

RatingsDirect®

Massachusetts; General Obligation; General Obligation Equivalent Security; Joint Criteria; Non-School State Programs; Note; School State Program

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Credit Profile		
US\$400.0 mil GO bnds cons loan ser 2015 E due 09/01/2045		
<i>Long Term Rating</i>	AA+/Negative	New
US\$150.0 mil GO bnds cons loan ser 2015 D due 09/01/2035		
<i>Long Term Rating</i>	AA+/Negative	New
Massachusetts GO		
<i>Long Term Rating</i>	AA+/Negative	Outlook Revised
Massachusetts St Coll Bldg Auth		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	A+/Stable	Affirmed

Rationale

Standard & Poor's Ratings Services has revised its outlook on the Commonwealth of Massachusetts to negative from stable. We have also revised our outlook on the Qualified Bond Act (Massachusetts General Law, Chapter 44A) and Massachusetts State College Building Authority state aid intercept program bonds to negative from stable, the ratings on which move in tandem with the state GO rating.

At the same time, Standard & Poor's has affirmed its 'AA+' rating on approximately \$20.3 billion of parity general obligation (GO) debt outstanding and its 'A+' rating on the commonwealth's moral obligation debt.

Standard & Poor's has also assigned its 'AA+' rating and negative outlook to Massachusetts' \$150 million GO bonds consolidated loan of 2015 series D, and \$400 million GO bonds consolidated loan of 2015 series E.

We base the outlook revision on a decline in financial reserves over the past several years despite a prolonged period of economic expansion and generally positive revenue trends. The commonwealth has also suspended scheduled transfers of excess capital gains tax revenue to the budget stabilization fund (BSF). We had viewed this policy as a positive budget management tool that could mitigate potential future budget volatility. Reduction of reserves could contribute to a lower rating over the two-year outlook horizon if we feel that financial flexibility is impaired--especially in light of relatively high fixed costs related to debt and retirement funding. Should the commonwealth reverse the trend of reserve reductions, we could return the outlook to stable.

Factors supporting the 'AA+' GO rating include what we view as Massachusetts':

- Strong historical budget performance, with timely monitoring of revenues and expenditures and swift action when needed to make adjustments, with a focus on structural solutions to budget balance;

- Strong financial, debt, and budget management policies, including annualized formal debt affordability statements, and multiyear capital investment and financial planning;
- An adequate BSF balance;
- High wealth and income levels; and
- Deep and diverse economy, which continues its steady recovery.

We understand that the series 2015D and 2015E bonds will be used to finance or reimburse the commonwealth for a variety of capital expenditures.

Standard & Poor's believes the commonwealth's high debt burden and high unfunded pension and other postemployment benefit (OPEB) liabilities are offsetting considerations to the current rating. Although we view Massachusetts' total postretirement liabilities as relatively high, we believe the commonwealth has been actively managing these liabilities with a focus on cost control and reform in recent years.

Massachusetts' economy has recovered steadily, outpacing national and regional trends by most measures. Real state GDP rose 2.3% in calendar 2014, compared with 2.2% for the nation. The commonwealth's average annual unemployment rate in 2014 was 5.8% compared with 6.2% for the nation. The preliminary state unemployment rate as of September 2015 has fallen to 4.6%, compared with 5.1% for the nation, the result of continued strong growth in private-sector employment. Employment growth has been strong relative to other states and the commonwealth regained its pre-recession employment peak in 2013 according to the Bureau of Labor Statistics. IHS Global Insight Inc. forecasts continued state employment growth in 2015, 2016, and 2017, at 2.0%, 1.3%, and 1.2%, respectively, in those years, compared with its forecast of 1.9%, 1.5%, and 1.4% for the U.S. in that time frame. In our view, Massachusetts' economic fundamentals and key anchors, which are centered on higher education, technology, and health care, should contribute to continued expansion. Income growth has also been strong relative to that of other states, with 2014 per capita personal income ranked second in the U.S. behind that of Connecticut, at 128% of the U.S. average. IHS Global Insight projects state real wage growth will rank sixth highest in the U.S. from 2015-2019, led by the professional, scientific, and technical services sectors.

We view Massachusetts' budget as generally structurally balanced with good reserves, although two rounds of midyear budget adjustments were needed in fiscal 2015, primarily prompted by higher-than-budgeted spending and some revenue shortfalls. The state has begun identifying potential midyear adjustments that might be needed in fiscal 2016 as the result of legislative spending overrides of governor's budget vetoes, a two-day state sales tax holiday, and a lower estimate of nontax revenues.

