

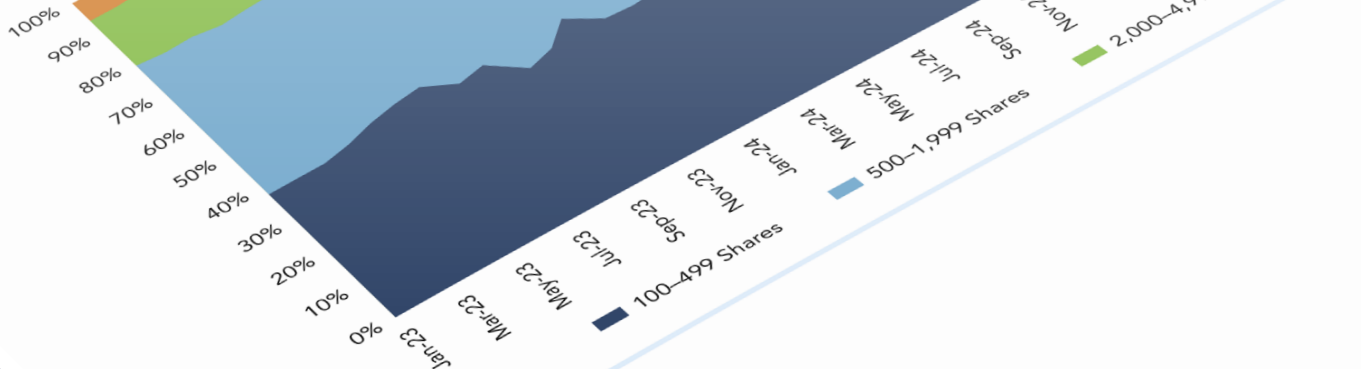


Municipal Securities Rulemaking Board

OCTOBER 2026

Composition of Municipal Bond ETFs and Their Growing Significance in the Municipal Market

Chart 5. Percent of Share Volume Traded for each of the four order size groups
Orders, January 2023–July 2026



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Introduction¹

In March 2026, MSRB published a research report (MSRB 2026 ETF Report) offering two measures to assess and monitor secondary market trading for the municipal bond exchange-traded funds (ETFs) market:² 1) daily trading volume measured in dollar amount, and 2) transaction costs as measured by effective spread. As the municipal bond ETF market continues to grow and mature, this report seeks to analyze the composition of all municipal bond ETFs in the market today. This is done by classifying ETFs by their investment focus, such as issuance region, bond maturity and bond investment grade, as well as fund management style. In addition, this report updates the secondary market trading related statistics from the MSRB 2026 ETF report, such as trading volume and transaction costs.

Increasingly, investors and market participants are incorporating municipal bond ETFs into their investment and trading strategies to supplement their comparable transactions and holdings of individual municipal securities and tax-exempt mutual funds. Between 2021 and July 2026, municipal bond ETFs' net asset value (NAV) increased by \$137.4 billion, while the NAV for tax-exempt mutual funds declined by \$106.5 billion. In addition, municipal bond ETFs are traded more frequently than municipal securities. This is especially true during periods of market stress, such as the volatile periods of April 2025 and September 2026,³ when market participants use ETFs to increase or decrease their exposure to the market. Finally, while ETFs trade independently, they are intrinsically related to the underlying securities. Municipal bond ETFs provide intra-day real-time pricing through active trading that enhances the municipal securities market's price discovery.

¹ The views expressed in the research papers are those of the author(s) and do not necessarily reflect the views and positions of the MSRB Board and other MSRB staff.

² See Wu, Simon and Nicholas Ostroy, "[Trading Volume and Transaction Costs for Municipal Bond ETFs](#)," Research Paper, Municipal Securities Rulemaking Board, March 2026.

³ See Bagley, John, Marcelo Vieira and Simon Wu, "[April 2025 Market Recap](#)," Research Paper, Municipal Securities Rulemaking Board, May 2025; and Bagley, John and Marcelo Vieira, "Third Quarter 2026 Municipal Securities Market Summary," Research Paper, Municipal Securities Rulemaking Board, October 2026.

Data and Methodology

The majority of the analyses in this paper focused on the period from January 2023 through July 2026, with an emphasis on 2026 year-to-date data for some analyses. July 2026 was chosen as the end point mainly because of a major change in Rule 605 data reports starting from August 2026.⁴

Rule 605 Data

Building on the MSRB 2026 ETF Report, this paper demonstrates the application of the Securities and Exchange Commission's (SEC) Rule 605 data for an analysis of municipal bond ETFs transaction costs and other secondary market trading statistics. Under Rule 605, the SEC requires all registered market centers⁵ that trade national market system (NMS) securities to make monthly electronic reports available to the public, including information about each market center's quality of executions on a stock-by-stock basis.⁶ This report uses Rule 605 monthly disclosure data for the following market centers, which include the 11 largest exchanges by volume: the New York Stock Exchange (NYSE), NYSE ARCA, NYSE Texas, the Nasdaq Stock Market, Chicago Board of Options Exchange (CBOE), BZX Exchange (formerly BAT Exchange), CBOE EDGX Exchange (formerly Direct Edge), Investors Exchange, MIAX Pearl Equities, and Member Exchange (MEMX), as well as seven alternative trading systems (ATS).⁷ Appendix A lists all of market centers used in this paper.

For a detailed description of Rule 605 data in relation to the calculation of effective spread, please refer to the MSRB 2026 ETF Report.

⁴ July 2026 was the last month for Rule 605 data reports under the previous SEC requirement. The SEC recently amended Rule 605 so that starting from August 2026, Rule 605 expands the scope of entities subject to the rule, modifies the categorization and content of order information required to be reported under the rule, and requires reporting entities to produce a summary report of execution quality. For a detailed description of the amendments, please refer to [Final Rule \(34-99679\)](#) and 90 FR 47552.

⁵ Exchanges, OTC market makers, and alternative trading systems. In addition to its own order flows, market centers are required to report under Rule 605 on commitments to trade received pursuant to the Intermarket Trading System (ITS) Plan procedures.

⁶ Rule 605 data only include "covered" shares, which do not capture the entirety of the equity market (70 FR 37496). Hatheway, Frank, Amy Kwan, and Hui Zheng. "An Empirical Analysis of Market Segmentation on U.S. Equity Markets." *The Journal of Financial and Quantitative Analysis* 52, no. 6 (2017): 2399–2427. <https://www.jstor.org/stable/26590485>. The authors illustrate that based on covered shares alone, Rule 605 data captured only 43% of the total shares executed for Apple (APPL) in March 2011.

⁷ Based on the total reported volume (shares, trades and dollar value) for exchanges as identified by CBOE Global Markets (<https://www.cboe.com/markets/us/equities/market-statistics>) and total reported volume for ATS platforms from FINRA on a quarterly basis (<https://www.finra.org/filing-reporting/otc-transparency/ats-quarterly-statistics>).

