Bay County Employees' Retirement System

December 31, 2012 Actuarial Valuation

Board of Trustees Meeting

October 8, 2013

GRS

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Consultants & Actuaries
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Agenda

- Budgets, Books, and Bonds
- Highlights of 2012 Bay County Actuarial Valuation
- Asset Performance
- Historical Contributions/Funded Ratios
- Looking Ahead

Pension in the Headlines, Daily

Detroit's Pension Funds Dogged by Bad Deals

U.S. House committees holding hearings on state bankruptcy and pension plans

Washington legislature to consider constitutional amendment requiring full funding of pensions

Changes to rules affecting public worker unions are under consideration in several states

Analysis Shows Detroit Pension Funds in Better Shape Than Orr Says

Denver's Stable Pension Fund Shows Planning Pays Off

Miss. Retirement Board agrees to put off proposed increase in contribution to pension system

Pension Smoothing Option Flops in New York

The Cost of the Plan - Budgets

- Actuarial valuation determines funding status and contributions.
  - Funding liabilities take a long-term view.
  - Assumptions based on long-term view for inflation and real rates of return.
    - Based on investment policy and asset allocation;
    - Based on funding policy (and sponsor's ability to meet required contributions); and
    - Not impacted by accounting or rating measures.

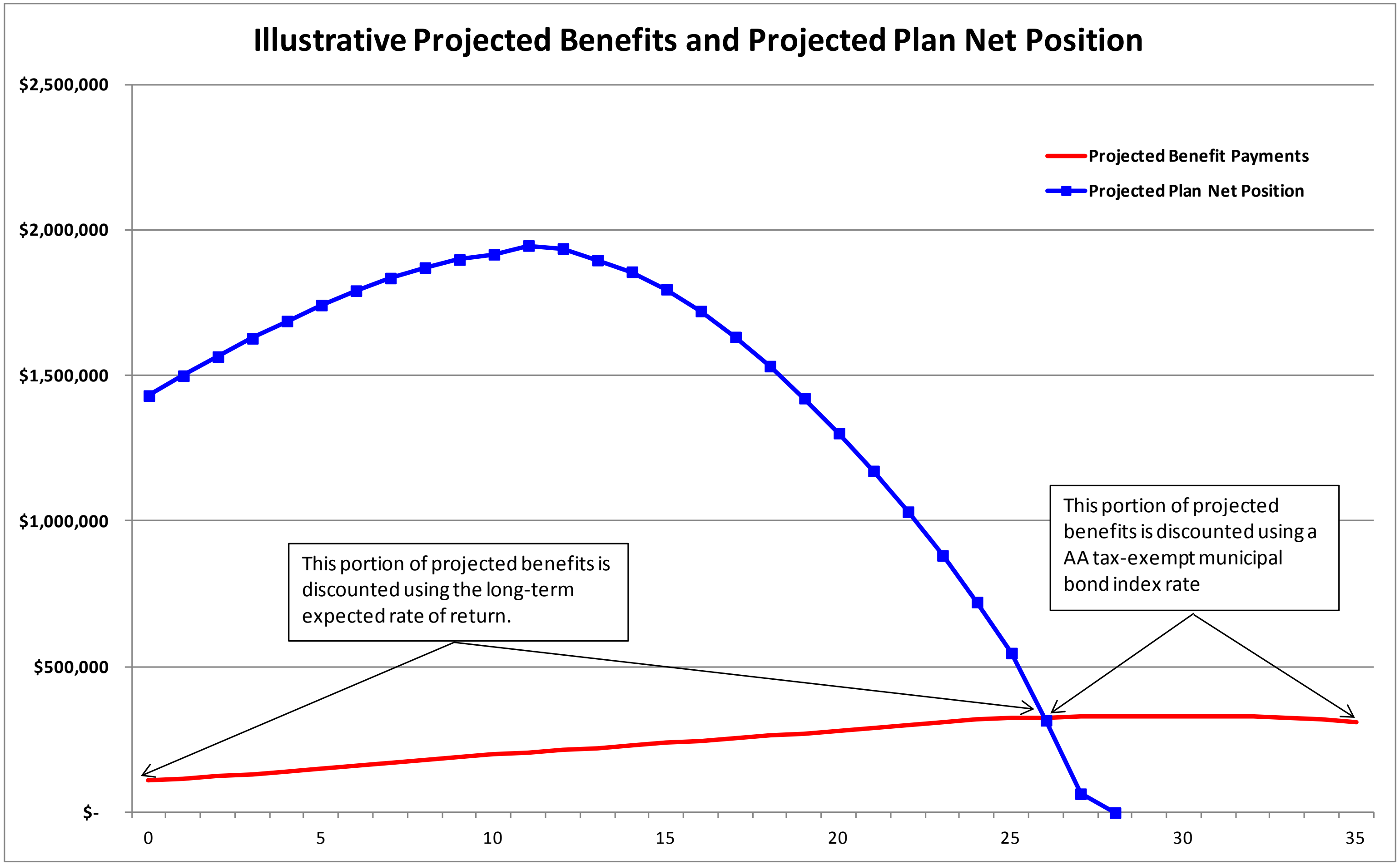
Bay County Budgets are based on a 7.5% long term investment return assumption.

The Cost of the Plan – Books (GASB)

- Liabilities are to reflect the funded status AND the funding policy of the plan.
  - First effective for fiscal year ending June 30, 2014.
  - Total Pension Liability (TPL).
  - Must use a "blended" discount rate.
  - Determine the blended discount rate by projecting when the trust will run out of funds on a closed group basis.
    - Benefit payments before depletion date discounted at valuation assumed long-term rate of investment return (7.5%).
    - Benefit payments after depletion date discounted at municipal bond rate (assumed to be 4.00%).

Bay County "Books" discount rate may be less than "Budgets" discount rate (7.5%).

