are the personal income tax (51% of general revenue), which is projected to grow by 7.6% from the 2012 actual, and sales and use taxes (19%), which are projected to grow by 3.2%. Personal income tax increased by 11.1% in fiscal 2011 and 7.9% in fiscal 2012, after declines of 14.8% in fiscal 2009 and 6.1% in fiscal 2010. The January forecast was updated in the July forecast, which increased the fiscal 2013 general fund projection by a slight, in our view, \$2.3 million. The budget contains \$1.31 billion of general fund appropriations, a 5.0% increase from the 2012 final budget, and includes a one-time transfer of \$16.2 million from the human services caseload reserve fund that was funded with surpluses from recent years.

The legislature recently approved a second general fund budget reserve, called the General Fund Balance Reserve, and allowed it to be funded with budget surpluses after the existing budget stabilization fund and other statutory requirements are funded, up to a level of 5% of appropriations. The governor had 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 this second general fund reserve fund.. Officials indicate that the legislature set this new reserve up to be easier to tap to provide for budget flexibility. The 2013 enacted budget projects a \$4.9 million balance in this reserve at the end of fiscal 2013.

Through the first two months of fiscal 2013, officials indicate that general fund and education fund revenues are both about \$200,000 above projections, but the transportation fund is about \$150,000 below projections.

State officials are currently analyzing the impact that implementation of the Affordable Care Act (ACA) will have on the state's Medicaid expenditures. However, officials note that the state currently enrolls individuals who earn up to 350% of the poverty line in state health programs, and that the ACA eligibility expansion could result in increased recurring federal revenue to the state. In addition, Vermont has recently received more than \$120 million in one-time federal grants to develop its health benefits exchange.

Although the state's annual pension funding levels have been less than 100% of the ARC in recent years, officials indicated that any shortfalls were trued-up in the subsequent year. In addition, officials have begun using more conservative payroll projections in an attempt to produce annual pension funding amounts that equal the actuarial required contributions (ARC). The actual pension contributions in fiscals 2010 and 2011 were 103% and 94%, respectively, of the ARCs for the state teachers' retirement system (VSTRS), and 81% of the fiscal 2010 and 2011 state employees' retirement system (VSRS) ARCs. Officials indicate that the state budgeted for full pension ARC payments in recent years but attribute the underfunding of the VSRS pension ARC to midyear payroll reductions that negatively affected the funding formulas. The state has a true-up process that increases the ARC in an amount equal to the underfunding from two years before, but despite that process, the VSRS ARC has continued to be underfunded in recent

years. However, officials project that the salary projections for fiscal 2013 are conservative enough to result in full ARC funding, including the prior year's underfunded amount.

Based on the analytical factors we evaluate for states, on a scale of '1' (strongest) to '4' (weakest), we have assigned a composite score of '1.6'.

#### Outlook

The positive outlook reflects our view that we could raise the rating over our two-year outlook horizon if Vermont continues to make progress in improving its annual pension funding levels, strengthening its annual pension funded ratios, and increasing its budget reserves through funding of a recently-created additional general fund budget stabilization fund. Sectorwide risk for the rating includes the economic and fiscal implications from the potential for significant reductions in federal funding that currently flows to the state. Standard & Poor's will continue to monitor the federal consolidation efforts stemming from the Budget Control Act. Once these are identified, we will evaluate their effect on the state's finances and officials' responses to these revenue reductions.

#### **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.

#### Revenue structure

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 largest general fund revenues in fiscal 2012 (unaudited) were:

- Personal income tax, which generated \$597.0 million in fiscal 2012, or 50% of total general fund revenues, after a 7.9% increase, after an 11.0% increase for fiscal 2011, which followed declines in fiscals 2009 and 2010;
- Sales and use tax (\$227.9 million or 19% of total general fund revenues), which increased by 5.0% from 2011, but had declines in fiscals 2009 and 2010; and
- Meals and rooms (\$126.9 million or 11%), which rose by 3.5% from fiscal 2011.

The education fund relies primarily on a statewide property tax (70% of audited fiscal 2011 education fund revenues plus transfer from the general fund), and an appropriation from the general fund (20%). 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. The transportation budget stabilization fund ended fiscal 2011 at the statutory maximum of 5% of expenditures.

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 have been held quarterly for about the past two years, 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 recently grown more slowly than the nation as a whole; for 2000-2010, its population grew by 2.8% compared with the nation's 9.7%. State per capita personal income in 2011 was slightly above the nation's, at 100.4% of the national level. The state's nominal personal income declined by only 1.3% in calendar 2009, significantly better than the declines for New England (negative 4.0%) and the U.S. (negative 4.3%). Throughout the recent recession, Vermont's unemployment rates were better than national levels; the state's peak rate was 7.3% in May 2009, and the June 2012 rate dropped to 4.7%, which was more than three percentage points better than the U.S. rate and was the lowest in the six-state New England region. The 2011 full-year rate was 6.2%. The state's age dependency ratio was lower than that of the U.S., indicating a ratio of fewer children and elderly to each working-age adult, which we consider a positive factor.

IHS Global Insight Inc. projects that the state's average private-sector job growth between 2011 and 2017 will be the slowest in the nation at 1% per year, significantly lagging the 1.6% projection for the U.S. IHS also projects Vermont to

regain its pre-recession peak for nonfarm employment by 2014. State officials indicate that the state has currently regained 67% of the 13,000 jobs it loss in the recent recession. IHS projects the healthcare and professional and business sectors to be the strongest state employment sectors.

The major private employers in the state include Fletcher Allen Health Care, the operator of the largest hospital in the state (about 6,700 employees), and IBM (about 5,000). The IBM plant manufactures computer chips for consumer electronics. Other sectors with more than 1,000 employees include retail, retail banking, manufacturing, higher education, health care, and tourism. In addition, the University of Vermont system employs more than 3,000.

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

#### **Budgetary Performance**

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 2004.

Vermont ended with the budget stabilization reserves for the general, transportation, and education funds fully funded at their statutory maximum levels of 5% of the prior year's appropriations. The internal service fund had an accumulated unreserved fund deficit of \$22.7 million at the end of fiscal 2011, which is due to accounting for properties in the property management fund, and this deficit will be reduced over time.

On a scale of '1' (strongest) to '4' (weakest), we have assigned a '1.3' to Vermont's budgetary performance.

#### **Debt And Liability Profile**

#### Debt

As of June 30, 2012, Vermont's tax-supported debt was about \$810 per capita, 1.9% of personal income, and 1.9% of gross state product. The fiscal 2011 tax-supported debt service was about 2.5% of general governmental expenditures. Vermont's debt portfolio is conservative, in our view, consisting of only fixed-rate debt and without any exposure to interest rate swaps. We consider the debt amortization to be rapid, with officials retiring more than 70% 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. Officials do not expect debt issuance to increase significantly due to Tropical Storm Irene damage, but believe that the current authorizations can be reallocated for those uses within the current authorized amounts. 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 VSTRS, with about 10,500 active members; the VSRS, which includes general state employees and state police and has about 7,800 active members; and the municipal employees' retirement system, with about 6,600 active 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 teachers and state employee pension systems ratios declined somewhat as of June 30, 2011, to 70.4% from 72.7% a year earlier. The combined unfunded actuarial accrued liability was \$1.2 billion.

The state implemented pension changes that reduced the VSTRS pension annual required contribution (ARC) for fiscal 2011 and future years. The primary changes were a longer eligibility period to qualify for normal retirement and an

increase in the retirement contribution made by all teachers. After these changes, officials project that the ARC for fiscal 2011 was reduced by about \$15 million. Officials also projected the other postemployment benefits (OPEB) ARC to be reduced by these changes. Subsequent to these changes, the pension systems' actuaries updated the experience studies for the systems, and as a result, lowered the interest rate assumptions, which increased the ARC beginning in fiscal 2013. The new interest rate assumption is based on the "select and ultimate" method, which assumes a blend of annual interest earnings between 6.25% and 9.0%, and which results in an expected annual rate of return of 8.1% for VSRS and 7.9% for VSTRS.

#### Other postemployment benefit liabilities

Vermont offers postemployment medical insurance, dental insurance, and life insurance benefits to retirees of the singleemployer VSRS and the multiemployer VSTRS. The unfunded OPEB liability for VSRS as of June 30, 2011, was \$998.6 million and for VSTRS was \$780.0 million. The actuarial annual OPEB cost in fiscal 2011 was \$68.3 million for VSRS, of which the state paid 40% under pay-as-you-go funding. The VSTRS also uses pay-as-you-go funding, but the state does not break out the actual employer contribution, instead including it through the pension fund without an explicit appropriation. The actuarial annual OPEB cost for VSTRS in fiscal 2011 was \$43.5 million, a reduction of about \$17 million from fiscal 2010, primarily due to benefits changes negotiated with the teachers' union that reduced the VSTRS OPEB cost by about \$15 million for fiscal 2011. The state has established an OPEB trust fund for VSRS, but as of June 30, 2011, it only contained \$11.2 million of assets, for a 1.1% actuarial asset funded ratio. 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 '2.4' to Vermont's debt and liability profile.

#### **Related Criteria And Research**

- USPF Criteria: State Ratings Methodology, Jan. 3, 2011
- State And Local Government Ratings Are Not Directly Constrained By That Of The U.S. Sovereign, Aug. 8, 2011

0	/	
Vermont GO bnds		
Long Term Rating	AA+/Positive	Outlook Revised
Vermont GO bnds (Citiz	zen bnds)	
Long Term Rating	AA+/Positive	Outlook Revised
Primary Credit Analyst:	Henry Henderson W, Boston (1) 617-530-831 henry_henderson@standardandpoors.com	
Secondary Contact:	Robin Prunty L, New York (1) 212-438-2081; robin_prunty@standardandpoors.com	

Ratings Detail (As Of 18-Sep-2012)

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**APPENDIX E** 

### The May 2012 Revised NEEP<sup>1</sup> Outlook for Vermont

#### Executive Summary:

- Vermont's proportionally better performance relative to the U.S. and New England economies during the "Great Recession" and the subsequently slow national and regional recovery has Vermont on a historically slow labor market recovery track. While a slower rate of recovery should be expected for a state that is recovering from a shallower economic trough, it is of little comfort to the still too many Vermonters that remain un- or under-employed.
  - While historically, the pace of Vermont labor market recovery is somewhat stronger than the State's labor market recovery from the very harsh early 1990s economic downturn.
  - It took state labor markets 60 months to re-capture all of the labor market ground lost during that downturn, and this time the pace of the state's labor market recovery looks to be on par with the speed of the labor market recovery for the 2001 recession when it took 42 months to recover the payroll jobs lost during that downturn.
- The outlook for the Vermont economy over the calendar year 2012-16 period is for moderate recovery followed by moderate growth in the out-years of the forecast.
  - If this forecast holds, the state economy will re-capture all of the statewide payroll jobs lost during the "Great Recession" by the 2014:Q3.
  - This recovery is expected to be fueled by a revival in the global economy,<sup>2</sup> good niche positioning by major Vermont firms to take advantage of that growth, a return to normally functioning financial markets, and eventual resumption of positive price movement in Vermont's residential and second home markets.
- As mentioned above, the payroll job recovery and eventual resumption of payroll job growth will be historically slow and uneven averaging only about 1.3% per year over the forecast period.
  - The recovery-expansion in payroll jobs will hit +2.0 percent annual average in calendar 2015, with payroll job growth easing back to an average growth rate of 1.5% in calendar 2016.
- Improvement in the state's unemployment rate will continue at a faster pace than either the U.S. and New England economies as a whole.
  - Average annual unemployment rate in Vermont is expected to drop over 2 percentage points over the calendar 2012-16 forecast period, settling in at an average annual rate of 3.9% by calendar 2016.
- Positive job gains are expected in all NAICS supersectors<sup>3</sup> under this Spring 2012 NEEP outlook revision for Vermont—including the Business and Professional Services sector (at a +3.1% percent annual average over the calendar year 2012-16 period) and the Construction sector (at a +1.1% percent annual average over the calendar year 2012-16 period).

<sup>&</sup>lt;sup>1</sup> NEEP means New England Economic Partnership.

<sup>&</sup>lt;sup>2</sup> Including the avoidance of an economic-financial implosion in Europe.

<sup>&</sup>lt;sup>3</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.

- Near-term economic prospects and the pace of economic recovery and the eventual resumption of growth will also continue to be impacted by the lingering effects of Tropical Storm Irene, which hit Vermont at the end of August 2011.
  - Damage and repair assessments are updated on an ongoing basis in Vermont. Roughly 75%, and possibly as high as 90%, of the funds required for repairs is expected to come from Federal emergency relief—providing a significant and positive economic stimulus to the Vermont economy.
- Just as for the U.S. and New England regional economies, the Vermont economy faces significant headwinds as the state moves through the mid-2000-teens.
  - These include a still unfolding European debt, currency, and financial crisis, persistently high energy-gasoline prices, a national housing sector that still has not firmly bottomed, and the macro economic implications of a structural federal fiscal imbalance that will require extremely deft policymaking to favorably resolve.
  - Deft fiscal policymaking is something neither major party has recently demonstrated the ability to execute.
- For the greater part of three decades, policy in Vermont has tried to address what many believe has been a significant skills mismatch in Vermont's labor markets.
  - For a number of years, Vermont's demographics have indicated that there has been a contraction in the supply of young adults—which comprise a vital portion of the modern workforce.
  - Employers have reported significant shortages in the supply of individuals with basic technical or job-specific skills they require, as evidenced by the high amount of vacancies in middle-skill occupations.
- While it is true that the educational attainment of the over 25 years population in Vermont has been high and continues to rise, this has apparently done little to assist many state employers with filling the type of jobs employers report as in demand and vacant.
  - Instead, attainment appears to be on the rise more because a highly educated, older population is continuing to choose to reside in Vermont, while younger, newly graduated college degree holders appear to be moving away.
  - Although this trend seems to be impacting other New England states as well, it is of little comfort to state employers who have good job opportunities available but no one readily available to fill them—unless they move into Vermont from out-of-state.

**The U.S. Economic Situation**: As of mid-Spring, the majority of the economic benchmarks concerning the performance of the U.S. economy indicate that conditions continue to improve—despite the unusually strong headwinds that continue to plague the current U.S. recovery-upturn. Among the more notable headwinds is the on-going and still developing economic and financial struggle in Europe—where another new round of recession threatens U.S. exports and the positive push to the U.S. manufacturing sector strong exports have engendered. In addition, persistently high—although now apparently moderating—energy prices have sapped the strength of the recovery-expansion somewhat, as has the still yet to bottom U.S. housing market, the de-leveraging process that is now underway in the state and local government sector, and the significant amount of federal government de-leveraging that has recently begun—with much, much more likely to come after this Fall's election cycle.

The Bureau of Economic Analysis released the estimate for Gross Domestic Product (GDP) for the first quarter of 2012 which showed that GDP grew at a disappointingly slow seasonally adjusted rate of +2.2%--following the fourth quarter of 2011's more robust +3.0% pace. Over the entire 2011 calendar year, GDP grew at an inflation-adjusted 1.7% rate. Additionally, the numbers from the first four months of this year indicate that GDP will grow 2.5% in 2012, which analysts predict is potentially high enough to encourage significant employment growth nationwide. The six-month average of payroll jobs-added figure is now tracking close to an average of between 175,000 and 200,000 jobs added per month—an *average* rate of monthly job adds that is more than sufficient to offset the rate of population and productivity growth and reduce the unemployment rate. If the GDP growth rate can be sustained at 2.5% or better for the rest of calendar 2012, it would indicate that the economy may be adding enough jobs to bring the unemployment rate down slowly over time.

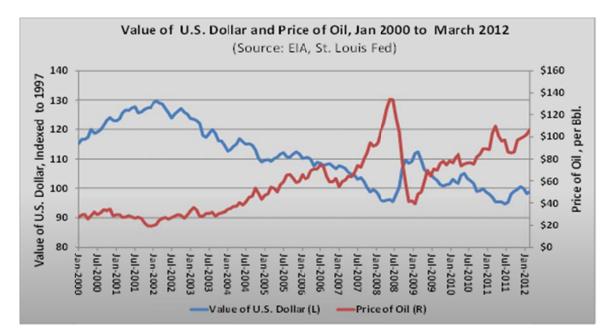
Looking at the U.S. housing market, the latest reading of the Case-Shiller Composite-20 has February 2012 at 3.4% lower than a year ago. Foreclosures are continuing at an elevated pace—though they appear to be easing somewhat in recent times—and many bank-owned properties appear to still be coming on the market from the shadow inventory, weakening an already weak price dynamic. On the upshot, housing starts have been steadily increasing over the past 6 to 8 months, even as new home sales have lagged—contributing to some optimism that housing may in fact be nearing its long-awaited "bottom." Regardless, it is still very difficult to envision a stronger, more sustained general U.S. economic recovery until the housing market finally bottoms and starts to show some initial signs sustained improvement.

Internationally, the potential for drags on U.S. recovery over at least the near term are numerous. In Europe, it is "déjà vu" all over again this year as the sovereign debt, currency, and financial crisis continues. It is the crisis that will not go away as the Eurozone appears to have dropped back into a double-dip recession. While it is unlikely that last year's summer bank crisis will repeat itself, due in large part to the actions of the European Central Bank, the region faces new challenges as the result of the ballot box in both Greece<sup>4</sup> and France.<sup>5</sup> Those elections indicate that the body politick is showing signs of revolt following the imposition of tough austerity measures. While recent coordinated actions make it more likely that the European Union will not disintegrate, it is in no way out of the woods—and now faces a fresh round of challenges as the leadership of at least some of the most economically troubled states is now apparently changing.

On the energy price front, oil prices remain persistently high—although they recently appear to have begun to subside. Over time, oil prices have an inverse relationship with the value of the U.S. dollar, with the recent decline in the value of the dollar having driven up the price of oil (see graph below). Oil prices over the past year and one-half have been pushed higher by factors such as civil unrest in highly productive regions in the Middle East and North Africa, periodic interruptions of supply, and at times a view that the global economy (and therefore fossil fuel demand) was rising anew. Altogether, these and other price increasing factors have combined to push energy prices higher by about \$20 per barrel for oil and by nearly 50 cents per gallon of gasoline since last year.

<sup>&</sup>lt;sup>4</sup> Which basically resulted in the need for another round of elections next month.

