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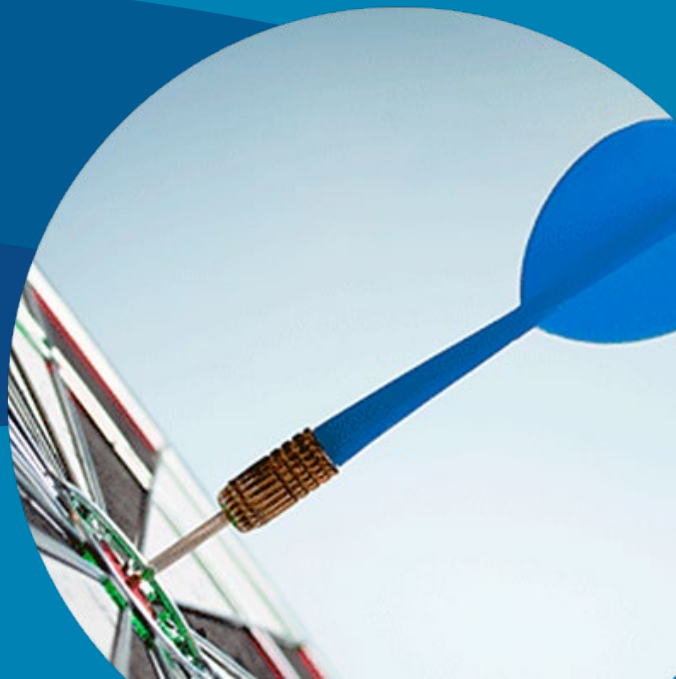
City of Dallas Employees' Retirement Fund

December 31, 2018

Preliminary Valuation Results



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Key Issues and Changes

- ERF's investment return was below its investment target of 7.75% on both a market value and actuarial value basis in 2018
  - Return on market value was -5.15%
    - Dollar-weighted return
    - Versus Wilshire's time-weighted return of -4.43%
  - Shortfall in investment income of $444 million
    - $89 million recognized in this valuation and the remainder deferred
    - Fresh-started smoothing so no prior year's bases
- Liability experience produced a small loss in 2018

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Key Issues and Changes

- Drop in active membership resulted in payroll growing less than expected
  - 0.6% versus assumption of 2.75%
- Administrative expenses
  - Assumed administrative expenses are part of the contribution rate
  - Currently prior year expenses are assumed as the next year's expenses in the calculated contribution rate
  - 2018 administrative expenses included short-term (pension administration) and one-time expenses
  - GRS recommends Board adopt an expense assumption equal to the 2017 expense increased at payroll growth rate
    - 1.19% of pay difference in calculated contribution rate

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Key Issues and Changes

- Calculated contribution rates in this presentation assume adoption of recommended expense assumption
- Current Total Obligation Rate exceeds 36% of pay cap
  - CATOR is 36.00%
  - City contribution rate is 22.68%
  - Member rate is 13.32%
- The new Tier became effective January 1, 2017
  - Over 1,500 employees in new Tier at December 31, 2018
    - New Tier is approximately 20% of the active employees
  - NC% decreased from 20.04% last year to 19.56% this year

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Membership

- The number of active members decreased from 7,838 to 7,584, a 3.2% decrease
- Payroll for active members increased from $421.3 million to $423.7 million, a 0.6% increase
- The number of members in payment status increased by a net 182, from 7,042 to 7,224, a 2.6% increase
- There are 1.0 active members for each retiree compared to 1.5 in 2008

