City of Dallas Employees' Retirement Fund

Actuarial Valuation as of December 31, 2015

GRS
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Actuarial Valuation

- Prepared as of December 31, 2015, using member data, financial data, benefit and contribution provisions, actuarial assumptions and methods
- Purposes:
  - Measure the actuarial liabilities of the ERF
  - Determine actuarial required contribution rate
    - Current Total Obligation Rate
    - Current Adjusted Total Obligation Rate
  - Provide other information for reporting
    - GASB #67 & #68, CAFR
  - Explain changes in actuarial condition of the Fund

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Key Issues and Changes

- ERF fell short of the investment target of 8.0% on both a market value and actuarial value basis in 2015
  - Return on market value was -1.83%
  - Actuarial loss on assets of $31 million
- ERF had mixed liability experience in 2015
  - Lower than expected cost of living adjustment (no COLA)
  - Fewer retirements than expected
  - Larger salary increases than expected

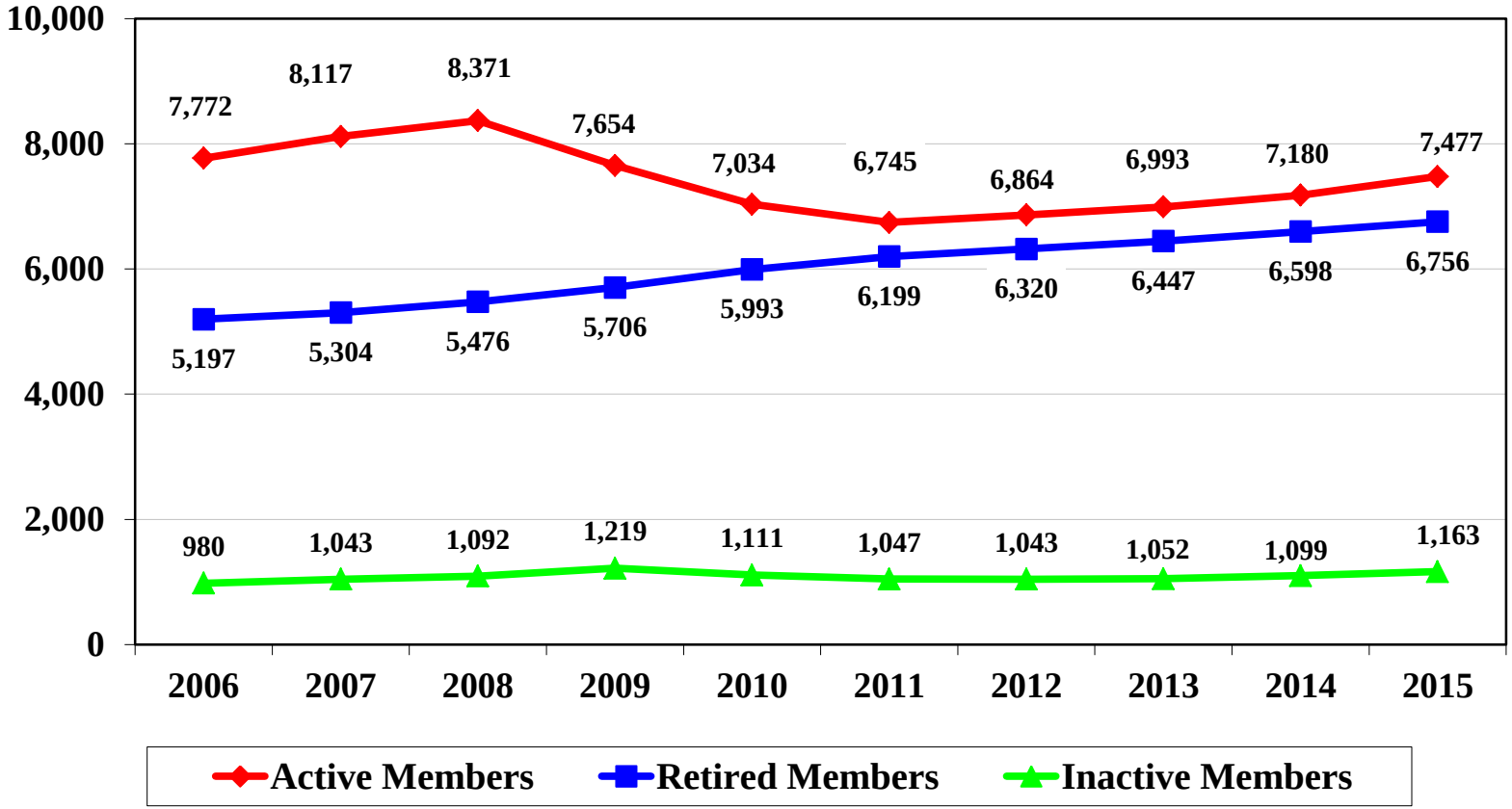
Key Issues and Changes

- Large increase in covered payroll helped reduce the calculated contribution rate as a percentage of pay
  - Also reduced the Pension Obligation Bond Credit
- Current Total Obligation Rate continues to exceed 36% of pay cap
  - CATOR is 36.00%
  - City contribution rate is 22.68%
  - Member rate is 13.32%

Membership

- The number of active members increased from 7,180 to 7,477, a 4.1% increase
- Payroll for active members increased from $363.1 million to $393.2 million, an 8.3% increase
- The number of members in payment status increased by a net 150, from 6,598 to 6,756, a 2.4% increase
- There are 1.1 active members for each retiree compared to 1.5 in 2008

