

Bonds Sale Fundamentals

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Theory of Public Finance of Capital Projects

▪ Why do communities issue debt?

- ✓ Costs are too high for cash payment of a project

- ✓ Spread the cost of a project over current and future generations
 - Benefits are spread over several generations - - costs should be as well
 - One generation should not subsidize the next

- ✓ Payments should equate to useful life of assets or less

- ✓ Example of public purposes for which debt is issued:
 - Building schools - both for K-12 and higher educational institutions
 - Road projects - new roads and highways as well as maintenance on existing roads
 - Public power projects
 - Sewer & Water and other utilities
 - Economic Development

Types of Bonds

■ General Obligation

- ✓ Obligations of a community backed by the property tax base of that community
- ✓ May be self-supporting OR paid by either income tax or some clearly defined revenue stream
- ✓ Issuer must always have the millage set aside to make debt payments
 - But not levy the millage unless, and until, the revenue stream or other resources can not support debt

■ Conduit Bonds

- ✓ Issuer enters into an arrangement with a private conduit borrower in which the bond proceeds are loaned to the conduit borrower and the conduit borrower repays the loan to the issuer
- ✓ For most conduit bonds, although the governmental issuer of the bonds is legally obligated for repayment, that obligation usually is limited to the amounts of the loan repayments from the conduit borrower
- ✓ If the conduit borrower fails to make loan repayments, the governmental issuer typically is not required to make up such shortfalls
- ✓ Thus, unless the bond documents explicitly state otherwise, investors in conduit bonds should not view the governmental issuer as a guarantor on conduit bonds

Types of Debt Issued

- **General Obligation (GO) Bonds**

- ✓ Backed by property taxes of community
 - Income taxes may pay for debt service and thus the millage is not levied
- ✓ Subject to constitutional / statutory limitations

- **Revenue Bonds**

- ✓ Completely self-supporting
- ✓ Backed by a particular source of revenue

- Types of Revenue Bonds:**

- Income Tax Bonds
 - Sales Tax Bonds
 - Utility Bonds

- **Certificates of Participation (COPs)**

- ✓ Secured by the revenue stream of the lease payments; subject to annual appropriation

Types of Municipal Bonds, Issuers and Investors

Municipal Bonds are issued by several different types of Issuers, offer various structures and have a broad and diverse Investor base.

Bond Issuers

Municipalities
States, Cities, Counties, Local Governments, and other Public Authorities or Entities

Public Utilities
Water/Sewer Systems, Public Transit, Public Power Utilities, Airports

Not-for-Profit Entities
Institutions of Higher Education, Hospitals, Museums, Churches & Charities



Uses of Bond Financing

New Money Projects
Various Public Projects/ Construction projects , Schools, Streets & Highways, Bridges, Hospitals, Public Housing, Sewer and Water Systems, Power Utilities

Refunding Bonds
Refinancing outstanding bonds for debt service savings, debt restructuring, tax-status and/or indenture changes



Bond Investors

Retail Investors
High Net-worth Individuals, Bank Trusts, Brokerage accounts and Asset Managers on behalf of individuals

Institutional Investors
Mutual Funds, Corporations, Banks, Insurance Companies, Institutional Funds, Asset Managers

Bond Features

Tax-status
Tax-exempt or Taxable Bonds

Interest Rate Modes
Fixed Rate, Variable Rate or Capital Appreciation Bonds

Optionality
Callable, Puttable or Non-callable Bonds

Constitutional Limitations - GO Debt

▪ Indirect Debt Limitation

- ✓ Ten-mill limitation based on total outstanding debt service
 - Maximum aggregate to be levied on any single piece of property
 - “Inside” millage must first be used for the payment of debt service on unvoted GO debt of the subdivision

- ✓ Limited Tax General Obligation (LT GO) - UNVOTED
 - Allows for the raising of property taxes up to the “Ten-mill” limitation

- ✓ Unlimited Tax General Obligation (UT GO) - VOTED
 - Allows community to levy taxes on property sufficient to support debt service

- ✓ Exclusions
 - Revenue bonds and notes

Statutory Limitations - GO Debt

▪ Direct Debt Limitation

- ✓ Based upon the value of all property in the community as listed and assessed for taxation
 - Unvoted GO debt - may not exceed 5½%
 - Voted AND unvoted GO debt - may not exceed 10½%

- ✓ Exempt Debt - Debt not included in the direct debt limit calculation
 - Self-supporting GO debt, i.e. revenues from the facilities financed are sufficient to pay applicable operating and maintenance expenses and related debt service and other requirements
 - Bonds issued in anticipation of the collection of special assessments
 - Revenue bonds
 - Note issues in anticipation of the collection of current revenues or in anticipation of the proceeds of a specific tax levy
 - Notes issued for certain emergency purposes
 - Bonds issued to pay final judgments

Participants in a Bond Sale

Issuer

- Selects financing team
- Determines borrowing needs and key parameters of debt
- Authorizes issuance of notes or bonds

Bond Counsel

- Drafts Authorizing Resolution, Legal Opinion and closing documents
- Provides legal advice to issuer based on existing federal, State and local legislation and tax law
- Assembles Official Statement *on behalf of* Issuer (Bonds Only)

Underwriter

- Structures financing and provides underwriting and markets bonds, sets prices, sells bonds to investors
- Commits capital to unsold bonds

Underwriter's Counsel

- Manages due diligence call and prepares Bond Purchase Agreement (Bonds Only)
- Advises Underwriter on legal issues (Bonds Only)

Rating Agency

- Provides credit rating on Issuer's bonds and existing obligations (Bonds Only)

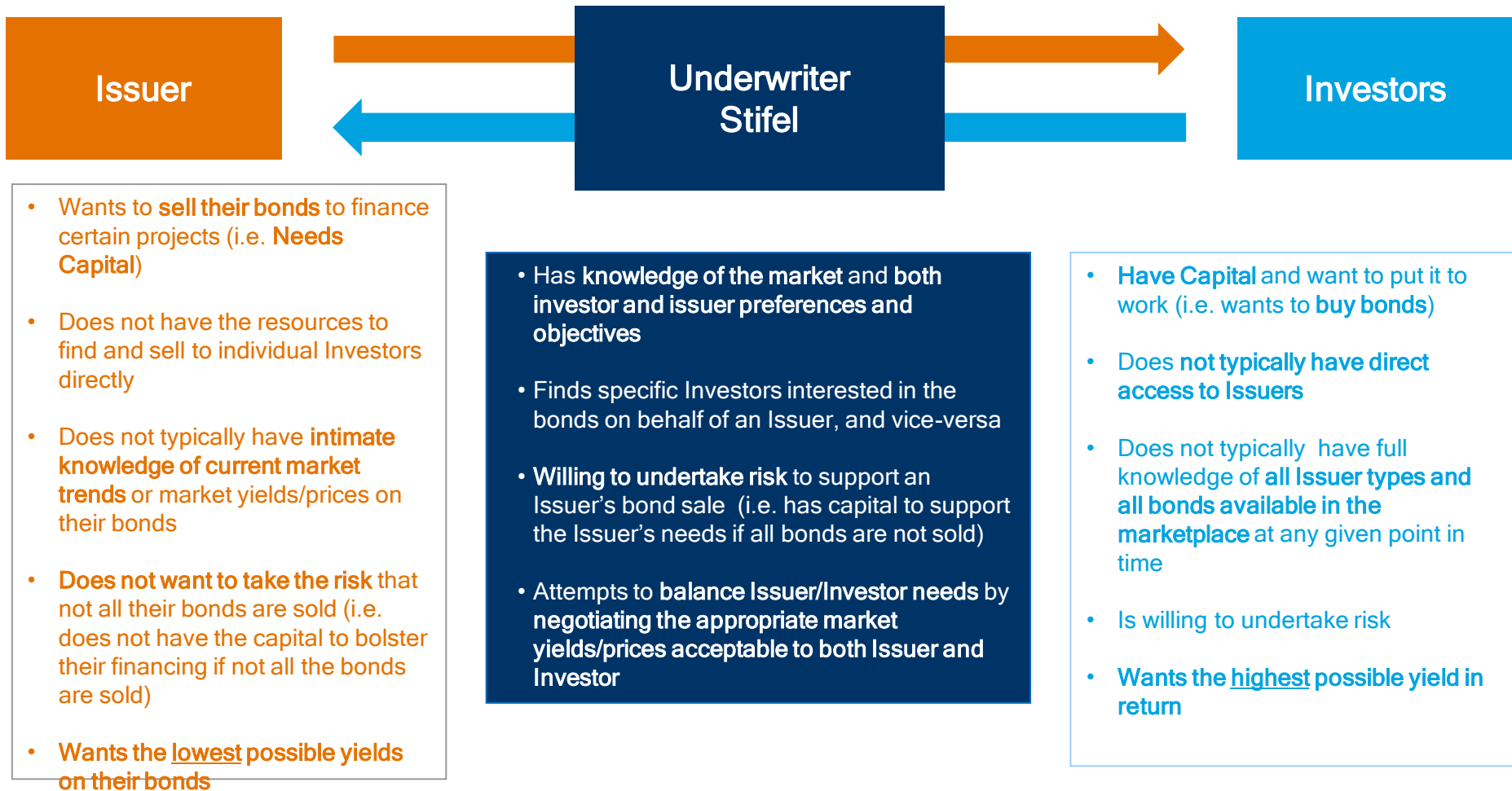
Municipal Advisor

- Delivers financial analysis and financing options
- Guidance on rating strategy
- Provides pricing guidance and review
- Reviews bond documents
- Offers legal opinion to investors

