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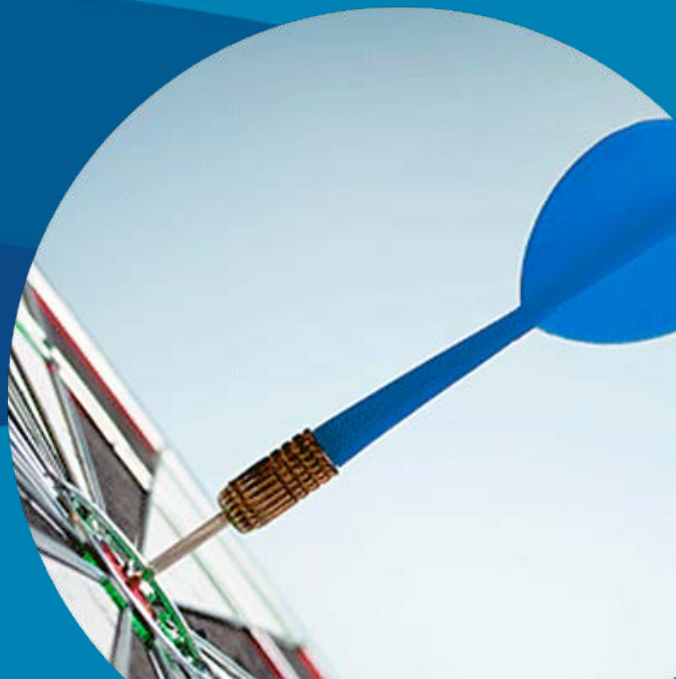
City of Dallas Employees' Retirement Fund

December 31, 2017

Final Valuation Results



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Actuarial Valuation

- Prepared as of December 31, 2017, 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 was above the prior year's investment target of 7.75% on both a market value and actuarial value basis in 2017
  - Return on market value was 12.34%
  - Actuarial gains on assets of $42 million
    - $20 million gain on actuarial value before method change
    - $22 million gain from marking actuarial value to market value
- ERF had positive liability experience in 2017
  - Primarily due to
    - lower than expected salary increases, and
    - lower than expected cost of living adjustment
  - More benefit recipient deaths than expected
  - Fewer retirements than expected

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Key Issues and Changes

- Calculated contribution rate decreased from 35.18% to 33.12% (excludes debt service payment)
- Current Total Obligation Rate exceeds 36% of pay cap
  - CTOR is 41.41% this year versus 43.46% last year
  - CATOR is 36.00%
  - City contribution rate is 22.68%
  - Member rate is 13.32%

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Key Issues and Changes

- The new Tier became effective January 1, 2017
  - Over 1,000 employees in new Tier at December 31, 2017
  - NC% decreased from 20.75% last year to 20.04% this year
  - We expect the normal cost to decline each year for the foreseeable future (20+ years)
  - Impact of the new Tier on the actuarial liabilities will be much slower
    - Savings will be reflected in the Unfunded Actuarial Accrued Liabilities (UAAL) as members of the new tier accrue benefits

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Membership

- The number of active members increased from 7,619 to 7,838, a 2.9% increase
- Payroll for active members increased from $409.4 million to $421.3 million, a 2.9% increase
- The number of members in payment status increased by a net 139, from 6,903 to 7,042, a 2.0% increase
- There are 1.1 active members for each retiree compared to 1.5 in 2008

