Office of Connecticut State Treasurer
Denise L. Nappier

2015 Public Finance Outlook Conference

Short-Term Investment Fund
Annual Investors' Meeting
April 2, 2015

Michael M. Terry, CFA
Principal Investment Officer

Cash Management Division

STIF Annual Meeting

- Short-Term Investment Fund - Performance
- Short-Term Investment Fund - Attributes
- Market Report

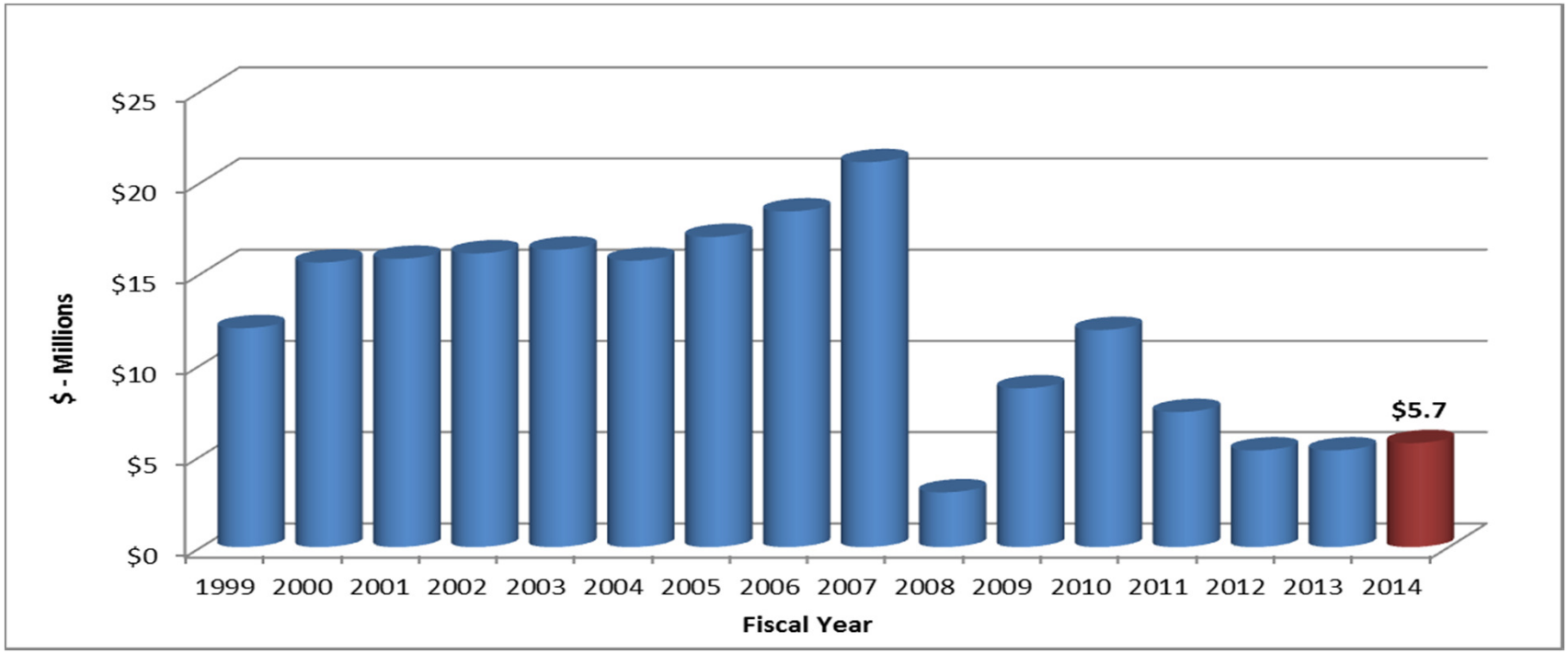
Short-Term Investment Fund – Performance

Investor Returns: Fiscal Year 2014

- Outperformed our benchmark by 12 bps (0.14% vs. 0.02%).
- Returned an additional $5.6 million to investors above the benchmark.
- Added $651,000 to reserves ($50.3 million balance as of 6/30/2014).

Short-Term Investment Fund – Performance

Amount Returned to Investors Above Benchmark*

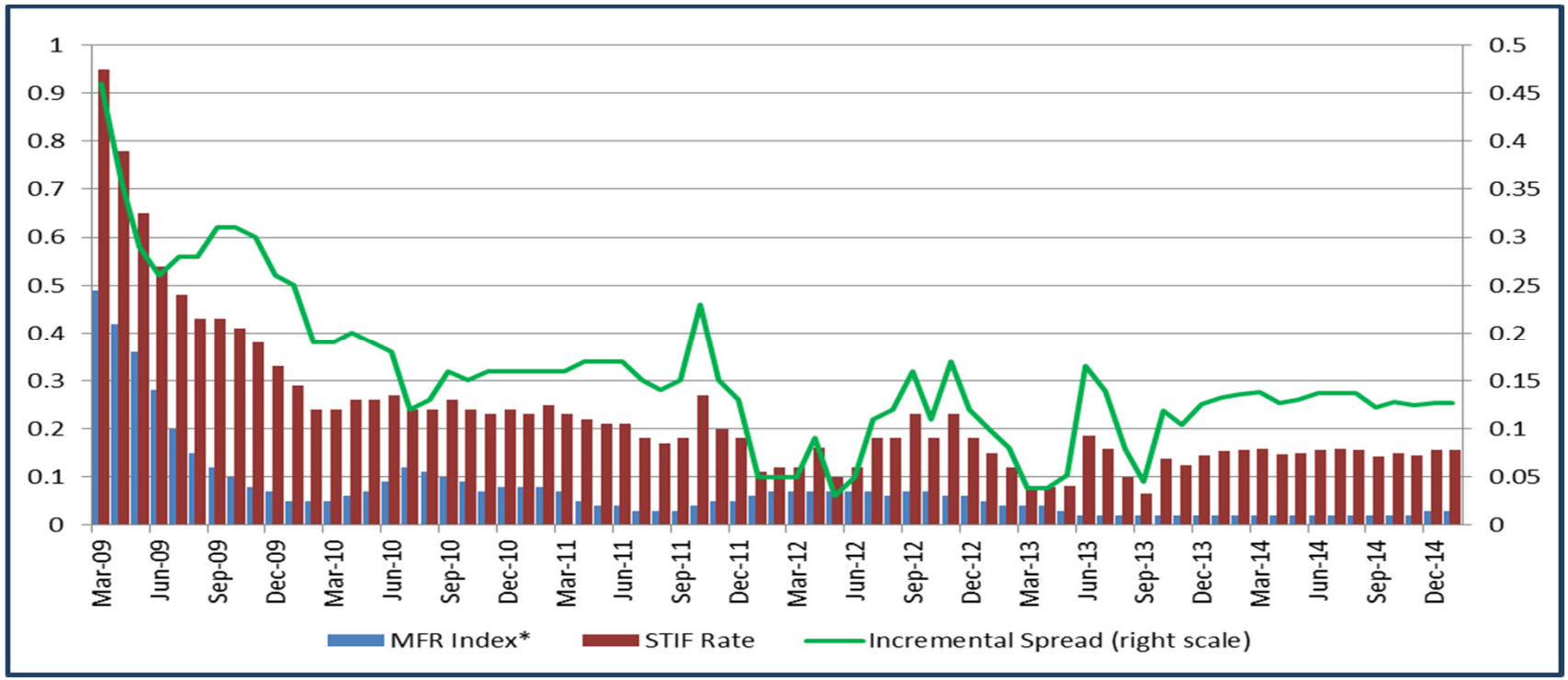


* IMoneyNet's First Tier Institutions-Only AAA-Rated Money Fund Report (MFR) Averages Index.

- STIF has returned $195 million in additional income to investors over the last 16 years.

Short-Term Investment Fund – Performance

STIF Return vs. Benchmark

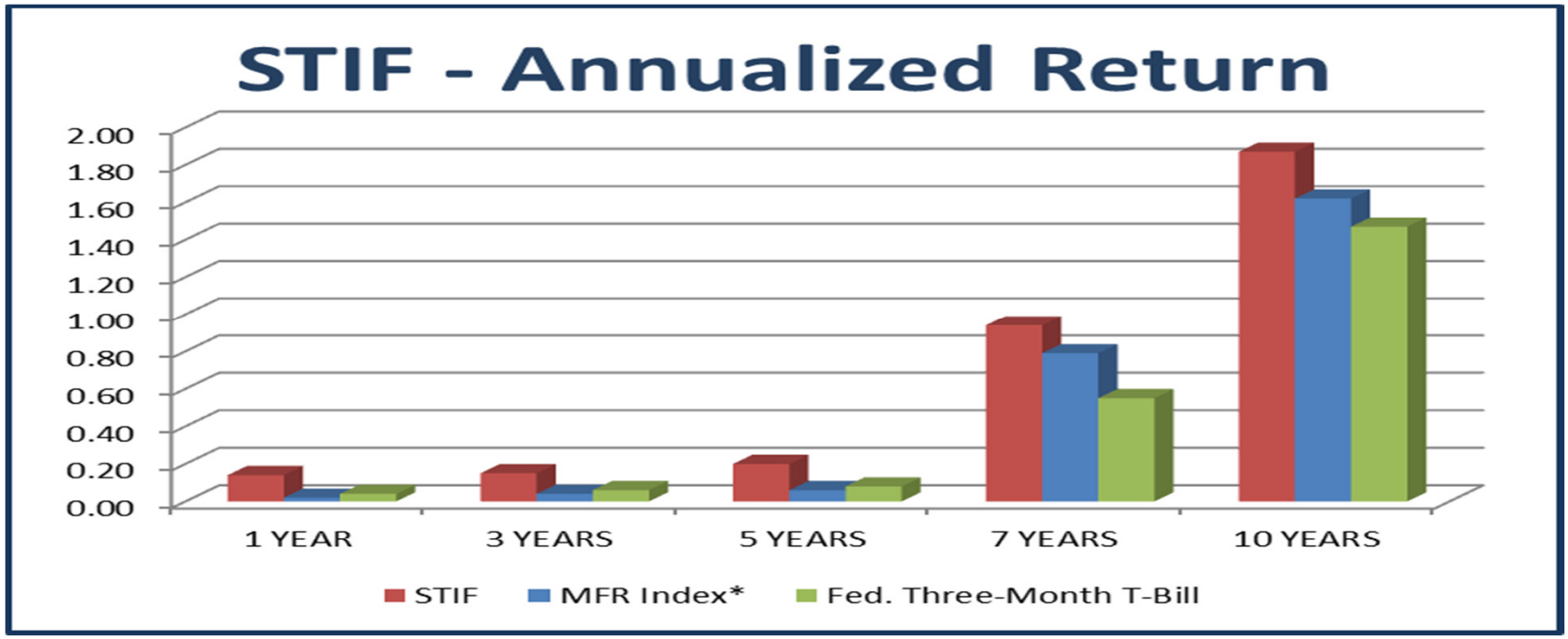


* IMoneyNet's First Tier Institutions-Only AAA-Rated Money Fund Report (MFR) Averages Index.

- STIF has consistently outperformed its benchmark over all time periods.

Short-Term Investment Fund – Performance

Period ending June 30, 2014



* IMoneyNet's First Tier Institutions-Only AAA-Rated Money Fund Report (MFR) Averages Index.

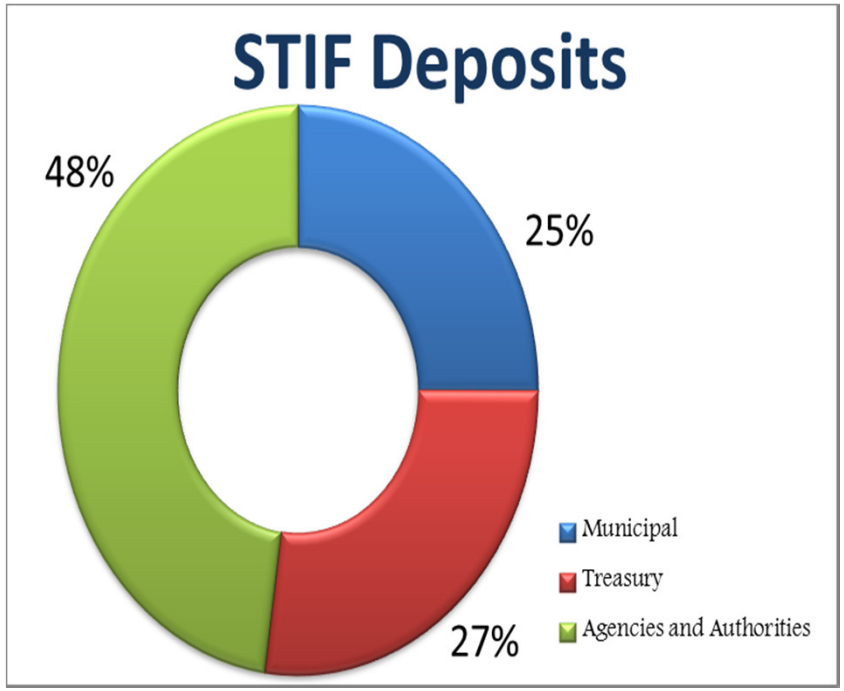
- STIF has outperformed its benchmark and treasury bills over the 1, 3, 5, 7 and 10 year time frames.

