

Munis in a Fed Tightening Cycle

KEY TAKEAWAYS

- Munis Get Much Cheaper
- Munis in a Fed Tightening Cycle
- Where is Risk Appearing

Relative Performance¹

Municipals came under pressure last week, but the bigger story was the dramatic difference in curve behavior between tax-exempts and Treasuries. AAA BVAL yields rose nearly 26 bps in 2s, 12 bps in 5s, 7 bps in 10s, and just 2 bps in 30s. Treasuries moved very differently: 2-year yields rose roughly 8 bps, while 5s were essentially unchanged and 10- and 30-year yields rallied 6 and 9 bps, respectively.¹

That divergence pushed muni-to-Treasury ratios cheaper across the curve. The 2-year ratio widened 1.8 points to 62.09%, while 5s and 10s were relatively stable at 66.74% and 74.80%. The long end continued to cheapen, with the 30-year ratio moving another 0.8 points higher to 92.49%.¹

What jumps out is how differently the two markets behaved across the curve. Municipal weakness was heavily concentrated at the front end, with 2-year AAA yields rising nearly 26 basis points, while the selloff became progressively more muted as you moved further out the curve. Treasuries did almost the opposite: the front end sold off while 10- and 30-year yields rallied. That divergence is another reminder that Fed expectations can have a very different impact on the municipal curve than on the Treasury curve.

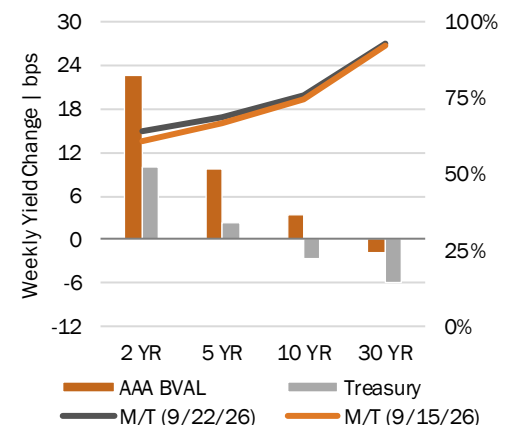
From a relative-value standpoint, the longer end continues to get more interesting. Thirty-year ratios above 92% and 10-year ratios approaching 75% are a very different starting point than we had earlier this summer. Combine that with higher absolute yields and the steepness already embedded in the municipal curve, and investors are once again being paid meaningfully to move beyond the crowded front end.

FIGURE 1: INDEX PERFORMANCE

	MTD	YTD	2025
Muni Bond 5-Year	-1.55%	-0.87%	5.03%
Muni Bond 10-Year	-2.27%	-2.89%	5.92%
Muni Bond 15-Year	-2.71%	-3.89%	5.31%
Muni Long Bond	-2.43%	-1.78%	1.95%
Muni Managed Money	-2.20%	-2.59%	3.94%

Data as of September 22, 2026.
Source: Bloomberg

FIGURE 2: MUNIS UNDERPERFORMED



Data as of September 22, 2026. Spot Muni, Spot AAA rates

AAA B VAL: AAA Municipal yield curve

M/T: Municipal/Treasury Yield Ratio - Bloomberg

Municipal Bond Index yield / Bloomberg US Treasury Index yield.

Source: Bloomberg

1. Source: Bloomberg

Market Technicals

There's a tendency to hear "Fed hiking cycle" and immediately assume that's a negative setup for municipals. However, history says it's not that simple.

The chart below looks at several prominent Fed hiking cycles going back to the 1980s and compares them with 10-year muni/Treasury ratios and real rates. What stands out is that muni ratios have often richened during tightening cycles, even in periods when real rates were moving higher.

In 1984, the Fed took rates from roughly 9% to nearly 12% to get ahead of renewed inflation concerns. Muni ratios tightened. In 1994, the Fed hiked aggressively as real rates surged and inflation expectations were being preemptively contained. Again, muni ratios richened. In 2018, as the Fed continued normalizing policy and moved further away from the post-crisis zero-rate regime, munis also rallied on a relative basis. Even during the 2022 hiking cycle—one of the sharpest and most inflation-driven tightening episodes in decades—muni/Treasury ratios ultimately richened as the cycle progressed.