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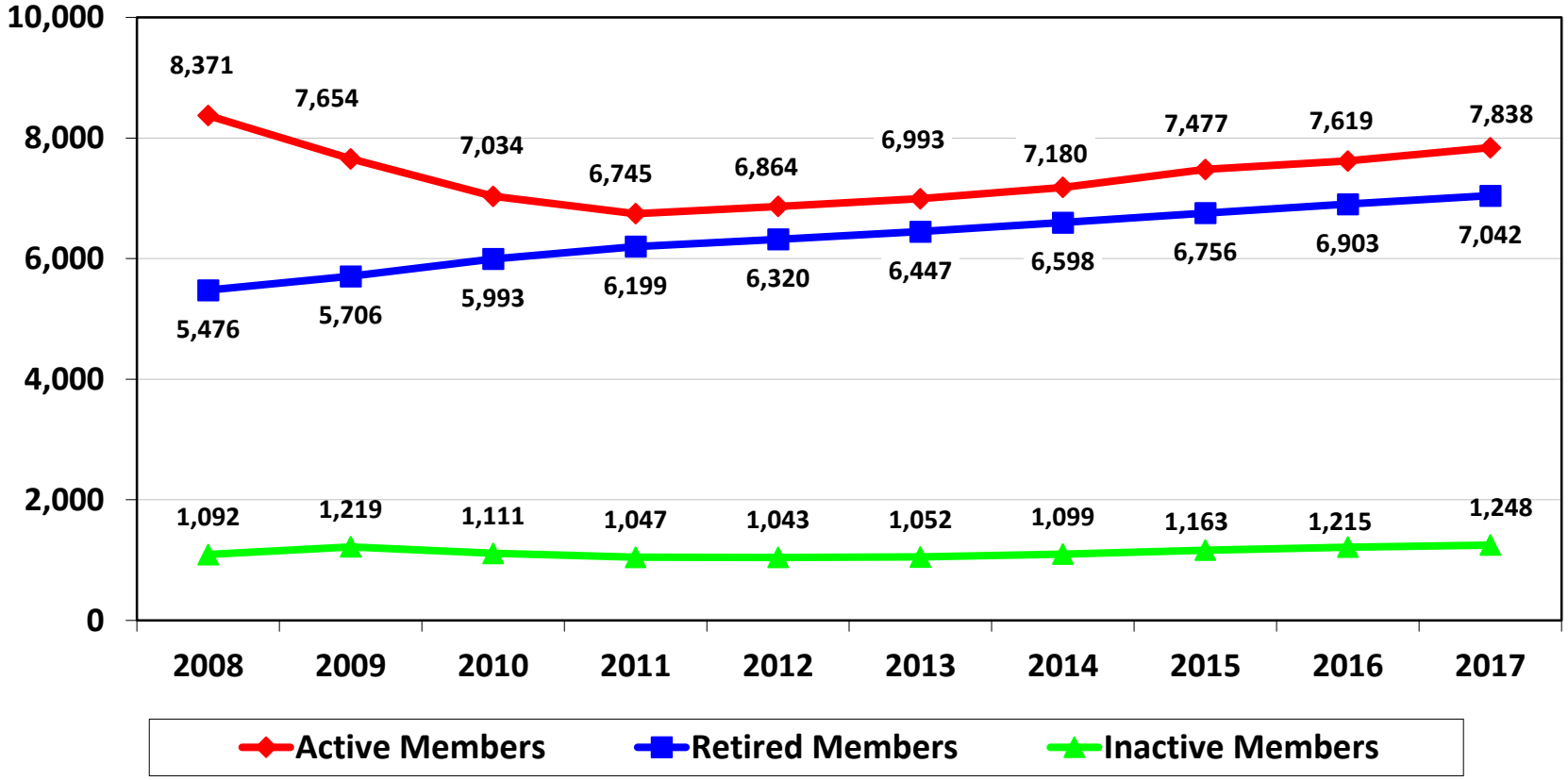
Active Members and Retired Members



