DOUGLAS R. HOFFER
STATE AUDITOR

STATE OF VERMONT
OFFICE OF THE STATE AUDITOR

To: Senator Tim Ashe and Representative Mitzi Johnson
Date: 30 November 2018
Re: Capital Debt Affordability Advisory Committee
Cc: Representatives Ancel, Emmons and Toll and Senators Cummings, Flory and Kitchel
Treasurer Beth Pearce and Secretary Susanne Young

The Capital Debt Affordability Advisory Committee (CDAAC) was created in 1989 (Act 258) and is codified in 32 V.S.A. § 1001. The statute has been amended several times.

I am a non-voting member of the Committee by virtue of my position as State Auditor. Having participated in the process for the last six years, I offer the following observations and suggestions.

The Committee must "*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…tax-supported debt that prudently may be authorized for the next fiscal year*."[1]

While the Committee's estimate is advisory, the Legislature has always authorized the amounts recommended. Moody's considers this a positive feature of the State's "Governance," which is one of its criteria for credit ratings.[2]

In developing its estimate (now biennial), the Committee must consider, among other things, projected debt service and other obligations (i.e., pensions & OPEB), principal amounts outstanding and projected, and criteria used by rating agencies to judge the quality of issues of State bonds.

Moody's criteria include the condition of a state's economy, finances, governance, and debt and pension liabilities.[3] Fitch's major criteria include revenues, expenditures, long-term liabilities, and operating performance. S&P considers government framework, financial management, economy, budgetary performance and flexibility, and debt and liability profile.

Vermont does well on most of these measures as demonstrated by our comparatively high ratings. The biggest challenges going forward include the size and management of our pension and OPEB[4] liabilities, and the perception that Vermont's demographics will inhibit economic growth and increase cost

1 32 V.S.A. § 1001(b)(1)
2 Moody's "Credit Opinion" August 10, 2017, page 5.
3 2018 CDAAC report pages 31 – 38 for summary information on the methodologies for Moody's, S&P and Fitch. http://www.vermonttreasurer.gov/content/reports-0
4 Other Postemployment Benefits (OPEB) are benefits (other than pensions) that U.S. state and local governments provide to their retired employees.

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pressures on state government. These issues are watched closely by the ratings agencies and now represent a bigger share of the weighted factors than before (see pages 11 and 12 for more on this).

Although the CDAAC acknowledges and comments on all the criteria used by the rating agencies, the Committee focuses primarily on general obligation (GO) debt, especially the so-called debt ratios. As I describe in the body of the memo, the committee's approach tends to result in debt level recommendations that may be lower than necessary to protect the State's credit rating.

The work of the CDAAC is valuable both as guidance for the Legislature and as a signal to the rating agencies that the State is mindful of the value of our good ratings and the need for prudent management of our finances.

However, the most recent decision to recommend another substantial cut in capital borrowing (totaling 23% since FY 2015) has led me to think that the process, assumptions, and methodology of the Committee would benefit from a review by the Legislature's economist and the Joint Fiscal Committee.

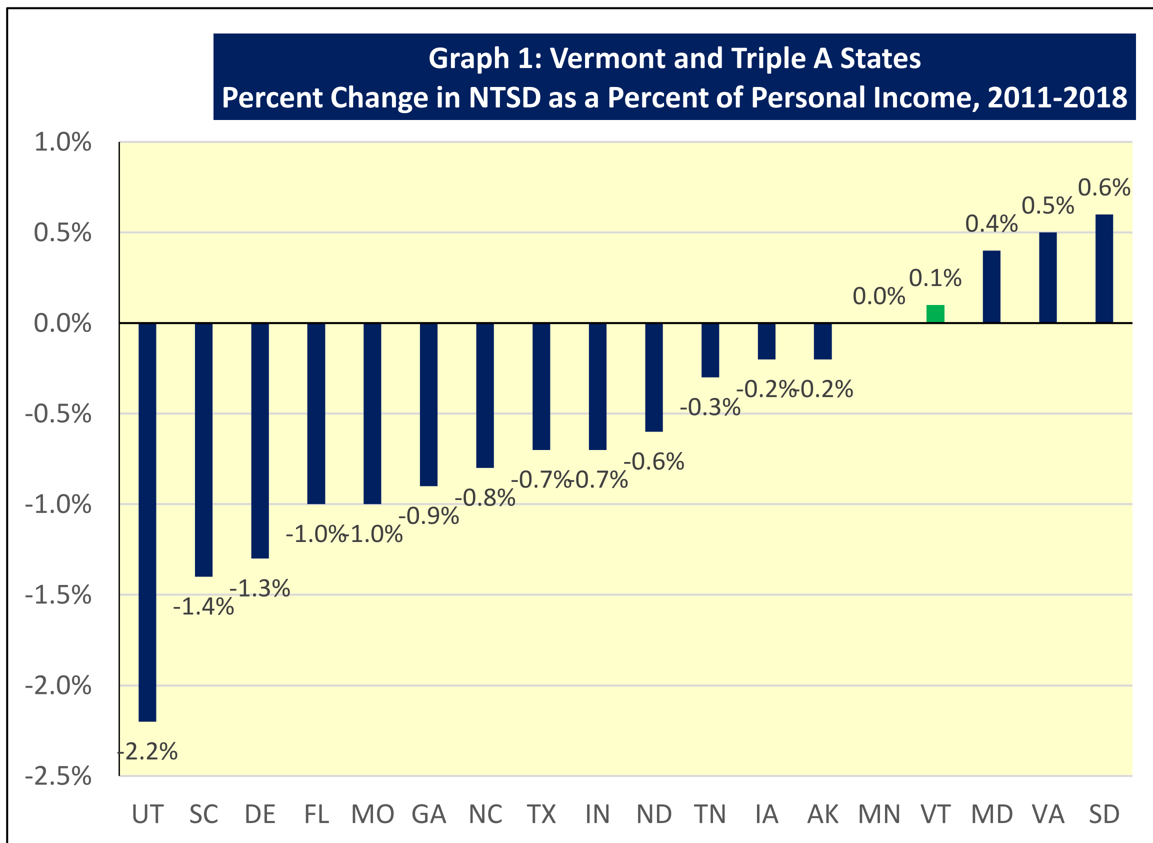
To be clear, I appreciate the work of the Committee and especially the leadership of the Treasurer and her team. I do not have in mind one optimal methodology for the CDAAC, but all tasks of this importance and complexity warrant periodic review. In light of the rating agencies' revised methodologies and the importance of CDAAC's work, now would be a strategic time to conduct a review of the Committee's approach.

CDAAC Approach to Choosing a Prudent Debt Authorization Recommendation

The CDAAC meets a few times each year and reviews various materials including economic forecasts, a market update, and reports from rating agencies. Much of these materials deal with state debt burdens.

Debt Burden Metrics: Commonly used debt ratios include net tax-supported debt (NTSD) as a percent of revenues, personal income, and GDP, along with per capita NTSD. These are valuable measures, but they are just one element of the bond rating methodologies.

In recent years, many Triple A states have reduced their borrowing,[5] even as some experienced considerable population growth, which can put stress on infrastructure.[6]



As a result, the debt medians for the group declined (see Graphs below), so Vermont's relative position changed even though our fundamentals did not. Thus, the amount of debt authorized in recent years may still be prudent but using Triple A medians to compare states can make it appear we're at risk.

At present, the rating agencies do not consider the condition of states' infrastructure when rating creditworthiness (although that may change[7]), so reduced borrowing is generally assumed to be positive even though deferred maintenance costs more in the future. Some investments can only be postponed for so long, such as water and wastewater. We discuss this further later in the memorandum.