Active Members and Retired Members



Note: active membership increased 4.1% over last year

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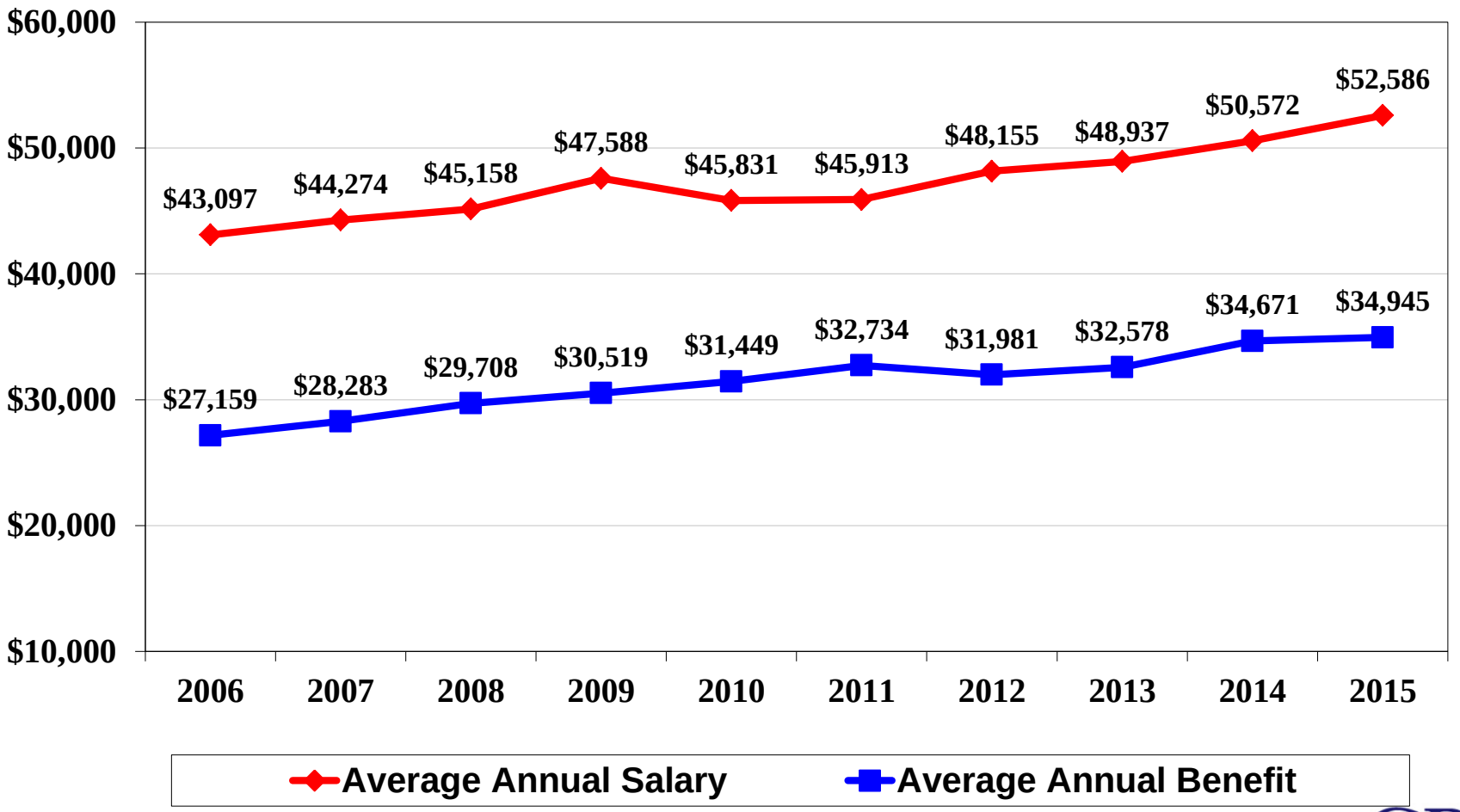
Average Salary and Average Benefit



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Assets

- Fair market value decreased from $ 3.391 billion to $3.195 billion
- Return on market value of assets was approximately -1.83% in 2015
- Actuarial value is now $3.320 billion, compared to $3.241 billion last year
- Actuarial rate of return was 7.02% in 2015
  - Less than 8.00% assumed rate of return
- Actuarial value is 103.9% of fair market value
- Net deferred investment losses of $126 million still to be recognized in actuarial value of assets

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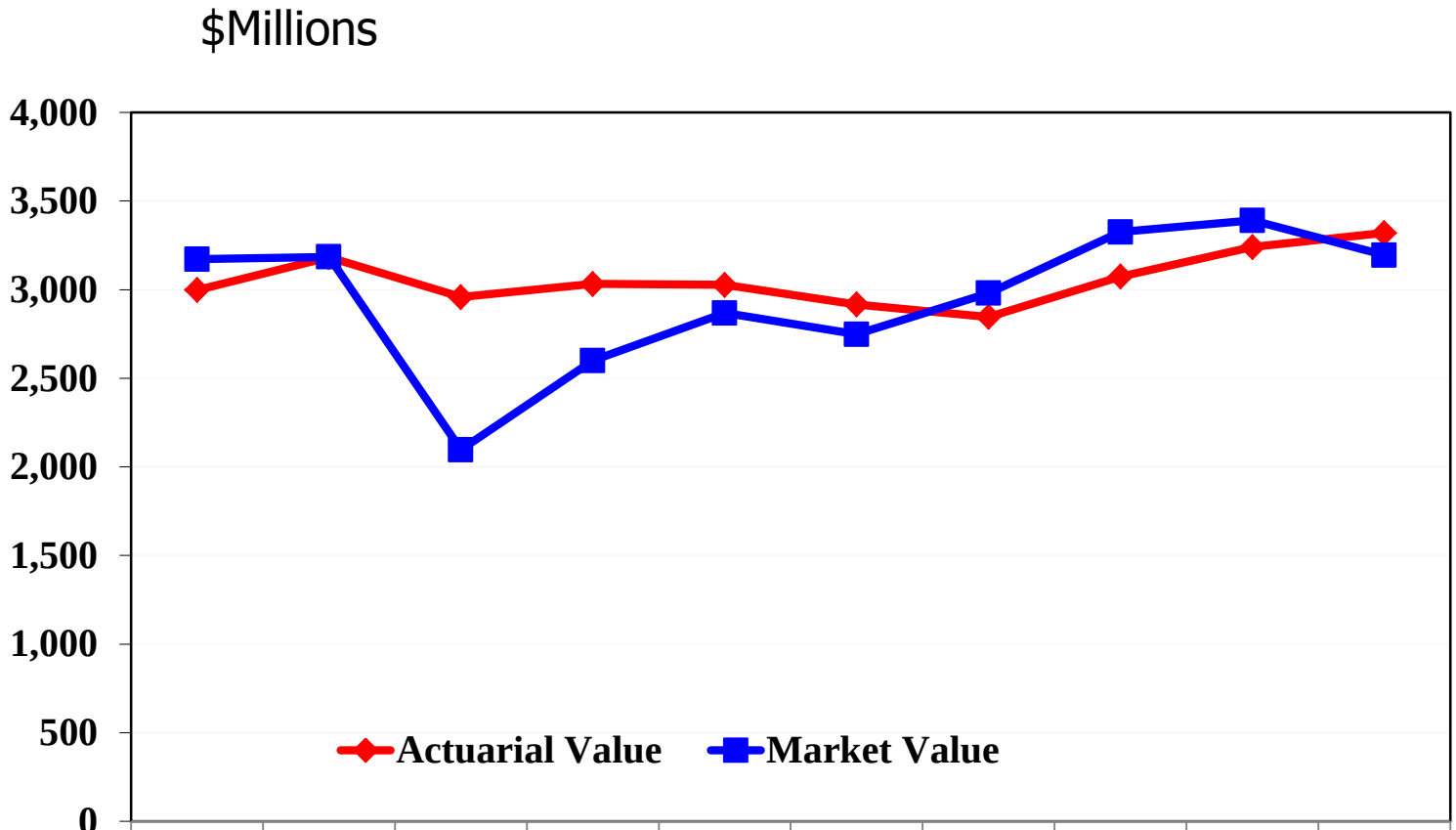
Historical Asset Values