Note: active membership increased 2.9% over last year

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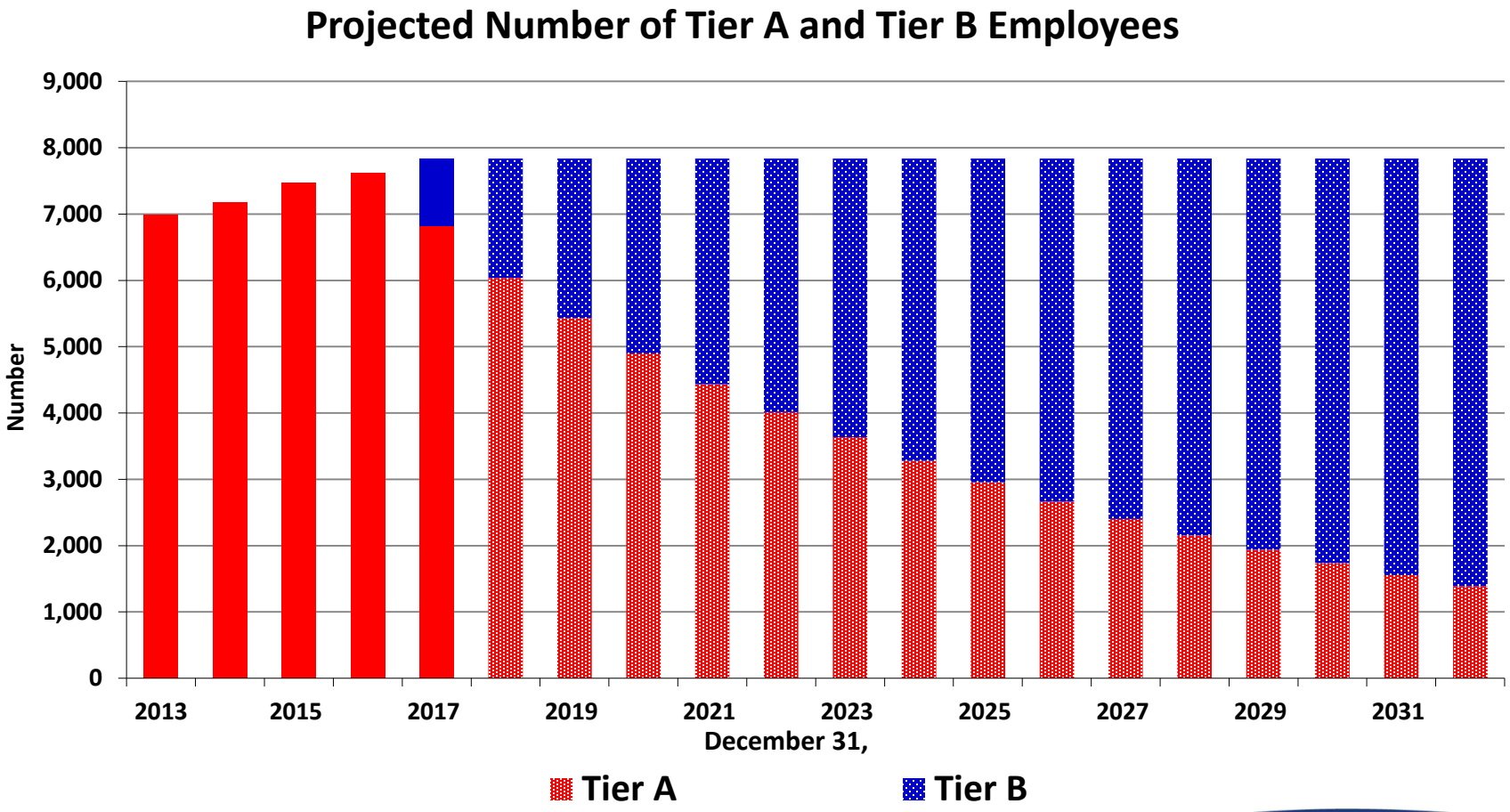
Projected Active Membership



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Assets

- Fair market value increased from $3.328 billion to $3.602 billion
- Return on market value of assets was approximately 12.34% in 2017
- Actuarial value is also $3.602 billion, compared to $3.451 billion last year
- Actuarial rate of return was 8.99% in 2017
  - More than prior year's 7.75% assumed rate
- Actuarial value is 100.0% of fair market value
  - Actuarial value of assets were "marked to market" in order to transition to new asset method next valuation