<sup>&</sup>lt;sup>5</sup> Which elected its first Socialist government since former President Francois Mitterrand held office back in 1988.



Beyond the above, economic conditions will also clearly be impacted by policy actions or inactions during and beyond this year's election cycle—whose results will set the stage or hamper conditions for federal fiscal reform. Last year prior to the earthquake and tsunami disaster in Japan and eastern Asia, it was widely expected U.S. growth would be fairly robust in calendar year 2011. However, the Japanese earthquake-tsunami disaster, its disruptive after-effects, and then the highly politicized debt crisis debate in Washington degraded business and household confidence and resulted in a slowdown in the pace of the economic recovery-expansion. After the upcoming U.S. election season is over, Congress will have some heavy lifting to do on the fiscal policy front to effectively deal with a large and still largely unaddressed structural budget imbalance between federal revenues and spending. This imbalance threatens to hamstring the U.S. and world economy with trillion dollar deficits "as far as the eye can see," and the attendant undermining of forward economic progress that policy missteps in this area can engender.

**The Vermont Situation:** While the Vermont economy over the last 6 months has shown encouraging signs of vibrancy in the aftermath of Tropical Storm Irene, the Winter of 2011-12 presented a number of challenges. First, the lack of natural snowfall dampened the performance of the State's tourism industry. Visitor activity during the months of in January and February to Vermont's ski resorts declined by roughly 20 percent from the year before. Other Winter recreation activities such as snowmobiling and Nordic sports also struggled—reducing visitor spending levels across many parts of the state that have come to depend heavily on such Winter tourism spending. Many of the state's larger resorts which had more than enough snow coverage due to their extensive snowmaking capacity still experienced soft activity levels as potential visitors from southern New England and the Mid-Atlantic regions projected their own "backyard's lack of snow (industry analysts term this the "Backyard Effect") to the ski slopes of northern New England. Although most Winter resorts in Vermont and the entire northern New England region took significant steps to assure the delivery of a high quality Winter experience for their visitors through aggressive snow-making, even the resorts with the best snow-making coverage had to close early this season due to the abnormally high temperatures in March and April. In hind sight, the "Winter than Wasn't" will clearly go down as a poor one, and one that did not facilitate much forward progress in Vermont's economic and labor market recovery. In response, many of the state's Winter venues are aggressively planning to minimize the long-term effects of last year's poor season on next year's season. However, even the best marketing and planning will have limited effects on next year's activity if Mother nature does not cooperate the state—indeed the entire northern New England region—does

not "enjoy" a reasonable amount of natural snow fall early next the season.

On the Tropical Storm Irene recovery front, the state continues to recover from that devastating storm. Recent developments include a favorable decision by the White House to increase Vermont's federal reimbursement rate from 75 percent to 90 percent due to the extraordinary nature of the event. While damage estimates have yet to be completely finalized, it is expected that this decision will mean as much as \$30 million in additional federal funding to cover the 90 percent of the roughly \$200 million in costs from the Federal Emergency Management Administration (FEMA) funds. Repairs to damaged bridges, roads, and other infrastructure are expected to extend into 2015.

For the month of March, Vermont total seasonally-adjusted nonfarm employment increased by just 200 jobs. This number was influenced by weakness in Information and Government sectors, and significant gains in the Professional and Business Services sector. Vermont's seasonally-adjusted unemployment rate also fell to 4.8%. It is also one of only four states in which the unemployment rate is below 5%.

As it is every year, the big development in April regarding Vermont jobs concerned the publication of the re-benchmarked payroll job data. Each Spring, the U.S. Department of Labor—in cooperation with the states—updates the payroll job survey data (within the Current Employment Statistics program) for what the Quarterly Census of Employment and Wages (QCEW) compulsory unemployment insurance tax filings reveal *actually* occurred in the Vermont labor markets. Since the QCEW covers more than 97% of Vermont employers, it is thought to be a more comprehensive picture of what is occurring in Vermont labor markets over time.

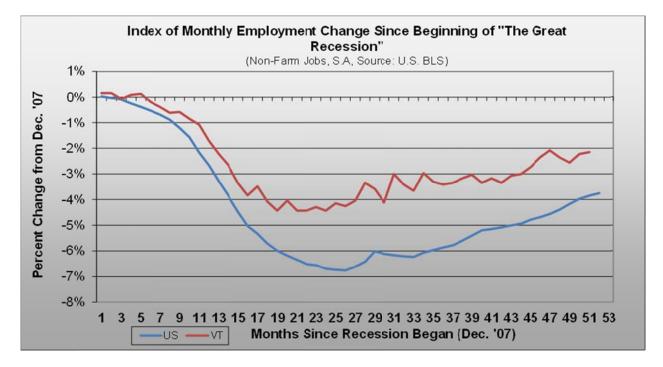
This year, the QCEW data indicated there were roughly 3,300 fewer Nonfarm payroll jobs (and approximately 2,700 fewer private sector Nonfarm jobs) in the Vermont economy in calendar year 2011 than the original payroll job survey indicated. For contrast, the re-benchmarking process for the final quarter of 2010 reduced the Total Nonfarm payroll job count in Vermont by just 150 jobs (and private sector payroll job counts by 200 jobs). For 2011, the re-benchmarked payroll job data reduced the year year-over-year payroll job growth rate in Vermont by over a percentage point from a pre-benchmarked level of 5,087 jobs (or +1.7%) to just 1,947 jobs (or +0.7% over calendar year 2010) overall. The private sector payroll job growth rate was reduced from a pre-benchmarked level of 5,833 jobs (or +2.4%) to only a 3,308 job (or +1.4%) post-benchmarked increase.

					Total Nonf	arm	Total Priva	te
			Total	Total	2011	2011	2011	2011
Year		Variable	Nonfarm	Private	# Change	% Change	# Change	% Change
	2010	Pre-Benchmark	297,809	243,309				
	2010	Post-Benchmark	297,642	243,104				
		# Change	-167	-205				
		% Change	-0.1%	-0.1%				
	2011	Pre-Benchmark	302,896	249,142	5,087	1.7%	5,833	2.4%
	2011	Post-Benchmark	299,583	246,413	1,942	0.7%	3,308	1.4%
		# Change	-3,313	-2,729				
		% Change	-1.1%	-1.1%				
				F	Prepared by	Economic 8	& Policy Res	ources, Inc.

#### Impact of Re-Benchmarked Payroll Job Data

The re-benchmarking process shows definitively that Vermont has made less progress from the very bottom of the employment trough of the last recession than originally thought. The Vermont recovery

of lost payroll jobs now stands, after the re-benchmarking process, at 5,600 jobs—or 39.2% of the 14,300 payroll jobs lost during the "Great Recession." For the nation as a whole, the rate of payroll job recovery now stands at 44.4 percent—corresponding to a total of 3.938 million payroll jobs recovered from the 8.874 million U.S. payroll jobs lost during the "Great Recession." The chart below shows a comparison of the monthly changes in payroll jobs between Vermont and the US as a whole. While rebenchmarked data shows that Vermont has added significantly fewer jobs than previously indicated by the survey data, the state's employment recovery remains on a much higher plane than the U.S. economy as Vermont has had a significantly shallower trough to climb out of relative to the U.S. economy overall.



Another effect of this past Spring's re-benchmarking process was that the re-calibrated payroll job survey data puts Vermont in the "middle of the pack," but still highest in New England in the state-by-state comparisons for year-over-year payroll job changes (see Table 1 and Table 2 below). On a year-over-year basis, Vermont ranked 27<sup>th</sup> out of the 50 states in March, with a 1.1% job increase in Total Nonfarm Jobs, and ranked 17<sup>th</sup> in its rate of Total Private Sector job change at +1.7% on a year-over-year basis. The next closest New England state to Vermont is the state of Connecticut in these job rankings— a total of 7 ranks below Vermont in the Total Nonfarm job category (at 34<sup>th</sup> versus Vermont's and 27th ranking) and 12 places below Vermont's rank in the private sector job category (at 29<sup>th</sup> versus Vermont's 17<sup>th</sup> ranked position). Of particular note is the fact that Vermont's relative ranking in Government sector job growth is among the worst in the U.S. with a -1.8 percent change over the past year—for a ranking of 41<sup>st</sup> among the 50 states (see Table 3). The fact that Vermont lost a significant number of jobs in its Governmental sector accounts for the ten ranked places job change between total jobs and private sector jobs. This reflects the changes underway as the public sector in Vermont continues its process of "right-sizing" in the aftermath of the end of federal stimulus funding.

Rank	State		Rank	State	% Change
1	N orth D akota	6.6%	1	North Dakota	8.6%
2	Louisiana	2.5%	2	Texas	3.4%
3	Oklahoma	2.4%	3	Kentucky	3.0%
4	Utah	2.3%	4	Louisiana	2.9%
5	Texas	2.3%	5	Idaho	2.7%
11	N ew York	1.7%	10	Califomia	2.3%
14	C ali forn ia	1.6%	14	NewYork	2.1%
20	Ohio	1.3%	17	Vermont	1.7%
21	Virginia	1.3%	18	Ohio	1.7%
26	NewJersey	1.1%	26	Pennsylvania	1.4%
27	Vermont	1.0%			21000
			29	Connecticut	1.2%
34	C onne cticut	0.7%	30	NewJersey	1.2%
36	Massachusetts	0.6%	37	Massachusetts	0.9%
42	Maine	0.3%	41	Maine	0.6%
46	NewHampshire	0.0%	46	NewHampshire	0.2%
47	Montana	-0.1%	47	Delaware	0.1%
48	M ississippi	-0.2%	48	Rhode Island	-0.2%
49	R hode Island	-0.4%	49	Mississippi	-0.4%
50	Wisconsin	-1.1%	50	Wisconsin	-0.5%

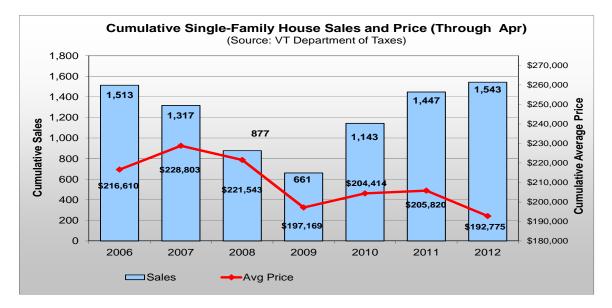
#### Note that the Table1 represents Total jobs and Table2 represents Private payroll jobs

Looking at more detail within Table 3, the table shows how Vermont ranks by industry sector using the most recent numbers for all NAICS super-sectors over the period from March 2011 through March 2012. The strongest job growth was in the Professional and Business Services industry (where the state has its lone "top ten" year-over-year payroll job change performance), with 7.7% growth over the year. The state's poorest ranking is in the Information sector—which declined by 5.8% over the same time period, ranking 5<sup>th</sup> in New England and 46<sup>th</sup> among the 50 states. The state has had a flat performance in Financial Activities—with some bad news to come as Dwight Asset Management is absorbed by Goldman Sachs in the aftermath of Goldman's acquisition of the Burlington-based firm. Despite the interruption to tourism, the Leisure & Hospitality sector grew, which is not expected to occur again in the April job data release.

#### Table 3. Payroll Job Performance By NAICS Supersector Mar 2011 vs. Mar 2012

Industry Supersector	% Change in VT	VT Rank in New England	VT Rank in U.S.	Highest Ranked New England State	# of States Reporting Job Losses
Total Nonfarm	1.0%	1st	27	VT (27th)	4
Total Private	1.7%	1st	17	VT (17th)	3
Construction	2.7%	2nd	14	NH (9th)	24
Manufacturing	0.7%	3rd	33	RI (23rd)	14
Information	-5.8%	5th	46	RI (2nd)	29
Financial Activities	0.0%	1st	26	Vt (26th)	25
Trade, Transportation, Utilities	0.7%	3rd	18	ME (8th)	9
Leisure and Hospitality	1.7%	3rd	27	NH (18th)	11
Education and Health Services	2.0%	3rd	31	CT (15th)	4
Professional and Business Services	7.7%	1st	4	VT (4th)	9
Government	-1.8%	5th	41	NH (27th)	32
Notes:					
NAICS means North American Indust	try Classificati	on System			
Source: U.S. Bureau of Labor Statistic	S			Prepared by: Economic	& Policy Resources, Inc.

Vermont's housing market shows a significant increase in transactions activity through the month of April. So far, the year-to-date single family sales in 2012 through April have risen to a level last experienced in calendar year since 2006. The increase in volume has come with an accompanying decline in the average sale price in 2012. Through April, the average sales price for a single-family home was just under \$193,000—a total of 6.3 percent below the cumulative average over the January to April period of calendar year 2011.



The chart below shows data for the same period through-April for Vermont's second home market. The second home market appears to be following a similar trend, both transactions-wise—with increased activity—and in terms of the average sales price. Like residential housing, higher activity in the second home market seems to have been achieved by the trade-off of a significantly lower average sales price.



**Moody's Analytics National Economic Forecast Assumptions:** The economic outlook for the calendar year 2012-16 period is based on national outlook assembled by Moody's Analytics, a respected national economic forecasting firm. Noting that economic performance has lagged behind their baseline predictions from a year ago, Moody's has revised its baseline scenario for calendar year 2012, and NEEP forecast managers have opted to adopt the new baseline assumptions in individual state outlooks. This

baseline revamp assumes that the Federal Reserve will continue with aggressively easy policy through 2013, prompting moderate growth over the forecast term, resulting from greater business confidence in undertaking risk which will prompt investment in new enterprises. GDP is expected to grow 2.5% in calendar year 2012, picking up speed in calendar year 2013 at 2.9% until reaching a peak in calendar year 2014 at 3.9%, and slowing moderately in calendar year 2015 to 3.6%, settling at 2.9% by the end of the forecast period in calendar year 2016.

Total employment over the period is also expected to increase 1.6% in both calendar year 2012 and calendar year 2013. Job growth in calendar year 2014 is expected to be higher at 2.5%, and peak in calendar year 2015 at 2.6% growth. NEEP's predictions in Fall 2011 that the unemployment rate would stay above 9.0% into calendar year 2012 have not come to fruition, and Moody's baseline assumptions show a continued decline in the unemployment rate from 8.1% annually through calendar year 2012 to 7.7% by calendar year 2013. Through calendar year 2014 and calendar year 2015 unemployment rate is expected to fall by one percentage point per year (to 6.7% and 5.9% respectively), ending the forecast period at 5.4% of the workforce unemployed through calendar year 2016.

Part of the Fed's easy policy stance going forward is based on low inflation through the end of at least calendar year 2013, as the Consumer Price index is expected to show inflation at 2.1% and 2.0% in calendar year 2012 and calendar year 2013. However, calendar year 2014 is expected to experience an increase in consumer prices of 2.7%. After the Fed increases the Federal Funds rate to a tighter stance in late calendar year 2013,<sup>6</sup> which will lead to a more balanced policy at 4.5% FFR<sup>7</sup> by calendar year 2015, Moody's predicts decreasing CPI readings at 2.7% in calendar year 2015 and 2.1% in calendar year 2016.

Oil prices have been volatile in recent years, but fading risks of a second global recession have caused them to stabilize. Recent confrontations over Iran's nuclear program, as well as political volatility in other highly productive countries in the Middle East and North Africa, has created a significant amount of stress on global growth and oil demand, adding a risk premium which is currently estimated to be \$10 per barrel. The price of a barrel of West Texas Intermediate Crude Oil, a key benchmark of energy markets, is expected to remain at its current levels around \$100 for the remainder of the year. Longer term factors, such as greater demand from emerging economies and more growth, is expected to steadily push this price higher over the forecast period at a rate faster than inflation. The significant cost-push effect of oil prices on other markets which has been observed in the past is expected to be less of a factor in this forecast period.

Key risks to Moody's Analytics five-year outlook include fiscal policy and election year politics, as well as European financial instability and recession. Congress is expected to lower the fiscal deficit from its current \$1.3 trillion (or 8.5% of GDP) to the so-called structural budget deficit at 5% of GDP more consistent with an economy operating near its potential. Growth and less stimulus spending are expected to contribute to this outcome, but deficit reduction in 2012 will be limited by Congress acting to extend the 2% payroll tax holiday and emergency unemployment benefits, which will cost the Treasury about \$175 billion. The risk is that, along with spending cuts, Congress must raise tax revenues to bring the debt level to the so-called "sustainable budget deficit," close to 2% of GDP. This will require deft policy action by the House and Senate between Election Day 2012 and the end of the current congressional session to agree on tax policy regarding the expiration of the Bush-era tax cuts.

<sup>&</sup>lt;sup>6</sup> Although this was the case in early march of 2012, the Fed has subsequently extended this period of low interest rates well into calendar year 2014.

<sup>&</sup>lt;sup>7</sup> Federal Funds Rate (FFR) is the rate at which banks lend money to one another, a key monetary policy lever manipulated by the Federal Reserve.

Within the Moody's national scenario, the risks in Europe continue to center around its sovereign debt and banking crises. With the European Central Bank's policy prescriptions of low interest rates and reserve requirements, along with cheap three-year loans to Euro Banks with relaxed collateral requirements, it is unlikely that a disorderly bank failure will occur on the continent in the near future. Additionally, the most indebted countries in the European Union have changed leadership, with the exception of Greece, indicating that most EU countries now have the political will to face the challenges of reconciling with the threat of significant sovereign debt within the economic partnership.

Energy prices also present significant risk to the current growth trajectory according to the Moody's Analytics national forecast scenario. Recent international friction between Iran and the U.S. over their seeking of a nuclear program, as well as events related to the Arab Spring of 2011, have the potential to interrupt supply from high-producing regions in the Middle East and North Africa. There are many possible scenarios, but an outbreak of hostilities in the region would be accompanied by a sharp increase in both oil and gas prices. Every sustained 1-cent increase in the price of a gallon of gas corresponds to about \$1.1 billion dollars more spent on gas by American households. Moody's Analytics has projected that, if oil prices remain where they are currently, U.S. households will spend approximately \$75 billion more on gas this year than they would have if prices had remained at the level they were during Fall 2011, and will have to dip into savings to compensate, having no significant effect on growth. If, however, oil prices that high for more than a few months could send the US into a double-dip recession because consumers will have less disposable income to spend on goods and services other than the gasoline they need to get to work. The market for natural gas has a supply glut which will weigh on prices for several years until cheap gas attracts alternative users.

