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May 20, 2019

Pension Obligation Bonds Discussion
City of West Covina

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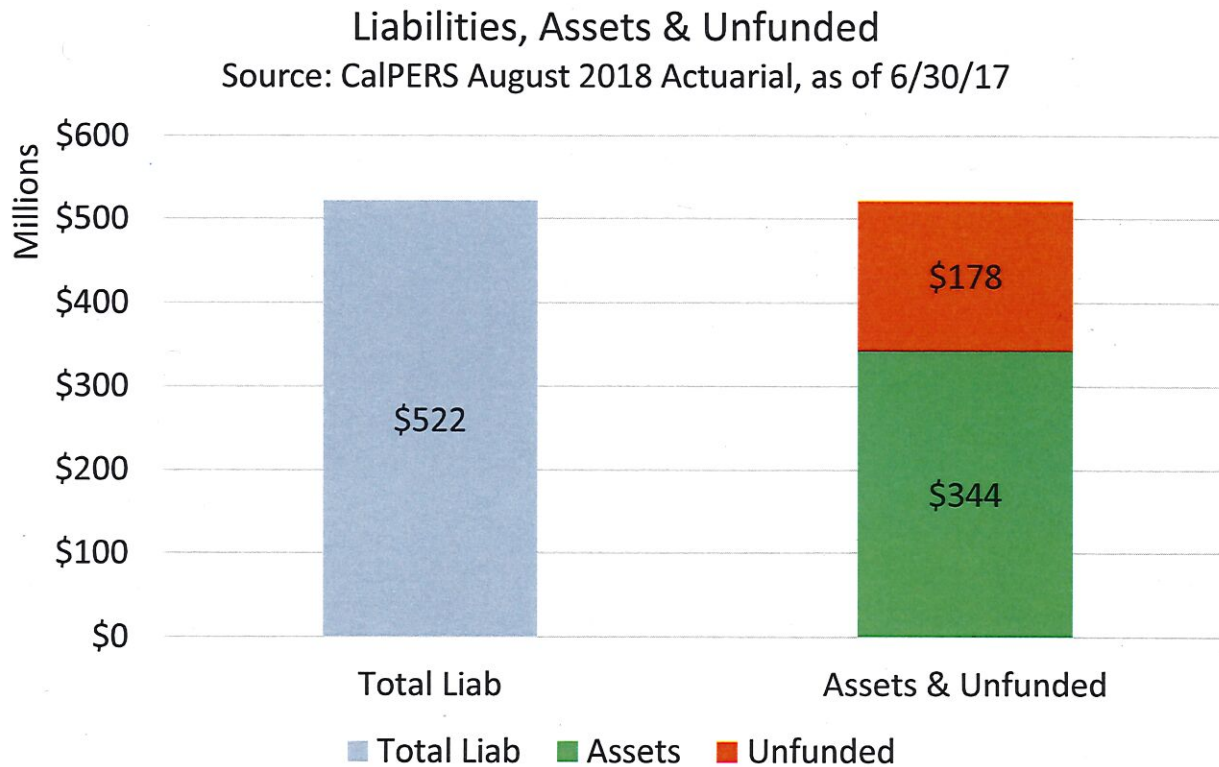
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City's CalPERS Liabilities

Tab 1

Projected Liabilities, Assets & Unfunded Liabilities

- Projections in this chart are from the August 2018 CalPERS actuarial study, as of 6/30/17
- Includes Safety and Miscellaneous, combined funded ratio is 65.8% @ 7.25% Discount Rate
- Reducing discount rate to 7.0% results in \$14.5 million of additional unfunded liabilities



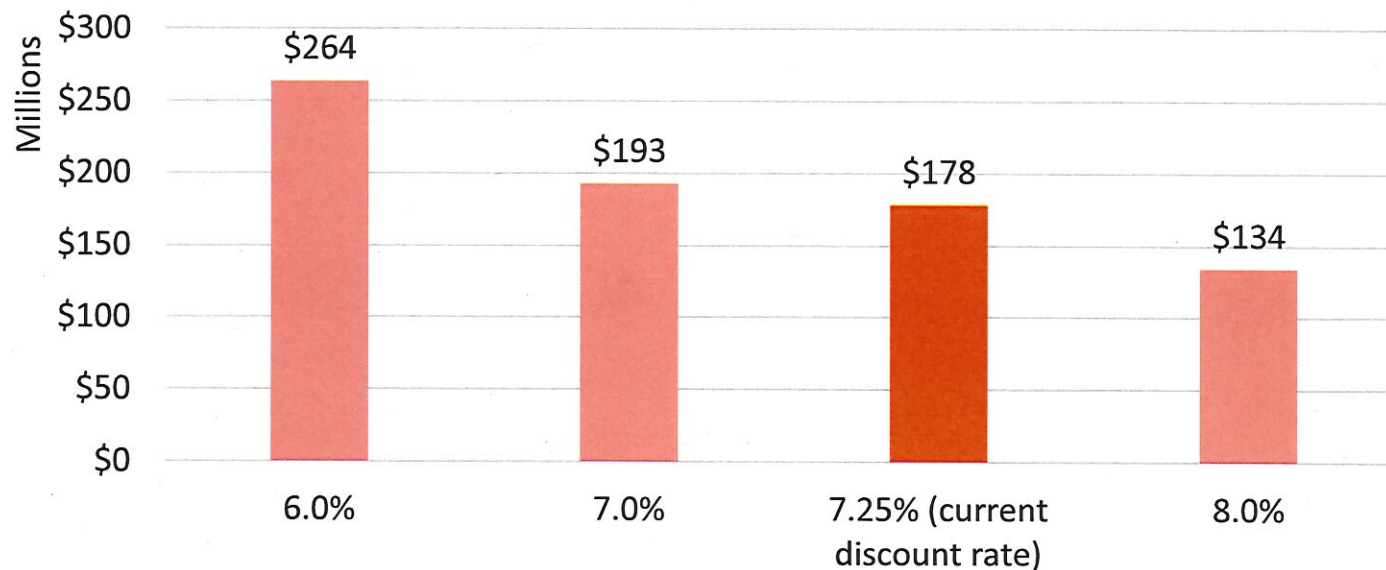
Projected Safety and Miscellaneous Unfunded Liabilities

Effects of Different Discount Rates

- Many retirement systems have decreased discount rates, commonly by 25-50 basis points; cumulative changes are often larger, e.g., 100 basis points
- CalPERS used a 7.25% discount rate and 61% funded ratio in its August 2018 study
- CalPERS is moving to a 7.0% discount rate

Unfunded Liabilities at Different Discount Rates

Source: CalPERS August 2018 Actuarial, as of 6/30/17



Overview of California Pension Obligation Bonds

Tab 2

What is a Pension Obligation Bond (“POB”)?