Other periods were more muted, but the same point holds. In 1987, 2000 and 2007, muni ratios were generally range-bound through much of the tightening cycle rather than blowing out materially.

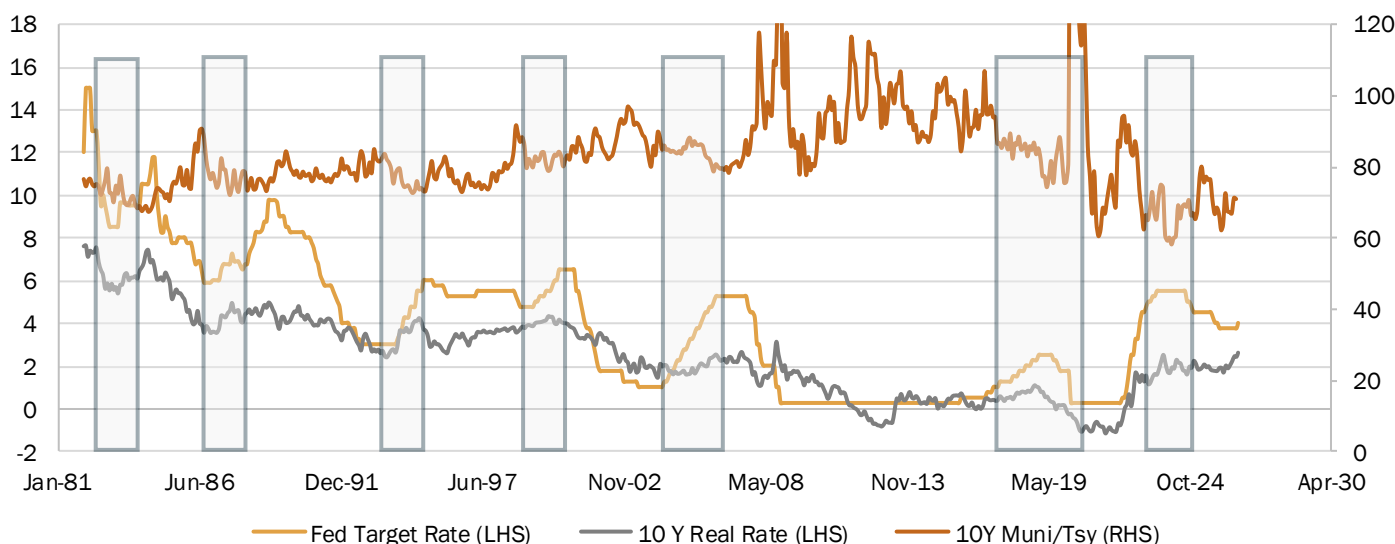
The central thought on this subject is that Fed hikes typically hit the front end of the Treasury curve most directly, while longer rates are driven more by inflation expectations and broader economic conditions. Historically, that meant the Treasury curve tended to flatten, while tax-exempt bonds often outperformed taxable bonds on a relative basis; historical context that matters today.

If the Fed hikes because inflation remains sticky, the front end can certainly come under pressure. But longer municipals are not just a mechanical extension of Fed policy. They're also driven by tax-exempt demand, supply, credit spreads, reinvestment flows and the relative-value decisions of crossover buyers.

And today's starting point is very different from prior low-yield periods. Absolute muni yields are higher, tax-equivalent income is more compelling, and long ratios have already cheapened materially. That gives investors a bigger income cushion and a more attractive relative-value setup before the Fed even makes another move.

So we wouldn't look at a potential hiking cycle as a reason to avoid municipals. History suggests the more interesting opportunity may actually be in how munis perform relative to Treasuries while the tightening is underway.

FIGURE 3: MUNI RATIO IN HIKING CYCLE



Source: Bloomberg. Data as of September 21, 2026. Grey bars denote Federal Reserve rate hikes.

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Questions from the Field

Q Municipal fundamentals still look healthy broadly. So where are you actually seeing credit risk build today?