Determining the Discount Rate – Books (GASB)



The Cost of the Plan – Books (GASB)

- New Standards require a lot of additional work.
  - Separate set of actuarial numbers.
  - 100 year cash flow projection.
  - Changes in liability attributable to each source (gain/loss, benefit changes, assumption, changes) must be tracked for each year and amortized over different periods.
  - Sensitivity analysis under alternate scenarios.
  - Much more extensive disclosure and reporting items.
- GASB 68 Implementation guide is still being finalized.

The Cost of the Plan – Bonds (Moody's Rating Liabilities)

- Rating agencies are attempting to create a mechanism for comparing different municipal debt offerings
  - Thus, the liability determined by a rating agency should not be interpreted as the liability of the plan;
  - It is the liability and annual cost that they will use to compare Bay County debt offerings to other debt offerings

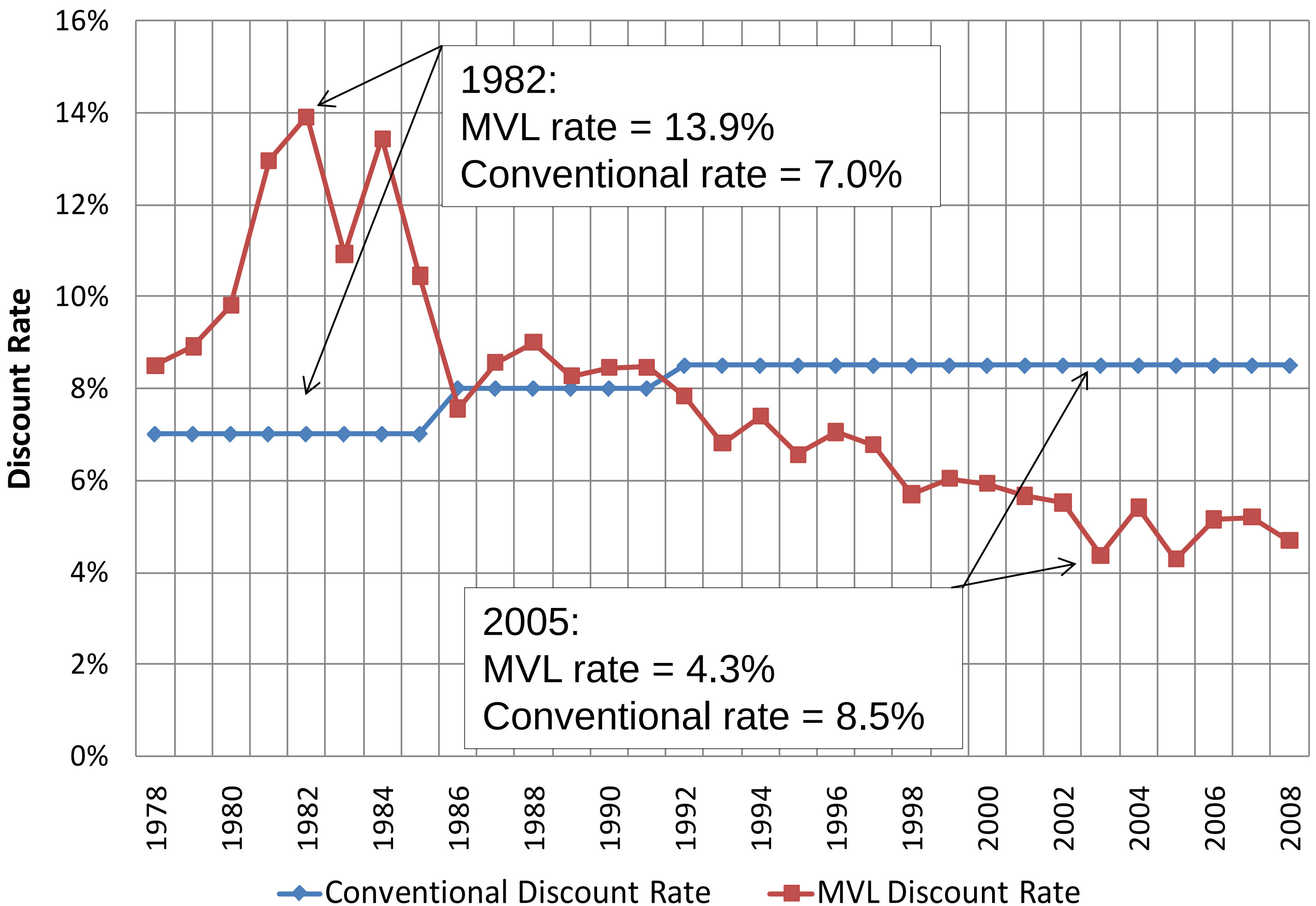
The proposed discount rate (5.5% for 2010 and 2011) is not to be interpreted as Moody's expected rate of return for your System.

The Cost of the Plan – Financial Economics (FE)

- The FE "Market Value Liability" (MVL) for the pension promise is measured using:
  - A "risk free" discount rate (e.g., the Treasury bond yield curve).
- Basically this reflects a "settlement" measure -- the liability for accrued benefits as if the plan terminated on the valuation date.

Pension liabilities measured using 3.5-4.0% discount rates – Again, this is <u>not</u> the expected rate of return for the System.

Conventional and MVL Discount Rates



Source: Jones , Murphy, Zorn, Actuarial Methods and Public Pension Funding: An Empirical Study, Society of Actuaries, 2009.