- A bond issued by a municipality from which the proceeds are used to reduce the accrued unfunded liabilities of its pension system (in this case, CalPERS)
- Because of the many variables a municipality must consider, no two situations are the same
- Bond proceeds are typically deposited into a retirement system (in the City’s case, CalPERS), and are managed in a similar manner to existing investments

What is a Pension Obligation Bond (“POB”)? (continued)

- Target funding levels for POBs can range up to 100%
- If investment returns at a retirement system are higher than POB borrowing costs, budgetary savings to the municipality are very likely
- Unlike most municipal bonds, interest payments on POBs are generally taxable for purpose of federal income taxes, which results in higher interest rates than a similar tax exempt bond from the same issuer

Common Goals for POB's

- Higher expected investment returns on investments at retirement system (e.g., 7% or 7.5%) than borrowing cost (e.g., 4%); this is sometimes referred to as “arbitrage”
- Shortening the time to pay off unfunded liabilities (e.g., 20 year bonds, vs up to 30 year amortization of unfunded liability with no bonds), or lengthening payout (especially for short existing amortizations or very peaked amortizations)
- Changing the payment pattern (e.g., a smooth pattern for bond repayment, vs an irregular pattern with no bonds). Smoother payment patterns make budgeting easier
- Raising the funded level of the pension plan (e.g., from 66% to 85, 90, or 100%)
- Up front budget savings

Legal Structure / Authorization of California POB's

- Most commonly “Obligations imposed by law”
 - In CA generally issued as refunding bonds under Local Agency Refunding Law (CA Government Code 53580-53589.5, see also CA Constitution Article XVI, Section 18) to refund a portion of the issuer’s outstanding obligation to the pension fund
 - Because the outstanding pension obligation is considered an “obligation imposed by law” it is exempt from the California constitutional prohibition on cities or counties incurring a debt or liability without a vote
 - A validation action is needed to establish that the bonds, as refunding bonds, take on the same characteristics as “obligations imposed by law” as the pension obligation being refunded (CA Code of Civil Procedure 860-870.5)
- Other structures seldom used in CA, or only used in other states include: Appropriation contingent bonds; lease – leaseback bonds; voter approved general obligation bonds

Sources: CA Debt Issuance Primer (CDIAC); CA Govt Code; CA State Constitution; CA Code of Civil Procedure

Will the Pension Fund Have Returns Higher Than Borrowing Costs?

- Good chance pension investment returns will be higher than borrowing costs at some points, and lower than borrowing costs at other points

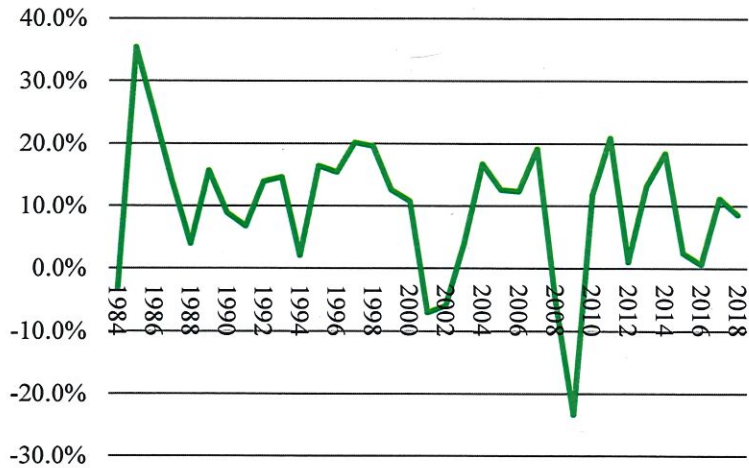
- An extensive Boston College study in 2014 on pension bonds found:
 - As of February 2014, *“over the period 1992-2014 – which includes both the financial crisis and the subsequent market rebound – the return was 1.5 percent”* (i.e., annual retirement system investment returns were 1.5% above borrowing costs)

- However, a similar approach would produce different results at different dates:
 - *“If the assessment date is the end of 2007 – the peak of the stock market – the picture looks fairly positive... If assessed in the middle of 2009 – right after the market crash – most POBs appear to be a net drain on government revenues. And, as of February 2014, the majority of POBs have produced positive returns due to the large market gains that followed the crisis.”*

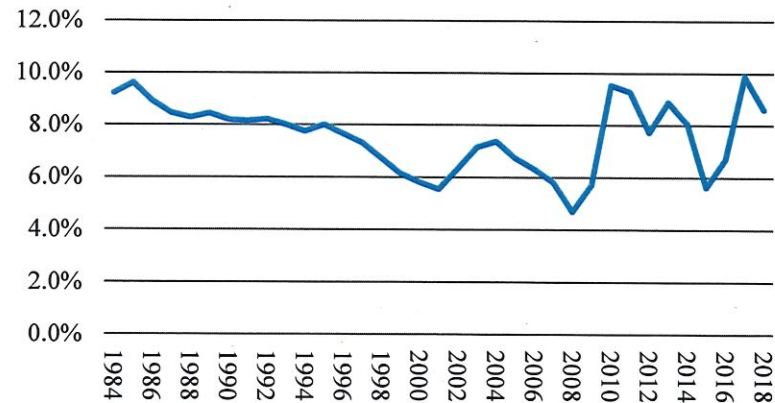
(source: Center for Retirement Research at Boston College, “An Update on Pension Obligation Bonds, 2014)

Historic CalPERS Investment Returns (Data per CalPERS)

**CalPERS FYE 6/30 Returns
(Geometric Avg 9.2%)**



**CalPERS Compound
Annualized Returns Through
6/30/18**



- Past experience does not guarantee future results: many factors could change in the future
 - Over the past 10 years, lower inflation and inflation expectations have reduced both borrowing costs and expected returns
 - For a particular asset allocation (e.g., 60% equity, 40% bonds), pessimistic investment consultants are often forecast expected return about 100 basis points below the average, optimistic consultants often about 100 basis points above the average

Potential Pension-Related Risks

	Pension No POB	Pension And POB
PRE-ISSUANCE		
Overall taxable borrowing rates might increase		Yes
Difficulty/delay with a validation suit		Yes
If delayed, authorization might expire		Yes
POST-ISSUANCE		
Discount Rate - Assumed future investment returns at CalPERS (e.g., lowering discount rate)	Yes	Yes
Actual investment returns affect contribution rates	Yes	Yes, and invested assets are larger
Demographic assumptions such as expected longevity affect contribution rates	Yes	Yes
New unfunded liabilities may appear	Yes	Yes
Contributions for normal cost for active employees may increase	Yes	Yes