Other Data Sources

Aside from Rule 650 data, MSRB's Real-Time Transaction Report System (RTRS) database is used to calculate trading volume for municipal securities. In addition, all fixed-income ETFs' and mutual funds' NAV data are provided by the Investment Company Institute (ICI), supplemented by SEC's Form N-Port data for investment funds when necessary. Furthermore, total municipal debt outstanding data are sourced from the Federal Reserve's Financial Accounts of the United States, while data for a specific municipal bond ETF's daily trading volume and closing prices are downloaded from Bloomberg. Finally, the list of municipal bond ETFs and each ETF's total amount outstanding are obtained from etf.com. There are a total of 172 municipal bond ETFs as of July 31, 2026 (Appendix B).

Commercial paper is typically not included in municipal bond ETFs, therefore is excluded from all the trading volume calculations. Conversely, some municipal bond ETFs invest in both fixed-rate and variable-rate securities; therefore, variable-rate securities are included in the trading volume calculation. Similar to the MSRB 2026 ETF Report, this report uses the dollar value of all trades, or the dollar volume, to measure trading volume.⁸

Recent Growth of Municipal Bond ETFs

As demonstrated in previous MSRB studies, municipal bond ETF⁹ products have experienced extraordinary growth in the past two decades. Since the launch of the first-ever municipal bond ETF, iShares National Muni Bond ETF (ticker symbol MUB) in September 2007, municipal bond ETF assets have increased at a rate of 38% annually between January 2008 and July 2026, as compared to 4.7% for tax-exempt mutual funds and only about 1.3% annually for the entire municipal securities market.

Chart 1 shows the proportion of municipal bond ETF net assets relative to total municipal securities outstanding. While still a fraction of the overall municipal securities market, municipal bond ETF net assets have grown significantly over the last decade. Even though ETF net assets represented only 4.9% of total municipal securities outstanding as of July 2026,¹⁰ as recently as in 2017, municipal bond ETFs represented less than 0.8% of the total market share. Nine years later, the ratio is more than six times larger. This is remarkable especially when considering that the

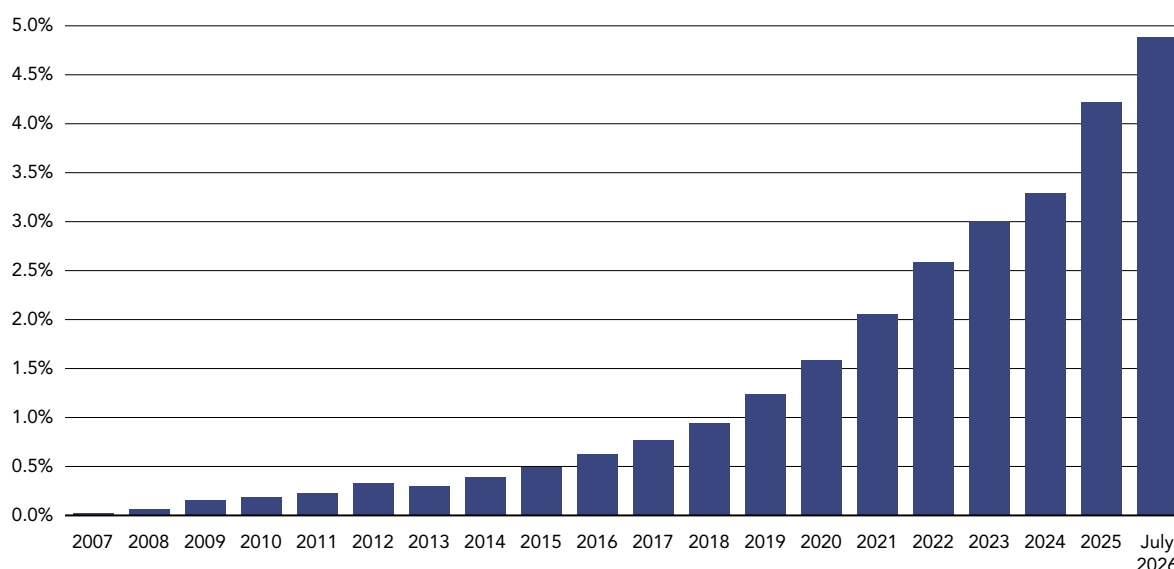
⁸ For each trading day, dollar volume is calculated as: Dollar Volume = Closing Price X Share Volume.

⁹ For a detailed description of ETFs, please refer to Wu, Simon and Meghan Burns, "Municipal Bond ETFs: Liquidity Impact on Municipal Bond Market," Research Paper, Municipal Securities Rulemaking Board, April 2018; and Wu, Simon and Nicholas Ostroy, "Liquidity Impact of Municipal Bond ETFs on Municipal Securities Market: An Updated Analysis," Research Paper, Municipal Securities Rulemaking Board, November 2025.

¹⁰ Municipal securities debt size data from the Federal Reserve's [Financial Accounts of the United States](#) for the end of second quarter of 2026, and tax-exempt mutual funds and ETFs' monthly net assets data are provided by ICI <https://www.ici.org/statistics>.

total amount of municipal debt also grew during the same period, from nearly \$4 trillion to over \$4.5 trillion.¹¹

Chart 1. Proportion of Municipal Bond ETF Net Assets Relative to Municipal Debt Outstanding, 2007–July 2026



Source: MSRB analysis with data obtained from the Federal Reserve and ICI.

In addition, municipal bond ETFs are more actively traded than individual municipal securities. Table 1 illustrates that from January through July 2026, the dollar volume (measured as the dollar amount of shares traded) for all 172 municipal bond ETFs approached 14.2% of the total par value traded in the secondary market for municipal securities. This is notable considering municipal bond ETF net assets represent only 5.1% of total municipal securities outstanding (excluding municipal bond ETF net assets).

Another way to illustrate the higher trading activity of municipal bond ETFs when compared to individual municipal securities is by measuring the turnover ratio – the annual dollar amount traded as a percentage of the total outstanding amount. Table 1 shows that municipal securities’ turnover ratio when measured in par value was about 38.1% for the first seven months in 2026. This means that, on average, 38.1% of total municipal securities outstanding would be expected to be traded during that timeframe. By comparison, the turnover ratio was 105.4% for all 172 municipal bond ETFs, almost three times more frequent than for municipal securities.

¹¹ See the Federal Reserve’s [Financial Accounts of the United States](#).