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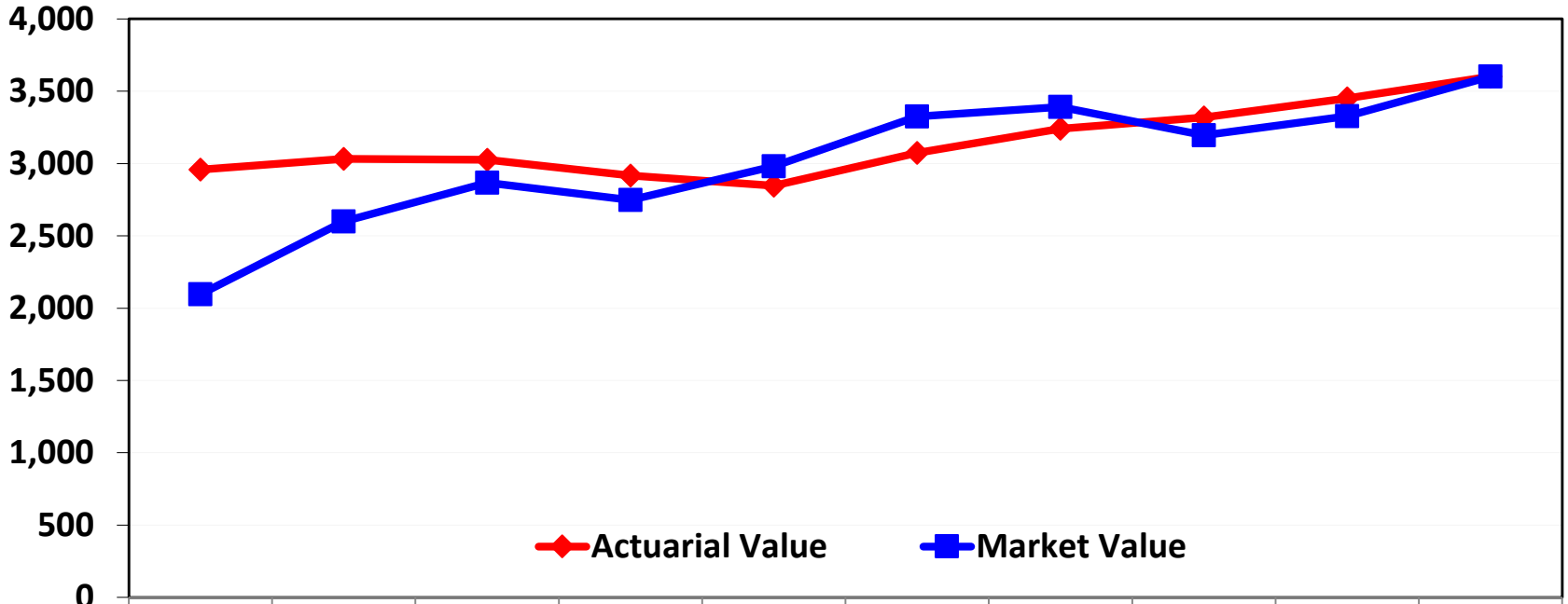
Historical Asset Values



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Actuarial Value	2,958	3,032	3,027	2,917	2,846	3,074	3,241	3,320	3,451	3,602
Market Value	2,097	2,600	2,868	2,748	2,980	3,325	3,391	3,195	3,328	3,602

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Actuarial Results

- Actuarial Present Value (APV) of benefits is now $4.933 billion
- Unfunded Actuarial Accrued Liability (UAAL) decreased from $840 million to $776 million
  - Reflects $42 million gain on actuarial value of assets
    - Including $22 million gain for actuarial asset method change
  - Reflects $61 million gain on liabilities
    - $20 million gain due to less-than-expected salary increases
    - $13 million gain due to cost of living adjustment for retirees being less than assumed
- UAAL increased $31 million due to difference between calculated contribution rate and actual contribution rate

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Actuarial Results

- Funded ratio (actuarial assets divided by actuarial accrued liability) increased from 80.4% in 2016 to 82.3% in 2017
- Funded ratio using market value is 82.3%
  - Was 77.5% last year
- Total 30-year contribution rate is 33.12%
  - Does not include POB debt service payments
  - 35.18 % last year