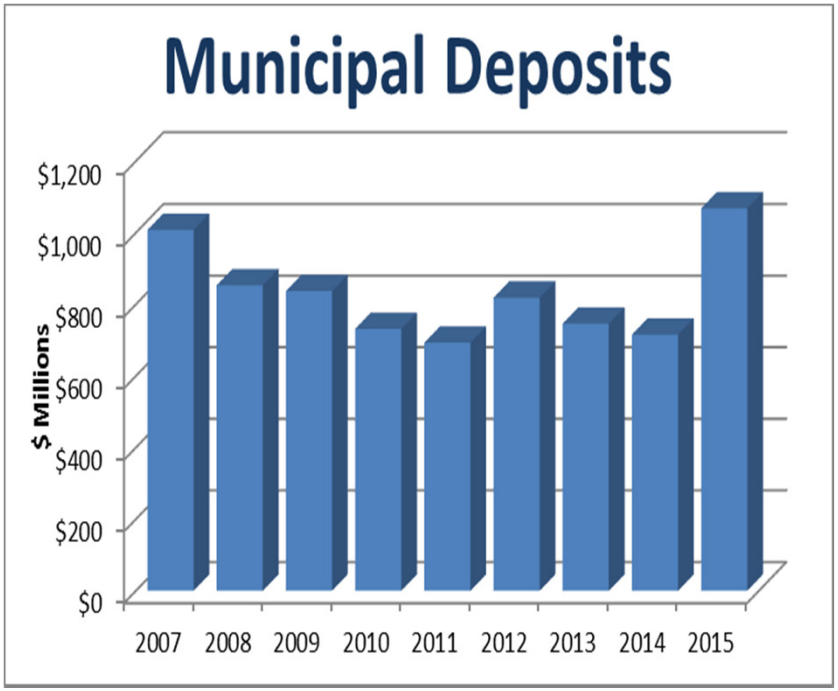
Short-Term Investment Fund
Recent Performance

- Fiscal year-to-date (1/31/2015), outperformed benchmark by 13 bps (0.15% vs. 0.02%), thereby earning an additional $3.2 million for investors.

Short-Term Investment Fund – Attributes

Investor Composition

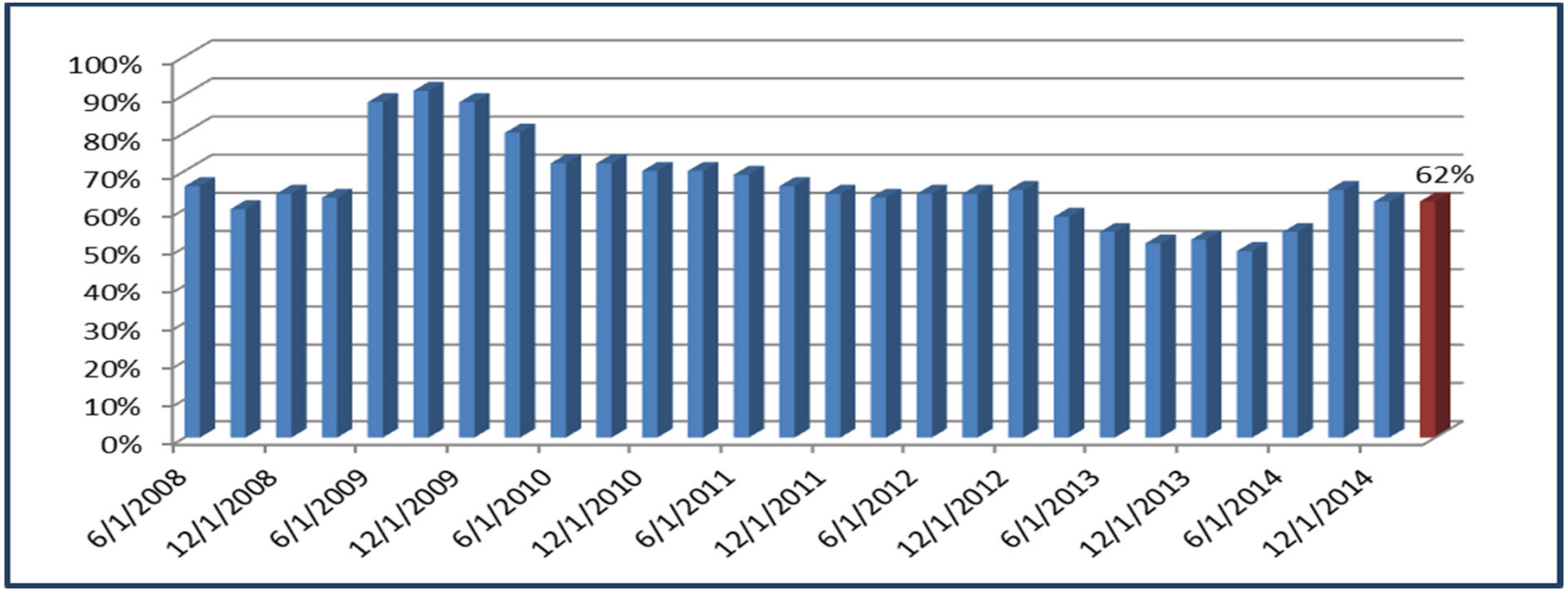




- Local governments had over $1 billion in deposits in STIF as of January 31, 2015.
- The State Treasury continues to be the single largest investor in STIF.

Short-Term Investment Fund – Attributes

Significant Liquidity

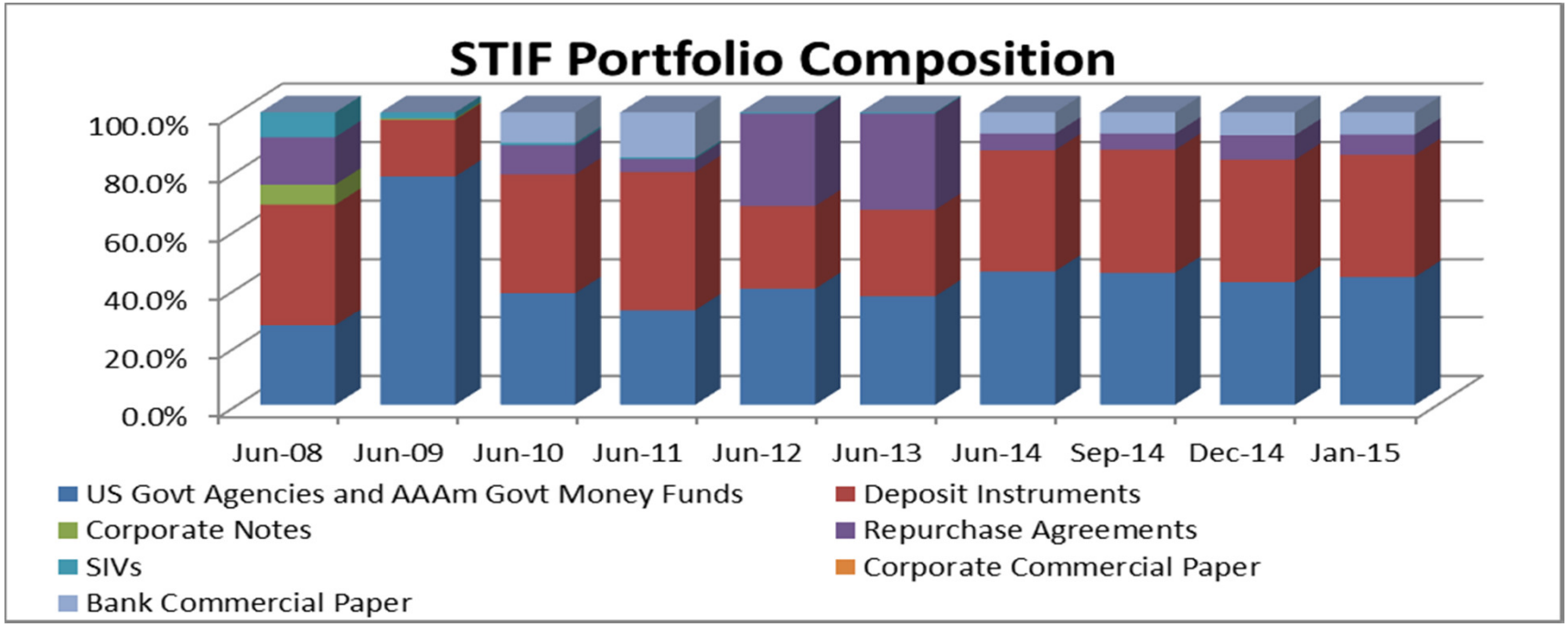


Overnight Investments or investments that are available on a same-day basis.

- As of January 31, 2015 one-day liquidity stood at 62% of the portfolio or 2.5x municipal deposits.

Short-Term Investment Fund – Attributes

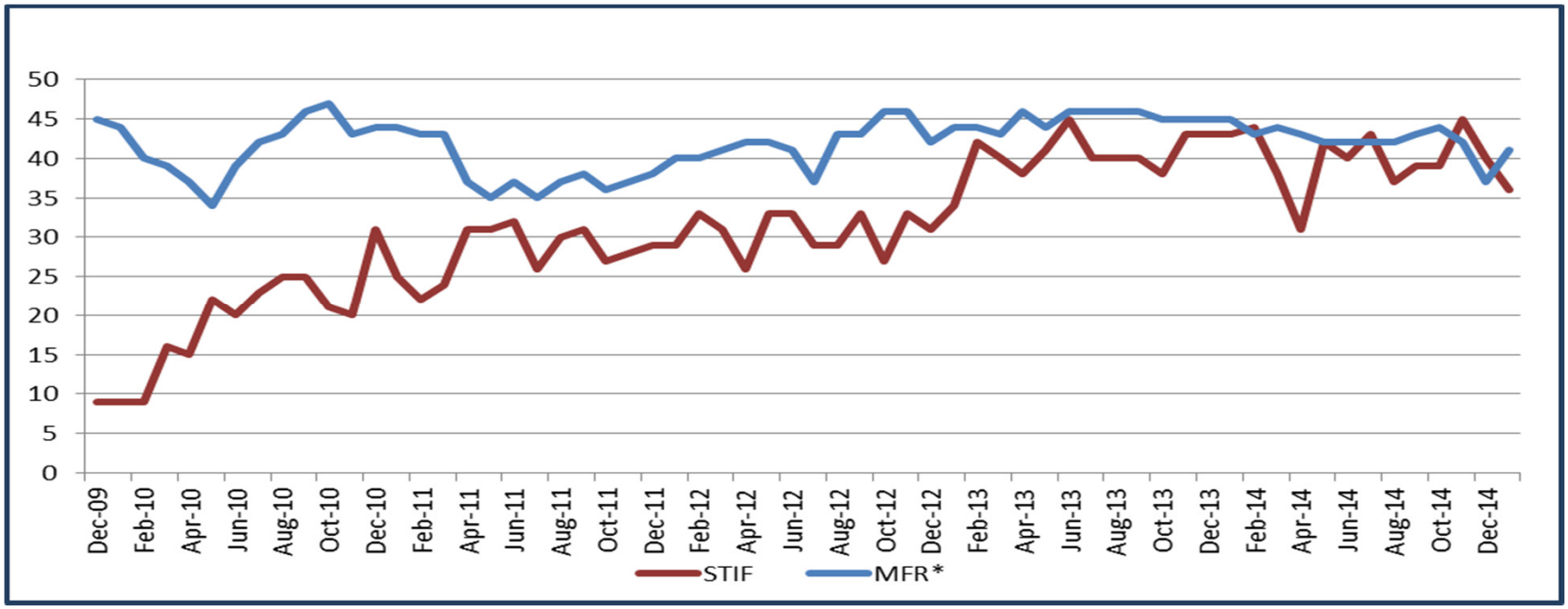
Conservative Portfolio Composition



- STIF's portfolio remains conservative with a focus on government/agency investments and highly-rated bank deposits.

Short-Term Investment Fund – Attributes

Weighted Average Maturity



*IMoneyNet's First Tier Institutions-Only AAA-Rated Money Fund Report (MFR) Averages Index.

- STIF's WAM evidences the conservative nature of the fund. As of January 31, 2015 STIF's WAM was 36 days.

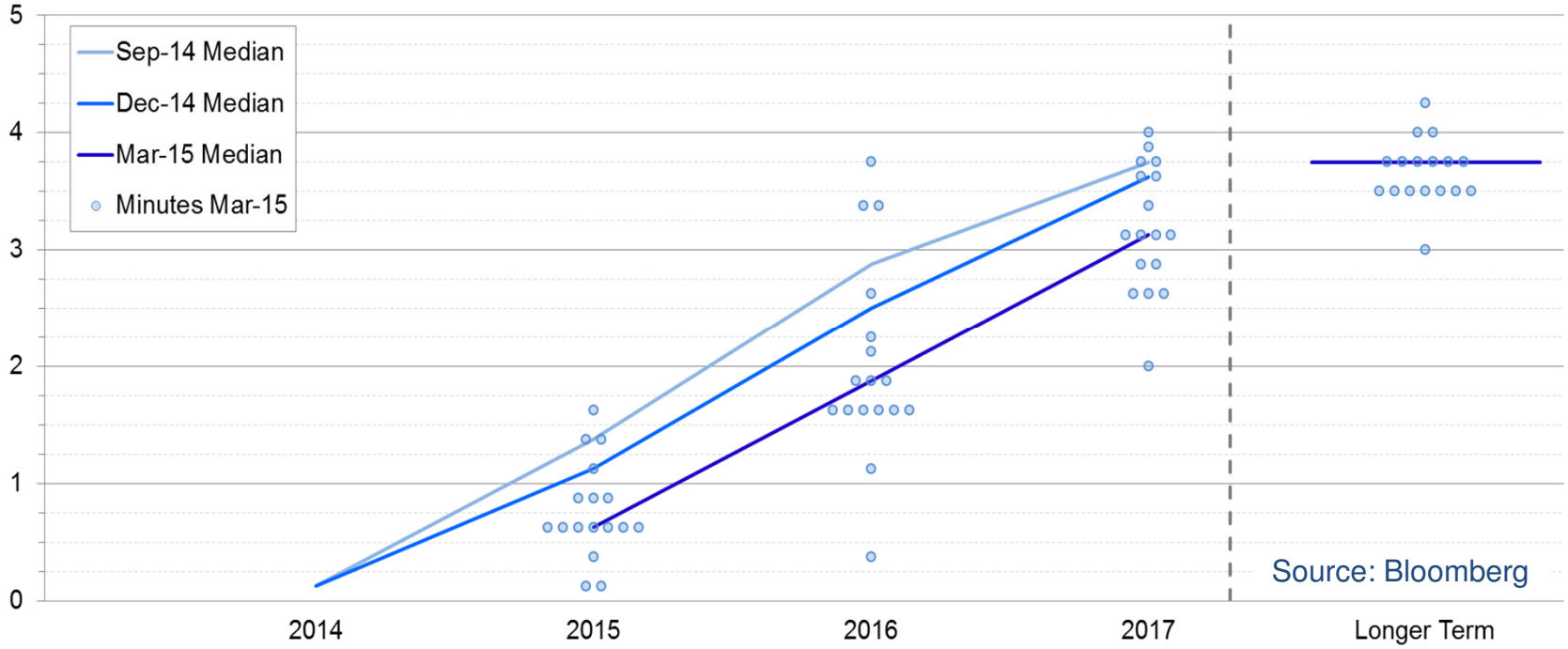
Market Report

Overview

- Interest rates continue to be at very low levels but are expected to begin increasing this summer.
- Employment and housing data has improved to levels targeted by the Fed.
- The targeted inflation level remains elusive, partially as a result of the continued drop in oil prices.
- Deflationary trends in Europe have also kept inflation in check as deflation has been exported to the United States.