Careful Analysis and Simulations Can Help

- Careful analysis, simulations, and knowledge of CalPERS, its actuarial methods, and the City's finances can help decide (regarding pension bonds):
 - Whether to issue
 - Sizing
 - Maturity
 - Amortization pattern (e.g., level debt service, or increasing 2% annually)
 - Credit structure and rating presentations
 - Effects of planned decrease in CalPERS discount rate from 7.5% to 7.0%, effects of potential future discount rate changes

Description of Key Risks from GFOA

- 1. The invested POB proceeds might fail to earn more than the interest rate owed over the term of the bonds, leading to increased overall liabilities for the government*
- 2. POBs are complex instruments that carry considerable risk. POB structures may incorporate the use of guaranteed investment contracts, swaps, or derivatives, which must be intensively scrutinized as these embedded products can introduce counterparty risk, credit risk and interest rate risk*
- 3. Issuing taxable debt to fund the pension liability increases the jurisdiction's bonded debt burden and potentially uses up debt capacity that could be used for other purposes. In addition, taxable debt is typically issued without call options or with "make-whole" calls, which can make it more difficult and costly to refund or restructure than traditional tax-exempt debt.*

Source: GFOA - Pension Bond Risks Jan 2015

Description of Key Risks from GFOA (cont'd)

- 4. POBs are frequently structured in a manner that defers the principal payments or extends repayment over a period longer than the actuarial amortization period, thereby increasing the sponsor's overall costs.*
- 5. Rating agencies may not view the proposed issuance of POBs as credit positive, particularly if the issuance is not part of a more comprehensive plan to address pension funding shortfalls.*

Only risk #1 from GFOA is unavoidable for responsible California city issuers of POBs

Source: GFOA - Pension Bond Risks Jan 2015

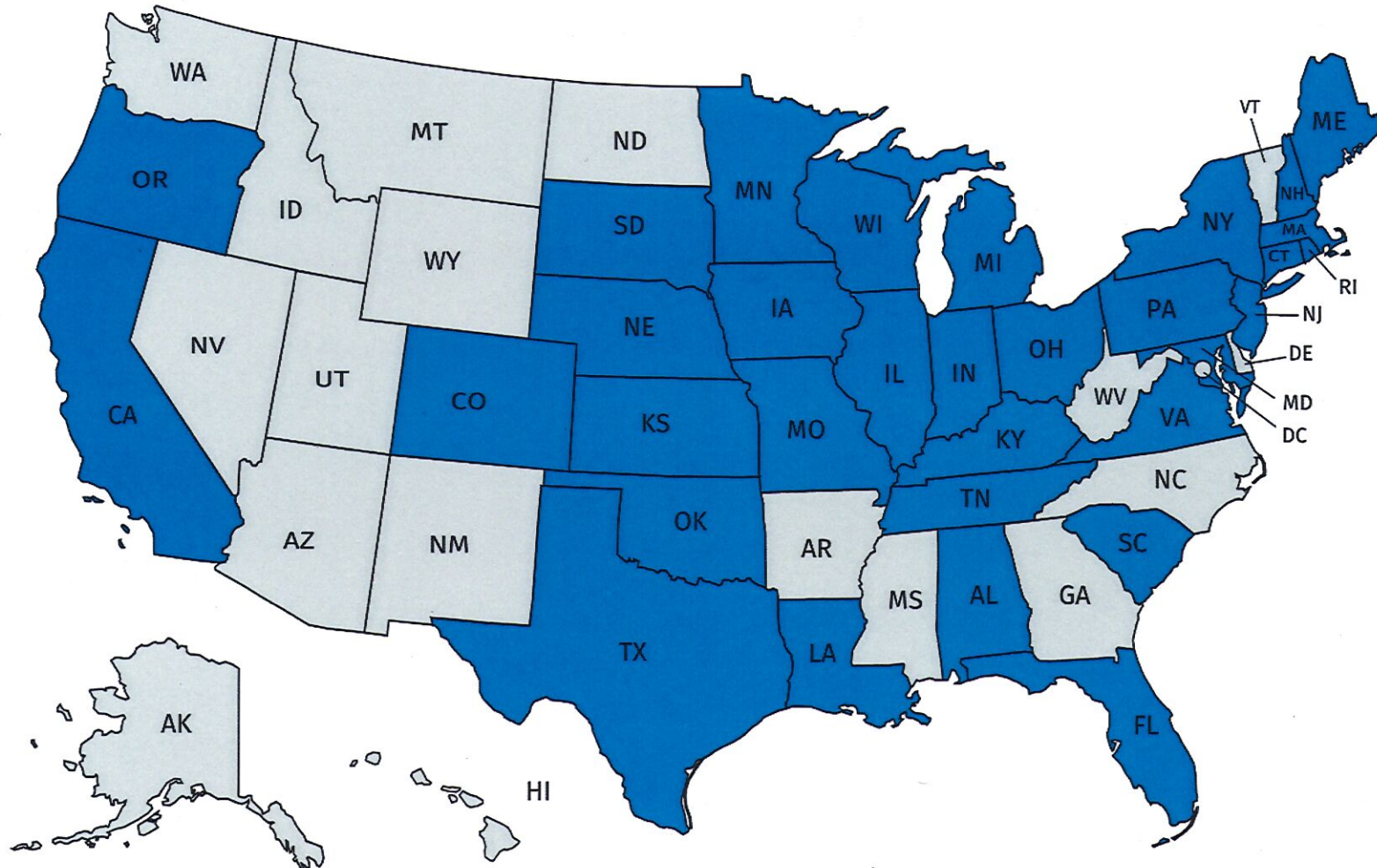
POB Issuance Statistics

- Since 1986 approximately:
 - \$106 billion in pension bonds have been issued
 - \$27 billion issued in California, from 77 issuers
 - Bonds have been issued in 32 states
 - Post 2012, all POBs have been sold as fixed rate bonds
 - Prior to 2009, many other structures were sometimes used (variable rate, etc.)