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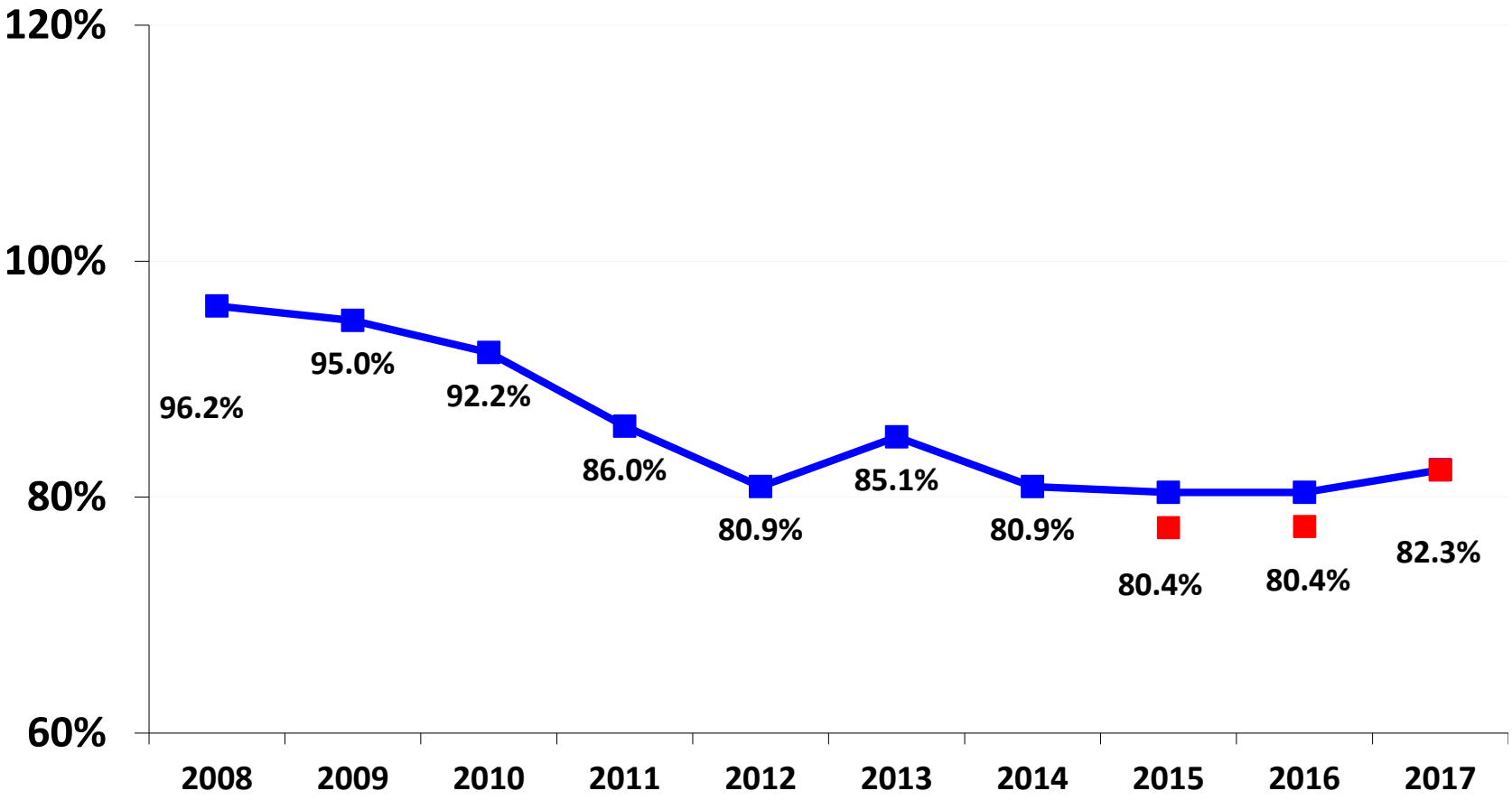
Historical Funded Ratios



Funded ratio using market value of assets as of December 31, 2015 is 77.4%.
Funded ratio using market value of assets as of December 31, 2016 is 77.5%.
Funded ratio using market value of assets as of December 31, 2017 is 82.3%.