Market Report

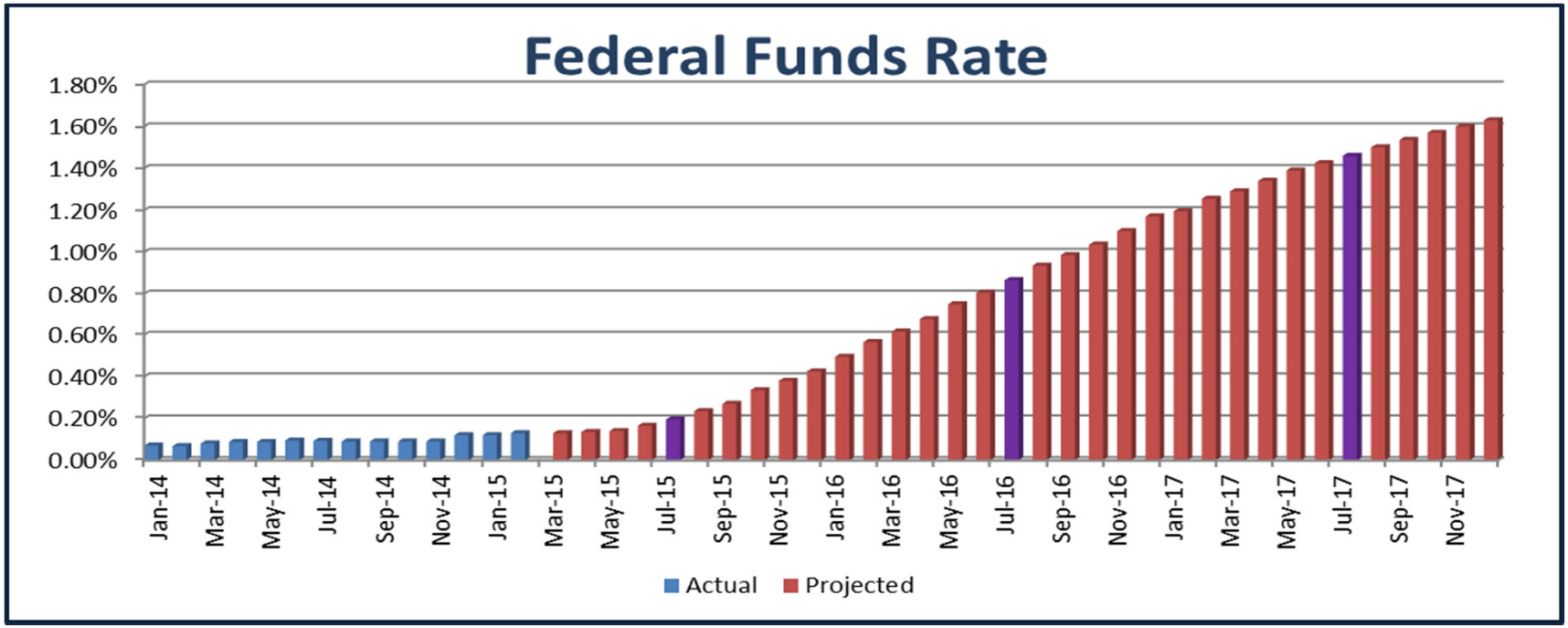
Federal Funds



- The Federal Open Market Committee's guidance has been lowered, indicating lower rates for longer.

Market Report

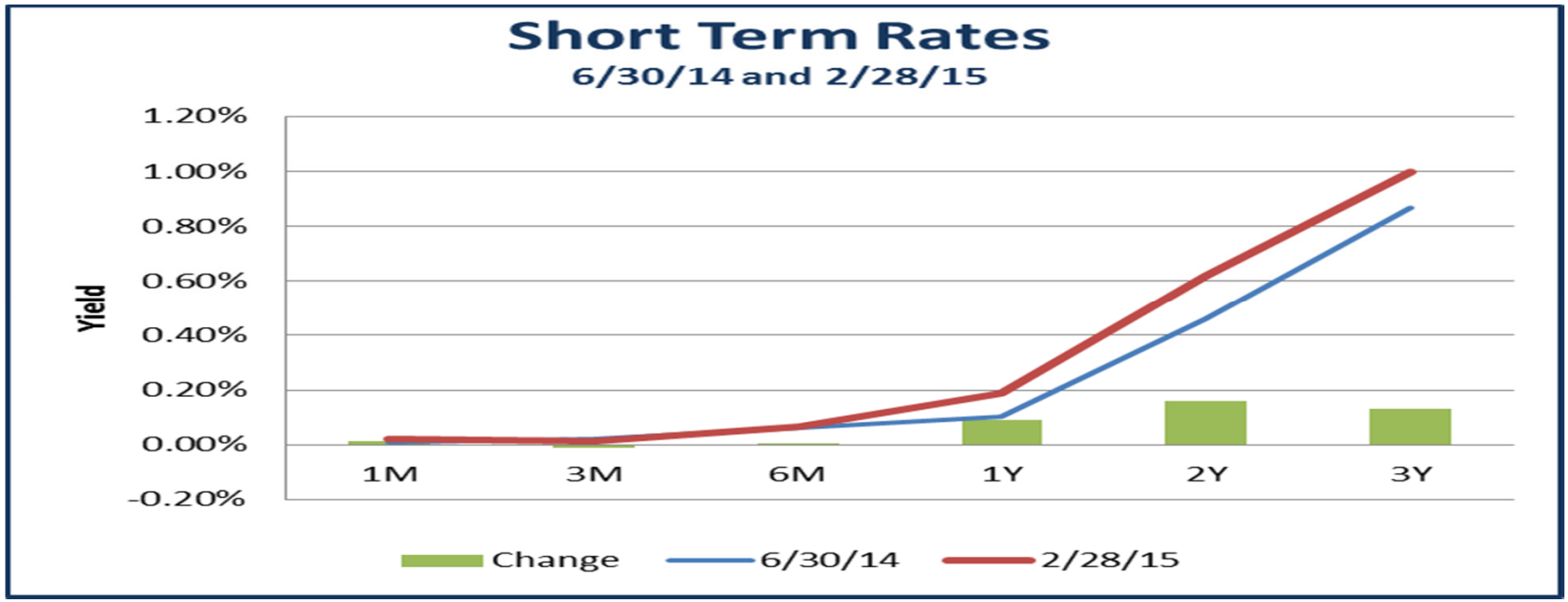
Federal Funds



- The Fed Funds rate, as measured through the futures rate, is expected to start rising this summer.

Market Report

Short-term Yield Curve



Source: Bloomberg

- The short-term yield curve has steepened as expectations of FOMC policy actions have pushed 1-3 year rates higher while demand has kept 1 month to 6 month rates constant.

Going Forward

- "Liftoff" – Rates higher, but where on the curve?
- Money market reform – Floating NAV for SEC 2a7 funds, but GASB has to weigh in.
- BASEL III Liquidity Coverage Ratio ("LCR") – Different treatments of deposits by maturity.

Going Forward Services

- Debt Service Express will be available to meet the debt service paying needs of fund participants.
- STIF will soon be offering the “green alternative” of electronic statements.

Thank you!

Cash Management Division

Lawrence A. Wilson, CTP
Assistant Treasurer - Cash Management
(860) 702-3126
lawrence.wilson@ct.gov

STIF Investment Management

Michael M. Terry, CFA
Principal Investment Officer
(860) 702-3255
michael.terry@ct.gov

Paul A. Coudert
Investment Officer
(860) 702-3254
paul.coudert@ct.gov

Marc R. Gagnon
Securities Analyst
(860) 702-3158
marc.gagnon@ct.gov

Peter A. Gajowiak
Securities Analyst
(860) 702-3124
peter.gajowiak@ct.gov

STIF Investor Services

Barbara Szuba
Accountant
(860) 702-3118
Email: STIFadministration@ct.gov

Investment Transactions 1-800-754-8430

STIF Express Online Account Access www.state.ct.us/ott/STIFHome.htm

Office of Connecticut State Treasurer
Denise L. Nappier

2015 Public Finance Outlook Conference

Municipal Employees' Retirement Fund Investment Overview

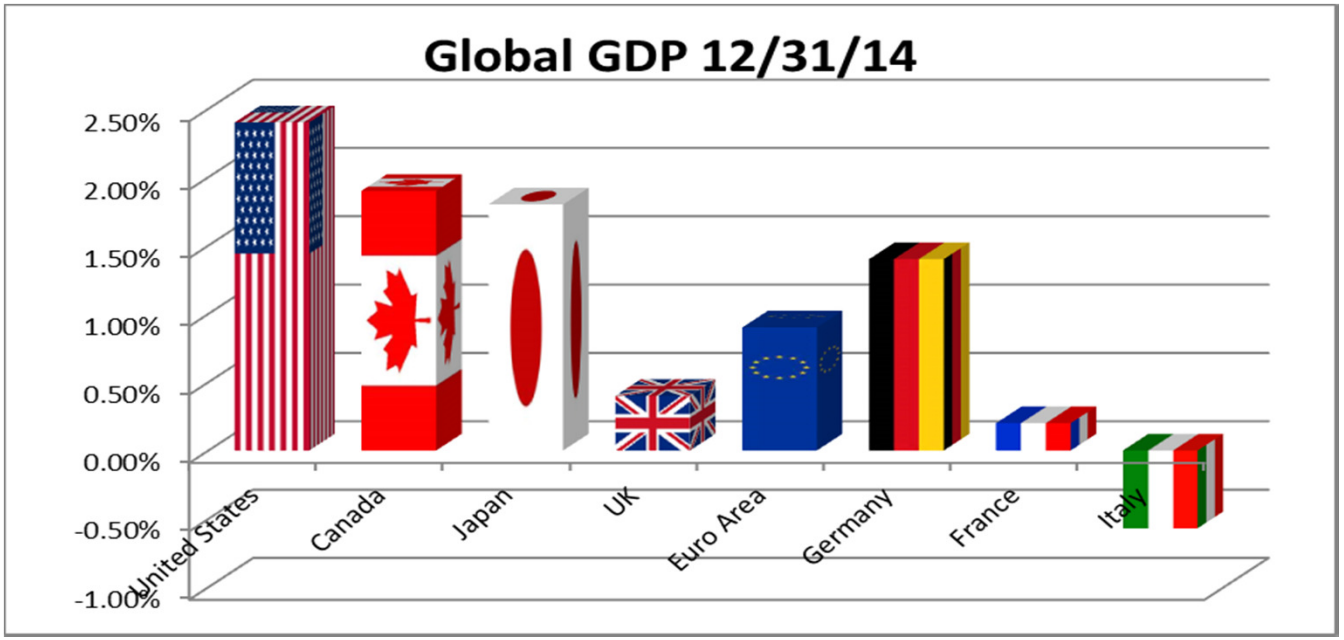
Lee Ann Palladino, CFA CAIA
Chief Investment Officer

Agenda

- Municipal Employees' Retirement Fund ("MERF") Performance Update
  - Fiscal year 2014 results
  - Fiscal year to date through January 31, 2015
- Liability Profile of MERF
- GASB 67