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Actuarial Value	2,998	3,183	2,958	3,032	3,027	2,917	2,846	3,074	3,241	3,320
Market Value	3,172	3,185	2,097	2,600	2,868	2,748	2,980	3,325	3,391	3,195

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Actuarial Results

- Actuarial Present Value (APV) of benefits is now $4.654 billion
- Unfunded Actuarial Accrued Liability (UAAL) increased from $763 million to $809 million
  - Reflects $31 million loss on actuarial value of assets
  - Reflects $33 million loss due to larger than expected salary increases
  - Reflects $51 million gain due to no cost of living adjustment for retirees

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Actuarial Results

- UAAL increased $31 million due to difference between calculated contribution rate and actual contribution rate
- Funded ratio (actuarial assets divided by actuarial accrued liability) decreased from 80.9% in 2014 to 80.4% in 2015
- Funded ratio using market value is 77.4%
  - Was 84.7% last year
- Total 30-year contribution rate is 34.19%
  - Does not include POB debt service payments
  - 34.32 % last year

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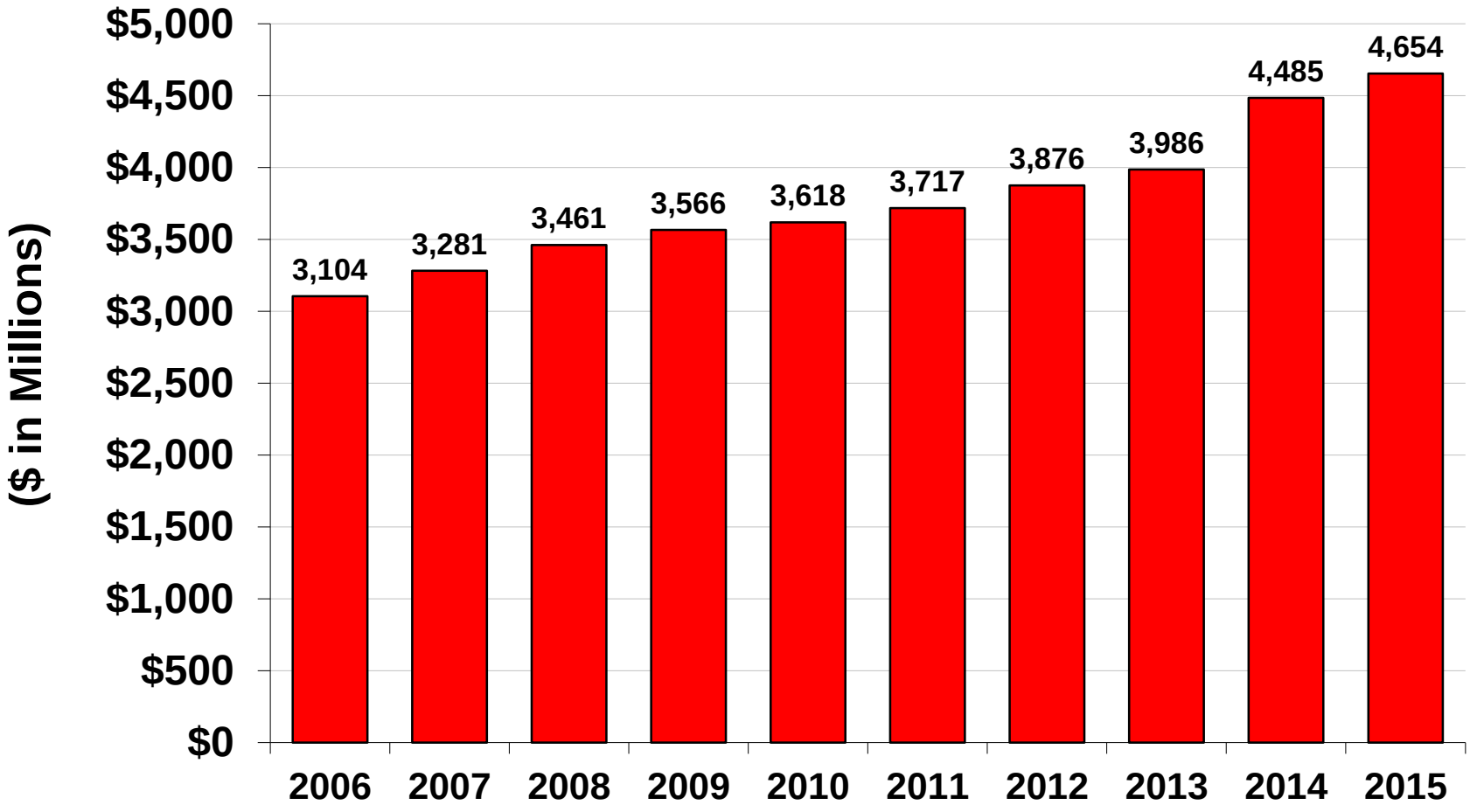
Actuarial Present Value (APV) of Benefits