Big Picture

	Purpose	Key assumptions that relate to the purpose	What is this measure used for?
Funding-Statutory "Budgets"	To create a long term funding plan for the pension obligations	Investment return assumption (7.5%) equals discount rate	Develop the annual funding contribution to the trust
Accounting-GASB "Books"	To "expense" pension at same time as compensation and to the current generation of public service users	Current rules: Same as funding Future rules: Possible lower rate	Employers use this measure to implement a public accounting policy of assessing users costs to the appropriate users
Rating Agencies – Moody, S&P, Fitch "Bonds"	To provide comparisons in the debt markets	Discount rate of 5.5% (to compare private and public debt and measure budget strain	Debt buyers will have comparisons between offerings and similar market rates for the pension debt
Financial Economics	Pricing "Market Value Liabilities"	"Risk free" discount rate (e.g. Treasury bond yield curve)	Settlement on a plan termination basis

Highlights of 2012 BCERS Actuarial Valuation

	General	DWS	Library	BABH	Medical Care Facility	Sheriff's Department	Road Commission	Total
Participants								
Active	365	39	42	276	319	75	56	1,172
Retired	307	30	35	67	192	66	89	786
Terminated Vested	37	1	7	23	16	4	2	90
Total	709	70	84	366	527	145	147	2,048
Payroll	$ 14,581,604	$ 2,061,924	$ 1,885,498	$ 13,748,562	$ 9,643,694	$ 3,776,816	$ 2,873,700	$ 48,571,798
Actuarial Accrued Liability	85,934,745	13,189,648	9,522,831	37,710,121	43,932,965	26,033,904	28,945,653	245,269,867
Actuarial Value of Assets	89,969,006	9,907,850	9,128,783	34,843,222	43,146,174	29,239,131	23,046,574	239,280,740
Unfunded Actuarial Accrued Liability	(4,034,261)	3,281,798	394,048	2,866,899	786,791	(3,205,227)	5,899,079	5,989,127
Funded Ratio	105%	75%	96%	92%	98%	112%	80%	98%
Contribution Requirement								
Employer Normal Cost	6.92 %	7.06 %	8.17 %	7.75 %	6.91 %	9.76 %	10.23 %	7.59 %
Amortization Payment	(3.05)	8.69	1.09	1.05	0.31	(9.21)	11.09	(0.17)
Total	3.87 %	15.75 %	9.26 %	8.80 %	7.22 %	0.55 %	21.32 %	7.42 %

Experience Study changes generally decreased contribution rates.

Highlights of 2012 BCERS Actuarial Valuation

Division	Valuation Year / Fiscal Year	12/31/2011 / 1/1/2013	12/31/2012 / 1/1/2014
General County		4.08 %	3.87 %
DWS		13.77	15.75
Library		9.89	9.26
BABH		10.17	8.80
Medical Care Facility		9.57	7.22
Sheriff's Department		0.00	0.55
Road Commission		20.78	21.32

Highlights of 2012 BCERS Actuarial Valuation

- As a result of the Experience Study performed earlier this year, various assumptions and methods used in the valuation were changed.
- There were no changes in benefits since the last valuation.
- Plan experienced an overall loss of $9,674,480.
  - ►A loss of $12,820,502 was attributable to investment performance (based on the smoothed asset method).
  - ►A gain of $3,146,022 was attributable to demographic experience.

Highlights of 2012 BCERS Actuarial Valuation

- Contribution rates should trend toward the long-term cost or normal cost of the benefits.
- All divisions have required employer contributions. For the first time since the December 31, 1994 valuation the Sheriff's department has a required contribution.

Highlights of 2012 BCERS Actuarial Valuation

- We developed the value of anticipated future benefit payments to retired members and their beneficiaries. We then compared this accrued liability to the reported value of the retirement reserve account. The figures below compare the retired liabilities and the reserves for each division.

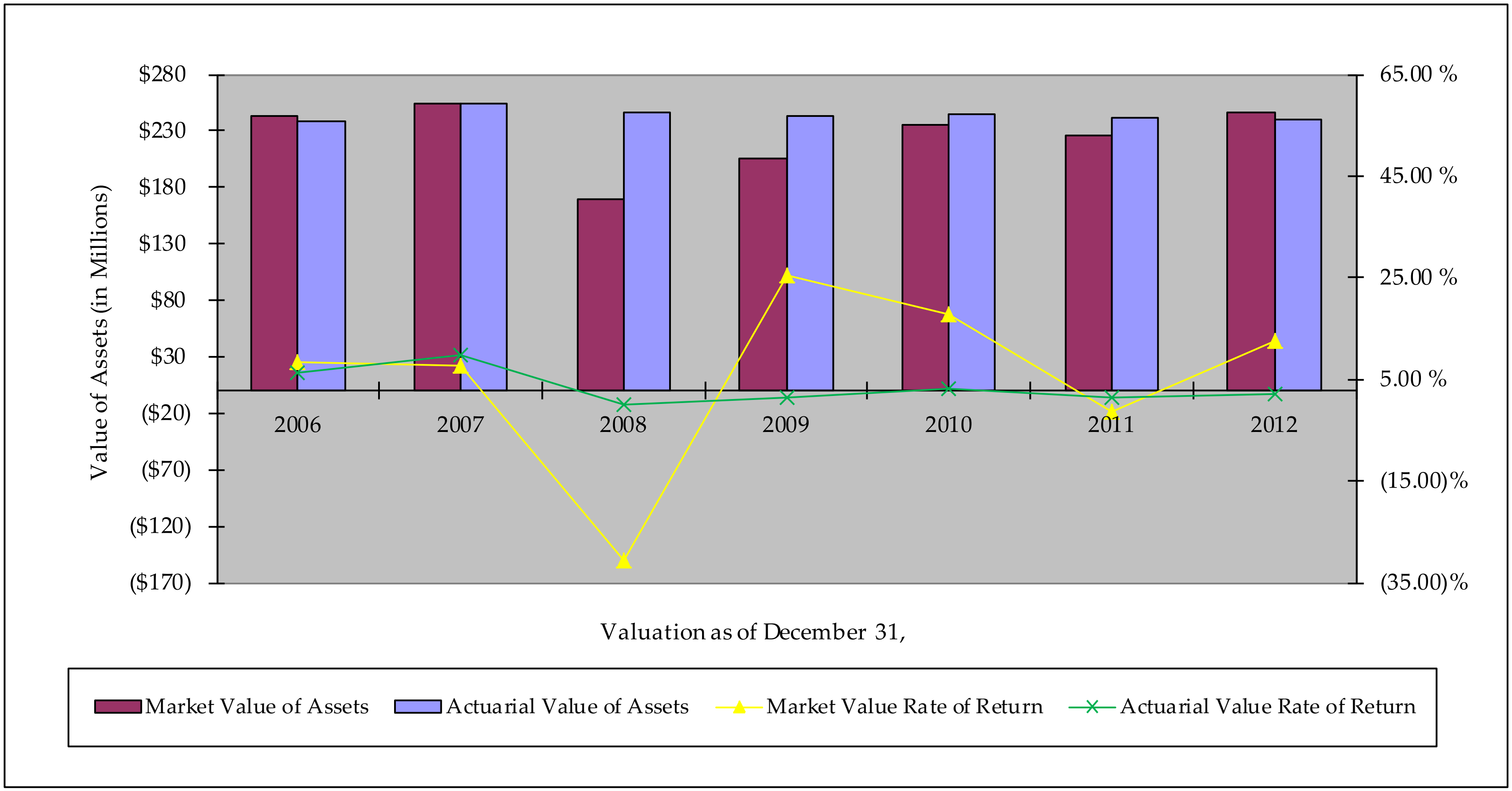
Division	Accrued Liability	Reported Retiree Reserve	Unfunded Retiree Liability
General	$ 43,742,424	$ 41,111,297	$ 2,631,127
DWS	8,048,031	7,502,786	545,245
Library	4,791,234	4,449,357	341,877
BABH	13,316,406	10,851,841	2,464,565
Medical Care Facility	23,272,226	22,656,885	615,341
Sheriff's Department	14,376,816	12,435,250	1,941,566
Road Commission	19,189,141	17,543,019	1,646,122
Total	**$ 126,736,278**	**$ 116,550,435**	**$ 10,185,843**

