



# Bay County Employees' Retirement System

## December 31, 2011 Actuarial Valuation

**Board of Trustees Meeting**  
October 9, 2012



**Gabriel Roeder Smith & Company**  
Consultants & Actuaries  
[www.gabrielroeder.com](http://www.gabrielroeder.com)



# Agenda

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- ◆ Actuarial Valuation Process
- ◆ Highlights of 2011 Bay County Actuarial Valuation
- ◆ Asset Performance
- ◆ Historical Contributions / Funded Ratios
- ◆ Looking Ahead
- ◆ GASB Overview
- ◆ Experience Study



# Funding Equation

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$$C + I = B + E$$

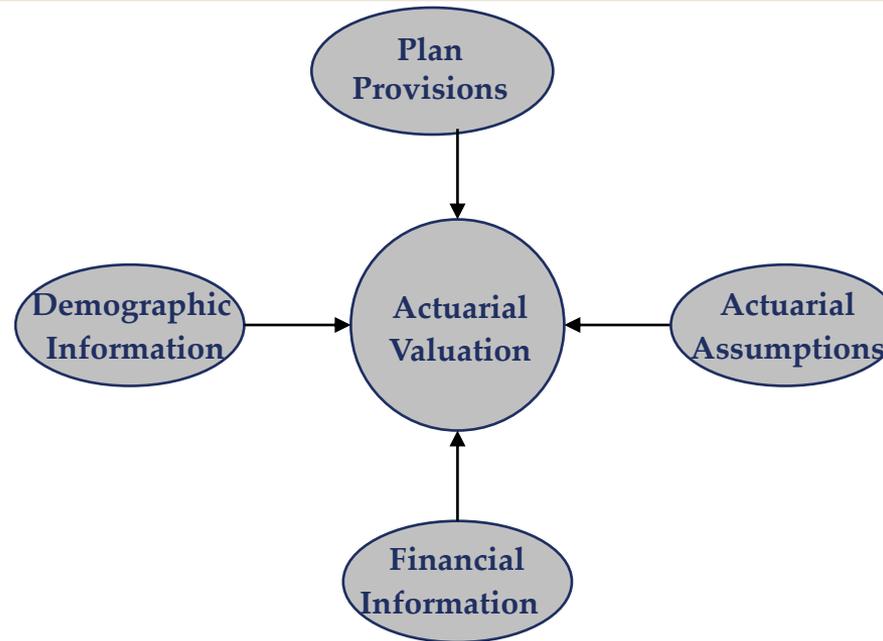
(Contributions plus Investment return must equal Benefits paid plus Expenses in administering the Plan)

- ◆ B depends on
  - ▶ Plan provisions
  - ▶ Experience
- ◆ C depends on
  - ▶ Long term: Actual I, B, E
  - ▶ Short term: An Actuarial Valuation



# Actuarial Valuation Process

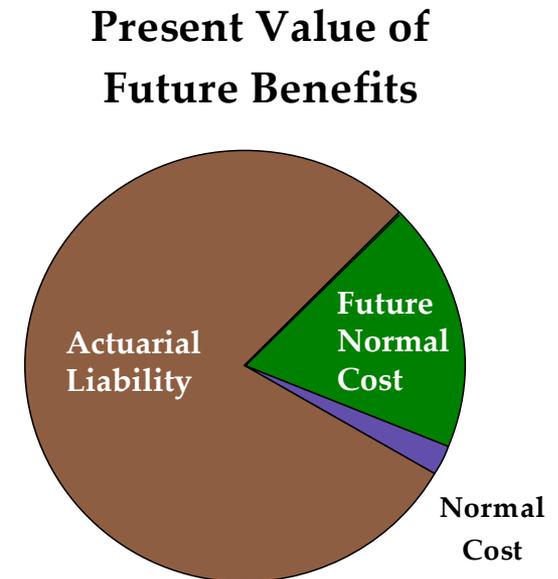
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- ◆ Demographic Information, Financial Information & Plan Provisions are provided by the plan sponsor.
- ◆ Actuarial Assumptions are recommended by the actuary and approved by the Board.
- ◆ The actuarial valuation is a mathematical process used to project future payments on account of specified benefit provisions. These projected payouts are converted to equivalent present value amounts and a corresponding level percent-of-payroll contribution is determined.

# Actuarial Valuation Process

- ◆ Present Value of Future Benefits - Present Value of all future benefits payable to current participants (active, retired, terminated vested).
- ◆ Actuarial Liability - Portion of PV of Future Benefits allocated to prior years.
- ◆ Normal Cost - Portion of PV of Future Benefits allocated to current year.
- ◆ Future Normal Costs - Portion of PV of Future Benefits allocated to future years.