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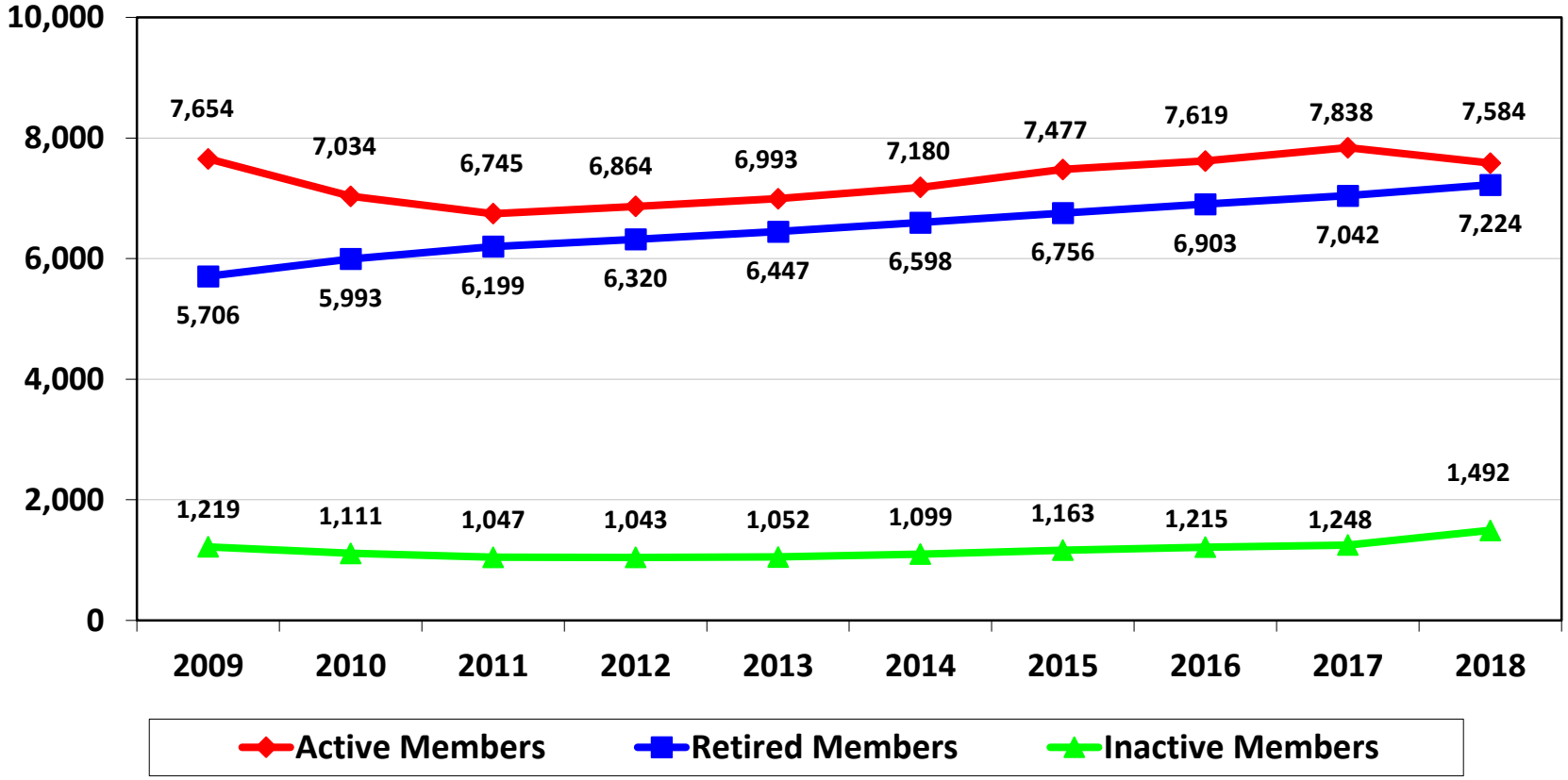
Active Members and Retired Members



Note: active membership decreased 3.2% over last year

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Assets

- Fair market value (unaudited) decreased from $3.602 billion to $3.265 billion
- Return on market value of assets was approximately -5.15% in 2018
- Actuarial value is $3.620 billion, compared to $3.602 billion last year
- Actuarial rate of return was 5.23% in 2018
  - Less than prior year's 7.75% assumed rate
- Actuarial value is 110.9% of fair market value
- Net deferred investment shortfall of $355 million still to be recognized in actuarial value of assets