Economic Outlook

Global Growth



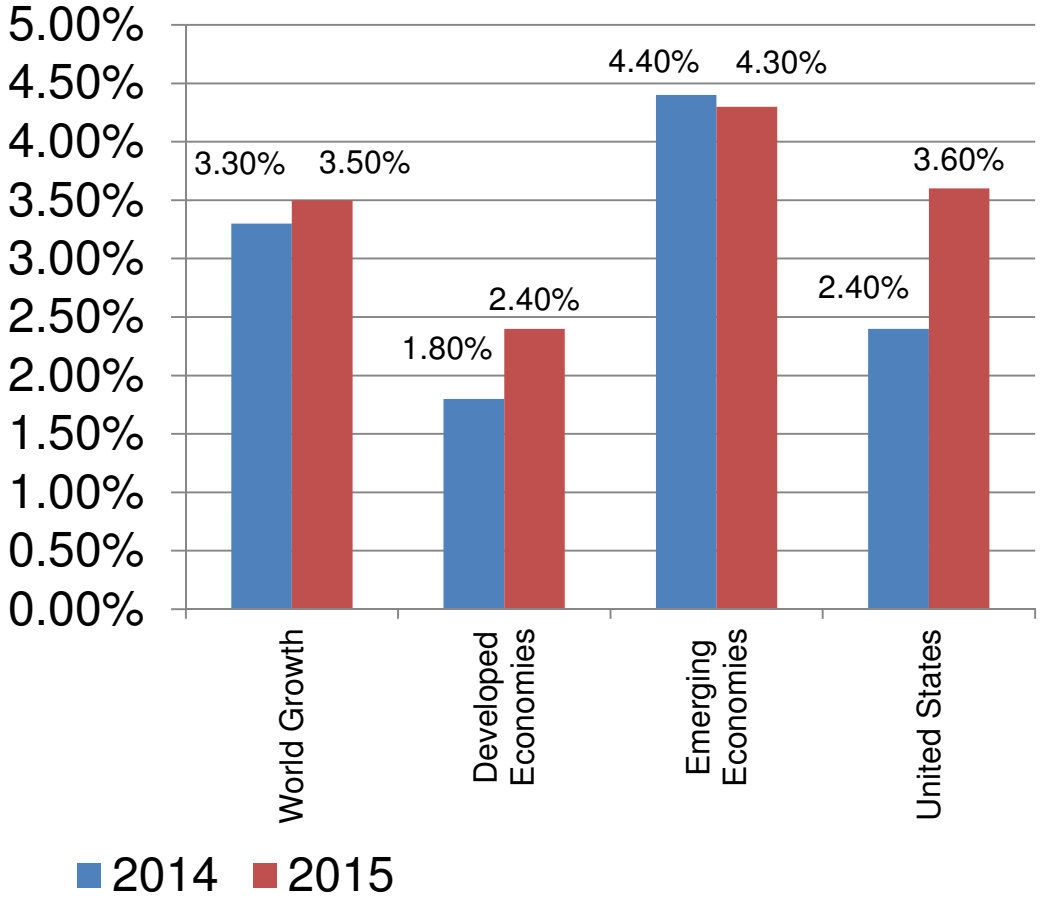
Country	GDP (YoY)
United States	2.40%
Canada	1.90%
Japan	1.80%
UK	0.40%
Euro Area	0.90%
Germany	1.40%
France	0.20%
Italy	-0.57%

Source: Bloomberg

- The United States continues to lead the developed world's economic growth as measured by Gross Domestic Product ("GDP").

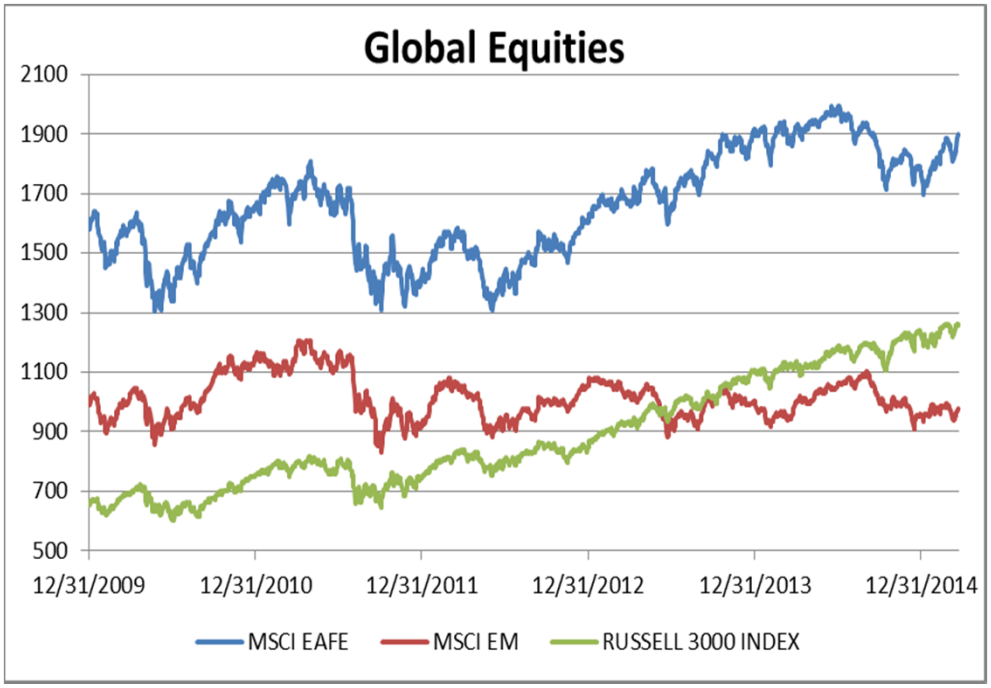
Economic Outlook
Global Growth

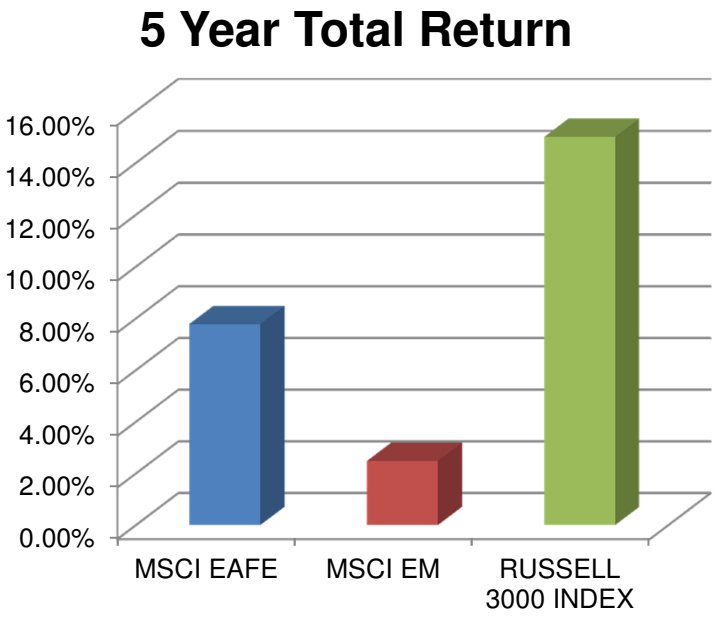
- Outlook for world growth in 2015 is moderate.
- Growth continues to be driven by the United States.
- Emerging economies are trending slightly lower.



Source: International Monetary Fund

Economic Outlook
Global Equities

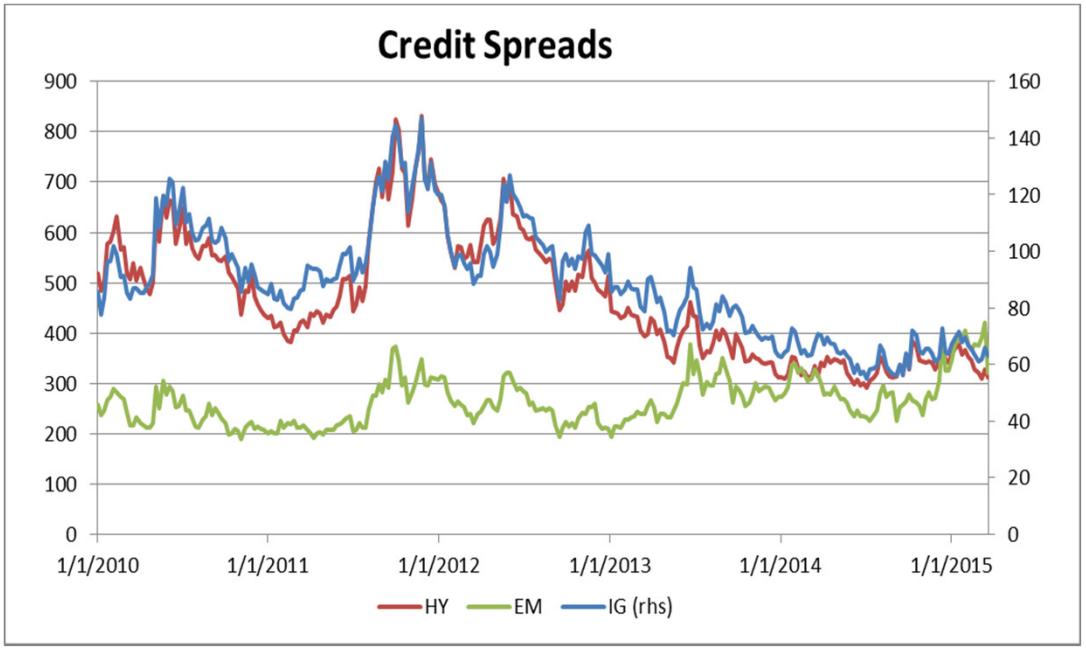




Source: Bloomberg (As of 3-24-2015)

- The U.S. market has been the top performing market over the last five years, followed by other developed markets and the emerging markets have trailed.

Economic Outlook
Fixed Income



Source: Bloomberg

5 Year Credit Spread Range	High	Low	Last
Investment Grade	86	55	63
High Yield	832	291	311
Emerging Markets	420	190	322

Country	Rate
United States	1.50%
Canada	0.73%
Japan	0.06%
UK	1.22%
Germany	-0.09%
France	0.06%

- Credit spreads tightened significantly over the last few years, but have begun to widen again due in part to expectations of rising rates without the corresponding economic growth. Emerging market spreads have gapped out due to oil pricing and increased risk, and now trade wide to high yield.

Fiscal Year 2014/2015
Market Themes

- **MERF Asset Allocation**
  - **37% Global Equities**
  - **35% Fixed Income**
  - **25% Alternatives**
    - (Private Equity, Real Estate and Alternative Strategies)
  - **3% Cash**

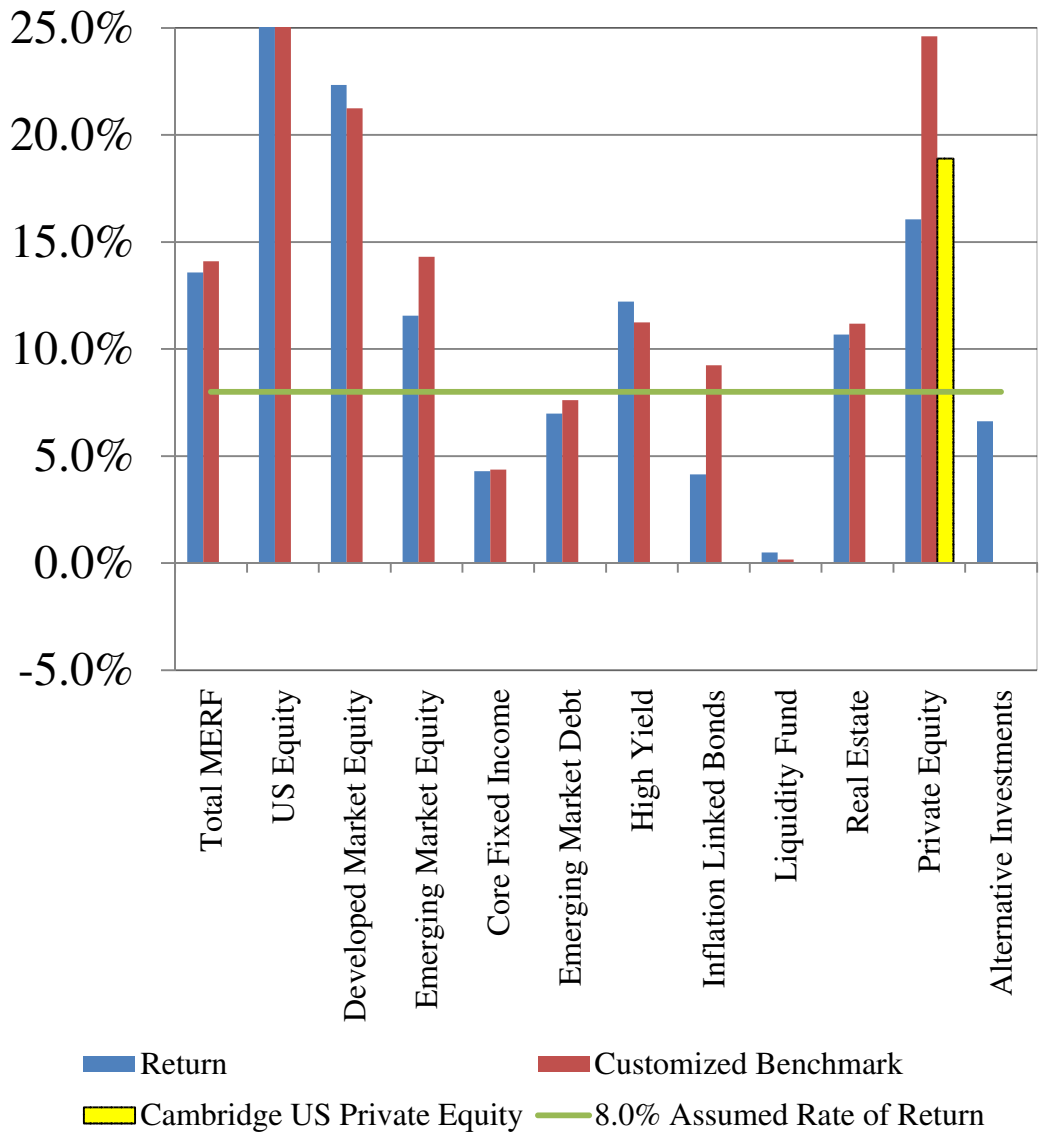
- **Impact on MERF Fiscal Year 2014 Performance:**
  - **All asset classes posted positive returns**
  - **Equities did better than bonds**
  - **Developed market performance surpassed emerging markets**
  - **Search for yield continued**

