

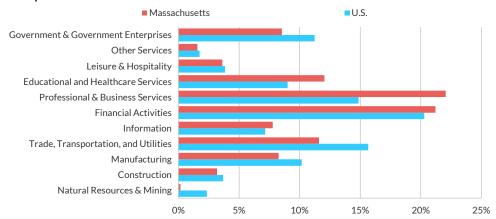
Public Finance

State General Obligation
United States

Commonwealth of Massachusetts

The Commonwealth of Massachusetts' 'AA+' Long-Term IDR reflects Massachusetts' considerable economic resources, adroit management of economic and revenue cyclicality and strong budget controls. The commonwealth carries a long-term liability burden for debt and Fitch Ratings-adjusted net pension liabilities (NPLs) that is well above the U.S. state median, albeit a still-moderate burden on resources.

Components of Real GDP



Source: Fitch Ratings, DIVER by Solve, U.S. Bureau of Economic Analysis

Population Data Overview

	Massachusetts	U.S.
Total population (2024)	7,136,171	340,110,988
1990-2000 (% growth)	5.5	13.2
2000-2010 (% growth)	3.1	9.7
2010-Present (% growth)	9.0	10.2

Ratings

Long-Term IDR AA+

Rating Outlook

Long-Term IDR Stable

New Issues

\$600,000,000 GO Bonds Consolidated Loan of 2025, Series A AA+ \$470,000,000 GO Bonds Refunding Bonds, 2025, Series A AA+

Sale Date

Week of April 21, 2025, via negotiation

Outstanding Debt

Commonwealth of Massachusetts GO Bonds AA+ Massachusetts Bay Transportation **Authority General Transportation** System Bonds AA+ Massachusetts Department of Transportation (Commonwealth Contract Assistance Secured) Metropolitan Highway System Revenue Refunding Bonds (Subordinated) AA+ Massachusetts Development Finance Agency (Commonwealth Contract Assistance) Special Obligation Bonds AA+ University of Massachusetts Building Authority (Commonwealth of Massachusetts) Senior Facilities

Applicable Criteria

Revenue Bonds

U.S. Public Finance State Governments and Territories Rating Criteria (February 2025)

AA+

Related Research

Fitch Rates Massachusetts' \$800 Million GO Bonds 'AA+'; Outlook Stable (December 2024)

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Key Rating Drivers

Revenue Framework - 'aaa'

Tax revenues are diverse but dominated by individual income taxes, which are sensitive to economic conditions, particularly the components related to capital gains. Baseline growth prospects for tax revenues are strong and expected to match national GDP, driven by the commonwealth's underlying diverse economy, which includes a significant knowledge-based industry component.

Expenditure Framework — 'aaa'

Consistent with most states, the natural pace of spending growth is likely to marginally exceed expected revenue growth over time, requiring ongoing cost control. The commonwealth has ample ability to reduce spending through the economic cycle.

Long-Term Liability Burden - 'aa'

Long-term liability levels in Massachusetts, while comparatively high for a U.S. state, are a moderate burden on resources. The commonwealth's above-average liability position is partly the result of state funding of both capital needs and pensions that are more commonly funded at the local level in other states, primarily for K-12 education.

Operating Performance — 'aaa'

The commonwealth has superior gap-closing capacity supported by conservative budgeting, ongoing fiscal monitoring and a requirement to cut spending in response to emerging revenue gaps. Gap-closing capacity is also supported by a funding mechanism that redirects a portion of economically sensitive capital gains tax receipts to the stabilization fund, which functions as the commonwealth's rainy-day fund.

Rating Sensitivities

Factors that Could, Individually or Collectively, Lead to Negative Rating Action/Downgrade

- A slowing of economic growth that signals the commonwealth's revenue growth prospects will trail national economic growth, closer to the long-term rate of inflation.
- Rapid growth in spending demands, particularly for fixed costs such as pension liabilities, that weakens Massachusetts' expenditure flexibility and historically strong operating performance.
- An increase in long-term liabilities resulting in a liability burden that consistently exceeds 20% of personal income.

Factors that Could, Individually or Collectively, Lead to Positive Rating Action/Upgrade

- Continued efforts to maintain structural balance during periods of economic growth, particularly in light of elevated carrying costs given ongoing pension funding demands and capital plans, and/or preservation of reserves at or near current levels could lead to improvement in Fitch's assessment of budget management.
- A sustained reduction in the long-term liability burden closer to or below 10% of personal income, accompanied by a reduction in carrying costs.