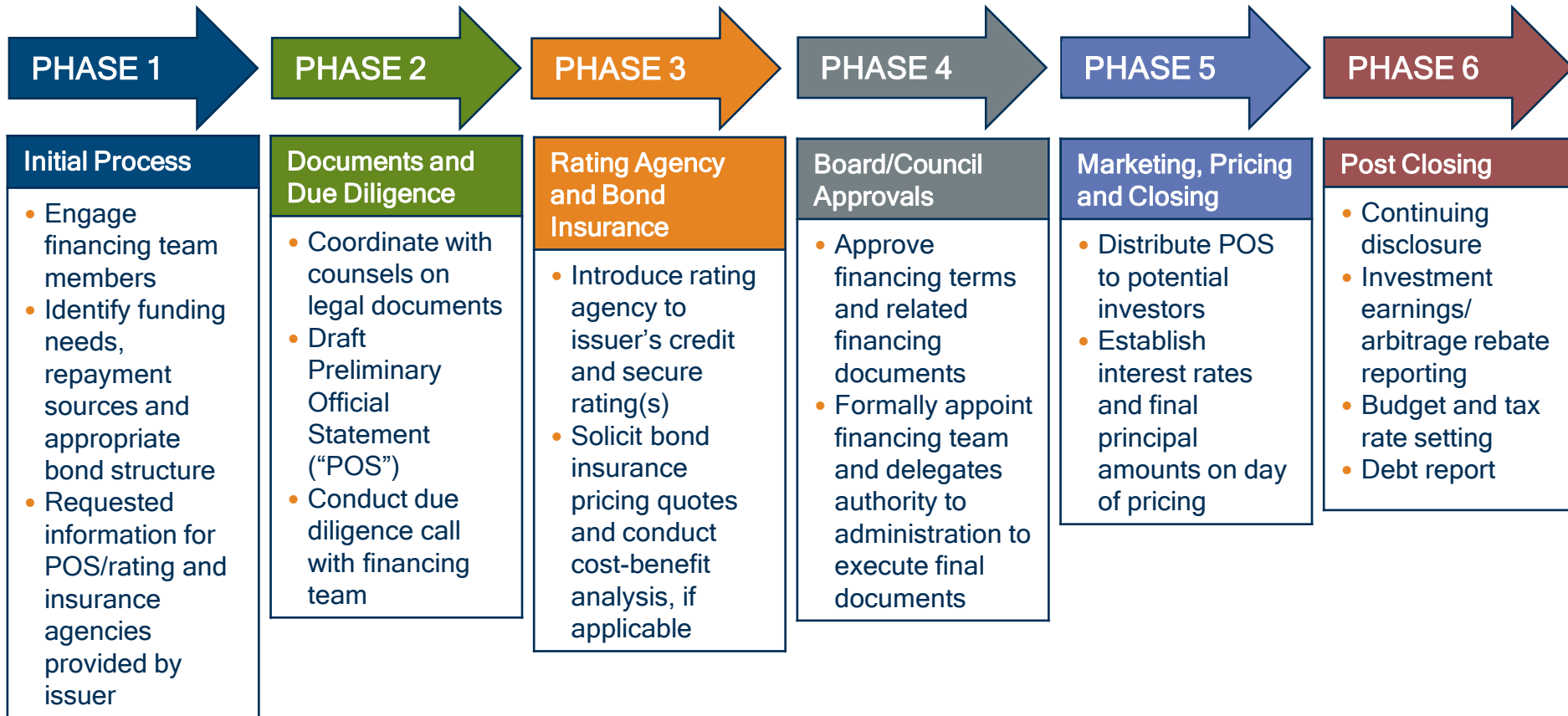
Note or Bond Registrar and Paying Agent

- Commercial bank that maintains list of investor
- Pays principal and interest to investors

Negotiated Bond Sale - The Big Picture

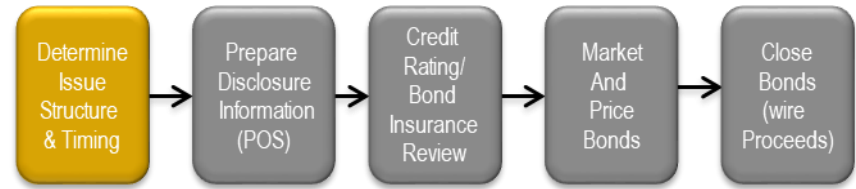


Timeline of Bond Sale



The actual timeline for conducting a bond sale depends upon the Issuers objectives, the ability to coordinate other required efforts and market forces

Determining the Optimal Structure



There are two components of structuring your bond issue:

Component

Objectives

1. Plan of Issuance

- Ensure availability of funds when needed
- Maximize construction period investment earnings
- Minimize/avoid arbitrage rebate

2. Plan of Repayment

- Manage impact of tax increase
- Optimize benefits of structuring features (calls, discounts, premiums, etc.)
- Consider future capital plans

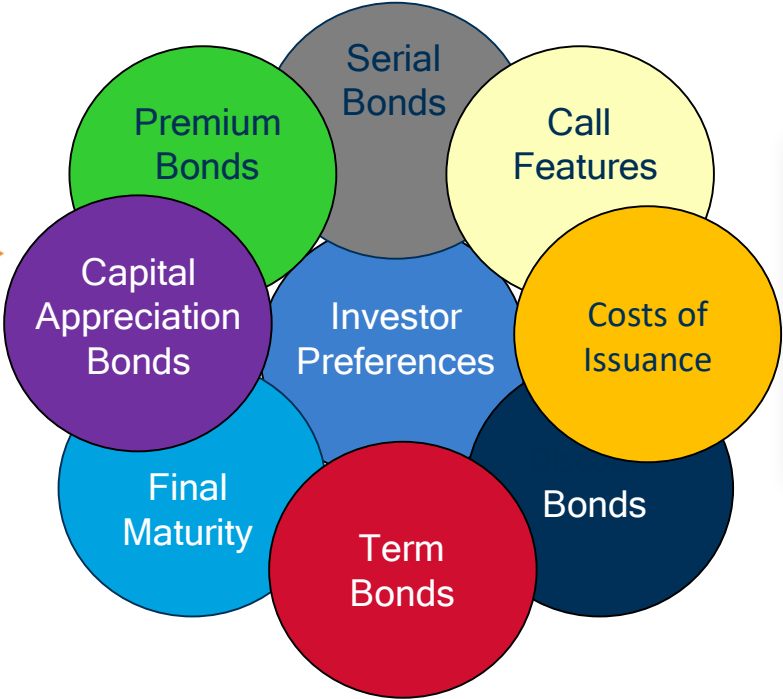
Effective Structuring



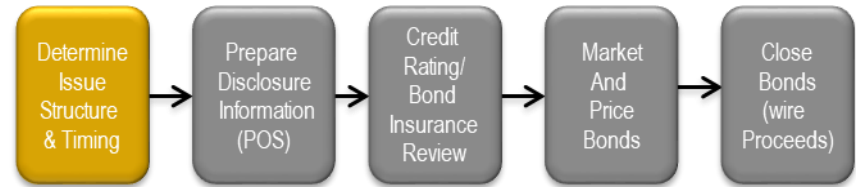
Inputs

Variables

Output



Bond Structures



- **Serials**

- ✓ Principal amount matures each year

- **Terms**

- ✓ An issue of bonds that mature on the same date
- ✓ Usually, issuer makes sinking fund payments until maturity date