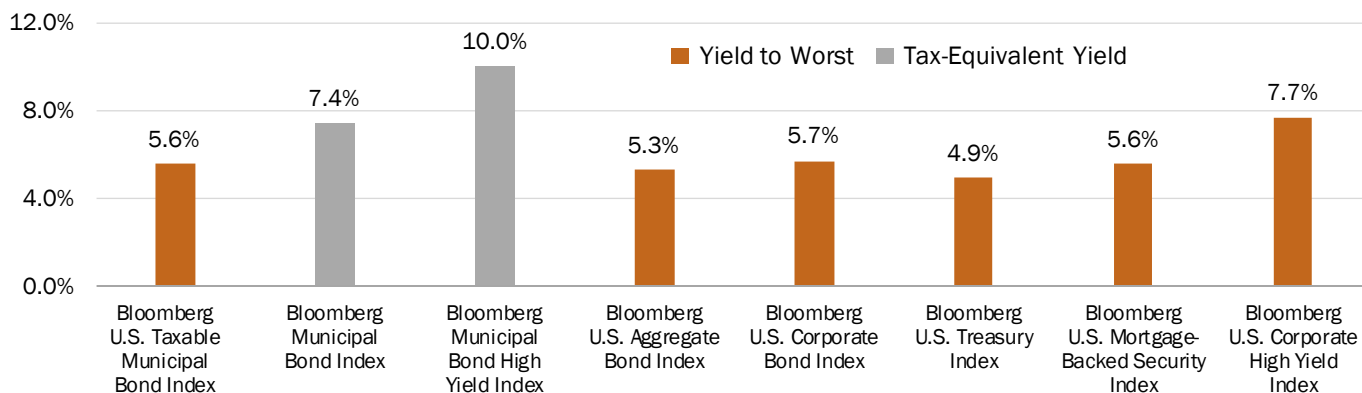
A The important word there is broadly. Aggregate municipal credit remains healthy, but that can hide a lot of dispersion underneath the surface.

Higher education is a good example. Large universities with strong brands, substantial liquidity and diversified revenue streams look very different from smaller schools dealing with declining enrollment and recurring operating deficits. We've recently seen some institutions increasingly rely on their endowments to support operations. That's not necessarily a problem by itself, but if you're repeatedly using the balance sheet to fund the income statement, we're going to pay attention.

The same framework applies across munis. We're less concerned about a broad credit cycle than we are about individual issuers where revenues, expenses and debt burdens are moving in the wrong direction at the same time.

And that's where spreads matter. A weaker credit isn't automatically a bad investment if we're being appropriately compensated for the risk. Conversely, a good credit can still be a bad investment if the spread is too tight.