- As of the valuation date, there is a shortfall in the retiree reserve for all groups. This valuation anticipates that the difference between the accrued liability and the reported reserve will be transferred from the Retirement System employer reserve to the retiree reserve effective January 1, 2013 to fully fund the retiree accrued liability (accounting transfer only).

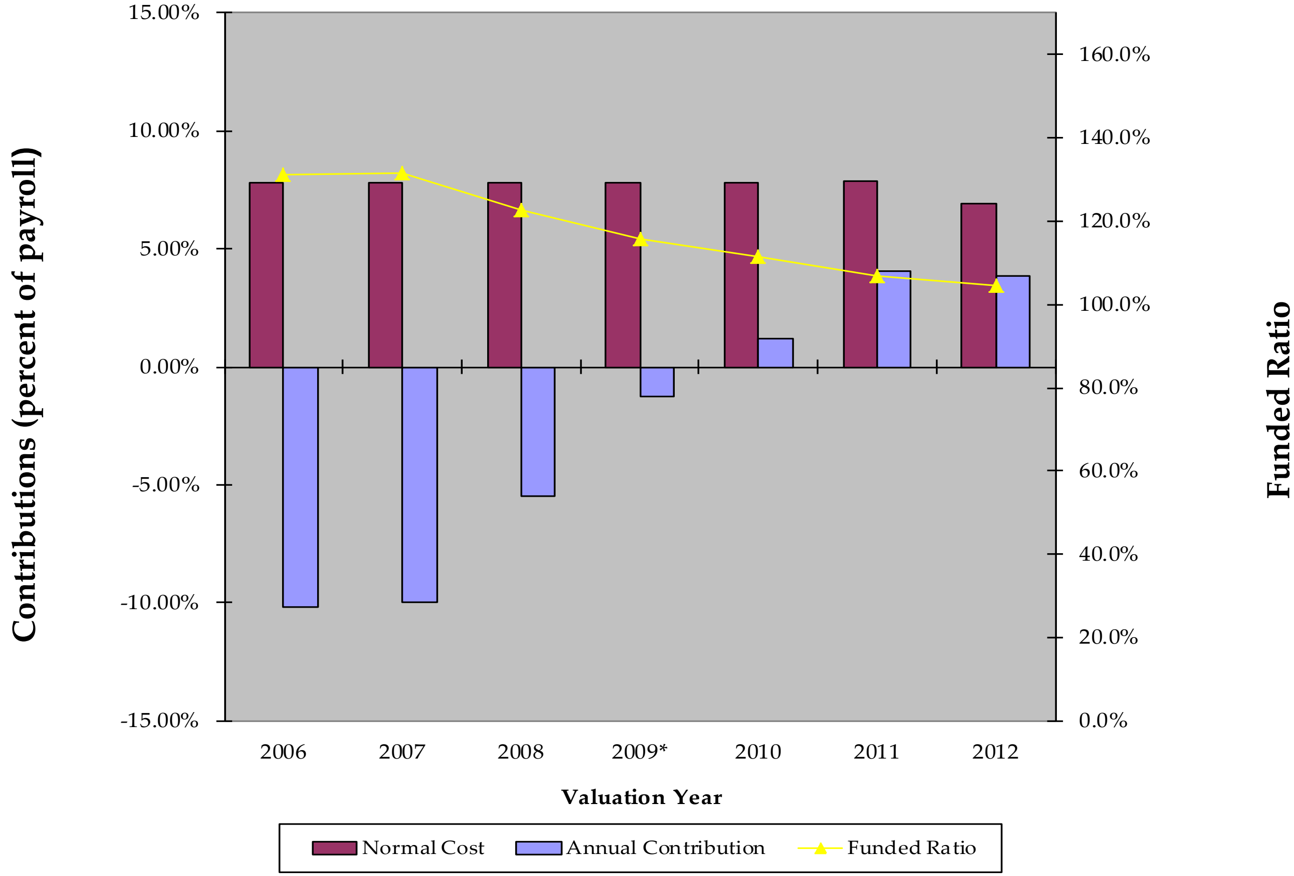
BCERS -Asset Performance

	December 31,						
	2006	2007	2008	2009	2010	2011	2012
Market Value of Assets	$243,583,711	$254,228,599	$170,175,086	$205,994,725	$235,379,259	$225,721,975	$246,909,696
Rate of Return	8.37 %	7.52 %	(30.62)%	25.46 %	17.63 %	(1.22)%	12.65 %
Actuarial Value of Assets	237,681,108	253,492,248	246,577,567	243,271,514	244,728,050	241,207,722	239,280,740
Rate of Return	6.32 %	9.92 %	0.17 %	1.38 %	3.26 %	1.37 %	2.11 %