**The Vermont Economic Outlook**: The Vermont near-term economic outlook, which is also based on the Moody's Analytics, Inc. national baseline outlook described above, similarly expects that the Vermont economy will mirror the U.S. economy throughout the calendar year 2012-16 forecast period. Looking at the major macro variables, the state can expect a similar profile, but somewhat muted recovery/expansion path for real output (as measured by Gross State Product or GSP) and for inflation-adjusted or real personal income. The somewhat muted forecast is a reflection of the fact that the Vermont economy did not decline as much as her U.S. and New England regional economic counterparts—which heretofore has led to more muted rates of recovery. On an annual basis, the forecast for the State expects an inflation-adjusted 2.5% increase in output in calendar 2012, followed by a 2.8% increase for calendar year 2013. For calendar year 2014 and beyond, GSP growth is projected at 3.3% in calendar 2014, retracting 2.9% in calendar 2015, to finally end the forecast period at 2.2% in calendar 2016. Real or inflation-adjusted Personal Income will have a 3.4% increase in calendar year 2012, followed by a 2.3%, 3.8%, 3.5%, and 2.8% annual growth rate path for calendar years 2013 through calendar year 2016, respectively.

The sector-by-sector breakdown shows that all major job categories will be adding jobs over the calendar year 2012-16 period. Among the sectors contributing significantly to Vermont's economic and labor market growth in the forecast period include: the Leisure and Hospitality sector (at an average 1.5% per year over the calendar year 2012-16 period), the Professional and Business Services sector (at an average 3.1% per year over the calendar year 2012-16 period), the Education & Health Services Sector (at an average 2.3% per year over the calendar year 2012-16 period), the Education & Health Services Sector (at an average 1.2% per year over the calendar year 2012-16 period), the Information Sector (at an average 1.1% per year over the calendar year 2012-16 period), the Utilities Sector (at an average 1.1% per year over the calendar year 2012-16 period), and the Financial Activities Sector (at an average 1.1% per year over the calendar year 2012-16 period).

While significant growth in the Construction Sector is also expected over the forecast period, this will include periods of significant job declines during the course of the five year forecast. Construction is forecasted to experience a decline in sector employment during calendar years 2013 and 2014, but is expected to rebound in calendar years 2015 and 2016 with incremental growth of 2.6%, and 3.0% during those two years, respectively--following the path of Irene recovery efforts and an expected housing market turnaround. The Manufacturing Sector is a major employer in the state, and is expected to grow moderately over the forecast period, increasing by 1.3% in calendar year 2012 and 2.9% in calendar year 2013, then slowing in calendar years 2014, 2015, and 2016 to 0.5%, 1.0%, and 1.2%, respectively. Other notable job increases over the calendar year 2010-15 time frame include Food Manufacturing (at an average 7.5% per year over the 2012-16 period)—mostly tied to expansion activities at Green Mountain Coffee Roasters, Retail Trade (at an average 0.7% per year over the calendar year 2012-16 period), Transportation & Warehousing (at an average 0.5% over the calendar year 2012-16 period), and "Other" Services Sector (at an average 1.4% per year over the calendar year 2012-16 period).

The Government sectors will experience a flat to only slightly positive performance over the five-year period, despite near term de-leveraging activities in Federal, State and Local categories. State Government jobs are forecasted to decline by -0.1% in calendar year 2012 and -0.2% in calendar year 2013, but recovery in calendar years 2014, 2015, and 2016 (Totaling to an average year over year growth of 1.2% per year over the calendar year 2012-16 period). Local Governments are also expected to shrink employment in calendar years 2012 and 2013 or by -3.8% and -2.2% respectively, and then begin to recover over the calendar year 2014 to 2016 period (totaling to an average annual change of -0.1% per year over the entire calendar year 2012 to 2016 period). Federal Government jobs are expected to experience a moderate decline in every year, except for calendar year 2012 when it is expected to experience a 1.7% growth. Overall, federal Government jobs are forecasted to be flat at 0.0% change per year over the entire calendar year 2012 to 2016 time frame.

Although the State's economic performance is expected to be moderately positive over the calendar year 2012 to 2016 period, the updated May 2012 NEEP forecast for Vermont includes the continuation of tight labor market conditions throughout the State and a modest recovery in housing prices in the Vermont housing market. The State's annual average unemployment rate is expected to fall through the forecast period, registering at 5.1% in calendar year 2012, and 5.0% in calendar year 2013 on an annual average basis. For calendar year 2014, the State's unemployment rate is expected to decline - 0.4% to 4.6%, with further declines expected to 4.1% in calendar year 2015 and 3.9% in calendar year 2016. That track, should this forecast be realized, would result in a Vermont unemployment rate at the end of calendar year 2016 being a full 1.5 percentage points below the U.S. unemployment rate and 1.7 percentage points below the New England average unemployment rate at that time.

Turning to the State's housing market recovery, the May 2012 revised NEEP forecast for Vermont expects there will be improvement in sales and construction activity in the Vermont housing market, but these improvements will remain very gradual—with a turnaround in the FHFA Price Index occurring later this calendar year during the third quarter of calendar year 2012. Having reached a "bottom" in the market, prices will then start to show more consistent, positive changes and activity will increase—but activity will not "bounce back." This forecast update calls for Vermont to experience a turnaround in housing markets and a moderate housing price increase (compared to the decline of the national average housing price) over the calendar year 2012-2013 time period, and with prices showing more robust growth in calendar years 2014, 2015, and 2016—with increases of 1.1%, 1.7%, and 3.0%, respectively. This is again primarily due to more prudent lending practices and other factors that have led to lower overall foreclosure rates in Vermont overall. This has proven to be a key to Vermont's relatively healthier housing market environment because foreclosures typically lead to forced liquidation sales—including their significant price discounts—which can snowball and lead to additional valuation declines, which only lead to additional house price declines. That negative foreclosure-forced

liquidation sale-decline in price dynamic so far has not taken hold in Vermont's housing markets, at least to the degree that it has in other parts of the country.

The near term economic forecast for Vermont also takes into account recovery activities—primarily in the form of increased construction spending and disaster assistance expenditures from Tropical Storm Irene. While exact estimates of repair costs are constantly being updated, the infusion of more than \$150 million in federal funds will clearly help to boost activity in Vermont over the near-term. Houses and businesses which were damaged or destroyed during the storm and subsequent flooding are currently and will in the future continue to be rebuilt, boosting the construction sector that is still struggling to recover from the housing market and commercial real estate slowdown associated with the last recession. In addition, it is likely that infrastructure repair will continue into calendar year 2015, positively impacting the Construction sector over that time frame.

Looking at the major macro variables for revised May 2012 NEEP Outlook for Vermont, the Table 4 (below) presents the major macro variables for the U.S. economy, the New England regional economy, and the Vermont economy. From the table, the forecast expects that Vermont's comparatively similar output and job growth performance in the near-term begins to fade in comparison to the U.S. average in calendar year 2013 as the U.S. economy picks up momentum. The State's Employment and Output begin to pull away from the rest of New England in calendar years 2013 and 2014. In the out years of this May 2012 NEEP forecast revision, the state's comparative performance generally lags behind the rest of the US by about ½ to ¾ of a percentage point for both output and nonfarm payroll job gains. Inflation-adjusted personal income gains follow a similar pattern—although the magnitude of the differences between Vermont and U.S. percent changes (at roughly a full percentage point difference) reflect the larger percentage changes that typically accompany income changes. Personal Income in Vermont roughly mirrors changes in the rest of New England over the forecast period. The state's unemployment rate, in contrast, continually stays lower than both the U.S. and New England averages, tracking down from the nearly 7.0% annual average in calendar year 2009 to an 3.9% annual average in calendar year 2016. Housing price increases in Vermont, represented by the FHFA index, are also outperformed in the five-year-forecast, reflecting the shallow interruption in housing relative to the rest of the United States and New England.

		<i>µ</i>	Actual			Forecast				
	2007	2008	2009	2010 [2]	2011 [2]	2012	2013	2014	2015	2016
Real Output (\$2000-% Change)										
U.S. Gross Domestic Product	1.9	-0.3	-3.5	3.0	1.7	2.5	2.9	3.9	3.6	2.9
N.E. Gross Domestic Product	1.7	0.4	-2.6	3.4	2.2	3.0	2.8	3.1	2.7	2.5
Vermont Gross State Product	-0.7	0.4	-2.3	3.2	1.2	2.5	2.8	3.3	2.9	2.2
Non-Farm Payroll Jobs (% Change)										
U.S.	1.1	-0.6	-4.4	-0.7	1.2	1.6	1.6	2.5	2.6	2.0
New England	0.9	0.0	-3.7	-0.2	0.6	0.8	1.0	1.5	1.7	1.3
Vermont	0.2	-0.3	-3.3	0.2	0.7	1.1	0.7	1.5	2.0	1.4
Inflation-Adjusted Personal Income %Change (2000 Dollars)										
U.S.	2.9	1.3	-4.4	1.9	2.6	3.7	3.1	4.4	4.0	3.5
New England	3.2	0.3	-3.9	1.4	2.3	3.3	2.6	3.9	3.5	3.2
Vermont	2.8	1.0	-1.5	1.6	2.2	3.4	2.3	3.8	3.5	2.8
Unemployment (Percent)										
U.S.	4.6	5.8	9.3	9.6	8.9	8.1	7.7	6.7	5.9	5.4
New England	4.5	5.4	8.1	8.5	7.8	7.0	6.9	6.3	5.9	5.6
Vermont	3.9	4.6	6.9	6.4	5.6	5.1	5.0	4.6	4.1	3.9
FHFA Housing Price Index [3]										
U.S.	1.4	-4.4	-4.7	-3.6	-3.5	-0.5	-0.1	3.5	4.8	4.3
New England	-1.0	-3.8	-4.3	-2.4	-2.0	0.0	1.9	3.8	4.7	5.0
Vermont	2.8	0.0	-1.6	-0.9	-0.3	0.2	0.6	1.1	1.7	3.0

Table 4: Forecast Comparison: U.S., New England and Vermont.
Calendar Year Forecast Comparison: United States, New England, and Vermont (May 2012 NEEP Forecast) [1]

Notes:

[1] U.S. data reflect the Moody's Analytics Baseline Forecast for March 2012.

[2] 2011 variables are subject to further revision, and 2012 through 2016 values in this table reflect projected data as of March 2012.

[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 May 2012 Update (U.S., New England, Vermont)

#### **Conference Theme: Labor Skills Mismatch in Vermont**

Sustainable economic growth is a major concern for Vermont policy makers, especially as the state continues to navigate a fragile recovery from "The Great Recession." Even in economically better times, forward economic progress relies on the collective ability of business to access the needed competitively skilled and priced labor to freely expand operations. The expansion of business' revenues, and the attendant hiring that typically engenders,<sup>8</sup> translates to greater economic well-being for households, business owners, and all others tied to the proverbial rising tide. The labor market typically demands a high level of specialization for well-paying occupations, and businesses rely on finding the well-matched skillset to fulfill their specialized workforce needs. Sometimes, a lag in the supply response for labor markets, like that which appears to be accompanying the current recovery with slow employment growth, can be explained by mismatches—sometimes skills-based and other time for other reasons (e.g. such as housing market rigidity which impedes household re-locations).

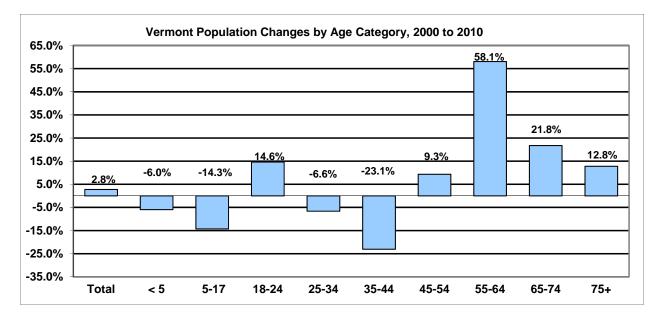
In the classic sense, mismatches in labor markets of one form or another are typically found where businesses are reported to have a large number of job vacancies for which they can find few or no qualified applicants. Unemployment rates can be high<sup>9</sup> along with the high number of vacancies reported by a state or region's employers. In other words, the supply of labor in an area does not match the specific type of labor demanded there, causing businesses to expand more slowly than desired, or in more extreme cases not at all. This, in turn inhibits state or regional economic performance,<sup>10</sup> and places structural constraints on recoveries—similar to what the economy seems to be currently experiencing.

To identify a skills mismatch, there are a number of labor force indicators that are commonly used. First, the 2010 U.S. Census yielded some telling demographic indicators for Vermont. Between April 1, 2000 and April 1, 2010, Vermont's population grew by only 2.8% over the entire decade—a rate that was significantly slower than the rest of New England (at +3.75%) and the U.S. as a whole (at +9.7%). In addition, the proportion of Vermont's population under the age of 20 years old (corresponding to those who would be at or near the point when they would enter the labor force), is 24.0% compared to New England's 24.8% proportion and the U.S. economy's 27.0% proportion. This indicates that the proportion of working age residents relative to those either too young or too old to work has shrunk significantly between the 2000 and 2010 US Census counts. Additionally, Vermont is the 2<sup>nd</sup> oldest state (after our fellow New England state of Maine) with the 2<sup>nd</sup> lowest population growth rate. Between April 1, 2000 and April 1, 2010, the 55-64 years age group grew by 58%, compared to a decline of -6.6% in the aged 25-34 years age group, and a decline of -23.1% for the aged 35-44 years age group.

<sup>&</sup>lt;sup>8</sup> But it should be acknowledged that these are hardly typical times.

<sup>&</sup>lt;sup>9</sup> But they also can be low when there is a skills mismatch as well.

<sup>&</sup>lt;sup>10</sup> Where sometimes businesses elect to expand elsewhere where skills sets in the labor force are more in line with their needs.

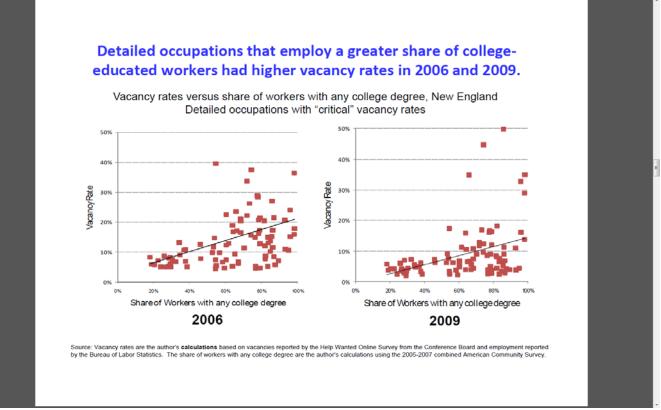


A high level of job vacancies is another major indication that there may be skill mismatches in a state or regional labor market. In addition to the demographic concerns in the state, employers involved in technical manufacturing or business service industries have openly expressed their difficulties in recruiting the type of workers with the specific skills they require to effectively compete in the global marketplace. Employer surveys also indicate a large number of vacancies in the STEM-related fields— including Science, Technology, Engineering, and Mathematics. While these STEM positions are not generally considered to be high-skill, high-paying positions which require advanced degrees, these jobs are generally considered "middle" skill, requiring basic levels of specialized or technical training, a level analogous to an associates or bachelor's degree.

Educational attainment in Vermont has been high historically and has also generally been on the rise. A set of facts that includes a high, and still rising, level of educational attainment usually means there should not be labor force widespread mismatches of skills between what employers demand and those that could be provided by the work force. So it is curious as to why Vermont employers appear to be saying they are having a hard time finding skilled applicants.

An examination of the data reveals that in Vermont, one possible explanation for this dichotomy is the fact that although Vermont attracts many students from elsewhere, and produces many college graduates, a large portion of new college graduates choose to move away from New England after they finish their degree. In other words, Vermont is both a big importer and a big exporter of young adults. Young adults make up a vital portion of the workforce because they are generally less expensive labor cost-wise, and they have malleable skills relative to older professionals. The lack of young adults in Vermont with the basic technical skills desired by business, combined with high out-migration of recent college graduates appears to be underpinning a skills mismatch both now and for the foreseeable future. Since educational attainment in Vermont is generally increasing over time, it is not correct to conclude that the workforce *lacks* education. Rather, educational attainment of Vermont residents is increasing because older, educated professionals choose to move to Vermont—while at the same time, the younger, new college or high school graduates who often already possess or can obtain technical training in a relatively short period of time—move away.<sup>11</sup>

<sup>&</sup>lt;sup>11</sup> Anecdotal evidence from policymakers and private sector management surveys shows broad support for this conclusion. Unfortunately, however, there is little empirical evidence to support this claim, as U.S. Census and American Communities Survey data is not sufficiently detailed to analyze this question.



New England Public Policy Center Research Report 10-2, "Mismatch in the Labor Market: Measuring the Supply of and Demand for Skilled Labor in New England." Nov. 2010, Alicia Sasser Modestino

Recognizing the supply-demand mismatch, stakeholders in public and private sectors have come together with the intent of filling in the visible gaps present in Vermont's labor market. The resulting partnerships have decided to begin by focusing on workforce development. While this is a very broad concept, state policymakers have undertaken a targeted approach focusing on the greatest observed needs first—where facilitating organizations match students with employers as Interns and Apprentices. Most programs involve the state's institutions of higher learning such as the University of Vermont, the Vermont State College system, and Champlain College, where these higher educational institutions partner with major employers in the state to develop courses of study that match employers' skills needs and reach out to help identify and recruit candidates. The institutional connections were originally made by public and private organizations such as the Vermont Department of Labor, School to Work, and other programs. However, as the need grew beyond the capabilities of those organizations to serve all the state's needs, other organizations such as the educational institutions stepped in to match the increasing demand and to eventually take over the effort.

The programs which have resulted from this collaboration seek to enroll individuals into workplace training and educational courses designed to impart the specific skills desired by participating employers, culminating in the "student" earning a job at the sponsoring company upon successful completion of a prescribed program. However, while specific outcome statistics are not currently available, very few participants who complete a program choose to move out of the state, and often instead accept the jobs offered through the program. While this and the anecdotal evidence indicate a positive impact of workforce development initiatives in the state, it should be noted that many of the programs are relatively young, beginning and existing only since the "Great Recession" and the state's subsequent initial recovery. Poor employment prospects outside the state may also be influencing program participants' decision to enroll in, and complete, these programs. In these troubled economic

times, the strong potential of a job, once such a program is completed, can have a significant influence on the decision to remain in the state. This is due to the security of a job at a known Vermont-based employer, upon completion of the apprenticeship/internship. In any case, this is a concrete example of how workforce development has been evolving in Vermont towards the type of targeted and effective programs which can counteract any skills mismatches that may be present in the state.