# Actuarial Valuation Process

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$$\begin{array}{r} \text{Actuarial Accrued Liability} \\ - \text{Actuarial Value of Assets} \\ \hline \text{Unfunded Actuarial Liability} \end{array}$$

$$\text{Annual Contribution} = \text{Normal Cost} + \text{Amortization of the Unfunded Liability Requirement}$$



# Highlights of 2011 BCERS Actuarial Valuation

	General	DWS	Library	BABH	Medical Care Facility	Sheriff's Department	Road Commission	Total
Participants								
Active	378	38	44	274	298	77	56	1,165
Retired	292	28	33	55	184	58	90	740
Terminated Vested	46	1	5	18	15	5	2	92
Total	716	67	82	347	497	140	148	1,997
Payroll	\$ 14,953,964	\$ 1,988,876	\$ 1,884,993	\$ 14,000,284	\$ 9,075,454	\$ 3,777,482	\$ 2,902,123	\$ 48,583,176
Actuarial Accrued Liability	85,479,928	12,540,514	9,332,506	36,807,082	43,645,981	24,891,205	29,094,601	241,791,817
Actuarial Value of Assets	91,216,602	10,073,738	9,234,728	33,474,136	43,476,514	29,896,792	23,835,212	241,207,722
Unfunded Actuarial Accrued Liability	(5,736,674)	2,466,776	97,778	3,332,946	169,467	(5,005,587)	5,259,389	584,095
Funded Ratio	107%	80%	99%	91%	100%	120%	82%	100%
Contribution Requirement								
Employer Normal Cost	7.85 %	7.39 %	9.48 %	8.91 %	9.36 %	10.45 %	11.48 %	8.88 %
Amortization Payment	(3.77)	6.38	0.41	1.26	0.21	(14.53)	9.30	(0.72)
Total	4.08 %	13.77 %	9.89 %	10.17 %	9.57 %	(4.08)%	20.78 %	8.16 %



# Highlights of 2011 BCERS Actuarial Valuation

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<b>Division</b>	<b>Valuation Year</b>	<b>12/31/2010</b>	<b>12/31/2011</b>
	<b>Fiscal Year</b>	<b>1/1/2012</b>	<b>1/1/2013</b>
General County		1.19 %	4.08 %
DWS		11.71	13.77
Library		6.91	9.89
BABH		9.08	10.17
Medical Care Facility		7.36	9.57
Sheriff's Department		0.00	0.00
Road Commission		18.05	20.78



# Highlights of 2011 BCERS Actuarial Valuation

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- ◆ There were no changes in assumptions or methods since the last valuation.
- ◆ The Sheriff Department adopted the following benefits:
  - ▶ Division 11 – multiplier change from 2.5% to 2.8%
- ◆ Plan experienced an overall loss of \$12,842,626.
  - ▶ A loss of \$14,782,177 was attributable to investment performance (based on the smoothed asset method).
  - ▶ A gain of \$1,939,551 was attributable to demographic experience.



# Highlights of 2011 BCERS Actuarial Valuation

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- ◆ Contribution rates should trend toward the long-term cost or normal cost of the benefits.
- ◆ All divisions have required employer contributions, except the Sheriff's department.



# Highlights of 2011 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.

<u>Division</u>	<u>Accrued Liability</u>	<u>Reported Retiree Reserve</u>	<u>Unfunded Retiree Liability</u>
General	\$ 41,547,075	\$ 38,739,548	\$ 2,807,527
DWS	7,546,329	6,350,505	1,195,824
Library	4,549,599	4,186,215	363,384
BABH	10,618,730	8,654,704	1,964,026
Medical Care Facility	23,091,548	21,902,229	1,189,319
Sheriff's Department	12,359,685	12,151,656	208,029
Road Commission	19,819,487	17,671,350	2,148,137
<b>Total</b>	<b>\$ 119,532,453</b>	<b>\$ 109,656,207</b>	<b>\$ 9,876,246</b>

- ◆ 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, 2012 to fully fund the retiree accrued liability (accounting transfer only).