BCERS - Asset Performance

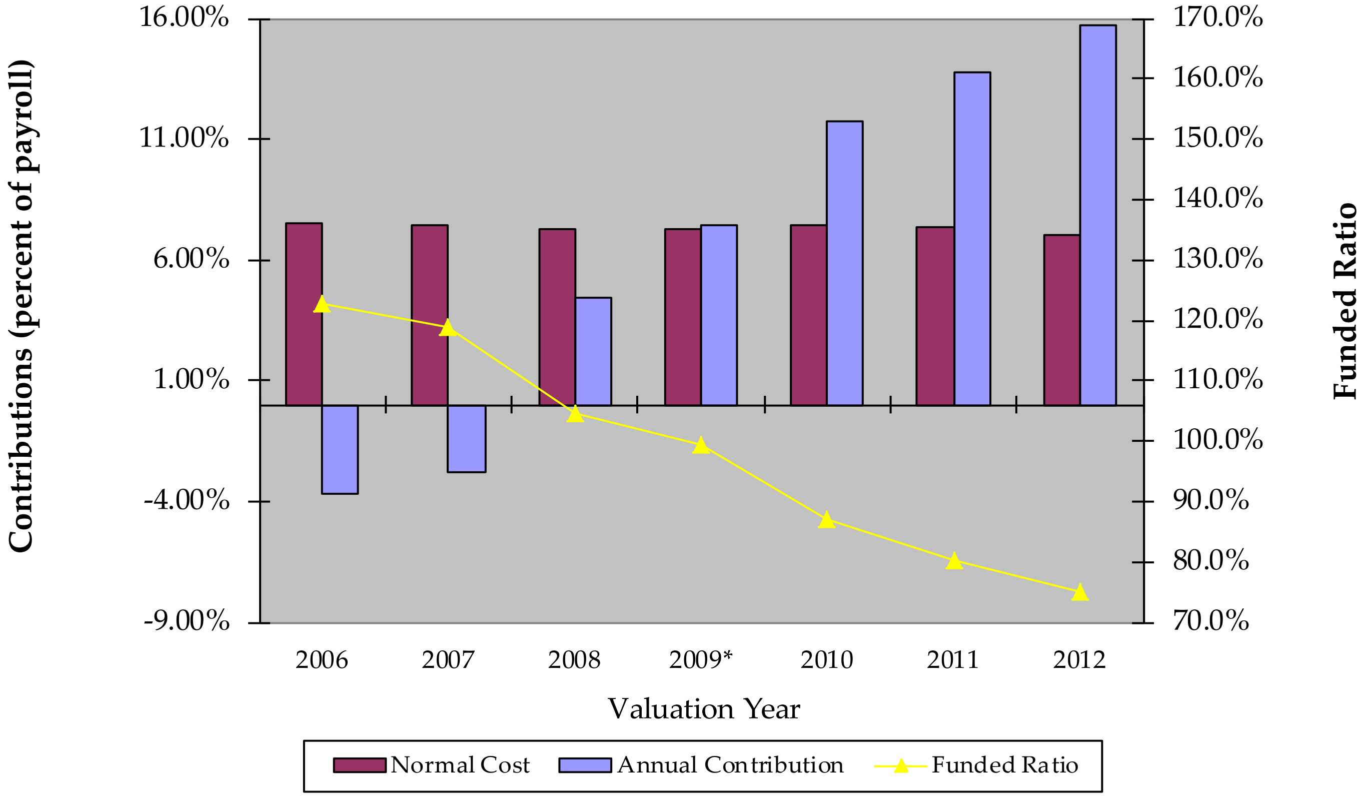


Historical Information - General



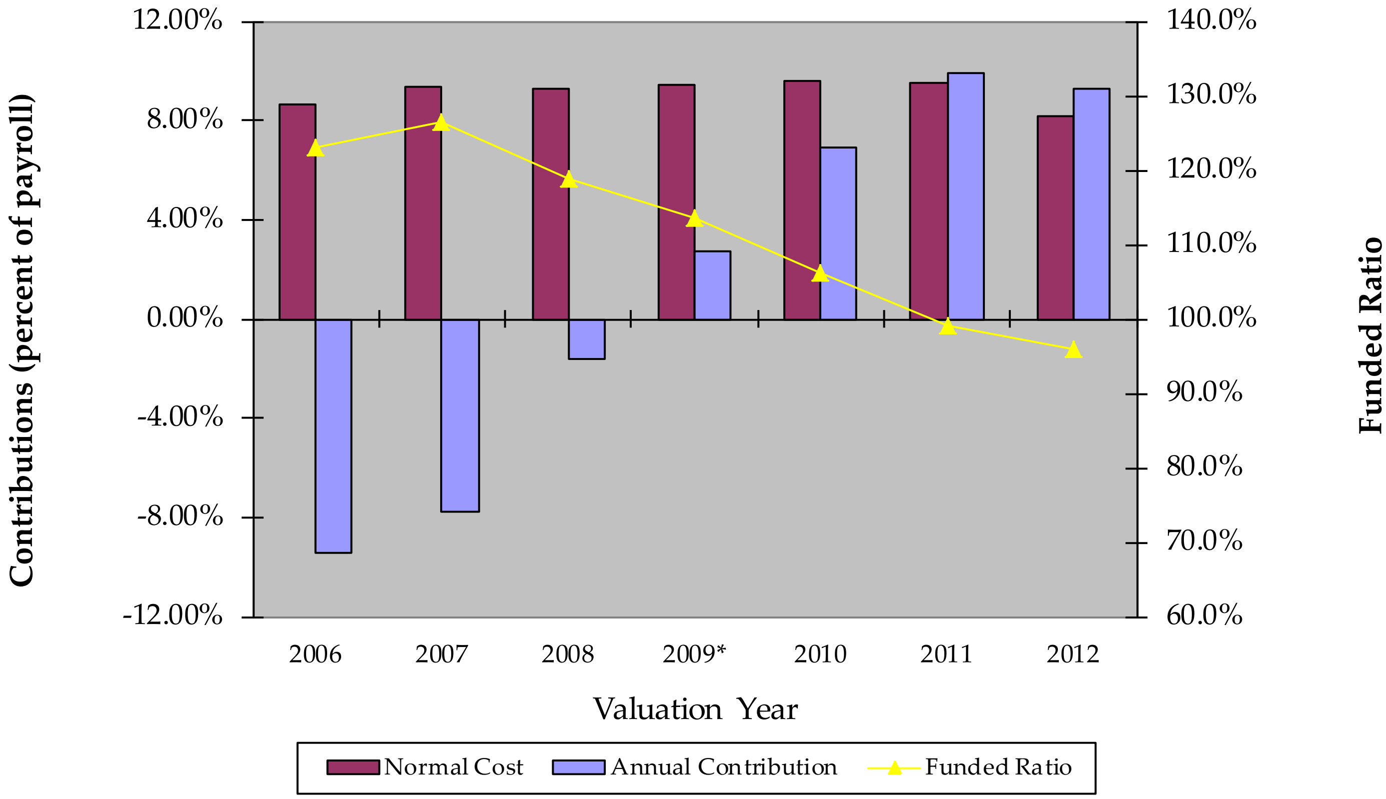
**2009 valuation implemented a 1-year lag – results used for FY 2010 and FY 2011.*