Jeffrey B. Carr, President Economic & Policy Resources, Inc. 400 Cornerstone Drive, Suite 310 P.O. Box 1660 Williston, Vermont 05495-1660 (800) 765-1377

Matthew L. Cooper, Economist Economic and Policy Resources 400 Cornerstone Drive, Suite 310 P.O. Box 1660 Williston, Vermont 05495-1660 (800) 765-1377

#### **APPENDIX F- DETAILED CALCULATIONS FOR DEBT PER CAPITA STATE GUIDELINE**

Triple-A	Moody's							Moody's	Debt Per C	apita					
Rated States	Ratings	S&P Ratings	Fitch Ratings	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	
Alaska	Aaa/Stable	AA+/Stable	AA+/Stable										1,257	1,454	
Delaware	Aaa/Stable	AAA/Stable	AAA/Stable	1,650	1,599	1,800	1,865	1,845	1,998	2,002	2,128	2,489	2,676	2,674	
Florida	Aa1/Stable	AAA/Stable	AAA/Negative					976	1,020	1,005	1,115	1,123	1,150	1,167	
Georgia	Aaa/Stable	AAA/Stable	AAA/Stable	804	802	827	803	784	916	954	984	1,120	1,103	1,099	
Indiana	Aaa/Stable	AAA/Stable	AA+/Stable							478	482	492	471	446	
lowa	Aaa/Stable	AAA/Stable	AAA/Stable								79	73	270	310	
Maryland	Aaa/Negative	AAA/Stable	AAA/Stable	879	977	1,077	1,064	1,169	1,171	1,297	1,507	1,608	1,681	1,742	
Minnesota	Aa1/Negative	AA+/Stable	AA+/Stable	576	625	691	679	746	827	879	866	1,037	1,159		
Missouri	Aaa/Stable	AAA/Stable	AAA/Stable	347	368	461	449	496	613	675	670	780	775	741	
Nebraska	Not Rated	AAA/Stable	Not Rated										13	15	
New Mexico	Aaa/Negative	AA+/Stable	Not Rated									1,398	1,827	1,406	
No. Carolina	Aaa/Stable	AAA/Stable	AAA/Stable	375	429	556	682	804	728	898	832	765	782	815	
So. Carolina	Aaa/Stable	AA+/Stable	AAA/Stable	615	587	599	558	661	630	966	899	917	887	827	
Tennessee	Aaa/Negative	AA+/Positive	AAA/Stable									318	345	343	
Texas	Aaa/Stable	AA+/Stable	AAA/Stable									520	612	588	
Utah	Aaa/Stable	AAA/Stable	AAA/Stable	708	682	846	792	707	621	542	447	957	1,222	1,393	
Virginia	Aaa/Negative	AAA/Stable	AAA/Stable	566	546	546	589	601	692	764	782	895	1,058	1,169	
Wyoming	Not Rated	AAA/Stable	Not Rated										71	64	
												4	5-Year Av	erage of Mea	n/Medians
Mean				724	735	823	831	879	922	951	899	966	964	956	947
Median				615	625	691	682	765	778	898	849	917	973	827	893
Vermont	Aaa/Stable	AA+/Stable	AAA/Stable	813	861	724	716	707	706	707	692	709	747	792	729
												-	10-Year A	verage of Gr	owth Rates
Annual Growth					1.5%	11.9%	1.1%	5.7%	4.9%	3.2%	-5.4%	7.4%	-0.2%	-0.9%	2.92%
Annual Growth	n Rate of Median	L			1.6%	10.6%	-1.3%	12.2%	1.6%	15.5%	-5.5%	8.0%	6.1%	-15.0%	3.38%

**APPENDIX G** 



Kavet, Rockler & Associates, LLC Economic, Demographic and Public Policy Consulting

985 Grandview Road Williamstown, Vermont 05679-9003 U.S.A. Telephone: 802-433-1360 Facsimile: 866-433-1360 E-Mail: tek@kavet.net Website: www.kavetrockler.com

# Feasibility Study Update Associated With State of Vermont Special Obligation Transportation Infrastructure Bonds - 2012 Series A

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

July 23, 2012

## Feasibility Study Associated With State of Vermont Special Obligation Transportation Infrastructure Bonds 2012 Series A

Prepared by Kavet, Rockler & Associates, LLC – July 23, 2012

## 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 \$10.09 million<sup>1</sup> State of Vermont Special Obligation Transportation Infrastructure Bonds, 2012 Series A (hereafter, 2012A 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), which are currently outstanding in the amount of \$13.260 million, for a combined bonding amount totaling \$23.35 million.<sup>1</sup>

The TIB Statute authorizes the State Treasurer to issue bonds supported by certain revenues as detailed below for Vermont state transportation projects 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 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>2</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>&</sup>lt;sup>1</sup> Preliminary; subject to change.

<sup>&</sup>lt;sup>2</sup> Although the TIB assessment on gasoline has been collected in the TIB Fund since July 2009, Vermont has had a per gallon gasoline tax in effect since 1923. The diesel TIB assessment has been collected since December 2009 and represents an increase in the existing diesel fuel tax, first implemented in its present form in 1982.

At the request of the Vermont State Treasurer, this study provides revenue projections supporting the issuance of the 2012A TIBs,<sup>3</sup> which are expected to be issued in early fiscal year 2013, 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 2012A TIBs, the State previously issued the 2010A TIBs in fiscal year 2011, which are currently outstanding in the aggregate principal amount of \$13.260 million and are supported by the TIB Fund. Further, the State currently anticipates issuing additional TIBs pursuant to the TIB Statute, on parity with 2010A TIBs and the 2012A 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 \$97.7 million aggregate par amount of additional TIBs through fiscal year 2017, including 2010A TIBs and 2012A TIBs.

The issuance of additional TIBs will have the effect of reducing debt service coverage below the levels projected for the 2010A TIBs and 2012A TIBs alone. Appendix B presents projected debt service requirements and debt service coverage through fiscal year 2036 for the \$97.7 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

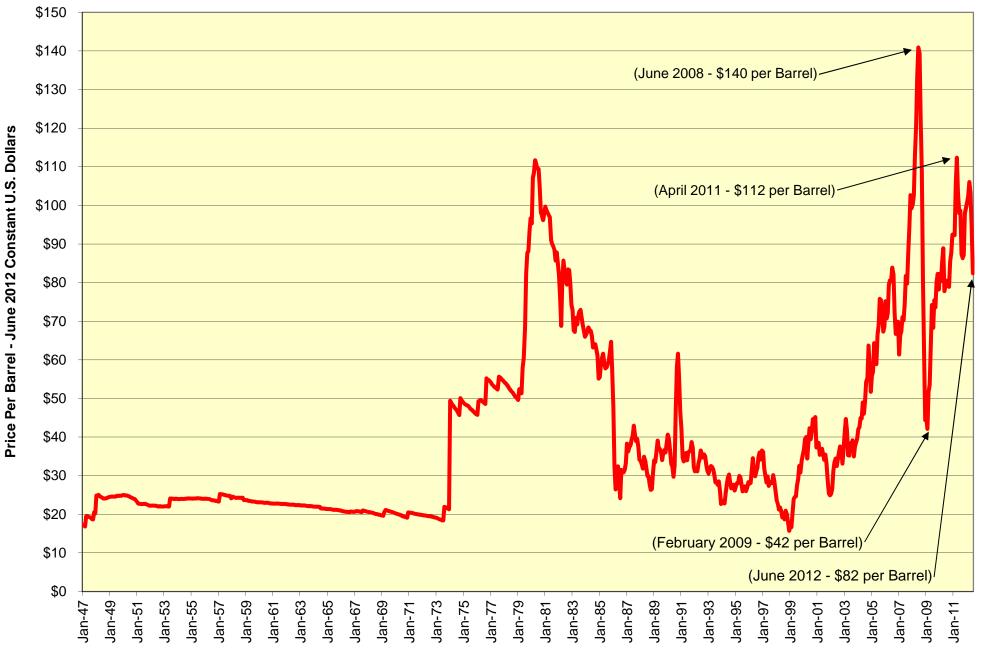
#### Data Sources and Modeling Overview

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 Finance and Management. The analyses in support of the revenue projections herein are based on statistical and econometric models and professional analytic judgment.<sup>4</sup>

<sup>&</sup>lt;sup>3</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 \$13.260 million and the proposed issuance of \$10.09 million of 2012A TIBs, for a total of \$23.35 million in bonds to be currently supported by the TIB Fund.
<sup>4</sup> Kavet, Rockler & Associates (KRA) has been the State Economist and Principal Economic Advisor to the Vermont State Legislature for the past 16 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.

## **Real Oil Prices Remain Subject to Considerable Volatility**

(West Texas Intermediate Crude Oil, PPB in June 2012 Constant Dollars)



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

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 2010A TIBs, the 2012A 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>5</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 preceding and following page). 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."

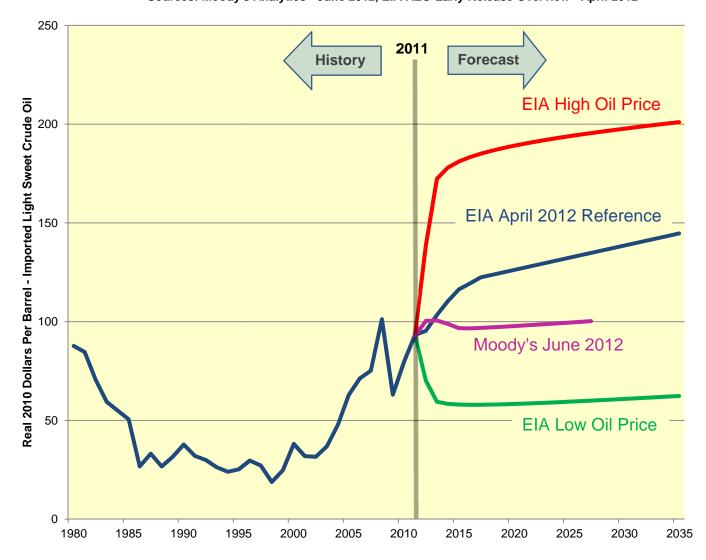
Confidence intervals provide a range within which an expected outcome is likely to occur with a given confidence level or probability (often 95% in forecasting applications), based on a given set of data. The EIA has developed a set of confidence intervals for various energy prices, including those for West Texas Intermediate Crude Oil (WTI), based on data derived from New York Mercantile Exchange (NYMEX) options markets<sup>6</sup> at various confidence levels.<sup>7</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>\*8</sup>

<sup>&</sup>lt;sup>5</sup> Moody's projections are generally available through 2027 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 2017; and EIA projections are available through 2035, with shorter term 2 year projections updated more frequently, but not regularly integrated into longer term EIA forecasts.

<sup>&</sup>lt;sup>6</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

<sup>&</sup>lt;sup>7</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>8</sup> See: <u>http://www.eia.doe.gov/emeu/steo/pub/special/2009\_sp\_05.html</u>

The below chart illustrates April 2012 EIA WTI crude oil forecast ranges consistent with 95% confidence intervals through 2035 and June 2012 Moody's Analytics control forecasts of the same through 2027. The EIA alternative projections illustrate the wide range of possible prices at this confidence interval, even within the next 12 months. Based on this, in 2013, the real price (in 2010 dollars) of a barrel of crude oil could range from anywhere between about \$60 and \$175, with this spread widening to more than \$140 over the forecast period. Despite fairly close correspondence over the next several years, the EIA control forecast is more than \$25 per barrel higher than the Moody's forecast in 2017 and beyond. 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 Abounds in Oil Price Forecasts (Spring 2012 Projections) Sources: Moody's Analytics - June 2012, EIA AEO Early Release Overview - April 2012

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#### 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 (gallonage).

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 in Vermont and elsewhere are usually assessed as a per gallon charge, and thus do not grow with public infrastructure needs as gasoline prices rise. 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 close to 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 of Vermont as part of a regular consensus forecasting process that is updated at least every six months.<sup>9</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 FY2017).

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

Preliminary TIB revenues for FY2012 are expected to close the fiscal year slightly above (+1.5%) prior projections, as higher than anticipated gasoline prices over the past six months generated additional revenues. More recently, however, crude oil prices have plunged nearly 23% since their recent peak on May 1, 2012 at \$106.16 per barrel to \$81.80 per barrel as of mid-June 2012, and gasoline prices have begun declining accordingly.

<sup>&</sup>lt;sup>9</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.

	PRIOR REVENUE	FORECAST	Γ <mark>S VS. AC</mark> Τι	JALS
	(mi	illions of dolla	rs)	
		Gasoline	Diesel	Total
For FY11				
	Actual (final)	\$16.5	\$2.0	\$18.5
	Initial TIB 2010 Forecast	\$16.1	\$1.9	\$18.0
	Variance %	2.6%	3.3%	2.6%
	January 2011 Consensus	\$16.5	\$1.9	\$18.4
	Variance %	0.1%	3.3%	0.4%
For FY12				
	Actual (preliminary)	\$20.9	\$1.9	\$22.8
	Initial TIB 2010 Forecast	\$17.8	\$2.0	\$19.8
	Variance %	17.4%	-3.2%	15.3%
	January 2012 Consensus	\$20.6	\$1.9	\$22.5
	Variance %	1.5%	1.9%	1.5%

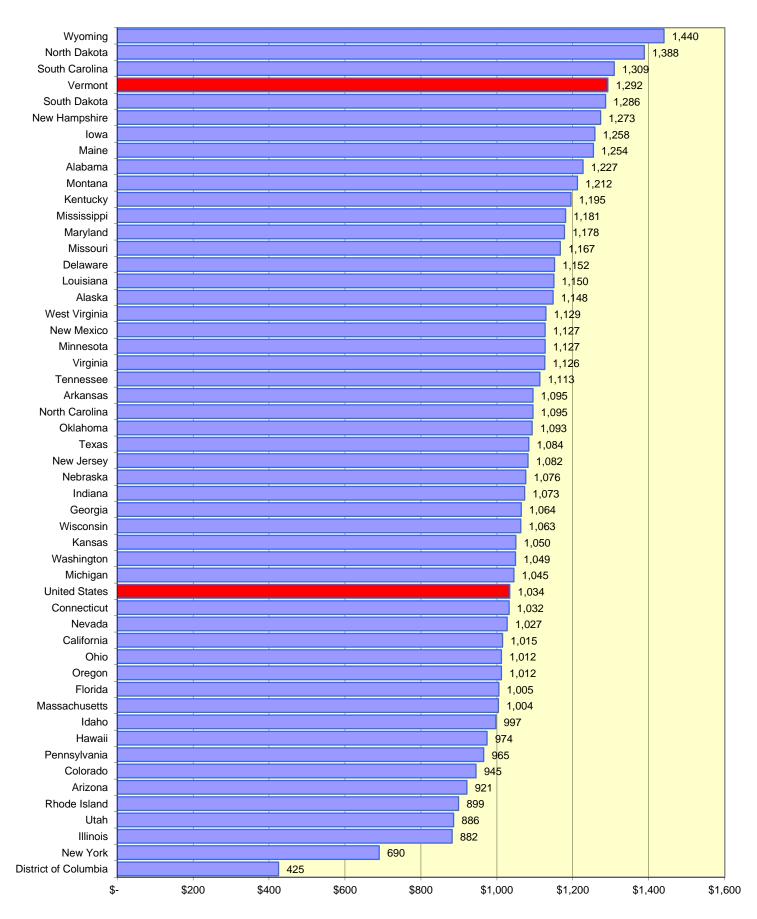
While a continuation of these steep oil price declines is not expected, lower global demand caused by continuing economic problems in Europe and slowing growth in India, China and Brazil will leave calendar year 2012 gasoline prices in Vermont only slightly above 2011 prices. As global economic growth picks up in 2013 and especially 2014, more rapid gasoline price appreciation can be expected, with nominal prices exceeding \$4 per gallon by 2015. As detailed in Table 5 in Appendix A, longer-term average annual growth in Vermont gasoline prices, at 2.5%, is conservatively estimated to only slightly exceed underlying rates of inflation as measured by the Consumer Price Index (CPI), at 2.3%.

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 2012 to 2040, EIA assumes somewhat higher gasoline price increases (2.7% per year) than Moody's (2.4% 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 1.1% per year (at compound average annual rates) between 1981 and 2011, which is slightly higher than State population growth at 0.7% per year over the same period, as detailed in Tables 1 and 3 in Appendix A. Population growth over the forecast period from 2012 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 following page, 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

## Per Capita Motor Gasoline Expenditures - 2009

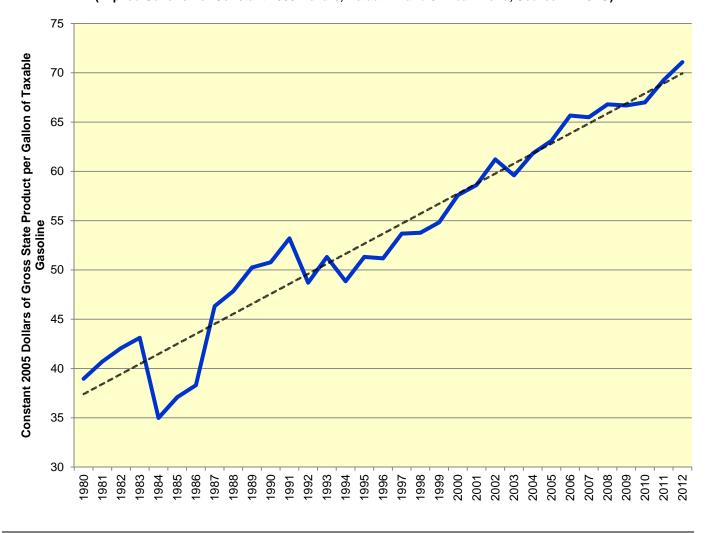
Source: U.S. Energy Information Administration

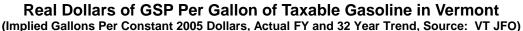


population and rural character of the State will continue to support slight growth in gasoline demand.

