Municipal Bond Collateral and the Federal Home Loan Bank

Presented by:
Dave Erdman- Webinar Chair SDMN (Wisconsin)
Mark Pascarella- SDMN Board Member (Indiana)
Introduction

• Quick overview
  • Federal Home Loan Bank (FHLB) System now accepts certain municipal bonds as collateral from members
  • This webinar is designed to introduce this concept to market participants.
    • Webinar is intended for all market participants and will be available for public viewing on our website. Slides will also be available and are able to be shared with individuals outside of the network
  • Participants may include but not limited to:
    • Issuers
    • Investors
    • Municipal Advisors
    • Bond Attorney
    • Underwriters
Why should issuers care?

• Simple answer, potentially this could mean greater demand for municipal bonds
  • Greater demand can produce lower spreads as any liquidity premium erodes
  • How does this happen? FHLB’s require members to provide collateral in order to borrow advances
    • **FHLB MEMBERS ARE OUR INVESTORS!**
  • Our investors (FHLB members) may be more likely to buy municipals if they know the investments can be used as collateral within the FHLB system
    • This concept is similar to the HQLA issue for banking regulations
  • This is not a one size fits all as we will find out
Goals

• What are we looking to achieve today?
  • FHLB will provide some background on what the FHLB system is, what type of municipals can be pledged and what muni issuers can do to make their issuances FHLB eligible
  • Taylor will demonstrate the demand from FHLB members (Our investors) for the ability to pledge muni bonds and how that can benefit issuers
  • Our primary goal is to get the dialogue started with the FHLB’s and market participants to determine the demand from muni investors (FHLB members) and what issuers can do to help issuances become FHLB eligible
• Mark Pascarella, CFA
  Director of Debt Management
  Indiana Finance Authority
  mpascarella@ifa.in.gov
  317-234-2228
Municipal Bonds & the Federal Home Loan Banks

STATE DEBT MANAGEMENT NETWORK
Discussion Overview

- Introduction to FHLBank System and Membership
- Municipal Bonds as FHLBank Collateral
- Maximizing the Impact of FHLBank Members as Municipal Bond Investors
The 11 FHLBanks are separate, independently managed government-sponsored enterprises (GSEs) organized as cooperatives under an act of Congress (Federal Home Loan Bank Act of 1932).

FHLBanks provide their 7,000 members with reliable access to low-cost collateralized funding for liquidity and to support mortgage lending and community and economic development. The FHLBanks are also the nation’s largest source of private grant funds for affordable housing.

The FHLBanks access global capital markets by issuing debt securities rated Aaa and P-1 by Moody’s and AA+ and A-1+ by S&P.
## FHLBank System Member AUM

<table>
<thead>
<tr>
<th></th>
<th>Assets ($Trillions)</th>
<th>%Total Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank/Thrifs</td>
<td>16,116</td>
<td>96%</td>
</tr>
<tr>
<td>Credit Unions</td>
<td>1,148</td>
<td>87%</td>
</tr>
<tr>
<td>Insurance Companies</td>
<td>5,382</td>
<td>59%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>22,646</strong></td>
<td><strong>NA</strong></td>
</tr>
</tbody>
</table>