Table 1. Comparison of Municipal Bond ETFs to Municipal Securities: Trading Volume, Outstanding Amount and Turnover Ratio,¹² January–July 2026

	Municipal Securities	All Municipal Bond ETFs	Ratio of Municipal Bond ETFs to Municipal Securities
Outstanding Amount/Net Asset Value	4,318,906,000,000	222,194,000,000	5.1%
Par Value/Dollar Value Traded	1,644,560,538,790	234,152,892,565	14.2%
Turnover Ratio	38.1%	105.4%	

Source: MSRB analysis with data obtained from MSRB's RTRS, the Federal Reserve, Bloomberg and ICI.

Furthermore, municipal bond ETFs' trading volume has also grown faster than municipal securities' trading volume in recent years. Table 2 shows the ratio of municipal bond ETFs' dollar volume to par value traded for municipal securities rising from 9.3% in 2023 to 14.2% in the first seven months of 2026, even though the trading volume for municipal securities has also experienced a record-breaking pace during the period.¹³

Table 2. Trading Volume of Municipal Bond ETFs and Municipal Securities, 2023–July 2026

	Dollar Volume of All Municipal Bond ETFs	Municipal Securities	Ratio
2023	\$253,615,120,052	\$2,725,801,534,106	9.3%
2024	\$237,921,472,599	\$2,579,059,170,461	9.2%
2025	\$371,553,434,915	\$2,995,957,647,299	12.4%
2026 (As of July 31)	\$234,152,892,565	\$1,644,560,538,790	14.2%

¹² The outstanding amount for municipal securities in this table excludes the net asset value of municipal bond ETFs as well as the outstanding amount for commercial paper, while the par value traded for municipal securities excludes the amount for commercial paper.

¹³ It is likely that 2026 will set a record for the highest number of trades for municipal securities, while par value traded will likely be among the highest since the 2008 financial crisis.

Composition of Municipal Bond ETFs

As of July 31, 2026, there are a total of 172 municipal bond ETFs. The top two ETFs, MUB and VTEB (Vanguard Tax-Exempt Bond ETF), comprise a plurality of the total assets under management (AUM) and trading volume as measured by the dollar volume of trades, as shown in Table 3.¹⁴ However, with the proliferation of newly created municipal bond ETFs in recent years, the share of the total AUM declined for the top two ETFs in recent years, from 44.5% in 2025 to 40.6% in 2026. In addition, while VTEB saw an increase in its share of trading volume between 2025 and 2026, from 22.1% to 23.9%, MUB witnessed a steep drop in its share of trading volume, from 35.9% in 2025 to 25.3%, in the first seven months of 2026.

Table 3. Concentration of Municipal Bond ETFs, 2025–July 2026

Municipal Bond ETF	2025		2026 (January-July)	
	Share of AUM	Share of Dollar Volume	Share of AUM	Share of Dollar Volume
MUB	22.0%	35.9%	20.3%	25.2%
VTEB	22.5%	22.1%	20.3%	23.9%
Top 2 ETFs Total	44.5%	58.0%	40.6%	49.1%

While MUB and VTEB both seek to replicate a national tax-exempt investment-grade municipal bond portfolio,¹⁵ what are the investment purposes for the other 170 municipal bond ETFs? Table 4 first groups all 172 municipal bond ETFs by investment locations and shows that 143 out of 172 ETFs (83.1%) have a national focus while only 29 (16.9%) have a specific state focus. The disparity is even more apparent when analyzing these municipal bond ETFs by AUM, where 92.3% of AUM are invested in ETFs with a national focus, compared to only 7.7% invested in a specific state.

Table 4. Municipal Bond ETFs by Jurisdiction, July 2026

	National	State	Total
Number of ETFs	143	29	172
Percent	83.1%	16.9%	
Total Assets Under Management	\$206,465,220,000	\$17,197,590,000	\$223,662,810,000
Percent	92.3%	7.7%	

¹⁴ In fact, the next largest municipal bond ETF by AUM is iShares Short-Term National Muni Bond ETF (ticker symbol SUB), which has only 5.1% of total AUM in 2026; while the next largest municipal bond ETF by trading volume is JPMorgan Ultra-Short Municipal Income ETF (ticker symbol JMST), which has only 4.2% of total trading volume in 2026.

¹⁵ MUB tracks the benchmark index ICE AMT-Free US National Municipal Index, while VTEB tracks the benchmark index S&P National AMT-Free Muni Bond Index.

Of the 29 municipal bond ETFs that focus on individual states, 13 of those are invested in California-only bonds, eight are invested in New York, two in Massachusetts, two in Minnesota and one each in New Jersey, Ohio, Pennsylvania and Puerto Rico. While slightly less than half (44.8%) of these 29 state-specific municipal bond ETFs focus on California, in terms of AUM for these ETFs, nearly three-quarters (71.4%) are invested in California. Although the predominance of the large states such as California and New York for state-specific municipal bond ETFs is not unexpected, as these ETFs are typically purchased by the individual state's residents, the absence of municipal bond ETFs focused on other large states such as Texas and Florida may, on the surface, be surprising. However, since neither Texas nor Florida has state income tax, the advantage of the tax exemption for investors from these states would vanish when compared to investors residing in higher-tax states such as California and New York.¹⁶

Table 5. Individual State Municipal Bond ETFs by States, July 2026

	State					
	CA	NY	MA	MN	NJ, OH, PA and PR	Total
Number of ETFs	13	8	2	2	4	29
Percent	44.8%	27.6%	6.9%	6.9%	13.8%	
Total Assets Under Management	\$12,284,590,000	\$3,995,920,000	\$326,710,000	\$241,130,000	\$349,240,000	17,197,590,000
Percent	71.4%	23.2%	1.9%	1.4%	2.0%	

Of the 143 municipal bond ETFs with a national focus, 32 of those ETFs focus on specific credit rating categories (investment-grade or high-yield), 26 focus on maturities only (ultra short-term, short-term, intermediate-term and long-term),¹⁷ 74 focus on both credit rating categories and maturities, while the remaining 11, including MUB and VTEB, are not restricted.

¹⁶ Fulkerson, Jon A. and Haskell, Nancy, State Income Tax Changes and the Demand for Municipal Bond Funds (February 23, 2021). Available at SSRN: <https://ssrn.com/abstract=3684063>.

¹⁷ With some variations between ETF and mutual fund sponsors, in general, ultra short-term means maturities of less than a year, short-term means maturities of between 1 year and 5 years, intermediate-term means maturities of between 5 years and 10 years, and long-term means maturities of between 10 years and 30 years. Please see <https://www.morningstar.com/investing-terms/short-term-bonds>.

