

City of Oakland
Office of the City Auditor

October 21, 2010

OAKLAND POLICE AND FIRE
RETIREMENT SYSTEM
PENSION FUNDING
OPTIONS



City Auditor
Courtney A. Ruby, CPA, CFE

HIGH IMPACT REPORT



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October 21, 2010

OFFICE OF THE MAYOR
HONORABLE CITY COUNCIL
OFFICE OF THE CITY ADMINISTRATOR
CITIZENS OF OAKLAND
OAKLAND, CALIFORNIA

**RE: HIGH IMPACT REPORT OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
PENSION FUNDING OPTIONS**

Dear Mayor Dellums, City Council, City Administrator, and Citizens of Oakland:

This past spring, staff presented the Finance and Management Committee with a proposal regarding the issuance of Pension Obligation Bonds (POBs) to finance a one-time contribution to the Police and Fire Retirement System (PFRS) trust fund. Staff analysis indicated issuance of POBs would result in a contribution holiday of five to seven years.

Upon review of the Committee proceedings and staff reports, it became clear that an independent analysis was needed to (1) verify staff analysis and recommendations on the issuance of POBs and (2) provide the Council and the public with additional information upon which an informed decision could be made. To this end, I contracted Aon Hewitt (Aon), pension experts, to provide an independent analysis that included the following:

- Background on the use of POBs to fund public pension plan deficits
- Retrospective analysis of the City's 1997 decision to issue POBs
 - Examine actual pension fund return vs. expected return
 - Examine "what-if" POBs had not been issued
- Discussion of available plan funding options
 - Consequences of not contributing according to current law
 - Minimum funding under current law using available tax override money plus general fund revenues
 - Issue POBs under the current proposal funded by available tax override money
- Deterministic forecast of four select possible outcomes of issuing POBs under the current proposal and assuming varying rates of return on plan assets

- Benchmark analysis of PFRS versus other public pension plans, including:
 - Investment return assumption
 - Current asset allocation
 - Current funded status

It should be noted that local governments usually consider issuing POBs when they have a significant unfunded actuarial accrued liability without the financial means to fund it. This is Oakland's circumstance today.

As the independently elected City Auditor, it is my responsibility to ensure that the City's assets are safeguarded. Given that we are in an unprecedented time in Oakland's financial history, it is critical that the City Council is armed with the facts so that they can make a fiscally prudent decision regarding POBs, as this decision will have financial ramifications for years to come.

We understand that staff is returning to the Finance Committee to further discuss PFRS funding options, and, at that time, Aon will be available to present this report to the Committee.

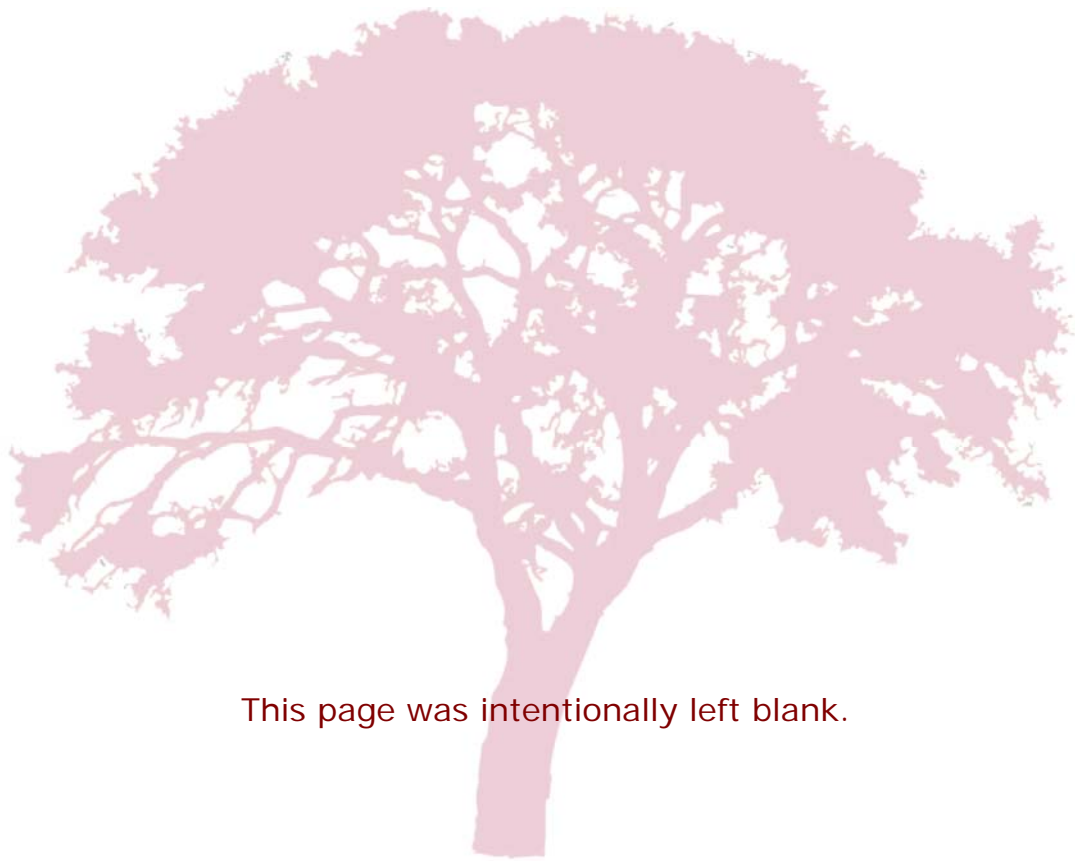
Respectfully submitted,

A handwritten signature in black ink, appearing to read "Courtney A. Ruby". The signature is written in a cursive, flowing style.

COURTNEY A. RUBY, CPA, CFE
City Auditor

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Introduction

Aon Hewitt has been retained by the Office of the City Auditor to conduct an analysis of the proposal currently under consideration by the City of Oakland to address the funding needs of the Police and Fire Retirement System (PFRS). In general, the proposal consists of the City issuing Pension Obligation Bonds (POBs) and entering into an agreement with the PFRS fiduciaries to deposit the proceeds of the POBs into the PFRS trust in return for a contribution “holiday” of predetermined length. A similar agreement was reached in 1997 where approximately \$417 million was deposited into the trust in return for a 15-year contribution holiday. That holiday is set to expire. Regular contributions to the plan are scheduled to resume for the fiscal year ending June 30, 2012.