- **Premium or Discount**

- **Optional Redemption (callable/pre-payment)**

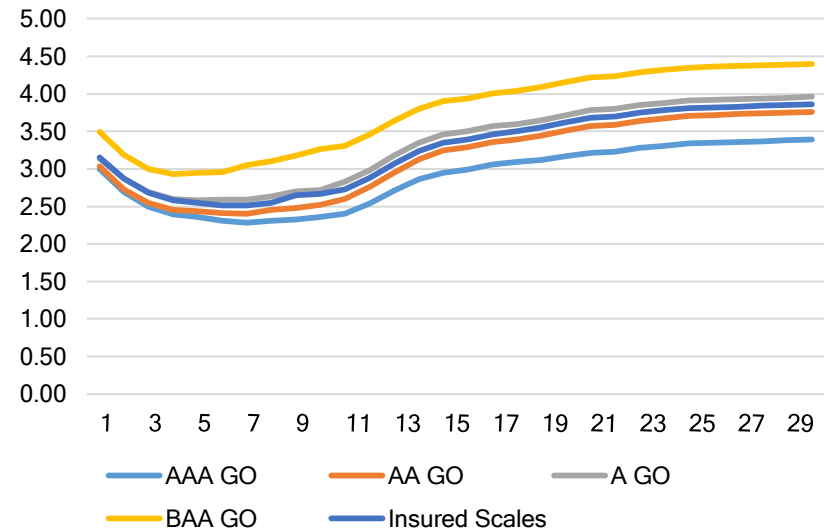
- **Rated and Non-rated**

- **Insurance**

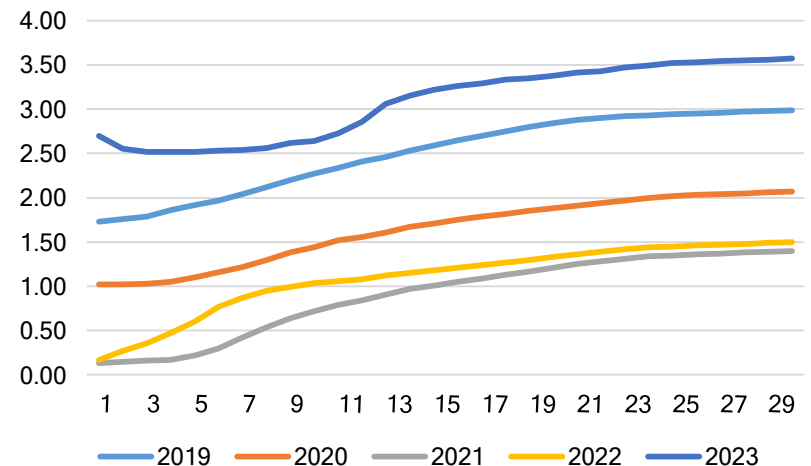
Market Interest Rates and the Yield Curve

Municipal Yield Curves as of 05/03/2023									
Year	Maturity	General Obligations						"AAA" Coupon Range	
		"AAA"	PRE-RE	INSURE D	"AA"	"A"	"BAA"	"LOW"	"HIGH"
1	2024	3.00	3.10	3.15	3.03	3.14	3.49	5.00	5.00
2	2025	2.69	2.79	2.87	2.73	2.87	3.19	5.00	5.00
3	2026	2.50	2.58	2.68	2.55	2.69	3.00	5.00	5.00
4	2027	2.39	2.43	2.58	2.45	2.60	2.93	5.00	5.00
5	2028	2.36	2.40	2.55	2.44	2.58	2.95	5.00	5.00
6	2029	2.31	2.35	2.51	2.41	2.59	2.96	5.00	5.00
7	2030	2.28	2.32	2.51	2.40	2.59	3.05	5.00	5.00
8	2031	2.31	2.35	2.55	2.45	2.63	3.10	5.00	5.00
9	2032	2.33	-	2.65	2.48	2.70	3.18	5.00	5.00
10	2033	2.36	-	2.67	2.52	2.72	3.26	5.00	5.00
11	2034	2.40	-	2.73	2.60	2.83	3.31	5.00	5.00
12	2035	2.54	-	2.88	2.76	2.98	3.46	5.00	5.00
13	2036	2.71	-	3.07	2.95	3.18	3.64	5.00	5.00
14	2037	2.86	-	3.24	3.13	3.35	3.80	5.00	5.00
15	2038	2.95	-	3.35	3.25	3.46	3.90	5.00	5.00
16	2039	2.99	-	3.39	3.29	3.50	3.94	5.00	5.00
17	2040	3.06	-	3.46	3.36	3.57	4.01	5.00	5.00
18	2041	3.09	-	3.50	3.39	3.60	4.04	5.00	5.00
19	2042	3.12	-	3.55	3.44	3.65	4.09	5.00	5.00
20	2043	3.17	-	3.62	3.51	3.72	4.16	5.00	5.00
21	2044	3.21	-	3.68	3.57	3.78	4.22	5.00	5.00
22	2045	3.23	-	3.70	3.59	3.80	4.24	5.00	5.00
23	2046	3.28	-	3.75	3.64	3.85	4.29	5.00	5.00
24	2047	3.31	-	3.78	3.67	3.88	4.32	5.00	5.00
25	2048	3.34	-	3.81	3.71	3.91	4.35	5.00	5.00
26	2049	3.35	-	3.82	3.72	3.92	4.36	5.00	5.00
27	2050	3.36	-	3.83	3.73	3.93	4.37	5.00	5.00
28	2051	3.37	-	3.84	3.74	3.94	4.38	5.00	5.00
29	2052	3.38	-	3.85	3.75	3.95	4.39	5.00	5.00
30	2053	3.39	-	3.86	3.76	3.96	4.40	5.00	5.00