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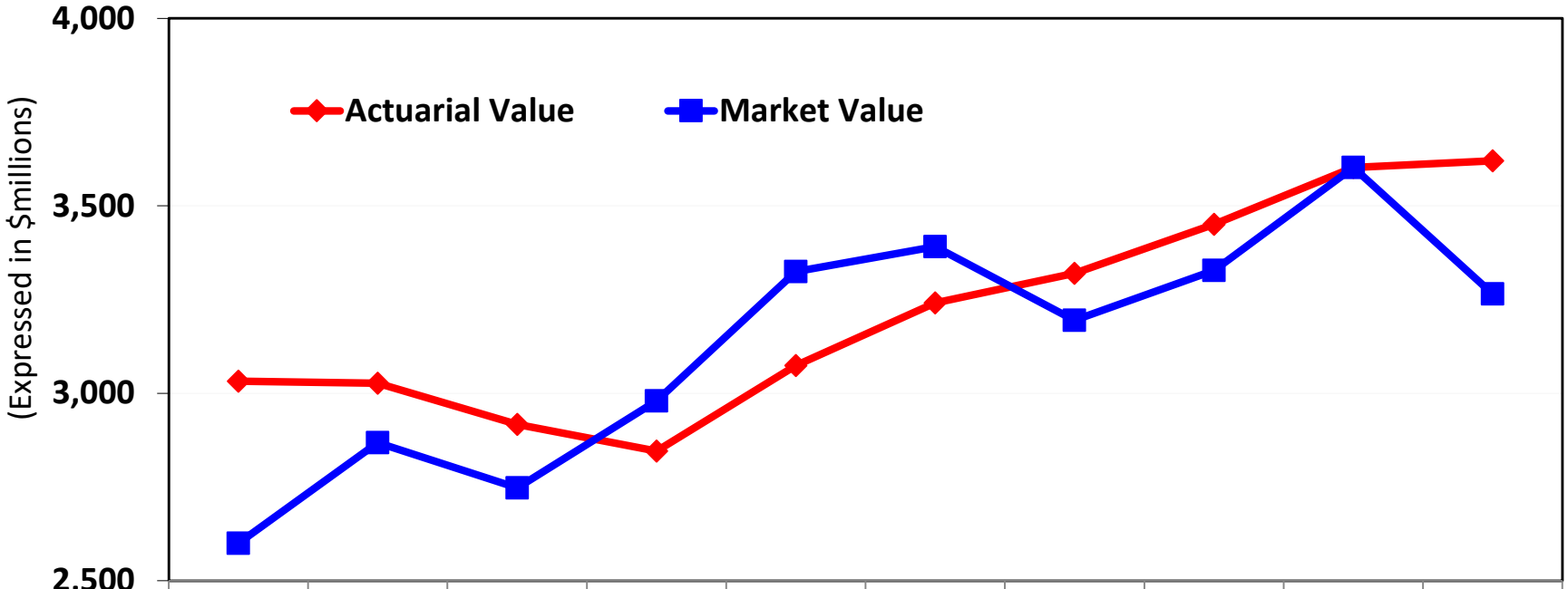
Historical Asset Values



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Actuarial Value	3,032	3,027	2,917	2,846	3,074	3,241	3,320	3,451	3,602	3,620
Market Value	2,600	2,868	2,748	2,980	3,325	3,391	3,195	3,328	3,602	3,265

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Actuarial Results

- Actuarial Accrued Liability (AAL) of benefits is now $4.527 billion
- Unfunded Actuarial Accrued Liability (UAAL) increased from $776 million to $907 million
  - Reflects $89 million loss on actuarial value of assets and $12 million loss on liabilities
- UAAL increased $22 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) decreased from 82.3% in 2017 to 80.0% in 2018
- Funded ratio using market value is 72.1%
  - Was 82.3% last year
- Total 30-year contribution rate is 34.59%
  - Does not include POB debt service payments
  - 33.12 % last year