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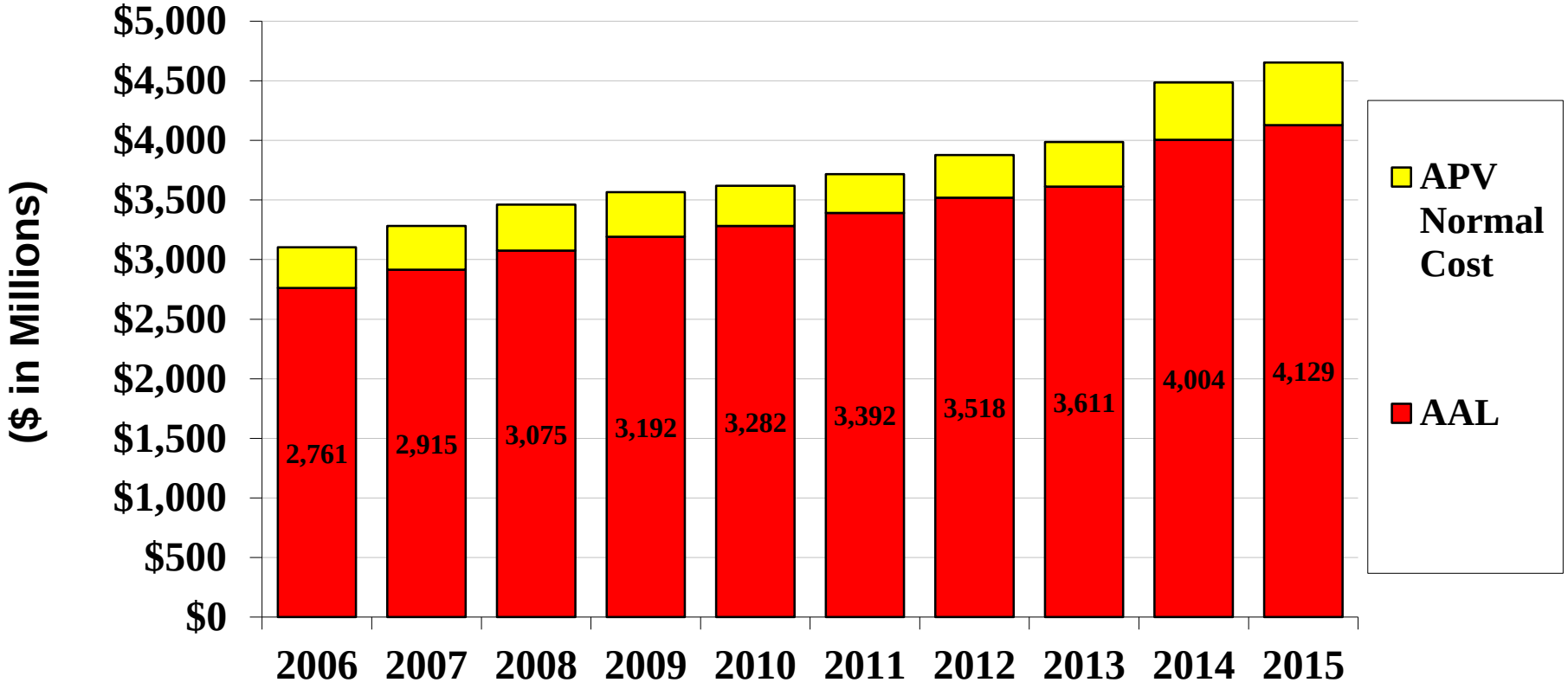
Actuarial Accrued Liability (AAL)



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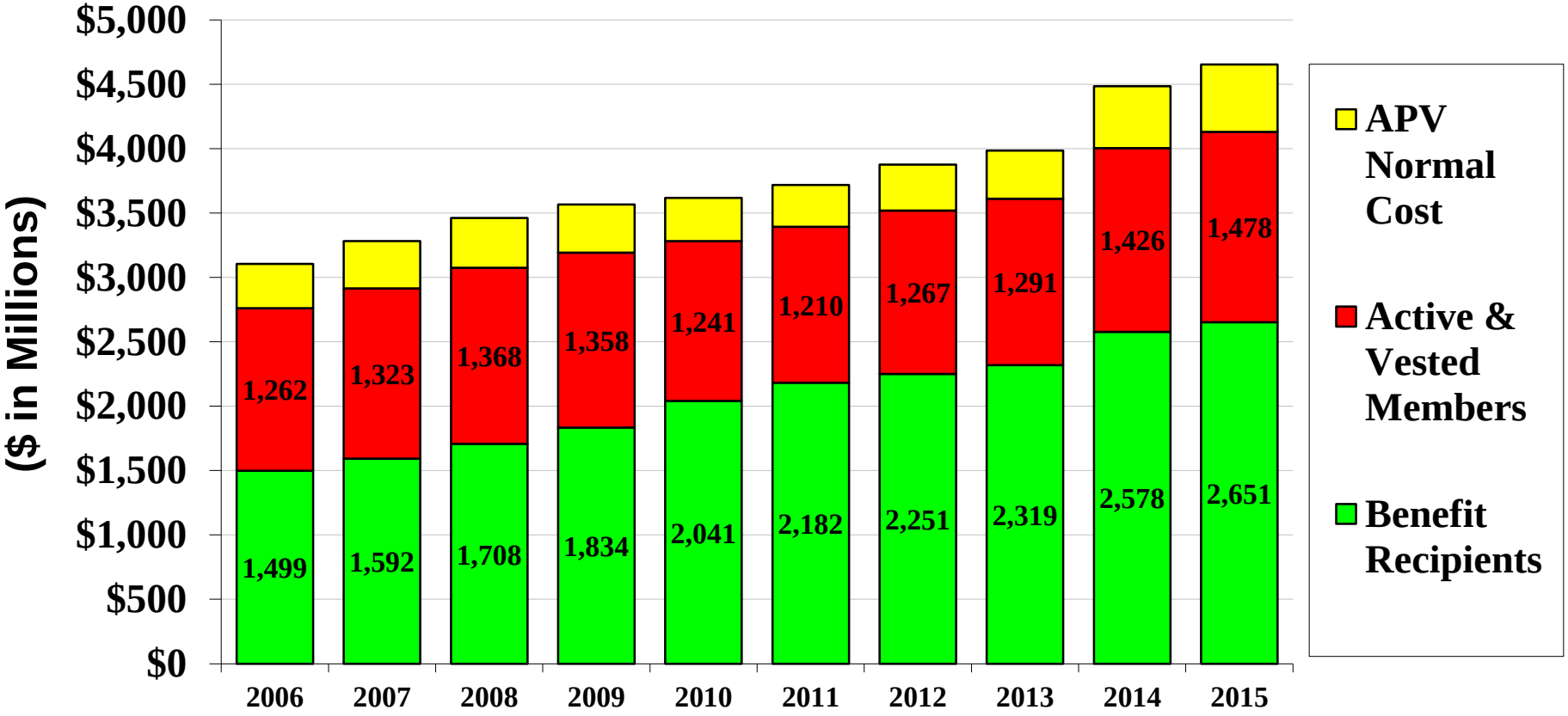
Actuarial Accrued Liability (AAL)