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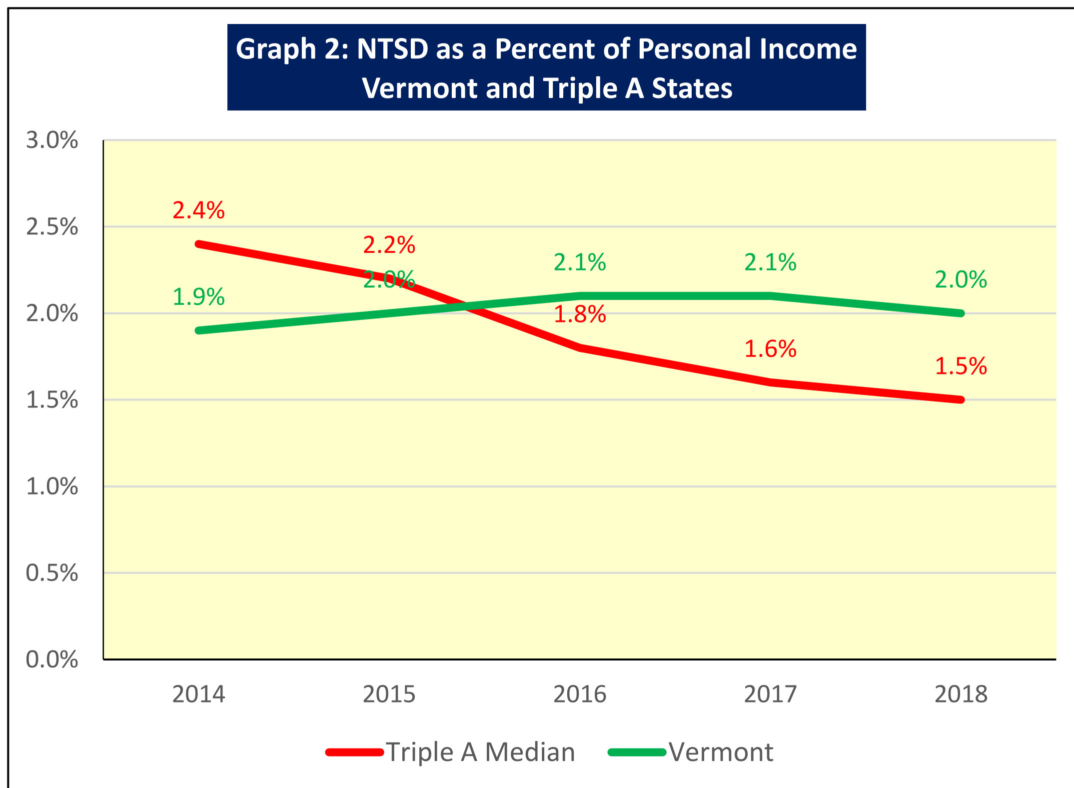
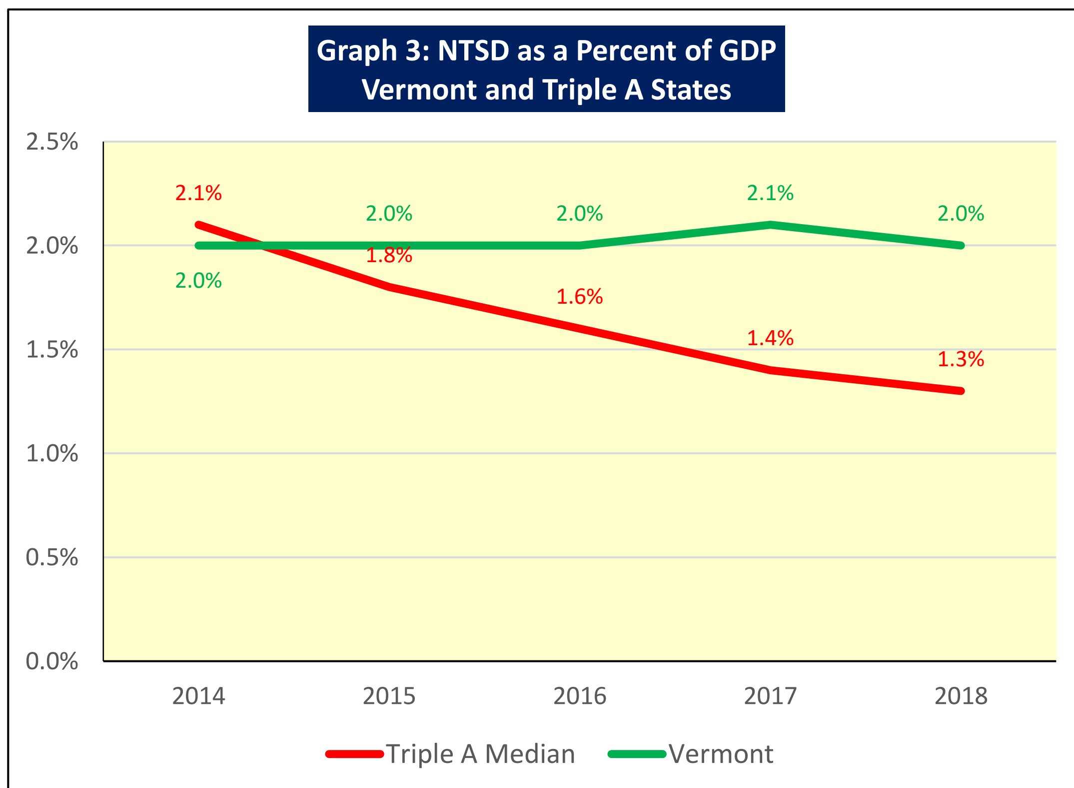
5 Moody's "Sector In-Depth" April 24, 2018, page 1.

6 Population in four Triple A states grew 10% or more from 2011 to 2017. Some states have shifted to pay-as-you-go, but if revenues don't rise correspondingly it puts pressure on other parts of the budget.

7 S&P, "Between A Budget And A Hard Place: The Risks Of Deferring Maintenance For U.S. Infrastructure," May 2018.

Over the period, Vermont's NTSD as a percent of Personal Income and GDP have barely changed, but we have shifted from below the median to well above in just a few years.

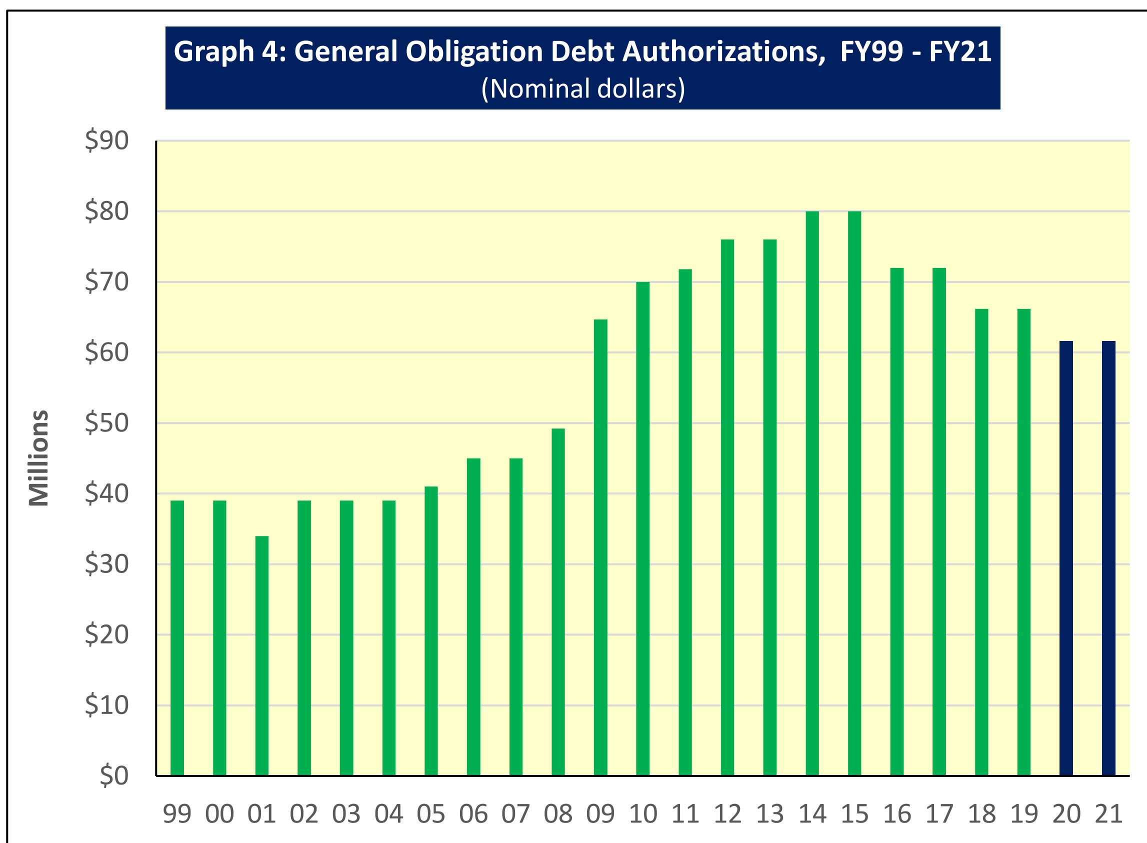




Each year, the Treasurer's consultant prepares multiple future scenarios based on ten-year projections. The scenarios include a base case extending the current authorization for a ten-year term and others at different levels. They compare Vermont's ratios with the estimated future medians for the other Triple A states (those with at least two Triple A ratings). This is a reasonable starting point but there are a few methodological issues that warrant reconsideration.

Ten-Year Horizon: First, although the statute asks for a ten-year projection, there are too many economic and fiscal variables to look that far ahead with great confidence. Indeed, the State's consensus revenue forecast only extends five years out. Second, each projection assumes the same annual debt issuance every year for a decade. This never happens in practice as the Legislature adjusts every two years (Graph 4). Thus, a ten-year projection is both unreliable and of questionable value.

The latest CDAAC recommendation for FY20 and FY21 is for a 7% decrease in authorized borrowing, which represents a 23% decline since the peak in FY 2014 (almost 30% when adjusted for inflation).



To support the use of a constant annual amount over the ten-year term, the Committee's 2010 recommendation stated that:

> *"This recommendation…is consistent with the approach that the Committee [has] taken in the recent past; in particular, an amount is established for the ensuing fiscal year that allows the State to comply with the established affordability guidelines, and then that authorization figure is carried forward for each of the following nine years, in accordance with the enabling legislation..*."[8] (Emphasis added).

[8] CDAAC, Recommended Annual Net Tax-Supported Debt Authorization, September 2010, p.1.

In fact, while the statute calls for a projected schedule over nine years, it does not require the use of the same figure for each year of the term.[9] And while it is not unreasonable to use a constant figure, it is not related to the State's short- or long-term capital needs (see pages 9 - 11 for more on this).

The Per-Capita Challenge: Given the recent downward trend in borrowing by some Triple A states, it's not surprising that Vermont will exceed one or more of the Triple A medians at some point in a ten-year projection. When that happens, the CDAAC recommends against that scenario. During my tenure on the committee, however, one ratio consistently trumps the others.