Data Sources: MSRB EMMA, IPREO, SDC, Bloomberg, Boston College

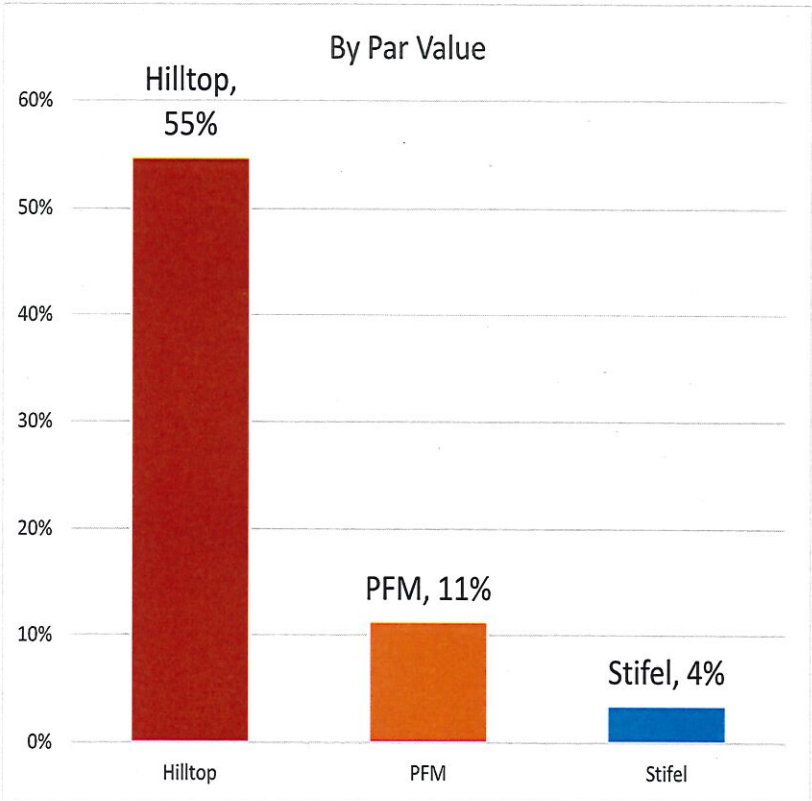
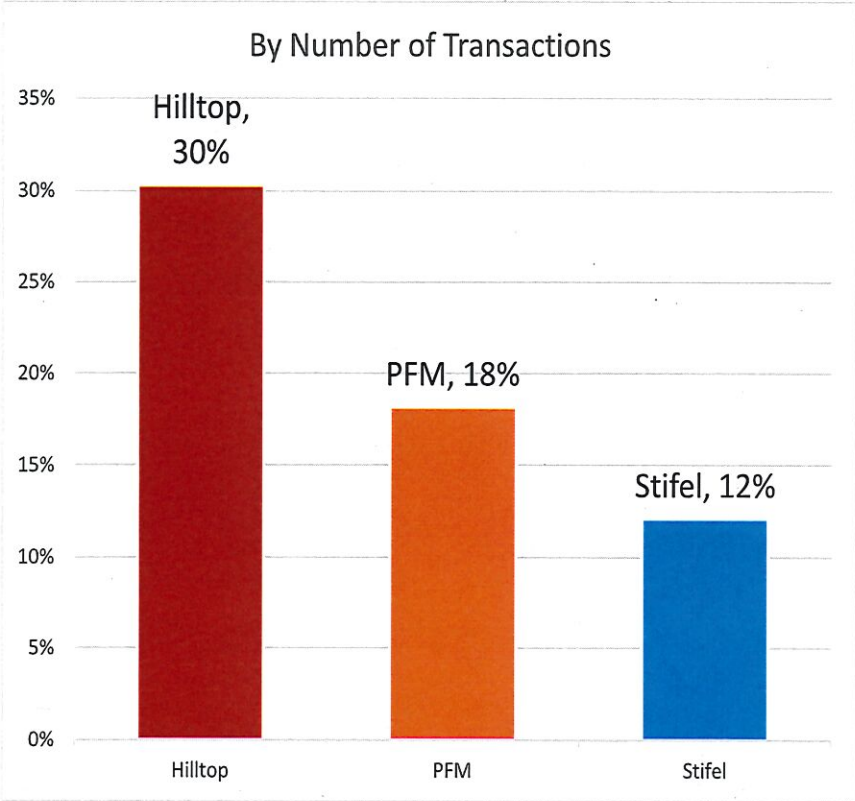
Pension Obligation Bond Issuance by State

1990 - 2018



Pension Obligation Bond Experience

Acting as Financial Advisor or Underwriter, 2017-2018

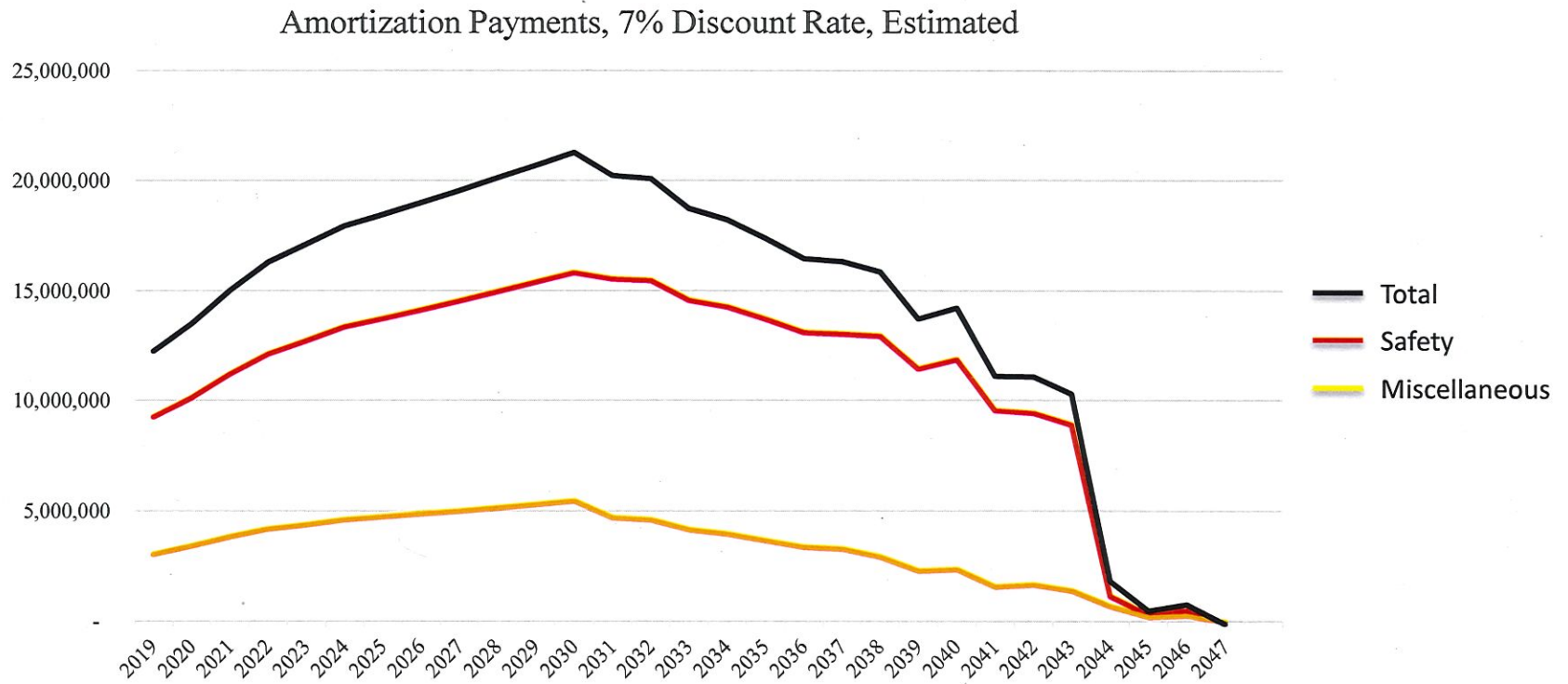


CalPERS' Amortizations & Potential POBs

Tab 3

CalPERS' Amortization (August 2018 Actuarial)