Municipal Yield Curves



Aaa Municipal Curves Past Five Years



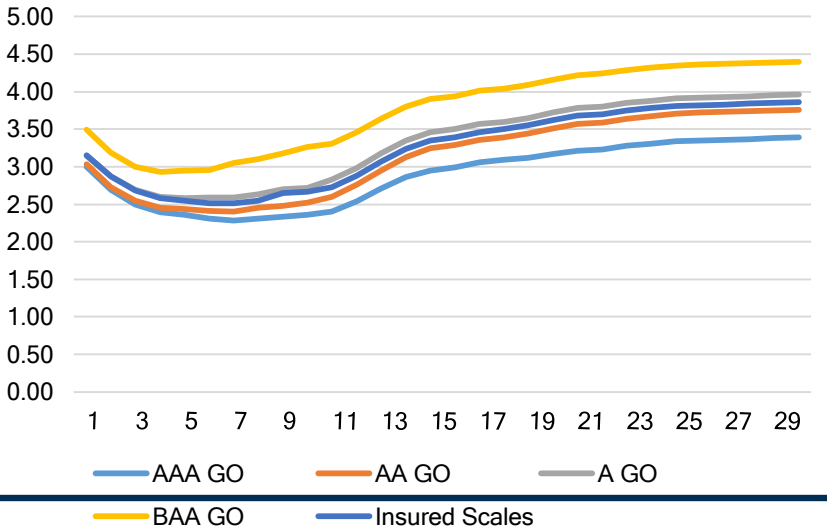
Source: Thomson Reuters

Rates as of 5.4.2023

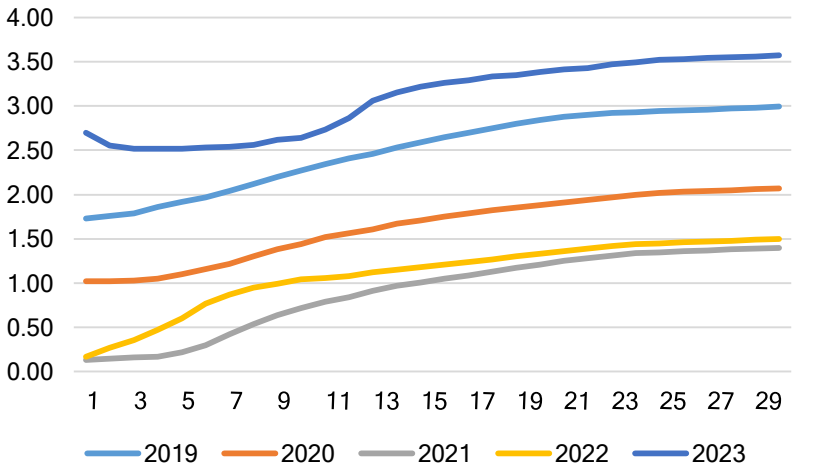
Serial and Term Bonds

Year	Maturity	General Obligations						"AAA" Coupon Range"	
		"AAA"	PRE-RE	INSURE D	"AA"	"A"	"BAA"	"LOW"	"HIGH"
1	2024	3.00	3.10	3.15	3.03	3.14	3.49	5.00	5.00
2	2025	2.69	2.79	2.87	2.73	2.87	3.19	5.00	5.00
3	2026	2.50	2.58	2.68	2.55	2.69	3.00	5.00	5.00
4	2027	2.39	2.43	2.58	2.45	2.60	2.93	5.00	5.00
5	2028	2.36	2.40	2.55	2.44	2.58	2.95	5.00	5.00
6	2029	2.31	2.35	2.51	2.41	2.59	2.96	5.00	5.00
7	2030	2.28	2.32	2.51	2.40	2.59	3.05	5.00	5.00
8	2031	2.31	2.35	2.55	2.45	2.63	3.10	5.00	5.00
9	2032	2.33	-	2.65	2.48	2.70	3.18	5.00	5.00
10	2033	2.36	-	2.67	2.52	2.72	3.26	5.00	5.00
11	2034	2.40	-	2.73	2.60	2.83	3.31	5.00	5.00
12	2035	2.54	-	2.88	2.76	2.98	3.46	5.00	5.00
13	2036	2.71	-	3.07	2.95	3.18	3.64	5.00	5.00
14	2037	2.86	-	3.24	3.13	3.35	3.80	5.00	5.00
15	2038	2.95	-	3.35	3.25	3.46	3.90	5.00	5.00
16	2039	2.99	-	3.39	3.29	3.50	3.94	5.00	5.00
17	2040	3.06	-	3.46	3.36	3.57	4.01	5.00	5.00
18	2041	3.09	-	3.50	3.39	3.60	4.04	5.00	5.00
19	2042	3.12	-	3.55	3.44	3.65	4.09	5.00	5.00
20	2043	3.17	-	3.62	3.51	3.72	4.16	5.00	5.00
21	2044	3.21	-	3.68	3.57	3.78	4.22	5.00	5.00
22	2045	3.23	-	3.70	3.59	3.80	4.24	5.00	5.00
23	2046	3.28	-	3.75	3.64	3.85	4.29	5.00	5.00
24	2047	3.31	-	3.78	3.67	3.88	4.32	5.00	5.00
25	2048	3.34	-	3.81	3.71	3.91	4.35	5.00	5.00
26	2049	3.35	-	3.82	3.72	3.92	4.36	5.00	5.00
27	2050	3.36	-	3.83	3.73	3.93	4.37	5.00	5.00
28	2051	3.37	-	3.84	3.74	3.94	4.38	5.00	5.00
29	2052	3.38	-	3.85	3.75	3.95	4.39	5.00	5.00
30	2053	3.39	-	3.86	3.76	3.96	4.40	5.00	5.00

Municipal Yield Curves



Aaa Municipal Curves Past Five Years



Source: Thomson Reuters

Rates as of 5.4.2023

Serial and Term Bonds

Bond Type	Maturity	Amount	Coupon	Yield	Price	Yield to Maturity	Call Date	Premium (Discount)
Serial Bonds								
	12/1/2023	\$3,250,000	5.000%	3.230%	101.234			\$40,105
	12/1/2024	\$345,000	5.000%	3.280%	102.838			\$9,791
	12/1/2025	\$500,000	5.000%	3.230%	104.558			\$22,790
	12/1/2026	\$525,000	5.000%	3.030%	106.866			\$36,047
	12/1/2027	\$550,000	5.000%	2.970%	108.863			\$48,747
	12/1/2028	\$580,000	5.000%	2.950%	110.702			\$62,072
	12/1/2029	\$610,000	5.000%	2.930%	112.528			\$76,421
	12/1/2030	\$740,000	5.000%	2.870%	114.64			\$108,336
	12/1/2031	\$780,000	5.000%	2.940%	115.729			\$122,686
	12/1/2032	\$820,000	5.000%	2.960%	117.108			\$140,286
	12/1/2033	\$915,000	5.000%	3.010%	116.648	3.156%	12/1/2032	\$152,329
	12/1/2034	\$960,000	5.000%	3.140%	115.464	3.389%	12/1/2032	\$148,454
	12/1/2035	\$1,005,000	5.000%	3.250%	114.472	3.573%	12/1/2032	\$145,444
	12/1/2036	\$1,165,000	5.000%	3.410%	113.048	3.772%	12/1/2032	\$152,009
	12/1/2037	\$1,225,000	5.000%	3.490%	112.344	3.890%	12/1/2032	\$151,214
	12/1/2038	\$1,285,000	5.000%	3.610%	111.298	4.023%	12/1/2032	\$145,179
	12/1/2039	\$1,410,000	5.000%	3.710%	110.435	4.129%	12/1/2032	\$147,134
	12/1/2040	\$1,480,000	5.000%	3.790%	109.75	4.213%	12/1/2032	\$144,300
	12/1/2041	\$1,550,000	5.000%	3.860%	109.156	4.283%	12/1/2032	\$141,918
	12/1/2042	\$1,745,000	5.000%	3.890%	108.902	4.324%	12/1/2032	\$155,340
	12/1/2043	\$1,835,000	4.250%	4.400%	97.969		12/1/2032	(\$37,269)
Total Serial Bonds		\$23,275,000						\$2,113,332
Term Bonds								
	12/1/2048	\$11,050,000	5.500%	3.970%	112.226	4.677%	12/1/2032	\$1,350,973
	12/1/2052	\$11,675,000	4.375%	4.580%	96.683		12/1/2032	(\$387,260)
Total Term Bonds		\$22,725,000						\$963,713

**Hypothetical
Example*

Serial and Term Bonds

Maturity Date	Serial Bonds	2048 Term Bond	2052 Term Bond	Total
12/1/2023	\$3,250,000	-	-	\$3,250,000
12/1/2024	\$345,000	-	-	\$345,000
12/1/2025	\$500,000	-	-	\$500,000
12/1/2026	\$525,000	-	-	\$525,000
12/1/2027	\$550,000	-	-	\$550,000
12/1/2028	\$580,000	-	-	\$580,000
12/1/2029	\$610,000	-	-	\$610,000
12/1/2030	\$740,000	-	-	\$740,000
12/1/2031	\$780,000	-	-	\$780,000
12/1/2032	\$820,000	-	-	\$820,000
12/1/2033	\$915,000	-	-	\$915,000
12/1/2034	\$960,000	-	-	\$960,000
12/1/2035	\$1,005,000	-	-	\$1,005,000
12/1/2036	\$1,165,000	-	-	\$1,165,000
12/1/2037	\$1,225,000	-	-	\$1,225,000
12/1/2038	\$1,285,000	-	-	\$1,285,000
12/1/2039	\$1,410,000	-	-	\$1,410,000
12/1/2040	\$1,480,000	-	-	\$1,480,000
12/1/2041	\$1,550,000	-	-	\$1,550,000
12/1/2042	\$1,745,000	-	-	\$1,745,000
12/1/2043	\$1,835,000	-	-	\$1,835,000
12/1/2044	-	\$1,910,000	-	\$1,910,000
12/1/2045	-	\$2,075,000	-	\$2,075,000
12/1/2046	-	\$2,190,000	-	\$2,190,000
12/1/2047	-	\$2,310,000	-	\$2,310,000
12/1/2048	-	\$2,565,000	-	\$2,565,000
12/1/2049	-	-	\$2,705,000	\$2,705,000
12/1/2050	-	-	\$2,820,000	\$2,820,000
12/1/2051	-	-	\$3,010,000	\$3,010,000
12/1/2052	-	-	\$3,140,000	\$3,140,000
	\$23,275,000	\$11,050,000	\$11,675,000	\$46,000,000