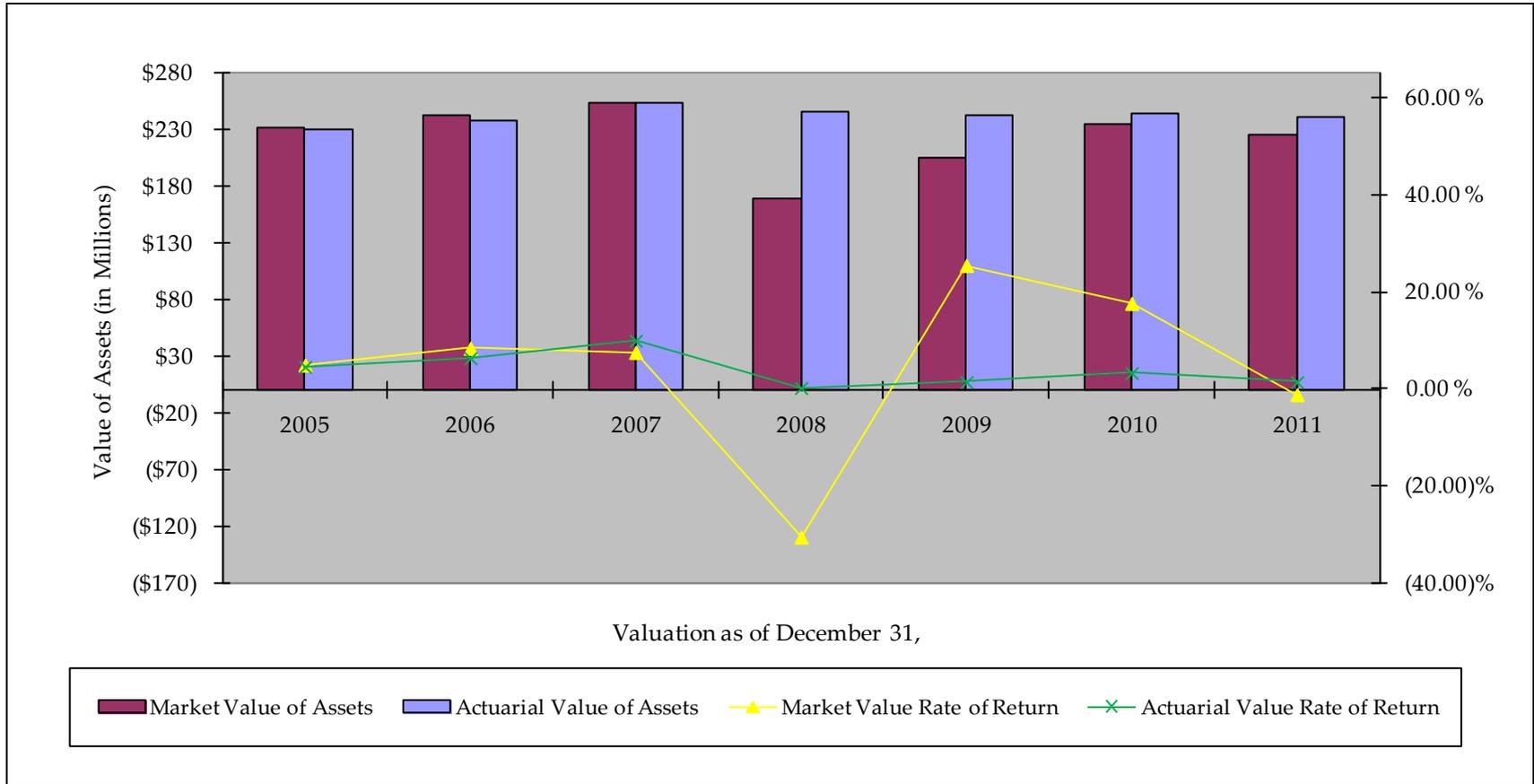


# BCERS - Asset Performance

	December 31,						
	2005	2006	2007	2008	2009	2010	2011
Market Value of Assets	\$231,398,346	\$243,583,711	\$254,228,599	\$170,175,086	\$205,994,725	\$235,379,259	\$225,721,975
Rate of Return	4.91 %	8.37 %	7.52 %	(30.62)%	25.46 %	17.63 %	(1.22)%
Actuarial Value of Assets	230,242,485	237,681,108	253,492,248	246,577,567	243,271,514	244,728,050	241,207,722
Rate of Return	4.53 %	6.32 %	9.92 %	0.17 %	1.38 %	3.26 %	1.37 %