This report provides information to the City’s leadership and citizens regarding the general use of POBs, provides a retrospective analysis of the 1997 decision by the City to issue POBs and models possible outcomes of the current proposed framework assuming varying rates of return on plan assets.

This report does not state a position or recommendation to the City regarding the potential decision to issue new POBs.

BACKGROUND ON PENSION OBLIGATION BONDS

Pension Obligation Bonds (“POBs”) are bonds issued by a state or local government as a means to meet its obligation to fund a pension system that benefits its employees.

State or local governments that consider issuing POBs generally have a significant unfunded actuarial accrued liability (“UAAL”) that must be addressed. Rather than pay general revenues directly into the pension trust many state or local governments have opted to issue POBs for one or more of the following reasons:

1. Budget Relief – During periods of financial difficulty the money necessary to adequately contribute to the pension fund may be unavailable. Issuing POBs and depositing the proceeds into the pension trust allows the issuer to replace the regularly scheduled payments to the pension fund with a POB debt service schedule. The debt repayment schedule may have a longer term and/or lower payments than the regular contributions to the pension trust. Alternatively, as is the case with the City of Oakland, the debt repayment may be structured to defer debt service payments until the City budget picture is projected to be less dire.
2. Investment Return – Pension fund investments generally include securities such as common corporate stock that have a high expected rate of return based on long historical averages. A typical pension fund may allocate 60% of funds to equity investments and 40% to debt. Expected rates of return for pension funds are typically in the 7% to 8% range. This assumed rate of return is generally significantly higher than the Pension Obligation Bond rate. Therefore, there is

the possibility that the bond proceeds will earn a significantly higher return than the interest cost of the POBs. The excess returns would be realized within the pension fund as a reduction in UAAL and subsequently lower future contributions.

3. Negotiated Discounts – POBs have been used as a tool in negotiations with the pension system. Early payment of scheduled contributions (via POB) have been made in return for discounted contributions or pension plan design changes that affect participant benefits and the resulting actuarial obligations.

Disadvantages of POBs fall into three categories:

1. Investment Return – Just as POBs are issued in the hope of investment return exceeding borrowing costs, the opposite is also a possibility. Returns inside the pension trust are far from guaranteed, and thus the employer may realize increased costs as a result of unfortunate contribution timing.
2. Deferring the Inevitable – In order for benefit commitments to be honored, contributions of one sort or the other are required. Temporary budget relief is obtained merely by promising to pay these pension contributions at a later date.
3. Bond Issuance Costs – There is always a cost when issuing bonds. Large public pension trusts generally have low investment fees. The amount of taxpayer money which is provided to third parties rather than to worker pensions is higher whenever bonds are involved.

The first ever pension obligation bonds were issued by the City of Oakland in 1985. These bonds were tax-exempt and were primarily used as a way to leverage tax law for financial gain. The tax-exempt status ended with the Tax Reform Act of 1986. Taxable POBs started to be issued in 1993. Since then there have been more than 350 instances of POBs being issued with approximately 100 in California alone.

Below we examine three recent cases where POBs have been used, the motives for issuance, and some of the consequences to date of their application.

Illinois

The State of Illinois borrowed \$10 billion in 2003. Of the bond proceeds, \$1.9 billion was used for general operations and \$8.1 was deposited into the various Illinois pension systems. The debt was issued at a net cost of 5.04%, while the actuarially assumed rate of return on pension assets was generally 8.50%. Bond proceeds were used to pay part of the State's 2003 and all of the 2004 contributions to the retirement systems. The unfunded liabilities for the State's retirement systems have grown from \$43 billion in FY 2003 to \$61 billion in FY 2009.

According to the Illinois Pension Modernization Task Force 2009 report, "the primary cause of the State's unfunded pension liability is Illinois's decades-long failure to make its full,

actuarially required employer contribution to the five pension systems.” The report states that the use of POBs in 2003-2004 and again recently is an example of the failure to fund.

Pension obligation bonds continue to be controversial in Illinois, as the State is considering additional bonds. When the Chicago Transit Authority proposed use of POBs in 2008, the legislature asked the Office of the Auditor General to review the assumptions used in the bond analysis and actuarial analysis.

The State is constantly considering its options due to its exceptionally poorly funded pension systems, severe budgetary shortfalls, and political challenges.

Denver Public Schools

Two days before the primary election for Colorado’s seat in the United States Senate, the New York Times ran an article headlined “Exotic Deals Put Denver Schools Deeper in Debt”. Michael Bennet, former superintendent of Denver Public Schools (“DPS”), now Colorado’s senator, was in a tight race and being questioned for the POBs that had been issued in 2008. The bond proceeds were invested primarily in the stock market just before the crash leading to large investment losses. In addition, DPS entered into an interest rate swap agreement (a derivative in which one party agrees to pay a floating interest rate based on and index such as LIBOR in return for fixed payments). This agreement also led to financial losses for DPS.

The DPS Retirement System has since been merged into the statewide Colorado PERA, but DPS is still in dire financial straits in large part because of the decision to issue POBs. As with Illinois, DPS used POBs to decrease their future contributions to the pension fund. With the merger into PERA and the passage of pension reform in early 2010, a mechanism is in place to put DPS on the road to full funding.

New Jersey

Former New Jersey governor and Goldman Sachs CEO John Corzine has been a harsh critic of POBs saying, “It’s speculating the way I would have speculated in my bond position at Goldman Sachs.” New Jersey governments have reportedly issued \$4.6 billion in POBs over the years, most of any state, save Illinois and California (at \$11 billion each).

The SEC charged the State with securities fraud for failing to disclose that it was underfunding the state’s two largest pension plans. While New Jersey did not admit any wrongdoing, the August 2010 SEC settlement sent shocks throughout public pensions and sponsoring governments.

New Jersey continues to have one of the most poorly funded pension systems, and the State is examining its options in terms of funding and benefit levels.

PFRS 1997 PENSION OBLIGATION BONDS

In 1997 the City of Oakland issued pension obligation bonds and deposited the proceeds in the PFRS trust in return for a contribution holiday until the fiscal year beginning July 1, 2011. The amount of the deposit was equal to the present value of the expected contributions to the plan for the period March 1, 1997 to June 30, 2011.