Maturity Date	Prinipal	Coupon	Interest	Debt Service
12/1/2023	\$3,250,000	5.000%	\$1,619,470	\$4,869,470
12/1/2024	\$345,000	5.000%	\$2,106,019	\$2,451,019
12/1/2025	\$500,000	5.000%	\$2,088,769	\$2,588,769
12/1/2026	\$525,000	5.000%	\$2,063,769	\$2,588,769
12/1/2027	\$550,000	5.000%	\$2,037,519	\$2,587,519
12/1/2028	\$580,000	5.000%	\$2,010,019	\$2,590,019
12/1/2029	\$610,000	5.000%	\$1,981,019	\$2,591,019
12/1/2030	\$740,000	5.000%	\$1,950,519	\$2,690,519
12/1/2031	\$780,000	5.000%	\$1,913,519	\$2,693,519
12/1/2032	\$820,000	5.000%	\$1,874,519	\$2,694,519
12/1/2033	\$915,000	5.000%	\$1,833,519	\$2,748,519
12/1/2034	\$960,000	5.000%	\$1,787,769	\$2,747,769
12/1/2035	\$1,005,000	5.000%	\$1,739,769	\$2,744,769
12/1/2036	\$1,165,000	5.000%	\$1,689,519	\$2,854,519
12/1/2037	\$1,225,000	5.000%	\$1,631,269	\$2,856,269
12/1/2038	\$1,285,000	5.000%	\$1,570,019	\$2,855,019
12/1/2039	\$1,410,000	5.000%	\$1,505,769	\$2,915,769
12/1/2040	\$1,480,000	5.000%	\$1,435,269	\$2,915,269
12/1/2041	\$1,550,000	5.000%	\$1,361,269	\$2,911,269
12/1/2042	\$1,745,000	5.000%	\$1,283,769	\$3,028,769
12/1/2043	\$1,835,000	4.250%	\$1,196,519	\$3,031,519
12/1/2044	\$1,910,000	5.500%	\$1,118,531	\$3,028,531
12/1/2045	\$2,075,000	5.500%	\$1,013,481	\$3,088,481
12/1/2046	\$2,190,000	5.500%	\$899,356	\$3,089,356
12/1/2047	\$2,310,000	5.500%	\$778,906	\$3,088,906
12/1/2048	\$2,565,000	5.500%	\$651,856	\$3,216,856
12/1/2049	\$2,705,000	4.375%	\$510,781	\$3,215,781
12/1/2050	\$2,820,000	4.375%	\$392,438	\$3,212,438
12/1/2051	\$3,010,000	4.375%	\$269,063	\$3,279,063
12/1/2052	\$3,140,000	4.375%	\$137,375	\$3,277,375
	\$46,000,000		\$42,451,383	\$88,451,383

Serial and Term Bonds

Bond Type	Maturity Date	Amount	Rate	Yield	Price	Yield to Maturity	Call Date	Premium (-Discount)	
Serial Bond:									
	12/1/2019	\$215,000	2.000%	1.260%	101.516			\$3,259	
	12/1/2020	\$215,000	4.000%	1.380%	107.881			\$16,944	
	12/1/2021	\$230,000	2.000%	1.520%	101.892			\$4,352	
	12/1/2022	\$235,000	4.000%	1.690%	111.205			\$26,332	
	12/1/2023	\$245,000	4.000%	1.870%	112.192			\$29,870	
	12/1/2024	\$250,000	5.000%	2.040%	119.428			\$48,570	
	12/1/2025	\$260,000	5.000%	2.210%	120.547			\$53,422	
	12/1/2026	\$280,000	5.000%	2.380%	121.286			\$59,601	
	12/1/2027	\$290,000	5.000%	2.530%	121.859			\$63,391	
	12/1/2028	\$305,000	2.500%	2.710%	97.999			-\$6,103	
	12/1/2029	\$300,000	4.000%	4.000%	100.000			\$0	
		\$4,155,000						\$418,735	
Term Bond 2040:									
	12/1/2040	\$2,995,000	4.000%	3.250%	106.402	C	3.590%	12/1/2027	\$191,740
		\$7,150,000						\$610,475	

Serials Bonds

Term Bond

Hypothetical Illustration

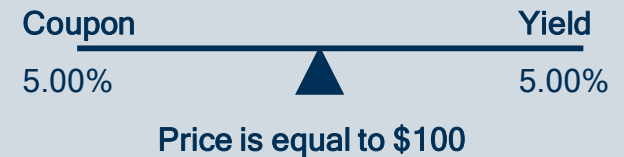
Discount and Premium Bonds

- **Original Issue Discount (OID)** - An amount by which the par value of a security exceeded its public offering price at the time of its original issuance. The original issue discount is amortized over the life of the security and, on a municipal security, is generally treated as tax-exempt interest.
- **Original Issue Premium** - The amount by which the public offering price of a security at the time of this original issuance exceeded its par value. The original issue premium is amortized over the life of the security and results in an adjustment to the basis of the security.

Pricing of Bonds - Par, Premium and Discount

- **Pricing** - The process by which the issuer and underwriter(s) determine the interest rates and prices at which the new issue will be offered to the public.
- **Coupon** - The rate of interest the Issuer pays.
- **Yield** - The rate of interest the investor receives.
- **Price** - amount of dollars or percent of principal paid by an investor for a note or bond bond.
- **Discount** - Notes or Bonds sold at a price less than the par (face value) amount. In this situation the coupon is less than the yield.
- **Premium** - Notes or Bonds sold at a price greater than the par amount. In this situation the coupon is greater than the yield.

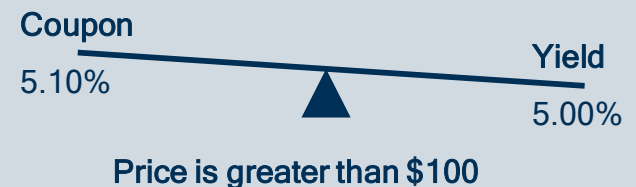
Par Bond



Discount Bond



Premium Bond



Pricing of Bonds - Par, Premium and Discount

Bond Type	Maturity	Amount	Coupon	Yield	Price	Yield to Maturity	Call Date	Premium (Discount)
Serial Bonds								
	12/1/2023	\$3,250,000	5.000%	3.230%	101.234			\$40,105
	12/1/2024	\$345,000	5.000%	3.280%	102.838			\$9,791
	12/1/2025	\$500,000	5.000%	3.230%	104.558			\$22,790
	12/1/2026	\$525,000	5.000%	3.030%	106.866			\$36,047
	12/1/2027	\$550,000	5.000%	2.970%	108.863			\$48,747
	12/1/2028	\$580,000	5.000%	2.950%	110.702			\$62,072
	12/1/2029	\$610,000	5.000%	2.930%	112.528			\$76,421
	12/1/2030	\$740,000	5.000%	2.870%	114.64			\$108,336
	12/1/2031	\$780,000	5.000%	2.940%	115.729			\$122,686
	12/1/2032	\$820,000	5.000%	2.960%	117.108			\$140,286
	12/1/2033	\$915,000	5.000%	3.010%	116.648	3.156%	12/1/2032	\$152,329
	12/1/2034	\$960,000	5.000%	3.140%	115.464	3.389%	12/1/2032	\$148,454
	12/1/2035	\$1,005,000	5.000%	3.250%	114.472	3.573%	12/1/2032	\$145,444
	12/1/2036	\$1,165,000	5.000%	3.410%	113.048	3.772%	12/1/2032	\$152,009
	12/1/2037	\$1,225,000	5.000%	3.490%	112.344	3.890%	12/1/2032	\$151,214
	12/1/2038	\$1,285,000	5.000%	3.610%	111.298	4.023%	12/1/2032	\$145,179
	12/1/2039	\$1,410,000	5.000%	3.710%	110.435	4.129%	12/1/2032	\$147,134
	12/1/2040	\$1,480,000	5.000%	3.790%	109.75	4.213%	12/1/2032	\$144,300
	12/1/2041	\$1,550,000	5.000%	3.860%	109.156	4.283%	12/1/2032	\$141,918
	12/1/2042	\$1,745,000	5.000%	3.890%	108.902	4.324%	12/1/2032	\$155,340
	12/1/2043	\$1,835,000	4.250%	4.400%	97.969		12/1/2032	(\$37,269)
Total Serial Bonds		\$23,275,000						\$2,113,332
Term Bonds								
	12/1/2048	\$11,050,000	5.500%	3.970%	112.226	4.677%	12/1/2032	\$1,350,973
	12/1/2052	\$11,675,000	4.375%	4.580%	96.683		12/1/2032	(\$387,260)
Total Term Bonds		\$22,725,000						\$963,713

Optional Redemption/Call Option

Redemption Features

- **Callable Bonds** - A bond that the issuer is permitted to redeem before the stated maturity at a specified price, sometimes at or above par, by giving notice of redemption in a manner specified in the bond contract.
 - ✓ **Redemption** - A transaction in which the issuer repays to the holder of an outstanding security the principal amount thereof (plus, in certain cases, an additional amount representing a redemption premium).
 - ✓ Redemption can be made under several different circumstances: at maturity of the security, as a result of the issuer exercising a right under the bond contract to repay the security prior to its scheduled maturity date (often referred to as a “call”), or as a result of the security holder’s election to exercise a put or tender option privilege.
- **Non-Callable Bonds** - A bond that cannot be redeemed at the issuer’s option before its stated maturity date.