Economic Resource Base

The commonwealth has a broad and wealthy economy. Education levels are high and, although population growth is below the U.S. average, it is strong for the Northeast region. The strength of the healthcare, technology and education sectors has supported GDP growth comparable with the nation's over time and leaves the commonwealth well positioned for solid future gains. Measured by per capita personal income, Massachusetts is the second-wealthiest state in the nation.

IDR Current Developments

Massachusetts Economic Update

Massachusetts suffered a more severe job market shock than the nation as a whole early in the pandemic, with nonfarm payrolls falling 18% from February to April 2020, steeper than the 15% national decline for that period. Although Massachusetts had fully recovered lost employment, recent performance has been relatively weak and was slightly below the pre-pandemic level as of February 2025, at -0.8%, well below the national employment expansion of 4.5%. Massachusetts' unemployment rate had been trending below the U.S. rate but was 4.3%% in February, just above the U.S. rate of 4.1%. However, the commonwealth's employment-to-population ratio (EPOP) of 63.7% as of



February 2025 remains marginally below its pre-pandemic ratio of 64.0%, yet compares favorably to the national EPOP of 60.6.

Massachusetts Budgetary Update

Massachusetts enacted its fiscal 2025 budget at the end of July, well after the start of the fiscal year, with the legislature and governor agreeing to a one-month interim budget that enabled the commonwealth to continue operating while the details of the spending plan were finalized. The fiscal 2025 budget was based on a consensus tax revenue estimate of \$40.2 billion, plus another \$1.3 billion available for distribution to transportation and education initiatives from the 4% Fair Share surtax on personal income over \$1.0 million. The enacted budget incorporated minor incremental adjustments related to a tax amnesty, tax enforcement initiatives and the elimination of tax loopholes. Fiscal 2025 revenues through February were up 8.9% yoy and 2.8% above the benchmark, led by strong personal income tax receipts.

The \$63.5 billion fiscal 2025 budget, including spending from federal revenues and adjusted by supplemental actions taken during the fiscal year, increases spending by 9.8% and, as in fiscal 2024, dedicates increased spending to education and transportation initiatives. The fiscal 2025 general appropriations act allocated \$761.5 million of the Fair Share surtax to education initiatives, of which \$239 million is going toward higher education, incorporating \$93.5 million to expand access to free community college to all students. K-12 public education received an added \$244 million, including \$170 million to make the free school lunch program permanent and \$20 million to expand access to evidence-based reading. The \$539 million balance is being distributed for various transportation initiatives, including \$250 million to the commonwealth transportation fund to leverage up to \$1.0 billion in new borrowing over the next five years, \$110 million for regional transit grants and \$45 million in supplemental funding for municipal roads and bridges.

In addition to increased funding from the 4% personal income surtax, other notable items included a 4.3% increase, to \$6.86 billion, in chapter 70 aid to cities and towns to more fully fund the school funding formula, \$545 million to address housing and homelessness with extra funds for the emergency assistance family shelter program and low income housing vouchers, \$475 million in grants for early childhood education and childcare providers and 3% growth in unrestricted general government aid for local governments.

The governor's budget proposal for fiscal 2026 incorporates a 4.7% increase in consensus revenues, to \$43.6 billion, including \$2.4 billion from the 4% surtax on high earners. The governor's budget proposal increases spending 2.6% above fiscal 2025 revised budget estimates, as well as \$1.95 billion in proposed spending from the surtax. The governor also proposes supplemental spending using \$1.3 billion of higher-than-forecast fiscal 2023 and 2024 surtax collections for transportation and education programs. Given slowing tax revenue growth, the budget proposal continues to focus increased spending on K-12 education and higher education and fully funds pension commitments.

Reserves Remain Well Funded

The balance of the stabilization fund, the commonwealth's budget reserve, was \$8.5 billion at fiscal YE24, roughly equal to 21% of tax revenue and 12.8% of total budgeted revenues.

The commonwealth enacted legislation that allocates a portion of stabilization fund interest earnings to fund capital investments through 2026, including to provide matching funds for federal discretionary grant opportunities. The legislation will limit the transfers to years in which the balance of the fund in the most recently ended fiscal year increased from the prior year and exceeds 10% of all budgeted revenues for all budgeted funds. Given the stabilization fund's current balance, transferring earnings for two fiscal years would not negatively affect the gap-closing capacity provided by the fund.