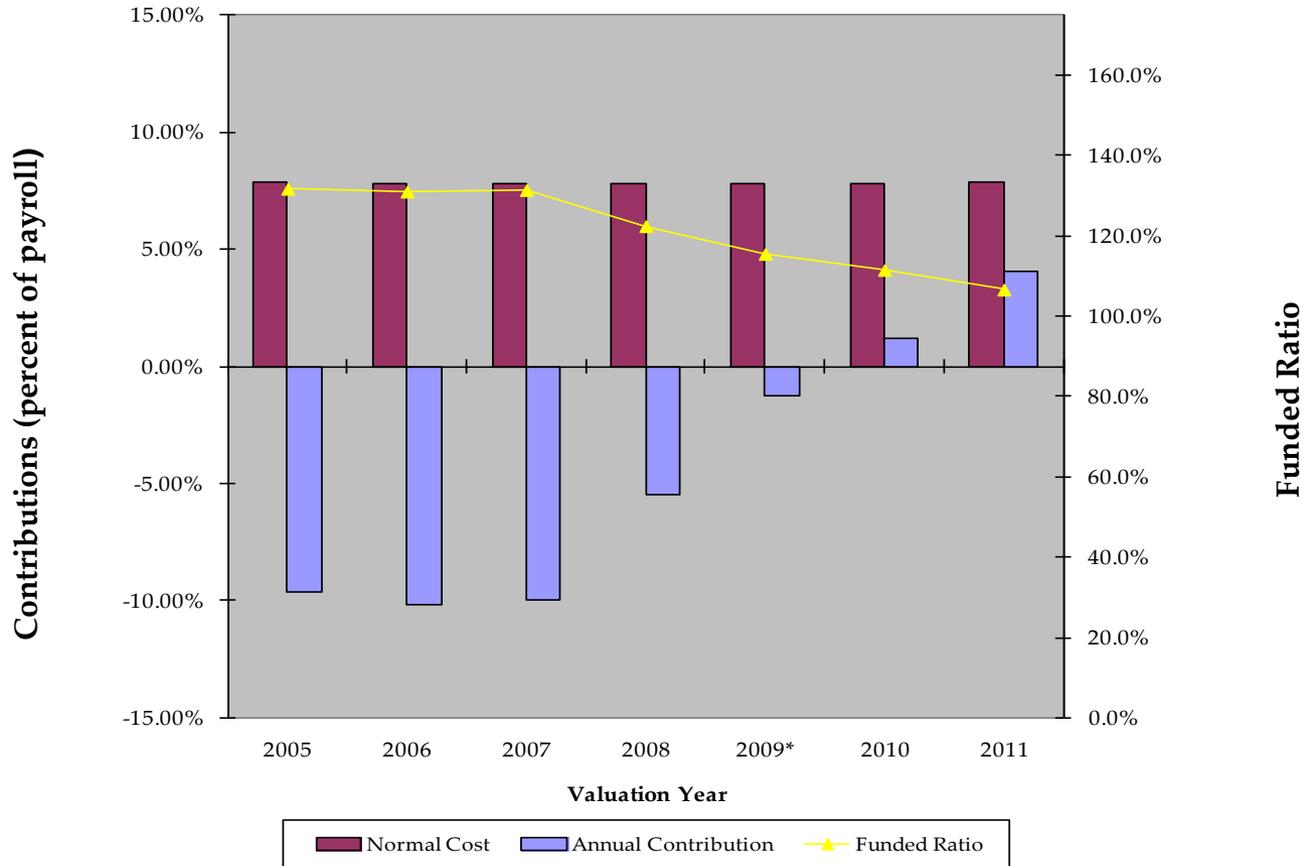


# BCERS - Asset Performance



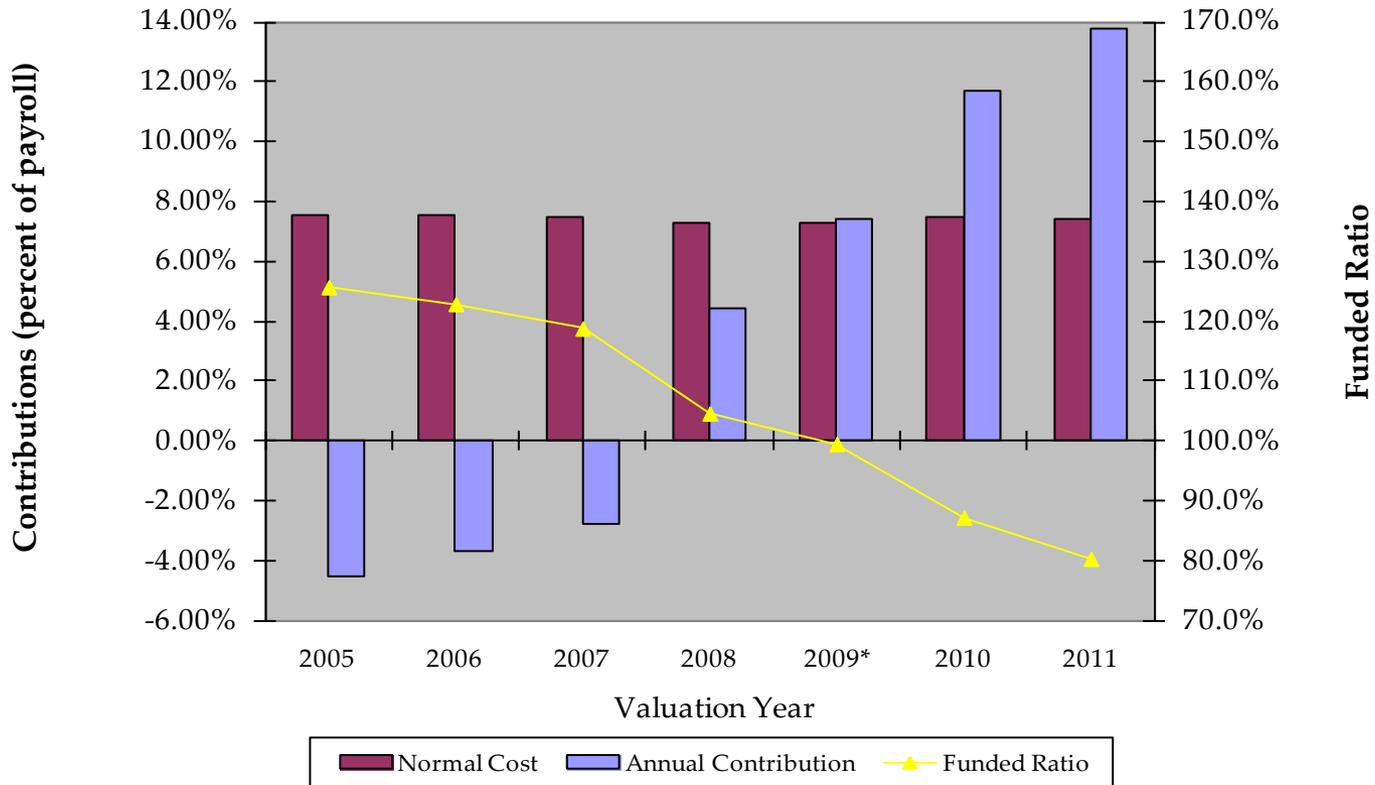


# Historical Information - General



\*2009 valuation implemented a 1 year lag – results used for FY10 and FY11.