MERF Returns - Fiscal Year End

June 30, 2014

Strategic Asset Allocation Update

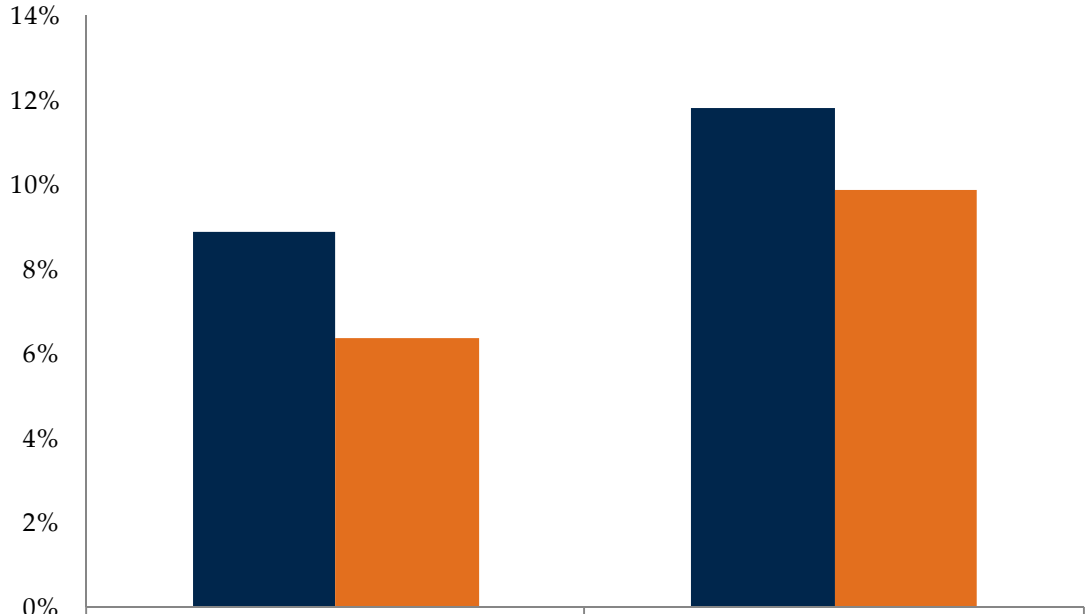
- Last Asset Allocation and Liability Study completed August 2012
- The portfolio is rebalanced to the asset allocation on a quarterly basis
- Fiscal year 2014 returned 13.58%, well above the 8% assumed rate of return
- Fiscal Year 2015 to date through January 2015 returns are virtually flat at -.68 %



Private Equity has Outperformed Public Equity over the long term horizon

FRANKLIN PARK

PIF versus Public Market



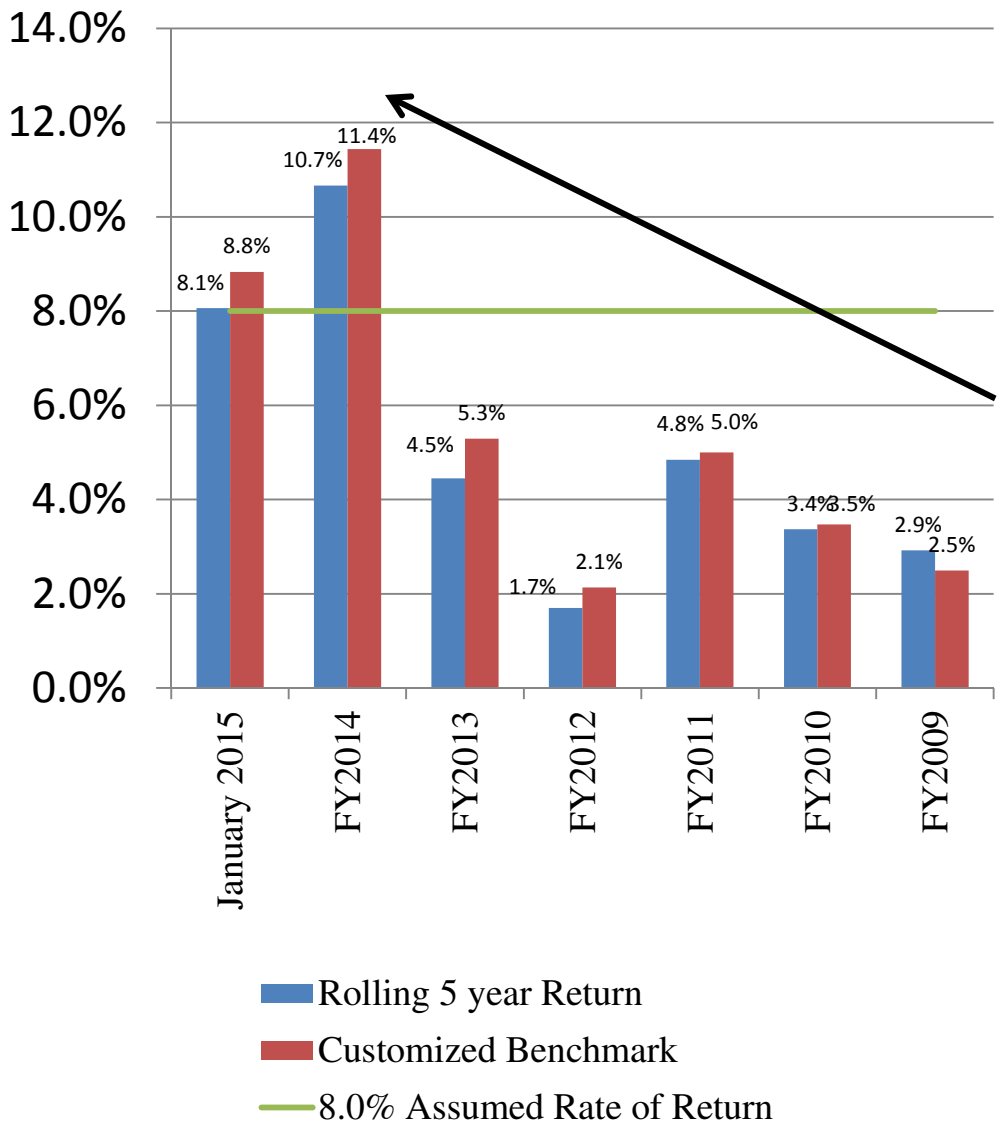
	All Vintages	2002 - 2014 Vintages
PIF	8.9%	11.8%
S&P 500 PME	6.4%	9.9%

Performance as of September 30, 2014.
Returns are calculated using the internal rate of return methodology and are after the deduction of fees and expenses.
S& P 500 PME Benchmark: The public market equivalent (PME) represents the performance of the S&P 500 index expressed in terms of an IRR, using the same cash flows and timing as the investor's investment activity in private equity. The PME serves as a proxy for the return that PIF could have achieved by investing in the public market.

MERF Rolling Five Year Returns

January 31, 2015

- Rolling 5-year return improved from 2.90% at fiscal year 2009 to 10.7% through fiscal year 2014.
- Fiscal Year January 2015 to date, average annual 5-year rate of return is 8.1%
- As of January 31, 2015, over the past ten years, the market value of MERF has increased from $1.2 billion to $2.1 billion, an increase of $900 million, or 75%
- During same ten year horizon this increase in market value is net of $222 million in cash outflow to help meet pension benefit payments.



MERF – Liability Profile

As of June 30, 2014

Liability Position

	MERF
Valuation Date	June-2014
Next Valuation Date	June-2016
Actuarial Value of Assets (mil.)	$2,196.2
Actuarial Value of Liabilities (mil.)	$2,500.8
Net Unfunded Liabilities (mil.)	$304.7
Funded Status	87.8%
Return Assumption	8.00%

Source: Connecticut Municipal Employees Retirement System Actuarial Valuation Report Prepared as of June 30, 2014 by Cavanaugh Macdonald, dated December12, 2014

Governmental Accounting Standards Board Statement No. 67 ("GASB 67")

- The MERF is required to meet GASB 67 for the period ending June 30, 2014.
- Required calculations:
  - GASB 67 requires the determination of the Total Pension Liability ("TPL") using the entry age normal method
  - The Fiduciary Net Position ("FNP") is basically the market value of the assets with some adjustments
  - The Net Pension Liability ("NPL") is also reported: TPL – FNP
- GASB 67 requires a test to determine of the FNP will be depleted in the future. In the case of MERS it will not be, so the 8% assumed rate of return is used as the discount rate

The bi-annual valuation plan data is as of June 30, 2014

Calculation of the NPL of MERS As of Fiscal Year ended June 30, 2014

Total Pension Liability (TPL)	$2,500,840
Plan's Fiduciary Net Position (FNP)	$2,318,896
Net Pension Liability (NPL)	$181,944
Ratio of FNP to TPL	92.72%

- The ratio of FNP to TPL is different than the reported funded ratio of 87.8% as of June 30, 2014
- The funded ratio uses the actuarial value of the assets (which incorporates smoothing) and the actuarial value of the liabilities (which is the same as the TPL)

Source: Cavanaugh Macdonald GASB No. 67 Report for the CMERS prepared as of June 30, 2014

Long Term Expected Rate of Return disclosure of sensitivity

GASB 67 requires the disclosure of the sensitivity of the NPL to changes in the discount rate. MERS discount rate is 8.00%

	1% Decrease 7.00%	MERS Discount Rate 8.00%	1% Increase 9.00%
NPL	$488,221	$181,944	($75,725)

Thank you!

Office of Connecticut State Treasurer
Denise L. Nappier

2015 Public Finance Outlook Conference

CITY OF HARTFORD

$62,450,000 HARTFORD STADIUM AUTHORITY
LEASE REVENUE BONDS, SERIES 2015

April 2, 2015

Participants

- The Honorable Adam M. Cloud, *City Treasurer*
  - Darrell V. Hill, *Chief Operating Officer*
    - David M. Panico, *Bond Counsel*
  - James H. Redd, Jr., *Financial Advisor*

Table of Contents

I. History of the Deal

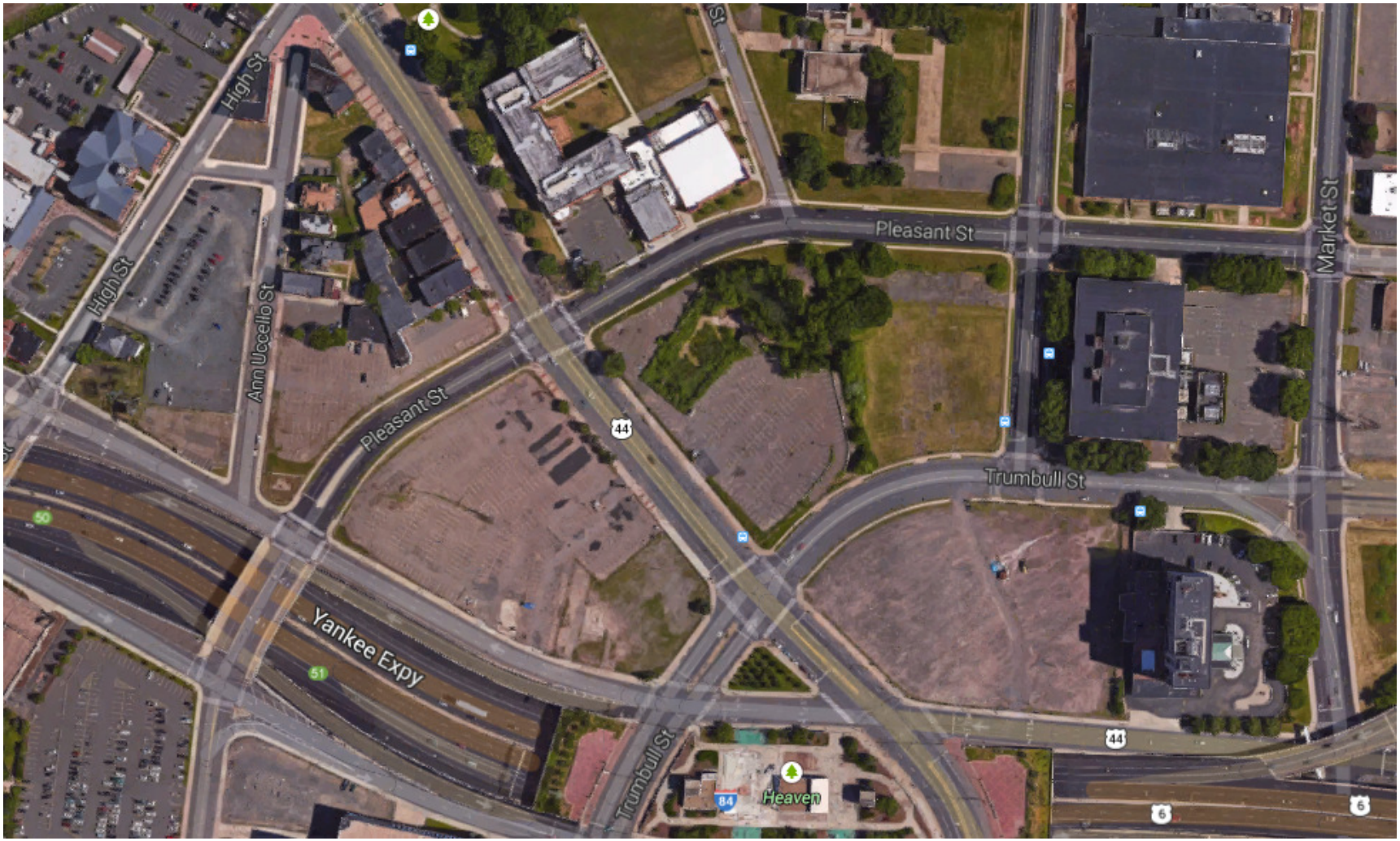
II. Plan of Finance

III. Legal Aspects

IV. Final Transaction Results

History of the Deal

History of the Deal



Overview

- For several decades the area just north of downtown Hartford has been under-developed as surface parking. The area is referred to as Downtown North.