Historical Information – DWS



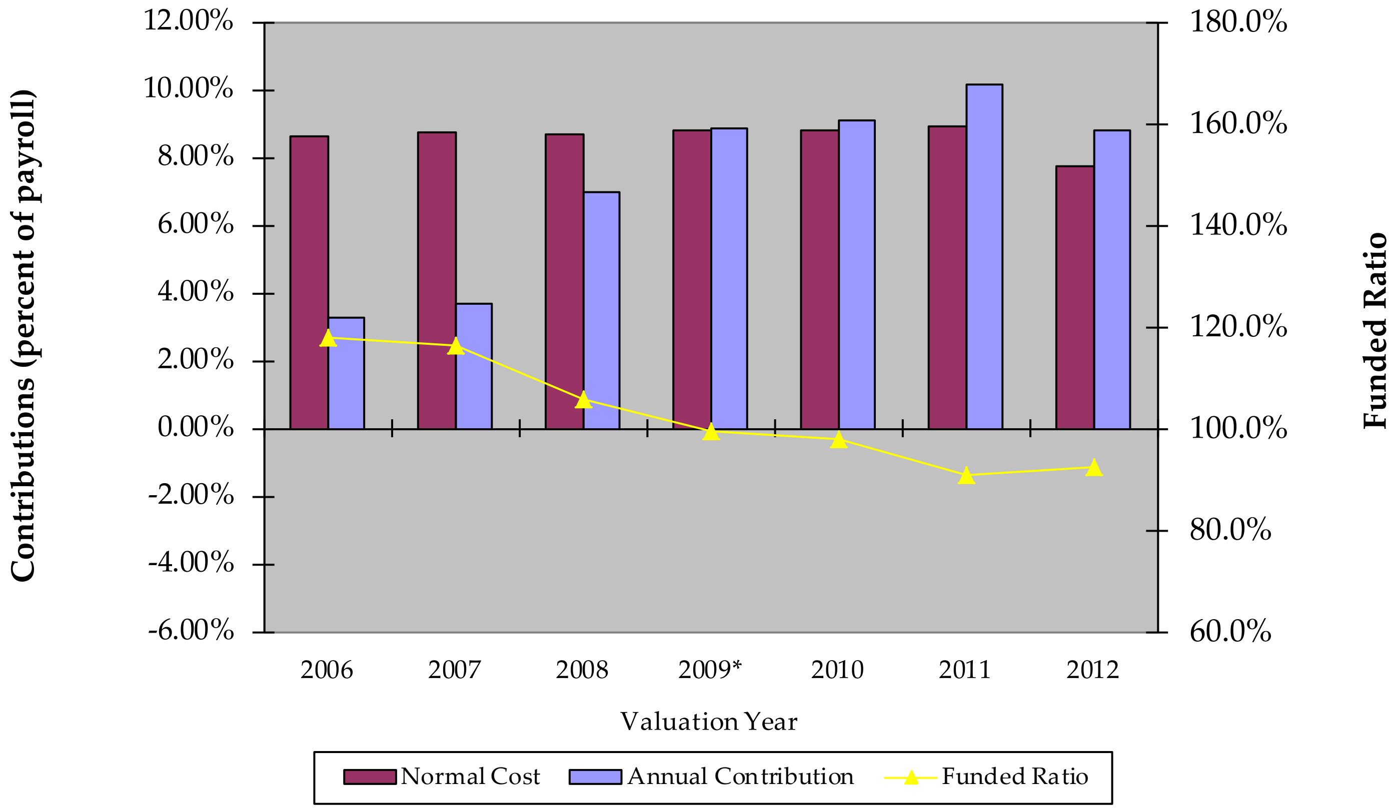
**2009 valuation implemented a 1-year lag – results used for FY 2010 and FY 2011.*