Table 6. National Municipal Bond ETFs by Subgroups, July 2026

	National				
	Comprehensive	By Credit Rating Categories Only	By Maturities Only	By Credit Rating Categories and Maturities	Total
Number of ETFs	11	32	26	74	143
Percent	7.7%	22.4%	18.2%	51.7%	
Total Assets Under Management	\$13,612,000,000	\$118,702,760,000	\$8,855,520,000	\$65,294,940,000	\$206,465,220,000
Percent	6.6%	57.5%	4.3%	31.6%	

Lastly, there has been an increase in the creation of actively managed (active) municipal bond ETFs in recent years. Traditionally, ETFs have been viewed as a passively managed (passive) investment product, as opposed to mutual funds, which are dominated by actively managed funds. A passive municipal bond ETF seeks to track an underlying index by holding a representative sample of bonds to match the index return, while an active municipal bond ETF gives fund managers the discretion to choose specific assets to beat the index to maximize profit or lower risk.¹⁸ Table 7 shows that for the 25 municipal bond ETFs created during the first nine years between 2007 and 2016, only six of those (24%) are active ETFs, representing just 5.5% of AUM. However, of the next 147 municipal ETFs initiated in the next nine years between 2017 and 2026, 105 of those (71.4%) are active ETFs, representing 75.5% of AUM.

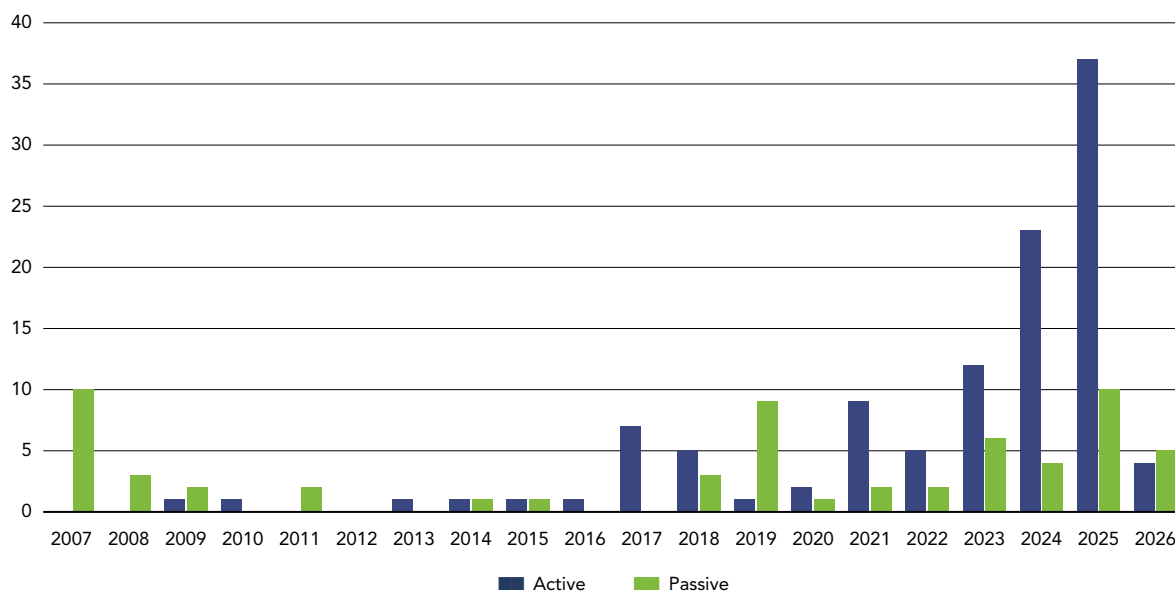
Table 7. Active and Passive Municipal Bond ETFs by Creation Date, September 2007–July 2026

Period	Number of Municipal Bond ETFs	Percent Active	AUM	Percent Active
2007–2016	25	24.0%	\$140,441,600,000	5.5%
2017–2026	147	71.4%	\$83,221,210,000	75.5%

Chart 2 below shows the year-by-year breakdown for the number of active and passive municipal bond ETFs created. Among the 105 active municipal bond ETFs launched between 2017 and 2026, 72 of those were created between 2023 and 2025, showing a heavy concentration in recent years. This upward trend for active municipal bond ETFs seems to be in line with those for other ETFs, with a growing market acceptance of actively managed ETFs in recent years.¹⁹

¹⁸ Some of these newly created active municipal bond ETFs were conversions from similarly managed mutual funds. See [Growing ETF preference leads to mutual fund conversions | Bond Buyer](#).

¹⁹ Blackrock, “[Decoding Active ETFs](#),” *iShares*, 2025.

Chart 2. Active and Passive Municipal Bond ETFs by Creation Date, September 2007–July 2026

Daily Trading Volume, Effective Spread and Trade Size

As stated in the MSRB 2026 ETF Report, daily trading volume is frequently used as an indicator for market activities and conditions.²⁰ This is because volume usually surges during a market stress period, such as the volatile months of March 2020 and April 2025.²¹ Chart 3 shows the aggregate daily trading volume from January 2023 through July 2026 for all 172 municipal bond ETFs, ranging mostly from \$500 million to \$3 billion during the period, with a few exceptions. Overall, there has been a slight upward trend in the trading volume for all municipal bond ETFs.

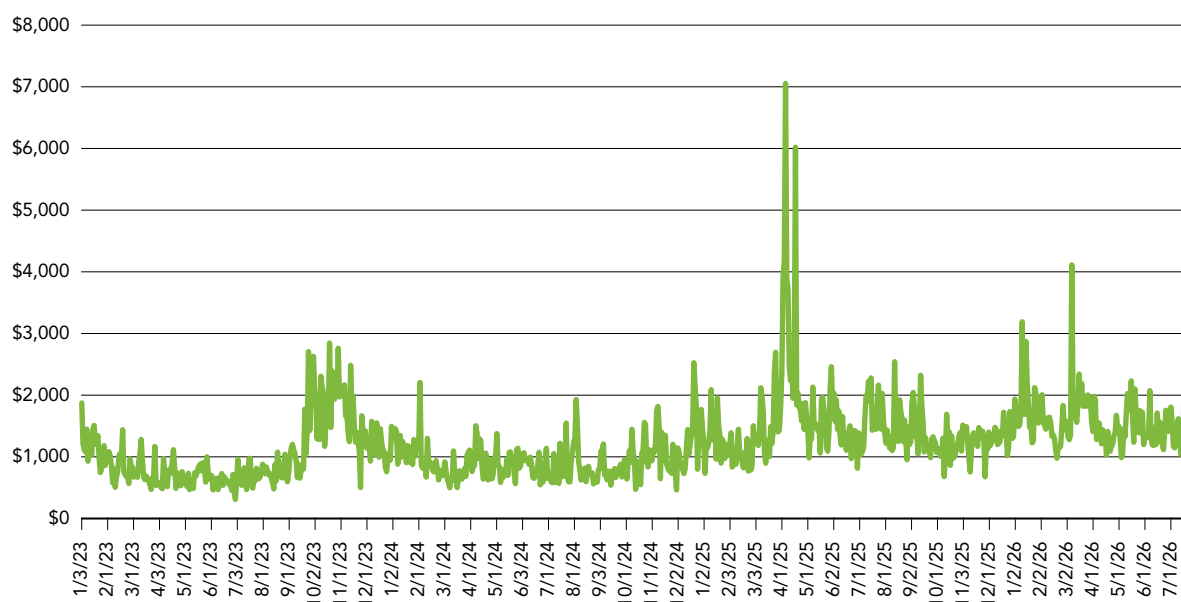
However, during periods of market stress, municipal bond ETFs have played an even larger role in the municipal market. The ratio of ETF trading volume to municipal securities trading volume was 16.1% for April 2025, compared to an average of 11.9% for the other months in 2025, even though the trading volume for municipal securities also reached an annual high in April 2025. In addition, the daily trading volume for municipal bond ETFs exceeded \$3 billion for five trading days in April 2025, with April 9 exceeding \$7 billion, almost 5.5 times as much as an average day in the first three months of 2025. By comparison, on the top trading day of April 9, municipal securities