Credit Profile

Revenue Framework

General fund resources are derived primarily from individual income, sales and corporate income taxes. The first two are particularly important, with approximately 59% of fiscal 2024 tax revenues coming from individual income taxes and another 23% from sales taxes. The individual income tax is levied at flat rates based on income type. A 5% rate has been applicable to most income categories since Jan. 1, 2020, under a statute that had gradually reduced the rate from 5.3% beginning Jan. 1, 2012. The statute also reinstated the state charitable deduction as of Jan. 1, 2023, after delays in the fiscal 2021 and 2022 budgets.

As noted above, voters approved the Fair Share surtax, a permanent 4% surtax on personal income over \$1.0 million, in November 2022, that became effective in the 2023 tax year. Surtax revenue collections were well above the forecast \$1.0 billion, at \$2.4 billion in fiscal 2024, allowing the governor to propose supplemental spending of \$858



million for transportation and \$463 million for education. Fair Share revenues are dedicated to education and transportation programs.

Solid economic fundamentals and a diverse revenue system are the basis of a revenue profile that is likely to approximate national GDP growth over time, although growth may be limited by the Chapter 62F tax revenue growth limit. Chapter 62F caps the amount of revenue the commonwealth may collect in any given fiscal year relative to the rate of wage and salary growth in the commonwealth. Once the limit is exceeded, the commonwealth must refund any excess revenues via income tax credits, as was the case in fiscal 2023 when the commonwealth refunded \$2.9 billion of excess fiscal 2022 tax revenues, marking the first time since 1987 that the limit was triggered.

The commonwealth has no significant legal limitations on its ability to raise revenues. The Chapter 62F tax revenue growth limit has not hindered the commonwealth's ability to manage its revenue resources. The voter initiative environment has periodically been active and certain revenues have been affected by past initiative petitions, notably in respect of property taxes. Importantly, the legislature retains the ability to make changes to statutes passed by successful initiative petitions.

Economic Data Overview

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	10-yr CAGR
Total Nonfarm Employment (% Change)												
Massachusetts	1.7	2.0	2.0	1.9	1.3	1.1	1.5	-8.3	3.8	4.0	1.1	1.0
U.S.	1.6	1.9	2.1	1.8	1.6	1.6	1.3	-5.8	2.9	4.3	2.3	1.4
Labor Force (% Change)												
Massachusetts	0.3	1.5	0.6	0.8	3.0	2.5	0.8	-2.7	-0.3	0.3	0.2	0.6
U.S.	0.3	0.3	0.8	1.3	0.7	1.1	0.9	-1.7	0.3	1.9	1.7	0.7
Unemployment Rate (% Labor Force)			·			·	·					
Massachusetts	6.6	5.7	4.8	4.0	3.8	3.5	3.0	9.3	5.4	3.7	3.4	4.7
U.S.	7.4	6.2	5.3	4.9	4.4	3.9	3.7	8.1	5.3	3.6	3.6	5.1
Personal Income (% Change)												
Massachusetts	0.7	4.5	6.6	3.8	4.8	5.3	4.9	6.7	8.1	2.7	5.4	5.3
U.S.	1.1	5.1	4.7	2.7	4.9	5.1	4.8	6.8	9.2	3.1	5.9	5.2
Real GDP (% Change)												
Massachusetts	0.8	1.9	3.7	1.4	1.6	3.6	3.1	-1.2	6.5	2.0	1.2	2.4
U.S.	2.1	2.5	2.9	1.8	2.5	3.0	2.6	-2.2	6.1	2.5	2.9	2.4

Source: Fitch Ratings; Lumesis; U.S. Bureau of Economic Analysis; U.S. Bureau of Labor Statistics

Expenditure Framework

Massachusetts' expenditure profile is very broad, driven by an expansive scope of services. Medicaid and other social services are the largest single spending commitment, at just over half of general fund spending. Education is also a significant commitment, with extensive commonwealth funding of local schools and a broad higher education network. Funding formula changes for local schools under the 2019 Student Opportunity Act (SOA) are intended to address needs in districts with higher concentrations of poverty.

The SOA was expected to result in a seven-year, \$1.5 billion ramp-up of formula funding beginning in fiscal 2021, but the pandemic delayed the initial increases. The commonwealth's education commitment extends to covering local teacher pension liabilities but not the liability associated with other post-employment benefits (OPEB). Consistent with practices in many smaller states, the commonwealth is responsible for delivering or funding a variety of services routinely funded at local levels elsewhere.