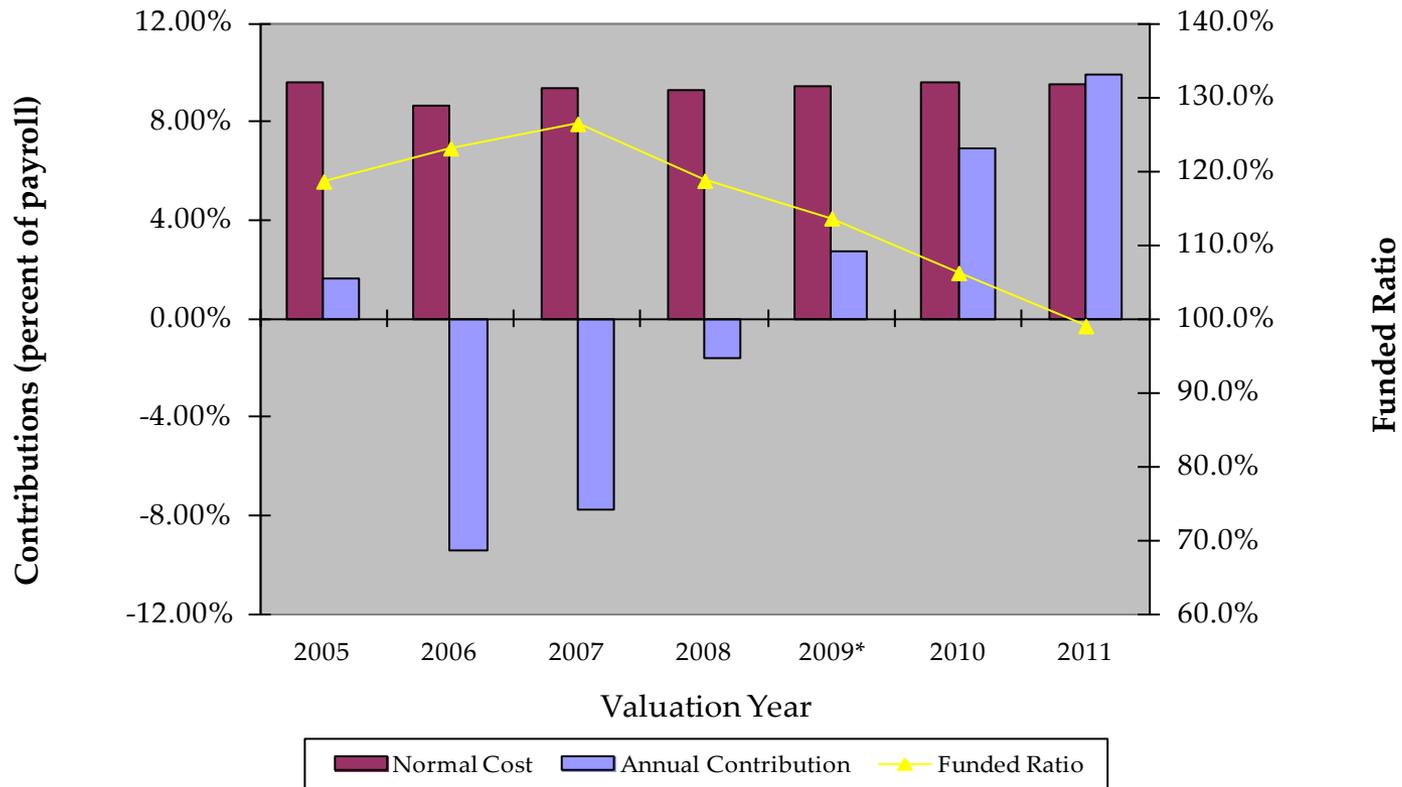
# Historical Information – DWS



\*2009 valuation implemented a 1 year lag – results used for FY10 and FY11.