Callable Bonds versus Non-Callable Bonds

Callable Bonds					
Maturity	Amount	Coupon	Yield	Price	Premium (Discount)
12/1/2033	\$915,000	5.000%	3.010%	116.648	\$152,329
12/1/2034	\$960,000	5.000%	3.140%	115.464	\$148,454
12/1/2035	\$1,005,000	5.000%	3.250%	114.472	\$145,444
12/1/2036	\$1,165,000	5.000%	3.410%	113.048	\$152,009
12/1/2037	\$1,225,000	5.000%	3.490%	112.344	\$151,214
12/1/2038	\$1,285,000	5.000%	3.610%	111.298	\$145,179
12/1/2039	\$1,410,000	5.000%	3.710%	110.435	\$147,134
12/1/2040	\$1,480,000	0.05	0.0379	109.75	\$144,300
	\$9,445,000				\$1,186,063

Total Proceeds: \$10,631,063

Non-Callable Bonds					
Maturity	Amount	Coupon	Yield	Price	Premium (Discount)
12/1/2033	\$915,000	5.000%	3.010%	118.104	\$165,652
12/1/2034	\$960,000	5.000%	3.140%	118.107	\$173,827
12/1/2035	\$1,005,000	5.000%	3.250%	118.101	\$181,915
12/1/2036	\$1,165,000	5.000%	3.410%	117.295	\$201,487
12/1/2037	\$1,225,000	5.000%	3.490%	117.256	\$211,386
12/1/2038	\$1,285,000	5.000%	3.610%	116.553	\$212,706
12/1/2039	\$1,410,000	5.000%	3.710%	115.955	\$224,966
12/1/2040	\$1,480,000	5.000%	3.790%	115.502	\$229,430
	\$9,445,000				\$1,601,368

Total Proceeds: \$11,046,368

Net Result of Bond Structuring

Sources:

Bond Proceeds:	
Par Amount	19,250,000.00
Premium	934,921.60
	<hr/>
	20,184,921.60

Uses:

Project Fund Deposits:	
Project Fund	19,250,000.00
Other Fund Deposits:	
Bond Retirement Fund	646,682.77
Delivery Date Expenses:	
Cost of Issuance	173,250.00
Underwriter's Discount	114,988.83
	<hr/>
	288,238.83
	<hr/>
	20,184,921.60

Refunding Options

Issuing Taxable Debt

- Taxable bonds are exempt from federal tax law, therefore a taxable refinancing is not subject to the “one advance refunding” rule, like a tax-exempt issuance. This option would allow issuers to execute an advance refunding and secure interest savings on bonds that can only be currently refunded or were advance refunded.

Option 1

Refund outstanding debt on a taxable basis. Taxable bonds are exempt from federal tax laws.

Current Refunding with Forward Option

- Using a forward option, an issuer can execute a refinancing outside of the traditional 90 day time frame for a current refunding. Under this option, an issuer would price their debt a number of months in advance, and close within 90 days of the call date of the refunding opportunity. Typically, for each month between pricing and closing, issuers will have to pay investors between 5-10bps in extra yield.

Option 2

Execute a current refunding months before the call date, but close within 90 days of the call date.

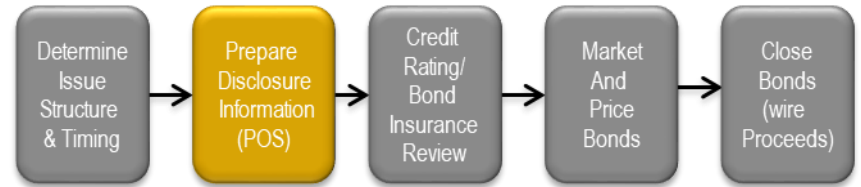
Current Refunding

- The tax-reform bill eliminated advance refundings, but maintained the legality of current refundings; the major distinction between the two is that current refundings occur within 90 days of a call date. Going forward, we expect to see optional redemption dates of fewer than 10 years from the original dated date.

Option 3

Refund outstanding debt within 90 days of the call date

Prepare Disclosure



Issuer

- Issuer overview
- Projections
- Facilities data
- Financial outlook
- Financial Statements

Underwriter

- Structuring information
- Continuing disclosure agreement
- Interface with County Auditor

PRELIMINARY OFFICIAL STATEMENT DATED NOVEMBER 30, 2022

Rating: Moody's "Aaa"
S&P: "AAA"
(See "RATINGS" herein)

TWO NEW ISSUES - BOOK-ENTRY FORM ONLY

In the opinion of Bricker & Eckler LLP, Bond Counsel, under existing law, assuming continuing compliance with certain covenants and the accuracy of certain representations, (i) interest on the Series 2022A Bonds is excluded from gross income for federal income tax purposes and is not an item of tax preference for purposes of the alternative minimum tax; however, for tax years beginning after December 31, 2022, interest on the Series 2022A Bonds is included in the "adjusted financial statement income" of certain corporations that are subject to the alternative minimum tax under section 55 of the Internal Revenue Code of 1986, as amended, (ii) interest on the Series 2022B Bonds is not excluded from gross income for federal income tax purposes, and (iii) interest on and any profit made on the sale, exchange or other disposition of the Series 2022 Bonds is exempt from certain taxes levied by the State of Ohio and its political subdivisions. The City has not designated the Series 2022A Bonds as "qualified tax exempt obligations" within the meaning of Section 265(b)(5) under the Internal Revenue Code of 1986, as amended (the "Code"). Interest on the Series 2022A Bonds may be subject to certain federal income taxes imposed on certain corporations, and certain taxpayers may have certain other adverse federal income tax consequences as a result of owning the Series 2022A Bonds. For a more complete discussion of the tax aspects, see "TAX MATTERS."

OFFICIAL STATEMENT
CITY OF **UPPER ARLINGTON**
\$18,685,000*
CITY OF UPPER ARLINGTON, OHIO
Special Obligation Nontax Revenue Bonds, Series 2022
(Kingsdale Mixed-Use Development)
consisting of

\$18,185,000* Special Obligation Nontax Revenue Bonds, Series 2022A (Kingsdale Mixed-Use Development)	\$5,500,000* Special Obligation Nontax Revenue Bonds, Series 2022B (Federally Taxable) (Kingsdale Mixed-Use Development)
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Dated: Date of Delivery **Due:** As shown on the inside cover herein

THE SERIES 2022 BONDS ARE A SPECIAL OBLIGATION OF THE CITY PAYABLE SOLELY FROM NONTAX REVENUES AND WILL NOT REPRESENT OR CONSTITUTE A GENERAL OBLIGATION OF THE CITY, THE STATE OF OHIO, OR ANY POLITICAL SUBDIVISION THEREOF, AND ARE NOT SECURED BY THE FULL FAITH AND CREDIT OF THE CITY, THE STATE, OR ANY POLITICAL SUBDIVISION THEREOF. THE OWNERS AND HOLDERS OF THE SERIES 2022 BONDS DO NOT HAVE THE RIGHT TO HAVE ANY EXCESSES OR TAXES LEVIED BY THE GENERAL ASSEMBLY OF THE STATE OF OHIO OR THE TAXING AUTHORITY OF ANY POLITICAL SUBDIVISION THEREOF, INCLUDING THE CITY, FOR THE PAYMENT OF THE PRINCIPAL OR PREMIUM, IF ANY, OR INTEREST ON THE SERIES 2022 BONDS. See "SOLIDITY FOR AND SOURCES OF PAYMENT OF THE SERIES 2022 BONDS" herein.

Interest on the Series 2022 Bonds will be payable semi-annually on June 1 and December 1 of each year, commencing June 1, 2023.

Principal of and interest on the Series 2022 Bonds will be payable at maturity in the designated office of The Huntington National Bank, Columbus, Ohio, as registrar, paying agent and transfer agent for the Series 2022 Bonds.

The Series 2022 Bonds are issuable as fully registered obligations and, when issued, will be initially registered in the name of Code & Co., as trustee for The Depository Trust Company, New York, New York ("DTC"). Purchasers of beneficial interests in the Series 2022 Bonds will be made in book-entry only form. Purchasers of beneficial interests ("Beneficial Owners") will not receive certificates representing their interests in the Series 2022 Bonds. So long as the Series 2022 Bonds of an issue are registered in the name of Code & Co., as trustee of DTC, reference herein to the owners shall mean Code & Co. and shall not mean the Beneficial Owners of that issue of Bonds. See "BOOK-ENTRY ONLY SYSTEM" herein.

The Series 2022A Bonds maturing after December 1, 20__* will be subject to optional redemption prior to stated maturity, and the Series 2022B Bonds maturing after December 1, 20__* will be subject to optional redemption prior to stated maturity. The Series 2022 Bonds are subject to extraordinary optional redemption, all as described in this Official Statement. See "THE SERIES 2022 BONDS - Redemption" herein.

The Series 2022 Bonds are offered when, as and if issued and received by the Underwriter identified herein (see "UNDERWRITING" herein), subject to prior sale, to withdrawal or modification of the offer without notice, and to the approval of certain legal matters by Bricker & Eckler LLP, Columbus, Ohio, Bond Counsel to the City. Certain legal matters will be passed upon for the Underwriter by its counsel, Frost Brown Todd LLP, Columbus, Ohio. Bradley Payne LLC, Cincinnati, Ohio, has acted as Municipal Adviser to the City in connection with the issuance of the Series 2022 Bonds. See "MUNICIPAL ADVISOR" herein.