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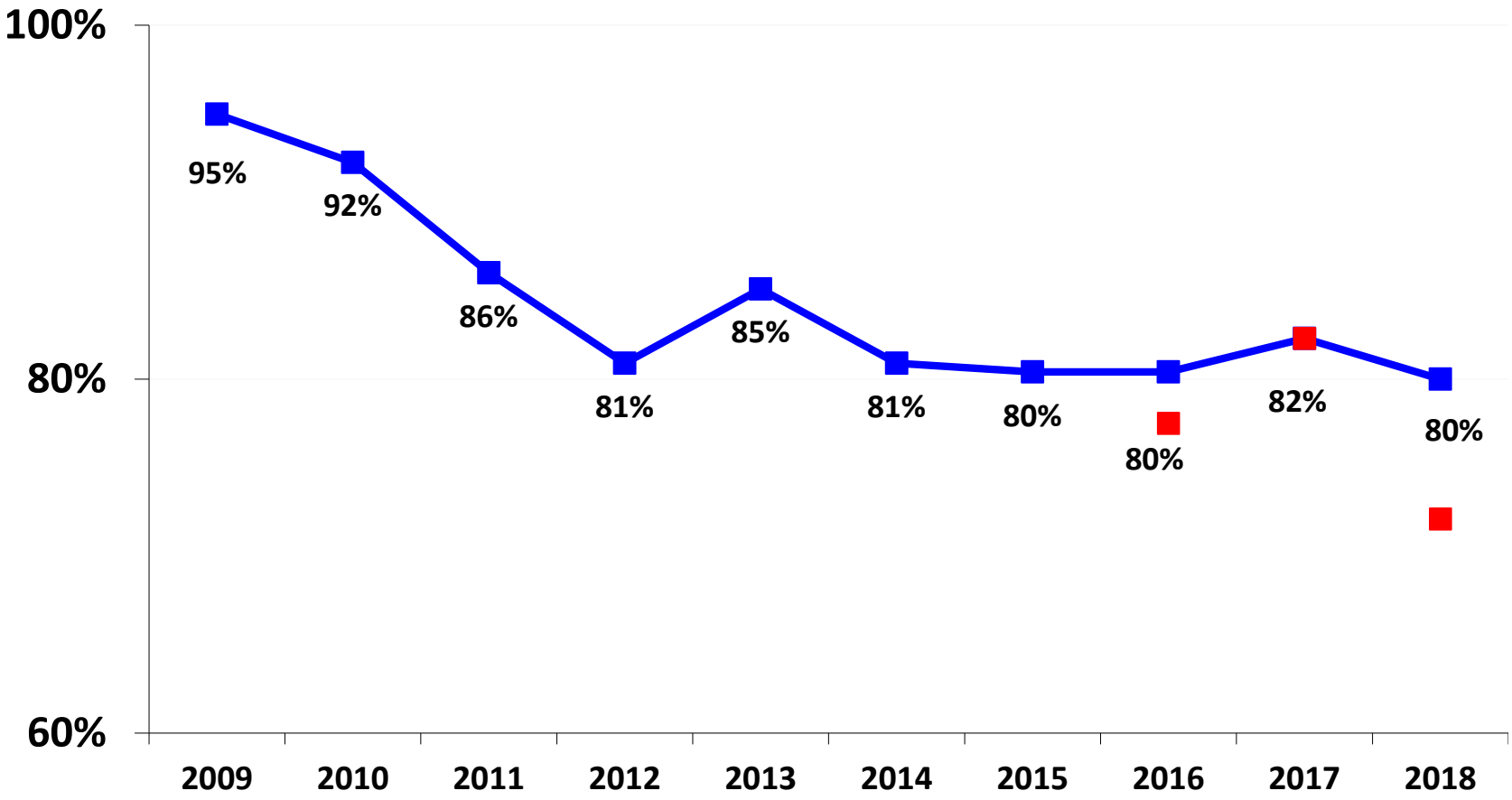
Historical Funded Ratios



Funded ratio using market value of assets as of December 31, 2016 is 78%.
Funded ratio using market value of assets as of December 31, 2017 is 82%.
Funded ratio using market value of assets as of December 31, 2018 is 72%.