Below is a retrospective analysis of the outcome of issuing these bonds. We consider the actual return on plan assets over the holiday period versus the expected return. We also examine the resulting market value of assets and outstanding remaining financial obligation that the City has with respect to the plan under two contribution scenarios. The outstanding remaining financial obligations include the unfunded actuarial liability as of June 30, 2010 plus the present value of the remaining pension obligation bond debt service, also as of June 30, 2010.

Alternative Contribution Scenarios

Using the actual historical return on plan assets we examine two contribution scenarios:

1. Actual - The pension obligation bonds were issued
2. Hypothetical - The bonds are not issued but the actual payments made to service the debt were instead contributed to the plan trust

Return on Plan Assets

The actual return on the market value of plan assets vs. the expected asset return assumption for the period 1997 to 2010 is as follows:

	Return on Market Value of Assets												Cumulative
	1997-1998	1999-2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Annual Return
Expected	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	7.50%	7.00%	7.92%
Actual	12.60%	8.80%	-0.20%	-2.53%	4.01%	13.44%	7.95%	7.20%	13.70%	-6.10%	-20.70%	15.50%	4.31%

Note that the cumulative average return over the period (4.31% per year) is significantly less than expected (7.92% per year) resulting in actuarial losses over the period.

In addition, the interest rates charged to service the debt range from approximately 6.1% to 7.3% per year. Since these rates are higher than the cumulative annual return on the pension trust (4.31%), the amount of money that the City has paid (and is scheduled to

pay) to service the debt has to date outweighed the amount these funds have earned in the pension trust.

To construct the hypothetical market value of assets as of June 30, 2010 in column (a) in the following chart, we use the actual historical rate of return on assets.

Contribution to Pension Trust (\$ in '000s)	As of June 30, 2010			
	Market Value of Assets (a)	Unfunded Liability (b)	Outstanding Debt (c)	Total Amount Owed (b) + (c)
Actual - Payments to POB Debt	290,000	500,000	510,000	1,010,000
Hypothetical – Payments to the Pension Trust	30,000	760,000	0	760,000

This chart shows the results of our retrospective analysis of the 1997 Pension Obligation Bonds. The overall metric used to compare the two scenarios is the “Total Amount Owed.” This is the sum of the moneys owed either to PFRS or bondholders, and is the present value of future required City payments.

The key result in this analysis is that the amount still owed by the City is approximately \$250 million dollars higher than the scenario where the POBs were not issued in 1997 and the same payments were made to the pension fund instead.

For this analysis, the unfunded liability in column (b) is computed using the actuarial valuation interest rate of 7.0%. The outstanding debt service payment in column (c) are discounted assuming a 6.50% cost of debt¹. Under these assumptions, if the City had made exactly the same cash flow but put the cash into the pension fund instead of borrowing to issue POB's, it would be approximately \$250 million better off today.

PROSPECTIVE ANALYSIS OF VARIOUS PFRS FUNDING ALTERNATIVES

Facing a perilous budget situation, the City is currently reviewing the possibility of issuing new POBs in return for a contribution holiday of five to seven years. The general framework of the proposal is similar to the 1997 deal where the amount of POBs deposited into the fund would be the present value of the projected contributions scheduled to be made during the holiday period. Due to cash flow considerations, most or all of the repayment of the bonds would be made in the years 2024-2026 when the debt service on the previous POBs expires and more tax override funds² become available.

¹ 6.50% discount rate for debt service payments represents a composite rate based on the City's existing debt service schedule. The amount of outstanding debt includes all debt service payments scheduled to be made according to Attachment A of the May 11, 2010 Finance and Management Agency Agenda Report

² Beginning in 1981, the City Council levied an ad valorem tax to fund the unfunded PFRS liability. This tax, known as the Tax Override, will expire on June 30, 2026.

In this section we analyze some of the potential outcomes of various courses of action that the City may conceivably take with respect to funding the PFRS plan. Due to current law or budget constraints some of these scenarios may not be realistic. However, we include them as a way to provide context to the City so that stakeholders and decision makers may more clearly understand the funding situation and the current POB proposal.

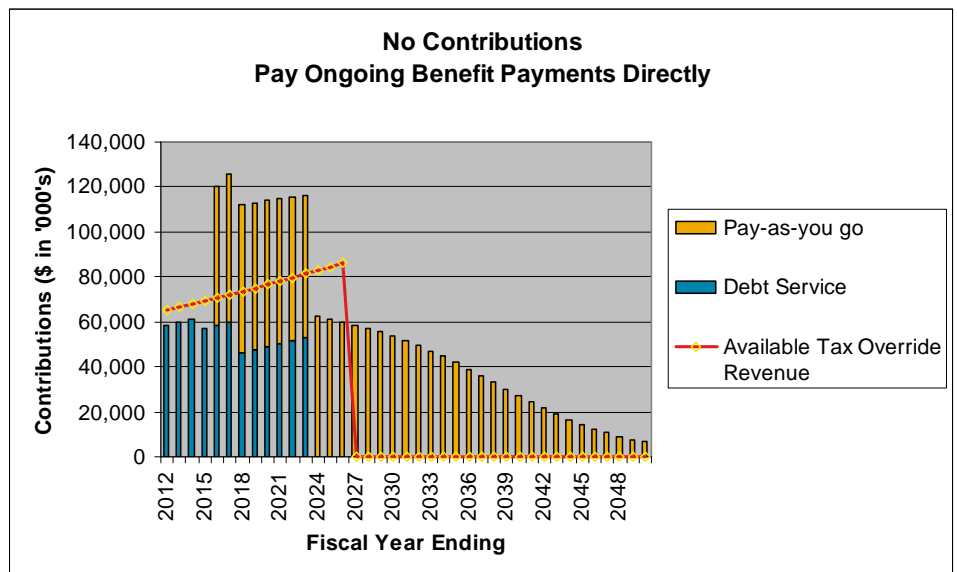
For these projections we assume that the City will negotiate a five year contribution holiday. The City would issue POBs and deposit \$214 million (present value of the projected actuarial cost for 2012–2017). We assume that the entire debt will be repaid over three years (2024-2026) at an effective rate of 6.25³%.

In the following graphs each bar represents the level and type of the payments that the City may make for each fiscal year. The potential types of payments are contributions to the pension funds (assumed to be at the recommended actuarial cost to fully fund the plan by 2026), debt service payments or pay-as-you-go payments to retirees should the fund assets become exhausted.