This cover page contains certain information for general reference only. It is not a summary of the provisions of the Series 2022 Bonds. Investors must read the entire Official Statement to obtain information essential to the making of an informed investment decision.

This Official Statement has been prepared by the City of Upper Arlington in connection with the original offering for sale by it of the Series 2022 Bonds. It is expected that delivery of the Series 2022 Bonds in definitive form will be made through the facilities of DTC on or about December 21, 2022. The information in this Official Statement is dated ____, 2022, and the information herein speaks only as of that date.

STIFEL

* Preliminary, subject to change.

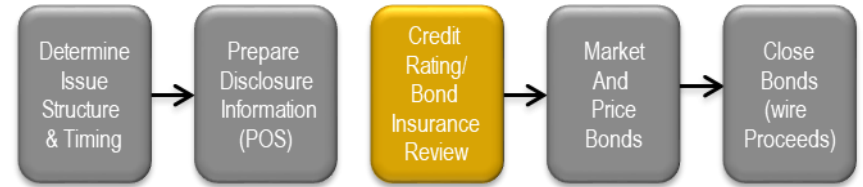
Bond Counsel

- Demographic info from Census & other sources
- Description of tax base and other sources of revenue
- Debt limitation tables
- Debt tables
- Financial appendices
- Bond counsel opinion
- Interface with County Auditor
- Actual production of document

County Auditor

- Assessed Valuation data
- Building Permits info
- Tax tables
- Largest taxpayer list

Credit Rating Process



MOODY'S
INVESTORS SERVICE

STANDARD & POOR'S
RATINGS SERVICES
McGraw Hill Financial

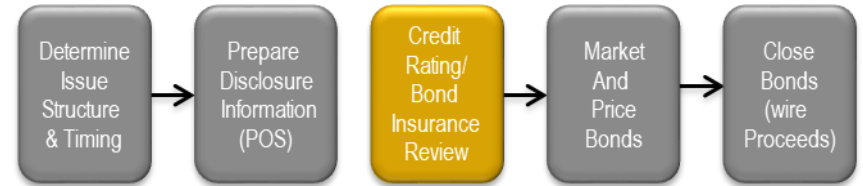
FitchRatings

Decreasing
Credit Quality,
Increasing
Yields

Investment Grade	Prime	Aaa	AAA	AAA
	High Grade	Aa1, Aa2, Aa3	AA+, AA, AA-	AA+, AA, AA-
	Upper Medium Grade	A1, A2, A3	A+, A, A-	A+, A, A-
	Lower Medium Grade	Baa1, Baa2, Baa3	BBB+, BBB, BBB-	BBB+, BBB, BBB-
Non-Investment Grade	Speculative	Ba1, Ba2, Ba3	BB+, BB, BB-	BB+, BB, BB-
	Highly Speculative	B1, B2, B3	B+, B, B-	B+, B, B-
	Substantial Risks	Caa1, Caa2, Caa3	CCC+, CCC, CCC-	CCC+, CCC, CCC-

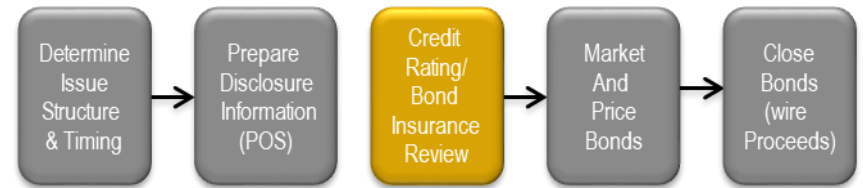


Credit Rating Process



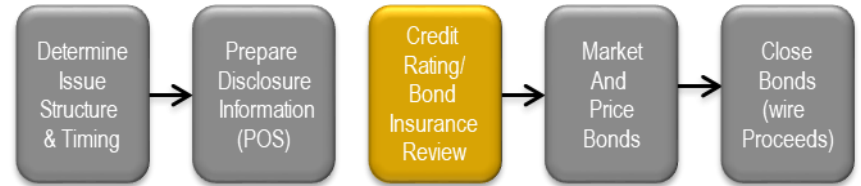
- Inform Agency of Upcoming Sale
- Provide Necessary Information
 - ✓ Financial Statements, Budgets, Audits, POS
- Analyst Performs Review
- Issuer Financing Team Interaction with Analyst
 - ✓ Presentation or Conference Call
 - ✓ Follow-up Questions and Clarifications
- Credit Committee Presentation
- Rating Determination & Issuer Credit Report

Rating Factors



- 1. Demonstrate your ability to manage District finances**
 - Show non-traditional sources of liquidity, if any
 - Establish Board policy for end-of-year carryover balance
- 2. Describe the ongoing efforts to maintain voter support for levies**
 - Emphasize the quality of the educational “product” provided
- 3. Demonstrate your ability to manage through demographic changes**
 - Provide examples of enrollment projection and tracking systems, including examples of projections from previous years compared with actual results
 - Provide copies of capital facilities planning materials, and describe planning process
 - Describe communications with major developers, commercial taxpayers and County Auditor
- 4. Maintain an ongoing and consistent relationship with the rating analysts**

Rating Factors

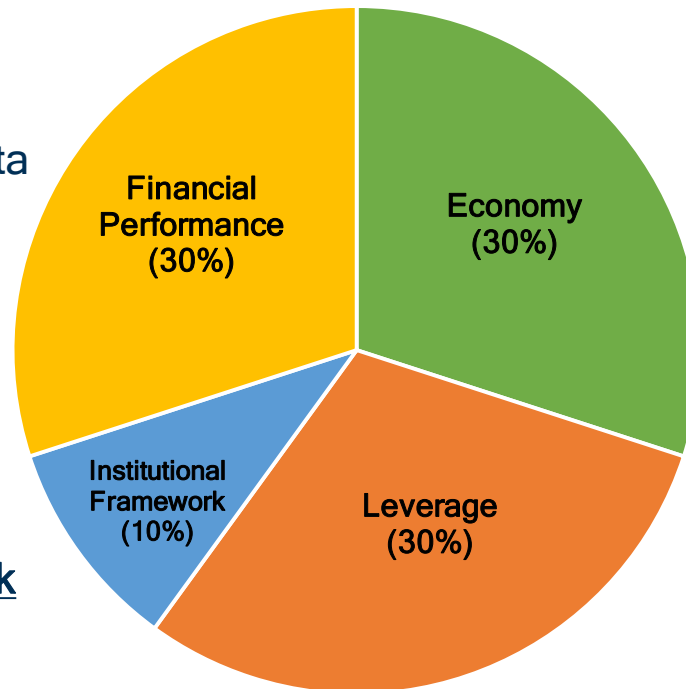


Economy

- Resident Income
- Full Value Per Capita
- Enrollment Trend

Financial Performance

- Available Fund Balance Ratio
- Net Cash Ratio



Leverage

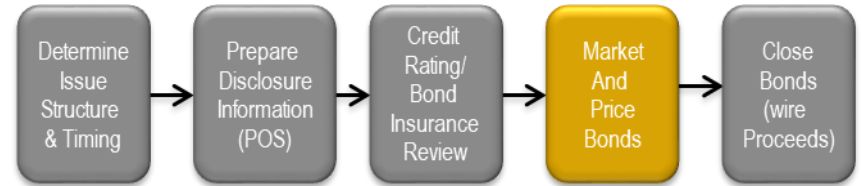
- Long Term Liabilities Ratio
- Fixed-Costs Ration

Institutional Framework

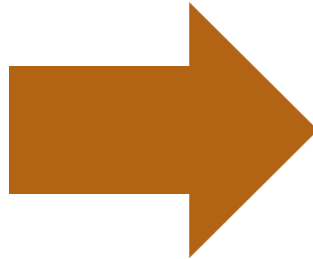
Other Considerations:

- Additional Strength in Local Resources
- Limited Scale of Operations
- Weak Financial Reporting
- Potential Cost Shift from State
- Potential for Significant Change in Leverage