INDEX YIELDS

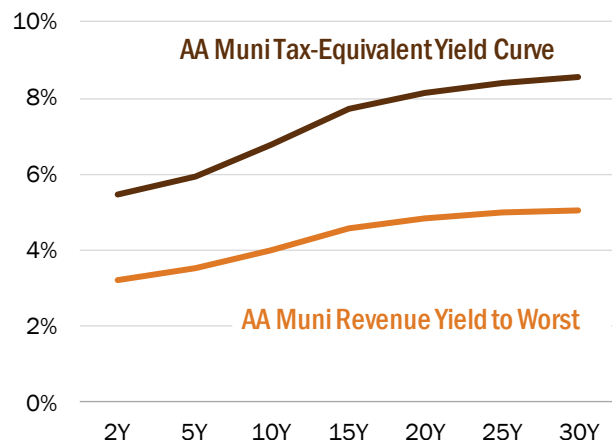


Data as of September 22, 2026

1. Using 40.8% federal tax rate, including 3.8% Net Investment Income Tax.

Source: Bloomberg

AA MUNI TAX-EQUIVALENT YIELD CURVE

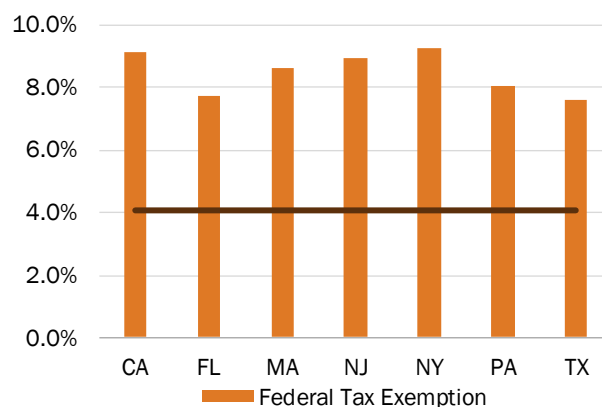


Data as of September 22, 2026

1. Using 40.8% federal tax rate, including 3.8% Net Investment Income Tax.

Source: Bloomberg

IN-STATE MUNI TAX-EQUIVALENT YTW



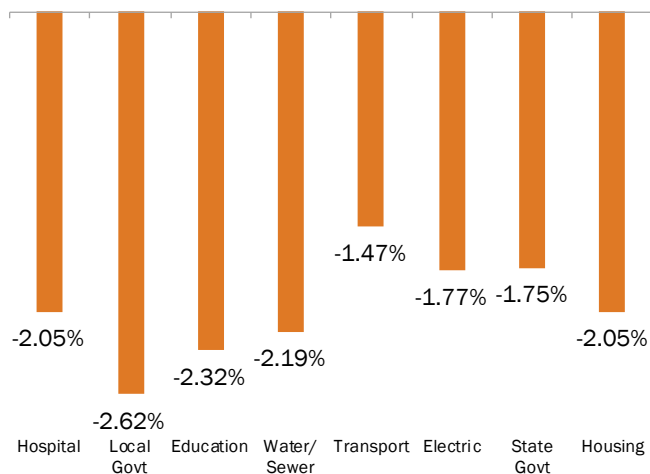
Data as of September 22, 2026

1. Using 40.8% federal tax rate, including 3.8% Net Investment Income Tax.

Source: Bloomberg

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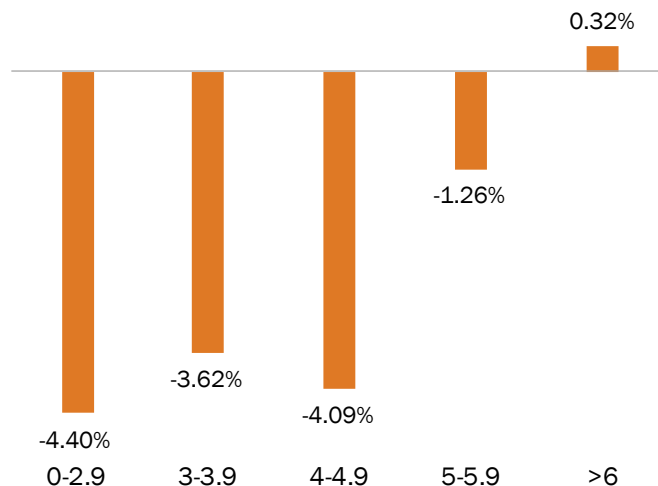
YTD TOTAL RETURNS BY SECTOR