²⁰ Wu and Ostroy (2026), page 3.

²¹ See Wu, Simon, “[Trading in Municipal Bond ETFs During the COVID-19 Crisis: Price versus Net Asset Value](#),” MSRB Market Commentary, April 2020; and Wu, Simon and Nicholas Ostroy, “[Performance of Municipal Bond Exchange-Traded Funds During April 2025](#),” MSRB Research Paper, July 2025. In addition, September 2026, which fell outside the study period of this paper, saw similar patterns.

had only about 2.6 times as much par amount traded as an average day in the first three months of 2025.²² This suggests the importance of ETFs in times of market turbulence. While this paper's study period ended on July 31, 2026, it should be noted that September 2026 (and likely October 2026) witnessed another volume spike because of rising yields and market volatility, and the trading volume of municipal bond ETFs for September 2026 exceeded the volume for April 2025.

Chart 3. All Municipal Bond ETFs Daily Trading Volume, January 2023–July 2026



Source: MSRB analysis with data obtained from Nasdaq.com for all 172 municipal bond ETFs as classified by [etf.com](https://www.etf.com).

In addition, the 2026 MSRB ETF Report mentioned that transaction cost, as measured by effective spread, can also be used as an indicator to monitor the health of the municipal bond ETF market. Effective spread is considered a proxy measurement of market liquidity and market conditions in the equity market, which includes ETFs. Unlike fixed-income markets, the equity market disseminates a consolidated national best bid-and-offer (NBBO) quote that is accessible and executable by all investors and market participants,²³ and the NBBO quotes themselves are supplied by investors, dealers and other market participants through price competition. As a result, there is less information asymmetry in the marketplace, and the effective spread for municipal bond ETFs (as well as for other stocks and ETFs) therefore mostly represents the liquidity premium and the volatility premium, with more liquid and less volatile securities generally having lower effective spreads than less liquid and more volatile securities. Effective spreads for all securities are generally higher during a market stress period such as April 2025.

²² See Bagley, John, Marcelo Vieira and Simon Wu, "[April 2025 Market Recap](#)," Research Paper, Municipal Securities Rulemaking Board, May 2025.

²³ The adoption of SEC Regulation NMS in 2005 created a redesigned national market system for equities that provides regulatory structure for a consolidated and publicly disseminated best bid and offer. See 70 FR 37496 (June 29, 2005).

Using Rule 605 data, Chart 4 presents the aggregate average effective spread for all municipal bond ETFs' market and marketable limit orders.²⁴ Chart 4 shows a significant variation in the aggregate average effective spread, ranging from a low of \$0.03 in February 2023 to a high of \$0.085 in April 2025, where the market for most securities manifested severe volatility. The aggregate average effective spread was relatively stable for the first seven months in 2026, with the monthly average fluctuating within a narrow range between \$0.036 and \$0.040.²⁵

Chart 4. Average Effective Spread for Municipal Bond ETFs (In Dollars), January 2023–July 2026



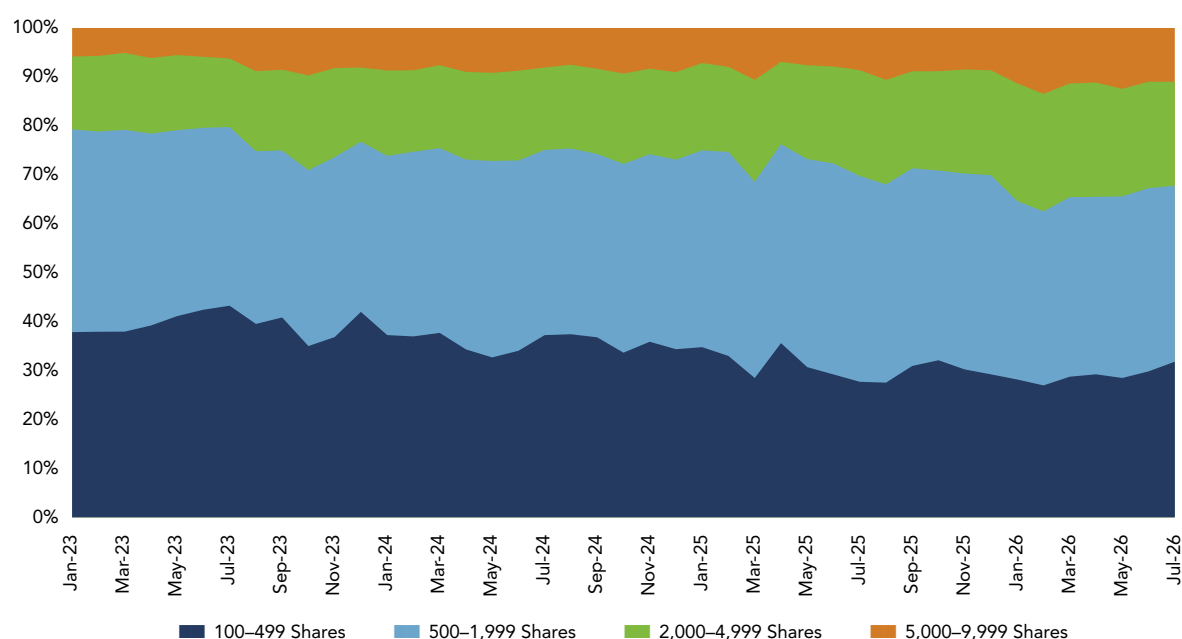
Source: MSRB analysis with data obtained from Rule 605 monthly disclosure.

²⁴ Market and marketable limit orders are orders that can be immediately executed against the best bid or best ask quotes. The bid-ask spread would therefore represent the transaction cost for executing a market or a marketable limit order.