Massachusetts projects a small drawdown in its total operating fund reserves, including its BSF, to what we calculate as a modest \$1.046 billion, or 2.5% of projected budgetary basis expenditures at fiscal year-end 2016, absent midyear budget spending adjustments, expenditure deferrals to next year, or revenue above forecast. This balance would be drawn down from \$1.570 billion, or 4.0% of expenditures at fiscal year-end 2015. However, the state has not yet made midyear corrections and various factors could cause actual results to differ from the current projection. Not included in Massachusetts' projection is \$125.8 million of above-budgeted tax revenue received in the first quarter of fiscal 2016, which could potentially be offset by \$150 million of potential MassHealth shortfalls, or possible negative fluctuation in tax revenue. We believe the state is somewhat exposed to cyclical swings in capital gains tax revenue, which we calculate comprised about 7% of fiscal 2015 tax revenues. However, we also believe the state has a good history of

making timely midyear budget adjustments, and is likely to propose such corrections in December or January, if needed. Massachusetts calculates one-time budget items in the 2016 budget at \$629 million, or only 1.5% of projected expenditures, indicating in our view near structural balance. Nevertheless, we do not expect material additions to the state's BSF at the end of this fiscal year, and a possible drawdown in overall reserves.

The state originally budgeted a drawdown in its BSF in fiscal 2015. Following two rounds of midfiscal 2015 adjustments, it produced an end of year operating surplus, of which \$124 million was deposited into the BSF, allowing it to raise its BSF balance at fiscal year-end 2015 by what we view as a nominal \$4 million, net of earlier draws. State tax revenues have been at or slightly above budgeted levels in recent years; midyear shortfalls have largely been the result of above-budgeted spending or nontax revenues coming in below budget in our opinion.

The commonwealth drew down its BSF by \$308 million in fiscal 2014 to end with a total operating fund balance of 3.9% of expenditures, on a budgetary basis. The last peak of the BSF was in 2012, when it reached \$1.652 billion, or 4.9% of operating expenditures, and when total operating reserves, including the BSF, reached 5.9%.

On a generally accepted accounting principles (GAAP) basis, Massachusetts ended fiscal 2014 (the most recent audited year) with an available assigned and unassigned general fund balance of \$1.59 billion, plus a BSF balance of \$1.25 billion, for a combined balance that we view as strong at 9% of general fund expenditures, down slightly from 11% the year before.

We calculate total GO debt outstanding at fiscal year-end June 30, 2014, the last audited year, at \$20.1 billion, and total tax-supported debt at about \$34.5 billion, including debt issued by state authorities and supported by the statewide sales tax and authority debt supported by state contract assistance payments. The commonwealth reports it had \$20.3 billion of GO debt outstanding as of Oct. 31, 2015. By most measures, we believe Massachusetts' debt burden remains high compared with that of other states. Debt per capita was high, in our view, at \$5,121 at fiscal year-end 2014 and 8.7% of personal income. Planned debt issuance remains within the parameters of the commonwealth's debt affordability policy and bond cap. A capital and debt affordability committee includes seven voting members and eight nonvoting members from the legislature and is charged with formally reviewing the capital investment plan and providing an estimate of debt authorization for each year to stay within certain debt parameters. Massachusetts' current capital plan calls for \$2.125 billion of GO borrowing in fiscal 2016, a level amount from 2015. We view fiscal 2014 total tax-backed debt service of about 6% of general governmental spending as moderately high.

Other long-term liabilities are also large, in our opinion. We believe combined unfunded pension liabilities of \$34.2 billion as of Jan. 1, 2015, or \$4,928 per capita, were high, although the state continues to fully fund its actuarial annual required contribution (ARC), albeit on a lagged statutory basis. A decline in the state's actuarial pension funded ratio as of the most recent Jan. 1, 2015 actuarial valuation date was in part due to a lowering of actuarial return assumptions and new experience data, which we believe shows conservative management of pension liabilities. In our opinion, Massachusetts' unfunded OPEB is also moderately high at \$15.9 billion as of Jan. 1, 2015, net of \$610.0 million of actuarial assets in an OPEB trust fund, or \$2,357 per capita. The state intends to make future payments to the OPEB trust fund with 5% of excess capital gains tax distributed to the BSF (although this requirement was suspended in fiscal 2015), and a portion of tobacco settlement money that increases in 10% increments each year. In fiscal 2016, the incremental tobacco money increase to the OPEB trust was suspended and 30% of tobacco settlement money, or

approximately \$73 million, is expected to be contributed to the OPEB trust fund, contingent on unexpended debt service appropriations.

Based on the analytic factors we evaluate for states, on a scale of '1.0' (strongest) to '4.0' (weakest), we have assigned a composite score of '1.9' to Massachusetts.

Although a score of '1.9' is indicative under our criteria of a rating of 'AA', we have notched up the rating to reflect the commonwealth's strong financial management practices, such as timely proactive midyear budget adjustments, and a recent move to more conservative pension investment return assumptions, that while temporarily lowering pension funded ratios, in our opinion positions them better for the future.

Outlook

Our negative outlook reflects a projected decline in financial reserves in fiscal 2016 from currently adequate levels, despite a prolonged period of economic expansion and generally positive revenue trends, and which follows previous drawdowns that occurred in 2013 and 2014. The commonwealth has also suspended scheduled transfers of excess capital gains tax revenue to the BSF. We had viewed this policy as a positive budget management tool that could mitigate potential future budget volatility. Reduction of reserves could contribute to a lower rating over the two-year outlook horizon if we feel that financial flexibility is impaired--especially in light of relatively high fixed costs related to debt and retirement funding. Should the commonwealth reverse the trend of reserve reductions, we could return the outlook to stable.