**SOURCE:** SNL
## FHLBank System Largest Members
### 6/30/17 ($Billions)

<table>
<thead>
<tr>
<th>FHLB Member</th>
<th>Assets</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>JPMorgan Chase Bank, NA</td>
<td>$2,138</td>
<td>Bank</td>
</tr>
<tr>
<td>Wells Fargo Bank, NA</td>
<td>$1,749</td>
<td>Bank</td>
</tr>
<tr>
<td>Bank of America, NA</td>
<td>$1,707</td>
<td>Bank</td>
</tr>
<tr>
<td>Citibank, N.A.</td>
<td>$1,369</td>
<td>Bank</td>
</tr>
<tr>
<td>U.S. Bank, National Association</td>
<td>$443</td>
<td>Bank</td>
</tr>
<tr>
<td>PNC Bank, NA</td>
<td>$360</td>
<td>Bank</td>
</tr>
<tr>
<td>Capital One, National Association</td>
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<td>Bank</td>
</tr>
<tr>
<td>TD Bank, National Association</td>
<td>$274</td>
<td>Bank</td>
</tr>
<tr>
<td>State Street Bank and Trust Company</td>
<td>$234</td>
<td>Bank</td>
</tr>
<tr>
<td>Branch Banking And Trust Company</td>
<td>$215</td>
<td>Bank</td>
</tr>
<tr>
<td>SunTrust Bank, Atlanta</td>
<td>$201</td>
<td>Bank</td>
</tr>
<tr>
<td>HSBC Bank USA, N.A.</td>
<td>$200</td>
<td>Bank</td>
</tr>
<tr>
<td>Goldman Sachs Bank USA</td>
<td>$156</td>
<td>Bank</td>
</tr>
<tr>
<td>Metropolitan Life Insurance Company</td>
<td>$401</td>
<td>Insurance</td>
</tr>
<tr>
<td>Teachers Insurance and Annuity Association</td>
<td>$286</td>
<td>Insurance</td>
</tr>
<tr>
<td>The Prudential Insurance Company of America</td>
<td>$260</td>
<td>Insurance</td>
</tr>
<tr>
<td>John Hancock Life Insurance Co USA</td>
<td>$235</td>
<td>Insurance</td>
</tr>
<tr>
<td>Massachusetts Mutual Life Insurance</td>
<td>$229</td>
<td>Insurance</td>
</tr>
<tr>
<td>The Lincoln National Life Insurance</td>
<td>$227</td>
<td>Insurance</td>
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<tr>
<td>Jackson National Life Insurance</td>
<td>$212</td>
<td>Insurance</td>
</tr>
<tr>
<td>AXA Equitable Life Insurance Company</td>
<td>$179</td>
<td>Insurance</td>
</tr>
<tr>
<td>Principal Life Insurance Company</td>
<td>$179</td>
<td>Insurance</td>
</tr>
<tr>
<td>New York Life Insurance Company</td>
<td>$173</td>
<td>Insurance</td>
</tr>
<tr>
<td>American General Life Insurance</td>
<td>$170</td>
<td>Insurance</td>
</tr>
<tr>
<td>Charles Schwab Bank</td>
<td>$181</td>
<td>Bank</td>
</tr>
</tbody>
</table>

**SOURCE:** SNL
Access to global capital markets
Cooperative ownership structure
Reliable, fully collateralized borrowings
FHLBanks maintain large cash positions
Tested during recent events
  (9/11, Mortgage Crisis, Hurricane Sandy)
“During the recent liquidity crisis, money market investors ran away from debt issued or sponsored by depository institutions…By issuing implicitly guaranteed debt, the FHLB System was able to re-intermediate term funding to member depository institutions through advances.”

FHLBank System Borrowings ($Billions)

SOURCE: FHLBank Office of Finance
## FHLBank System Avg. Lendable Values

<table>
<thead>
<tr>
<th>Collateral Type</th>
<th>Average Effective Lending Value&lt;sup&gt;(1)&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Blanket Lien</td>
</tr>
<tr>
<td>Cash, U.S. government, &amp; U.S. Treasury securities</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>State &amp; local government securities</strong></td>
<td>N/A</td>
</tr>
<tr>
<td>U.S. agency securities</td>
<td>N/A</td>
</tr>
<tr>
<td>U.S. agency MBS/CMO</td>
<td>N/A</td>
</tr>
<tr>
<td>Private-label MBS/CMO</td>
<td>N/A</td>
</tr>
<tr>
<td>CMBS</td>
<td>N/A</td>
</tr>
<tr>
<td>Single-family mortgage loans</td>
<td>80%</td>
</tr>
<tr>
<td>Multifamily mortgage loans</td>
<td>74%</td>
</tr>
<tr>
<td>Other US government-guaranteed mortgage loans</td>
<td>84%</td>
</tr>
<tr>
<td>Home equity loans &amp; LOCs</td>
<td>64%</td>
</tr>
<tr>
<td>CFI&lt;sup&gt;(2)&lt;/sup&gt; collateral</td>
<td>55%</td>
</tr>
<tr>
<td>Commercial real estate loans</td>
<td>68%</td>
</tr>
<tr>
<td>Other loan collateral</td>
<td>49%</td>
</tr>
</tbody>
</table>