²⁵ The 2026 MSRB ETF Report showed that the effective spread was mostly around \$0.01 for the most-frequently traded municipal bond ETFs, such as MUB and VTEB, which is the lowest possible increment for a bid-ask quote. See SEC Division of Market Regulation, Responses to Frequently Asked Questions Concerning Rule 612 (Minimum Pricing Increment of Regulation NMS), <https://www.sec.gov/divisions/marketreg/subpenny612faq.htm>.

Finally, Chart 5 shows the percent of share volume traded for each of the four order size groups covered by Rule 605 for all municipal bond ETFs' market and marketable limit orders:²⁶ 100–499 shares, 500–1,999 shares, 2,000–4,999 shares and 5,000–9,999 shares. Within these four order size groups, there has been a decline in share volume traded for the two smaller order size groups (100–499 shares and 500–1,999 shares), from 77.1% in 2023 to 65.5% in 2026, but a corresponding increase for the two larger order size groups (2,000–4,999 shares and 5,000–9,999 shares), from 22.9% to 34.5%, during the same time period.²⁷ While it may be tempting to conclude that the average order size for market and marketable limit orders has gone up over the period, we caution that the Rule 605 data before August 2026 did not include either the odd-lot order size (less than 100 shares) or the block order size (10,000 shares or more) groups. In addition, order size categories were based on share-count buckets prior to August 2026, as opposed to a dollar value structure under the new framework. Hence, the direction of the order size change will likely become clearer with the commencement of the new Rule 605 data starting from August 2026, which will cover both the odd-lot order size group and the block order size group.²⁸

Chart 5. Percent of Share Volume Traded by Order Size Groups for Market and Marketable Limit Orders, January 2023–July 2026



²⁶ The SEC's Rule 605 does not require a breakdown by trade size, but only by order size.

²⁷ Similar results were found when using order share volume rather than traded share volume.

²⁸ In addition, the new Rule 605 data's order size threshold will be based on dollar volume, rather than share volume.

Conclusion

Municipal bond ETFs have grown very rapidly in the past two decades, with net assets increasing at an annual rate of 38% between January 2008 and July 2026, reaching 4.9% of the municipal securities outstanding as of July 31. This growth is expected to continue, as ETFs provide investors and market participants with another entry into the municipal bond market that is different from what can be accessed directly in the over-the-counter bond market.

As of July 31, 2026, there were 172 municipal bond ETFs in the marketplace, with 143 (83.1%) having a national focus and only 29 (16.9%) having a specific state focus. Of the 29 municipal bond ETFs focusing on individual states, not surprisingly, a vast majority represent states with larger populations and higher state tax rates, while the 143 ETFs with a national focus are divided between different combinations of bond characteristics, such as credit rating categories and maturities. In addition, there has been an increase in the creation of actively managed municipal bond ETFs in recent years, and the upward trend for active municipal bond ETFs seems to be in line with the broader ETF market, with a growing market acceptance of actively managed ETFs.

This paper is one of a series of papers on municipal bond ETFs that MSRB has been publishing since 2025 with the intent to showcase how to analyze and monitor the growing municipal bond ETF market. Central to these analyses is the application of SEC's Rule 605 data, which provides the summary statistics for effective spread and other secondary market trading metrics for all ETFs. Starting in August 2026, Rule 605 has expanded the scope of entities subject to the rule, modified the categorization and content of order information required to be reported under the rule, and required execution statistics to be reported in more detail, among other changes. The MSRB intends to compare and contrast Rule 605 data report changes for municipal bond ETFs in a future study.

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Appendix A: List of Market Centers Used for Rule 605 Monthly Disclosure

Market Center Code	Type	NMS Name	Broker-Dealer Operator
TLATS	ATS	Barclays ATS	Barclays Capital Inc.
BYXX	Exchange	Cboe BYX	Cboe Global Markets
BATS	Exchange	Cboe BZX (BATS)	Cboe Global Markets
EDGK	Exchange	Cboe Edge X	Cboe Global Markets
EDGJ	Exchange	Cboe Edge A	Cboe Global Markets
ICBX	ATS	CBX ATS	Instinet, LLC
TIATS	ATS	IBKR ATS	Interactive Brokers LLC
TMLIX	ATS	Instinct X	BofA Securities, Inc.
V	Exchange	IEX Exchange	Investors Exchange, LLC
U	Exchange	Members Exchange	MEMX Exchange
EPRL	Exchange	MIAX Pearl Exchange	Miami International Holdings, Inc.
Q	Exchange	Nasdaq	Nasdaq, Inc.
NXNYS	Exchange	NYSE	Intercontinental Exchange (ICE)
PARCAX	Exchange	NYSE Arca	Intercontinental Exchange (ICE)
MXCHI	Exchange	NYSE Texas	Intercontinental Exchange (ICE)
CGXS	ATS	OneChronos ATS	OneChronos Markets LLC
TPURE	ATS	PureStream ATS	PureStream, LLC
TUBSA	ATS	UBS-A ATS	UBS Securities LLC

Appendix B: List of Municipal Bond ETFs as of July 2026

Ticker	ETF Fund Name	Issuer
ZMUN	F/m Ultrashort Tax-Free Municipal ETF	1251 Capital Group Inc.
AMUN	Abrdn Ultra Short Municipal Income Active ETF	Abrdn Plc
MUNX	AMG GW&K Muni Income ETF	Affiliated Managers Group
CAM	AB California Intermediate Municipal ETF	AllianceBernstein LP
NYM	AB New York Intermediate Municipal ETF	AllianceBernstein LP
MUNI	PIMCO Intermediate Municipal Bond Active Exchange-Traded Fund	Allianz
SMMU	PIMCO Short Term Municipal Bond Active ETF	Allianz
MINO	PIMCO Municipal Income Opportunities Active Exchange-Traded Fund	Allianz
AUSM	Allspring Ultra Short Municipal ETF	Allspring Group Holdings LLC
TAXF	American Century Diversified Municipal Bond ETF	American Century Investments
AVMU	Avantis Core Municipal Fixed Income ETF	American Century Investments
CATF	American Century California Municipal Bond ETF	American Century Investments
MUST	Columbia Multi-Sector Municipal Income ETF	Ameriprise Financial
YYYM	Amplify Municipal CEF High Income ETF	Amplify Investments
MUB	iShares National Muni Bond ETF	BlackRock, Inc.
SUB	iShares Short-Term National Muni Bond ETF	BlackRock, Inc.
CMF	iShares California Muni Bond ETF	BlackRock, Inc.
HIMU	iShares High Yield Muni Active ETF	BlackRock, Inc.
MEAR	iShares Short Maturity Municipal Bond Active ETF	BlackRock, Inc.
NYF	iShares New York Muni Bond ETF	BlackRock, Inc.
IBMP	iShares iBonds Dec 2027 Term Muni Bond ETF	BlackRock, Inc.
IBMO	iShares iBonds Dec 2026 Term Muni Bond ETF	BlackRock, Inc.
IBMQ	iShares iBonds Dec 2028 Term Muni Bond ETF	BlackRock, Inc.
IBMN	iShares iBonds Dec 2025 Term Muni Bond ETF	BlackRock, Inc.
SHYM	iShares Short Duration High Yield Muni Active ETF	BlackRock, Inc.
IBMM	iShares iBonds Dec 2024 Term Muni Bond ETF	BlackRock, Inc.
IBMR	iShares iBonds Dec 2029 Term Muni Bond ETF	BlackRock, Inc.
HYMU	iShares High Yield Muni Income Active ETF	BlackRock, Inc.
CALI	iShares Short-Term California Muni Active ETF	BlackRock, Inc.
INMU	iShares Intermediate Muni Income Active ETF	BlackRock, Inc.
IBMS	iShares iBonds Dec 2030 Term Muni Bond ETF	BlackRock, Inc.
LMUB	iShares Long-Term National Muni Bond ETF	BlackRock, Inc.
IBMT	iShares iBonds Dec 2031 Term Muni Bond ETF	BlackRock, Inc.
IBMU	iShares iBonds Dec 2032 Term Muni Bond ETF	BlackRock, Inc.
IBMV	iShares iBonds Dec 2033 Term Muni Bond ETF	BlackRock, Inc.