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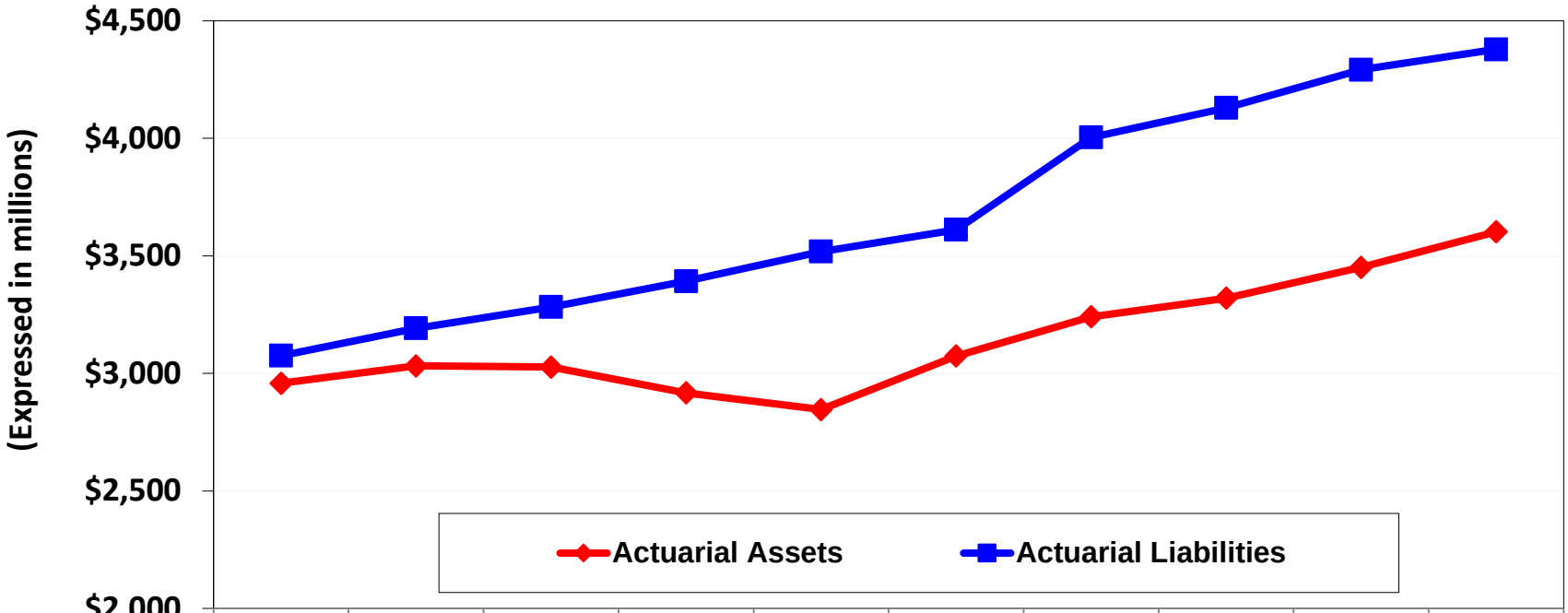
Liabilities vs. Assets



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Actuarial Assets	2,958	3,032	3,027	2,917	2,846	3,074	3,241	3,320	3,451	3,602
Actuarial Liabilities	3,075	3,192	3,282	3,392	3,518	3,611	4,004	4,129	4,292	4,378

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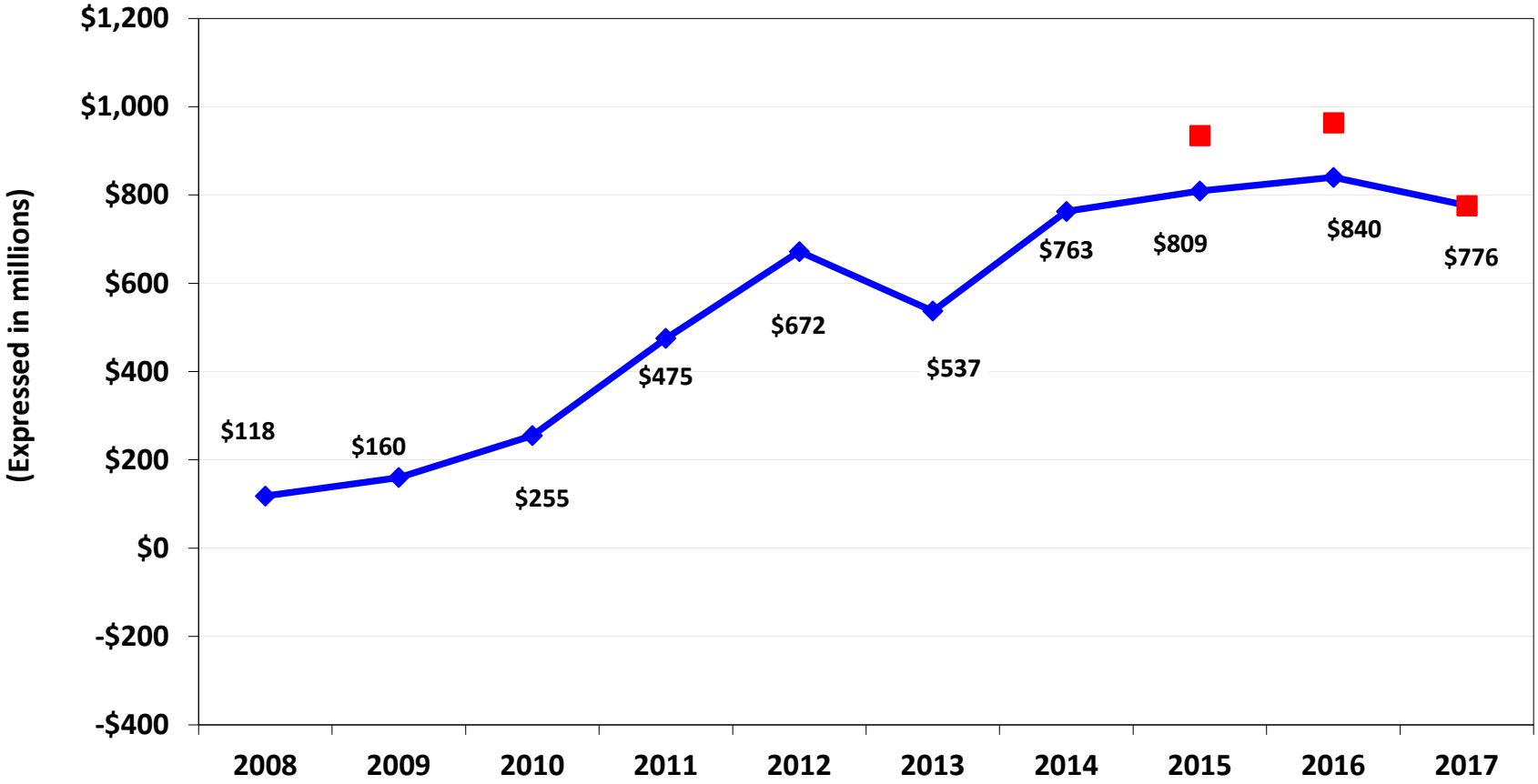
Unfunded Actuarial Accrued Liability (UAAL)