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.

As illustrated in the below chart, constant dollar Gross State Product per gallon of gasoline consumed in Vermont has grown steadily over the past 30 years, nearly doubling between 1980 and 2012. 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.





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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 2012 and 2040, Vermont gasoline prices are expected to grow at a compound annual rate of about 2.5%, while general inflation is expected to grow 2.3% per year over the same period. This will result in very little growth in taxable gasoline gallonage, with total demand in 2040 only about 10% above levels in 2014.

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 1.4% per year between 2012 and 2040, with TIB-related revenues growing in tandem.

#### 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 \$3.62 per gallon in 2012 to \$7.16 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 limited proven global oil supplies. If this demand fails to materialize or substantial new oil supplies are discovered, prices could rise more slowly or decline at some time during the forecast period.

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 Tables 1 and 6, however, even with a 50% reduction in revenues, there is ample revenue to service the 2010A TIBs and the 2012A TIBs, as well as the additional bond issuance outlined in Appendix B.

## TABLE 1

## State of Vermont

**Transportation Infrastructure Revenue Bonds** 

#### 2010A TIBs and 2012A TIBs Debt Service Coverage

Maturity Date	Fiscal Year	2010A TIBs Debt Service* (Actual)	2012A TIBs Debt Service** (Estimated)	Total Fiscal Year Debt Service (Estimated)	MFTIA Revenue (Projected)	Debt Service Coverage (Projected)
6/15/2012	2012	\$991,563		\$991,563	\$22,836,887	23.03
6/15/2012	2012	\$990,063	\$635,988	\$1,626,050	\$23,100,631	14.21
6/15/2014	2013	\$993,363	\$713,950	\$1,707,313	\$24,189,047	14.21
6/15/2014	2014	\$991,363	\$714,750	\$1,706,113	\$25,938,529	15.20
6/15/2015	2013	\$994,163	\$714,750	\$1,709,113	\$27,392,723	16.03
6/15/2017	2010	\$991,663	\$714,550	\$1,706,213	\$28,354,529	16.62
6/15/2018	2018	\$990,788	\$713,550	\$1,704,338	\$29,116,534	17.08
6/15/2019	2010	\$994,538	\$716,950	\$1,711,488	\$29,800,891	17.41
6/15/2020	2020	\$991,113	\$714,550	\$1,705,663	\$30,538,692	17.90
6/15/2021	2020	\$990,563	\$716,550	\$1,707,113	\$31,383,155	18.38
6/15/2022	2021	\$994,413	\$717,750	\$1,712,163	\$32,291,521	18.86
6/15/2023	2022	\$992,513	\$713,150	\$1,705,663	\$33,158,456	19.44
6/15/2023	2023	\$995,013	\$712,950	\$1,707,963	\$33,994,105	19.44
6/15/2025	2024	\$994,825	\$716,950	\$1,711,775	\$34,905,817	20.39
6/15/2026	2025	\$991,825	\$715,450	\$1,707,275	\$35,865,422	20.03
6/15/2027	2020	\$992,950	\$717,850	\$1,710,800	\$36,892,112	21.56
6/15/2028	2028	\$990,888	\$714,250	\$1,705,138	\$37,912,394	22.23
6/15/2029	2020	\$992,700	\$715,950	\$1,708,650	\$38,918,027	22.78
6/15/2029	2029	\$993,200	\$715, <del>3</del> 50 \$715,750	\$1,708,950	\$39,904,531	23.35
6/15/2031	2030	\$995,200 \$0	\$716,100	\$716,100	\$40,914,608	57.14
6/15/2032	2031	\$0 \$0	\$715,850	\$715,850	\$41,922,766	58.56
0/10/2002	2032	φ <b>0</b>	φ <i>r</i> 13,630	ψ <i>r</i> 13,850	ψ <del>-</del> τ, <u>322</u> ,700	56.50
		\$18,857,500	\$14,227,788	\$33,085,288	\$679,331,377	

\* Debt service schedule was provided to KRA by Public Resources Advisory Group, Inc. and reflects actual debt service on the 2010A 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 3.65% on the 2012A TIBs.

### Debt Service Coverage Analysis

Table 1 on the preceding 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 14 times the projected debt service costs for the 2010A TIBs and the 2012A TIBs. This would mean that it is likely the entire annual debt service costs for the 2010A TIBs and the 2010A TIBs and the 2012A TIBs could be generated by revenues collected in just one average month 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.

### 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 and the 2012A 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>10</sup>

<sup>&</sup>lt;sup>10</sup> Although the TIB assessment on gasoline has been collected in the TIB Fund since July 2009, Vermont has had a per gallon gasoline tax in effect since 1923. The diesel TIB assessment has been collected since December 2009 and represents an increase in the existing diesel fuel tax, first implemented in its present form in 1982. Table 3 and related charts in this Appendix contain pro forma estimates of what TIB revenues from these 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 2Selected Economic and Demographic MetricsTransportation Infrastructure Bond Analysis - July 2012

Vermont Gros (GSP) Consta Fiscal Y			· /	ross State Iominal Do al Year Bas	llars	١	l Population /ermont Il Year Basi				Vermont Fiscal Year Basis		ont	
	\$Billions	%ch		\$Billions	%ch	The	ousands	%ch	\$Th	ousands	%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 1987	11.6 12.2	5.5% 5.6%	1986 1987	7.7 8.4	1.9% 3.7%	1986 1987	532.5 537.7	0.7% 1.0%	1986 1987	25.5 24.5	3.1% -3.9%			
1987	12.2	9.5%	1987	8.4 9.5	12.6%	1987	546.1	1.6%	1988	24.5 27.2	-3.9%			
1989	14.5	9.5 <i>%</i> 8.1%	1989	9.5 10.6	4.8%	1988	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	602.9	0.6%	1999	41.1	10.6%			
2000	19.6	6.4%	2000	17.6	7.4%	2000	608.0	0.8%	2000	41.5	1.1%			
2001	20.2	3.2%	2001	18.5	4.8%	2001	611.3	0.5%	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 2004	21.2	2.7%	2003 2004	20.0	4.4%	2003	617.0	0.5%	2003	43.7	0.3%			
2004 2005	22.1 22.7	4.2% 2.8%	2004 2005	21.2 22.4	6.2% 5.5%	2004 2005	619.2 620.8	0.4% 0.3%	2004 2005	45.0 46.5	3.2% 3.2%			
2005	22.7	1.3%	2005	22.4	4.1%	2005	622.3	0.3%	2005	46.2	-0.6%			
2000	22.8	-0.7%	2000	23.8	2.1%	2000	623.3	0.2%	2000	48.9	5.9%			
2008	22.9	0.4%	2008	24.3	2.3%	2008	623.9	0.1%	2008		4.4%			
2009	22.2	-3.3%	2009	24.2	-0.5%	2009	624.5	0.1%	2009	52.4	2.6%			
2010	22.4	1.1%	2010	24.8	2.3%	2010	625.5	0.2%	2010	50.4	-3.7%			
2011	23.0	2.7%	2011	25.7	3.6%	2011	626.3	0.1%	2011	49.3	-2.2%			
2012	23.1	0.5%	2012	26.3	2.7%	2012	627.5	0.2%	2012	49.7	0.8%			
2013	23.8	2.9%	2013	27.6	4.6%	2013	629.6	0.3%	2013	50.3	1.3%			
2014	24.4	2.6%	2014	28.8	<b>4.6%</b>	2014	631.5	0.3%	2014	51.6	2.5%			
2015	25.3	3.6%	2015	30.5	5.9%	2015	633.7	0.3%	2015	53.6	3.9%			
2016	26.1	3.0%	2016	32.1	5.3%	2016	635.9	0.3%	2016	55.7	3.9%			
2017	26.6	2.0%	2017	33.4	4.0%	2017	638.2	0.4%	2017	57.5	3.3%			
2018	27.0	1.4%	2018	34.6	3.5%	2018	640.7	0.4%	2018	59.2	3.0%			
2019	27.4	1.6%	2019	35.8	3.6%	2019	643.3	0.4%	2019	60.9	2.7%			
2020	27.9	1.7%	2020	37.1	3.7%	2020	646.1	0.4%	2020	62.5	2.6%			
2021	28.4	1.8%	2021	38.6	3.8%	2021	648.9	0.4%	2021	64.1	2.7%			
2022 2023	28.9 29.5	1.9% 2.0%	2022 2023	40.0 41.6	3.9% 3.9%	2022 2023	651.6 654.3	0.4% 0.4%	2022 2023	65.9 67.7	2.8%			
2023	29.5 30.0	2.0% 1.9%	2023 2024	41.6	3.9% 3.9%	2023 2024	654.3 657.1	0.4% 0.4%	2023 2024	67.7 69.7	2.8% 2.8%			
2024 2025	30.0	1.9%	2024 2025	43.2 44.9	3.9% 3.8%	2024 2025	659.9	0.4% 0.4%	2024 2025	69.7 71.7	2.8%			
2025	30.0	1.9%	2025	44.9	3.8%	2025	662.6	0.4%	2025	73.7	2.8%			
2027	31.8	1.9%	2027	48.3	3.8%	2027	665.1	0.4%	2027	75.7	2.8%			
2028	32.4	1.9%	2028	50.2	3.8%	2028	667.6	0.4%	2028	77.9	2.8%			
2029	33.0	1.9%	2029	52.1	3.8%	2029	670.2	0.4%	2029	80.1	2.8%			
2030	33.7	1.9%	2030	54.0	3.8%	2030	672.7	0.4%	2030	82.3	2.8%			
2031	34.3	1.9%	2031	56.1	3.8%	2031	675.2	0.4%	2031	84.6	2.8%			
2032	35.0	1 <b>.9%</b>	2032	58.2	3.8%	2032	677.8	0.4%	2032	87.0	2.8%			
2033	35.7	1 <b>.9%</b>	2033	60.4	3.8%	2033	680.3	0.4%	2033	89.5	2.8%			
2034	36.4	1.9%	2034	62.7	3.8%	2034	682.9	0.4%	2034	92.0	2.8%			
2035	37.1	1.9%	2035	65.1	3.8%	2035	685.5	0.4%	2035	94.6	2.8%			
2036	37.8	1.9%	2036	67.5	3.8%	2036	688.0	0.4%	2036	97.2	2.8%			
2037	38.5	1.9%	2037	70.1	3.8%	2037	690.6	0.4%	2037	100.0	2.8%			
2038	39.3	1.9%	2038	72.8	3.8%	2038	693.2	0.4%	2038	102.8	2.8%			
2039 2040	40.0 40.8	1.9% 1.9%	2039 2040	75.5 78.4	3.8% 3.8%	2039 2040	695.9 698.5	0.4% 0.4%	2039 2040	105.7 108.7	2.8% 2.8%			
mpound Ave	-	ual Perce	ent Change											
1-2011	<b>2.9%</b>			5.6%			0.7%			3.4%				
2-2040	2.0%			4.0%			0.4%			2.8%				
	/loody's Ana			loody's Ana			loody's Ana		Мс					