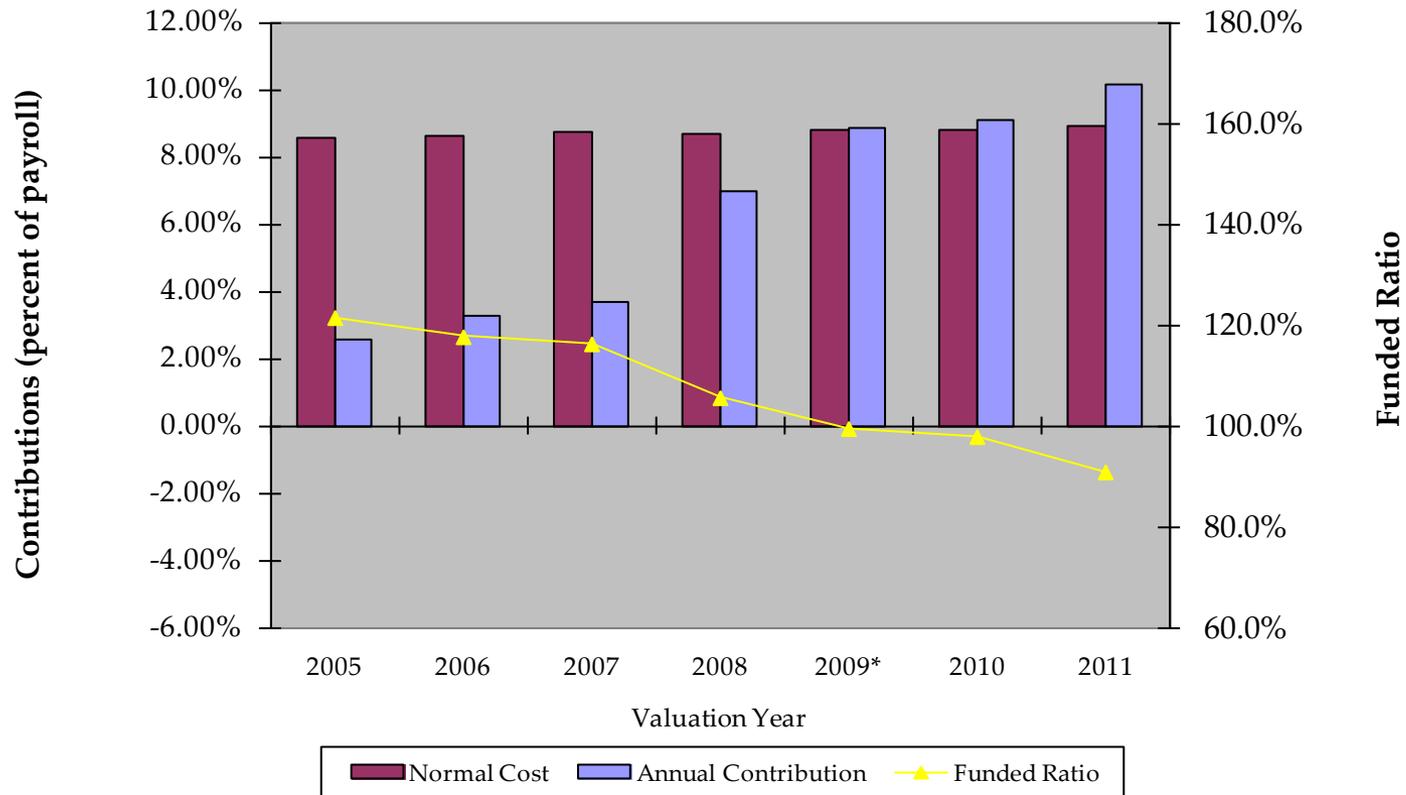
# Historical Information - Library



\*2009 valuation implemented a 1 year lag – results used for FY10 and FY11.



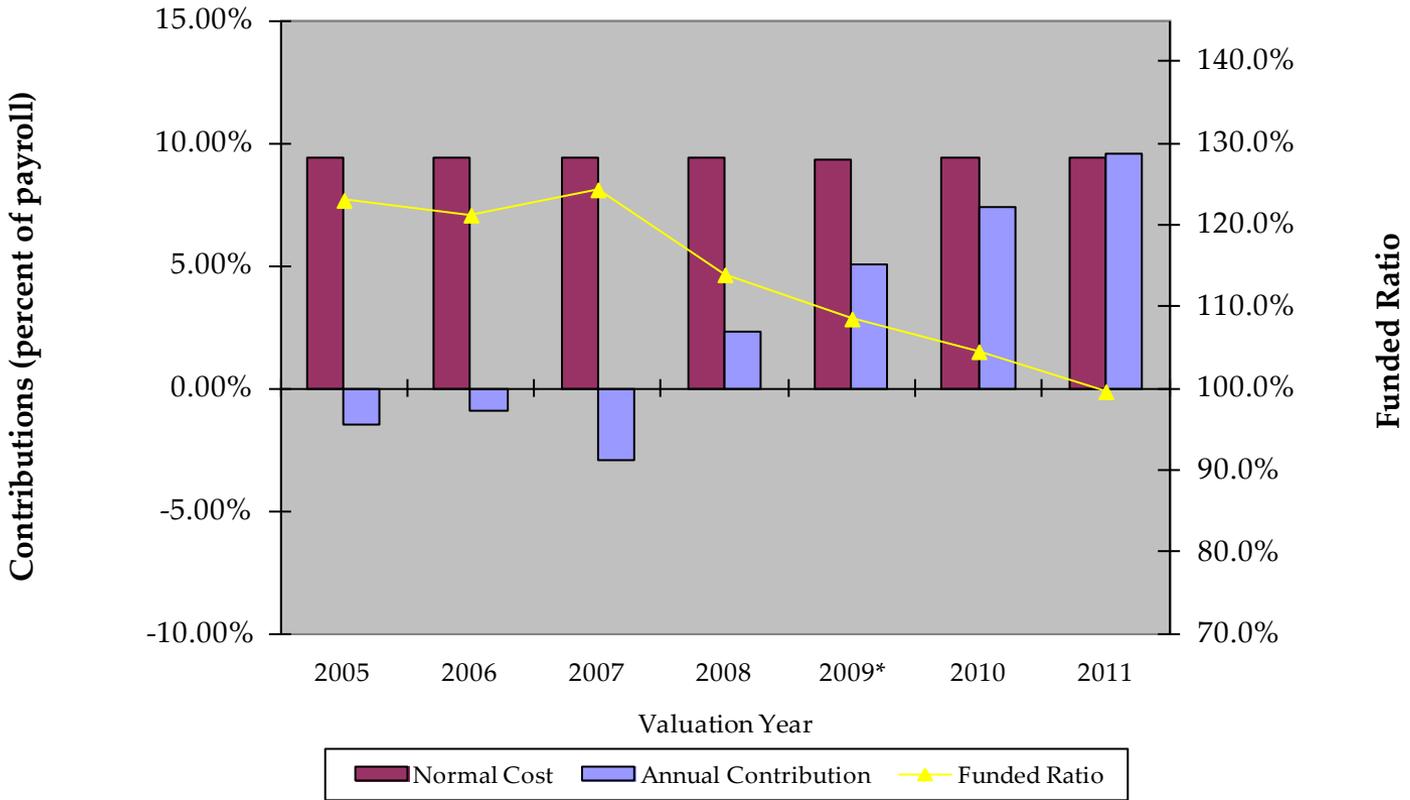
# Historical Information - BABH



\*2009 valuation implemented a 1 year lag – results used for FY10 and FY11.