Governmental Framework

State finance law requires that the governor submit a balanced budget and the House and Senate each produce a balanced budget. The final general appropriation act must also be balanced. If a revenue shortfall is identified, the governor is required by section 9C of Chapter 29 to reduce agency appropriations or recommend a transfer from the BSF.

Massachusetts has autonomy to raise taxes and has adjusted its tax structure over time. Medicaid accounts for about 35% of total spending while direct local aid for about 13% of budgeted 2016 spending. Funding levels for major program areas have been adjusted as needed. Massachusetts voters have approved revenue growth limitations, but these have not negatively affected operations or limited flexibility in our view. More significant measures to reduce or eliminate major tax sources have been on the ballot but not approved. An initiative to raise tax rates on those earning more than \$1 million is currently gathering signatures. We note that the state legislature could amend various voter-initiative measures before they take effect. The commonwealth is authorized to issue GO debt, special obligation debt, and federal grant anticipation notes. There is a statutory limit on debt outstanding and a statutory limitation on debt service appropriations set at 10%. These limitations have not impaired flexibility to manage capital and infrastructure requirements. There is no statutory priority for funding debt, but debt service payments are not subject to the warrant requirement applicable to other state spending, and we understand that the comptroller and other state officials have developed procedures to prioritize payments and debt service is given the highest priority among various

payment obligations.

On a scale from '1.0' (strongest) to '4.0' (weakest), Standard & Poor's assigned a score of '1.5' to the commonwealth's governmental framework.

Financial Management

Financial management assessment: 'strong'

Standard & Poor's maintains a "strong" financial management assessment (FMA) score for Massachusetts. In our framework, an FMA of strong indicates that practices are strong, well embedded, and likely sustainable. Many of the commonwealth's management practices related to debt and financial management are embedded in statute.

Highlights include the following:

- Massachusetts uses internal resources and outside economic forecasting firms to develop a consensus revenue forecast. It has regularly performed monthly revenue estimates and quarterly budget reviews. Legislation approved in 2008 requires that revenue reports be submitted semimonthly to the legislature.
- Five-year financial forecasting has been implemented. We understand that it will be updated annually and integrated into the budget process.
- A five-year capital improvement plan (CIP; administrative intent, not binding) is in place that coordinates every facet of debt issuance. Included in the CIP is a detailed debt affordability analysis that is also updated each year.
- The commonwealth has detailed and frequently reviewed investment policies managed through the office of the treasurer. Quarterly cash flow projections are prepared and submitted to the legislature.
- Massachusetts has a statutorily established BSF that prescribes a mechanism for funding, as well as funding levels, although the process has sometimes been changed from year to year.

There are statutory limits on debt issuance. For direct debt, there is a limit allowing the issue of up to 105% of the previous year's limit. There is also a limit on annual debt service of 10% of the then-current year's budget appropriation. In addition to the aforementioned statutory requirement, the governor's office adheres to an administrative bond cap (debt service capped at 8% of budgeted revenues), which sets the annual limit on debt issuance. The treasurer's office maintains debt management and swap policies that we view as comprehensive. An asset/liability management policy was introduced last fiscal year.

Massachusetts has a statutorily established BSF that prescribes a mechanism for funding, as well as funding levels. Statute requires the deposit of 100% of consolidated net surplus in any given year into BSF. The statute also provides that the BSF's maximum amount cannot exceed 15% of the current year's revenues. The commonwealth must use any excess above that for tax reduction. A change was made in 2010 to direct capital gain revenues in excess of \$1 billion to the fund. Legislation approved in 2012 indexes the capital gains amount to growth in U.S. gross domestic product. The statute also directs 5% of the excess to the state retiree benefits trust fund and the pension liability fund. We believe this measure has the benefit of enhancing the fund while decreasing budget reliance on this cyclical revenue source. Nevertheless, the state diverted to the general fund in fiscal years 2015 and 2016 excess capital gains tax that would otherwise have gone to the BSF. Certain judgments and settlements must also be deposited to the fund, although this requirement was modified in fiscal 2015 to require that only settlements and judgments exceeding the

average of such total for the preceding five fiscal years would be transferred to the BSF.

The commonwealth has detailed and frequently reviewed investment policies managed through the office of the treasurer. Quarterly cash flow projections are prepared and submitted to the legislature.

Budget management framework

Once the budget is approved, the Secretary of Administration and Finance (A&F) is required to prepare quarterly updates of both revenues and expenditures and submit them to the legislature. If projected revenues are expected to be insufficient to meet appropriations, the deficiency is certified by A&F and, pursuant to statute (section 9C of Chapter 29), the governor is required to reduce allotments or submit proposals to raise additional revenues or to make appropriations from the BSF to restore balance. Budget adjustments have historically been implemented regularly and on time and deficits are not carried forward into future fiscal years.