# TABLE 3Selected Economic and Revenue MetricsTransportation Infrastructure Bond Analysis - July 2012

1981       37.4         1982       34.4       -8         1983       32.2       -6         1984       30.5       -5         1985       27.9       -8         1986       22.0       -21         1987       16.7       -24         1988       18.3       9         1989       17.2       -6         1990       19.8       15         1991       25.2       27         1992       20.9       -17         1993       20.4       -2         1994       16.7       -18         1995       18.5       10         1996       19.4       -5         1997       22.4       15         1998       17.6       -21         1999       14.4       -17         2000       26.0       80         2001       30.1       15         2002       23.7       -21         2003       29.9       26         2004       33.7       12         2005       48.7       44         2006       64.2       31         2007       63.4<		11000	s	Fisca	l Year Bas	is	Pro Forma VT TIB Revenues* from Diesel Assessment Fiscal Year Basis			
1981         37.4           1982         34.4         -8           1983         32.2         -6           1984         30.5         -5           1985         27.9         -8           1986         22.0         -21           1987         16.7         -24           1988         18.3         9           1989         17.2         -6           1990         19.8         15           1991         25.2         27           1992         20.9         -17           1993         20.4         -2           1994         16.7         -18           1995         18.5         10           1996         19.4         -5           1997         22.4         15           1998         17.6         -21           1999         14.4         -17           2000         26.0         80           2001         30.1         15           2002         23.7         -21           2003         29.9         26           2004         3.7         12           2005         48.7         44	%ch		Index	%ch	\$	Millions	%ch		\$Millions	%ch
1982       34.4       -8         1983       32.2       -6         1984       30.5       -5         1985       27.9       -8         1986       22.0       -21         1987       16.7       -24         1988       18.3       9         1989       17.2       -6         1990       19.8       15         1991       25.2       27         1992       20.9       -17         1993       20.4       -2         1994       16.7       -18         1995       18.5       10         1996       19.4       -5         1997       22.4       15         1998       17.6       -21         1999       14.4       -17         2000       26.0       80         2001       30.1       15         2002       23.7       -21         2003       29.9       26         2004       33.7       12         2005       48.7       44         2006       64.2       31         2007       63.4       -1         2008 <th></th> <th>1981</th> <th>86.6</th> <th></th> <th>1981</th> <th></th> <th></th> <th>1981</th> <th>•</th> <th></th>		1981	86.6		1981			1981	•	
1983       32.2       -6         1984       30.5       -5         1985       27.9       -8         1986       22.0       -21         1987       16.7       -24         1988       18.3       9         1989       17.2       -6         1990       19.8       15         1991       25.2       27         1992       20.9       -17         1993       20.4       -2         1994       16.7       -18         1995       18.5       10         1996       19.4       5         1997       22.4       15         1998       17.6       -21         1999       14.4       -17         2000       26.0       80         2001       30.1       15         2002       23.7       -21         2003       29.9       26         2004       33.7       12         2005       48.7       44         2006       64.2       31         2007       63.4       -1         2008       97.1       53         2010 <td>-8.1%</td> <td>1982</td> <td>94.2</td> <td>8.7%</td> <td>1982</td> <td></td> <td></td> <td>1982</td> <td></td> <td></td>	-8.1%	1982	94.2	8.7%	1982			1982		
1984       30.5       -5         1985       27.9       -8         1986       22.0       -21         1987       16.7       -24         1988       18.3       9         1989       17.2       -6         1990       19.8       15         1991       25.2       27         1992       20.9       -17         1993       20.4       -2         1994       16.7       -18         1995       18.5       10         1996       19.4       -5         1997       22.4       15         1998       17.6       -21         1999       14.4       -17         2000       26.0       80         2001       30.1       15         2002       23.7       -21         2003       29.9       26         2004       33.7       12         2005       48.7       44         2006       64.2       31         2007       63.4       -1         2008       97.1       53         2010       75.2       7         2011 <td>-6.4%</td> <td>1983</td> <td>98.2</td> <td>4.3%</td> <td>1983</td> <td></td> <td></td> <td>1983</td> <td></td> <td></td>	-6.4%	1983	98.2	4.3%	1983			1983		
1985       27.9       -8         1986       22.0       -21         1987       16.7       -24         1988       18.3       9         1989       17.2       -6         1990       19.8       15         1991       25.2       27         1992       20.9       -17         1993       20.4       -2         1994       16.7       -18         1995       18.5       10         1996       19.4       -5         1997       22.4       15         1998       17.6       -21         1999       14.4       -17         2000       26.0       80         2001       30.1       15         2002       23.7       -21         2003       29.9       26         2004       33.7       12         2005       48.7       44         2006       64.2       31         2007       63.4       -1         2008       97.1       53         2009       69.7       -28         2010       75.2       7         2011 <td>-5.2%</td> <td>1984</td> <td>101.8</td> <td>3.7%</td> <td>1984</td> <td></td> <td></td> <td>1984</td> <td></td> <td></td>	-5.2%	1984	101.8	3.7%	1984			1984		
1986       22.0       -21         1987       16.7       -24         1988       18.3       9         1989       17.2       -6         1990       19.8       15         1991       25.2       27         1992       20.9       -17         1993       20.4       -2         1994       16.7       -18         1995       18.5       10         1996       19.4       -5         1997       22.4       15         1998       17.6       -21         1999       14.4       -17         2000       26.0       80         2001       30.1       15         2002       23.7       -21         2003       29.9       26         2004       33.7       12         2005       48.7       44         2006       64.2       31         2007       63.4       -1         2008       97.1       53         2009       69.7       -28         2010       75.2       7         2011       89.4       18         2012 <td>-8.6%</td> <td>1985</td> <td>105.8</td> <td>3.9%</td> <td>1985</td> <td>2.9</td> <td></td> <td>1985</td> <td>0.6</td> <td></td>	-8.6%	1985	105.8	3.9%	1985	2.9		1985	0.6	
1987       16.7       -24         1988       18.3       9         1989       17.2       -6         1990       19.8       15         1991       25.2       27         1992       20.9       -17         1993       20.4       -2         1994       16.7       -18         1995       18.5       10         1996       19.4       -55         1997       22.4       15         1998       17.6       -21         1999       14.4       -17         2000       26.0       80         2001       30.1       15         2002       23.7       -21         2003       29.9       26         2004       33.7       12         2005       48.7       44         2006       64.2       31         2007       63.4       -1         2008       97.1       53         2009       69.7       -28         2010       75.2       7         2011       89.4       18         2012       96.0       7         2013 <td>21.1%</td> <td>1986</td> <td>108.9</td> <td>2.9%</td> <td>1986</td> <td>2.7</td> <td>-6.4%</td> <td>1986</td> <td>0.6</td> <td>8.7%</td>	21.1%	1986	108.9	2.9%	1986	2.7	-6.4%	1986	0.6	8.7%
1988         18.3         9           1989         17.2         -6           1990         19.8         15           1991         25.2         27           1992         20.9         -17           1993         20.4         -2           1994         16.7         -18           1995         18.5         10           1996         19.4         55           1997         22.4         15           1998         17.6         -21           1999         14.4         -17           2000         26.0         80           2001         30.1         15           2002         23.7         -21           2003         29.9         26           2004         33.7         12           2005         48.7         44           2006         64.2         31           2007         63.4         -1           2008         97.1         53           2009         69.7         -28           2010         75.2         7           2011         89.4         18           2012         96.0<	24.0%	1987	111.3	2.3%	1987	2.1	-23.3%	1987	0.0	12.3%
1989       17.2       -6         1990       19.8       15         1991       25.2       27         1992       20.9       -17         1993       20.4       -2         1994       16.7       -18         1995       18.5       10         1996       19.4       5         1997       22.4       15         1998       17.6       -21         1999       14.4       -17         2000       26.0       80         2001       30.1       15         2002       23.7       -21         2003       29.9       26         2004       33.7       12         2005       48.7       44         2006       64.2       31         2007       63.4       -1         2008       97.1       53         2009       69.7       -28         2010       75.2       7         2011       89.4       18         2012       96.0       7         2013       96.0       0         2014       108.2       12         2015		1988		2.2 <i>%</i> 4.1%	1987	2.1	10.0%	1988		2.7%
1990       19.8       15         1991       25.2       27         1992       20.9       -17         1993       20.4       -2         1994       16.7       -18         1995       18.5       10         1996       19.4       5         1997       22.4       15         1998       17.6       -21         1999       14.4       -17         2000       26.0       80         2001       30.1       15         2002       23.7       -21         2003       29.9       26         2004       33.7       12         2005       48.7       44         2006       64.2       31         2007       63.4       -1         2008       97.1       53         2009       69.7       -28         2010       75.2       7         2011       89.4       18         2012       96.0       7         2013       96.0       0         2014       108.2       12         2015       109.9       1         2016	9.3% 6.4%		115.9 121.2					1980	0.7	
1991         25.2         27           1992         20.9         -17           1993         20.4         -2           1994         16.7         -18           1995         18.5         10           1996         19.4         5           1997         22.4         15           1998         17.6         -21           1999         14.4         -17           2000         26.0         80           2001         30.1         15           2002         23.7         -21           2003         29.9         26           2004         33.7         12           2005         48.7         44           2006         64.2         31           2007         63.4         -1           2008         97.1         53           2009         69.7         -28           2010         75.2         7           2011         89.4         18           2012         96.0         7           2013         96.0         0           2014         108.2         12           2015         109.9<	-6.1%	1989		4.6%	1989	2.4	8.0%		0.8	6.6%
1992       20.9       -17         1993       20.4       -2         1994       16.7       -18         1995       18.5       10         1996       19.4       5         1997       22.4       15         1998       17.6       -21         1999       14.4       -17         2000       26.0       80         2001       30.1       15         2002       23.7       -21         2003       29.9       26         2004       33.7       12         2005       48.7       44         2006       64.2       31         2007       63.4       -1         2008       97.1       53         2009       69.7       -28         2010       75.2       7         2011       89.4       18         2012       96.0       7         2013       96.0       0         2014       108.2       12         2015       109.9       1         2016       109.6       -0         2017       112.0       2         2020	15.4%	1990	127.0	4.8%	1990	3.4	38.3%	1990	1.2	52.7%
1993       20.4       -2         1994       16.7       -18         1995       18.5       10         1996       19.4       5         1997       22.4       15         1998       17.6       -21         1999       14.4       -17         2000       26.0       80         2001       30.1       15         2002       23.7       -21         2003       29.9       26         2004       33.7       12         2005       48.7       44         2006       64.2       31         2007       63.4       -1         2008       97.1       53         2009       69.7       -28         2010       75.2       7         2011       89.4       18         2012       96.0       7         2013       96.0       0         2014       108.2       12         2015       109.9       1         2016       109.6       -0         2017       112.0       2         2020       120.0       2         2021	27.4%	1991	133.9	5.5%	1991	3.7	8.7%	1991	1.3	7.5%
1994       16.7       -18         1995       18.5       10         1996       19.4       5         1997       22.4       15         1998       17.6       -21         1999       14.4       -17         2000       26.0       80         2001       30.1       15         2002       23.7       -21         2003       29.9       26         2004       33.7       12         2005       48.7       44         2006       64.2       31         2007       63.4       -1         2008       97.1       53         2009       69.7       -28         2010       75.2       7         2011       89.4       18         2012       96.0       7         2013       96.0       0         2014       108.2       12         2015       109.9       1         2016       109.6       -0         2017       112.0       2         2020       120.0       2         2021       122.8       2         2022	17.2%	1992	138.2	3.2%	1992	4.0	8.0%	1992	1.2	-2.6%
1995         18.5         10           1996         19.4         5           1997         22.4         15           1998         17.6         -21           1999         14.4         -17           2000         26.0         80           2001         30.1         15           2002         23.7         -21           2003         29.9         26           2004         33.7         12           2005         48.7         44           2006         64.2         31           2007         63.4         -1           2008         97.1         53           2009         69.7         -28           2010         75.2         7           2011         89.4         18           2012         96.0         7           2013         96.0         0           2014         108.2         12           2015         109.9         1           2016         109.6         -0           2017         112.0         2           2020         120.0         2           2021         125.6 </td <td>-2.1%</td> <td>1993</td> <td>142.5</td> <td>3.1%</td> <td>1993</td> <td>3.6</td> <td>-8.0%</td> <td>1993</td> <td>1.3</td> <td>8.8%</td>	-2.1%	1993	142.5	3.1%	1993	3.6	-8.0%	1993	1.3	8.8%
1996         19.4         5           1997         22.4         15           1998         17.6         -21           1999         14.4         -17           2000         26.0         80           2001         30.1         15           2002         23.7         -21           2003         29.9         26           2004         33.7         12           2005         48.7         44           2006         64.2         31           2007         63.4         -1           2008         97.1         53           2010         75.2         7           2011         89.4         18           2012         96.0         7           2013         96.0         0           2014         108.2         12           2015         109.9         1           2016         109.6         -0           2017         112.0         2           2020         120.0         2           2021         125.6         2           2022         125.6         2           2023         128.5 <td>18.2%</td> <td>1994</td> <td>146.2</td> <td>2.6%</td> <td>1994</td> <td>3.7</td> <td>1.9%</td> <td>1994</td> <td>1.3</td> <td>-6.0%</td>	18.2%	1994	146.2	2.6%	1994	3.7	1.9%	1994	1.3	-6.0%
1997         22.4         15           1998         17.6         -21           1999         14.4         -17           2000         26.0         80           2001         30.1         15           2002         23.7         -21           2003         29.9         26           2004         33.7         12           2005         48.7         44           2006         64.2         31           2007         63.4         -1           2008         97.1         53           2009         69.7         -28           2010         75.2         7           2011         89.4         18           2012         96.0         7           2013         96.0         0           2014         108.2         12           2015         109.9         1           2016         109.6         -0           2017         112.0         2           2020         120.0         2           2021         122.8         2           2022         125.6         2           2023         128.5<	10.5%	1995	150.4	2.8%	1995	3.7	-0.2%	1995	1.3	5.9%
1998         17.6         -21           1999         14.4         -17           2000         26.0         80           2001         30.1         15           2002         23.7         -21           2003         29.9         26           2004         33.7         12           2005         48.7         44           2006         64.2         31           2007         63.4         -1           2008         97.1         53           2009         69.7         -28           2010         75.2         7           2011         89.4         18           2012         96.0         0           2013         96.0         0           2014         108.2         12           2015         109.9         1           2016         109.6         -0           2017         112.0         2           2020         120.0         2           2021         122.8         2           2022         125.6         2           2023         128.5         2           2024         131.5<	5.0%	1996	154.5	2.7%	1996	4.0	8.2%	1996	1.3	-0.6%
1999         14.4         -17           2000         26.0         80           2001         30.1         15           2002         23.7         -21           2003         29.9         26           2004         33.7         12           2005         48.7         44           2006         64.2         31           2007         63.4         -1           2008         97.1         53           2009         69.7         -28           2010         75.2         7           2011         89.4         18           2012         96.0         7           2013         96.0         0           2014         108.2         12           2015         109.9         1           2016         109.6         -0           2017         112.0         2           2018         114.6         2           2020         120.0         2           2021         122.8         2           2022         125.6         2           2023         128.5         2           2024         131.5 </td <td>15.8%</td> <td>1997</td> <td>158.9</td> <td>2.8%</td> <td>1997</td> <td>4.5</td> <td>10.8%</td> <td>1997</td> <td>1.3</td> <td>-1.3%</td>	15.8%	1997	158.9	2.8%	1997	4.5	10.8%	1997	1.3	-1.3%
1999         14.4         -17           2000         26.0         80           2001         30.1         15           2002         23.7         -21           2003         29.9         26           2004         33.7         12           2005         48.7         44           2006         64.2         31           2007         63.4         -1           2008         97.1         53           2009         69.7         -28           2010         75.2         7           2011         89.4         18           2012         96.0         7           2013         96.0         0           2014         108.2         12           2015         109.9         1           2016         109.6         -0           2017         112.0         2           2018         114.6         2           2020         120.0         2           2021         125.6         2           2022         125.6         2           2023         128.5         2           2024         131.5 </td <td>21.7%</td> <td>1998</td> <td>161.8</td> <td>1.8%</td> <td>1998</td> <td>5.3</td> <td>17.9%</td> <td>1998</td> <td>1.6</td> <td>23.2%</td>	21.7%	1998	161.8	1.8%	1998	5.3	17.9%	1998	1.6	23.2%
2000         26.0         80           2001         30.1         15           2002         23.7         -21           2003         29.9         26           2004         33.7         12           2005         48.7         44           2006         64.2         31           2007         63.4         -1           2008         97.1         53           2009         69.7         -28           2010         75.2         7           2011         89.4         18           2012         96.0         7           2013         96.0         0           2014         108.2         12           2015         109.9         1           2016         109.6         -0           2017         112.0         2           2018         114.6         2           2020         120.0         2           2021         122.8         2           2022         125.6         2           2023         128.5         2           2024         131.5         2           2025         134.5 <td>17.9%</td> <td>1999</td> <td>164.5</td> <td>1.7%</td> <td>1999</td> <td>4.2</td> <td>-19.5%</td> <td>1999</td> <td>1.7</td> <td>7.4%</td>	17.9%	1999	164.5	1.7%	1999	4.2	-19.5%	1999	1.7	7.4%
2001         30.1         15           2002         23.7         -21           2003         29.9         26           2004         33.7         12           2005         48.7         44           2006         64.2         31           2007         63.4         -1           2008         97.1         53           2009         69.7         -28           2010         75.2         7           2011         89.4         18           2012         96.0         7           2013         96.0         0           2014         108.2         12           2015         109.9         1           2016         109.6         -0           2017         112.0         2           2018         114.6         2           2020         120.0         2           2021         122.8         2           2022         125.6         2           2023         128.5         2           2024         131.5         2           2025         134.5         2           2026         137.6 <td>80.1%</td> <td>2000</td> <td>169.3</td> <td>2.9%</td> <td>2000</td> <td>5.9</td> <td>39.3%</td> <td>2000</td> <td>1.8</td> <td>2.9%</td>	80.1%	2000	169.3	2.9%	2000	5.9	39.3%	2000	1.8	2.9%
2002         23.7         -21           2003         29.9         26           2004         33.7         12           2005         48.7         44           2006         64.2         31           2007         63.4         -1           2008         97.1         53           2009         69.7         -28           2010         75.2         7           2011         89.4         18           2012         96.0         7           2013         96.0         0           2014         108.2         12           2015         109.9         1           2016         109.6         -0           2017         112.0         2           2020         120.0         2           2021         122.8         2           2022         125.6         2           2023         128.5         2           2024         131.5         2           2025         134.5         2           2026         137.6         2           2030         150.3         2           2031         153.7 <td>15.8%</td> <td>2001</td> <td>175.1</td> <td>3.4%</td> <td>2001</td> <td>7.9</td> <td>33.8%</td> <td>2001</td> <td>2.1</td> <td>19.3%</td>	15.8%	2001	175.1	3.4%	2001	7.9	33.8%	2001	2.1	19.3%
2003         29.9         26           2004         33.7         12           2005         48.7         44           2006         64.2         31           2007         63.4         -1           2008         97.1         53           2009         69.7         -28           2010         75.2         7           2011         89.4         18           2012         96.0         7           2013         96.0         0           2014         108.2         12           2015         109.9         1           2016         109.6         -0           2017         112.0         2           2020         120.0         2           2021         122.8         2           2022         125.6         2           2023         128.5         2           2024         131.5         2           2025         134.5         2           2026         137.6         2           2030         150.3         2           2031         153.7         2           2032         157.1 <td>21.1%</td> <td>2002</td> <td>178.2</td> <td>1.8%</td> <td>2002</td> <td>6.8</td> <td>-13.2%</td> <td>2002</td> <td>2.0</td> <td>-6.7%</td>	21.1%	2002	178.2	1.8%	2002	6.8	-13.2%	2002	2.0	-6.7%
2004         33.7         12           2005         48.7         44           2006         64.2         31           2007         63.4         -1           2008         97.1         53           2009         69.7         -28           2010         75.2         7           2011         89.4         18           2012         96.0         7           2013         96.0         0           2014         108.2         12           2015         109.9         1           2016         109.6         -0           2017         112.0         2           2018         114.6         2           2020         120.0         2           2021         122.8         2           2022         125.6         2           2023         128.5         2           2024         131.5         2           2025         134.5         2           2026         137.6         2           2030         150.3         2           2031         153.7         2           2032         157.1 <td>26.1%</td> <td>2003</td> <td>182.1</td> <td>2.2%</td> <td>2003</td> <td>7.4</td> <td>8.5%</td> <td>2003</td> <td>2.0</td> <td>-1.3%</td>	26.1%	2003	182.1	2.2%	2003	7.4	8.5%	2003	2.0	-1.3%
2005         48.7         44           2006         64.2         31           2007         63.4         -1           2008         97.1         53           2009         69.7         -28           2010         75.2         7           2011         89.4         18           2012         96.0         7           2013         96.0         0           2014         108.2         12           2015         109.9         1           2016         109.6         -0           2017         112.0         2           2018         114.6         2           2020         120.0         2           2021         122.8         2           2022         125.6         2           2023         128.5         2           2024         131.5         2           2025         134.5         2           2026         137.6         2           2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6 <td>12.8%</td> <td>2004</td> <td>186.1</td> <td>2.2%</td> <td>2000</td> <td>8.5</td> <td>14.8%</td> <td>2004</td> <td>2.2</td> <td>9.7%</td>	12.8%	2004	186.1	2.2%	2000	8.5	14.8%	2004	2.2	9.7%
2006         64.2         31           2007         63.4         -1           2008         97.1         53           2009         69.7         -28           2010         75.2         7           2011         89.4         18           2012         96.0         7           2013         96.0         0           2014         108.2         12           2015         109.9         1           2016         109.6         -0           2017         112.0         2           2018         114.6         2           2020         120.0         2           2021         122.8         2           2022         125.6         2           2023         128.5         2           2024         131.5         2           2025         134.5         2           2026         137.6         2           2027         140.7         2           2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6 <td>44.4%</td> <td>2004</td> <td>191.7</td> <td>3.0%</td> <td>2004</td> <td>10.9</td> <td>28.3%</td> <td>2004</td> <td>1.9</td> <td>-13.8%</td>	44.4%	2004	191.7	3.0%	2004	10.9	28.3%	2004	1.9	-13.8%
2007         63.4         -1           2008         97.1         53           2009         69.7         -28           2010         75.2         7           2011         89.4         18           2012         96.0         7           2013         96.0         0           2014         108.2         12           2015         109.9         1           2016         109.6         -0           2017         112.0         2           2018         114.6         2           2020         120.0         2           2021         122.8         2           2022         125.6         2           2023         128.5         2           2024         131.5         2           2025         134.5         2           2026         137.6         2           2027         140.7         2           2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6         2           2034         164.2 <td>44.4<i>%</i> 31.8%</td> <td>2005</td> <td>191.7</td> <td>3.8%</td> <td>2005</td> <td>13.7</td> <td>25.5%</td> <td>2005</td> <td>2.1</td> <td>14.0%</td>	44.4 <i>%</i> 31.8%	2005	191.7	3.8%	2005	13.7	25.5%	2005	2.1	14.0%
2008         97.1         53           2009         69.7         -28           2010         75.2         7           2011         89.4         18           2012         96.0         7           2013         96.0         0           2014         108.2         12           2015         109.9         1           2016         109.6         -0           2017         112.0         2           2018         114.6         2           2020         120.0         2           2021         122.8         2           2022         125.6         2           2023         128.5         2           2024         131.5         2           2025         134.5         2           2026         137.6         2           2027         140.7         2           2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6         2           2034         164.2         2           2035         167.8 <td></td>										
2009         69.7         -28           2010         75.2         7           2011         89.4         18           2012         96.0         7           2013         96.0         0           2014         108.2         12           2015         109.9         1           2016         109.6         -0           2017         112.0         2           2018         114.6         2           2020         120.0         2           2021         122.8         2           2022         125.6         2           2023         128.5         2           2024         131.5         2           2025         134.5         2           2026         137.6         2           2027         140.7         2           2028         143.8         2           2029         147.0         2           2031         150.3         2           2032         157.1         2           2033         160.6         2           2034         164.2         2           2035         167.8 <td>-1.3%</td> <td>2007</td> <td>204.1</td> <td>2.6%</td> <td>2007</td> <td>15.1</td> <td>10.1%</td> <td>2007</td> <td>2.2</td> <td>1.7%</td>	-1.3%	2007	204.1	2.6%	2007	15.1	10.1%	2007	2.2	1.7%
2010         75.2         7           2011         89.4         18           2012         96.0         7           2013         96.0         0           2014         108.2         12           2015         109.9         1           2016         109.6         -0           2017         112.0         2           2018         114.6         2           2020         120.0         2           2021         122.8         2           2022         125.6         2           2023         128.5         2           2024         131.5         2           2025         134.5         2           2026         137.6         2           2027         140.7         2           2028         143.8         2           2029         147.0         2           2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6         2           2034         164.2         2           2035         167.8	53.1%	2008	211.7	3.7%	2008	17.4	15.2%	2008	2.0	-7.8%
2011         89.4         18           2012         96.0         7           2013         96.0         0           2014         108.2         12           2015         109.9         1           2016         109.6         -0           2017         112.0         2           2018         114.6         2           2020         120.0         2           2021         122.8         2           2022         125.6         2           2023         128.5         2           2024         131.5         2           2025         134.5         2           2026         137.6         2           2027         140.7         2           2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6         2           2034         164.2         2           2035         167.8         2           2036         171.6         2           2037         175.4         2           2038         179.3 <td>28.2%</td> <td>2009</td> <td>214.7</td> <td>1.4%</td> <td>2009</td> <td>17.2</td> <td>-1.3%</td> <td>2009</td> <td>1.9</td> <td>-6.5%</td>	28.2%	2009	214.7	1.4%	2009	17.2	-1.3%	2009	1.9	-6.5%
2012         96.0         7           2013         96.0         0           2014         108.2         12           2015         109.9         1           2016         109.6         -0           2017         112.0         2           2018         114.6         2           2019         117.3         2           2020         120.0         2           2021         122.8         2           2022         125.6         2           2023         128.5         2           2024         131.5         2           2025         134.5         2           2027         140.7         2           2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6         2           2034         164.2         2           2035         167.8         2           2036         171.6         2           2037         175.4         2           2038         179.3         2           2039         183.3 <td>7.9%</td> <td>2010</td> <td>216.8</td> <td>1.0%</td> <td>2010</td> <td>13.4</td> <td>-22.2%</td> <td>2010</td> <td>1.8</td> <td>-3.7%</td>	7.9%	2010	216.8	1.0%	2010	13.4	-22.2%	2010	1.8	-3.7%
2013         96.0         0           2014         108.2         12           2015         109.9         1           2016         109.6         -0           2017         112.0         2           2018         114.6         2           2019         117.3         2           2020         120.0         2           2021         122.8         2           2022         125.6         2           2023         128.5         2           2024         131.5         2           2025         134.5         2           2026         137.6         2           2027         140.7         2           2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6         2           2034         164.2         2           2035         167.8         2           2036         171.6         2           2037         175.4         2           2038         179.3         2           2039         183.3 <td>18.9%</td> <td>2011</td> <td>221.1</td> <td>2.0%</td> <td>2011</td> <td>16.5</td> <td>23.6%</td> <td>2011</td> <td>2.0</td> <td>9.6%</td>	18.9%	2011	221.1	2.0%	2011	16.5	23.6%	2011	2.0	9.6%
2014         108.2         12           2015         109.9         1           2016         109.6         -0           2017         112.0         2           2018         114.6         2           2019         117.3         2           2020         120.0         2           2021         122.8         2           2022         125.6         2           2023         128.5         2           2024         131.5         2           2025         134.5         2           2026         137.6         2           2027         140.7         2           2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6         2           2034         164.2         2           2035         167.8         2           2036         171.6         2           2037         175.4         2           2038         179.3         2           2039         183.3         2	7.3%	2012	227.5	<b>2.9%</b>	2012	20.9	<b>26.6%</b>	2012	1.9	-1.4%
2015         109.9         1           2016         109.6         -0           2017         112.0         2           2018         114.6         2           2019         117.3         2           2020         120.0         2           2021         122.8         2           2022         125.6         2           2023         128.5         2           2024         131.5         2           2025         134.5         2           2027         140.7         2           2028         143.8         2           2029         147.0         2           2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6         2           2034         164.2         2           2035         167.8         2           2036         171.6         2           2037         175.4         2           2038         179.3         2           2039         183.3         2	0.0%	2013	230.9	1.5%	2013	21.0	0.7%	2013	2.1	6.3%
2016         109.6         -0           2017         112.0         2           2018         114.6         2           2019         117.3         2           2020         120.0         2           2021         122.8         2           2022         125.6         2           2023         128.5         2           2024         131.5         2           2025         134.5         2           2026         137.6         2           2027         140.7         2           2028         143.8         2           2029         147.0         2           2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6         2           2034         164.2         2           2035         167.8         2           2036         171.6         2           2037         175.4         2           2038         179.3         2           2039         183.3         2	12.7%	2014	236.7	2.5%	2014	22.1	4.9%	2014	2.1	3.1%
2017         112.0         2           2018         114.6         2           2019         117.3         2           2020         120.0         2           2021         122.8         2           2022         125.6         2           2023         128.5         2           2024         131.5         2           2025         134.5         2           2026         137.6         2           2027         140.7         2           2028         143.8         2           2029         147.0         2           2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6         2           2034         164.2         2           2035         167.8         2           2036         171.6         2           2037         175.4         2           2038         179.3         2           2039         183.3         2	1.5%	2015	243.3	2.8%	2015	23.8	7.7%	2015	2.2	2.4%
2017         112.0         2           2018         114.6         2           2019         117.3         2           2020         120.0         2           2021         122.8         2           2022         125.6         2           2023         128.5         2           2024         131.5         2           2025         134.5         2           2026         137.6         2           2027         140.7         2           2028         143.8         2           2029         147.0         2           2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6         2           2034         164.2         2           2035         167.8         2           2036         171.6         2           2037         175.4         2           2038         179.3         2           2039         183.3         2	-0.3%	2016	249.4	2.5%	2016	25.2	5.9%	2016	2.2	2.3%
2018         114.6         2           2019         117.3         2           2020         120.0         2           2021         122.8         2           2022         125.6         2           2023         128.5         2           2024         131.5         2           2025         134.5         2           2026         137.6         2           2027         140.7         2           2028         143.8         2           2029         147.0         2           2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6         2           2034         164.2         2           2035         167.8         2           2036         171.6         2           2037         175.4         2           2038         179.3         2           2039         183.3         2	2.2%	2017	255.3	2.3%	2017	26.1	3.7%	2017	2.3	1.7%
2019         117.3         2           2020         120.0         2           2021         122.8         2           2022         125.6         2           2023         128.5         2           2024         131.5         2           2025         134.5         2           2026         137.6         2           2027         140.7         2           2028         143.8         2           2029         147.0         2           2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6         2           2035         167.8         2           2036         171.6         2           2037         175.4         2           2038         179.3         2           2039         183.3         2	2.3%	2018	261.7	2.5%	2018	26.8	2.9%	2018	2.3	0.7%
2020         120.0         2           2021         122.8         2           2022         125.6         2           2023         128.5         2           2024         131.5         2           2025         134.5         2           2026         137.6         2           2027         140.7         2           2028         143.8         2           2029         147.0         2           2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6         2           2035         167.8         2           2036         171.6         2           2037         175.4         2           2038         179.3         2           2039         183.3         2	2.3%	2019	268.2	2.5%	2019	27.5	2.5%	2019	2.3	0.8%
2021         122.8         2           2022         125.6         2           2023         128.5         2           2024         131.5         2           2025         134.5         2           2026         137.6         2           2027         140.7         2           2028         143.8         2           2029         147.0         2           2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6         2           2035         167.8         2           2036         171.6         2           2037         175.4         2           2038         179.3         2           2039         183.3         2	2.3%	2020	274.6	2.4%	2020	28.2	2.6%	2020	2.3	0.9%
2022         125.6         2           2023         128.5         2           2024         131.5         2           2025         134.5         2           2026         137.6         2           2027         140.7         2           2028         143.8         2           2029         147.0         2           2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6         2           2035         167.8         2           2036         171.6         2           2037         175.4         2           2038         179.3         2           2039         183.3         2	2.3%	2021	281.2	2.4%	2021	29.0	2.9%	2021	2.3	1.0%
2023         128.5         2           2024         131.5         2           2025         134.5         2           2026         137.6         2           2027         140.7         2           2028         143.8         2           2029         147.0         2           2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6         2           2035         167.8         2           2036         171.6         2           2037         175.4         2           2038         179.3         2           2039         183.3         2										
2024         131.5         2           2025         134.5         2           2026         137.6         2           2027         140.7         2           2028         143.8         2           2029         147.0         2           2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6         2           2034         164.2         2           2035         167.8         2           2037         175.4         2           2038         179.3         2           2039         183.3         2	2.3%	2022	288.0	2.4%	2022	29.9	3.0%	2022	2.4	1.0%
2025         134.5         2           2026         137.6         2           2027         140.7         2           2028         143.8         2           2029         147.0         2           2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6         2           2035         167.8         2           2036         171.6         2           2037         175.4         2           2038         179.3         2           2039         183.3         2	2.3%	2023	294.8	2.4%	2023	30.8	2.8%	2023	2.4	1.3%
2026         137.6         2           2027         140.7         2           2028         143.8         2           2029         147.0         2           2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6         2           2034         164.2         2           2035         167.8         2           2036         171.6         2           2038         179.3         2           2039         183.3         2	2.3%	2024	301.7	2.4%	2024	31.6	2.6%	2024	2.4	1.3%
2027         140.7         2           2028         143.8         2           2029         147.0         2           2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6         2           2035         167.8         2           2036         171.6         2           2037         175.4         2           2038         179.3         2           2039         183.3         2	2.3%	2025	308.8	2.3%	2025	32.5	2.8%	2025	2.5	1.2%
2028         143.8         2           2029         147.0         2           2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6         2           2034         164.2         2           2035         167.8         2           2036         171.6         2           2037         175.4         2           2038         179.3         2           2039         183.3         2	2.3%	2026	316.0	2.3%	2026	33.4	2.9%	2026	2.5	1.2%
2029         147.0         2           2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6         2           2034         164.2         2           2035         167.8         2           2036         171.6         2           2037         175.4         2           2038         179.3         2           2039         183.3         2	2.3%	2027	323.2	2.3%	2027	34.4	3.0%	2027	2.5	1.3%
2030         150.3         2           2031         153.7         2           2032         157.1         2           2033         160.6         2           2034         164.2         2           2035         167.8         2           2036         171.6         2           2037         175.4         2           2038         179.3         2           2039         183.3         2	2.2%	2028	330.5	2.3%	2028	35.4	2.9%	2028	2.5	1.3%
2031         153.7         2           2032         157.1         2           2033         160.6         2           2034         164.2         2           2035         167.8         2           2036         171.6         2           2037         175.4         2           2038         179.3         2           2039         183.3         2	2.2%	2029	338.0	2.3%	2029	36.3	2.8%	2029	2.6	1.3%
2031         153.7         2           2032         157.1         2           2033         160.6         2           2034         164.2         2           2035         167.8         2           2036         171.6         2           2037         175.4         2           2038         179.3         2           2039         183.3         2	2.2%	2030	345.6	2.3%	2030	37.3	2.6%	2030	2.6	1.3%
2032         157.1         2           2033         160.6         2           2034         164.2         2           2035         167.8         2           2036         171.6         2           2037         175.4         2           2038         179.3         2           2039         183.3         2	2.2%	2031	353.4	2.3%	2031	38.3	2.6%	2031	2.6	1.3%
2033         160.6         2           2034         164.2         2           2035         167.8         2           2036         171.6         2           2037         175.4         2           2038         179.3         2           2039         183.3         2	2.2%	2032	361.4	2.3%	2032	39.2	2.5%	2032	2.7	1.3%
2034         164.2         2           2035         167.8         2           2036         171.6         2           2037         175.4         2           2038         179.3         2           2039         183.3         2	2.2%	2033	369.6	2.3%	2033	40.2	2.6%	2033	2.7	1.3%
2035         167.8         2           2036         171.6         2           2037         175.4         2           2038         179.3         2           2039         183.3         2	2.2%	2034	377.9	2.3%	2034	41.3	2.6%	2034	2.7	1.3%
2036         171.6         2           2037         175.4         2           2038         179.3         2           2039         183.3         2	2.2%	2035	386.5	2.3%	2035	42.4	2.6%	2035	2.8	1.3%
2037 175.4 2 2038 179.3 2 2039 183.3 2	2.2%	2036	395.2	2.3%	2036	43.5	2.6%	2035	2.8	1.3%
2038 179.3 2 2039 183.3 2	2.2%	2030	404.2	2.3%	2030	43.5	2.0%	2030	2.0	1.3%
2039 183.3 2										
	2.2%	2038	413.3	2.3%	2038	45.9	2.7%	2038	2.9	1.3%
2040 407.4	2.2%	2039	422.6	2.3%	2039	47.1	2.7%	2039	2.9	1.3%
	2.2%	2040	432.2	2.3%	2040	48.4	2.7%	2040	3.0	1.3%
ompound Average Annua 81-2011 3.0%	iai Perce	ant Gnange	3.2%			7 0% (	1985-2011)		<b>4.8% (</b> 1	985-20
						•			•	
12-2040 2.4%			2.3%			3.0%			1.5%	