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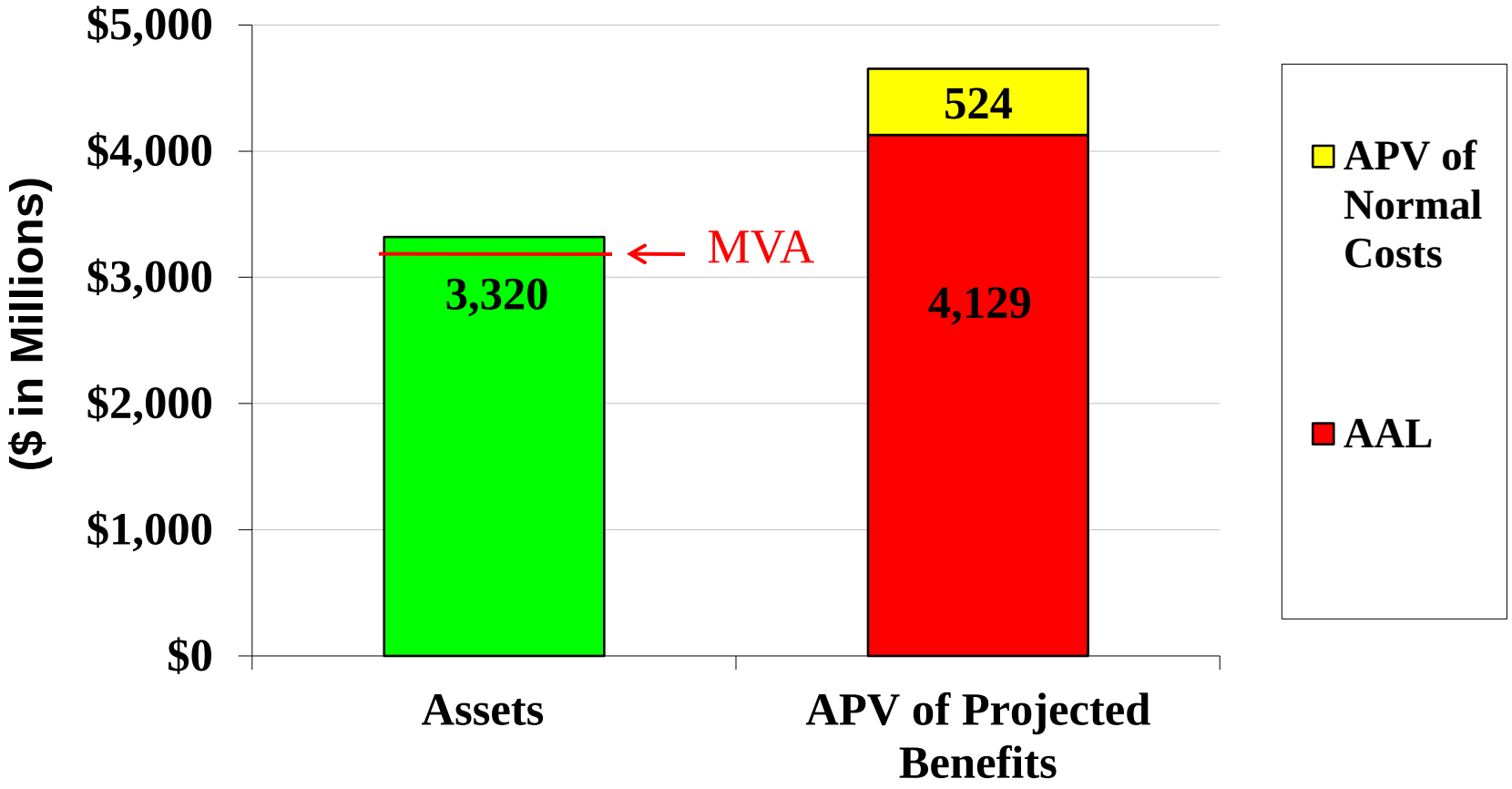
Funded Status