Massachusetts is a voter initiative state. Although there have been voter initiatives that limit the overall growth in state tax revenue and a limit on the amount of bonds outstanding and debt service appropriations, these have not substantially altered Massachusetts' ability to manage its budget or fund debt service. While more recent ballot initiatives to reduce or eliminate major tax sources of the state were not approved, the legislature can amend an initiative, and a recent initiative rolled back inflation indexing for a gas tax. The commonwealth provides a relatively high level of service in our opinion. Adjustments have been made to programs but reductions to areas such as education have been limited. As noted above, an initiative is currently gathering signatures to raise income tax rates on those earning above \$1 million per year.

On a scale from '1.0' (strongest) to '4.0' (weakest), Standard & Poor's assigned a score of '1.0' to Massachusetts' financial management framework.

Economy

Massachusetts' labor market fared relatively well in 2014. According to IHS Global Insight, private-sector payroll gains averaged 1.6%, compared with 1.9% for the U.S. Unemployment rates have declined at a steady pace due to positive employment trends. The average annual unemployment rate for 2014 was 5.8%, which was below the 6.2% rate for the nation, while the preliminary state unemployment rate as of September 2015 had fallen to 4.6%, compared with 5.1% for the nation. The U.S. Census Bureau population estimate for the state in 2014 is 6.745 million, a 0.5% increase over 2013. Population growth has outpaced the region since 2007 but continues to lag the nation and we expect this trend to continue. The state's age dependency ratio of nonworking age population to working age population was better than the nation at 55.3% in 2013, compared with 59.8% for the U.S.

Massachusetts has always had high income levels. Per capita personal income increased to \$58,737 in 2014, or 128% of the national level--a ratio the commonwealth has held consistently for the past six years. We expect that income will remain well ahead of other states based on the nature of the jobs being created and the pace of expansion. IHS Global Insight projects state gross product to rise 2.1% in 2015, 2.5% in 2016, 2.6% in 2017, and 2.5% in 2018, at rates slightly under, but comparable with hits forecast for the U.S.

The economy has diversified over time and education and health services now make up the primary employment sectors, accounting for nearly 22% of total employment in 2014 according to the Bureau of Labor Statistics. This is followed by trade and transport (16%) and professional business services (15%). Cyclical sectors, such as manufacturing and construction, represent only 7% and 4% of employment, respectively. The increasing role of services in the economy reflects growth in research laboratories, computer software, management consulting, other business services, and health care. Higher education anchors, a high level of federal research funding, and venture capital give the commonwealth a leading edge in emerging industries, such as biotechnology, software, communications equipment, and surgical instruments. In addition, its defense-related industries continue to perform well. Massachusetts ranks eighth out of the 50 states by value of federal defense and research contract awards. This part of the economy could be affected by any federal fiscal consolidation in the future.

On a scale from '1.0' (strongest) to '4.0' (weakest), Standard & Poor's assigned a score of '1.8' to Massachusetts' economy.

Budgetary Performance

The state has established a formal BSF under statutory law that receives excess capital gains taxes over a threshold amount, indexed for inflation. A threshold of \$1 billion was in effect for fiscal years 2011, 2012, and 2013. For fiscal years after fiscal 2013, the threshold is subject to annual adjustment to reflect the average annual rate of growth in U. S. gross domestic product over the preceding five years. Under statutory law, tax revenues collected from capital gains income during a fiscal year that exceed the threshold are required to be transferred to the BSF, with 5% of the amount so deposited then transferred to the State Retiree Benefits Trust Fund (for OPEB) and an additional 5% transferred to the commonwealth's pension liability fund. However, in fiscal years 2015 and 2016 capital gains taxes that would have otherwise flowed to the BSF were diverted to pay for general fund budget expenditures. The enacted 2016 budget assumes the fiscal 2016 capital gains collections threshold (suspended in fiscal 2016) to be approximately \$1.087 billion, with the excess diverted to the general fund instead of the BSF to be approximately \$300 million.

The BSF reached a peak of \$2.335 billion at fiscal year-end 2007, before being drawn down to \$670 million at fiscal year-end 2010 during the Great Recession. The commonwealth subsequently began using excess capital gains tax to build up the fund again to \$1.652 billion at fiscal year-end 2012. The BSF stood at \$1.252 billion at fiscal year-end 2015, or 3.2% of operating expenditures, following a \$124 million deposit after the end of the fiscal year from surplus operating revenues into the BSF, offset by budgeted fiscal 2015 BSF draws, for a net increase of \$4 million in the BSF. Massachusetts projects the BSF to increase by a slight \$6 million in fiscal 2016, but this is more than offset by a currently projected general fund deficit that would produce a negative \$226 million undesignated general fund balance, leaving a decline of \$525 million in overall operating fund balances from 2015 to 2016, absent midyear corrective action.

We view state liquidity as strong, with the help of annual cash flow note borrowing. The state does not engage in inter-fund borrowing. Massachusetts currently projects to end fiscal 2016 with a general fund cash balance of \$2.56 billion, and estimates its month end cash low point in fiscal 2016 will be February, with a \$443.8 million general fund cash balance. In fiscal 2015, the state issued \$1.2 billion in revenue anticipation notes, maturing in April, May, and

June 2015. Cash flow notes must be repaid by the end of the fiscal year. Fiscal 2015 ended with a nonsegregated general fund cash position of \$2.14 billion.