Historical Information - Library



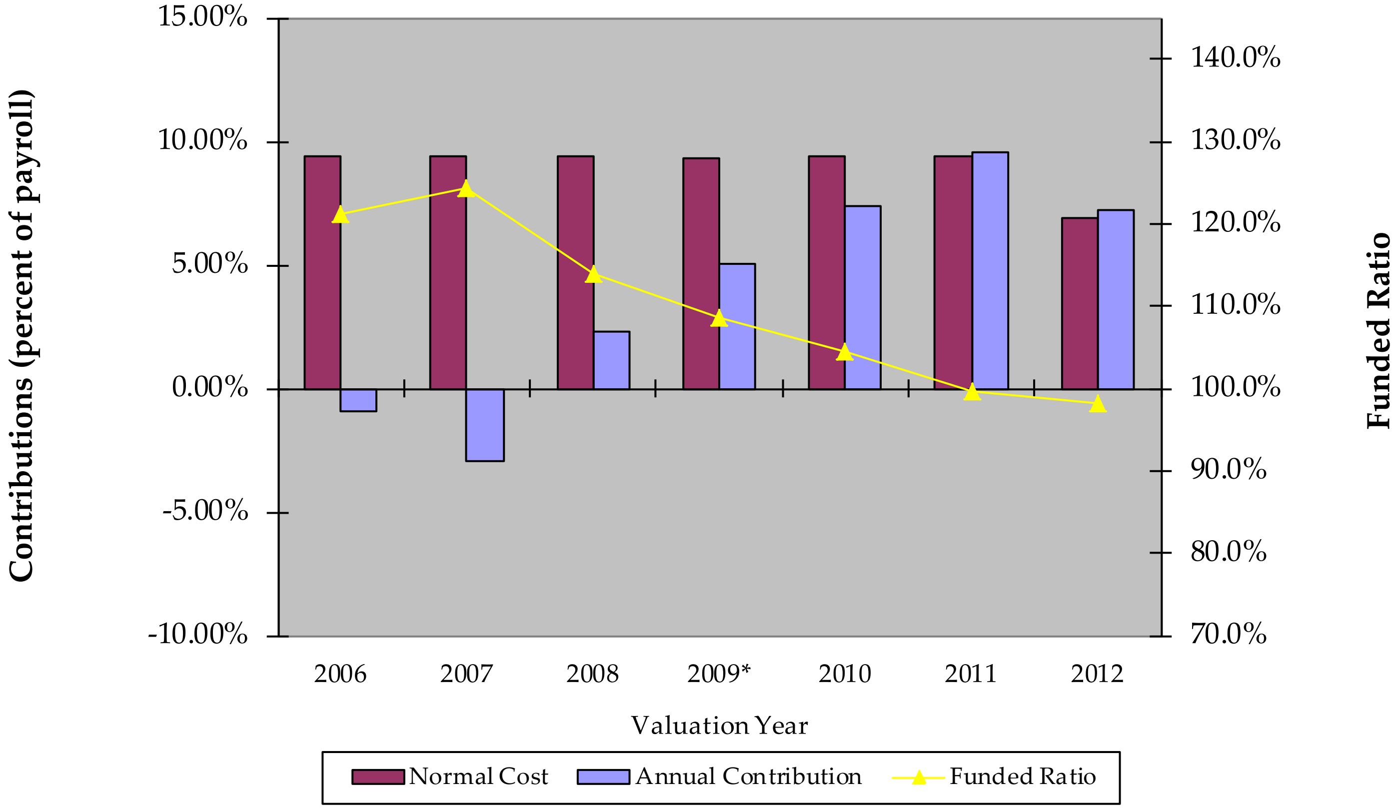
**2009 valuation implemented a 1-year lag – results used for FY 2010 and FY 2011.*