The red line in each chart represents the amount of the available projected tax override revenue for each fiscal year. For any given fiscal year, contributions above the tax override revenue line would be made from the City general fund.

No Contributions to the Fund

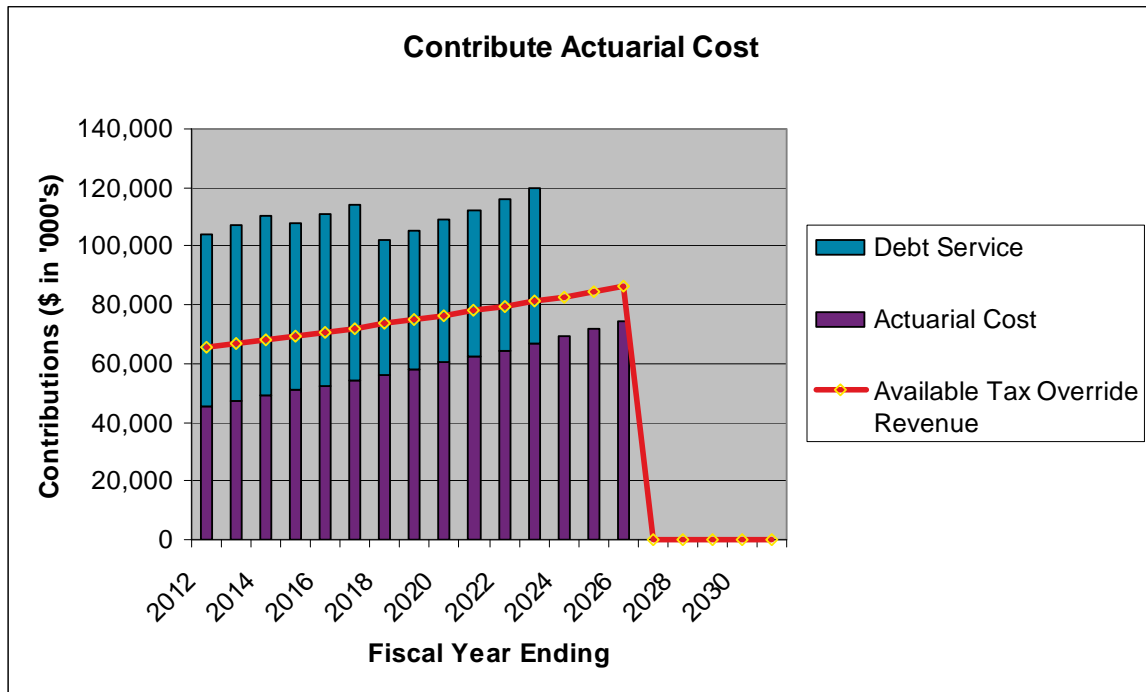
In this scenario the City does not make contributions to the pension fund. Instead, benefits are paid to participants out of plan assets until the fund is depleted. When the fund is depleted the City makes direct payments to beneficiaries until the plan winds down due to all of the current and future retirees having deceased. This scenario has the benefit of costs being somewhat lower than the available tax override revenue for the next four years until the pension fund is depleted. After the pension fund is depleted, benefit payments to pensioners in the \$60 million per year range are required. These payments decrease gradually until they are expected to expire shortly after 2050.



³ 6.25% POB discount rate represents the estimated current cost of debt at which the City could issue POBs under the proposed framework.

Contribute Actuarial Cost

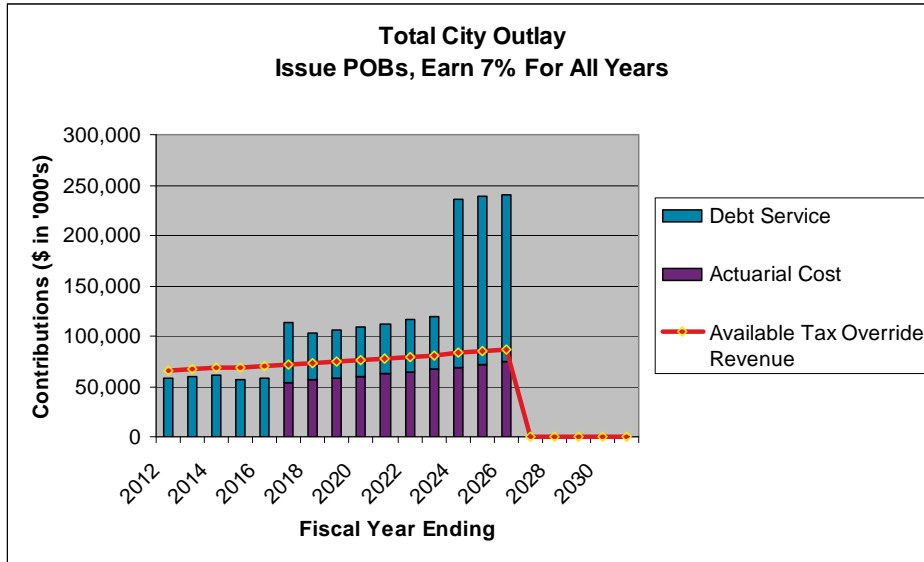
In this scenario the City contributes the cost recommended by the plan actuary to fully fund the plan by 2026. These payments are made into the pension fund. This is the most difficult in terms of short term budgetary concerns, but essentially solves the pension funding shortfall by 2026.



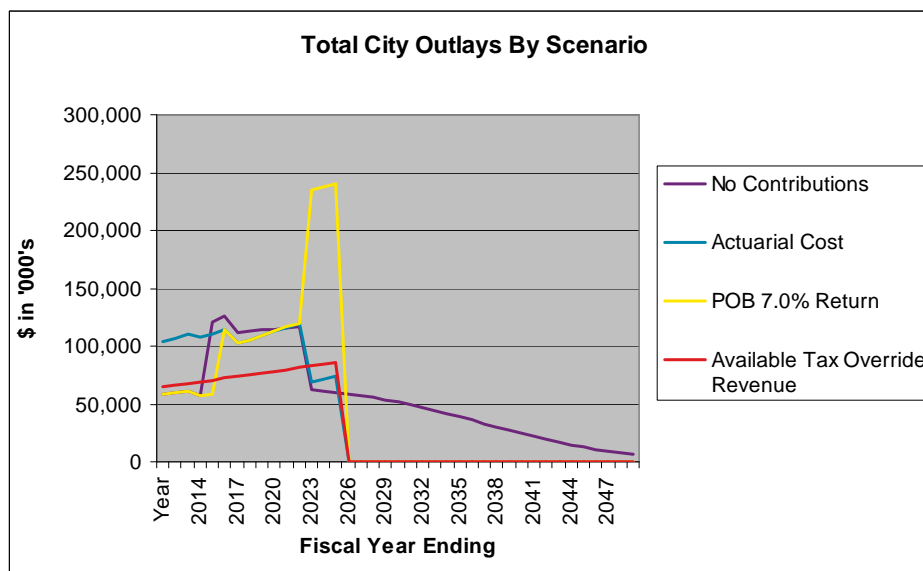
Under this scenario, substantial contributions are made into the pension fund through 2026, in addition to the debt service. No more contributions are required after 2026, based on the assumptions that the plan assets earn the expected rate of return of 7.0% per year.