We view Massachusetts' revenue sources as diverse. Income tax was 58% of operating funds tax revenues in fiscal 2015 on a budgetary basis, and sales tax was 23%.

We believe the commonwealth's revenue forecasting is good. Massachusetts prepares quarterly revenue updates and uses a consensus revenue forecast for budgeting purposes. We believe that state budgeting has historically been done with an eye toward long-term structural balance. However, we believe that Massachusetts is a high service state, with expenditures that may be difficult at times to reduce. In particular, Medicaid plus health and human services spending accounts for 48% of the fiscal 2016 budget expenditures, while operating funds' debt service accounts for about 6%. Pension funding costs from operating funds in fiscal 2016 are estimated at \$1.97 billion, or 5%, while OPEB costs for current retirees are about another 1%.

The fiscal 2016 budget projects tax revenue growth of 4.8% from the revised fiscal 2015 tax estimate, including a reduction in the state income tax rate from 5.15% to 5.10%. We believe the budget shows near structural balance, with state self-identified one-time budget items at about 1.5% of expenditures. There are no major tax or fee increases, although it diverts capital gains tax to the general fund that otherwise would go the BSF, and expects \$200 million of recurring savings from an early retirement incentive package. The state has identified projected mid-2016 shortfalls from the original budget forecast due to legislative spending veto overrides, a two-day sales tax collection suspension, and other budgetary deficiencies in the range of \$200 million to \$250 million. However, Massachusetts currently believes its forecast of tax revenues for the full year to remain accurate, and tax revenues actually exceeded budget forecast in the first quarter of fiscal 2016 by \$125.8 million—the projected shortfall in 2016 is due to lower projected non-tax revenue and expenditure items. The currently projected budget shortfall would leave the state with a negative \$226 million negative undesignated general fund balance, absent mid-year corrective action. The state has also identified a potential \$150 million shortfall in its MassHealth program, which if not offset by possible increased federal reimbursements could cause a drain on the state's general fund. In addition, the commonwealth has identified \$200 million-\$250 million of other potential budget risks, but which might not occur.

On a scale from '1.0' (strongest) to '4.0' (weakest), Standard & Poor's assigned a score of '1.7' to Massachusetts' budgetary performance.

Debt And Liabilities

We calculate total GO bond proceeds outstanding at fiscal year-end June 30, 2014, the last audited year, at \$20.1 billion, and total tax-supported debt at \$33.1 billion, including debt issued by state authorities and supported by the statewide sales tax, as well as debt of state agencies supported by annual state contract assistance payments. By most measures, Massachusetts' debt burden remains high compared with that of other states. The variable-rate portfolio is currently 18% of total GO debt, and is actively managed by the commonwealth under formal debt policies. About \$1.2 billion, or 6% of state GO debt, consists of unhedged variable-rate bonds, with the remainder of the variable-rate debt's interest rates synthetically fixed through interest rate swaps. The state has begun a new multi-year asset liability

management program that could increase its exposure to unhedged variable-rate debt. However, there are no major plans in the near future to significantly expand its unhedged portfolio. In the past several years, the overall portfolio of variable-rate debt has diversified, and put risk has been significantly reduced in our opinion. Tax-backed debt per capita is high, in our view, at what we calculate as \$5,158 at fiscal year-end 2014 and 8.8% of personal income. We also calculate combined total tax-backed debt service to operating expenditures as high at 6% on a GAAP basis.

The current long-term, five-year CIP projects debt service to remain below the state's calculation of 8% of budgeted revenues through fiscal 2020. A state debt and capital affordability committee conducts an annual debt affordability study. The committee includes seven voting members and eight nonvoting members from the legislature and is charged with formally reviewing the CIP and providing an estimate of debt authorization for the year. The current CIP for fiscal 2016 calls for \$2.125 of bonding, a level amount from fiscal 2015, as part of a fiscal 2016 total capital budget of \$4.1 billion. Our debt calculation includes special tax bonds supported by statewide tax sources in the ratios we use to assess total tax-supported debt.

The most recent actuarial valuation of the combined pension indicates a decline in combined pension funded ratios as of Jan. 1, 2015, although in part caused by a lower rate of return assumption and a new experience study, which we consider a positive development. The aggregate funded ratio declined on an actuarial basis to 59.0% from 61.2% in 2014, and remains far below the 78.6%-funded ratio recorded in 2008. The unfunded actuarial liability was \$33.2 billion in 2015, not including \$200 million of unfunded local pension cost-of-living obligations, or what we calculate as a high 8.4% of state personal income. Massachusetts attributes the relatively low funded ratio to recognition of prior-year investment losses and certain adjustments to actuarial assumptions, including mortality rates and lowering the investment return assumption to 7.75% in 2015 from 8.00%, which we view as more conservative. The funded ratio would have been 61.6% without the change to actuarial assumptions. However, the funded ratio remains below the average funded ratio for other U.S. states. On a market value basis the aggregate fund ratio was slightly higher at 61.7%. The state has continued to fully fund its actuarial annual required pension contribution, using valuation projections from earlier years, which has resulted in recent years in annual funding less than its actuarial annual required contribution level under GAAP. In fiscal 2014, the state contributed 80% of GAAP actuarial annual required contributions to its employees' retirement system. However, using the state's actuarial assumptions and statutory funding requirements, the state projects that the unfunded liability would be fully amortized in approximately 20 years.