since there were no TIB asessments prior to FY2010.

#### TABLE 4 **Selected Economic and Revenue Metrics** Transportation Infrastructure Bond Analysis - July 2012

Vermont Transportation Fund Basoline Tax Revenue - FY Basis Excluding TIB Assessments*		Vermont Transportation Fund Diesel Tax Revenue - FY Basis Excluding TIB Assessments*			Vermont Tr Gasoline Ta Fisca		nplied**)	Vermont Transportation Fund Diesel Tax Base (Implied**) Fiscal Year Basis			
g	Millions	%ch	9	Millions	%ch	Millions of	Gallons	%ch	Millions of	Gallons	%ch
1981	21.4	/0011	1981	0.0		1981	237.3	/0011	1981	Canono	/0011
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		1985	296.0	-0.7%	1985	34.5	
1986	33.3	2.1%	1986	5.3		1986	302.3	2.1%	1986	37.5	
1987	34.3	3.2%	1987	5.9		1987	263.9	-12.7%	1987	42.2	
1988	36.4	6.0%	1988	6.1		1988	279.8	6.0%	1988	43.3	
1989	37.4	2.9%	1989	6.5		1989	288.0	2.9%	1989	46.1	6.6%
1990	43.7	16.8%	1990	9.9		1990	200.0	1.2%	1990	49.3	
1991	40.9	-6.3%	1991	10.6		1991	272.9	-6.3%	1991	48.2	
1992	40.9	-0.3 <i>%</i> 10.8%	1991	10.0		1992	302.4	10.8%	1991	46.9	-2.5%
1992	45.4 44.4		1992			1992	296.0				
1993	44.4 48.1	-2.1% 8.3%	1993	11.2				-2.1% 8.3%	1993 1994	51.0	
		-3.9%	1994	10.6		1994	320.5			48.0	
1995	46.2			11.2		1995	308.2	-3.9%	1995	50.8	
1996	47.3	2.4%	1996	11.1		1996	315.6	2.4%	1996	50.5	
1997	47.3	-0.1%	1997	11.0		1997	315.2	-0.1%	1997	49.8	-1.3%
1998	59.1	25.0%	1998	13.6		1998	328.9	4.4%	1998	61.9	24.1%
1999	61.3	3.7%	1999	14.5		1999	336.1	2.2%	1999	65.9	6.6%
2000	62.1	1.3%	2000	14.9		2000	340.5	1.3%	2000	67.9	2.9%
2001	63.0	1.4%	2001	17.8		2001	345.2	1.4%	2001	71.3	
2002	63.1	0.2%	2002	15.5		2002	336.6	-2.5%	2002	62.1	-12.9%
2003	64.8	2.6%	2003	16.4		2003	355.2	5.5%	2003	65.7	
2004	65.1	0.5%	2004	17.2		2004	356.8	0.5%	2004	68.7	4.6%
2005	65.5	0.7%	2005	16.4		2005	359.4	0.7%	2005	65.5	
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		2007	348.6	-0.4%	2007	73.9	
2008	62.6	-1.6%	2008	16.6		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	<b>3.9%</b>	2012	324.9	-2.2%	2012	64.0	3.9%
2013	60.3	1.7%	2013	16.2	1.2%	2013	330.5	1.7%	2013	64.8	1.2%
2014	61.4	1.8%	2014	16.7	3.1%	2014	336.5	1.8%	2014	66.8	3.1%
2015	62.2	1.3%	2015	17.1	2.4%	2015	340.9	1.3%	2015	68.4	2.4%
2016	62.9	1.1%	2016	17.5		2016	344.8	1.1%	2016	70.0	
2017	63.4	0.8%	2017	17.8		2017	347.5	0.8%	2017	71.2	
2018	63.6	0.3%	2018	17.9		2018	348.5	0.3%	2018	71.7	
2019	63.7	0.2%	2019	18.1		2019	349.1	0.2%	2019	72.2	
2020	63.9	0.3%	2020	18.2		2020	350.1	0.3%	2020	72.9	0.9%
2021	64.1	0.4%	2021	18.4		2021	351.4	0.4%	2021	73.6	1.0%
2022	64.3	0.4%	2022	18.6		2022	352.7	0.4%	2022	74.3	1.0%
2022	64.6	0.4%	2022	18.8		2022	354.0	0.4%	2023	75.3	
2023	64.8	0.4%	2023	19.1	1.3%	2023	355.2	0.4%	2023	76.3	
2024	64.9	0.3%	2024	19.1		2024	356.0	0.3%	2024	70.3	
2025	65.1	0.2%	2025	19.5		2025	356.8	0.2%	2025	78.2	
2020	65.3	0.2%	2020	19.5		2020	357.8	0.2%	2020	79.1	1.2%
2027	65.5	0.3%	2027	20.0		2027	358.8	0.3%	2027	80.2	
2028			2028							80.2 81.2	
2029 2030	65.6	0.3%	2029 2030	20.3		2029	359.7 360.7	0.3%	2029	81.2 82.2	
	65.8 66 0	0.3%		20.6		2030 2031		0.3% 0.3%	2030 2031		
2031	66.0	0.3%	2031	20.8		2031	361.7	0.3%	2031	83.3	
2032	66.2	0.3%	2032	21.1		2032	362.7	0.3%	2032	84.4	
2033	66.3	0.3%	2033	21.4		2033	363.7	0.3%	2033	85.5	
2034	66.5	0.3%	2034	21.6		2034	364.6	0.3%	2034	86.6	
2035	66.7	0.3%	2035	21.9		2035	365.6	0.3%	2035	87.7	
2036	66.9	0.3%	2036	22.2		2036	366.6	0.3%	2036	88.8	
2037	67.1	0.3%	2037	22.5		2037	367.6	0.3%	2037	90.0	
2038	67.3	0.3%	2038	22.8		2038	368.6	0.3%	2038	91.1	1.3%
2039	67.4	0.3%	2039	23.1		2039	369.6	0.3%	2039	92.3	
2040	67.6	0.3%	2040	23.4	1.3%	2040	370.6	0.3%	2040	93.5	1.3%
mpound Ave		nual Perc	ent Change	1 00/	(1094 2044)		1 10/			<b>3 7</b> 0/	(1004 20
81-2011	3.5%				(1984-2011)		1.1%				(1984-20
12-2040	0.5%			1.4%			0.5%			1.4%	