As with most states, current services spending is expected to be in line with to marginally above expected revenue growth, primarily driven by social services, particularly Medicaid. The fiscal challenge of Medicaid is common to all U.S. states, and the nature of the program as well as federal government rules limit the states' options in managing the pace of spending growth. Although there are no firm proposals to change the basic structure of Medicaid's financial or operational structure, Fitch is closely monitoring developments.

Medicaid is the largest source of federal funding for states and one of the largest components of state budgets, so significant changes could be meaningful for state credit quality. Federal revenues typically comprised 29% to 30% of total governmental revenues as reported in the state annual comprehensive financial report (ACFR) prior to the



pandemic. Federal revenues ticked up to 32% in fiscal 2021 and remained at that slightly elevated rate through fiscal 2023.

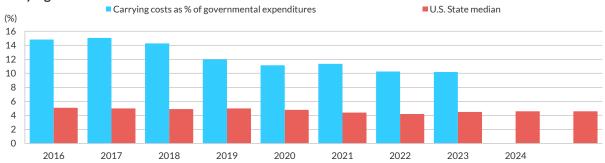
Massachusetts' spending on health and social services, primarily Medicaid, typically comprises about 42% of total governmental spending, as reported in the state ACFR. As a share of spending, health and social services increased slightly, to 44%, in fiscal 2021, remaining higher than historical levels at 46% through fiscal 2023. Beyond statutory changes, as with all federal programs, Medicaid remains subject to regulatory changes that could affect various aspects of the program.

The commonwealth retains ample ability to cut spending; statute allows for swift response in the event of forecast revenue underperformance, including the governor's statutory powers to unilaterally cut allotments under Section 9C of commonwealth General Law, Chapter 29.

Massachusetts' carrying costs for long-term liabilities were 10.2% in 2023, versus Fitch's U.S. states median of 4.2%. Under commonwealth finance law, revenues available for budgeting are net of statutory pension contributions and transfers for the Massachusetts Bay Transportation Authority (MBTA) and the Massachusetts School Building Authority (MSBA).

Pension changes were undertaken in 2011, and the commonwealth maintains a relatively conservative statutorily closed amortization target for achieving full funding in 2040. Pension contributions have risen in part due to experience updates and shifts to more cautious actuarial assumptions. Based on a funding schedule that it updates every three years, most recently in January 2023, the commonwealth forecasts contributions to rise about 9.6% per year until fiscal 2028, after which the rate of increase will drop to 4% through the projected date of full prefunding. This is projected to occur in fiscal 2036, four years ahead of the target date for full funding. Fitch views this trajectory of contributions as manageable within the commonwealth's fiscal framework.

Carrying Costs



Source: Fitch Ratings, Massachusetts, Commonwealth of (MA) Annual Comprehensive Financial Reports

Long-Term Liability Burden

Debt and Fitch-adjusted NPLs are comparatively high for a state but represent a moderate burden on resources. On a combined basis, the commonwealth's burden of direct debt and adjusted NPLs equaled 15.8% of personal income, well above the 4.2% U.S. states median, as of Fitch's November 2024 report on state liabilities (published November 2024), which referred to 2023 state financial statements data.

As of June 30, 2023, Fitch estimates the commonwealth's direct debt at a comparatively high 7.1% of personal income, including sales tax-backed obligations of the MBTA and MSBA and annual contractual assistance commitments supporting the Massachusetts Department of Transportation. The comparable state median as of the November 2024 state liabilities report was 1.8%. The commonwealth's above-average role in funding local government capital needs, relative to most other states, partially drives its higher debt burden.

Fitch expects Massachusetts' direct debt to remain comparatively high for a U.S. state. In 2021, the prior governor signed a \$16 billion transportation bond authorization to be directed toward highways, transit, bridges and other commonwealth and local transportation needs. The authorization is flexible as to whether the debt can be issued as GO bonds or special obligation bonds. Similarly, the "MassTRAC" program, enacted in 2022, included \$6.3 billion in borrowing. Issuance under these programs is ongoing, with timing dictated by the commonwealth's rolling five-year capital plan.

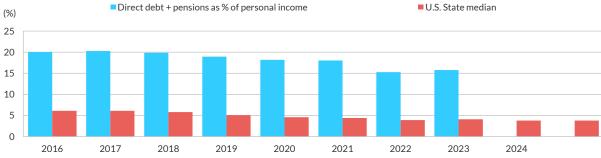
The commonwealth issued special obligation revenue bonds in July 2022 to pay off federal unemployment insurance trust fund loans. The special obligation bonds are repaid by assessments on employers, with no nexus to the commonwealth's fiscal operations. Fitch does not incorporate these bonds into its calculations of Massachusetts' long-term liabilities.