Issue Pension Obligation Bonds

The chart on the following page shows the estimated contributions that would arise from the current proposal to issue POBs. In this scenario the pension fund earns the actuarially assumed rate of 7.0% per year each year. This alleviates the near term budget concerns but requires substantial outlays from 2024-2026 as this new tranche of bonds is repaid.



The following chart summarizes the expected total payments from the City to service the PFRS unfunded liability and outstanding debt under the above three scenarios where the pension fund earns exactly the expected return assumption of 7.0% per year. Note that the POB scenario requires substantial payments to repay the new bonds, while saving short term cash flow. The “No Contributions” scenario also saves in the short run, but requires ongoing payments long after the tax override revenue has expired. The “Actuarial Cost” scenario requires significant excess payments in the short run, but with no spike in 2024-2026 and no contributions beyond 2026.



Following is a summary of the present value of total city outlays for each scenario. The present values are calculated as of June 30, 2010 using the plan's valuation discount rate of 7.0%.

Present Value of Total City Contributions (\$ in '000s)	As of June 30, 2010		
	PV of Projected Tax Override Revenue (a)	PV of Required General Fund Revenue (b)	PV of Total City Outlay (a) + (b)
No Contributions to the Fund	685,000	291,000	976,000
Contribute Actuarial Cost	685,000	291,000	976,000
Issue Pension Obligation Bonds	685,000	273,000	958,000

The expected savings in total City outlays from issuing POBs is a result of the bond proceeds earning a higher rate of return in the pension fund than the rate the City pays to service the POB debt. The expected amount of savings is sensitive to the expected pension investment return rate (7.0%) and the assumed debt service rate (6.25%). The amount of any savings cannot be known in advance and there is a substantial risk that financial losses could occur.

A comprehensive analysis of the potential impact of issuing POBs should consider not only the potential financial savings or losses but also the expected pattern of City revenues dedicated to funding PFRS that would result as consequence of issuing the bonds.

ISSUE PENSION OBLIGATION BONDS – CONTRIBUTIONS UNDER VARIOUS INVESTMENT RETURNS

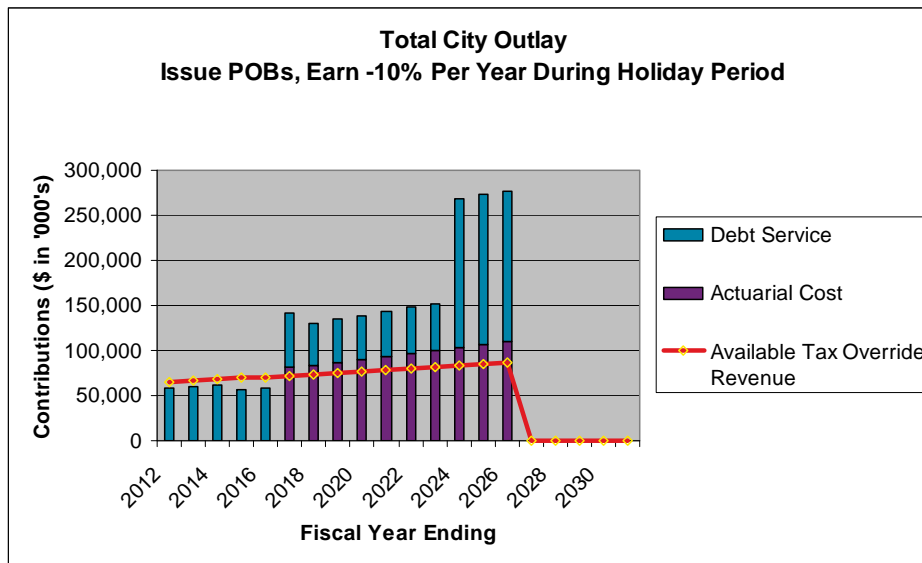
As discussed above, the ultimate cost of issuing pension obligation bonds depends upon the level of investment returns that the bond proceeds generate within the pension fund. In this section we model the level of contributions facing the City should the City proceed with the POB proposal assuming different levels of investment return.

The investment returns we have chosen to model certainly won't be precisely realized, but are designed to give the City a sense of the range of possible outcomes and help the City understand the sensitivity to the actual investment return realized.

For each scenario we show the total City contribution as the sum of the actuarially recommended contribution and the debt service payment. On each graph we also show the projected tax override revenue. Contributions for any fiscal year where the total City contribution extends above the tax override revenue would come from the City general fund.

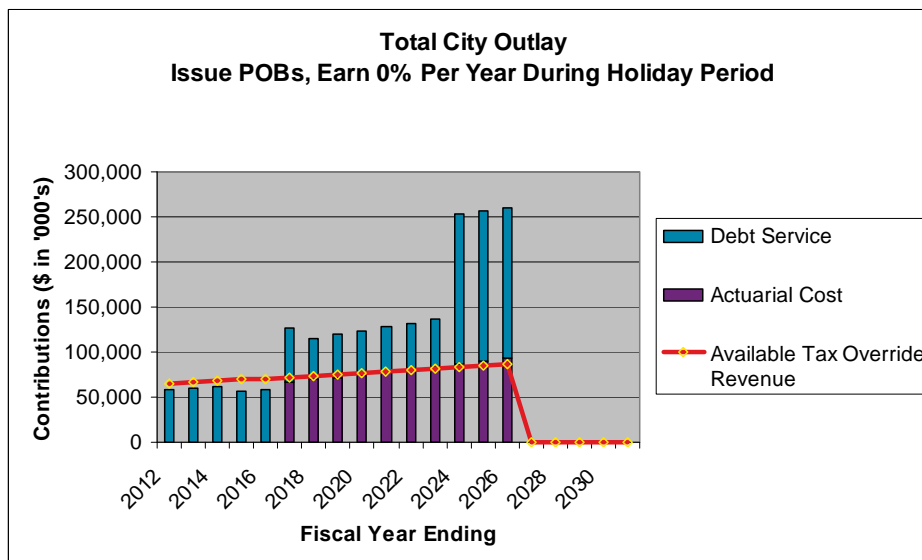
Fund Returns negative 10% per Year during the Holiday Period