Composition of Municipal Bond ETFs and Their Growing Significance in the Municipal Market

Ticker	ETF Fund Name	Issuer
IBMW	iShares iBonds Dec 2034 Term Muni Bond ETF	BlackRock, Inc.
IBMX	iShares iBonds Dec 2035 Term Muni Bond ETF	BlackRock, Inc.
BKMI	BNY Mellon Municipal Intermediate ETF	BNY Mellon
BKMS	BNY Mellon Municipal Short Duration ETF	BNY Mellon
BMOP	BNY Mellon Municipal Opportunities ETF	BNY Mellon
TAXM	BondBloxx IR+M Tax-Aware ETF for Massachusetts Residents	Bondbloxx Investment Management Corp.
HTAX	Macquarie National High-Yield Municipal Bond ETF	Delaware Management Company Inc
RVNU	Xtrackers Municipal Infrastructure Revenue Bond ETF	Deutsche Bank AG
CA	Xtrackers California Municipal Bond ETF	Deutsche Bank AG
DFNM	Dimensional National Municipal Bond ETF	Dimensional
DFCA	Dimensional California Municipal Bond ETF	Dimensional
APMU	ActivePassive Intermediate Municipal Bond ETF	Envestnet
TAFI	AB Tax-Aware Short Duration Municipal ETF	Equitable
TAFM	AB Tax-Aware Intermediate Municipal ETF	Equitable
TAFL	AB Tax-Aware Long Municipal ETF	Equitable
FMUN	Fidelity Systematic Municipal Bond Index ETF	Fidelity
FMUB	Fidelity Municipal Bond Opportunities ETF	Fidelity
FMB	First Trust Managed Municipal ETF	First Trust
FMHI	First Trust Municipal High Income ETF	First Trust
FSMB	First Trust Short Duration Managed Municipal ETF	First Trust
FUMB	First Trust Ultra Short Duration Municipal ETF	First Trust
FCAL	First Trust California Municipal High Income ETF	First Trust
FMNY	First Trust New York Municipal High Income ETF	First Trust
MFLX	First Trust Flexible Municipal High Income ETF	First Trust
FLMI	Franklin Dynamic Municipal Bond ETF	Franklin Templeton
FLMB	Franklin Municipal Green Bond ETF	Franklin Templeton
FTNJ	Franklin New Jersey Municipal Income ETF	Franklin Templeton
FTMS	Franklin Short-Term Municipal Income ETF	Franklin Templeton
FTMN	Franklin Minnesota Municipal Income ETF	Franklin Templeton
FTMA	Franklin Massachusetts Municipal Income ETF	Franklin Templeton
FTMU	Franklin Municipal Income ETF	Franklin Templeton
FTMH	Franklin Municipal High Yield ETF	Franklin Templeton
FTCA	Franklin California Municipal Income ETF	Franklin Templeton
FTNY	Franklin New York Municipal Income ETF	Franklin Templeton
FTOH	Franklin Ohio Municipal Income ETF	Franklin Templeton
FTPA	Franklin Pennsylvania Municipal Income ETF	Franklin Templeton

Composition of Municipal Bond ETFs and Their Growing Significance in the Municipal Market

Ticker	ETF Fund Name	Issuer
GCAL	Goldman Sachs Dynamic California Municipal Income ETF	Goldman Sachs
GMUB	Goldman Sachs Municipal Income ETF	Goldman Sachs
GMNY	Goldman Sachs Dynamic New York Municipal Income ETF	Goldman Sachs
GUMI	Goldman Sachs Ultra Short Municipal Income ETF	Goldman Sachs
GMUN	Goldman Sachs Access Municipal Bond ETF	Goldman Sachs
SCNM	Sterling Capital National Municipal Bond ETF	Guardian Capital Group Ltd.
PZA	Invesco National AMT-Free Municipal Bond ETF	Invesco
PWZ	Invesco California AMT-Free Municipal Bond ETF	Invesco
BAB	Invesco Taxable Municipal Bond ETF	Invesco
BSMQ	Invesco BulletShares 2026 Municipal Bond ETF	Invesco
BSMR	Invesco BulletShares 2027 Municipal Bond ETF	Invesco
BSMS	Invesco BulletShares 2028 Municipal Bond ETF	Invesco
BSMP	Invesco BulletShares 2025 Municipal Bond ETF	Invesco
BSMT	Invesco BulletShares 2029 Municipal Bond ETF	Invesco
BSMU	Invesco BulletShares 2030 Municipal Bond ETF	Invesco
BSMO	Invesco BulletShares 2024 Municipal Bond ETF	Invesco
PZT	Invesco New York AMT-Free Municipal Bond ETF	Invesco
BSMV	Invesco BulletShares 2031 Municipal Bond ETF	Invesco
BSMW	Invesco BulletShares 2032 Municipal Bond ETF	Invesco
BSSX	Invesco BulletShares 2033 Municipal Bond ETF	Invesco
BSMY	Invesco BulletShares 2034 Municipal Bond ETF	Invesco
PVI	Invesco Floating Rate Municipal Income ETF	Invesco
IMSI	Invesco Municipal Strategic Income ETF	Invesco
IROC	Invesco Rochester High Yield Municipal ETF	Invesco
INTM	Invesco Intermediate Municipal ETF	Invesco
BSMZ	Invesco BulletShares 2035 Municipal Bond ETF	Invesco
JMST	JPMorgan Ultra-Short Municipal Income ETF	JPMorgan Chase
JMUB	JPMorgan Municipal ETF	JPMorgan Chase
JMSI	JPMorgan Sustainable Municipal Income ETF	JPMorgan Chase
JMHI	JPMorgan High Yield Municipal ETF	JPMorgan Chase
OVM	Overlay Shares Municipal Bond ETF	Liquid Strategies
STAX	Macquarie Tax-Free USA Short Term ETF	Macquarie Group Ltd
MINN	Mairs & Power Minnesota Municipal Bond ETF	Mairs & Power, Inc.
JHMU	John Hancock Dynamic Municipal Bond ETF	Manulife
GENM	Genter Capital Municipal Quality Intermediate ETF	Mciv Co. LLC
EVSM	Eaton Vance Short Duration Municipal Income ETF	Morgan Stanley
EVIM	Eaton Vance Intermediate Municipal Income ETF	Morgan Stanley
EVYM	Eaton Vance High Income Municipal ETF	Morgan Stanley