<sup>(1)</sup> Please see the pg 82 of the 2016 Combined Financial Report for the range of effective lending values applied to collateral

<sup>(2)</sup> Community Financial Institution – Total assets capped at $1.148 billion for 2017 by FHFA and adjusted annually for inflation

Types of Collateral Securing Advances
As of 6/30/17

SOURCE: FHLBank Office of Finance
Each FHLBank will have their own set of criteria. As an example of municipal bond selection criteria, an overview of the FHLBank Indianapolis criteria is as follows:

- General Obligation or Special Revenue Bonds
- Proceeds have been or will be used to finance the acquisition, development and/or improvement of real estate (Real Estate Improvements)
  - Eligible balance is limited to that portion which finances Real Estate Improvements
- Rated A- or higher by Fitch, Moody’s and/or Standard & Poor’s, using the lowest of ratings provided
What FHLBank Indianapolis looks for...

- In determining eligibility, the Official Statement is reviewed
  - Attempt to gain clarity regarding the nexus to real estate via the Official Statement, often focusing on the *Purpose*, the *Sources of Funds* and *Uses of Funds*

- Taken from 2016 Arlington Independent School District refunding bond
- The inclusion of “school buses,” without additional detail or an itemized *use of funds* makes it difficult to ascertain how much of the issue is earmarked for Real Estate Improvements and eligible as collateral.
What FHLBank Indianapolis looks for...

- Taken from a Covington Community School Corporation bond
- To ascertain Real Estate Improvements component, one may utilize the more detailed overview in the Use of Funds Section
- Uses of Funds Section is used to ascertain the Real Estate Improvements factor

### Purpose

The purpose of the Bonds is for renovations and additions to the elementary, middle school, and high school buildings, paying interest on the Bonds through January 15, 2005, and to pay the costs of issuing the Bonds.

### Estimated Sources and Uses of Funds

**Estimated Sources of Funds:**

- First Mortgage Bonds, Series 2004: $7,805,000.00
- Less: Original issue discount: (60,840.00)
- Plus: Estimated interest earnings: 55,000.00
- Net estimated sources of funds: $7,799,160.00

**Estimated Uses of Funds:**

- Construction: $6,468,494.00
- Contingency: 142,967.78
- Equipment, furnishings, technology: 285,000.00
- Soil testing, surveys & printing costs: 50,000.00
- Builders risk insurance: 20,000.00
- Architect: 400,400.00
- Underwriter’s discount: 62,440.00
- Bond insurance: 36,000.00
- Costs of issuance: 115,265.00
- Capitalized interest through 1/15/2005: 218,593.22
- Total estimated uses of funds: $7,799,160.00
Arriving at the Lendable Value

Estimated Sources and Uses of Funds

Estimated Sources of Funds:
- First Mortgage Bonds, Series 2004: $7,805,000.00
- Less: Original issue discount: (60,840.00)
- Plus: Estimated interest earnings: 55,000.00
  Net estimated sources of funds: $7,799,160.00

Estimated Uses of Funds:

- Construction: $6,468,494.00
- Contingency: 142,967.78
- Equipment, furnishings, technology: 285,000.00
- Soil testing, surveys & printing costs: 50,000.00
- Builders risk insurance: 20,000.00
- Architect: 25,466.00
- Underwriter’s discount: 100,000.00
- Bond insurance: 100,000.00
- Costs of issuance: 150,000.00
- Capitalized interest: 403,488.00
- Total estimated use: $6,468,494.00