In each of the last three biennial recommendations, the committee rejected debt authorization scenarios that met two key metrics (NTSD as a percent of personal income and revenues) but exceeded the per capita figure (see Table 1 on the next page for an example from 2018).[10] This year, the Committee acknowledged its reliance on NTSD per capita: "*This guideline of debt per capita relative to its Peer Group has been a limiting factor in the Committee's determination of the recommended debt authorization over the past few years*."[11]

This is curious because that metric is not considered the best measure of affordability. The Federal Reserve Bank of Boston's New England Public Policy Center (NEPPC) said this about NTSD per capita (emphases added):

> *"Easy to compute, per capita metrics facilitate simple comparisons across states. However, at best these are only a rough gauge of affordability, as few would argue that population is the best marker of a state's ability to pay its debts."*[12]

In contrast, the NEPPC noted the value of another metric - NTSD as a percent of revenues:

> *"The metric most frequently used by state governments to assess the affordability of their bond obligations is debt service as a percent of state revenues...which compares the principal and interest costs associated with debt for a given period (usually a year) with revenues over the same length of time. The relevance of this ratio is clear—debt service represents the actual claim that outstanding debt places on currently available resources and indicates the degree of inflexibility imposed on state budgets. This ratio is also attractive to policymakers because both the numerator and denominator are largely within their control."*

The NEPPC also commented on NTSD as a percent of personal income.

> *"A better and commonly used indicator for ability to pay is state personal income. This measure represents income received by a state's residents, regardless of where the income is generated. Unlike revenues, state personal income is not directly dependent on current policy choices, but rather is the ultimate base from which most taxes and fees will be generated."*

The CDAAC acknowledges this but continues to view per capita NTSD as influential.

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[9] 32 V.S.A. § 1001 (c) "On or before September 30 of each year, the Committee shall submit…[an] 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.
(c)(2) A projected schedule of affordable net State tax-supported bond authorizations, for the next fiscal year and annually for the following nine fiscal years."

[10] 2016 CDAAC Pro-Forma Scenarios, August 24, 2016, PDF p. 50.

[11] 2018 CDAAC report, p.22.

[12] Weiner, Jennifer, "Assessing the Affordability of State Debt," Federal Reserve Bank of Boston, New England Public Policy Center Research Report 13-2, December 2013.

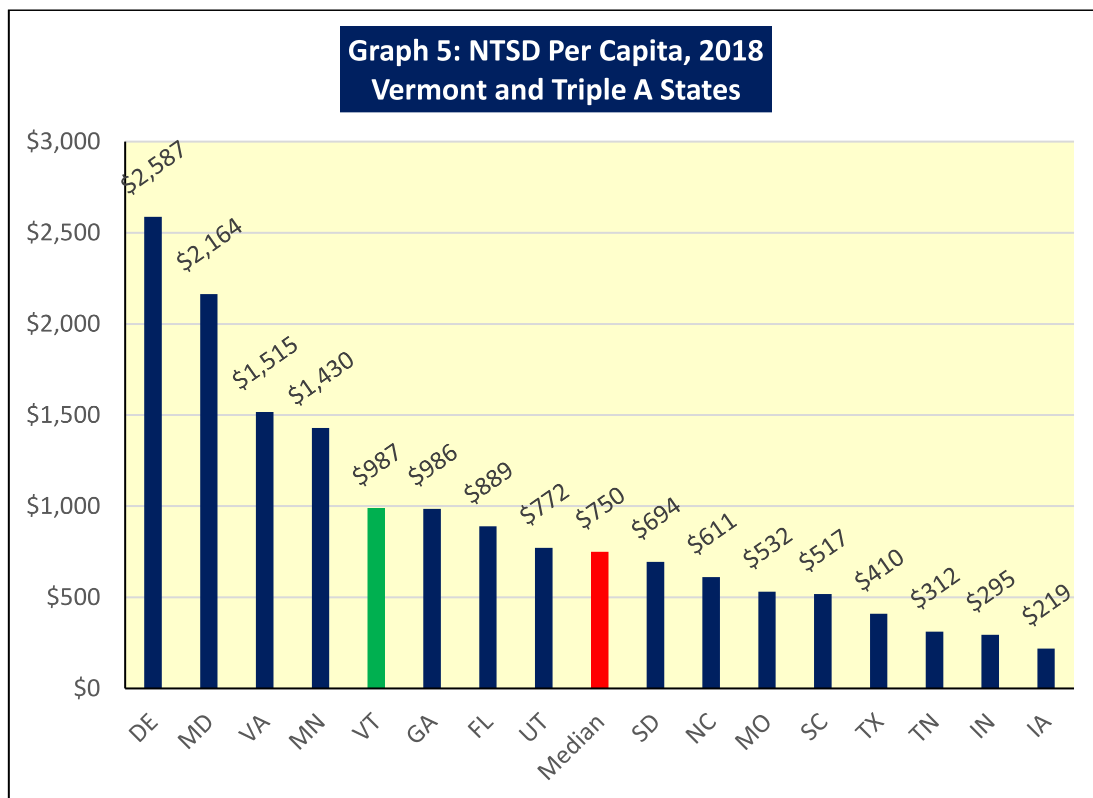
"CDAAC notes that Debt as a Percentage of Personal Income and Debt Service as a Percentage of Revenues are generally understood to be the better credit indicators of the State's ability to pay; however, certain rating agencies continue to…monitor the State's Debt Per Capita…"[13]

In fact, the Treasurer's consultant asked the rating agencies about the per capita metric a few years ago.

"Mr. Huestis…said that the [agencies] opinions varied; one agency does not focus on DPC at all, instead looking almost exclusively at Debt as % of Personal Income. Another agency reports DPC, but does not use in their new rating criteria, instead focusing on Debt as % of Operating Revenues…The third agency uses a more standardized method of rating, with the Debt and Liability Profile being one of five areas being reviewed and representing 10% of the weighted value…[with]…five sub-factors [so DPC is] 2% of the overall ratings score."[14]

Therefore, the weight that the Committee's places on the importance of debt per capita does not appear to be warranted.

Medians: While the Triple A state medians are reasonable comparative measures, the data shows clearly that the rating agencies are not constrained by them. The median is the midpoint, so half the states are above and half below. Seven Triple A states have per capita NTSD higher than the median, and four are considerably higher yet retain their Triple A ratings.



* Vermont's figure is artificially low because the State did not issue all the bonds authorized last year. The figure will be adjusted upward next year. The Treasurer estimates it will be ~ $1,100

Likewise, Vermont's position for NTSD as a percent of personal income is above the median, but there are five Triple A states with higher figures, one more than twice as high.

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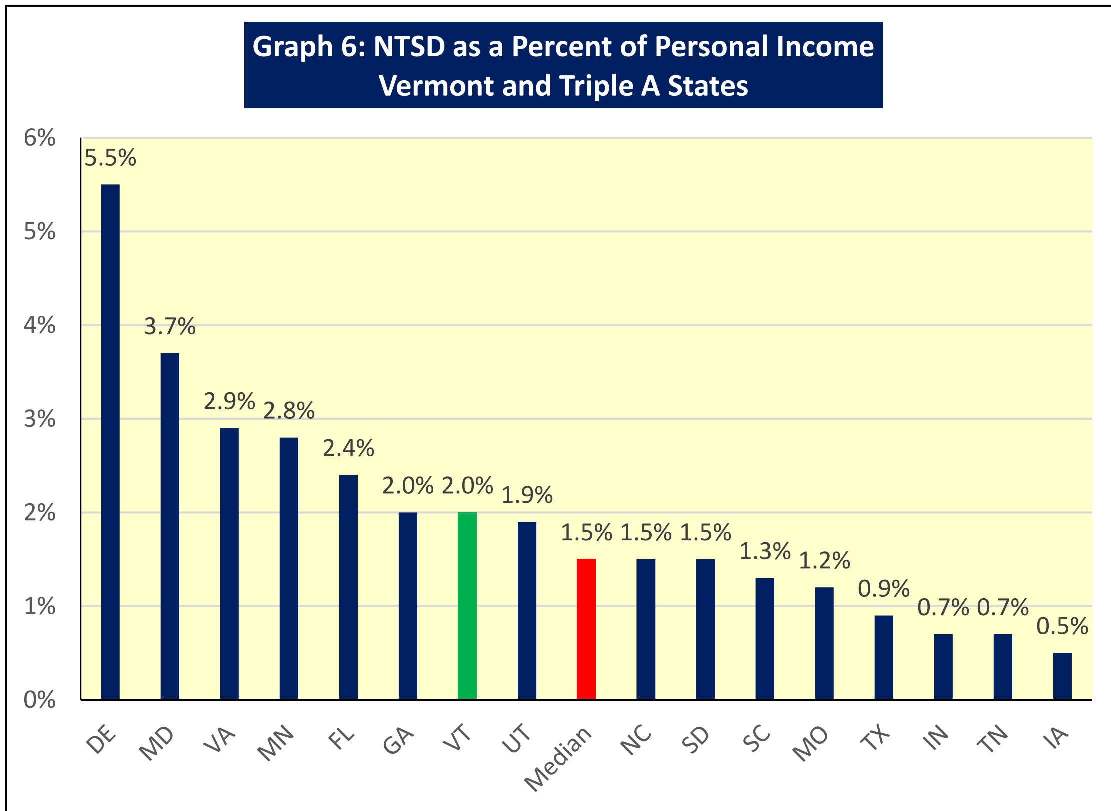
13 August 2018 CDAAC meeting packet. p.119.