Data as of September 22, 2026

Source: Bloomberg

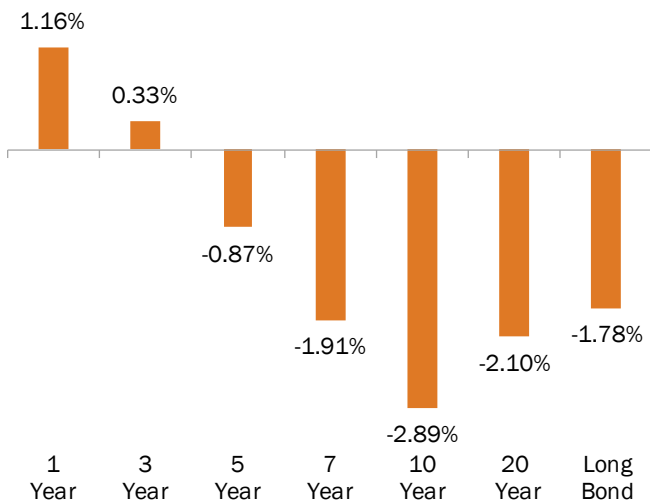
YTD TOTAL RETURNS BY COUPON



Data as of September 22, 2026

Source: Bloomberg

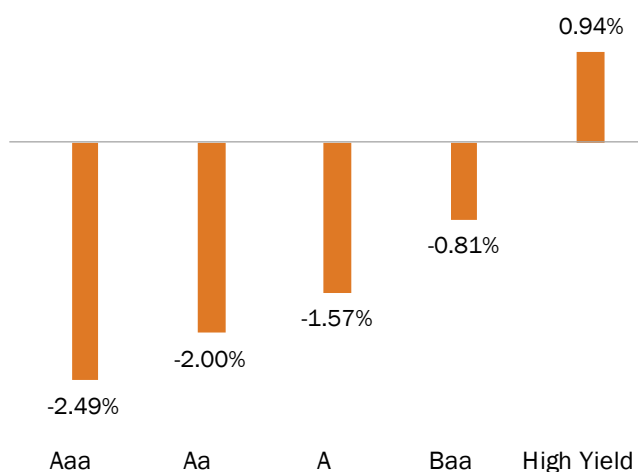
YTD TOTAL RETURNS BY MATURITY



Data as of September 22, 2026

Source: Bloomberg

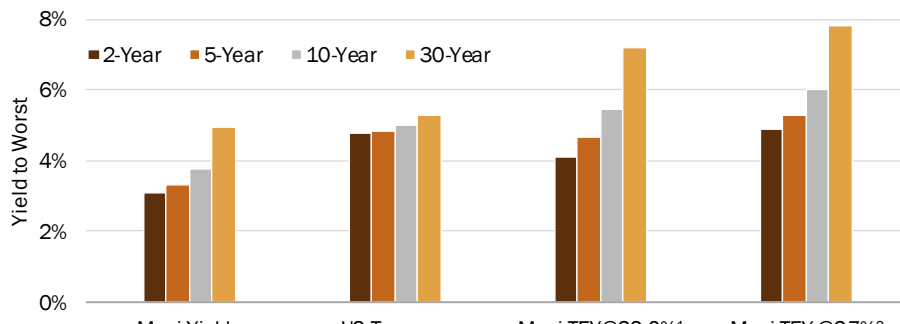
YTD TOTAL RETURNS BY RATING CATEGORY



Data as of September 22, 2026

Source: Bloomberg

TAX-ADJUSTED YIELDS OF MUNICIPAL BOND INDEX VS US TREASURY INDEX



1. Tax Equivalent Yield is using 32% federal tax rate, including 3.8% Net Investment Income Tax.

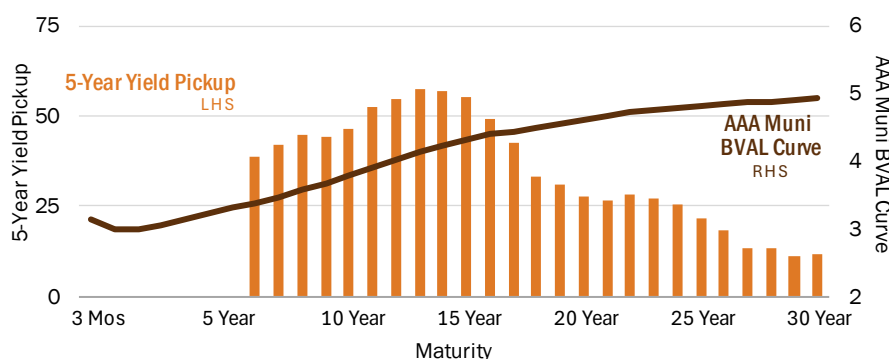
2. Tax Equivalent Yield is using 37% federal tax rate, including 3.8% Net Investment Income Tax.

Data as of September 21, 2026.

Source: Bloomberg

**On a tax-adjusted basis
munis handily lead
across tenors**

YIELD CURVE STEEPNESS

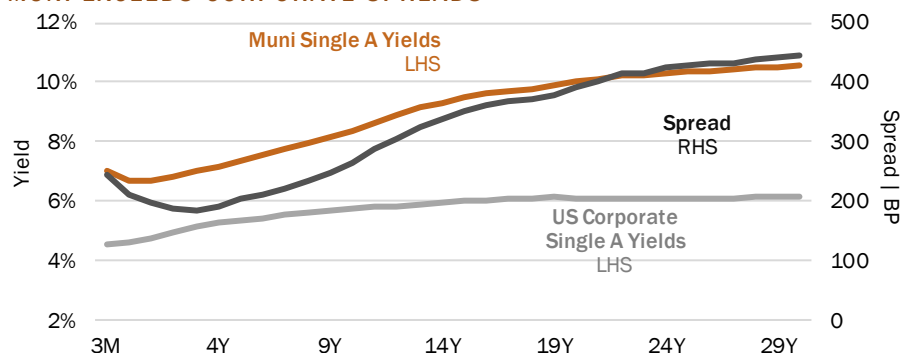


Data as of September 21, 2026.