In this disastrous scenario the fund loses 10% per year for the fiscal years ending 2012 through 2017, before returning to earn the actuarially assumed rate of return of 7% subsequent to 2017. Under this scenario, it was a bad decision to borrow and invest an extra \$214 million in a pension fund, which loses substantially. Nearly as bad, the roughly \$200 million in the fund at the time of bond issuance would also lose more than half in the hypothetical market crash. As you can see in the chart on the following page, this scenario requires total City outlays of approximately \$140 million by 2023 and \$270 million from 2024-2026, versus about \$110 and \$240 million respectively under the 7% baseline shown above.



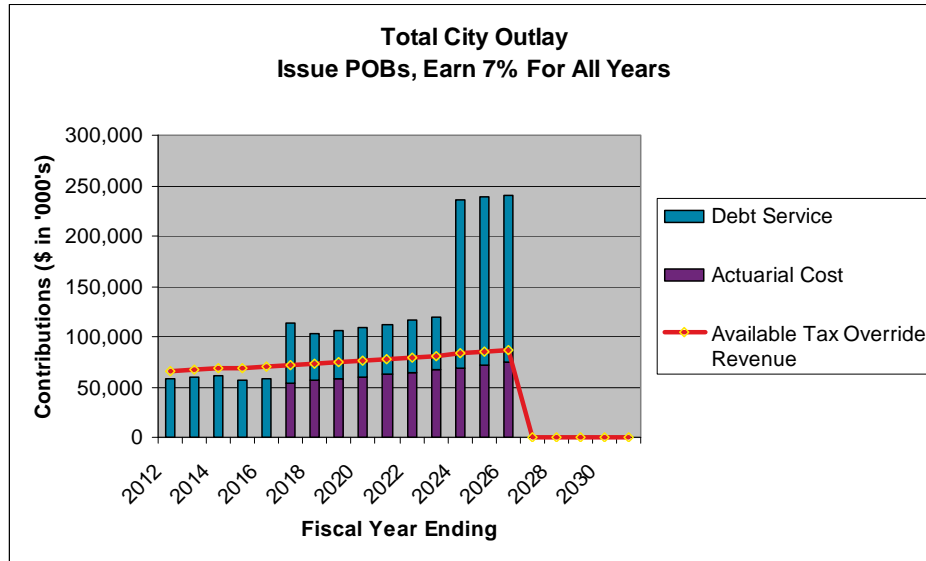
Fund Returns 0% per Year during the Holiday Period

In this scenario the fund earns 0% per year for the fiscal years ending 2012 through 2017. Subsequent to 2017 the fund earns the actuarially assumed return of 7%. This scenario is bad, but not as bad as the 10% per year loss scenario. Total city outlays would be approximately \$120 million through 2023 and \$250 from 2024-2026.



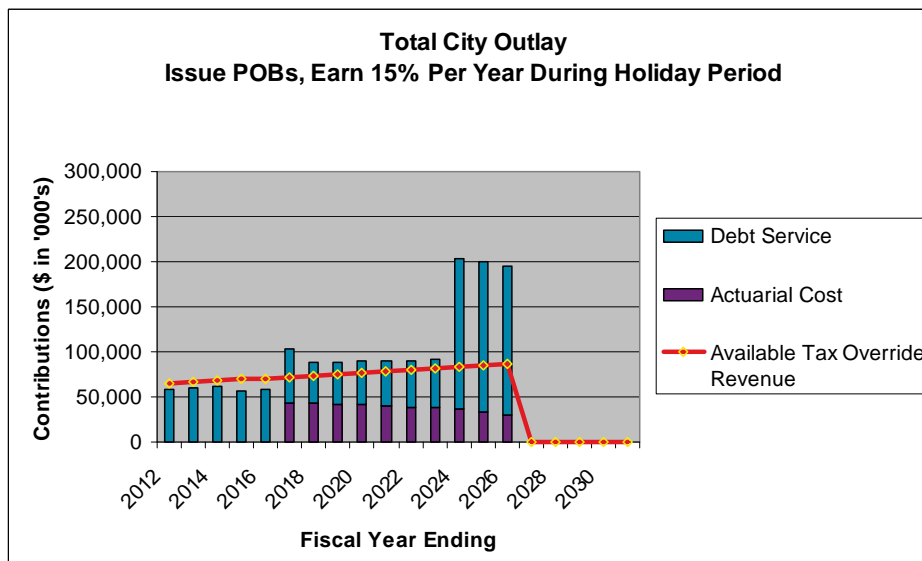
Fund Returns 7% per Year during the Holiday Period

In this scenario the fund earns 7% per year for the fiscal years ending 2012 through 2017, and continues to earn the actuarially assumed return of 7% in all future years. This chart was shown earlier and is reproduced here as a baseline. In this scenario the total City cost stays in the \$100 million to \$115 million range from 2017 through 2023 until increasing to approximately \$240 million for each year that the pension obligation bonds are repaid (2024-2026).