Pension liabilities for the commonwealth are also a higher burden than in most other states. In fiscal 2023, the Fitch-adjusted NPL was 8.7% versus a 2.5% state median as of the November 2024 state liabilities report. The two pension systems covering Massachusetts state employees and teachers (except in the city of Boston) had respective funded ratios of 70.7% and 58.5% as of June 30, 2023, based on 7% discount rates. These are down from 77.5% and 62.0%, respectively, as of June 30, 2021, when the discount rate was 7.15%.

The commonwealth carries a net OPEB liability for state employees, but not local teachers, of \$16.2 billion, based on a 4.61% discount rate and net of prefunding built in recent years from tobacco settlement moneys, excess capital gains collections and other sources. The net OPEB liability is 2.4% of personal income.

Long-Term Liability Burden



Source: Fitch Ratings, Massachusetts, Commonwealth of (MA) Annual Comprehensive Financial Reports

Operating Performance

The Fitch Analytical Stress Test (FAST) model relates historical tax revenue volatility to GDP to support the assessment of operating performance under Fitch's criteria. FAST is not a forecast but represents Fitch's estimate of possible revenue behavior in a downturn, based on historical revenue performance. Actual revenue declines will vary from FAST results, which provide a relative sense of the risk exposure of a particular state compared to other states. Despite its comparatively higher exposure to revenue declines, as shown by FAST, Massachusetts has superior financial resilience that would enable it to manage through fiscal stress.

Fitch believes the commonwealth retains superior capacity to address cyclical downturns and has repeatedly demonstrated its commitment to maintaining a solid financial position. Mechanisms for maintaining balance include the governor's requirement to reduce allotments or identify alternative balancing measures in the event of a midyear forecast deficiency, under Section 9C of commonwealth General Law, Chapter 29 (as noted above). The governor used this power to reduce spending by \$375 million in fiscal 2024.

Additionally, since 2011, the commonwealth has operated under a mechanism to reduce the effects of volatile capital gains-related tax revenues on its budget. Capital gains-related receipts that can be included in the budget are capped annually at a level that rises in line with U.S. GDP growth, with excesses dedicated to the stabilization fund (90%) and retiree benefit obligations (10%). For fiscal 2024, this mechanism resulted in a \$30 million transfer to the stabilization fund stemming from the commonwealth's decision to use most excess capital gains to support spending. Absent this change, the commonwealth would have deposited an additional \$560 million to the fund.

As noted above, the commonwealth has enacted legislation to transfer earnings in the stabilization fund to a fund for capital improvements for two fiscal years, through fiscal 2026. Fiscal 2024 investment earnings totaling \$420.8 million were accordingly transferred to the Commonwealth Federal Matching and Debt Reduction Fund. Given the high balance in the stabilization fund, at just over 20% of tax revenues as of fiscal 2024, Fitch does not expect the use of earnings in the fund for capital purposes to affect the commonwealth's ability to respond to a downturn.

Budgetary management during periods of economic recovery consistently supports the rebuilding of financial flexibility. A relatively slow fiscal recovery as the commonwealth emerged from the Global Financial Crisis limited its ability to quickly restore fiscal resilience. The commonwealth faced budgetary challenges at several points during the economic expansion that ended with the pandemic, including from the effect of shifting federal tax law and from unexpected demands for Medicaid.

Despite these initial post-recession drags on fiscal progress, conservative revenue assumptions and the reserve funding mechanisms noted above enabled the commonwealth to rebuild a sizable stabilization fund balance. The commonwealth has limited its use of nonrecurring resources. Budgetary mechanisms to shift cyclical windfalls to the stabilization fund raised its balance considerably in the period immediately preceding the pandemic, a trend that accelerated during the post-pandemic expansion.



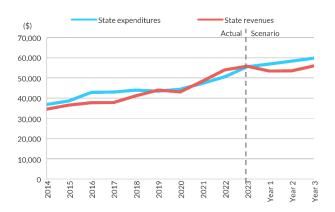


Peer Analysis

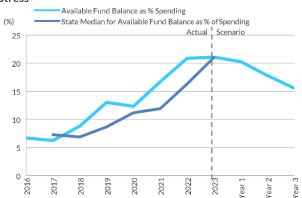
Massachusetts' peer group includes North Carolina (AAA), Virginia (AAA), Michigan (AA+) and Colorado (not rated), comprising the third decile according to state GDP. Massachusetts has benefited from strong long-term economic growth that supports expectations for healthy revenue growth, although it has higher long-term liabilities than its peers. As with other highly-rated states, Massachusetts' operating performance is very strong, with the commonwealth's mechanisms for maintaining budgetary balance supporting its ability to manage through the economic cycle.