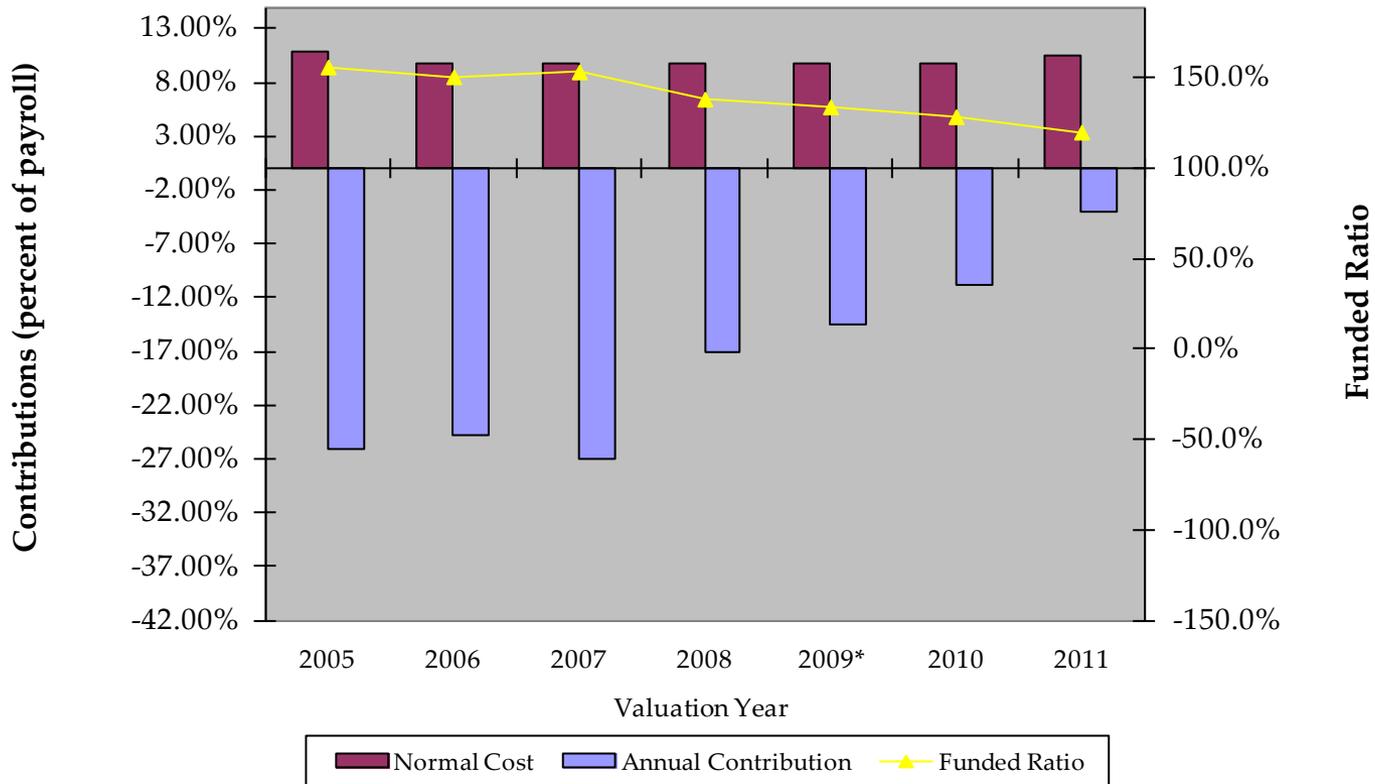
# Historical Information – Medical Care Facility



\*2009 valuation implemented a 1 year lag – results used for FY10 and FY11.