- Chart uses 7.0% discount rate
- CalPERS' amortization is a projection, and will likely change due to causes such as:
 - Changes in actuarial assumptions, such as expected long term investment returns, inflation, retirement age, and mortality
 - Actual investment returns

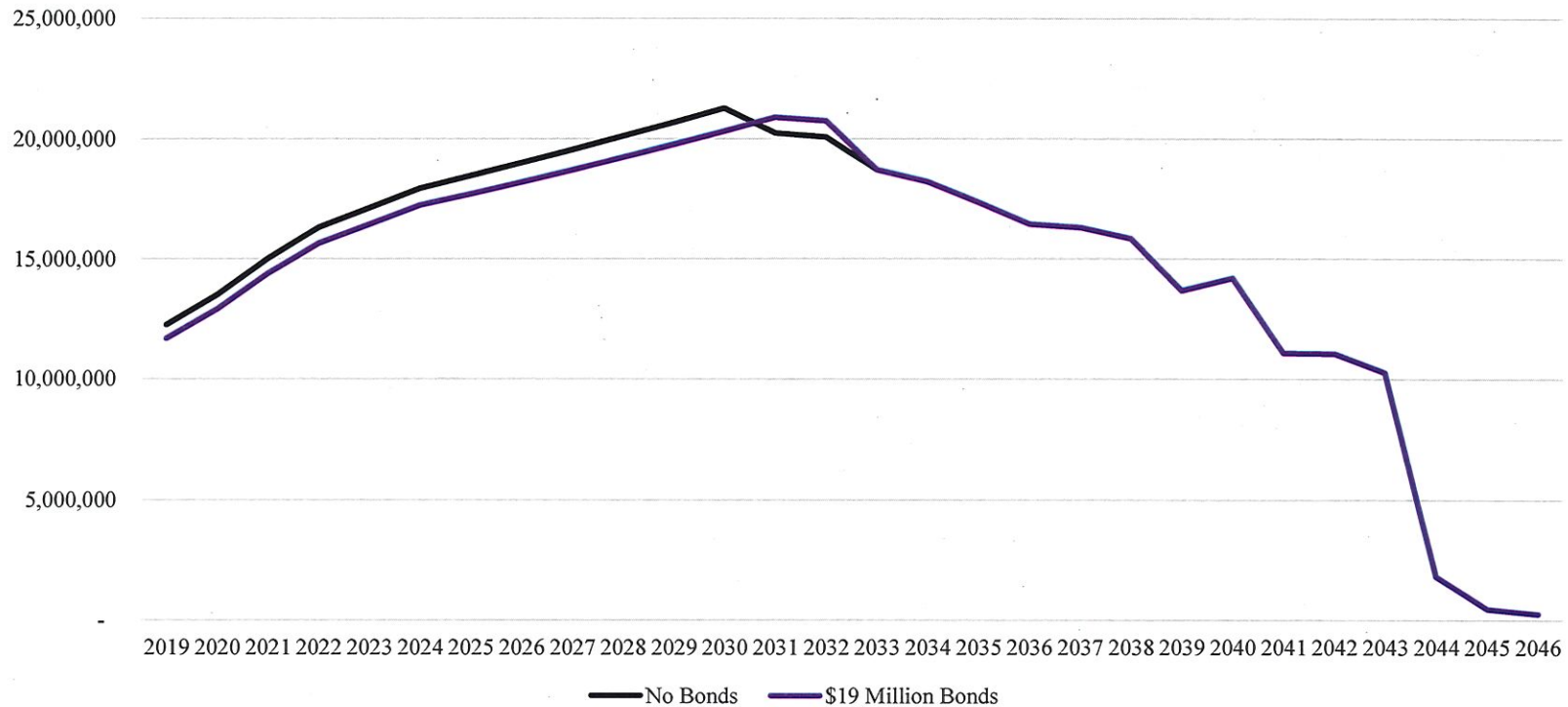


Key Questions Regarding Potential Pension Bonds

1. What are the primary objectives? For example:
 - Smoothing out peaks in contribution rates to make the City's budgets more consistent and easier to manage
 - Shortening or lengthening the time to pay off unfunded liabilities
 - Raising the funded level of the pension plan (e.g., from 66% to 85, 90, or 100%)
 - Up front budget savings
2. How large should any pension bond be?
3. Aside from staff and elected officials, who should be involved in POB discussions?
4. Will the City also want annual TRANS to produce modest expected annual savings?