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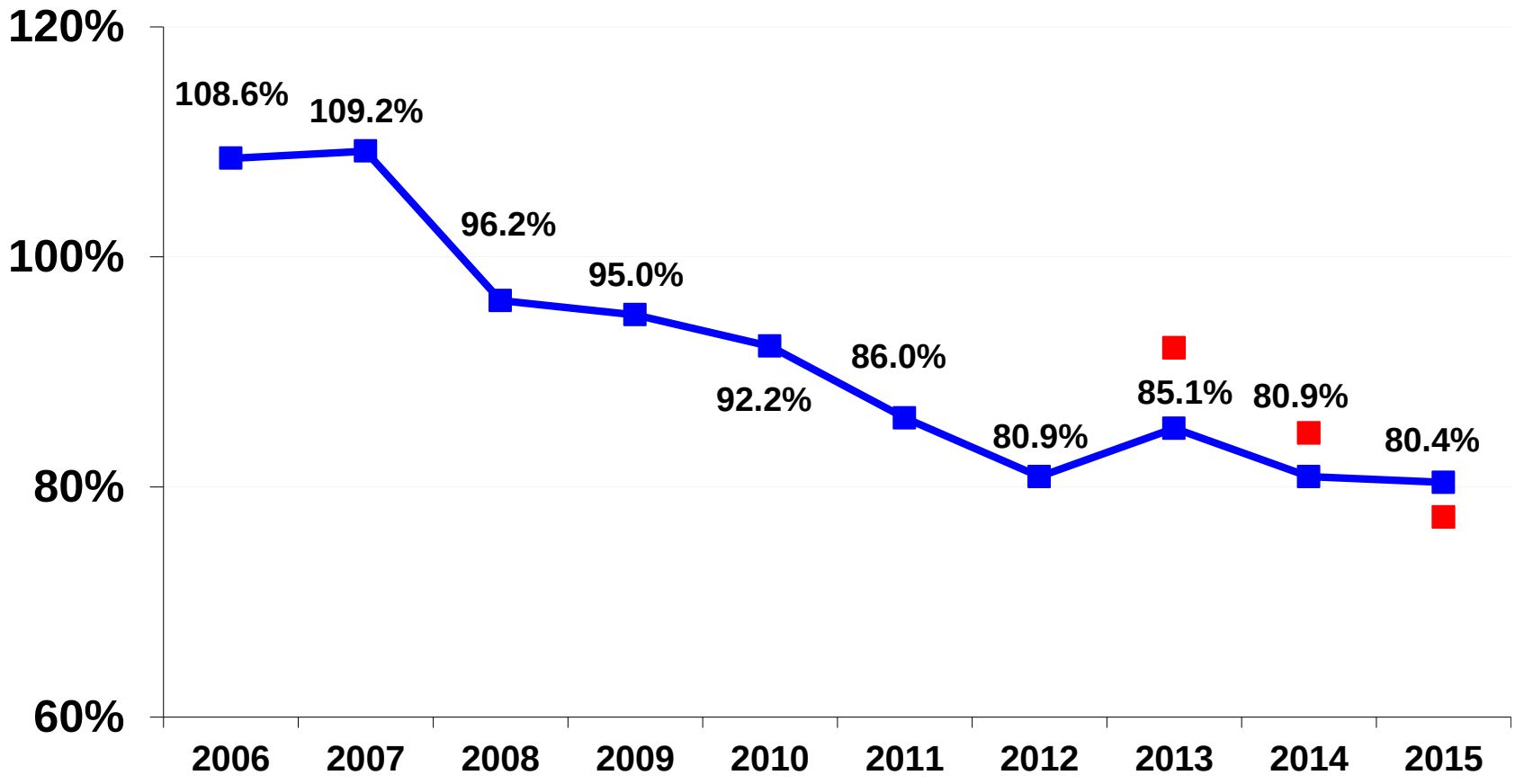
Historical Funded Ratios



Funded ratio using market value of assets as of December 31, 2013 is 92.1 %.
Funded ratio using market value of assets as of December 31, 2014 is 84.7%.
Funded ratio using market value of assets as of December 31, 2015 is 77.4%.

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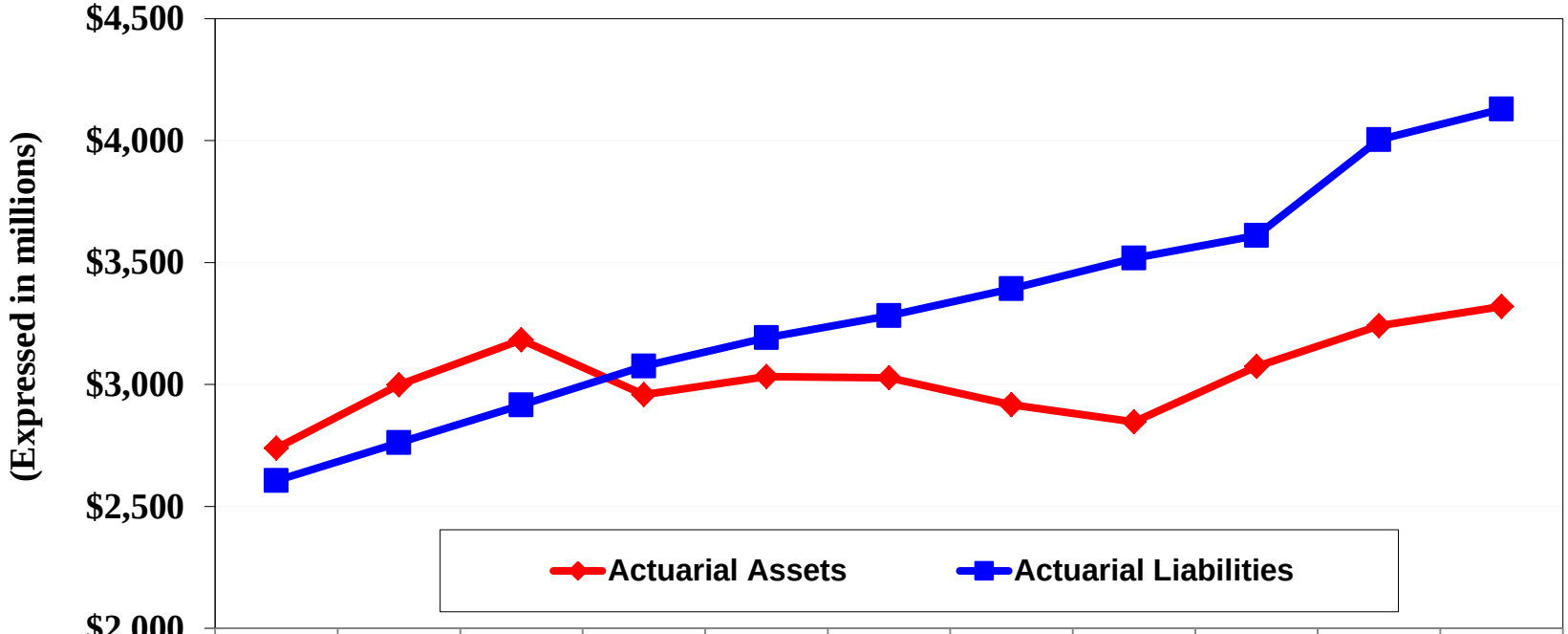
Liabilities vs. Assets