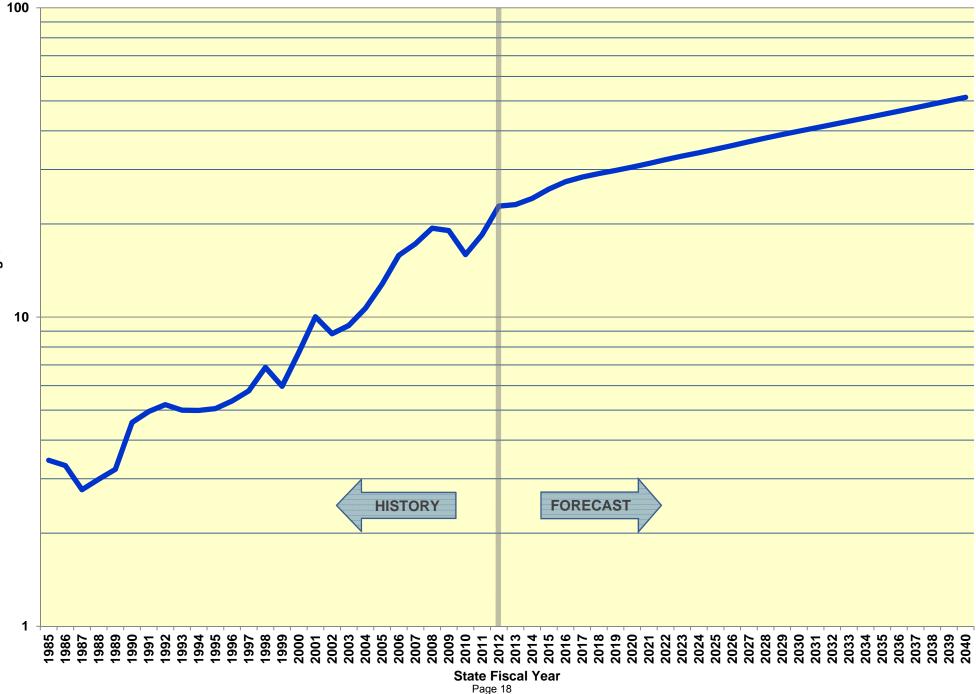
\* These revenues exclude the new TIB assessments, which were first implemented in FY2010. \*\* Taxable gallonage figures derived from actual revenue data. Page 16

# TABLE 5Selected Economic and Revenue MetricsTransportation Infrastructure Bond Analysis - July 2012

Vermont "Blended" Average Gasoline Price Calendar Year Basis		Vermont from Gasol Fiscal		ssment	Vermont from Dies Fiscal	Vermont TIB Revenues Total Assessments Fiscal Year Basis					
\$ pe 1981 1982 1983 1984 1985	r Gallon 1.21	%ch	\$1 1981 1982 1983 1984 1985	Millions	%ch	\$M 1981 1982 1983 1984 1985	Aillions	%ch	\$  1981 1982 1983 1984 1985	Millions	%ch
1985	0.94	-22.2%	1985			1985			1985		
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 1992	1.22 1.16	-0.8% -4.6%	1991 1992			1991 1992			1991 1992		
1993	1.10	-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 1999	1.07 1.16	-14.7% 8.0%	1998 1999			1998 1999			1998 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 2006	2.31 2.59	23.2% 12.1%	2005 2006			2005 2006			2005 2006		
2008	2.59	8.4%	2008			2008			2008		
2007	3.35	19.2%	2008			2008			2007		
2009	2.34	-30.0%	2009			2009			2009		
2010	2.82	20.4%	2010	13.4		2010	1.5		2010	14.9	
2011	3.59	27.3%	2011	16.5	23.6%	2011	2.0	31.7%	2011	18.5	24.4%
2012	3.62	0.7%	2012	20.9	26.6%	2012	1.9	-1.4%	2012	22.8	23.6%
2013 2014	3.67 3.89	1.6% 6.0%	2013 2014	21.0 22.1	0.7% 4.9%	2013 2014	2.1 2.1	6.3% 3.1%	2013 2014	23.1 24.2	1.2% 4.7%
2014	4.08	4.8%	2014	23.8	4. <i>3</i> % 7.7%	2014	2.2	2.4%	2014	25.9	7.2%
2016	4.19	2.6%	2016	25.2	5.9%	2016	2.2	2.3%	2016	27.4	5.6%
2017	4.29	2.4%	2017	26.1	3.7%	2017	2.3	1.7%	2017	28.4	3.5%
2018	4.38	2.1%	2018	26.8	2.9%	2018	2.3	0.7%	2018	29.1	2.7%
2019	4.47	2.1%	2019	27.5	2.5%	2019	2.3	0.8%	2019	29.8	2.4%
2020 2021	4.57 4.68	2.3% 2.5%	2020 2021	28.2 29.0	2.6% 2.9%	2020 2021	2.3 2.3	0.9% 1.0%	2020 2021	30.5 31.4	2.5% 2.8%
2021	4.00	2.3%	2021	29.0	3.0%	2021	2.3	1.0%	2021	31.4	2.8%
2023	4.89	2.0%	2023	30.8	2.8%	2023	2.4	1.3%	2023	33.2	2.7%
2024	5.00	2.4%	2024	31.6	2.6%	2024	2.4	1.3%	2024	34.0	2.5%
2025	5.12	2.4%	2025	32.5	2.8%	2025	2.5	1.2%	2025	34.9	2.7%
2026	5.25	2.5%	2026	33.4	2.9%	2026	2.5	1.2%	2026	35.9	2.7%
2027 2028	5.38 5.51	2.4% 2.3%	2027 2028	34.4 35.4	3.0% 2.9%	2027 2028	2.5 2.5	1.3% 1.3%	2027 2028	36.9 37.9	2.9% 2.8%
2028	5.63	2.3%	2028	36.3	2.8%	2028	2.5	1.3%	2028	38.9	2.8%
2030	5.75	2.2%	2030	37.3	2.6%	2030	2.6	1.3%	2030	39.9	2.5%
2031	5.87	2.1%	2031	38.3	2.6%	2031	2.6	1.3%	2031	40.9	2.5%
2032	6.00	2.1%	2032	39.2	2.5%	2032	2.7	1.3%	2032	41.9	2.5%
2033	6.13 6.26	2.2%	2033	40.2	2.6%	2033	2.7	1.3%	2033	43.0	2.5%
2034 2035	6.26 6.40	2.2% 2.2%	2034 2035	41.3 42.4	2.6% 2.6%	2034 2035	2.7 2.8	1.3% 1.3%	2034 2035	44.0 45.2	2.5% 2.6%
2035	6.55	2.2%	2035	42.4 43.5	2.6%	2035	2.8	1.3%	2035	45.2 46.3	2.6%
2037	6.69	2.3%	2037	44.7	2.7%	2037	2.9	1.3%	2037	47.5	2.6%
2038	6.85	2.3%	2038	45.9	2.7%	2038	2.9	1.3%	2038	48.8	2.6%
2039	7.00	2.3%	2039	47.1	2.7%	2039	2.9	1.3%	2039	50.1	2.6%
2040	7.16	2.3%	2040	48.4	2.7%	2040	3.0	1.3%	2040	51.4	2.6%
ompound Ave 91-2011	rage An 5.5%	nual Perce	ent Change	NM			NM			NM	
12-2040	2.5%			3.0%			1.5%			2.9%	

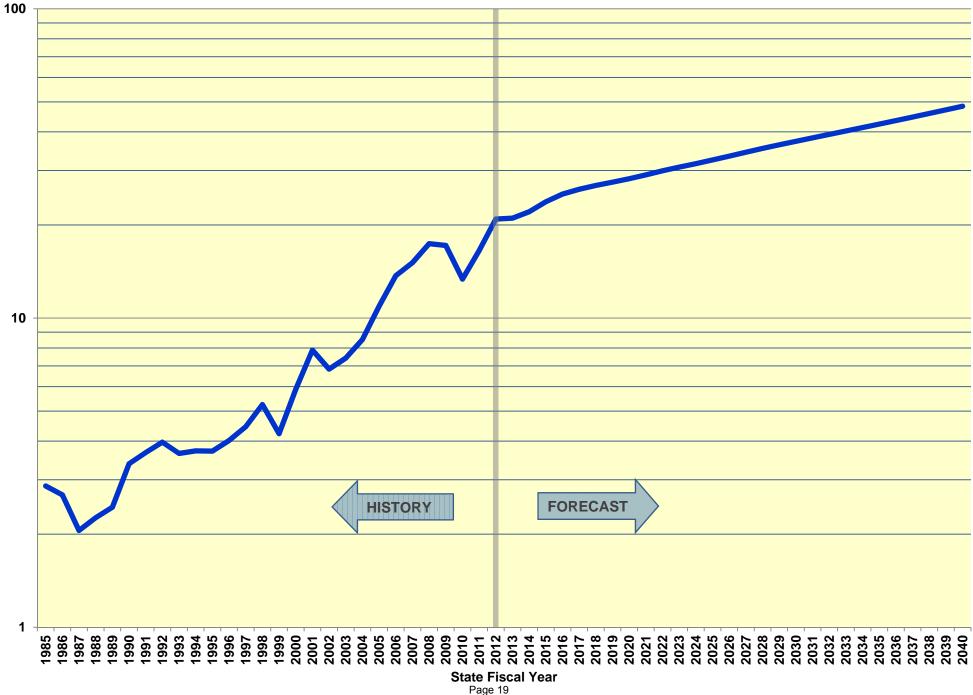
**Pro Forma Vermont Total TIB Assessment Revenues** 

Sources: Vermont Joint Fiscal Office, KRA



## **Pro Forma Vermont TIB Gasoline Assessment Revenues**

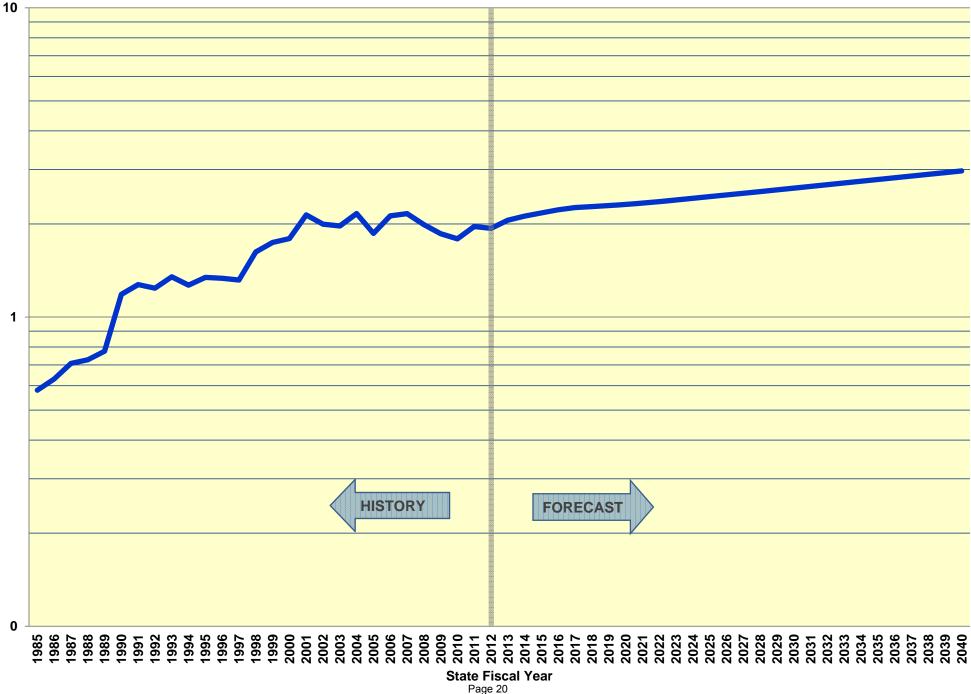
Sources: Vermont Joint Fiscal Office, KRA



Millions of Dollars- Log Scale

## **Pro Forma Vermont TIB Diesel Assessment Revenues**

Sources: Vermont Joint Fiscal Office, KRA



# **APPENDIX B**

TABLE 6: DEBT SERVICE CAPACITY SUMMARY FOR PROJECTED \$97.7M AGGREGATE PAR AMOUNT OF TIBS, BASED ON REVENUE PROJECTIONS IN FEASIBILITY STUDY ASSOCIATED WITH STATE OF VERMONT TRANSPORTATION INFRASTRUCTURE BONDS DATED JULY 23, 2012

**KAVET, ROCKLER & ASSOCIATES, LLC** 

					TABLE 6 State of Vermo	ont							
				Transportatior	n Infrastructure	e Revenue Bon	ds						
	Pro Forma Debt Service Schedule for TIBs Issued from FY2011 Through FY2016*												
Maturity Date	Fiscal Year	\$13.260 Million** 2010 Series A Debt Service (Actual)	\$10.09 Million 2012 Series A Debt Service (Estimated)	2013 Series A Debt Service (Projected)	2014 Series A Debt Service (Projected)	2015 Series A Debt Service (Projected)	2016 Series A Debt Service (Projected)	Grand Total Fiscal Year Debt Service (Projected)	MFTIA Revenue (FY12 Prelim., All Other Projected)	Debt Service Coverage (Projected)			
6/15/2012	2012	\$991,563						\$991.563	\$22,836,887	23.03			
6/15/2013	2013	\$990,063	\$635,988					\$1,626,050	\$23,100,631	14.21			
6/15/2014	2014	\$993.363	\$713,950	\$1,297,056				\$3,004,369	\$24,189,047	8.05			
6/15/2015	2015	\$991,363	\$714,750	\$1,408,000	\$1,342,002			\$4,456,114	\$25,938,529	5.82			
6/15/2016	2016	\$994,163	\$714,950	\$1,405,600	\$1,456,200	\$1,395,872		\$5,966,785	\$27,392,723	4.59			
6/15/2017	2017	\$991,663	\$714,550	\$1,407,750	\$1,453,200	\$1,508,800	\$1,453,363	\$7,529,325	\$28,354,529	3.77			
6/15/2018	2018	\$990,788	\$713,550	\$1,407,000	\$1,454,750	\$1,510,200	\$1,570,550	\$7,646,838	\$29,116,534	3.81			
6/15/2019	2019	\$994,538	\$716,950	\$1,404,750	\$1,453,000	\$1,511,000	\$1,571,200	\$7,651,438	\$29,800,891	3.89			
6/15/2020	2020	\$991,113	\$714,550	\$1,406,000	\$1,454,750	\$1,508,000	\$1,571,250	\$7,645,663	\$30,538,692	3.99			
6/15/2021	2021	\$990,563	\$716,550	\$1,405,500	\$1,454,750	\$1,508,500	\$1,572,000	\$7,647,863	\$31,383,155	4.10			
6/15/2022	2022	\$994,413	\$717,750	\$1,408,250	\$1,453,000	\$1,507,250	\$1,571,000	\$7,651,663	\$32,291,521	4.22			
6/15/2023	2023	\$992,513	\$713,150	\$1,409,000	\$1,454,500	\$1,509,250	\$1,573,250	\$7,651,663	\$33,158,456	4.33			
6/15/2024	2024	\$995,013	\$712,950	\$1,407,750	\$1,454,000	\$1,509,250	\$1,573,500	\$7,652,463	\$33,994,105	4.44			
6/15/2025	2025	\$994,825	\$716,950	\$1,404,500	\$1,456,500	\$1,512,250	\$1,571,750	\$7,656,775	\$34,905,817	4.56			
6/15/2026	2026	\$991,825	\$715,450	\$1,404,250	\$1,451,750	\$1,508,000	\$1,573,000	\$7,644,275	\$35,865,422	4.69			
6/15/2027	2027	\$992,950	\$717,850	\$1,406,750	\$1,455,000	\$1,511,750	\$1,572,000	\$7,656,300	\$36,892,112	4.82			
6/15/2028	2028	\$990,888	\$714,250	\$1,406,750	\$1,455,750	\$1,508,000	\$1,573,750	\$7,649,388	\$37,912,394	4.96			
6/15/2029	2029	\$992,700	\$715,950	\$1,404,250	\$1,454,000	\$1,512,000	\$1,573,000	\$7,651,900	\$38,918,027	5.09			
6/15/2030	2030	\$993,200	\$715,750	\$1,404,250	\$1,454,750	\$1,508,250	\$1,569,750	\$7,645,950	\$39,904,531	5.22			
6/15/2031	2031	\$0	\$716,100	\$1,406,500	\$1,452,750	\$1,512,000	\$1,574,000	\$6,661,350	\$40,914,608	6.14			
6/15/2032	2032	\$0	\$715,850	\$1,405,750	\$1,453,000	\$1,507,750	\$1,570,250	\$6,652,600	\$41,922,766	6.30			
6/15/2033	2033	\$0	\$0	\$1,407,000	\$1,455,250	\$1,510,750	\$1,573,750	\$5,946,750	\$42,961,600	7.22			
6/15/2034	2034	\$0	\$0	\$0	\$1,454,250	\$1,510,500	\$1,574,000	\$4,538,750	\$44,049,211	9.71			
6/15/2035	2035	\$0	\$0	\$0	\$0	\$1,512,000	\$1,571,000	\$3,083,000	\$45,173,526	14.65			
6/15/2036	2036	\$0	\$0	\$0	\$0	\$0	\$1,569,750	\$1,569,750	\$46,327,943	29.51			
		\$18,857,500	\$14,227,788	\$28,016,656	\$28,973,152	\$30,081,372	\$31,322,113	\$151,478,580	\$857,843,657				

\* Debt service schedule was provided to KRA by Public Resources Advisory Group, Inc. It reflects actual debt service on the 2010A TIBs and estimated debt service on the 2012A TIBs assuming a par amount of \$10.09 million and an assumed rate of interest of 3.65%. Projected debt service for Bonds to be issued subsequent to the 2012A TIBs is based upon bond par amounts sized to generate approximately \$17.8 million in annual project fund proceeds and interest rates that are assumed to increase 50 basis points annually. The actual bond issues will also 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 less Bonds and to do so at different times than shown in this table.

\*\* Current outstanding aggregate principal amount of the 2010A TIBs originally issued in FY11.

**APPENDIX H** 

## **Title 32: Taxation and Finance**

### Chapter 13: DEBTS AND CLAIMS

### 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) have 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 but not limited to:

(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; No. 200 (Adj. Sess.), § 25, eff. June 9, 2008; 2009, No. 50, § 31.)