14 CDAAC minutes July 8, 2014.



This shows clearly that the while these debt metrics are monitored, the agencies routinely award Triple A status to states that exceed the medians, often by a lot. Presumably, those states fare well in other criteria (more on that below).

The point is that rejecting hypothetical borrowing scenarios solely because they exceed the median for one relatively minor debt burden metric seems overly cautious. It is unclear why the CDAAC assigns so much weight to the per-capita measure.

What's Missing?

Section (c) of 32 V.S.A. § 1001 calls upon the CDAAC to consider various factors when developing its annual estimate, including the economic and fiscal impacts of infrastructure spending and the infrastructure needs of the state. For example:

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

The CDAAC acknowledges the link between infrastructure and economic growth and quotes approvingly from a report prepared by the United States Department of Treasury with the Council of Economic Advisors.

> *"…well-designed infrastructure investments can raise economic growth, productivity, and land values, while also providing significant positive spillovers to areas such as economic development, energy efficiency, public health, and manufacturing."*[15]

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[15] "A New Economic Analysis of Infrastructure Investment: A Report Prepared by the Department of the Treasury with the Council of Economic Advisers," March 23, 2012 as cited in the August 20, 2018 CDAAC meeting package; PDF p.149-150.

To my knowledge, however, the Committee has never asked the administration or JFO to analyze the impacts of differing levels or types of capital investments. I raised this issue with the Committee, which asked the administration's economist to comment. He claimed that there is no quantifiable economic or fiscal benefit from infrastructure spending once a project is completed.[16] As noted above, this view is not shared by the U.S. Department of the Treasury.

According to 32 V.S.A. § 1001(c)(7), CDAAC must also consider

> *"The cost-benefit of various levels of debt financing…."*

The most recent report claims that the CDAAC conducts a cost-benefit analysis.

> "*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*."[17]

The Committee's reliance on the "articulated affordability guidelines" (primarily NTSD per capita) is undoubtedly "fundamental to CDAAC's [evaluation of] the amount of net tax-supported indebtedness…that should be authorized by the State,"[18] but that process cannot substitute for a real cost-benefit analysis of different levels of borrowing or spending.

Decisions about whether to raise or lower capital spending by millions of dollars have real world impacts that are not currently considered by the CDAAC. For example, delaying a large capital project will usually involve higher costs from inflation when the work is finally undertaken. In addition, fast-tracking a state building project could save money currently spent leasing facilities or for excessive upkeep and maintenance on an antiquated structure. For the most part, the Committee limits its analysis to the debt metrics.

The New England Public Policy Center thinks it makes sense for affordability assessments to be informed by capital planning.

> "I*deally, debt affordability assessments should be used in conjunction with capital planning, as this can help states to ensure that their critical infrastructure needs are met while also maintaining fiscal discipline*."[19]

At present, rating agencies do not consider the impacts of deferred maintenance. That may change as Standard & Poor's made clear in a recent article (see below).

> "*At high enough levels, deferred maintenance is a credit concern, and we think this will be an area of increasing focus in our analysis. Significant underspending in maintenance can reduce asset life and increase capital costs, pressuring a government's future financial flexibility. Failure to maintain and invest in infrastructure could also lead to slower economic growth or public safety lapses*."[20]

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[16] July 8, 2014 CDAAC minutes.

[17] 2018 CDAAC report, p.19.

[18] Ibid.

[19] Weiner, Jennifer, "Assessing the Affordability of State Debt," Federal Reserve Bank of Boston, New England Public Policy Center Research Report 13-2, December 2013.

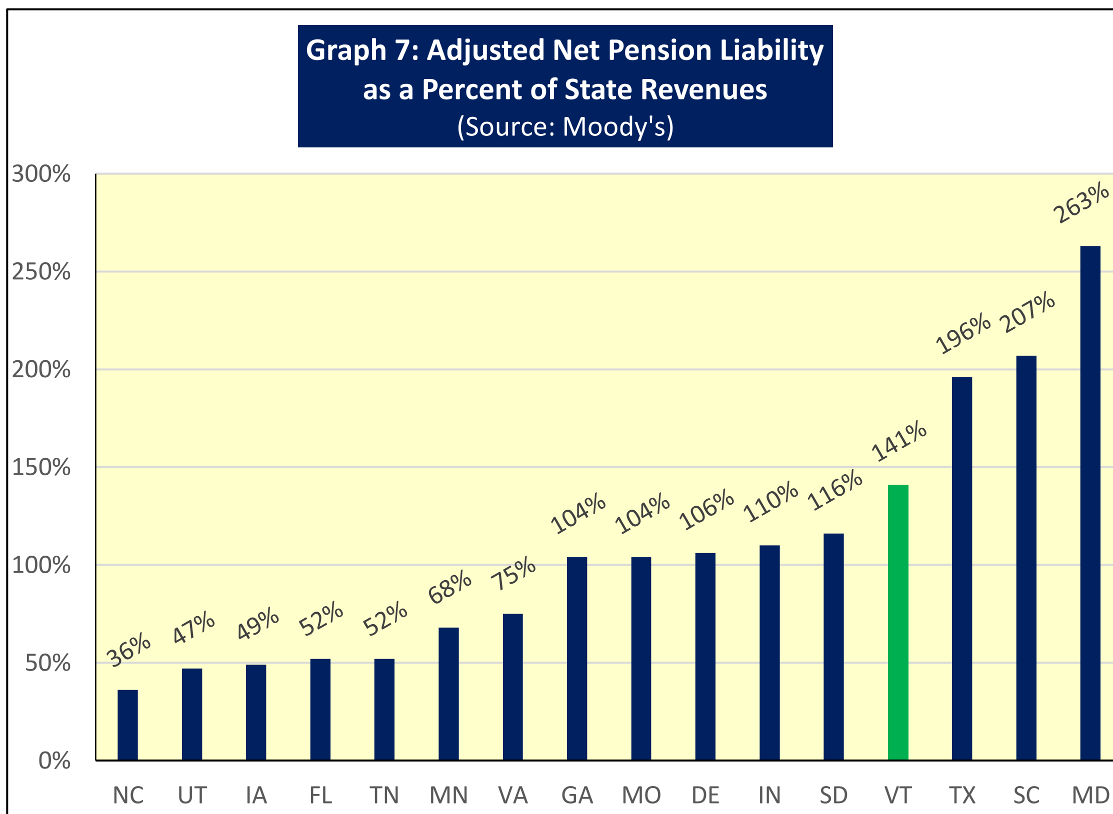
[20] Op Cit., "Between A Budget And A Hard Place: The Risks Of Deferring Maintenance For U.S. Infrastructure."

CDAAC applauded the Legislature "*for implementing first a six-year, and now ten-year State capital program plan in its latest capital construction and State bonding adjustment act*."[21] The Committee also stated that it "*expects to annually…consider future capital improvement program plans*."[22]

However, the requirement for a six-year capital plan was adopted in 2012, which means the CDAAC could have made use of this type of information for the last three CDAAC cycles. In my experience, the Committee has never discussed the capital plans as part of its deliberations.

Other Matters

Ch-Ch-Ch-Ch-Changes: Moody's new approach to the rating process includes consideration of Adjusted Net Pension Liabilities (ANPL) as part of the "Debt and Pensions" factor, which is now 25% of the total score (up from 20%). Vermont is near the top (meaning greater exposure) for both ANPL as a percent of revenues and personal income.[23]



In addition, Moody's and S&P "*have identified their concerns with state…governments' long-term debt liabilities as it relates to percentage of fixed cost to total operating budget capacity. With many states expecting costs for pensions, debt and OPEBs…to rise, the agencies are concerned that other funding priorities will be squeezed and for some states this could create reduced financial flexibility. Vermont is constrained by their pension, OPEB and Medicaid expenses compared to other states*."[24]

21 2018 CDAAC report, p.54.

22 Ibid.

23 2018 CDAAC report, pp. 47 – 49.

24 2018 CDAAC report, p.50.

Whether Vermont is "constrained" or not is subjective. But since the agencies are concerned, we can't ignore it. Note that the component most pivotal in the CDAAC deliberations (GO Debt) is comparatively low and relatively close to the Triple A median, while the others exceed the median significantly.

Vermont's Fixed Cost as a Percent of Operating Expenditures		
Budget Item	**% of Operating Expenditures***	**Triple A Median**
Medicaid	22.12%	18.37%
Pension contribution	8.35%	5.11%
GO Debt Service	4.55%	3.57%
OPEB	2.96%	0.48%
Totals	**37.98%**	**29.69%**

Presentation: Much of the data presented in the CDAAC report is in nominal dollars. The exception is the figures for GO Debt Outstanding, which are shown in both nominal and inflation adjusted dollars on page 9 of the 2018 report. This provides important context for readers.

At least two data sets would benefit from adjustments for inflation. One is the annual amount of debt authorizations. The CDAAC report states that "*the State has experienced a significant increase in debt authorizations and issuances over the last fifteen years. For the period from 2004-2015, the biennial issuance approximately doubled.*"[25] This is true in nominal dollars, but when adjusted to 2010 dollars the increase over those 11 years was 63% rather than 105%. This is substantial, but well below the anxiety provoking nominal figure (and note that some of the growth reflects borrowing in response to the Great Recession and Hurricane Irene). Moreover, stopping at 2015 ignores the significant reductions in 2016-2017 and 2018-2019.