POB Example: \$19.5 Million Bond

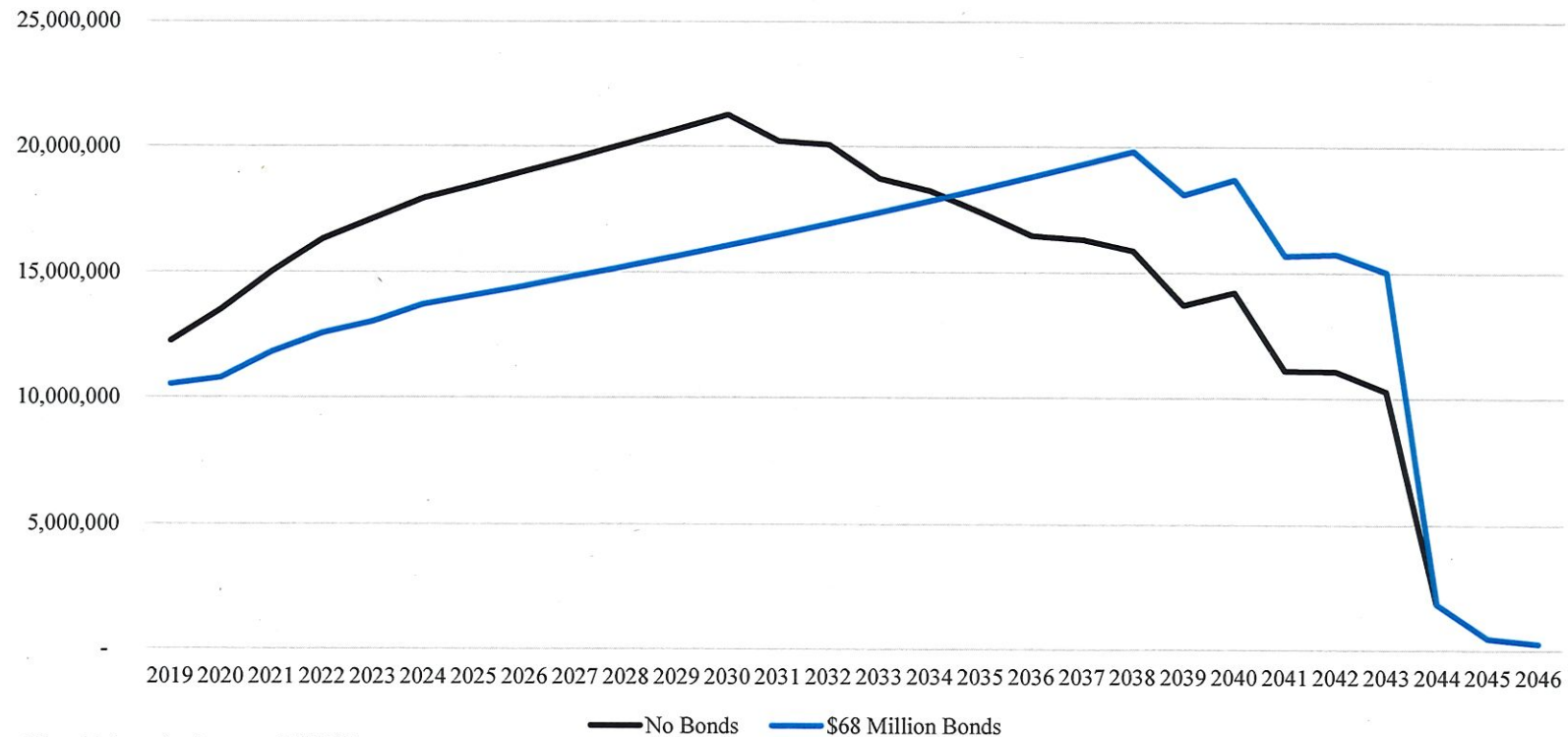
- Smallest bond we analyzed
- Results in funded ratio of approximately 68% @ 7% discount rate (vs 64.1% with no POB)
- Includes amortization bases up to 15 years in POB
- Produces modest savings in most years (~500-900,000)



*Bond interest rates as of 5/9/19

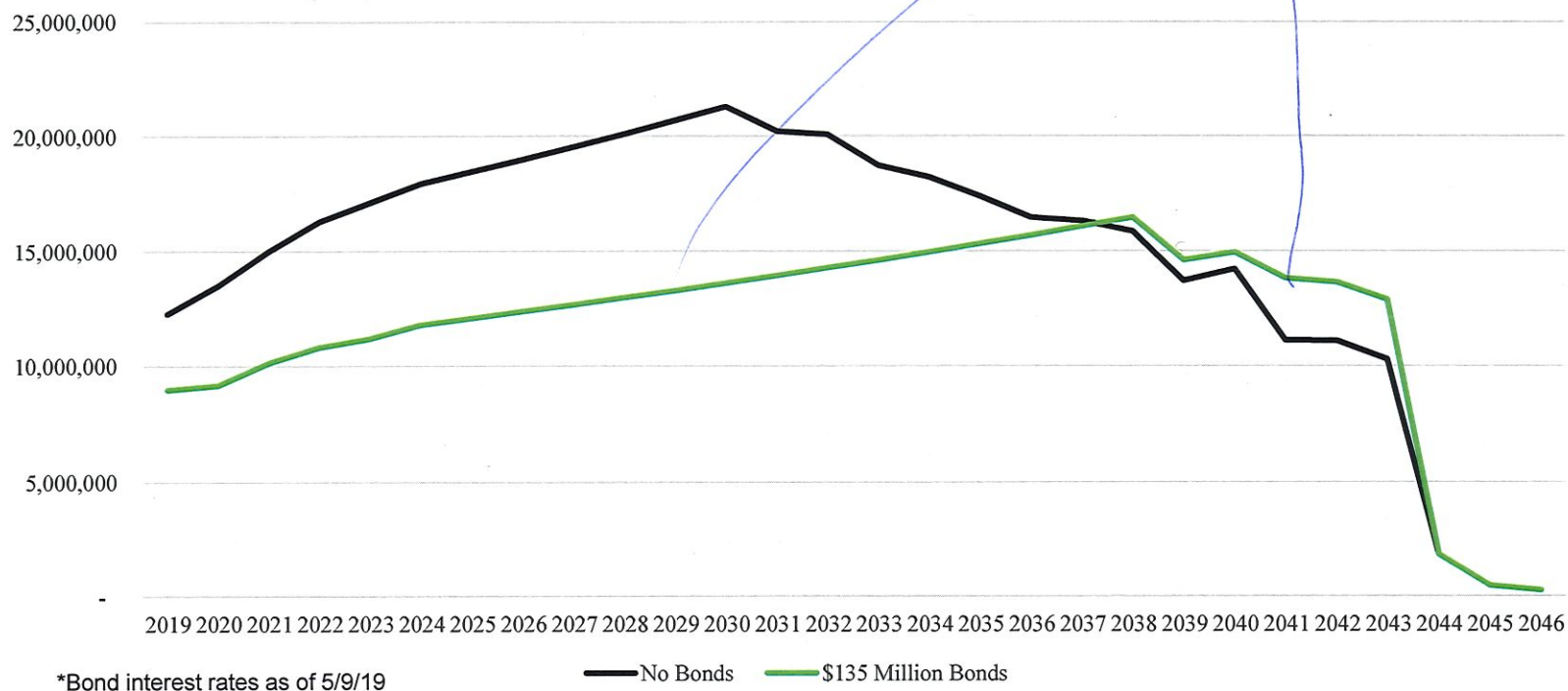
POB Example: \$69.3 Million Bond

- Medium-sized bond, would almost double City's outstanding debt, but still be less than outstanding debt in 2011
- Results in approximately 77% funded ratio @7% discount rate
- Includes amortization bases up to 20 years in POB
- Produces significant savings in most years (~\$1.7-\$5.2 million)
- Has dissavings/additional expense as large as \$4.7 million in later years