State Revenues and Expenditures in an Unaddressed Stress



Available Fund Balance as % of Spending in an Unaddressed Stress



Scenario Parameters:			Year1	Year2	Year3
GDP assumption (% change)			(1.0%)	0.5%	2.0%
Expenditure assumption (% change)			2.5%	2.5%	2.5%
Revenue output (% change)	Minimumy1stress: -1%	Caseused: Moderate	(4.3%)	0.2%	4.6%
State Median			(2.7%)	0.8%	4.3%

Revenues, expenditures, and net change in fund balance	Actuals								Scenario output				
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Year1	Year2	Year 3
Expenditures													
Total expenditures	49,992	52,682	58,074	58,593	60,283	59,794	62,895	70,260	77,782	83,293	85,375	87,509	89,697
% Change in total expenditures	5.3%	5.4%	10.2%	0.9%	2.9%	(0.8%)	5.2%	11.7%	10.7%	7.1%	2.5%	2.5%	2.5%
State expenditures	36,845	38,637	42,841	43,026	43,952	43,466	44,419	47,307	50,568	55,500	56,887	58,309	59,767
% Change in state expenditures	6.4%	4.9%	10.9%	0.4%	2.2%	(1.1%)	2.2%	6.5%	6.9%	9.8%	2.5%	2.5%	2.5%
Revenues													
Total revenues	47,710	50,610	52,992	53,391	57,454	60,335	61,556	71,381	81,193	83,578	81,898	82,698	85,880
% Change in total revenues	4.6%	6.1%	4.7%	0.8%	7.6%	5.0%	2.0%	16.0%	13.7%	2.9%	(2.0%)	1.0%	3.8%
Federalrevenues	13,147	14,045	15,233	15,567	16,331	16,328	18,475	22,953	27,214	27,793	28,488	29,200	29,930
% Change in federal revenues	2.2%	6.8%	8.5%	2.2%	4.9%	(0.0%)	13.2%	24.2%	18.6%	2.1%	2.5%	2.5%	2.5%
Staterevenues	34,563	36,565	37,760	37,824	41,123	44,008	43,080	48,428	53,979	55,785	53,410	53,498	55,950
% Change in state revenues	5.5%	5.8%	3.3%	0.2%	8.7%	7.0%	(2.1%)	12.4%	11.5%	3.3%	(4.3%)	0.2%	4.6%
Excess of revenues over expenditures	(2,282)	(2,073)	(5,082)	(5,202)	(2,829)	542	(1,339)	1,121	3,411	285	(3,477)	(4,812)	(3,817)
Total other financing sources	2,031	2,759	5,050	5,526	4,070	1,731	1,231	2,784	905	801	1,490	1,442	1,484
Total other manufactures	2,001	2,737	3,030	5,520	1,070	1,701	1,201	2,701	703	551	1,170	2,112	2,101
Net change in fund balance	(251)	686	(32)	324	1,241	2,273	(108)	3,905	4,316	1,086	(1,987)	(3,370)	(2,333)
Available Fund Balance		3,513	3,896	3,670	5,318	7,795	7,763	11,741	16,231	17,559	17,317	15,572	13,947
% Total expenditures		6.7%	6.7%	6.3%	8.8%	13.0%	12.3%	16.7%	20.9%	21.1%	20.3%	17.8%	15.5%
% State expenditures		9.1%	9.1%	8.5%	12.1%	17.9%	17.5%	24.8%	32.1%	31.6%	30.4%	26.7%	23.3%
% Total revenues		6.9%	7.4%	6.9%	9.3%	12.9%	12.6%	16.4%	20.0%	21.0%	21.1%	18.8%	16.2%
% State revenues		9.6%	10.3%	9.7%	12.9%	17.7%	18.0%	24.2%	30.1%	31.5%	32.4%	29.1%	24.9%

Notes: Scenario analysis represents an unaddressed stress on issuerfinances. Fitch's scenario analysis assumes the GDP and expenditure growth sequence shown in the 'Scenario Parameters' section. For further details, please see Fitch's US Tax-Supported Rating Criteria.

Source: Fitch Ratings and U.S. state annual financial statements



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