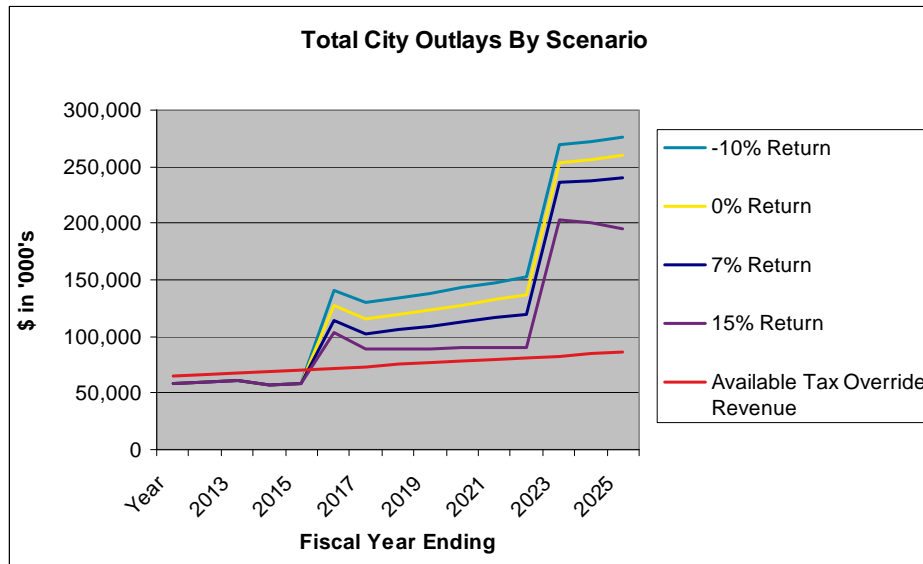


Fund Returns 15% per Year during the Holiday Period

In this scenario the fund earns 15% per year for the fiscal years ending 2012 through 2017. Subsequent to 2017 the fund earns the actuarially assumed return of 7%. This is a scenario where it is advantageous to have issued the bonds. Five years of 15% return on \$214 million, with borrowing costs of only 6.25% is a great deal, saving the City more than \$100 million. Of course, this is a very optimistic scenario, one that even beats the late 1990's. If we were this fortunate, the 2023 total City cost would be approximately \$90 million, jumping to about \$200 million in the three years of bond payback.



The following chart summarizes the total expected outlays from the City to service the PFRS unfunded liability and outstanding debt under the varying return on investment scenarios.



PFRS VERSUS OTHER PUBLIC PENSION PLANS

In this section we compare the current PFRS investment return assumption, funded status and asset allocation versus other public pension plans.

Investment Return Assumption

Pension plans use the expected return on the assets held in the pension trust as a basis for calculating the present value of future benefits paid from the plan and the actuarially required contributions.

The investment return assumption is developed in large part by the plan actuary using guidance from Actuarial Standards of Practice No. 27, "Selection of Economic Assumptions for Measuring Pension Obligations" (ASOP 27). ASOP 27 recommends that actuaries consider the following criteria:

- current yields on government and corporate bonds
- expected rates of inflation and returns for each asset class
- historical investment data
- the plan's historical investment performance

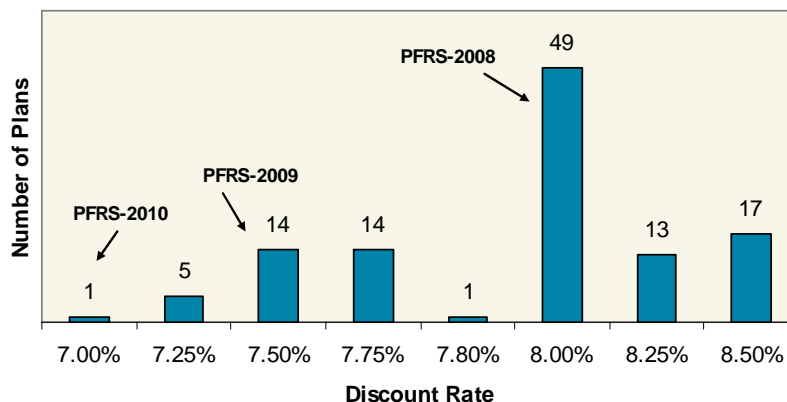
As equity gains have stagnated and yields on debt portfolios are at historic lows, both private and public pension plans have begun feeling pressure to reduce their investment return assumptions. A lower investment return assumption means that there would be less expected future investment returns to offset the cost of providing benefits. The result would be a higher present value of benefits and higher cost. Many pension plan sponsors are therefore reluctant to lower this assumption, particularly those sponsors who actually make contributions based on these actuarial costs.

The main argument that public plan sponsors use to resist the call to lower the expected return assumption is that the plans have an indefinite time horizon and that over time the plan will meet its expected return assumption. The argument holds that plans should not react to short term results. Although public pension plans have only achieved a median annual return of 3.9% over the last 10 years they have returned 9.3% over the last 25 years.

Although many public pension systems, including CalPERS and CalSTRS, are currently undergoing reviews that may result in a decrease in the investment return assumptions, few plans have gone ahead with a lower assumption. Many observers think that over time plans will decrease their investment return assumption but that the process will be slow since plan sponsors are reluctant to face the increase in liability and cost that would accompany a change in the return assumption.

Unlike most other public pension plans, the PFRS is frozen to new entrants and does not have an indefinite time horizon. The liability associated with the plan will extinguish over time as benefits are paid out and pensioners die. It is against this backdrop that the PFRS investment return assumption has decreased over successive valuation dates from 8.0% as of July 1, 2007 to 7.5% as of July 1, 2009 to 7.0% as of July 1, 2010. The current assumption of 7.0% puts PFRS among the most conservative of public pension plans.

Distribution of Sample Public Plan Investment Return Assumptions Fiscal Year Ending 2008

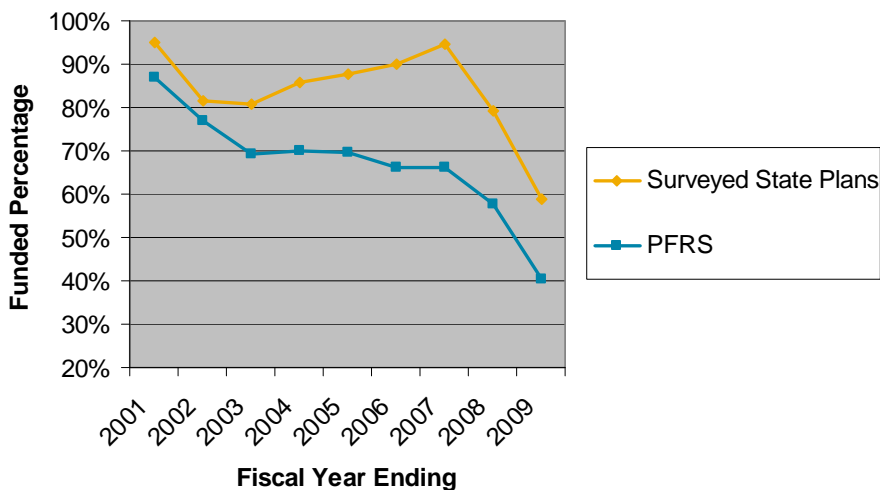


The preceding chart shows that for the fiscal year ending 2008 the median asset return assumption among the survey participants was 8.0%. The current median expected return remains at 8.0%, the same as it has been since 2001. As mentioned above, most systems are reevaluating their assumed rates of return and we would expect that some of those at 7.5% and above as of fiscal year end 2008 have decreased their rates by 0.25% to 0.50% as of today.