Arriving at the Real Estate Factor:

\[
\frac{6,468,494}{7,799,160} = 0.8294
\]

Original Balance for Pledge: $5,000,000
Real Estate Factor: 0.8294
Eligible Balance for Pledge: $4,146,917
Market Value Price: 0.9876
Market Value: $4,095,495

Lendable Value at 110% Overcollateralization Ratio: $3,723,178
Lendable Value at 120% Overcollateralization Ratio: $3,412,913
Lendable Value at 135% Overcollateralization Ratio: $3,033,700
This agenda and other presentations may contain forward-looking statements that are subject to risks and uncertainties including, but not limited to, the effects of economic market conditions on demand for the FHLBank of Indianapolis’ (FHLBI) products, legislative or regulatory developments concerning the FHLBank System, or competitive forces and other risks detailed from time to time in the FHLBI’s filings with the Securities and Exchange Commission. The forward-looking statements speak as of the date made and are not guarantees of future performance. Actual results or developments may differ materially from the expectations expressed or implied in the forward-looking statements, and the FHLBank undertakes no obligation to update any such statements. All statements are based on current FHLBI policies and procedures.

The FHLBI, acting through its sales and marketing employees and agents, does not provide investment or consulting advice.
Types of Municipal Bonds

• Tax Status (Federal)
  Taxable
  Tax Exempt
    Bank Qualified
    Bank Eligible
    General Market (bank-permissible)

• Source of Repayment
  General Obligation
    Limited Taxing Authority
    Unlimited Taxing Authority
  Revenue
    Essential Services (water & sewer)
    Transportation (roads, bridges)
    Hospital
    Other
  Certificates of Participation
  Double-Barrel
    Combination of Taxes and Revenues

• Credit Enhancements
  Monoline Insurance
    AMBAC, FGIC, etc.
  State Programs
    ST-INTERCEPT, Q-SBLF, PSF etc.
Illinois – Historical Credit Default Swaps

ILLIST CDS USD SR 5Y D0  370.040  -0.030  354.610/385.470
At 21 Jul
Source CHAN

ILLIST CDS USD SR 5Y D03
Last Price 370  0  -.01%

1D 3D 1M 6M YTD 1Y 5Y Max Daily ▼  ▼  ▼  Table

Australia 61 2 9777 8600 Brazil 5511 2395 9000 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000 Japan 81 3 3201 6900 Singapore 65 6212 1000 U.S. 1 212 318 2000

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SN 455022 EDT GMT-4:00 G447-1975-1 24-Jul-2017 15:23:40
- Previous non-investment grade and non-rated standards now apply to all securities
  - Institutions should utilize a credit scoring model to assess credit worthiness

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<tr>
<th>Agency</th>
<th>Reference</th>
<th>Effective</th>
<th>Published Title</th>
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<tr>
<td>Dodd Frank</td>
<td></td>
<td>7/21/2010</td>
<td>Section 939A</td>
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<tr>
<td>OCC</td>
<td>OCC Bulletin 2012-18 FIL-48-2012</td>
<td>7/21/2012</td>
<td>Final rule establishing alternatives to the use of external credit rating in OCC regulations</td>
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<td>FDIC</td>
<td>FIL-34-2012</td>
<td>7/21/2012</td>
<td>Final rule and Guidance - Permissable investments for Federal and State Savings Associations</td>
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<td>FDIC</td>
<td>FR 77 43155</td>
<td>7/21/2012</td>
<td>Guidance on due diligence requirements FIL-34-2012</td>
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<td>FDIC</td>
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<td></td>
<td>Summer 2013 Supervisory Insights - Credit Risk Assessment of Bank Investment Portfolios</td>
</tr>
<tr>
<td>OCC</td>
<td>FR 77 35259</td>
<td>1/1/2013</td>
<td>Final guidance on due diligence requirements in determining whether investment securities are eligible for investment</td>
</tr>
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</table>
WASHINGTON – Comptroller of the Currency Thomas J. Curry today issued the following statement regarding investments in municipal securities made by national banks and federal savings associations:

The Office of the Comptroller of the Currency recognizes the importance of the $3.6 trillion municipal securities market as a source of infrastructure funding for states, cities, and localities in the United States. The agency considers bank investments in municipal securities a prudent activity when part of a safe and sound investment strategy. Banks historically have invested in municipal securities for a variety of purposes, including yield and community support. Bank ownership of municipal securities represents approximately 10 percent of all outstanding issuances as of mid-2014. Banks continue to be active participants in this market. In fact, since the interagency Liquidity Coverage Ratio Rule became final in October 2014 banks have increased their overall holdings of municipal securities, and the OCC will continue to monitor activity in the market. The OCC supports banks’ prudent investments in municipal securities.
Municipal Credit Risk is Much Lower vs. Corporates

### Average Cumulative Default Rates, 1970-2011, Municipal vs. Corporates

#### All Municipals

<table>
<thead>
<tr>
<th>Credit Rating</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aaa</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Aa</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.01%</td>
<td>0.01%</td>
<td>0.01%</td>
<td>0.01%</td>
<td>0.01%</td>
<td>0.01%</td>
<td>0.01%</td>
</tr>
<tr>
<td>A</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.01%</td>
<td>0.01%</td>
<td>0.02%</td>
<td>0.02%</td>
<td>0.02%</td>
<td>0.03%</td>
<td>0.04%</td>
<td>0.04%</td>
</tr>
<tr>
<td>Baa</td>
<td>0.01%</td>
<td>0.04%</td>
<td>0.07%</td>
<td>0.11%</td>
<td>0.14%</td>
<td>0.19%</td>
<td>0.24%</td>
<td>0.28%</td>
<td>0.33%</td>
<td>0.37%</td>
</tr>
<tr>
<td>Ba</td>
<td>0.28%</td>
<td>0.80%</td>
<td>1.32%</td>
<td>1.83%</td>
<td>2.29%</td>
<td>2.76%</td>
<td>3.26%</td>
<td>3.60%</td>
<td>3.82%</td>
<td>3.92%</td>
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<tr>
<td>All Rated</td>
<td>0.01%</td>
<td>0.03%</td>
<td>0.04%</td>
<td>0.05%</td>
<td>0.07%</td>
<td>0.08%</td>
<td>0.09%</td>
<td>0.10%</td>
<td>0.12%</td>
<td>0.13%</td>
</tr>
</tbody>
</table>

#### Global Corporates

<table>
<thead>
<tr>
<th>Credit Rating</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aaa</td>
<td>0.00%</td>
<td>0.01%</td>
<td>0.01%</td>
<td>0.04%</td>
<td>0.10%</td>
<td>0.17%</td>
<td>0.24%</td>
<td>0.31%</td>
<td>0.39%</td>
<td>0.48%</td>
</tr>
<tr>
<td>Aa</td>
<td>0.02%</td>
<td>0.06%</td>
<td>0.13%</td>
<td>0.24%</td>
<td>0.35%</td>
<td>0.46%</td>
<td>0.57%</td>
<td>0.67%</td>
<td>0.76%</td>
<td>0.86%</td>
</tr>
<tr>
<td>A</td>
<td>0.06%</td>
<td>0.19%</td>
<td>0.39%</td>
<td>0.58%</td>
<td>0.80%</td>
<td>1.04%</td>
<td>1.30%</td>
<td>1.61%</td>
<td>1.93%</td>
<td>2.22%</td>
</tr>
<tr>
<td>Baa</td>
<td>0.18%</td>
<td>0.50%</td>
<td>0.91%</td>
<td>1.38%</td>
<td>1.89%</td>
<td>2.42%</td>
<td>2.92%</td>
<td>3.44%</td>
<td>4.03%</td>
<td>4.71%</td>
</tr>
<tr>
<td>Ba</td>
<td>1.12%</td>
<td>3.10%</td>
<td>5.44%</td>
<td>7.91%</td>
<td>10.15%</td>
<td>12.21%</td>
<td>14.02%</td>
<td>15.83%</td>
<td>17.67%</td>
<td>19.54%</td>
</tr>
<tr>
<td>All Rated</td>
<td>1.61%</td>
<td>3.27%</td>
<td>4.82%</td>
<td>6.14%</td>
<td>7.26%</td>
<td>8.22%</td>
<td>9.04%</td>
<td>9.79%</td>
<td>10.50%</td>
<td>11.17%</td>
</tr>
</tbody>
</table>
“If You Can’t Lend It, You Have to Invest It”