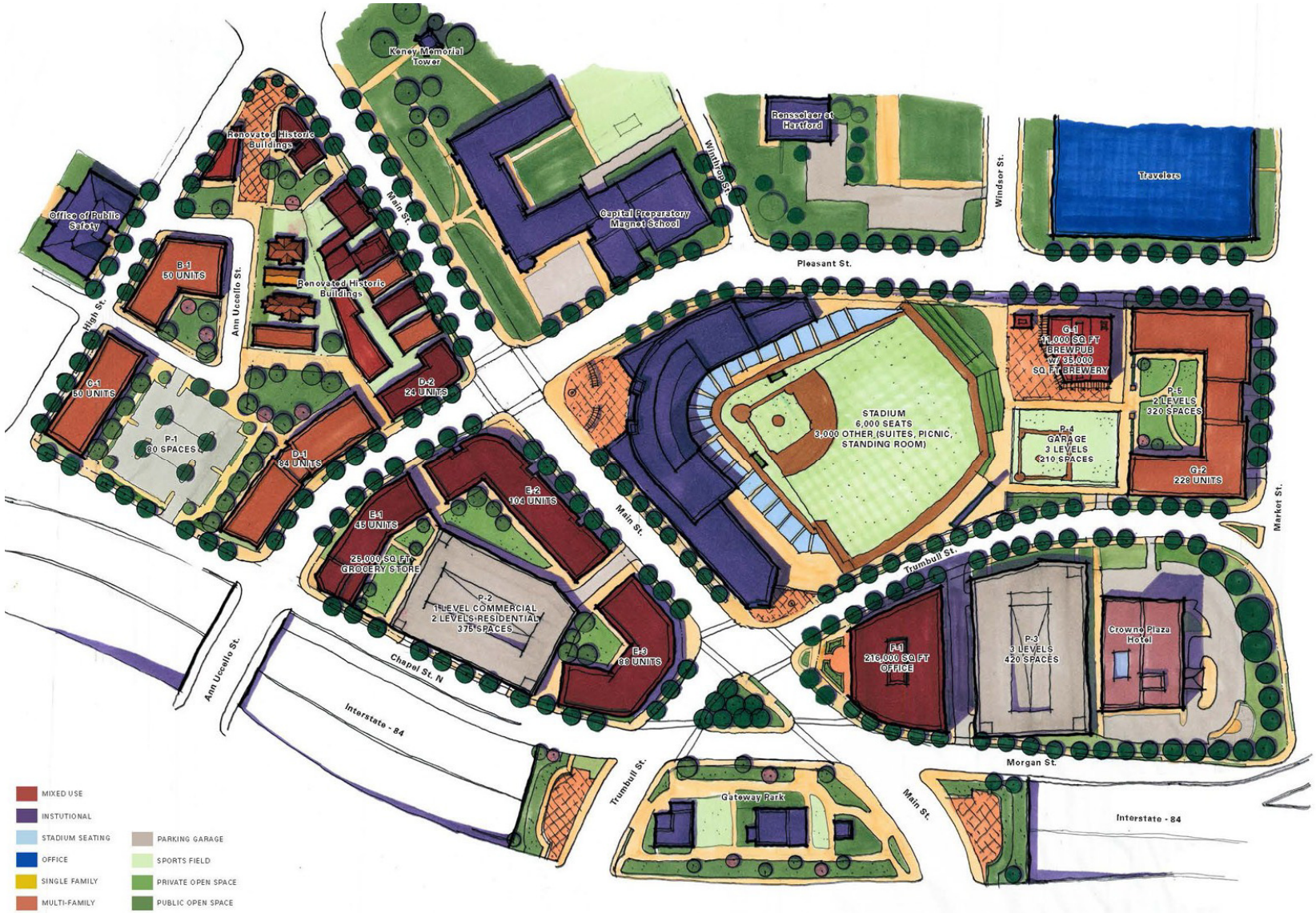
- In the spring/summer of 2014, the City of Hartford ("City") reached an agreement with a Minor League Baseball (MiLB) team, the New Britain (CT) Rock Cats (Colorado Rockies "AA" affiliate), to relocate to Hartford for the 2016 season.

- After achieving agreement with the baseball team to build a 6,000 seat stadium, the City issued a call for developers to propose privately-funded mixed-use development that would compliment the MiLB stadium.

- The baseball stadium is the *"cornerstone"* project for the redevelopment of Downtown North. The total redevelopment project is estimated at $350 million and is planned to consist of the stadium, a grocery store, street level retail, residential and commercial.

- The construction cost of the stadium is $56 million, which the City decided to finance through a special purpose entity, *The Hartford Stadium Authority.*

History of the Deal



History of the Deal

History of the Deal

- The negotiations between the City and the Team resulted in several key deal points, including:

➢ *Construction Costs:*	Not-To-Exceed $56 Million
➢ *Substantial Construction Completed:*	*M*arch 2016
➢ *Initial Lease Term:*	25 Years
➢ *Option (Team) Lease Extensions:*	Three - Five Years Each
➢ *Annual Rent Payment:*	$500,000 *($250,000 to Capital Reserve Fund)*
➢ *Revenue Sharing:*	50/50 after 1st $50,000 30% of Non-Game Events
➢ *Dedicated Team Parking:*	199 spaces
➢ *Public Parking:*	Within Walking Distance
➢ *Community Benefits:*	Preference to Hartford Residents and Businesses

History of the Deal

- The City identified nine (9) revenue sources to fund the annual lease payment for the $56 million to construct the stadium, including:

Property Taxes (PILOT)

Permit Fees

Personal Property Taxes

Stadium Rent

Event (Game Day) Parking

Surface (Interim Use)Parking

Shared Naming Rights

Parking Permit Fee

Admissions (Ballpark) Tax

History of the Deal

The Plan of Finance

The Stadium Authority

- The City created a public recreational facilities authority (the "Authority") pursuant to Sections 7-130a through 7-130w of the Connecticut General Statutes (the "Act")

- The Authority is a public body politic and corporate of the State of Connecticut, and has the power, among other things:

  i. To acquire, purchase, lease as lessee, construct, reconstruct, improve, extend, operate and maintain projects;
  ii. To sell, lease as lessor, transfer or dispose of any property or interest therein acquired by it;
  iii. To fix and revise from time to time and to charge and collect fees, rents and other charges for the use of any project or facilities thereof; and
  iv. To issue bonds of the Authority.

The Stadium Authority

- The Authority has five (5) members. The City Treasurer and the City's Chief Operating Officer are members and the City Council appointed the other three members, who are named in the ordinance creating the Authority

- The Authority constitutes an "*on behalf of issuer*" and is eligible to issue tax-exempt bonds if tax requirements are met. The City authorized the ordinance creating the Authority and authorizing the sale/lease of the land and the lease/leaseback of the Ballpark in early February 2015

Plan of Finance

- Pursuant to the Act, the Authority's bonds may be payable from its revenues generally or from a specific project

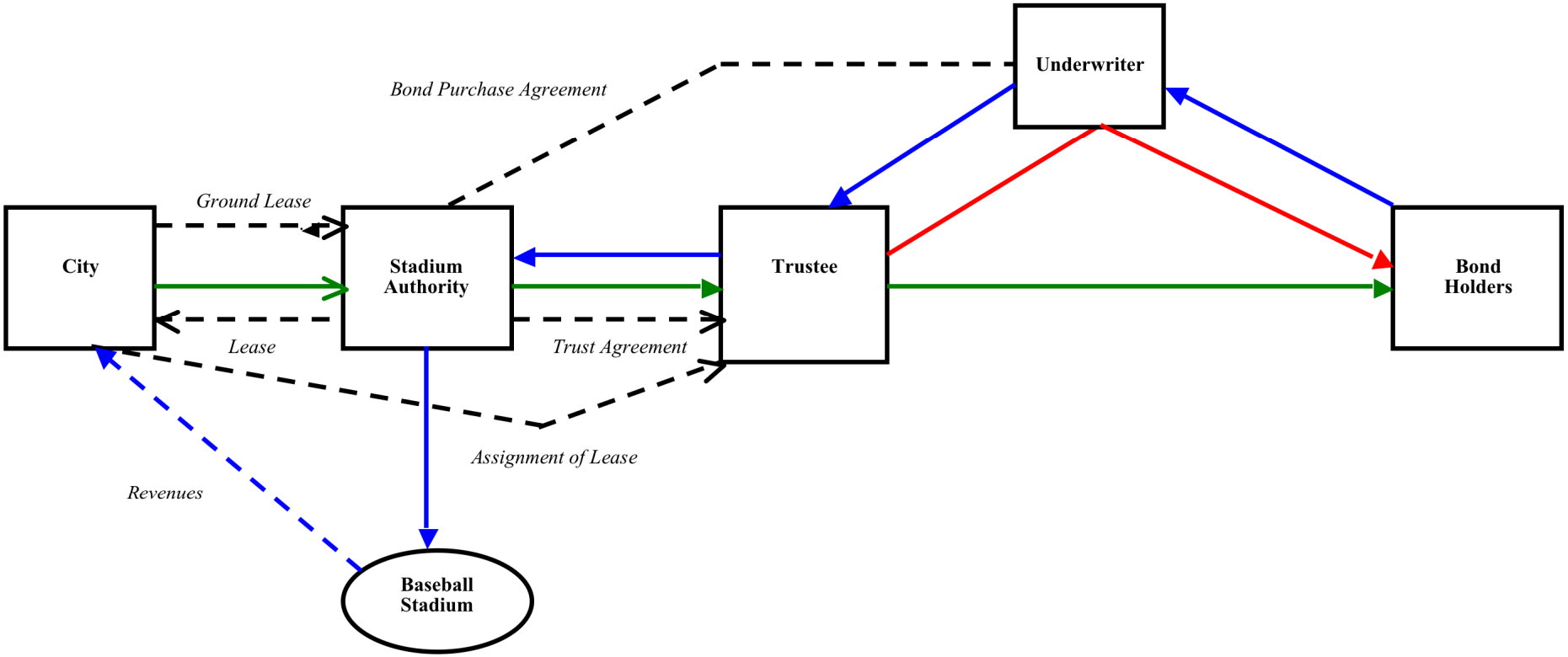
- The Authority issued bonds backed by lease payments to be made by the City to the Authority pursuant to a lease agreement for the use of the Ballpark. The City currently owns the land where the Ballpark will be built

  i. That land is ground leased to the Authority for the construction of the Ballpark
  ii. The land and Ballpark were then leased back to the City for annual rent payments equal to the debt service payments on the Authority's bonds

- The Authority assigned all of its rights, title and interest in the lease, including the lease payments, to a trustee for the benefit of Bondholders

- The Authority's bonds were sold based on the strength of the City's commitment to appropriate the annual lease payments. A schematic drawing of the financing structure follows

Plan of Finance - Schematic



Legend:

Lease payments

Bonds

Bond proceeds

Revenues to reimburse lease payments

Plan of Finance – The Financing Team

Issuer	Hartford Stadium Authority
Bond Counsel	Robinson+Cole
Financial Advisor	Municipal Resource Advisors, LLC
Underwriter	JEFFERIES & CO. ; *William Blair*
Underwriter's Counsel	Shipman & Goodwin LLP Counselors at Law
Disclosure Counsel	Murtha Cullina Attorneys at Law

Legal Aspects

Review of Statute

Review of the Act (CGS Section 7-130a to 7-130w)

- Projects: include playing fields, auditoriums, exhibition halls, stadiums, parking facilities, and other facilities for the public convenience, including restaurants and other concessions, and appurtenances thereto which the authority may deem necessary and desirable

- Financing:

  - Revenue bonds secured solely by project revenues may be issued (Section 7-130g)

  - Lease revenues and the leases of the project may be assigned to secure bonds (Section 7-130t)

  - Fixed or variable rate bonds (Section 7-130g(b))

  - Up to 50 year maturity (Section 7-130g(b))

  - The City may guaranty the authority's bonds (Section 7-130s)

Review Of Statute Con't

- Authority acts as "on behalf of issuer"
- Rev. Rul. 57-187 requirements for a constituted authority to be considered a "governmental unit":
  - the issuance of bonds is authorized by a specific state statute;
  - the bond issuance has a public purpose (e.g., promotion of trade, industry and economic development);
  - the governing body of the authority is controlled by the City;
  - the authority has the power to acquire, lease, and sell property and issue bonds in furtherance of its purposes;
  - the authority's earnings do not inure to the benefit of private persons; and
  - upon dissolution, title to all bond-financed property reverts to the City.