Context would also help with annual debt service. The graph on page 13 of the 2018 report shows a 6.5% increase in nominal dollars. When adjusted to 2010 dollars, it's a 9% decrease.

What Else Could We Do?

At present, the CDAAC process is both limited in scope and conducted in relative isolation.

Direct Engagement: It might be worthwhile to talk informally with the rating agencies about a range of issues. Although the Treasurer and a few others meet with representatives of the rating agencies periodically, I do not believe that the parties discuss whether the CDAAC methodology is overly restrictive or fairly represents the agencies' perspective. As part of that conversation, we could provide relevant information and context to the agencies. There are a number of factors we could address.

- The Per Capita Challenge Part II: Instead of rejecting borrowing scenarios viewed as too risky because they exceed the Triple A median, the CDAAC could note that being lower than the five-year average for NTSD as a percent of Revenue and Personal Income is strong evidence that Vermont has the economic and fiscal resources to meet its obligations. That would call the question on the significance of the NTSD per capita and whether it should be a "limiting factor" in future analyses.

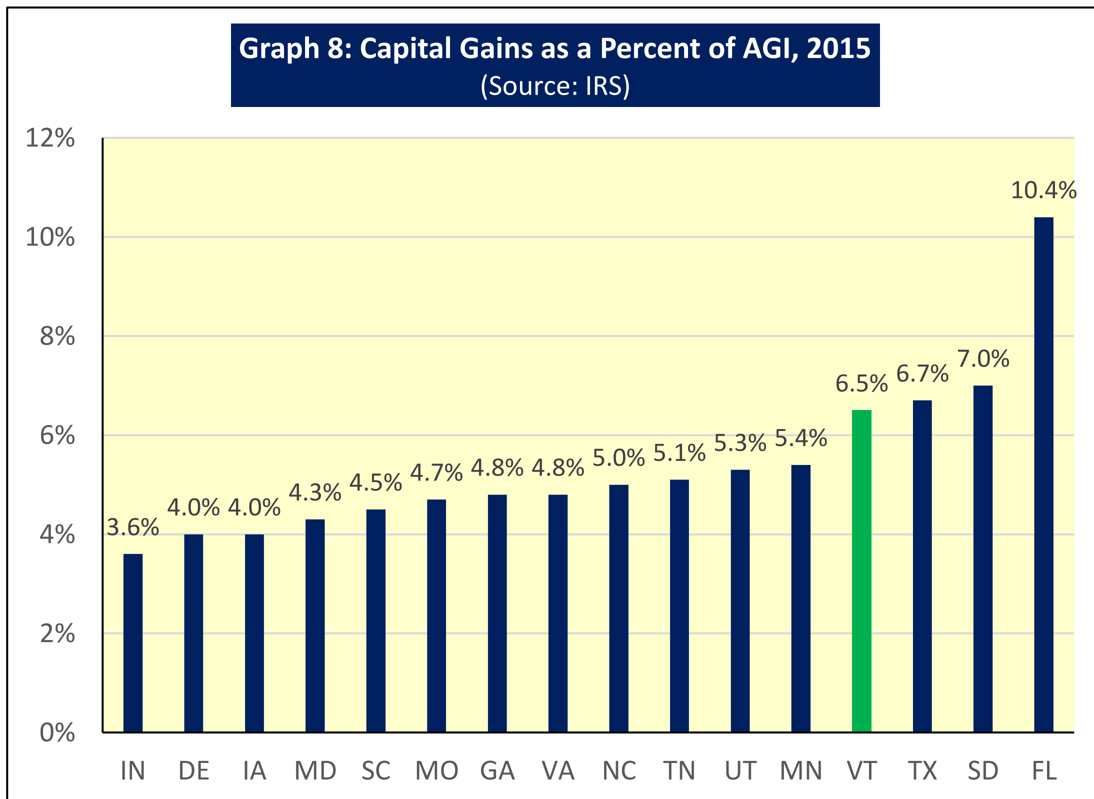
- Not All Triple A States Are Created Equal: As noted above, comparing Vermont with other Triple A states is not an unreasonable starting point. But there are some significant differences between states that can make the comparisons misleading. For example:

[25] 2018 CDAAC report, p.50.

➢ NTSD as a percent of Personal Income: This is a valuable metric, but personal income[26] is comprised of elements that vary across states and are sometimes treated differently.

"Personal income does not capture certain types of income—such as realized capital gains—on which states may collect taxes, nor does it account for the ability of states to export some portion of their revenue burden to non-residents." [27]

- Capital Gains: There is some variance in states' tax treatment of capital gains and in the amounts of capital gains reported. For example, capital gains as a percent of total AGI for the Triple A States range from 3.6% (IN) to 10.4% (FL).[28]



- Exporting Taxes: All states export some portion of the total "tax burden." Among other things, this includes federal deductibility, property taxes paid by second homeowners, and more targeted methods such as taxes from tourists. States vary quite a bit in this regard.

Arguably, the rating agencies should adjust the official personal income figures used for the debt metrics to include such information. Since they don't, we could provide it.

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[26] For these purposes, Personal Income is not the same as individual income as defined for tax purposes. Here is the link to BEA's definition: https://www.bea.gov/help/glossary?title_1=16&title=personal+income

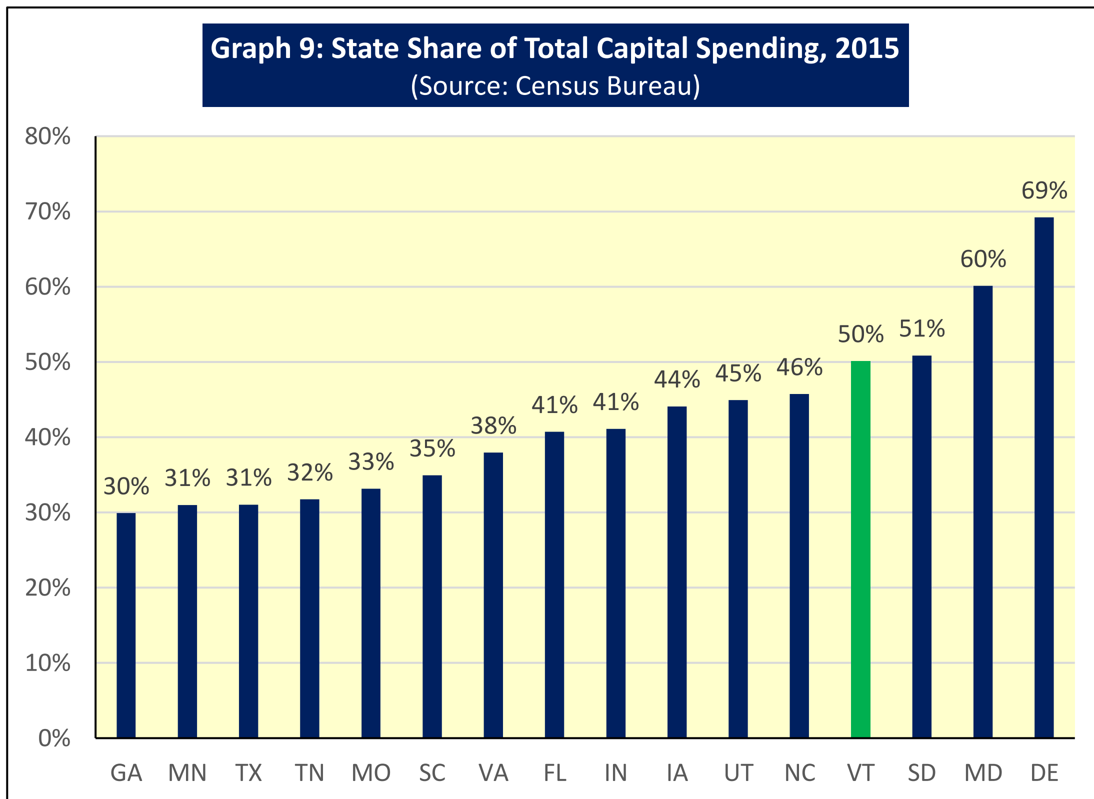
[27] Weiner, Jennifer, "Assessing the Affordability of State Debt," Federal Reserve Bank of Boston, New England Public Policy Center Research Report 13-2, December 2013.

[28] IRS, Statistics of Income Division, Individual Master File System, August 2017.

➢ State vs. Local: The NEPPC identified another factor that can complicate cross-state comparisons.