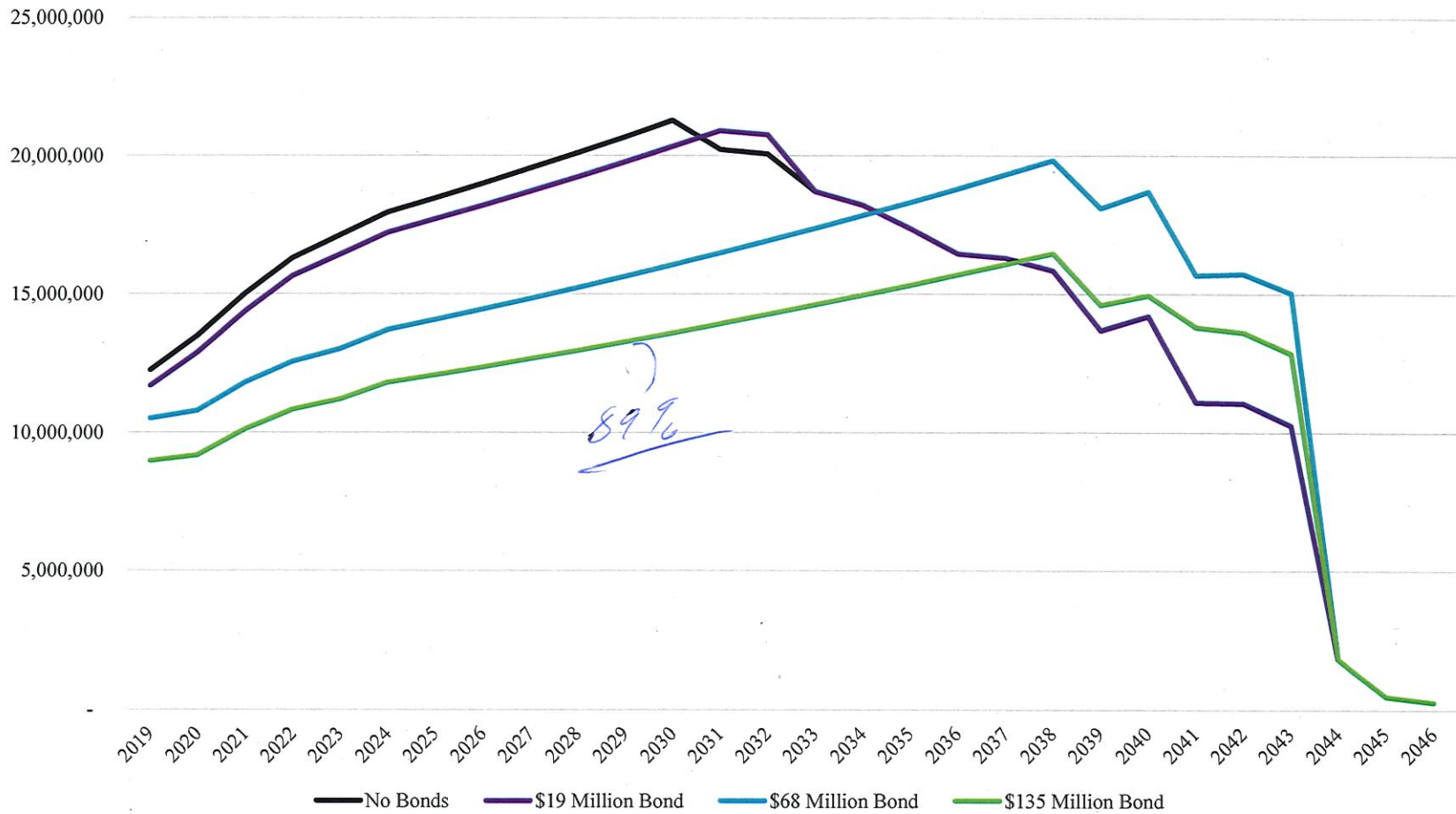


POB Example: \$136.6 Million Bond

- Largest bond we analyzed, would result in much larger outstanding debt, but far smaller pension unfunded liabilities
- Results in approximately 89% funded ratio at 7% discount rate
- Includes amortization bases up to 25 years; very large 25 year amortization base
- Produces large expected savings in most years (~3.3-7.7 million)
- Has up to \$2.6 million dissavings/additional cost in later years



All POBs On One Chart



*Bond interest rates as of 5/9/19

Appendix A: Hilltop Background & Resumes

HilltopSecurities has been a Leader in Public Finance since 1946

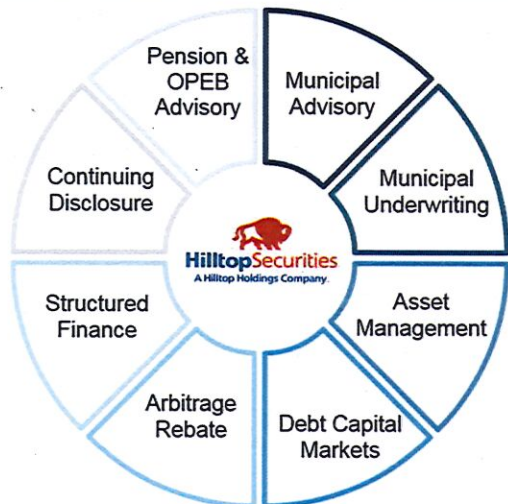
Overview

- More than 70 years of industry experience and approximately 200 employees committed to public finance
- Involved in an average of 24 deals, totaling approximately \$1.2 billion per week as underwriter or municipal advisor
- Public finance is HilltopSecurities' primary business
- Municipal advisory expertise provides us with a unique perspective not available to many broker-dealers
- Registered Broker-Dealer with transparency and accountability; subject to SEC, MSRB and FINRA rules and regulations

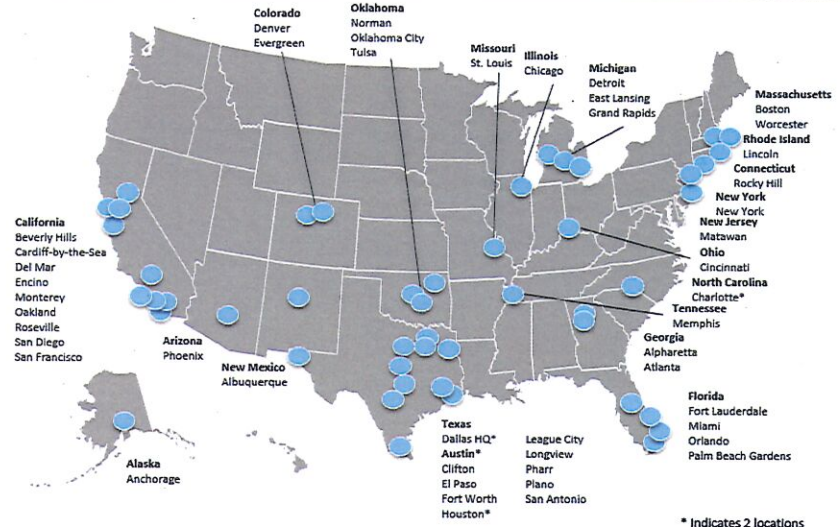
Sector Expertise

Airports/Ports	Pensions
Benefit Plan Services	Public Power
Convention Center / Hotel	School Districts
General Obligation	Special Districts
Healthcare	State Revolving Funds
Higher Education	Student Loans
Housing	Toll Roads / Rapid Transit
Public-Private Partnership	Water and Sewer