Massachusetts also has a \$15.9 billion unfunded actuarial accrued OPEB liability, which we consider sizable, but we note the decline from \$16.3 billion recorded in 2012 as various reform measures were phased in and OPEB trust fund deposits have been made. The commonwealth has dedicated tobacco settlement revenues toward its OPEB trust fund to provide a permanent funding source, which we consider a credit positive, although trust fund deposits were made from other sources recently. The portion of tobacco settlement money dedicated to the OPEB trust fund is scheduled to increase in 10% increments each year, until it reaches 100%, although the incremental increase was suspended in fiscal 2016. In fiscal 2016, 30% of tobacco settlement money, or approximately \$73 million, is expected to be contributed to the OPEB trust fund. The trust had actuarial assets of \$610.0 million as of Jan. 1, 2015. In fiscal 2014, the state funded 49% of its actuarial annually required OPEB contribution.

On a scale from '1.0' (strongest) to '4.0' (weakest), Standard & Poor's assigned a score of '3.3' to Massachusetts' debt

and liability profile.

Related Criteria And Research

Related Criteria

- USPF Criteria: State Ratings Methodology, Jan. 3, 2011
- USPF Criteria: Financial Management Assessment, June 27, 2006
- USPF Criteria: Debt Statement Analysis, Aug. 22, 2006
- USPF Criteria: State Credit Enhancement Programs, Nov. 13, 2008
- USPF Criteria: Appropriation-Backed Obligations, June 13, 2007
- USPF Criteria: Special Tax Bonds, June 13, 2007
- USPF Criteria: Wholesale Utilities, May 24, 2005
- General Criteria: Rating Government-Related Entities: Methodology And Assumptions, March 25, 2015
- USPF Criteria: Higher Education, June 19, 2007
- USPF Criteria: Limited-Tax GO Debt, Jan. 10, 2002
- Criteria: Methodology And Assumptions: Approach To Evaluating Letter Of Credit-Supported Debt, Feb. 20, 2015
- USPF Criteria: Municipal Applications For Joint Support Criteria, June 25, 2007
- USPF Criteria: Standby Bond Purchase Agreement Automatic Termination Events, April 11, 2008
- Criteria: Toll Road And Bridge Revenue Bonds In The U.S. And Canada, Feb. 25, 2014
- USPF Criteria: Methodology: Definitions And Related Analytic Practices For Covenant And Payment Provisions In U.S. Public Finance Revenue Obligations, Nov. 29, 2011
- USPF Criteria: Methodology: Rating Approach To Obligations With Multiple Revenue Streams, Nov. 29, 2011
- USPF Criteria: Assigning Issue Credit Ratings Of Operating Entities, May 20, 2015
- Criteria: Use of CreditWatch And Outlooks, Sept. 14, 2009
- Criteria: Stand-Alone Credit Profiles: One Component Of A Rating, Oct. 1, 2010

Related Research

- U.S. State And Local Government Credit Conditions Forecast, Oct. 20, 2015

Ratings Detail (As Of November 23, 2015)

Brockton GO st qual rfdg bnds due 06/01/2025		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	AA-/Negative	Outlook Revised
Central Berkshire Regl Sch Dist GO bnds		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
Fall River GO (AGM)		
<i>Unenhanced Rating</i>	AA(SPUR)/Negative	Outlook Revised
Gateway Regl Sch Dist SCHSTPR		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	A+/Stable	Affirmed
Gill-Montague Regl Sch Dist qualified GO bnds		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
Greater Lowell Regl Voc Tech Sch Dist GO st qual sch		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised

Ratings Detail (As Of November 23, 2015) (cont.)		
<i>Unenhanced Rating</i>	NR(SPUR)	
<i>Underlying Rating for Credit Program</i>	AA-/Stable	Affirmed
Greenfield GO		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	AA-/Stable	Outlook Revised
Hampshire Regl Sch Dist GO st qual rfdg bnds		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
Haverhill GO st qual BANs dtd 12/01/2015 due 12/01/2016		
<i>Short Term Rating</i>	SP-1+	Affirmed
Hinsdale GO I - Non Sch St prog		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
Holyoke GO state qual rfdg bnds		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	A+/Stable	Affirmed
Lawrence st qual GO deficit financing BANs dtd 09/01/2015 due 09/01/2016		
<i>Short Term Rating</i>	SP-1+	Affirmed
Lawrence st qual GO deficit financing BANs dtd 12/01/2015 due 12/01/2016		
<i>Short Term Rating</i>	SP-1+	Affirmed
Lawrence st qual GO deficit fin BANs dtd 03/02/2015 due 03/01/2016		
<i>Short Term Rating</i>	SP-1+	Affirmed
Lawrence Go defecit fing BANs dtd 06/01/2015 due 06/01/2016		
<i>Short Term Rating</i>	SP-1+	Affirmed
Lawrence GO deficit fing BANs dtd 12/01/2014 due 12/01/2015		
<i>Short Term Rating</i>	SP-1+	Affirmed
Lawrence GO BANs dtd 09/01/2015 due 09/01/2016		
<i>Short Term Rating</i>	SP-1+	Affirmed
Lawrence GO (Non Sch Prog)		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
Lawrence GO		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	A/Stable	Affirmed
Lowell GO		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Unenhanced Rating</i>	NR(SPUR)	
<i>Underlying Rating for Credit Program</i>	AA-/Stable	Affirmed
Lowell GO st qual mun purp loan bnds ser 2015 due 09/01/2035		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	AA-/Stable	Affirmed
Lowell GO (AGM)		
<i>Unenhanced Rating</i>	AA(SPUR)/Negative	Outlook Revised