UAAL based on market value of assets as of December 31, 2015 is $935 million.

■ UAAL based on market value of assets as of December 31, 2016 is $964 million.

UAAL based on market value of assets as of December 31, 2017 is $776 million.

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Reconciliation of UAAL

$ in Millions		
▪ UAAL 12/31/16		$840.3
▪ Expected Changes		
• Amortization Payment for 2017	(55.2)	
• Interest Adjustments	63.0	
		7.8
▪ Difference between expected and actual contributions		30.9
▪ Actuarial Experience Gain		(80.9)
▪ Assumption and Method Changes		(21.9)
▪ UAAL 12/31/17		$776.2

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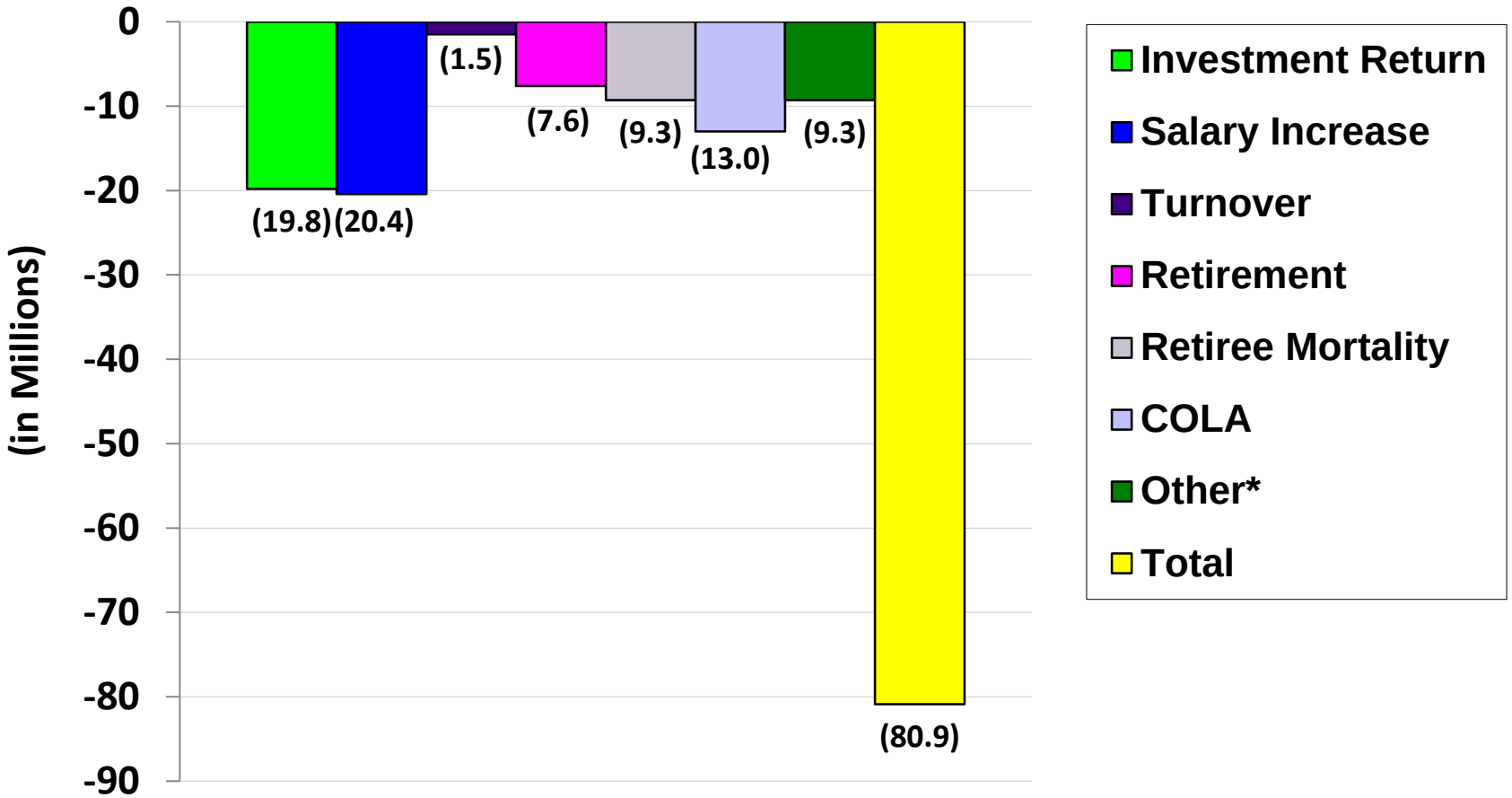
2017 Actuarial (Gains) and Losses