Pricing and Marketing the Bonds

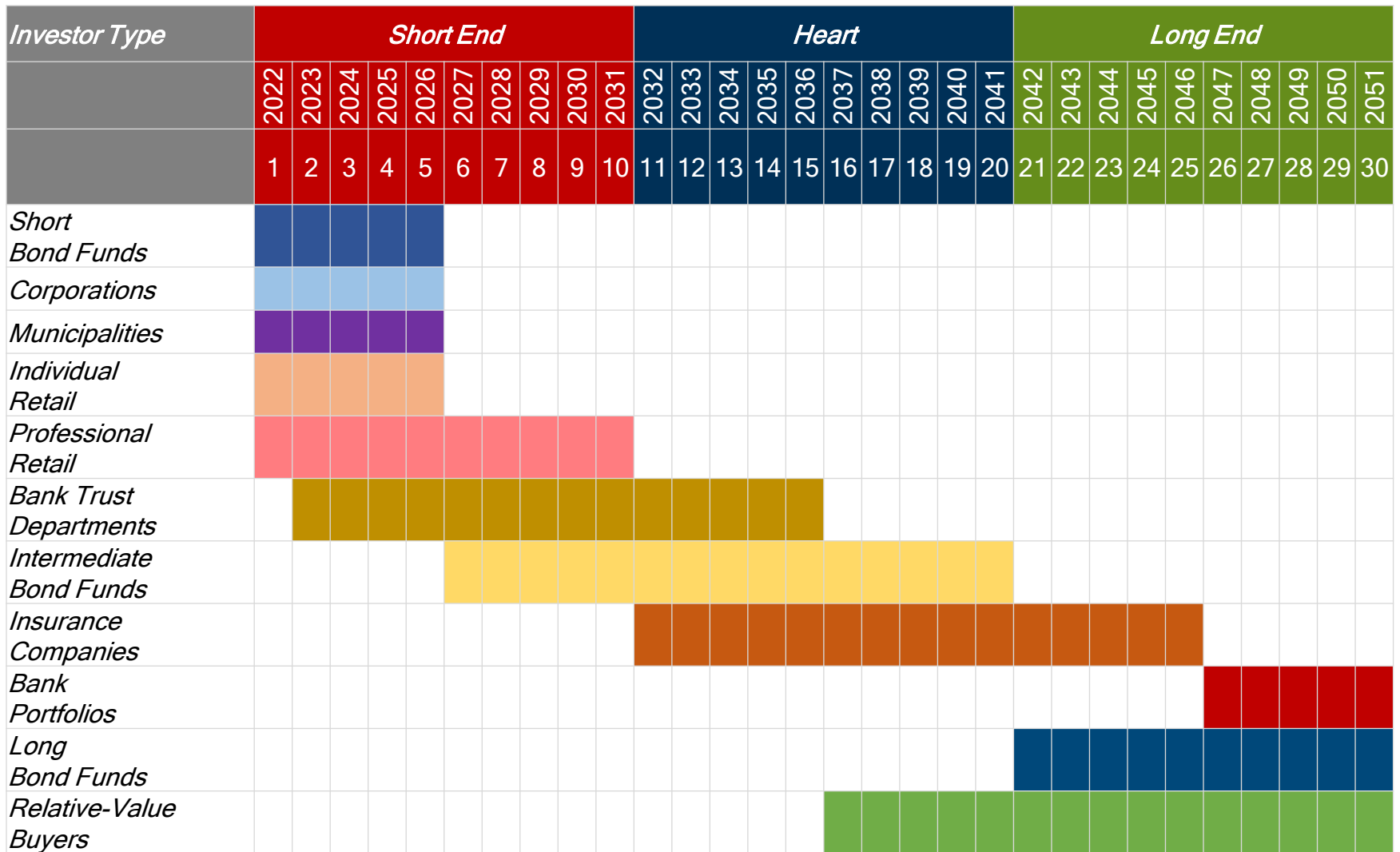


Marketing	
	Distribute POS or OMAC Report, rating report, maturity structure internally
	Receive feedback from underwriting / trading / sales teams on structure
	Internal distributions to institutional and retail sales teams
	Distribute POS or OMAC Report, rating reports, maturity structure to investors
	Advertisements (if any)



Pricing Process	
	Review overall market conditions
	Review recent comparables and trading levels
	Develop "price thoughts"
	Pre-pricing call with Issuer and Underwriting Desk
	Hold order period. When significant number of bonds have been sold, Stifel commits to purchase all the notes or bonds at proposed rates and puts the remaining in our inventory.
	When all participants reach agreement on final structure, interest rates (coupons) and yields of the bonds, the Issuer provides <i>Verbal Award</i>
	<ul style="list-style-type: none"> Then Note or Bond Purchase Agreement is executed by the Issuer and Underwriter <ul style="list-style-type: none"> Investor orders confirmed Underwriter allots notes or bonds to investors

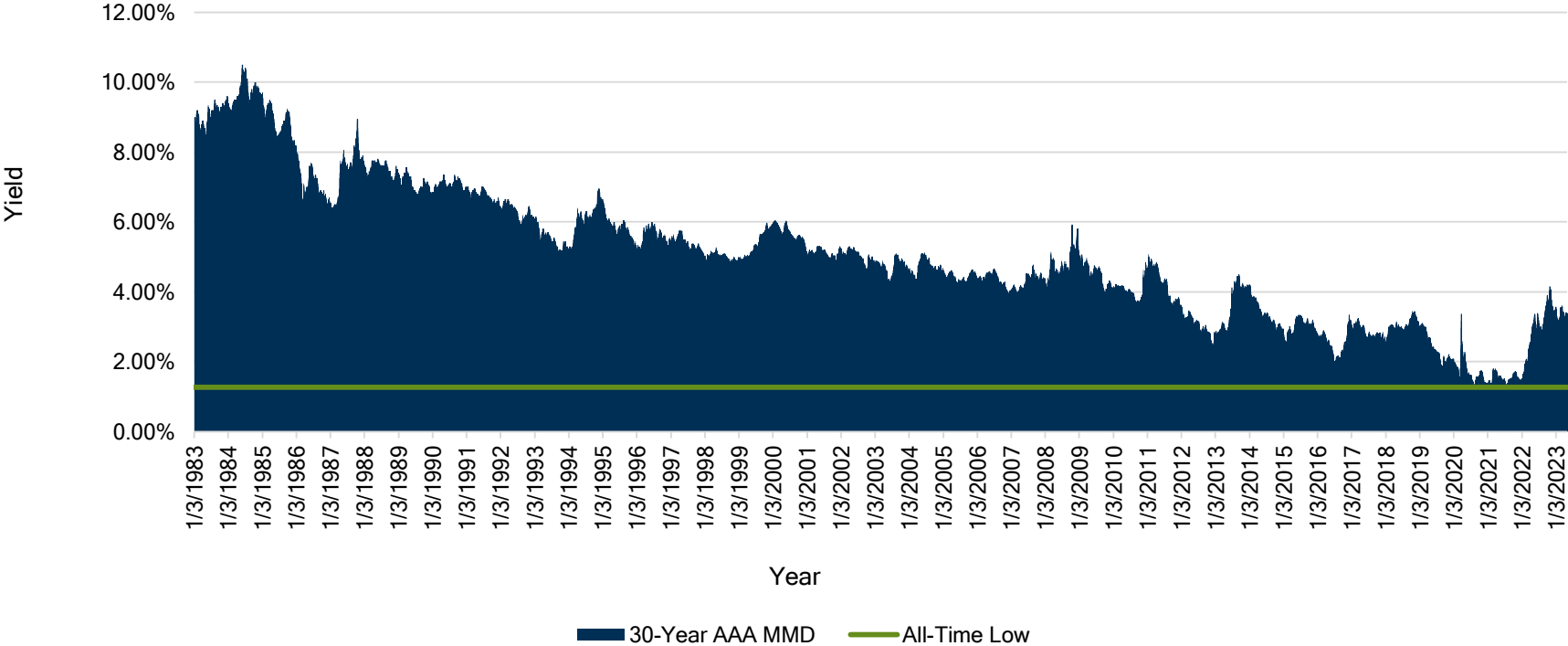
Where buyers tend to concentrate their purchases



Pricing the Bonds

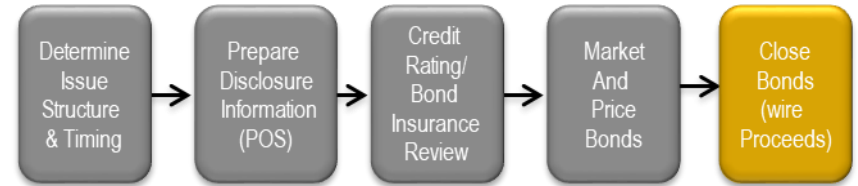


30-Year Tax-Exempt Interest Rates



Source: TM3

Closing the Bond Issue



Closing Activities

- Underwriter wires funds to issuer
- Issuer confirms to the underwriter that all wires are received
- Bond counsel confirms everything is in place for closing
- Underwriter and Paying Agent call DTC (Depository Trust Company) to release the bonds to investors