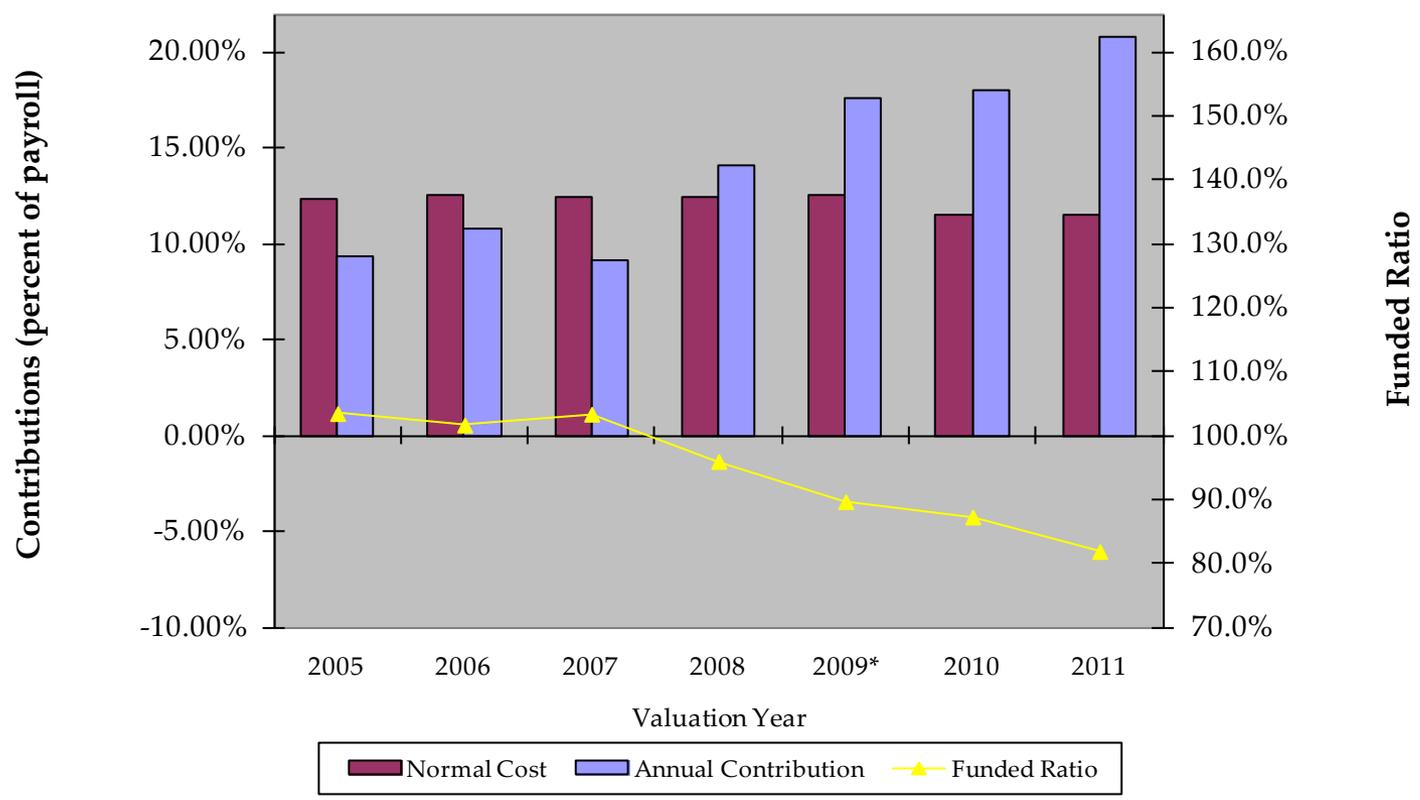
# Historical Information – Sheriff's Department



\*2009 valuation implemented a 1 year lag – results used for FY10 and FY11.



# Historical Information – Road Commission



\*2009 valuation implemented a 1 year lag – results used for FY10 and FY11.



# Looking Ahead - Contributions

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- ◆ 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.
- ◆ A better than 7.5% market return is needed to avoid increases in the employer contributions (to make up for the continued phase in of the 2008 loss).
- ◆ 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

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- ◆ 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, employer contributions are expected to increase as a result of unfavorable investment performance from 2008 and 2011.
- ◆ If the markets do not rebound, employer contributions are expected to continue to rise.
  - ▶ Using the market value of assets instead of the smoothed value of assets, the funded ratio would have been 93% (instead of 100%), and the employer contribution would have been \$5.6 million (instead of \$4.3 million).



# GASB Changes - Overview

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- ◆ New GASB Accounting Standards No. 67 and No. 68 will create accounting results separate from funding results
  - ▶ Funding calculations **are not impacted**
  - ▶ GASB created a new Net Pension Liability (NPL) and Pension Expense
  - ▶ Statement No. 67 replaces Statement No. 25
  - ▶ Statement No. 68 replaces Statement No. 27



# GASB Changes - Overview

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- ◆ Requires recognition of unfunded liability on the balance sheet
  - ▶ Formerly only in footnotes
- ◆ Changes calculation of annual cost
  - ▶ No longer equal to required contribution (ARC)
- ◆ Meant to improve transparency and comparability – market assets, single funding method, rigid amortization rules



# GASB Changes - Overview

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## ◆ Approved Effective Dates

- ▶ Trust's Financial Statement No. 67 – reporting periods beginning after June 15, 2013
- ▶ Employer's Financial Statement No. 68 – reporting periods beginning after June 15, 2014



# Experience Study

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- ◆ Actuarial valuations based on set of assumptions that should be updated periodically
- ◆ GFOA Best Practice recommends an experience study be conducted every 5 years
- ◆ Last Experience Study for BCERS conducted in 2003
- ◆ Regular periodic updates allow for smaller incremental changes and level contribution patterns



# Experience Study- Assumptions

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## What

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### **Economic**

- ◆ Investment Return
- ◆ Payroll Growth Rate
- ◆ Population Growth Rate  
(Usually, a constant population size is assumed)

### **Demographic**

- ◆ Retirement Rates
- ◆ Promotional/Step Pay Increases
- ◆ Disability
- ◆ Turnover
- ◆ Mortality

## Who Develops

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- ◆ Board, Actuary, Other Advisors
- ◆ Mostly Actuary



# Limitations

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- ◆ 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.
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