Tax Analysis

Tax Exempt vs. Taxable Bond Analysis

- Private business use ("PBU") and private payments/private security = private activity (taxable bonds)

- Private Business Use:
  - Use by private entities (e.g., Team) treated as PBU
  - Use by the City and the general public (schools, recreation, etc.) treated as tax-exempt use
  - Private ownership of stadium land treated as PBU
  - All use agreements (leases, management contracts, etc.) reviewed for PBU
  - Sublease to Team creates PBU

Strength of Lease Payment

Private Payment/Security

- Payments from private entities (e.g., Team lease payment) will be treated as private payment
- Payments from "generally applicable taxes" (e.g., property taxes) will not be treated as private payments
- Each payment to the City in connection with the facility was reviewed
- Arrangements with developer (PILOTs, construction guarantees, etc.) were reviewed
- Private payments present valued to determine tax-exempt vs. taxable split
- TRA requires annual monitoring of projections in the future
- No leasehold mortgage on stadium

Final Results

Critical Financing Factors

Essentiality of Stadium

- The legal structure of this financing constitutes a ***Subject to Annual Appropriation*** pledge by the City to make lease payments to the Authority which in turn will cover debt service payments

- The rating agencies and bond insurers evaluate this type of credit based on the ***Essentiality*** of the project which directly correlates to the City potentially not making the appropriation and thus causing a default

- The finance team was able to effectively communicate to Standard & Poor's the essentiality of the project – cornerstone of the DoNo economic development project – and obtain a rating of "A+" which is one notch below the City's Standard & Poor's rating of "AA-." This is standard for appropriation backed credits

- The bond insurers were not as comfortable regarding essentiality and decided not to offer bond insurance for the project

Critical Financing Factors

Affordability of Stadium Financing

- For financial and political reasons, a maximum annual debt service number of $4.267 million was established

- By setting a debt service limit of $4.267 million, the City would be able to save approximately $11 million versus the financing package that was put forth by the developer which included three five-year escalators to the initial lease payment

- Through turbulent markets, the finance team was able to meet this threshold as shown on a subsequent slide

Plan of Finance – Structuring Assumptions

- Par Amount $62.45 million
- Final structure is 65% tax-exempt and 35% taxable
- Debt service dates are February 1st and August 1st with principal paid February 1st
- Capitalized interest for the first 18-months; first principal payment not due until February 2017 and amortizing until 2042
- Debt Service Reserve Fund funded at 50% of MADs
- No security interest in the stadium/land (i.e., no leasehold mortgage)

The City intends to appropriate the annual debt service payment in each year's budget and reimburse itself from identified revenues

Plan of Finance – Final Sources & Uses

Sources:	Series 2015A (Tax-Exempt)	Series 2015B (Taxable)	Total
Bond Proceeds			
Par Amount	$39,055,000.00	$23,395,000.00	$62,450,000.00
Net Original Issue Premium (Discount)	1,730,341.10	(807,595.40)	922,745.70
	$40,785,341.10	$22,587,404.60	$63,372,745.70

Uses:	Series 2015A (Tax-Exempt)	Series 2015B (Taxable)	Total
Project Fund Deposits			
Project Fund	$36,400,000.00	$19,600,000.00	$56,000,000.00
Other Fund Deposits			
CAPI (18-Months- through 8/1/16)	2,545,865.97	1,805,882.81	4,351,748.78
DSRF (50% of MADS)	1,284,825.00	846,890.63	2,131,715.63
	3,830,690.97	2,652,773.44	6,483,464.41
Delivery Date Expenses			
Cost of Issuance*	554,650.13	334,631.16	889,281.29
	$40,785,341.10	$22,587,404.60	$63,372,745.70

* Includes: underwriter's discount, legal fees, trustee fees, financial advisor and miscellaneous costs

Plan of Finance – Final Debt Service

Period Ending	Principal	Interest	Total Debt Service	Capitalized Interest	Net Debt Service
6/30/2016	$-	$2,836,633.14	$2,836,633.14	$2,836,633.15	-0.01
6/30/2017	1,230,000	3,030,231.25	4,260,231.25	1,515,115.63	2,745,115.62
6/30/2018	1,290,000	2,967,100.00	4,257,100.00		4,257,100.00
6/30/2019	1,355,000	2,900,893.75	4,255,893.75		4,255,893.75
6/30/2020	1,425,000	2,831,343.75	4,256,343.75		4,256,343.75
6/30/2021	1,500,000	2,758,200.00	4,258,200.00		4,258,200.00
6/30/2022	1,580,000	2,681,193.75	4,261,193.75		4,261,193.75
6/30/2023	1,660,000	2,600,075.00	4,260,075.00		4,260,075.00
6/30/2024	1,745,000	2,514,843.75	4,259,843.75		4,259,843.75
6/30/2025	1,810,000	2,447,650.00	4,257,650.00		4,257,650.00
6/30/2026	1,880,000	2,377,675.00	4,257,675.00		4,257,675.00
6/30/2027	1,975,000	2,281,068.75	4,256,068.75		4,256,068.75
6/30/2028	2,080,000	2,179,581.25	4,259,581.25		4,259,581.25
6/30/2029	2,190,000	2,072,693.75	4,262,693.75		4,262,693.75
6/30/2030	2,295,000	1,960,137.50	4,255,137.50		4,255,137.50
6/30/2031	2,420,000	1,842,181.25	4,262,181.25		4,262,181.25
6/30/2032	2,540,000	1,717,787.50	4,257,787.50		4,257,787.50
6/30/2033	2,670,000	1,587,225.00	4,257,225.00		4,257,225.00
6/30/2034	2,810,000	1,449,975.00	4,259,975.00		4,259,975.00
6/30/2035	2,955,000	1,305,518.75	4,260,518.75		4,260,518.75
6/30/2036	3,100,000	1,153,587.50	4,253,587.50		4,253,587.50
6/30/2037	3,265,000	994,200.00	4,259,200.00		4,259,200.00
6/30/2038	3,410,000	846,618.75	4,256,618.75		4,256,618.75
6/30/2039	3,565,000	692,343.75	4,257,343.75		4,257,343.75
6/30/2040	3,725,000	530,906.25	4,255,906.25		4,255,906.25
6/30/2041	3,900,000	362,037.50	4,262,037.50		4,262,037.50
6/30/2042	4,075,000	185,068.75	4,260,068.75		4,260,068.75
Total	**62,450,000**	**51,106,770.64**	**113,556,770.64**	**4,351,748.78**	**107,073,306.23**

Office of Connecticut State Treasurer
Denise L. Nappier

2015 Public Finance Outlook Conference

Tax Exempt & Government Entities

IRS Office of Tax Exempt Bonds

Overview of Compliance Issues & Programs

April 2, 2015

- Jim Held

Tax Law Specialist, Tax Exempt Bonds
Compliance & Program Management

James.L.Held2@IRS.gov

401-528-1869

DISCLAIMER

The information contained in this presentation is current as of the date it was presented. It should not be considered official guidance. The information is merely a summary of key points. Reference should be made to applicable sections of the Internal Revenue Code, Income Tax Regulations, and Internal Revenue Manual.

TEB Organization Structure

- Director

  Rebecca Harrigal

- Compliance & Program Management

  Karen A. Skinder

- Field Operations

  Bob C. Griffo

Key TEB Programs

- Enforcement
  Market segment examinations

- Voluntary Compliance
  Notice 2008-31 and IRM 7.2.3

- Education & Outreach
  www.irs.gov/Tax-Exempt-Bonds
  Compliance guides and other publications
  Conference and virtual presentations

Bond Examinations

- How can you prepare?

- Maintain Adequate Records
  - Copy of the Bond Transcript
  - Schedule of interest payments
  - Amended bond documents
  - Management contracts
  - How were the proceeds used
  - Rebate report
  - Escrow verification report for refundings

Post-Issuance Compliance

- On-going federal tax compliance requirements
  Applicable after issuance and for so long as the bonds remain outstanding

- Issuer, Conduit Borrower (and possibly others) keeping promises made to maintain qualification for tax-favored treatment

- Tax covenants (promises) in bond documents
  Tax certificate (or tax agreement), indenture, bond ordinance, or resolution

Consequences of Failed Compliance

- Issuer, Conduit Borrower (and possibly others) failure to comply with covenants could result in a loss of tax-favored status

  (Assuming covenants satisfy all federal tax requirements)

- Bondholders lose exclusion of interest income or availability of tax credits
- Issuer loses refundable credit payments

Causes of Compliance Failures

- Inadvertent failures
  - Misunderstanding
  - Lack of attention
- Change of facts or expectations
- Change in use of facilities

Self-Correction Actions

- Qualification Requirements
  - Redemption or defeasance of nonqualified bonds within 90 days of the deliberate action
  - Alternative use of disposition proceeds within 2 years of the deliberate action
  - Alternative use of bond-financed property
  - Qualified 501(c)(3) bonds treated as reissued (e.g. public approval and Form 8038 filing requirement)

Self-Correction Actions

- Violations of arbitrage requirements
  - Intentional act
  - Cannot be self-corrected but in some cases a yield reduction payment may be allowed
  - VCAP available when there are no self-correction options

Importance of Compliance Monitoring Procedures

- Self-correction actions must be completed within set time periods
- Some self-correction actions have prerequisites (e.g., notices to bondholders)
- Written procedures promote early awareness and due diligence monitoring

Issuers' Use of Written Procedures

- Some issuers and borrowers have well-crafted tax certificates and use the certificates in their operations to monitor post-issuance compliance for those bonds
- Some issuers and borrowers have adopted and implemented effective written procedures governing post-issuance compliance monitoring for all of their bonds

Written Procedures

- What Should Written Procedures Cover?
  - Procedures should include:
    - Due Diligence review at regular intervals;
    - Identifying the official or employee responsible for the review;
    - Training of the responsible official/employee;
    - Retention of adequate records to substantiate compliance;
    - Procedures reasonably expected to timely identify noncompliance; and
    - Procedures for taking timely actions to resolve the noncompliance.

TEB Voluntary Closing Agreement Program (VCAP)

- Issuer can request relief under VCAP
  - If no self-correction option is available
  - If the issuer misses the required time period
  - If other prerequisites are not able to be satisfied

- VCAP resolution more favorable than if similar matter was resolved under examination

For More Information Visit www.irs.gov/Tax-Exempt-Bonds

- Click “TEB Post-Issuance Compliance”

  Article providing basic concepts

- Click “TEB Voluntary Compliance”

  Links to articles on self-correction options and private letter rulings

  Links to Notice 2008-31 and other guidance

  Links to the VCAP IRM

Available Resources

Department of the Treasury Internal Revenue Service

www.irs.gov

Tax Exempt Bonds Website

www.irs.gov/Tax-Exempt-Bonds

TEB/CPM Community Outreach

tege.teb.cpm@irs.gov

Office of Connecticut State Treasurer
Denise L. Nappier

2015 Public Finance Outlook Conference

Goldman Sachs

INVESTMENT BANKING DIVISION

The Developing Green Bond Market

2015 Public Finance Outlook Conference

April 2, 2015

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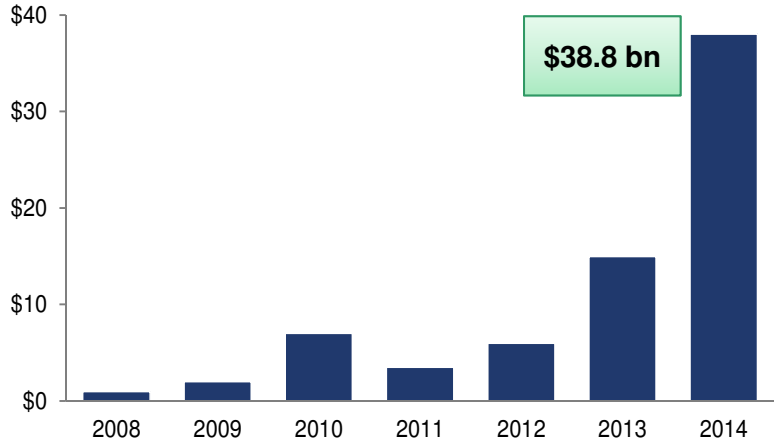
The Green Bond Market

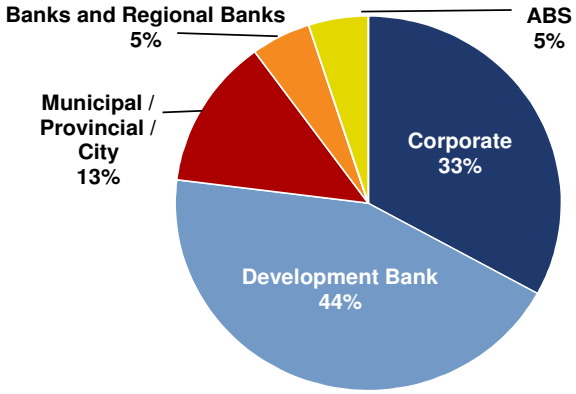
Overview

- Green Bonds are financings where the use of proceeds are exclusively directed towards environmentally beneficial purposes
- "Green Bond" was first coined and issued in 2008 by the World Bank and issuance in the early stages of the market was from supranationals (e.g., World Bank, IFC, EIB)
- Recently, issuers have expanded to corporate and municipal entities, size of issuance has significantly increased, and investor demand has expanded

Green Bond Issuance, 2008 – 2014 ($bn)[1]



Types of Green Bond Issuers (2014)[2]



Media Coverage

Green bond market "to grow by $100bn this year", after smashing records in 2014 – Environmental Finance, Jan 2015

The green bond market more than tripled in 2014… prediction that it will see a further $100 billion of issues this year.

Investors Warm to Green Bonds – WSJ, April 2014

"Eco-Friendly Debt: The green bond market has seen a sharp uptake in interest."

Climate focus drives demand for green bonds FT, March 2014

Green bond issuance is estimated to have increased more than fivefold last year... the surge is continuing.