Source: Bloomberg

**Our relative value lens
focus on the area of the
curve where steepness
benefits returns**

MUNI EXCEEDS CORPORATE SPREADS



Data as of September 21, 2026.

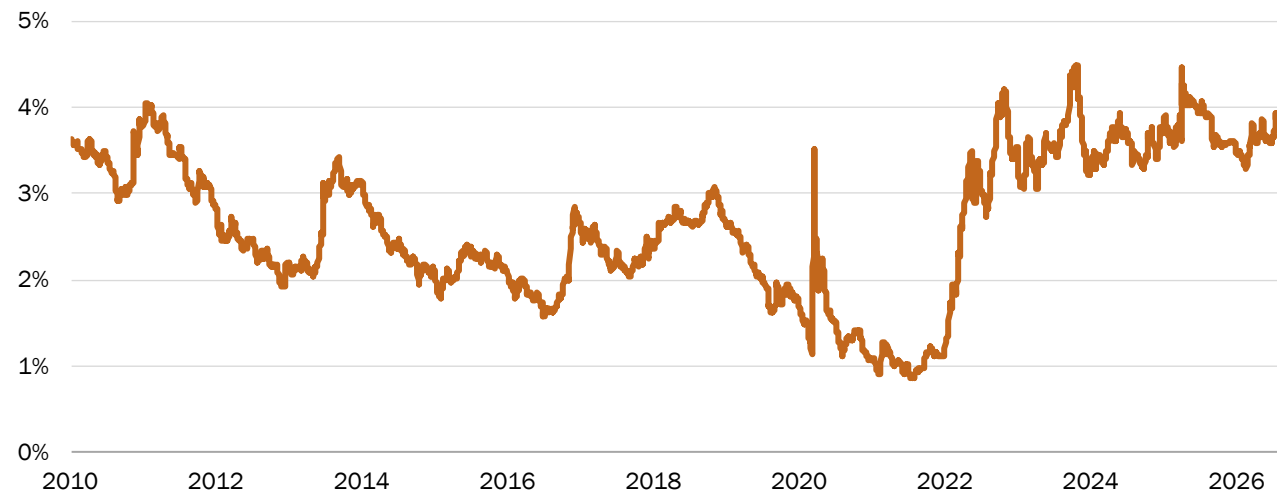
Muni Single A Yields: Bloomberg Municipal Bond Index; US Corporate Single A Yields: Bloomberg Corporate Bond Index

Source: Bloomberg

**Tax equivalent munis
continue to exceed
corporate spread/yields**

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BLOOMBERG MUNICIPAL YIELD-TO-WORST