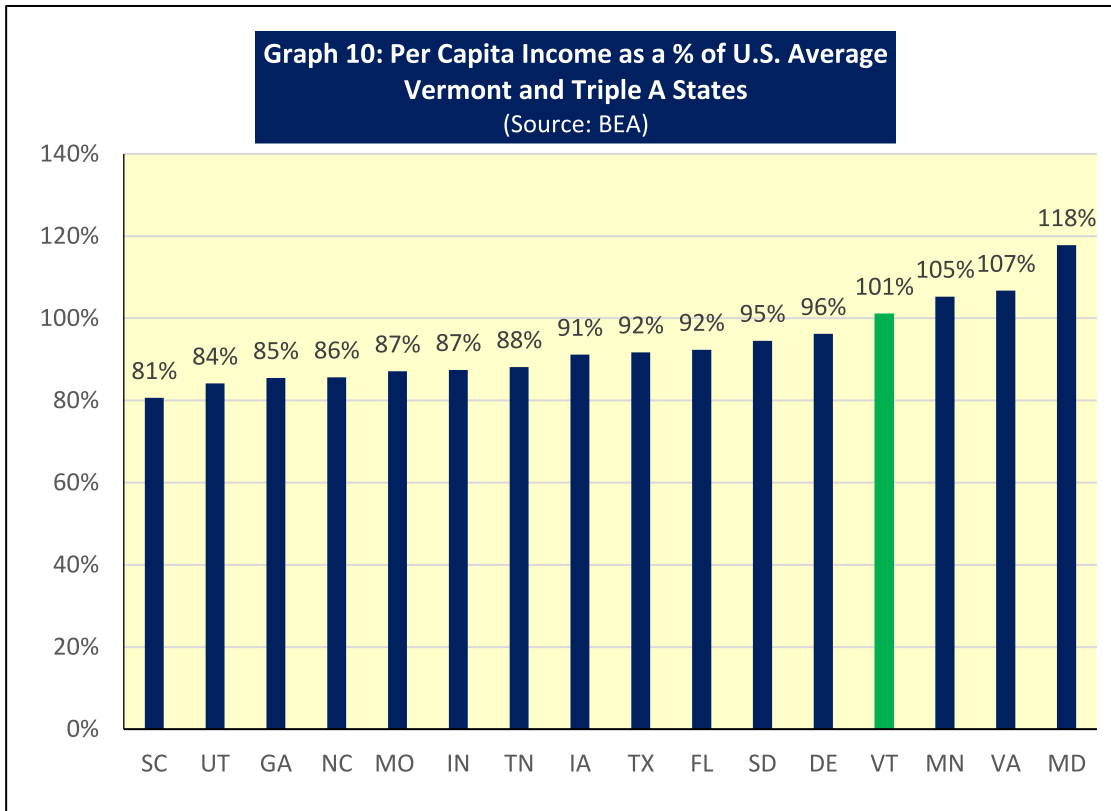
> *"One key difference is that states vary considerably in the division of responsibility [for capital spending] between state and local levels of government. States with more centralized government functions are likely to have higher state-level debt."*[29]

As states reduce their borrowing, some of the responsibility for infrastructure investments may devolve to municipalities and counties. If a state's share of overall capital spending is comparatively modest, the impact would be less than those states (like Vermont) that carry more of the burden.



➢ The Economy: Two rating agencies consider the health of a state's economy. Moody's has two sub-factors, the first being per capita income relative to the U.S. average. Vermont fares well (see Graph 10 below).

[29] Weiner, Jennifer, "Assessing the Affordability of State Debt," Federal Reserve Bank of Boston, New England Public Policy Center Research Report 13-2, December 2013.

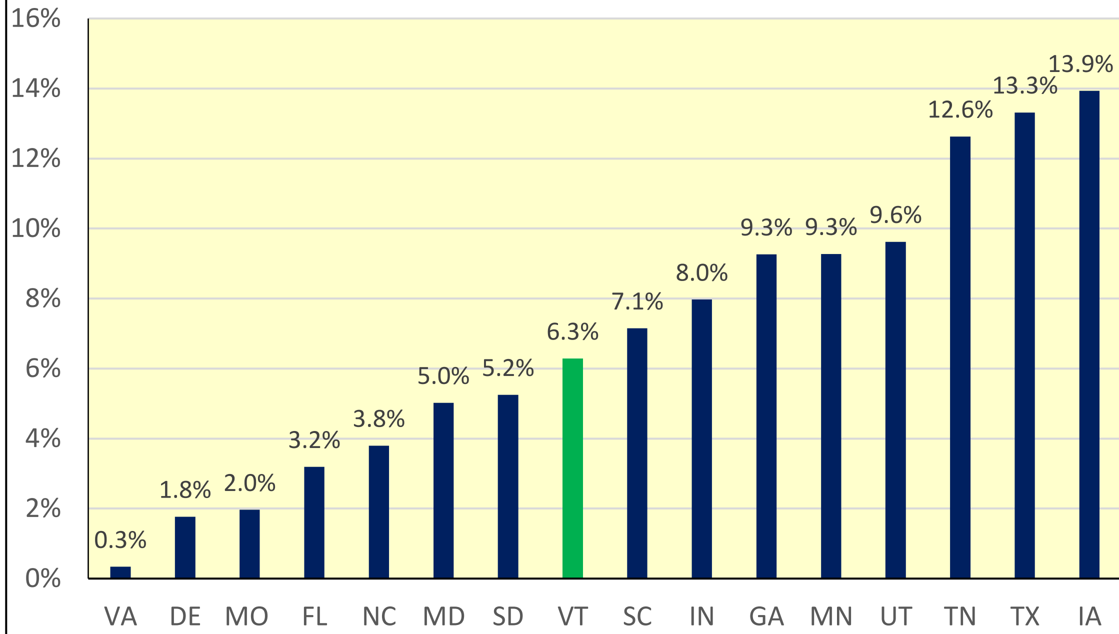


The second Moody's sub-factor is Nominal GDP, which was only recently adopted. This decision was the subject of a comment by the National Association of State Treasurer's.

> *"The use of Nominal GDP as a subfactor would introduce a concept where the size of the state would directly affect the credit scoring. Your RFC states that "the size of an economy is a strong indicator of the breadth and diversity of a state and is a good proxy for its capacity to carry liabilities." This is a generalization, of course, and therefore has its limitations. Some states with small economies enjoy significant sector diversity. Great care must be taken in the application of Factor 6 to ensure that states with small but diverse economies are not unduly penalized for their size."*[30]

While there is a positive correlation between larger nominal GDP and per capita GDP (which is the measure that adjusts for population), it is not uniform among the states, so states with larger nominal GDP are not assured of faster growth. Indeed, Vermont experienced greater real per capita GDP growth than seven of the 15 Triple A states from 2010 - 2017, all of which have larger economies (see Graph 11 below).

[30] January 31, 2018 letter from the National Association of State Treasurers to Moody's.