*Includes disability, active mortality, and data changes

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Actuarial Determined Contribution Rate

($ amounts in thousands)

	Dec. 31, 2016		Dec. 31, 2017	
	Dollar	% of Pay	Dollar	% of Pay
1) Amortization %[1]	$ 55,237	13.13%	$50,730	11.72%
2) Normal Cost	83,387	20.75%	82,871	20.04%
3) Expense	5,490	1.30%	5,883	1.36%
Total	$144,114	35.18%	$139,484	33.12%

[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, 2018

1.	Prior Adjusted Total Obligation Rate	36.00%
2.	Actuarially Required Contribution Rate	33.12%
3.	Debt Service	
	a. Scheduled Debt Service Payment	$ 35,879,400
	b. Projected Payroll	$432,853,607
	c. Pension Obligation Bond Credit (a/b)	8.29%
4.	Current Total Obligation Rate (2+3c)	41.41%
5.	Current Adjusted Total Obligation Rate	36.00%
6.	Allocation of Contribution Rates for Fiscal Year Beginning October 1, 2018	
	a. Employee (5 x .37)	13.32%
	b. City (5 x .63)	22.68%
7.	City Contribution to Fund (6.b. – 3.c)	14.39%

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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) 41.41%
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)] = 38.71%
   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 35.18% to 33.12%
  - The total contribution rate including the debt service decreased from 43.46% to 41.41%
- New Asset valuation method adopted
  - Recommended method eliminates this volatility while still providing significant smoothing
  - Actuarial Value of Assets were “Marked to Market Value” of assets as part of change in method

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Closing Comments

- Calculated contribution rate is expected to decline each year (if all assumptions are met)
  - Impact of shortfall in contributions because of 36.00% maximum rate being somewhat offset by 30-year rolling amortization period
  - Decrease in average normal cost due to new tier of benefits
- Actual contribution rate will remain at 36% cap for foreseeable future

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Closing Comments

- GASB 67/68
  - The Fund passes the Single Discount Rate test
  - Long term return assumption used to determine liabilities
  - Net Pension Liability equals the Fund's AAL minus market value of assets
- NPL decreased from $ 964 million last year to $776 million as of 12-31-2017

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Disclaimers

- This presentation is intended to be used in conjunction with the actuarial valuation report issued in May 2018. This presentation should not be relied on for any purpose other than the purpose described in the valuation report.
- This presentation shall not be construed to provide tax advice, legal advice or investment advice.

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