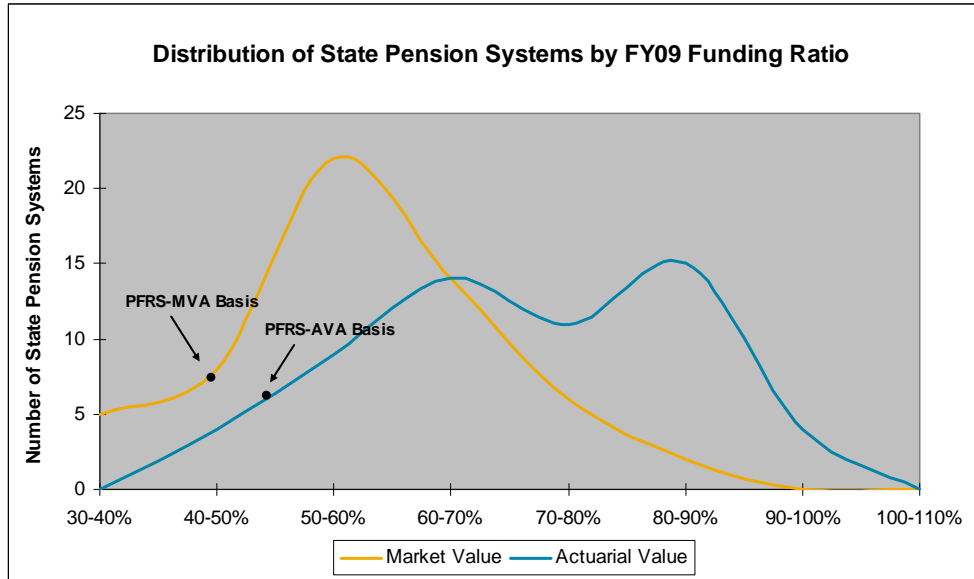
Funded Status

Public pension plan funded ratios have decreased in recent years due to poor market performance. The following chart plots the funded status of many state pension plans through fiscal year ending June 30, 2009 alongside the PFRS historical funded status. We show statewide data because at this time, there is much better data available for statewide public retirement systems than for city and county systems.

Historical Funded Status



Note that although the general shapes of the curves are the same for the State plans and PFRS, the PFRS funded status deteriorated relative to the sample plans as no contributions are going into the plan at the same time that substantial funds are being withdrawn to pay for benefits to retirees.



The above chart plots the distribution of the funded status as of fiscal year end 2009 of more than 50 statewide pension systems. Note that the funded status on an actuarial value basis is generally higher since assets losses due the 2008 financial crises had, in general, not yet been fully recognized.

Asset Allocation

The following exhibit shows the asset allocation of the PFRS plan as of June 30, 2009 vs. other City & County plans. The PFRS plan allocation is typical of public sector plans and tracks closely to the surveyed plans. There has been little change to the overall asset allocation of the PFRS plan and public plans in general for many years.

Asset Category	FISCAL YEAR ENDING JUNE 30, 2009	
	City and County Plans	City of Oakland
Equity	64%	67%
Debt	29%	28%
Other	8%	5%
TOTAL	100%	100%

APPENDIX A – ACTUARIAL CERTIFICATION

This report has been prepared using generally accepted actuarial practices and methods. The actuarial assumptions used in the calculations are individually reasonable and reasonable in aggregate.

Aon Hewitt did not audit the employee data and financial information used in this report, but did review it for reasonableness and consistency. On the basis of this review, we believe that the information is sufficiently complete and reliable, and that it is appropriate for the purposes intended.

This report is intended for the sole use of the City of Oakland. It is intended only to provide background and context to help decision makers understand the current PFRS funding situation and may not be appropriate for other business purposes. Reliance on information contained in this report by anyone for other than the intended purposes puts the relying entity at risk of being misled because of confusion or failure to understand applicable assumptions, methodologies, or limitations of the report's conclusions. Accordingly, no person or entity, including the City of Oakland, should base any representations or warranties in any business agreement on any statements or conclusions contained in this report without the written consent of Aon Hewitt.

The actuaries whose signatures appear below meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. Please call if you have any questions with regard to the matters enumerated in this report.

Aon Hewitt's relationship with the Plan and the Plan Sponsor is strictly professional. There are no aspects of the relationship that may impair or appear to impair the objectivity of Aon Hewitt's work.



Brian Pieper, ASA, EA
Assistant Vice President, Aon Hewitt



William B. Fornia, FSA, EA
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Date: October 21, 2010

APPENDIX B – SOURCES OF INFORMATION

- City of Oakland Agenda Reports from March 23, 2010, April 27, 2010 and May 11, 2010
- 1997 Pension Obligation Bond Issuance Document
- Series 2001 Bond Issuance Document
- 1996-1997 PFRS Annual Report by the Office of Retirement and Risk Administration
- Issue Brief: Pension Obligation Bonds: Financial Crisis Exposes Risk, Center for State & Local Government Excellence
- FY2009 PFRS Independent Auditor's Report, Macias, Gini & O'Connell
- PFRS Actuarial Valuation Reports for 1996, 1998, 2000, 2001, 2002, 2003, 2004, 2005, Milliman & Robertson, Inc.
- PFRS Actuarial Valuation Reports for 2007, 2009, 2010 (draft), Bartel Associates, LLC
- Public Fund Survey Summary of Findings for FY 2008, National Association of State Retirement Administrators
- 2010 Wilshire Report on State Retirement Systems: Funding Levels and Asset Allocation, Wilshire Consulting
- 2009 Wilshire Report on City & County Retirement Systems: Funding Levels and Asset Allocation, Wilshire Consulting
- Pension Gaps Loom Larger, The Wall Street Journal, September 18, 2010
- An Introduction to Pension Obligation Bonds and Other Post-Employment Benefits, Third Edition, Orrick, Herrington & Sutcliffe, LLP