Source: SNL. Consolidated totals for banks and insurance companies nationally.
Allocation to Municipals

Municipals/Investments (%)

Source: SNL. Consolidated totals for banks and insurance companies nationally.
Market Share of Municipals Increasing

- **4Q 2014**
  - 28% of Total
  - Banks & Credit Unions
    - 13% of Muni Market
  - Insurance Companies
    - 15% of Muni Market

- **1Q 2017**
  - 30% of Total
  - Banks & Credit Unions
    - 16% of Muni Market
  - Insurance Companies
    - 14% of Muni Market

Source: Federal Reserve, Bloomberg
<table>
<thead>
<tr>
<th>Asset Type</th>
<th>Lendable Value</th>
<th>Liquidation Time Frame</th>
<th>Probability of Default</th>
<th>Loss Given Default</th>
<th>Provision Expense</th>
<th>NET Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>15yr MBS</td>
<td>95%</td>
<td>3 days</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>2.25%</td>
</tr>
<tr>
<td>Agency 10yr NC 1yr</td>
<td>95%</td>
<td>3 days</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>2.98%</td>
</tr>
<tr>
<td>AAA Bank Qualified Muni GO</td>
<td>90%</td>
<td>3 days</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>3.69%</td>
</tr>
<tr>
<td>1-4 Family 1st Lien Mtg</td>
<td>75%</td>
<td>months -&gt; maturity</td>
<td>1.5%</td>
<td>10.0%</td>
<td>0.2%</td>
<td>4.23%</td>
</tr>
<tr>
<td>Commercial Real Estate Loan</td>
<td>60%</td>
<td>months -&gt; maturity</td>
<td>8.4%</td>
<td>20.0%</td>
<td>1.7%</td>
<td>4.51%</td>
</tr>
<tr>
<td>AAA General Market Muni GO</td>
<td>90%</td>
<td>3 days</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>4.69%</td>
</tr>
</tbody>
</table>
Generic Depreciation Guidance

• Three Years
  - Computer Software

• Five Years
  - Computer Hardware, Cars, Trucks, Buses, Aircraft

• Seven Years
  - Furniture, Fittings, Fixtures, Office Equipment, Agricultural Machinery

• Fifteen Years
  - Qualified Improvements – Building, Land, Property

• Thirty Nine Years
  - Nonresidential Real Property

Source: EY
Historical Municipal Spread to Treasuries (last five years)

Source: Bloomberg (MMA AAA GO Consensus Index)
Proposed Municipal Official Statement – Suggested Language

• Option 1

“At a minimum, x% of the deal proceeds will be used for real-state related purposes.”

- Gives FHLB a basis for determining lendable value. Issuer retains flexibility.

• Option 2

“Proceeds from 2017-2024 maturities to be used for non real-estate related purposes such as purchase of new buses, school fixtures, computers, capitalized interest, cost of bond issuance, etc. “

and

“Proceeds from 2025-2038 maturities to be used for the renovation and improvements to Old Elementary School, Old Jr./Sr. High School and construction of New East End High School.”


• Other Options
Recent Municipal Issuance Scale and Spreads

Source: Trading Desk (MMD Index)