[1]Source: Bloomberg New Energy Finance
[2]Source: Climate Bonds Initiative

Potential Uses of Proceeds

Potential use of "green" proceeds is broad and it is important for the issuer to define and be transparent on the uses and environmental benefits

Green Bonds "Taxonomy" [1]

Energy	Energy Efficiency	Transport	Water	Waste Management	Land-use	Adaptation Infrastructure
Renewables	Green Commercial Buildings	Public Transport: Rail, BRTs etc	Stormwater Adaptation Investment	Waste Water Treatment & Methane Capture	Sustainable Forestry & Supply Chains	Adapting Infrastructure to Increased Heat Stress
Distribution / Management	Green Residential Mortgages	Electric Vehicle Infrastructure	Investment to Deal with Rainfall Volatility	Waste to Energy	Sustainable Agriculture & Supply Chains	Ports Redevelopment to Address Sea Level Rise
Energy Storage	EE Technology & Products	Cycling Rental Schemes & Infrastructure	Water Treatment and Recycling			Storm Surge Protection
Products / Tech that Support Smart Grid	Industrial Retrofits	Low Emission Vehicles	Waterways Adaptation			Broadband
Data-Centers Using RE						

[1] *Climate Bonds Initiative*

Green Bond issuance can lead to investor diversification and expanded demand

Investor Commitments to Grow the Sector: UN Climate Summit (September 2014) [1]

Organization	Sector	Green Bond Holdings	Pledge
California Treasury	State Treasury	$1,100 mm	Make green bonds an ongoing feature of infrastructure financing program
Barclays	Bank	$700 mm	Invest $1.6 bn in green bonds by November 2015
ACTIAM	Asset Management	$634 mm	Increase holdings to at least EUR 1 bn by end of 2015
Zurich	Insurance	-	Invest $2 bn in green bonds
Aviva	Asset Management	-	Grow green bond portfolio in 2015

Growing Group of Funds Dedicated to Green Bonds

Calvert Launches Diversified Green Bond Fund
Investment News, October 31, 2013

State Street Global Advisors Launches Green Bond Strategy
Bloomberg, October 11, 2011

Selected Investors Signing Investor Statements

Addenda Capital	Allianz
AXA Investor Mgmt	Blackrock
BNP Paribas Inv. Partners	Boston Common Asset Mgmt
Breckinridge Capital Advisors	CALSTRS
Calvert Investments	Natixis/Mirova
NEI Investments	Pax World Management
PIMCO	Standish Mellon
TIAA – CREF	Zurich

[1] *Source: Bloomberg New Energy Finance: Q4 Green Bonds Market Outlook; October 20, 2014; Holdings based on announcements made at September 2014 UN Climate Summit*

Green Bond issuance can underscore sustainability / green credentials of issuer

Energia Eolica brings dawn to LatAm green bond market

LatinFinance, December 17, 2014

Peruvian windfarm operator Energia Eolica became the first Latin American issuer to sell a green bond when it priced a 6% $204m 2034 project bond in mid-December…But the deal it was the first from the region to be certified by auditors as complying with a series of green bond conditions, LatinFinance understands. Those requirements include the funding being used specifically for a project that has describable, quantifiable and/or assessable environmental benefits.

Hawaii paves the way with first green-energy ABS

International Financing Review, November 19, 2014

Hawaii has become the first state in the union to tap the securitization market with a US$150m green energy bond, a rare capital markets transaction designed to meet a social purpose.

Big Bids for 'Green' D.C. Bonds

Wall Street Journal, July 11, 2014

The District of Columbia Water and Sewer Authority had little trouble selling $350 million in debt on Thursday, called "green bonds" because the proceeds will be used for environmentally friendly purposes. The deal was billed as the first-ever green bond to carry a 100-year maturity.

Unilever issues £250m Green Bond

Financial Times, March 19, 2014

Unilever, the world's second largest food producer by sales, has issued a £250m "green bond" – a development that could open a new chapter for this form of financing… Paul Polman, chief executive of Unilever, the world's second largest food producer by sales, is one of the most vocal chief executives on environmental issues.

Unibail-Rodamco's €750m green bond 'could be first of many

Environmental Finance, February 21, 2014

Commercial real estate company Unibail-Rodamco hopes to repeatedly tap the green bond market after its inaugural €750 million ($1 billion) issue was more than three-times oversubscribed.

What is Required to Issue a Green Bond?

Green Bond Principles[1]

In 2014, a consortium of banks came together in support of a **voluntary set of principles** for issuing green bonds.

The focus is on **transparency, disclosure and integrity, and not to define for the market what is "green"**

In March 2015, the Principles were updated to include feedback from a broader group of stakeholders including issuers, investors and intermediaries in the Green Bond market

Use of Proceeds

- Declare eligible Green Project categories
- Should provide clear environmental benefits, and where feasible, be quantified and / or assessed
- Categories Include:
  - Clean and drinking water
  - Renewable energy / energy efficiency
  - Green infrastructure
  - Sustainable waste management
  - Public and clean transportation
  - Sustainable land use and biodiversity conservation

Evaluation / Selection

- Decision-making process should be disclosed / outlined
- Metrics should allow projects to fit within the Eligible Projects definition
- If possible, "Impact Objectives" should be established for Projects
- Overall environmental and social / governance framework considered

Management of Proceeds

- Net proceeds should be segregated and/or specifically tracked
  - Process should be disclosed
- Unallocated proceeds should be invested according to pre-set guidelines
- Integrity enhanced with external auditor or 3rd party verification

Reporting / Assurance

- Annual reporting on specific investments made from Green Bond proceeds
- Use of performance indicators to measure impact of investments (e.g. reduction in GHG emissions, # of people given access to clean power or water)
- Levels of independent assurance:
  - Second party consultation
  - Publicize recommendations of expert
  - Third party, independent verification / certification

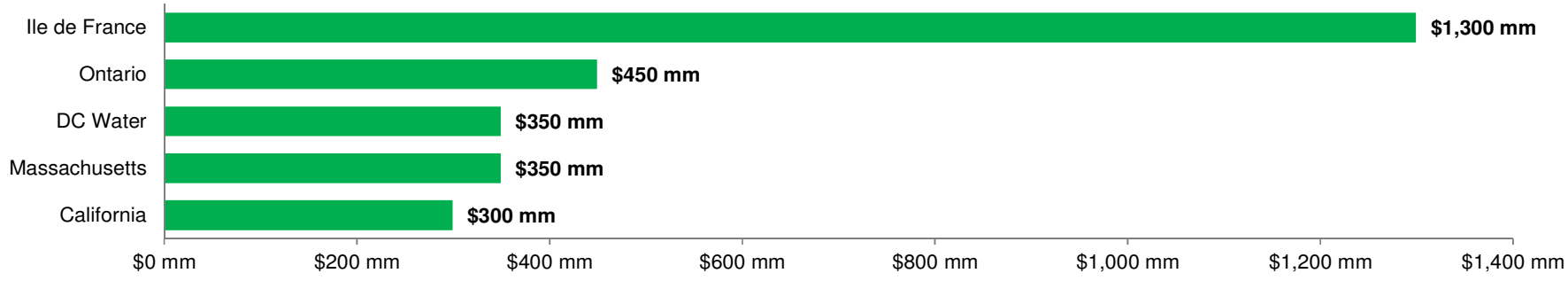
[1] *http://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/green-bonds/*

The Global Green Bond Market

Select Corporate Transactions from 2014

Issuer	Date	Size	Opinion	Use of Proceeds
Energia Eolica SA	Dec 2014	$204mm	-	■ Wind energy project
NRG Yield	Aug 2014	$500mm	-	■ Acquisition of renewable energy
Advanced Semiconductor Engineering (ASE)	July 2014	$300mm	CICERO	■ Green buildings, energy efficiency, waste water recycling
Vornado Realty	Jun 2014	$450mm	-	■ Green buildings
GDF Suez	May 2014	€3.5bn	Vigeo	■ Energy efficiency & renewable energy
County of Stockholm	May 2014	SEK1.8bn	CICERO	■ Transport & green buildings
Regency Centers	May 2014	$250mm	-	■ LEED (or similar equivalent) certified buildings
Iberdrola	April 2014	€750mm	Vigeo	■ Finance eligible green projects: wind power, smart metering
Unilever	March 2014	£250mm	DNV	■ Environmentally sustainable projects (greenhouse gas emissions, water waste reduction projects)
Unibail Rodamco	Feb 2014	€750mm	-	■ Environmentally friendly assets (finance buildings in compliance with the BREEAM sustainability standard)

Top 5 Municipal/Provincial/Local Government Issuers Globally in 2014 (USD)

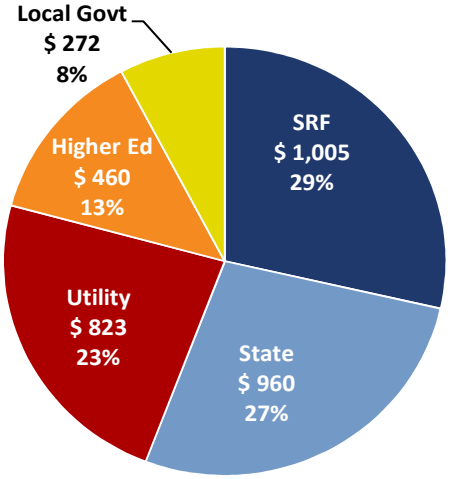


The US Municipal Green Bond Market

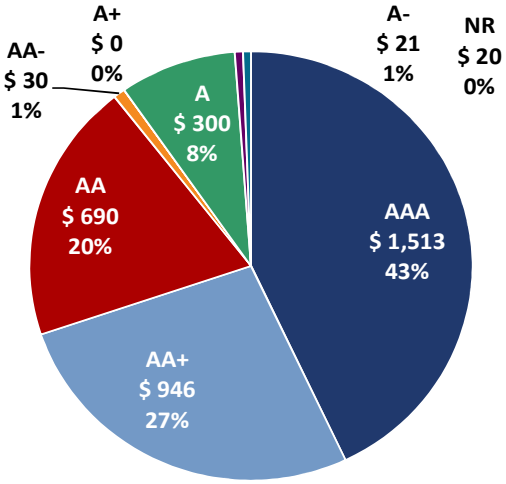
US Municipal issuance took off in the 2nd half of 2014

- First US municipal issue in 2013, followed by 17 issuances in 2014 and 7 completed YTD
- Total of 25 issues from 23 distinct issuers
- Size ranges from $15 million to $350 million
- Total US municipal amount issued: $3.5 bn
- Two taxable transactions – $500 million (14%)

US Municipal Green Bonds by Issuer Type



US Municipal Green Bonds by Rating (S&P)



Note: All data as of March 31, 2015

U.S. Municipal Green Bond Issuances

Municipal Green Bonds

Issuer	Sale Date	Size ($mm)	Use of Proceeds	Opinion
University of Virginia	03/04/15	$97.90	LEED Building projects	-
Arizona State University	03/04/15	$181.78	LEED Building projects	-
Indiana Finance Authority SRF	02/25/15	$140.09	Clean water and safe drinking water projects	-
City of Venice Utility	02/19/15	$15.36	Clean water and safe drinking water projects	-
City of Tacoma Solid Waste	02/11/15	$20.39	Clean-air target vehicle upgrades	-
Iowa Finance Authority SRF	02/04/15	$323.46	Clean water and safe drinking water projects	-
Indiana Finance Auth SRF	01/20/15	$100.00	Clean water and safe drinking water projects	-
Met Water Reclamation Dist of Gtr Chicago GO	12/15/14	$225.00	Water quality projects	-
MA Clean Water Trust State Revolving Fund	12/10/14	$228.36	Clean water and safe drinking water projects	-
MA State College Building Authority	12/10/14	$91.38	LEED Building projects	-
Indiana University Student Fee	12/10/14	$58.96	LEED Building projects	-
Utah Associated Muni Power System	12/09/14	$21.39	Heat recovery / power conversion	-
University of Cincinnati General Receipts	12/03/14	$30.42	LEED Building projects	-
State of Connecticut GO	11/20/14	$60.00	Clean water projects	-
City of Spokane Water & Wastewater	11/18/14	$181.23	Clean water and drinking water projects	CH2MHill
Jefferson Cnty IDA (ReEnergy Black River LLC) - AMT	11/12/14	$20.10	Conversion of coal to biomass-fired power	-
Martha's Vineyard Land Bank	11/04/14	$35.03	Environmentally beneficial land use	-
State of Hawaii GEMS – Taxable	11/04/14	$150.00	Loans for energy efficiency / renewables	-
Metropolitan Dist Hartford Cty Clean Water	10/28/14	$140.00	Clean water projects	-
East Central Regional Wastewater (FL)	10/28/14	$86.59	Bio-solid treatment and waste management	-
State of California GO	09/23/14	$300.00	Various environmentally beneficial projects	-
The Commonwealth of MA GO	09/18/14	$350.00	Various environmentally beneficial projects	-
District of Columbia Water and Sewer Authority - Taxable	07/10/14	$350.00	DC Clean Rivers Project	Vigeo
New York State EFC	06/03/14	$213.15	Clean water and safe drinking water projects	-
The Commonwealth of MA GO	06/04/13	$100.00	Various environmentally beneficial projects	-

Investor Participation in Municipal Green Bonds

Top Holders by Par Amount

	Account	($000)
1	Vanguard Group Inc, The	125,850
2	BlackRock	95,547
3	Teachers Advisors Inc (TIAA-CREF)	72,330
4	Fidelity Management & Research Company	68,990
5	Western Asset Management Co (WAMCO)	66,166
6	Nuveen Asset Management LLC	64,540
7	Boston Management & Research	28,248
8	Standish Mellon Asset Management Co LLC	23,201
9	Deutsche Asset Management	21,636
10	Northern Trust Global Advisors Inc	17,010

Top Holders by Number of Credits

	Account	Credits
1	Nuveen Asset Management LLC	7
2	Vanguard Group Inc, The	6
3	Standish Mellon Asset Management Co LLC	6
4	BlackRock	5
5	Fidelity Management & Research Company	5
6	Boston Management & Research	4
7	Deutsche Asset Management	4
8	Northern Trust Global Advisors Inc	4
9	AllianceBernstein LP	4
10	Columbia Management Invest. Advisors LLC	4

Commentary

- Nearly 60 separate institutional buyers of tax-exempt municipal green bonds identified
  - Includes non-traditional municipal investors such as TIAA-CREF, Calvert, and Pax World Management
- Preference for Green Bonds from high net worth individuals in separately managed accounts, or direct purchases
- Investors track Green Bond issuances, even if they do not have a specific mandate
- Investors anticipate potential future demand for municipal Green Bonds to be driven by expansion of new investor funds
  - No pricing differential as of now, but expansion of retail interest could help drive future pricing

Source for investor holdings: Thomson Reuters eMAXX

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