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Actuarial Assets	2,739	2,998	3,183	2,958	3,032	3,027	2,917	2,846	3,074	3,241	3,320
Actuarial Liabilities	2,606	2,761	2,915	3,075	3,192	3,282	3,392	3,518	3,611	4,004	4,129

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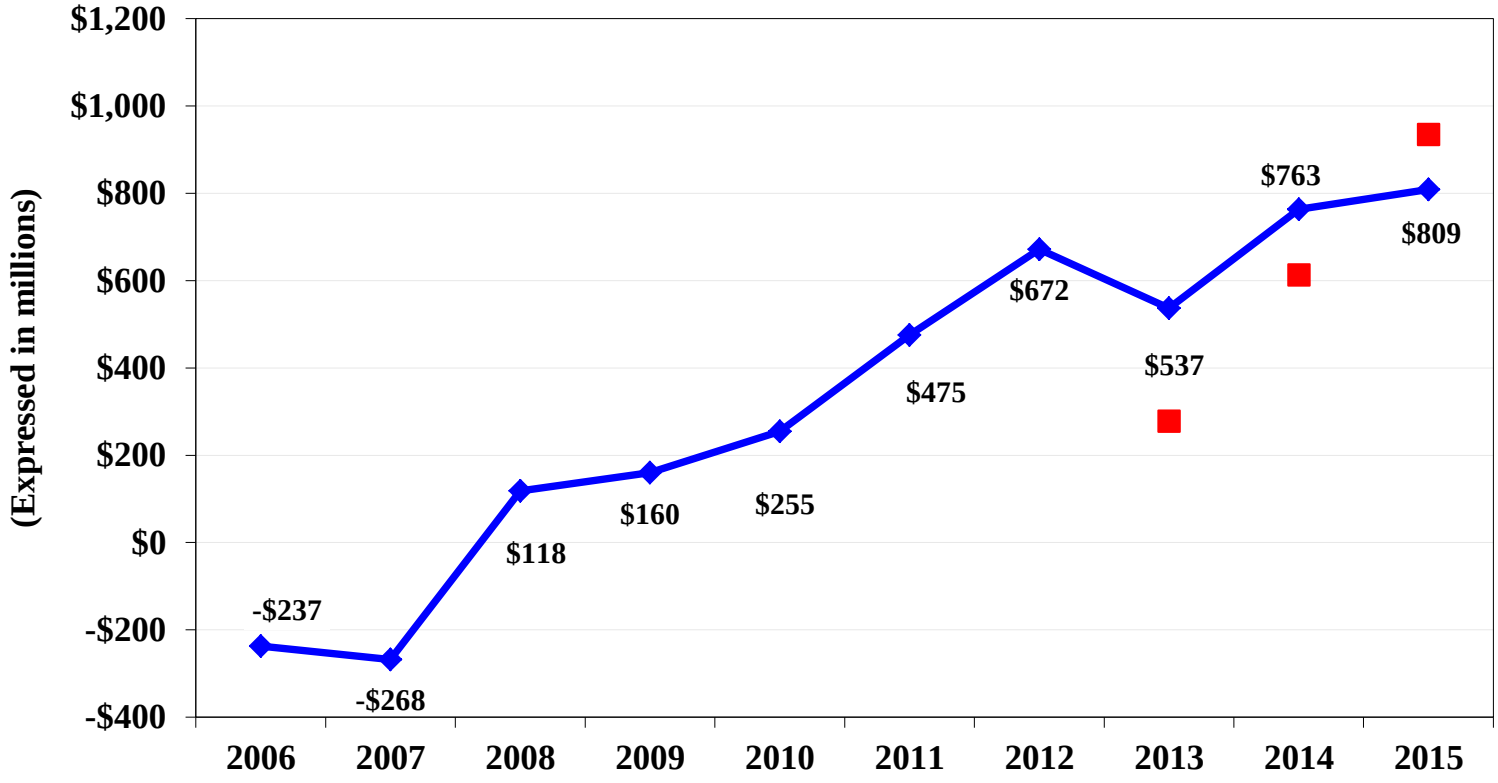
Unfunded Actuarial Accrued Liability (UAAL)



The UAAL based on the market value of assets as of December 31, 2013 is $285 million.
The UAAL based on the market value of assets as of December 31, 2014 is $613 million.
The UAAL based on the market value of assets as of December 31, 2015 is $935 million.

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Reconciliation of UAAL

$ in Millions

▪ UAAL 12/31/14		$763.0
▪ Expected Changes		
• Amortization Payment for 2015	(48.4)	
• Interest Adjustments	59.1	
		10.7
▪ Difference between expected and actual contributions		30.6
▪ Actuarial Experience Loss		4.4
▪ Assumption and Method Changes		0.0
▪ UAAL 12/31/15		$808.7