Data as of September 21, 2026

"Post GFC Average" measures the period from 1/1/2010 – 9/21/2026

Source: Bloomberg

MUNI YIELDS

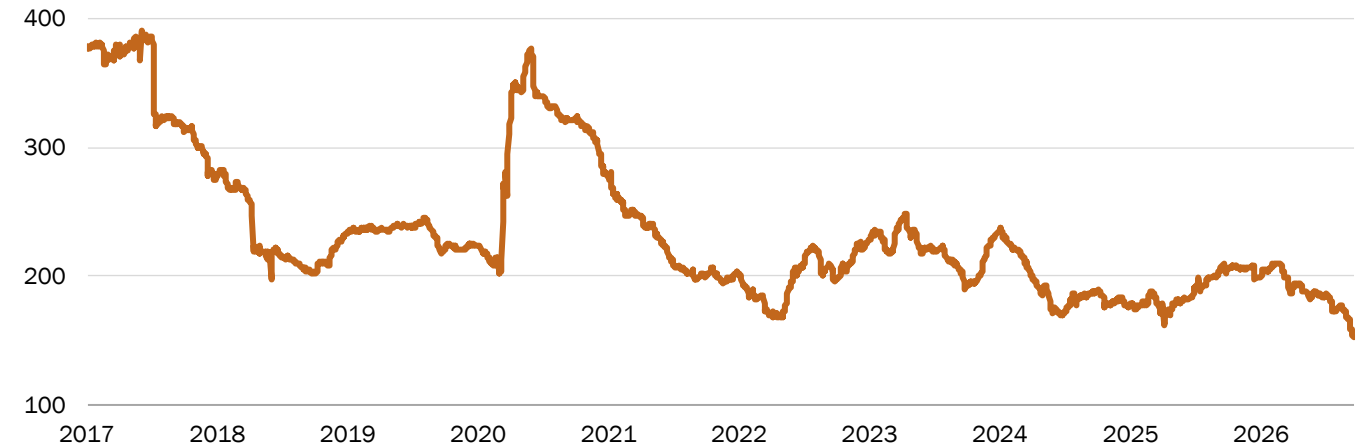
Tenor	9/21/2026	9/14/2026	Change (+/-)
BLOOMBERG AAA MUNI KEY RATE YIELDS			
2 YEAR	3.05%	2.79%	0.26%
5 YEAR	3.31%	3.19%	0.12%
10 YEAR	3.77%	3.70%	0.07%
30 YEAR	4.93%	4.91%	0.02%
US TREASURY RATE YIELDS			
2 YEAR	4.76%	4.65%	0.11%
5 YEAR	4.83%	4.80%	0.03%
10 YEAR	4.96%	4.97%	-0.01%
30 YEAR	5.29%	5.34%	-0.05%
US TREASURY & AAA MUNI CURVE SLOPES¹			
	2s10s	10s30s	2s30s
US TREASURY CURVE SLOPE	+ 20 bps	+ 33 bps	+ 53 bps
AAA MUNI CURVE SLOPE	+ 72 bps	+ 116 bps	+ 188 bps

Data as of September 21, 2026

1. 2s10s – is spread between 10yr and 2yr yield; 10s30s – refers to spread between 30yr and 10yr yield; 2s30s – refers to spread between 30yr and 2yr yield

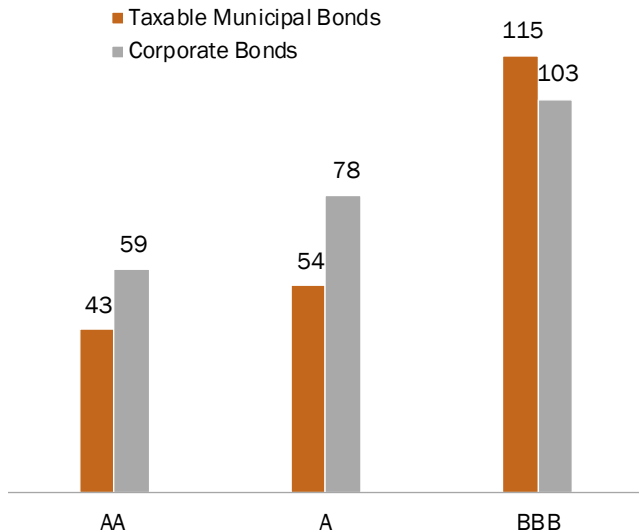
Source: Bloomberg

BLOOMBERG MUNICIPAL HIGH YIELD | AAA YIELD DIFFERENTIAL



Data as of September 21, 2026
Source: Bloomberg

TAXABLE MUNICIPAL AND CORPORATE CREDIT SPREADS



Data as of September 21, 2026
Source: Bloomberg

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DEFINITION OF TERMS

Option-Adjusted Spread

The option-adjusted spread (OAS) measures the spread between a bond's rate and the risk-free rate, while adjusting for any embedded options like callables or mortgage-backed securities.

Standard Deviation

Standard deviation is a statistical measurement that looks at how far discrete points in a dataset are dispersed from the mean of that set. It is calculated as the square root of the variance.

Tax Equivalent Yield

The tax-equivalent yield is the return a taxable bond needs to equal the yield on a comparable tax-exempt municipal bond. Investors use this calculation to compare the returns between a tax-free investment and a taxable alternative.

Tax Equivalent Yield to Worst

Tax Equivalent YTW is calculated by dividing the tax-exempt yield by one minus the marginal income tax. This is used to compare YTW on a tax-exempt investment to a taxable investment.