Ratings Detail (As Of November 23, 2015) (cont.)

Lowell NONSCHSTPR		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	AA-/Stable	Affirmed
Lynn GO		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	A+/Stable	Affirmed
Massachusetts GO VRDBs - C		
<i>Long Term Rating</i>	AA+/A-1+/Negative	Outlook Revised
Massachusetts GO VRDBs 2000A		
<i>Long Term Rating</i>	AA+/A-1/Negative	Outlook Revised
Massachusetts GO VRDBs 2000B		
<i>Long Term Rating</i>	AA+/A-1/Negative	Outlook Revised
Massachusetts GO VRDBs 2006A		
<i>Long Term Rating</i>	AA+/A-1+/Negative	Outlook Revised
Massachusetts GO (wrap of insured) (ASSURED GTY & AMBAC) (SEC MKT)		
<i>Unenhanced Rating</i>	AA+(SPUR)/Negative	Outlook Revised
Massachusetts GO (wrap of insured) (FGIC & BHAC) (SEC MKT)		
<i>Unenhanced Rating</i>	AA+(SPUR)/Negative	Outlook Revised
Massachusetts GO (AGM) (SEC MKT)		
<i>Unenhanced Rating</i>	AA+(SPUR)/Negative	Outlook Revised
Massachusetts GO (FGIC)		
<i>Unenhanced Rating</i>	AA+(SPUR)/Negative	Outlook Revised
Massachusetts GO (MBIA) (Assured Gty)		
<i>Unenhanced Rating</i>	AA+(SPUR)/Negative	Outlook Revised
Massachusetts GO		
<i>Long Term Rating</i>	AA+/Negative	Outlook Revised
Massachusetts GO		
<i>Long Term Rating</i>	AA+/Negative	Outlook Revised
Massachusetts GO		
<i>Long Term Rating</i>	AA+/Negative	Outlook Revised
Massachusetts GO		
<i>Long Term Rating</i>	AA+/Negative	Outlook Revised
Massachusetts GO		
<i>Long Term Rating</i>	AA+/Negative	Outlook Revised
Massachusetts GO		
<i>Long Term Rating</i>	AA+/Negative	Outlook Revised
Massachusetts GO		
<i>Long Term Rating</i>	AA+/Negative	Outlook Revised

Ratings Detail (As Of November 23, 2015) (cont.)

Methuen GO st qual mun purp loan bnds ser 2015 due 09/01/2043		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	AA-/Stable	Affirmed
Methuen GO State Qualified Sch Prj Loan CH 70B Bonds due 09/01/2034		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	AA-/Stable	Affirmed
Mohawk Trail Regl Sch Dist st qual go sch bnds		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
New Bedford GO st qual rfdg bnds		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	AA-/Stable	Affirmed
New Bedford GO State Enhancement Prog		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Unenhanced Rating</i>	NR(SPUR)	
<i>Underlying Rating for Credit Program</i>	AA-/Stable	Affirmed
North Adams NONSCHSTPR		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	A-/Negative	Outlook Revised
Pittsfield st qual GO mun purp loan bnds		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	A+/Stable	Affirmed
Revere GO (ASSURED GTY)		
<i>Unenhanced Rating</i>	AA(SPUR)/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	AA-/Stable	Affirmed
Revere GO		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	AA-/Stable	Affirmed
Revere GO		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	AA-/Stable	Affirmed
Rockland Twn GO st qual mun purp ln bnds ser 2015		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	AA-/Stable	Affirmed
Southern Worcester County Regional Vocational School District		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	AA-/Stable	Affirmed
Springfield GO qual sch construction bnds (State Qualified) due 06/01/2027		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
Springfield GO st qual rfdg bnds ser 2015		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	AA-/Stable	Affirmed