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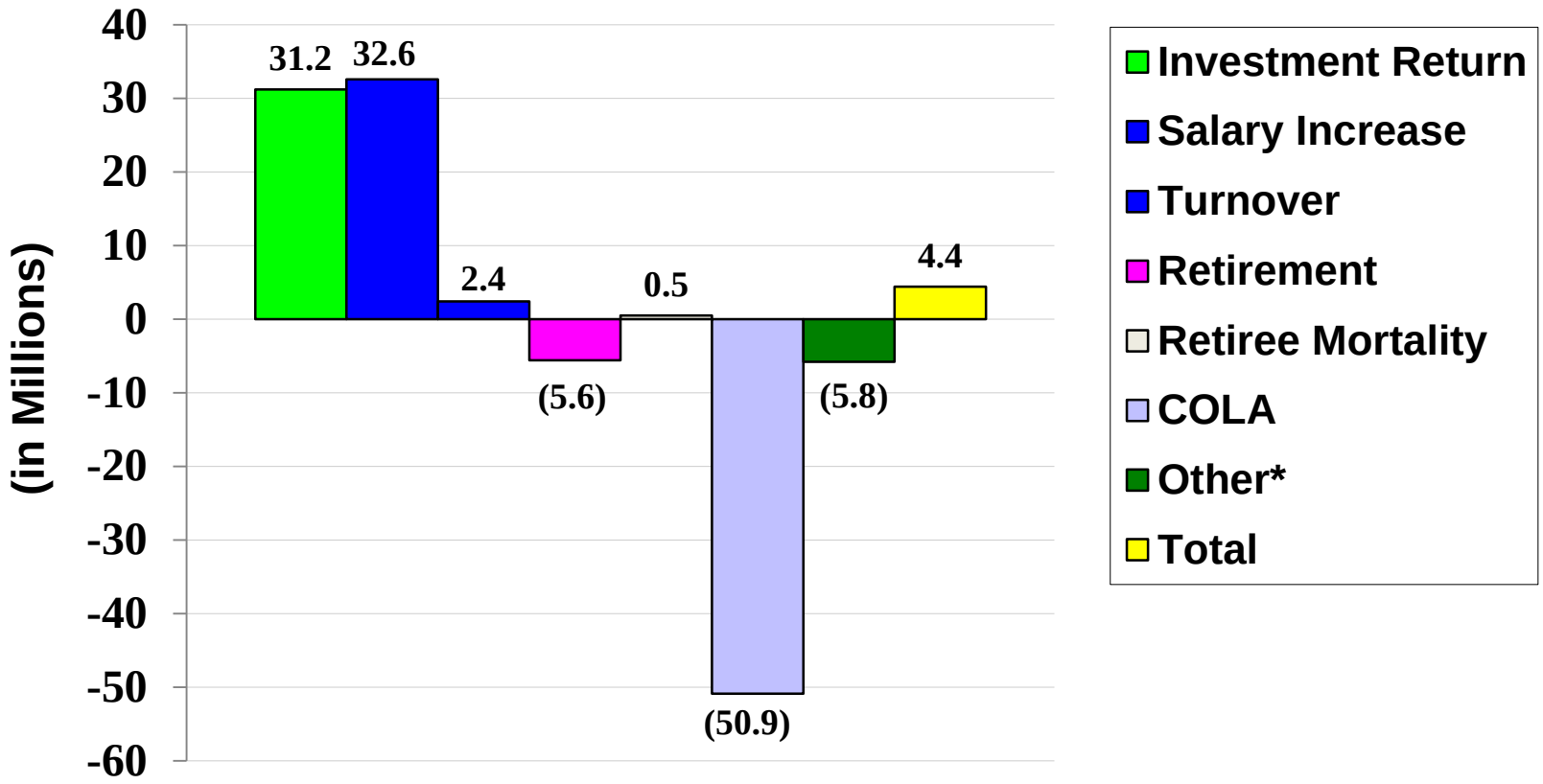
2015 Actuarial (Gains) and Losses



*Includes disability, active mortality, and data changes

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Total Actuarial Experience (Gain)/Loss (in Millions)

	2015	2014	2013	2012	2011
(Gain)/Loss from Assets	31.2	(61.0)	(145.0)	154.4	210.0
(Gain)/Loss from AAL	(26.8)	(22.0)	(19.7)	3.5	(6.1)
Total (Gain)/Loss	4.4	(83.0)	(164.7)	157.9	203.9

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Actuarial Required Contribution Rate

($ amounts in thousands)

	Dec. 31, 2014		Dec. 31, 2015	
	Dollar	% of Pay	Dollar	% of Pay
1) Amortization %[1]	$ 48,358	12.93%	$ 51,271	12.66%
2) Normal Cost	72,598	20.29%	78,818	20.36%
3) Expense	4,128	1.10%	4,735	1.17%
Total	$125,084	34.32%	$134,824	34.19%

[1]UAAL is amortized over 30 years as a level percentage of payroll

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City Ordinance 25695
Fiscal Year Beginning October 1, 2016

1.	Prior Adjusted Total Obligation Rate	36.00%
2.	Actuarially Required Contribution Rate	34.19%
3.	Debt Service	
	a. Scheduled Debt Service Payment	$ 33,803,365
	b. Projected Payroll	$404,981,377
	c. Pension Obligation Bond Credit (a/b)	8.35%
4.	Current Total Obligation Rate (2+3c)	42.54%
5.	Current Adjusted Total Obligation Rate	36.00%
6.	Allocation of Contribution Rates for Fiscal Year Beginning October 1, 2016	
	a. Employee (5 x .37)	13.32%
	b. City (5 x .63)	22.68%
7.	City Contribution to Fund (6.b. – 3.c)	14.33%

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Determination of Current Adjusted Total Obligation Rate

1. Prior Adjusted Total Obligation Rate (PATOR) 36.00%
2. Current Total Obligation Rate (CTOR) 42.54%
3. If (-3.00% < PATOR – CTOR < 3.00%) Then

   Current Adjusted Total Obligation Rate (CATOR) = PATOR (36.00%)

   Else Go to Step 4
4. CATOR = Lowest of (a), (b), & (c) where:
   a. PATOR + [0.5 * (CTOR – PATOR)] = 39.27%
   b. 110% * PATOR = 39.60%
   c. 36.00% Maximum limit = 36.00%
   d. Lowest of (a), (b), and (c) is: = 36.00%

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Closing Comments

- The Actuarially Required Contribution to the Fund decreased from 34.32% to 34.19%
  - The total contribution rate including the debt service decreased from 43.17 to 42.54%
- $126 million in deferred investment losses to be recognized
- Calculated contribution rate is expected to increase due to shortfall in contributions due to 36.00% of pay maximum contribution rate
- Actual contribution rate will remain at 36% statutory cap for foreseeable future

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Closing Comments

- The ERF's unfunded liability and statutory maximum contribution rate makes the long-term funded status subject to significant fluctuations
  - Last year with the recognition of the deferred investment gains the ERF was expected to eventually become fully funded

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Closing Comments

- The Board should be commended for taking proactive steps to ensure the long-term sustainability of the ERF
  - The proposed changes have been thoughtfully considered and are backed by changing demographics, rather than just cost savings
- With the proposed changes being recommended by the Board the ERF will be on the path of sustainability

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Disclaimers

- This presentation is intended to be used in conjunction with the actuarial valuation report issued on May 10, 2016. This presentation should not be relied on for any purpose other than the purpose described in the valuation report.
- Readers are cautioned to examine original source materials and to consult with subject matter experts before making decisions related to the subject matter of this presentation.