Volatility

Volatility is a measurement of how varied the returns of a given security or market index are over time. It is often measured from either the standard deviation or variance between those returns. In most cases, the higher the volatility, the riskier the security.

Yield to Worst

Yield to worst is a measure of the lowest possible yield that can be received on a bond that fully operates within the terms of its contract. It is a type of yield that is referenced when a bond has provisions that would allow the issuer to close it out before it matures. YTW helps investors manage risks and may assist them in meeting specific income requirements even in adverse scenarios.

Additional Yield Definition

BVAL AA, A, BBB and BB Yields is calculated by Bloomberg and is representative of the average 2YR spot rate on respective Bloomberg Yield curves of corporate credits with the respective average credit rating that are valued by Bloomberg's valuation service.

INDEX DESCRIPTIONS

Bloomberg U.S. Taxable Municipal Bond Index

The Bloomberg U.S. Taxable Municipal Bond Index is a rules-based, market-value-weighted index engineered for the long-term taxable bond market. To be included in the index, bonds must be rated investment-grade (Baa3/BBB- or higher) by at least two of the following ratings agencies if all three rate the bond: Moody's, S&P, Fitch. If only two of the three agencies rate the security, the lower rating is used to determine index eligibility. If only one of the three agencies rates a security, the rating must be investment-grade. They must have an outstanding par value of at least \$7 million and be issued as part of a transaction of at least \$75 million. The bonds must be fixed rate and must be at least one year from their maturity date. Remarketed issues (unless converted to fixed rate), bonds with floating rates, and derivatives, are excluded from the benchmark.

Bloomberg Municipal AMT Index

The Bloomberg Municipal AMT Index refers to a specific Bloomberg municipal bond index that includes bonds subject to the Alternative Minimum Tax (AMT). Unlike most municipal bond indices, which exclude AMT-subject securities, these indices contain bonds that typically offer higher yields to individuals who are subject to the AMT.

Muni IG AMT ex Territories Index

The Muni IG ex. AMT and ex Territories Index is the Bloomberg Municipal Bond Index excluding AMT and US. Territory exposure.

Bloomberg Municipal Bond Index

A rules-based, market-value-weighted index engineered for the long-term tax-exempt bond market. To be included in the index, bonds must be rated investment-grade (Baa3/BBB- or higher) by at least two of the following agencies: Moody's, S&P, Fitch. If only two of the three agencies rate the security, the lower rating is used to determine index eligibility. If only one of the three agencies rates a security, the rating must be investment-grade. They must have an outstanding par value of at least \$7 million and be issued as part of a transaction of at least \$75 million. The bonds must be fixed rate, have a date-date after December 31, 1990, and must be at least one year from their maturity date. Remarketed issues, taxable municipal bonds, bonds with floating rates, and derivatives, are excluded from the benchmark. The index has four main sectors: general obligation bonds, revenue bonds, insured bonds (including all insured bonds with a Aaa/AAA rating), and pre-refunded bonds. Most of the index has historical data to January 1980. In addition, sub-indices have been created based on maturity, state, sector, quality, and revenue source, with inception dates later than January 1980.

Bloomberg 5-Year Muni Index

The Bloomberg 5 Year Municipal Bond Index is a capitalization weighted bond index created by Bloomberg intended to be representative of major municipal bonds of all quality ratings with an average maturity of approximately five years.

Morningstar U.S. Active Fund Muni National Intermediate

The Morningstar U.S. Active Fund Muni National Intermediate category contains mutual funds and exchange-traded funds (ETFs) that primarily invest in investment-grade municipal bonds issued by state and local governments with durations typically ranging between 4.5 and 7 years. Because they are actively managed, the fund managers dynamically adjust credit exposure, interest rate sensitivity, and yield curve positioning rather than tracking a static index.

Morningstar U.S. Passive Fund Muni National Intermediate

The Morningstar U.S. Passive Fund Muni National Intermediate category includes intermediate-term national municipal bond portfolios that invest in tax-exempt debt issued by state and local governments. Passive options and index ETFs in this group track broad municipal indexes to offer low-cost, tax-free income with moderate interest-rate risk.