Ratings Detail (As Of November 23, 2015) (cont.)		
Springfield GO St Qual Mun Purpose Loan of 2015 Bnds		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	AA-/Stable	Affirmed
Springfield GO St Qual Mun Purpose Loan of 2015 Bnds		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	AA-/Stable	Affirmed
Springfield NONSCHSTPR		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	AA-/Stable	Affirmed
Springfield (Non-School State Prog) (AGM)		
<i>Unenhanced Rating</i>	AA(SPUR)/Negative	Outlook Revised
Taunton GO state qual bnds		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
Taunton GO st qual mun purp ln bnds		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	AA-/Stable	Affirmed
Taunton NONSCHSTPR		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	AA-/Stable	Affirmed
Winchendon st qual GO mun purp loan bnds ser 2015 dtd 11/16/2015 due 12/01/2032		
<i>Long Term Rating</i>	AA/Negative	Outlook Revised
<i>Underlying Rating for Credit Program</i>	A-/Stable	Affirmed
Central Berkshire Regl Sch Dist GO		
<i>Unenhanced Rating</i>	AA(SPUR)/Negative	Outlook Revised
Chelsea non sch st		
<i>Unenhanced Rating</i>	AA(SPUR)/Negative	Outlook Revised
Fall River Non Sch ST Prgm		
<i>Unenhanced Rating</i>	AA(SPUR)/Negative	Outlook Revised
Lawrence non sch st prgm		
<i>Unenhanced Rating</i>	AA(SPUR)/Negative	Outlook Revised
Lawrence GO		
<i>Unenhanced Rating</i>	AA(SPUR)/Negative	Outlook Revised
Massachusetts GO		
<i>Unenhanced Rating</i>	AA+(SPUR)/Negative	Outlook Revised
Massachusetts St Coll Bldg Auth State Enhancement		
<i>Underlying Rating for Credit Program</i>	A+/Stable	Affirmed
<i>Unenhanced Rating</i>	AA(SPUR)/Negative	Outlook Revised

Ratings Detail (As Of November 23, 2015) (cont.)

Ralph C. Mahar Regl Sch Dist GO		
<i>Unenhanced Rating</i>	AA(SPUR)/Negative	Outlook Revised
Springfield Non sch st prog		
<i>Unenhanced Rating</i>	AA(SPUR)/Negative	Outlook Revised
Springfield Non Sch St Prgm		
<i>Unenhanced Rating</i>	AA(SPUR)/Negative	Outlook Revised
Massachusetts Bay Transp Auth, Massachusetts		
Massachusetts		
Massachusetts Bay Transp Auth (Massachusetts) var rate gen transp sys bnds 2000A-1 & A-2 ser dtd 03/09/2000 RMKTD dtd 09/30/2011 due 03/01/2030		
<i>Long Term Rating</i>	AA+/A-2/Negative	Outlook Revised
Massachusetts Bay Transp Auth (Massachusetts) GO		
<i>Long Term Rating</i>	AA+/Negative	Outlook Revised
Massachusetts Bay Transp Auth (Massachusetts) GOEQUIV		
<i>Long Term Rating</i>	AA+/A-1/Negative	Outlook Revised
Massachusetts Bay Transp Auth (Massachusetts) GO (AGM)		
<i>Unenhanced Rating</i>	AA+(SPUR)/Negative	Outlook Revised
Massachusetts Bay Transp Auth transp sys bnds (Massachusetts)		
<i>Unenhanced Rating</i>	AA+(SPUR)/Negative	Outlook Revised
Massachusetts Bay Transp Auth (Massachusetts)		
<i>Unenhanced Rating</i>	AA+(SPUR)/Negative	Outlook Revised
Massachusetts Dept of Transp, Massachusetts		
Massachusetts		
Massachusetts Dept of Transp (Massachusetts) GO		
<i>Long Term Rating</i>	AA+/A-1/Negative	Outlook Revised
<i>Unenhanced Rating</i>	NR(SPUR)	
Massachusetts Dept of Transp (Massachusetts) GO		
<i>Long Term Rating</i>	AA+/Negative	Outlook Revised
Massachusetts Dept of Transp (Massachusetts) GO VRDO 2010A-1		
<i>Long Term Rating</i>	AA+/A-1+/Negative	Outlook Revised
Massachusetts Dept of Transp (Massachusetts) GO VRDO 2010A-2 A-7		
<i>Long Term Rating</i>	AA+/A-1/Negative	Outlook Revised
Massachusetts Dept of Transp (Massachusetts) GO VRDO 2010B		
<i>Long Term Rating</i>	AA+/Negative	Outlook Revised
Massachusetts Dept of Transp (Massachusetts) JOINTCRIT		
<i>Long Term Rating</i>	AAA/A-1	Affirmed
<i>Unenhanced Rating</i>	AA+(SPUR)/Negative	Outlook Revised
Massachusetts Dept of Transp (Massachusetts) VRDBs 2010A-7		
<i>Long Term Rating</i>	AA+/A-1+/Negative	Outlook Revised

Ratings Detail (As Of November 23, 2015) (cont.)

Massachusetts Development Finance Agency, Massachusetts

Massachusetts

Massachusetts Dev Fin Agy (Massachusetts) GO

<i>Long Term Rating</i>	AA+/Negative	Outlook Revised
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Univ of Massachusetts Bldg Auth, Massachusetts

Massachusetts

University of Massachusetts Bldg Auth (Massachusetts) GO

<i>Long Term Rating</i>	AA+/A-2/Negative	Outlook Revised
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Univ of Massachusetts Bldg Auth (Massachusetts) GOEQUIV

<i>Long Term Rating</i>	AA+/A-1+/Negative	Outlook Revised
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Many issues are enhanced by bond insurance.

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