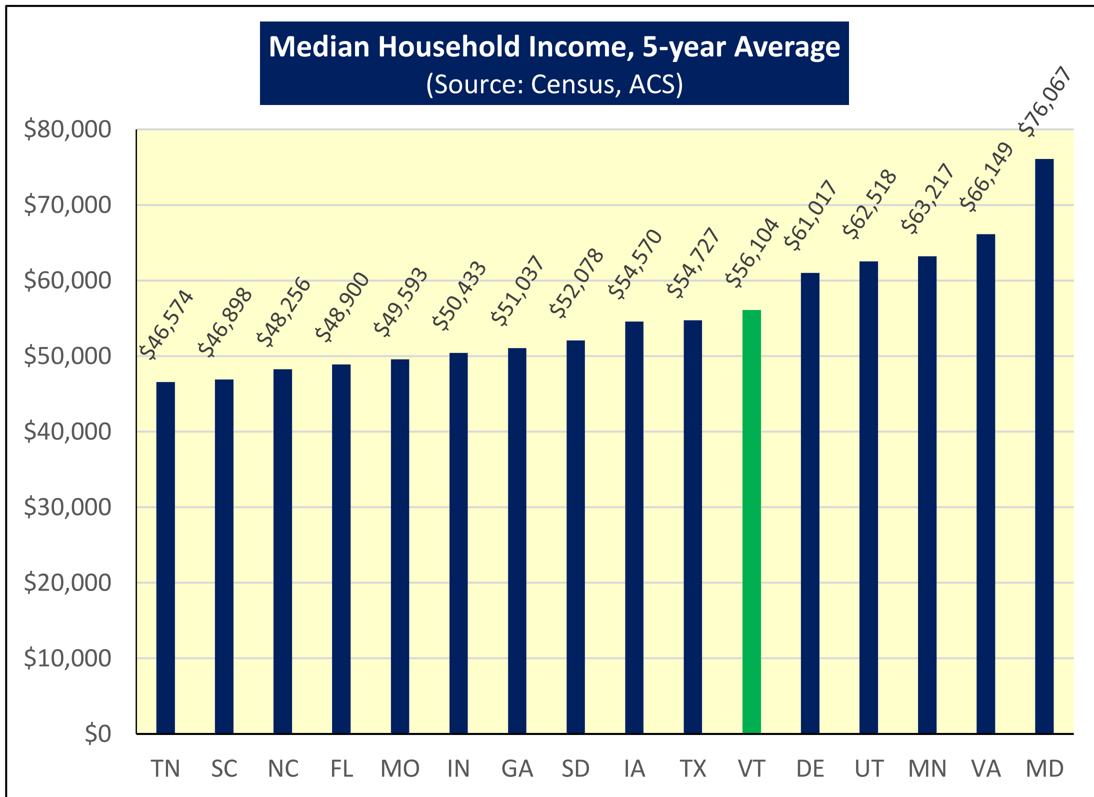


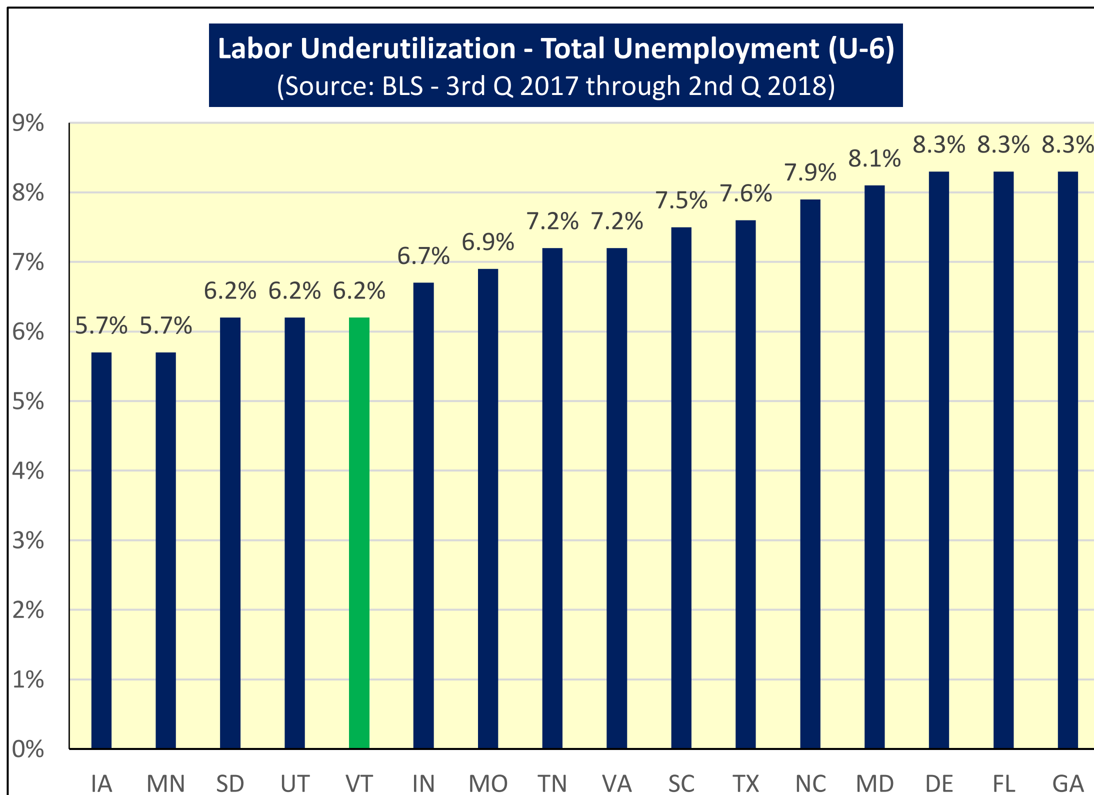
Moody's recent down grade was based on concerns about pension and OPEB liabilities, along with their perception that Vermont's economic prospects (i.e., the resources necessary to meet our obligations) are limited by our size and demographics. I know that the Administration, Legislature, and the Treasurer will continue their efforts regarding pension and OPEB liabilities, but we can also work on the other part of the equation.

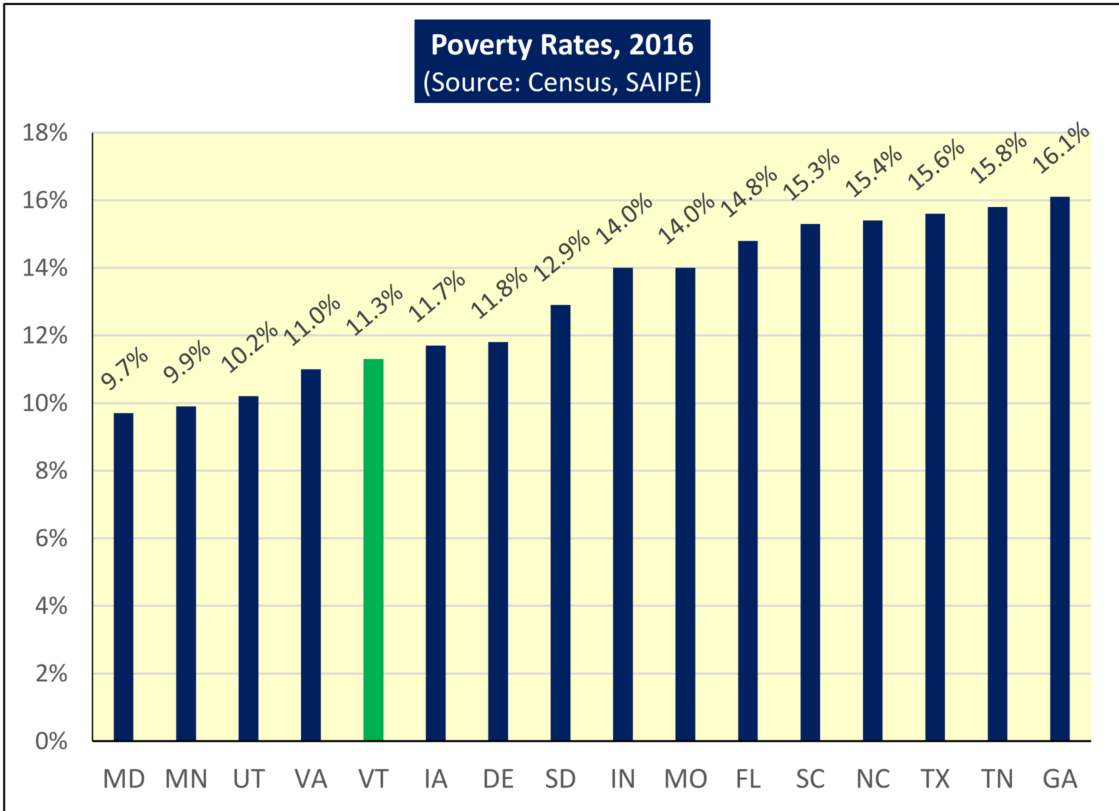
The bases for the assumptions about the state's economy can and should be challenged over time. I think the CDAAC can play an important role in that process. The first step should be an independent review of the CDAAC's methodology by the JFO on behalf of the Legislature.

APPENDIX

Examples of additional information about Vermont's economy and quality of life that could be used to inform the rating agencies' understanding of the state and how it compares to the Triple A states.