Historical Information - BABH



**2009 valuation implemented a 1-year lag – results used for FY 2010 and FY 2011.*

Historical Information – Medical Care Facility



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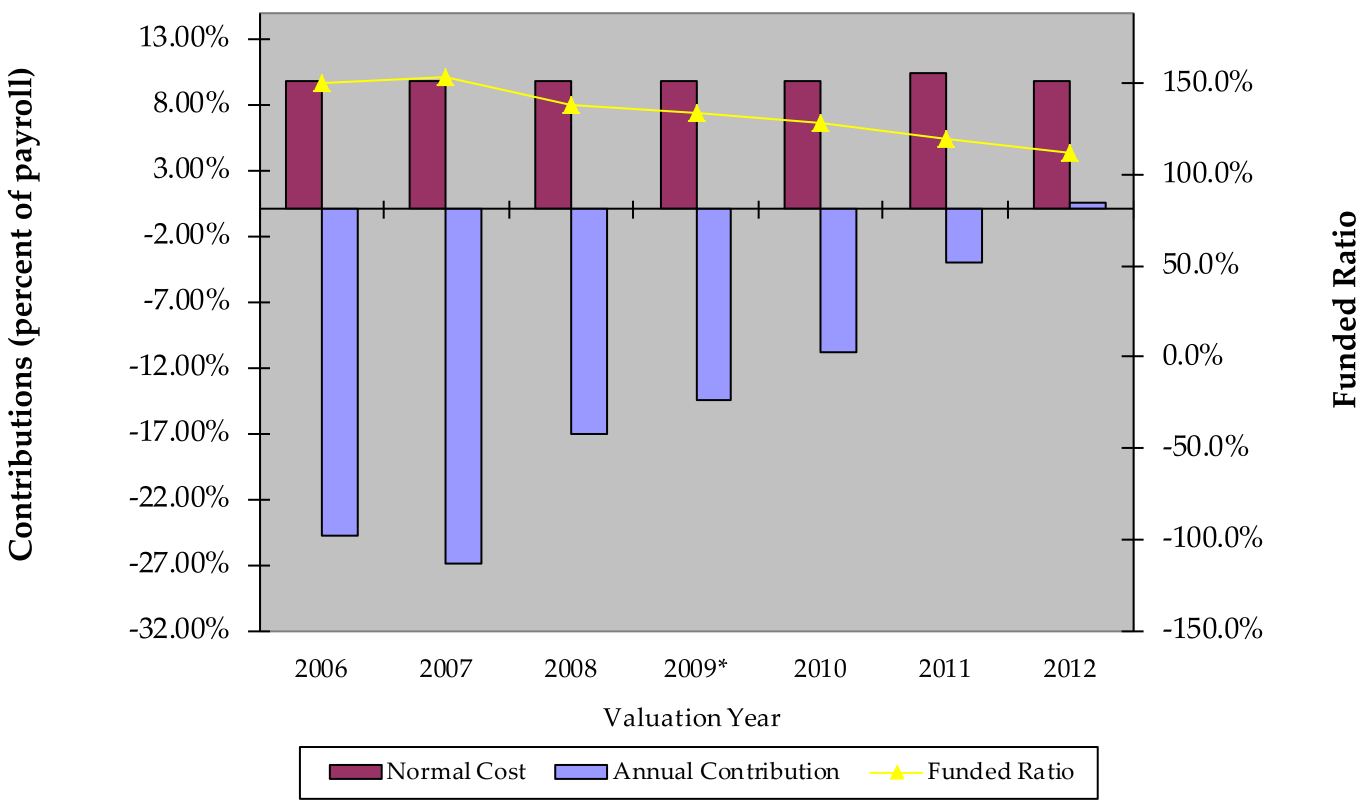
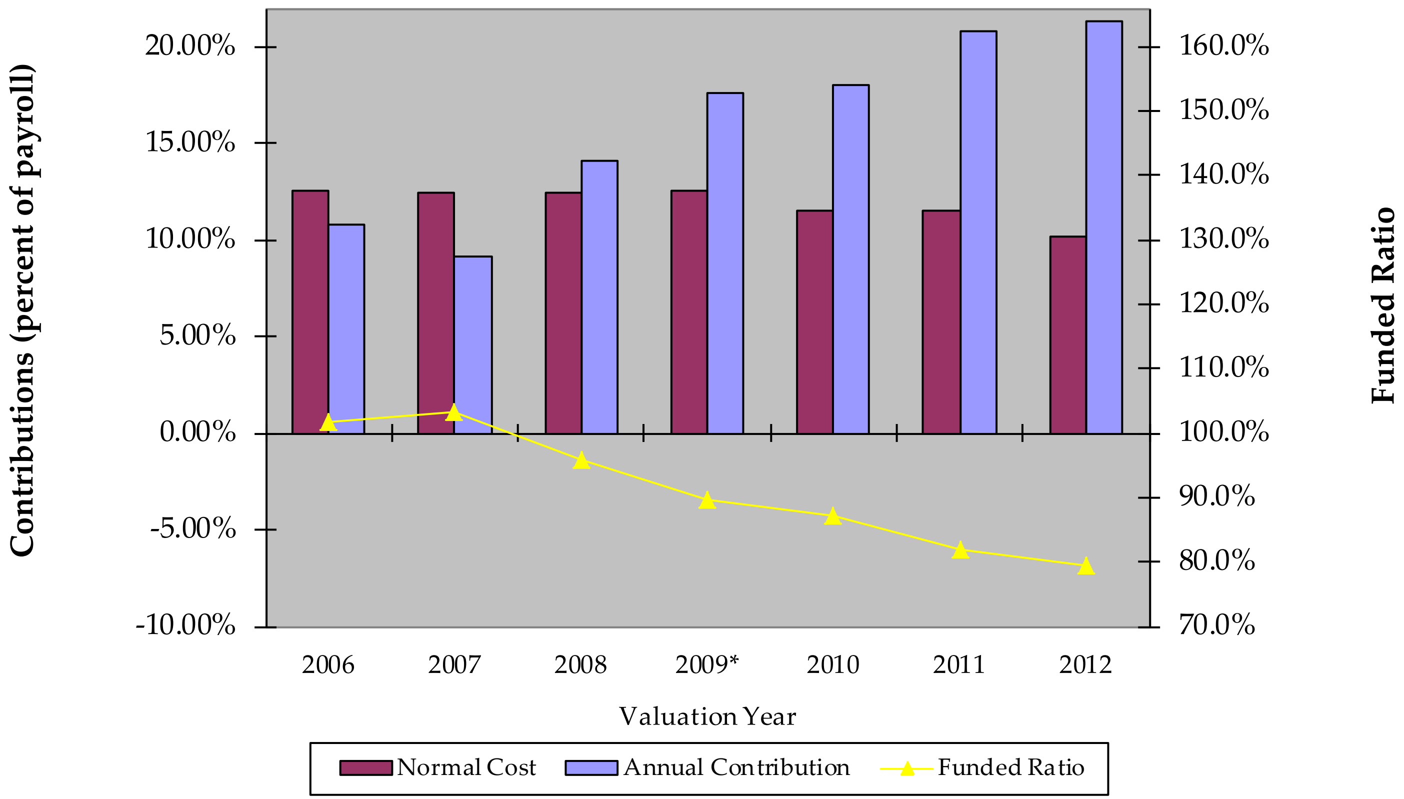
Historical Information – Sheriff's Department



**2009 valuation implemented a 1-year lag – results used for FY 2010 and FY 2011.*

Historical Information – Road Commission



**2009 valuation implemented a 1-year lag – results used for FY 2010 and FY 2011.*

Looking Ahead - Contributions

- If the employer continues to make the recommended contributions, the Retirement System will remain in strong financial position.
  - The System has assets equal to 19 times current benefit payments.
- Asset smoothing helps reduce the volatility of the employer contributions.
- The Retirement System will continue to mature.
  - More retirees than active employees.
  - Normal for a prefunded retirement system.

Looking Ahead - Contributions

- In the long run, employer contributions are expected to level off at the employer normal cost, absent any unfavorable market performance or demographic experience.
- In the short-term, meeting the 7.5% assumed market return will put downward pressure on employer contributions due to the remaining phase-in of past market gains.
- Investment markets continue to be volatile.
  - The funding value of assets was 103% of market value.
  - This is the last year the County is reflecting the large market downturn from calendar year 2008.

Limitations

- Circular 230 Notice: Pursuant to regulations issued by the IRS, to the extent this presentation concerns tax matters, it is not intended or written to be used, and cannot be used, for the purpose of (i) avoiding tax-related penalties under the Internal Revenue Code or (ii) marketing or recommending to another party any tax-related matter addressed within. Each taxpayer should seek advice based on the individual's circumstances from an independent tax advisor.

- This presentation shall not be construed to provide tax advice, legal advice or investment advice.