Municipal Products



National Platform – 52 Office Locations in 20 States



Municipal Market Experience

Extensive Volume Nationally

- Since 2014, HilltopSecurities has provided municipal services on 6,178 transactions totaling more than \$321 billion as municipal advisor or underwriter
- On average, HilltopSecurities is involved in **24 financings per week** as either municipal advisor or underwriter



Municipal Advisor Experience		
Year	No. of Issues	Par (\$mils)
2014	1,013	37,564
2015	1,016	39,155
2016	1,044	41,021
2017	946	44,194
2018	691	28,318
Total	4,710	\$190,252

Underwriting Experience (Senior Manager or Co-Manager)		
Year	No. of Issues	Par (\$mils)
2014	384	28,580
2015	394	28,208
2016	318	29,404
2017	203	27,167
2018	169	18,253
Total	1,468	\$131,612

Role	No. of Issues	Par (\$mils)
Underwriter	1,468	131,612
Municipal Advisor	4,710	190,252
Total	6,178	\$321,864

Source: Ipreo MuniAnalytics

Representative Pension / OPEB Clients

Select Current and Former Clients



Pension and OPEB Expertise

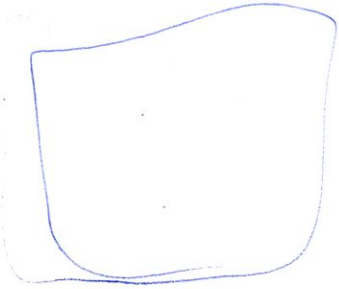
Dedicated Service

Our pension and OPEB services include:

- Pension and OPEB bonds (as FA or underwriter); whether to issue; structuring and savings calculations; simulation of investment returns; original research on POBs and subsequent ratings
- Pension TRAns, RANs, TANs, or other short term funding for contributions.
- Customized simulations and models to evaluate impact of investment volatility, changes to asset allocation, contributions, amortization, actuarial assumptions, etc.
- Comparative Data; extensive info from outside sources and our own research, including: contributions, funded ratios, governance, plan benefits, actuarial assumptions, legislation.
- Disclosure; assist with drafting CAFRs, official statements, etc. to conform with GASB, SEC/MSRB, & industry best practices.
- Education; explaining complex pension, OPEB and investment issues to finance officials, boards/councils.
- Pension and OPEB funding policies customized for employer circumstances.
- Establishing single employer and multiemployer OPEB trusts.
- Financial distress; working with employers in bankruptcy or other forms of distress; original research on bankruptcies and pension arrangements. Pension plan closure.
- Proposed Legislation; nonpartisan research, relevant examples from across the U.S.
- Ratings; preparation of presentation materials for rating agencies and evaluation of rating effects from proposed system changes; Moody's and S&P rating models in Excel.

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Areas of Focus

- Project Revenue Bonds, Lease Purchase, Certificates of Participation, Water & Wastewater, Land Secured, Tax Allocation Bonds, Affordable Housing, General Obligation Bonds, Pension Obligation Bonds, K-14 Education

Profile

- With the firm since 2008; previously with M.L. Stern
- In Public Finance since 1994
- \$5.5 billion in underwritings since 1996
- Bond Buyer Deal of the Year Award (Far West Region) in 2008 for the Yuba County Levee Improvement Authority and 2009 Chawanakee Unified School District

Education

- Bachelor of Arts in Economics, California State University Fullerton

Licenses Held/Designations

- Financial Industry Regulatory Authority (FINRA):
 - General Securities Representative (Registered Representative), Series 7
 - Uniform Securities Agent, Series 63

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Areas of Focus

- Pension and OPEB, OPEB trusts, funding policies, CAFR disclosures, official statements, review of actuarial studies, GASB rules and Moody's pension "adjustments", federal grants, employees funded by capital construction bonds, pension and OPEB bonds.

Profile

- Nationally recognized expert and frequent speaker on pension and OPEB; full-time pension and OPEB specialist
- With the firm since 2009; previously with JPMorgan, Marsh McLennan
- More than 28 years of experience
- Helped a large city with innovative reforms saving an estimated \$2.8 billion
- Launched PEB Trust, a group OPEB trust, and single employer OPEB trusts
- Contributed material to the GASB Implementation Guide, testified on proposed GASB rules
- Built extensive simulation models including pension, OPEB cost and general fund revenues
- Has worked on OPEB and/or pension issues for states, counties, cities, authorities, school districts, and other organizations in over 30 states
- Awarded four patents on municipal bonds, risk management and related software
- Reviewed over 3000 pension and OPEB actuarial reports, draft CAFR and official statement disclosures
- Found billions of dollars in actuarial errors and opportunities for savings, including plans which had already been reviewed by independent actuaries, auditors, and State commissions; found over half a trillion dollars in errors in widely circulated estimates of national pension and OPEB liabilities

Education

- Bachelor of Arts in Physics, University of Chicago
- Master of Business Administration in Finance, University of California at Los Angeles

Licenses Held/Designations

- Financial Industry Regulatory Authority (FINRA):
 - General Securities Representative (Registered Representative), Series 7
 - Municipal Advisor Representative, Series 50
 - Uniform Securities Agent, Series 63
 - Investment Advisor Representative, Series 66
 - Investment Banking Representative, Series 79
- CFA Institute, Chartered Financial Analyst® (CFA®); instructor for CFA Los Angeles exam preparation class

* The terms Chartered Financial Analyst® and CFA® are the property of CFA Institute

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Areas of Focus

- General obligation, revenue, appropriation, land-secured, special districts, multi-family housing, and lease financing.

Profile

- With the firm since 2008; previously with M.L. Stern
- In Public Finance since 2004
- Provides analytical and transactional support

Education

- Bachelor of Arts in Pure Mathematics and Economics, UC Berkeley

Licenses Held/Designations

- Financial Industry Regulatory Authority (FINRA):
 - General Securities Representative (Registered Representative), Series 7
 - Municipal Advisor Representative, Series 50
 - Uniform Securities Agent, Series 63