Composition of Municipal Bond ETFs and Their Growing Significance in the Municipal Market

Ticker	ETF Fund Name	Issuer
RTAI	Rareview Tax Advantaged Income ETF	Neil Azous Revocable Trust
MMIT	NYLI MacKay Muni Intermediate ETF	New York Life
MMIN	NYLI MacKay Muni Insured ETF	New York Life
MMCA	NYLI MacKay California Muni Intermediate ETF	New York Life
MMSD	NYLI MacKay Muni Short Duration ETF	New York Life
MMMA	NYLI MacKay Muni Allocation ETF	New York Life
LTAX	Nomura Tax-Free USA ETF	Nomura Holdings
TAXT	Northern Trust Tax-Exempt Bond ETF	Northern Trust Corp.
MUND	Northern Trust 2055 Tax-Exempt Distributing Ladder ETF	Northern Trust Corp.
MUNC	Northern Trust 2045 Tax-Exempt Distributing Ladder ETF	Northern Trust Corp.
TAXI	Northern Trust Intermediate Tax-Exempt Bond ETF	Northern Trust Corp.
MUNA	Northern Trust 2030 Tax-Exempt Distributing Ladder ETF	Northern Trust Corp.
MUNB	Northern Trust 2035 Tax-Exempt Distributing Ladder ETF	Northern Trust Corp.
TAXS	Northern Trust Short-Term Tax-Exempt Bond ETF	Northern Trust Corp.
PUSH	PGIM Ultra Short Municipal Bond ETF	Prudential
PMIO	PGIM Municipal Income Opportunities ETF	Prudential
RJMI	RJ Eagle Municipal Income ETF	Raymond James Financial
NMB	Simplify National Muni Bond ETF	Simplify
MNBD	ALPS Intermediate Municipal Bond ETF	SS&C
SHM	SPDR Nuveen ICE Short Term Municipal Bond ETF	State Street
TFI	SPDR Nuveen ICE Municipal Bond ETF	State Street
HYMB	SPDR Nuveen ICE High Yield Municipal Bond ETF	State Street
MBND	SPDR Nuveen Municipal Bond ETF	State Street
MBNE	SPDR Nuveen Municipal Bond ESG ETF	State Street
MYMI	SPDR SSGA My2029 Municipal Bond ETF	State Street
MYMJ	SPDR SSGA My2030 Municipal Bond ETF	State Street
MYMF	SPDR SSGA My2026 Municipal Bond ETF	State Street
MYMG	SPDR SSGA My2027 Municipal Bond ETF	State Street
MYMH	SPDR SSGA My2028 Municipal Bond ETF	State Street
MYMK	State Street My2031 Municipal Bond ETF	State Street
MFSM	MFS Active Intermediate Muni Bond ETF	Sun Life Financial, Inc.
TAXE	T. Rowe Price Intermediate Municipal Income ETF	T. Rowe Price Group, Inc.
TMNL	T. Rowe Price Long Municipal Income ETF	T. Rowe Price Group, Inc.
TMNS	T. Rowe Price Short Municipal Income ETF	T. Rowe Price Group, Inc.
THYM	T. Rowe Price High Income Municipal ETF	T. Rowe Price Group, Inc.
CGMU	Capital Group Municipal Income ETF	The Capital Group Companies
CGHM	Capital Group Municipal High-Income ETF	The Capital Group Companies
CGSM	Capital Group Short Duration Municipal Income ETF	The Capital Group Companies

Composition of Municipal Bond ETFs and Their Growing Significance in the Municipal Market

Ticker	ETF Fund Name	Issuer
SCMB	Schwab Municipal Bond ETF	The Charles Schwab Corp.
HMOP	Hartford Municipal Opportunities ETF	The Hartford Insurance Group, Inc.
NHYM	Nuveen High Yield Municipal Income ETF	TIAA Board of Governors
NUMI	Nuveen Municipal Income ETF	TIAA Board of Governors
RMOP	Rockefeller Opportunistic Municipal Bond ETF	Toroso Investments Topco LLC
RMCA	Rockefeller California Municipal Bond ETF	Toroso Investments Topco LLC
RMNY	Rockefeller New York Municipal Bond ETF	Toroso Investments Topco LLC
HYD	VanEck High Yield Muni ETF	VanEck
ITM	VanEck Intermediate Muni ETF	VanEck
MLN	VanEck Long Muni ETF	VanEck
SHYD	VanEck Short High Yield Muni ETF	VanEck
SMB	VanEck Short Muni ETF	VanEck
XMPT	VanEck CEF Muni Income ETF	VanEck
SMI	VanEck HIP Sustainable Muni ETF	VanEck
VTEB	Vanguard Tax-Exempt Bond ETF	Vanguard
VTES	Vanguard Short-Term Tax Exempt Bond ETF	Vanguard
VTEC	Vanguard California Tax-Exempt Bond ETF	Vanguard
VTEI	Vanguard Intermediate-Term Tax-Exempt Bond ETF	Vanguard
VCRM	Vanguard Core Tax-Exempt Bond ETF	Vanguard
VSDM	Vanguard Short Duration Tax-Exempt Bond ETF	Vanguard
MUNY	Vanguard New York Tax-Exempt Bond ETF	Vanguard
VTEL	Vanguard Long-Term Tax-Exempt Bond ETF	Vanguard
WTMU	WisdomTree Core Laddered Municipal Fund	WisdomTree, Inc.
WTMY	WisdomTree High Income Laddered Municipal Fund	WisdomTree, Inc.
ZTAX	X-Square Municipal Income ETF	X-Square Capital

Source: www.etf.com as of July 31, 2026.

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