Poverty Rates, 2016
(Source: Census, SAIPE)
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
9.7%
9.9%
10.2%
11.0%
11.3%
11.7%
11.8%
12.9%
14.0%
14.0%
14.8%
15.3%
15.4%
15.6%
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UT
VA
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DE
SD
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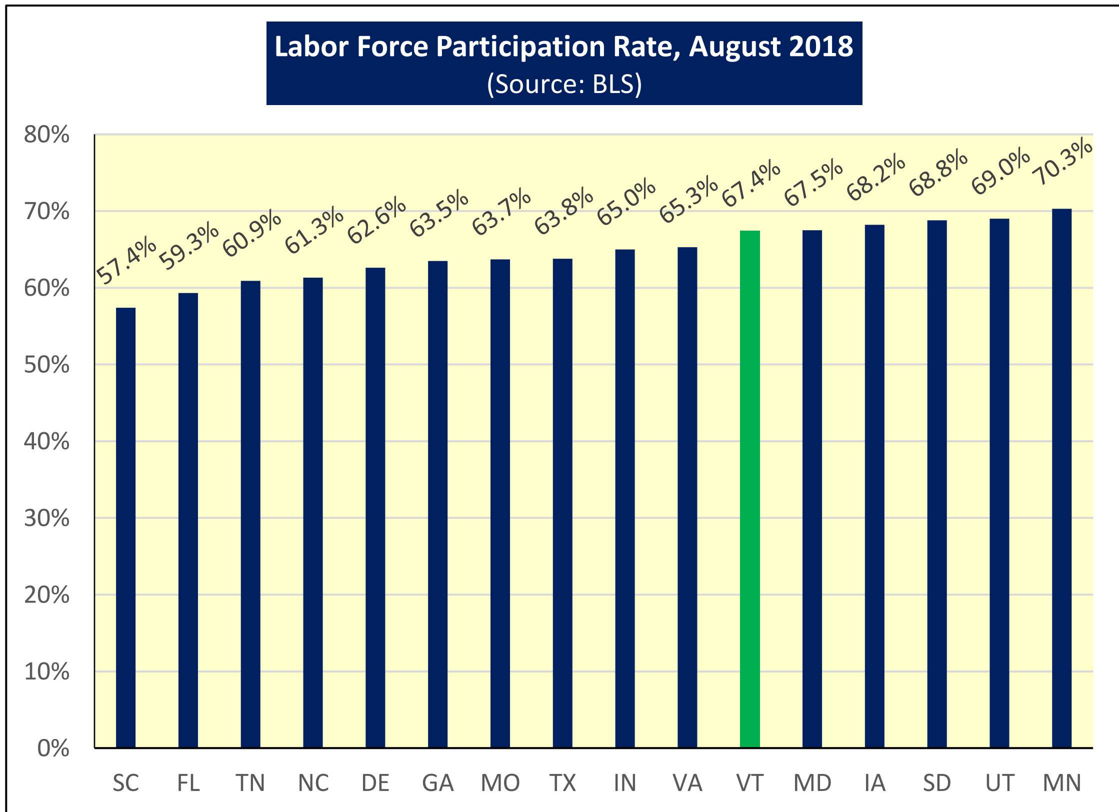
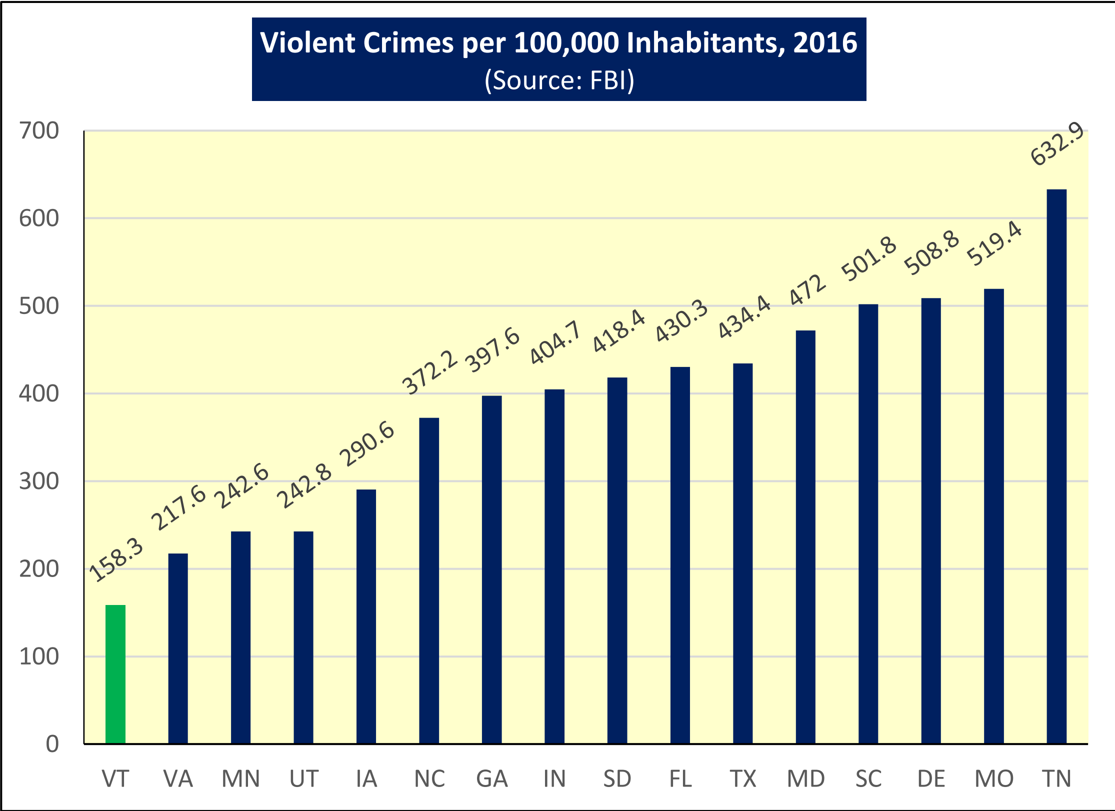
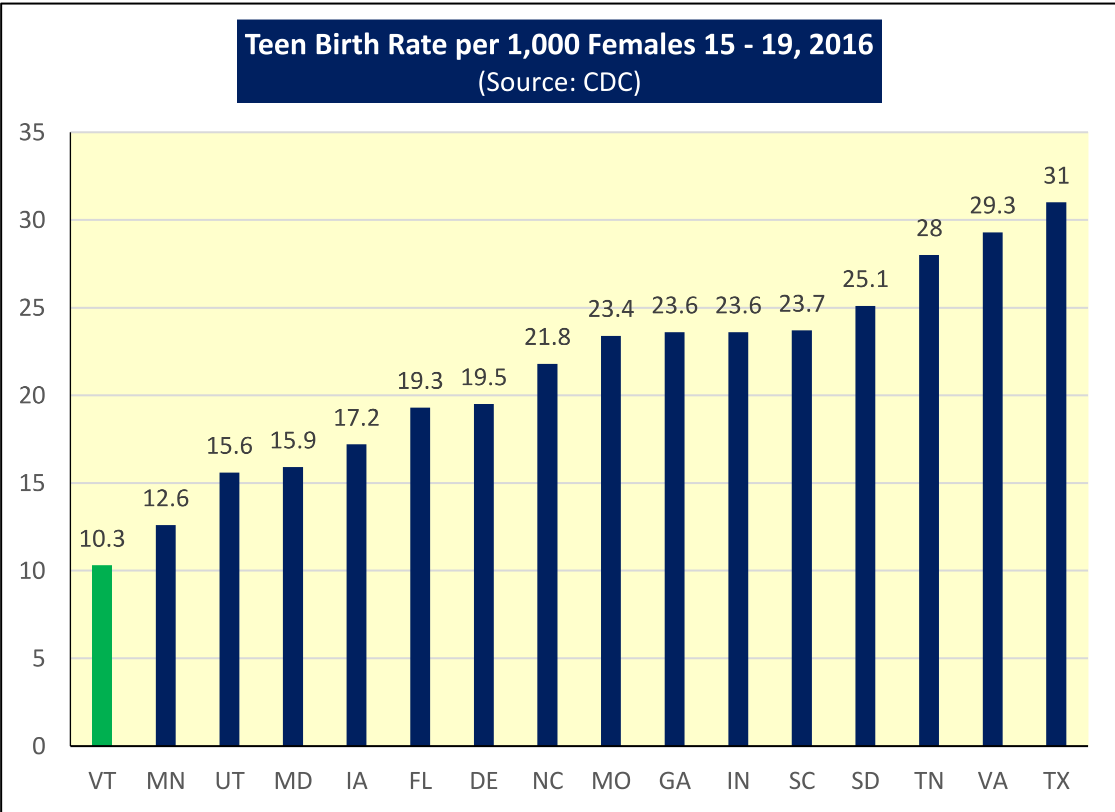
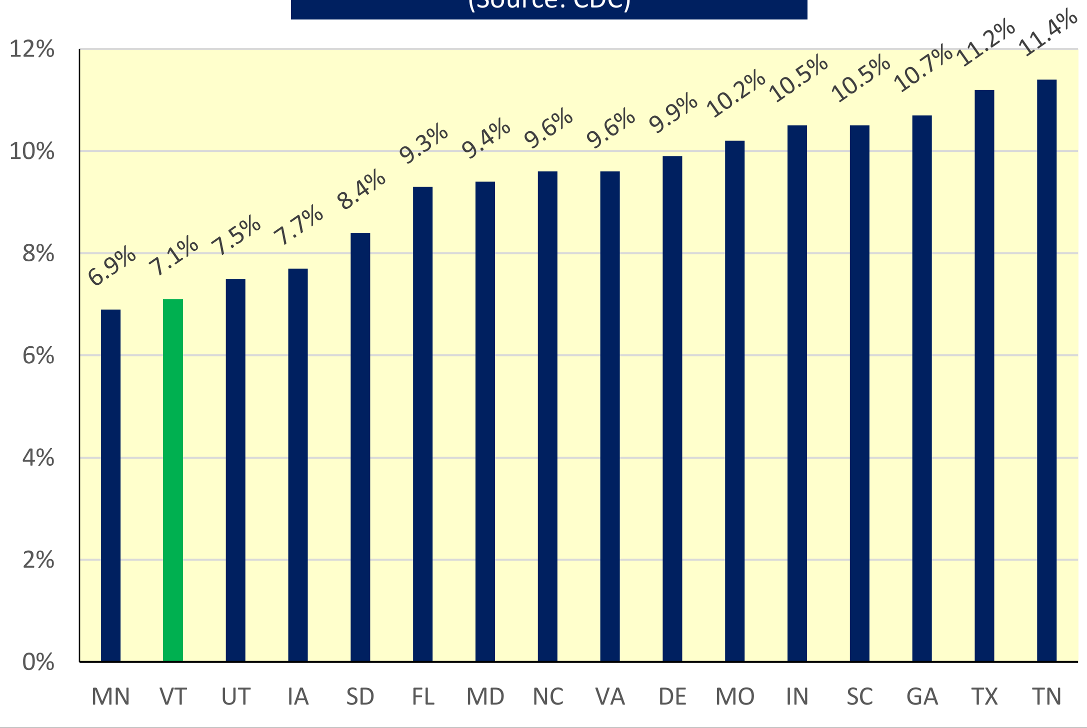
GA


Labor Force Participation Rate, August 2018
(Source: BLS)
80%
70%
60%
50%
40%
30%
20%
10%
0%
57.4%
59.3%
60.9%
61.3%
62.6%
63.5%
63.7%
63.8%
65.0%
65.3%
67.4%
67.5%
68.2%
68.8%
69.0%
70.3%
SC
FL
TN
NC
DE
GA
MO
TX
IN
VA
VT
MD
IA
SD
UT
MN


Violent Crimes per 100,000 Inhabitants, 2016
(Source: FBI)
700
600
500
400
300
200
100
0
158.3
217.6
242.6
242.8
290.6
372.2
397.6
404.7
418.4
430.3
434.4
472
501.8
508.8
519.4
632.9
VT
VA
MN
UT
IA
NC
GA
IN
SD
FL
TX
MD
SC
DE
MO
TN


Teen Birth Rate per 1,000 Females 15 - 19, 2016
(Source: CDC)
35
30
25
20
15
10
5
0
10.3
12.6
15.6
15.9
17.2
19.3
19.5
21.8
23.4
23.6
23.6
23.7
25.1
28
29.3
31
VT
MN
UT
MD
IA
FL
DE
NC
MO
GA
IN
SC
SD
TN
VA
TX


Percent of Adults with Diabetes, 2015
(Source: CDC)
12%
10%
8%
6%
4%
2%
0%
6.9%
7.1%
7.5%
7.7%
8.4%
9.3%
9.4%
9.6%
9.6%
9.9%
10.2%
10.5%
10.5%
10.7%
11.2%
11.4%
MN
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