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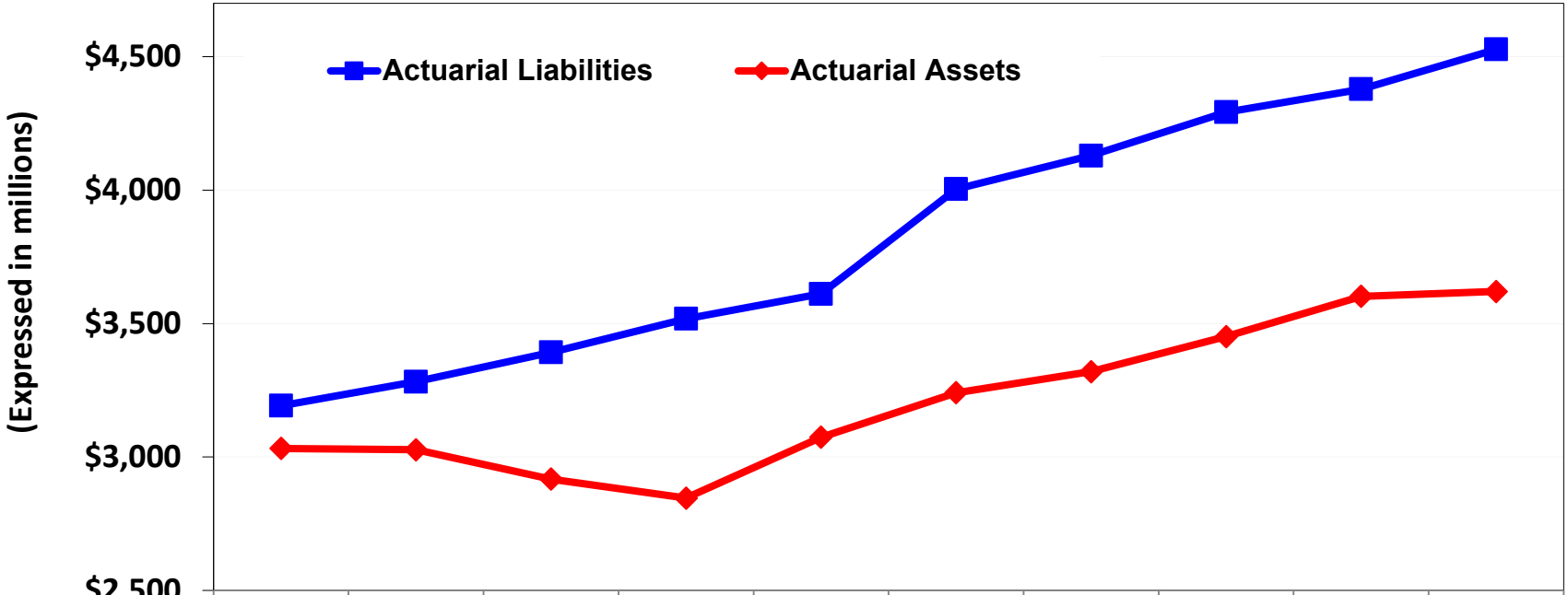
Liabilities vs. Assets



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Actuarial Liabilities	3,192	3,282	3,392	3,518	3,611	4,004	4,129	4,292	4,378	4,527
Actuarial Assets	3,032	3,027	2,917	2,846	3,074	3,241	3,320	3,451	3,602	3,620

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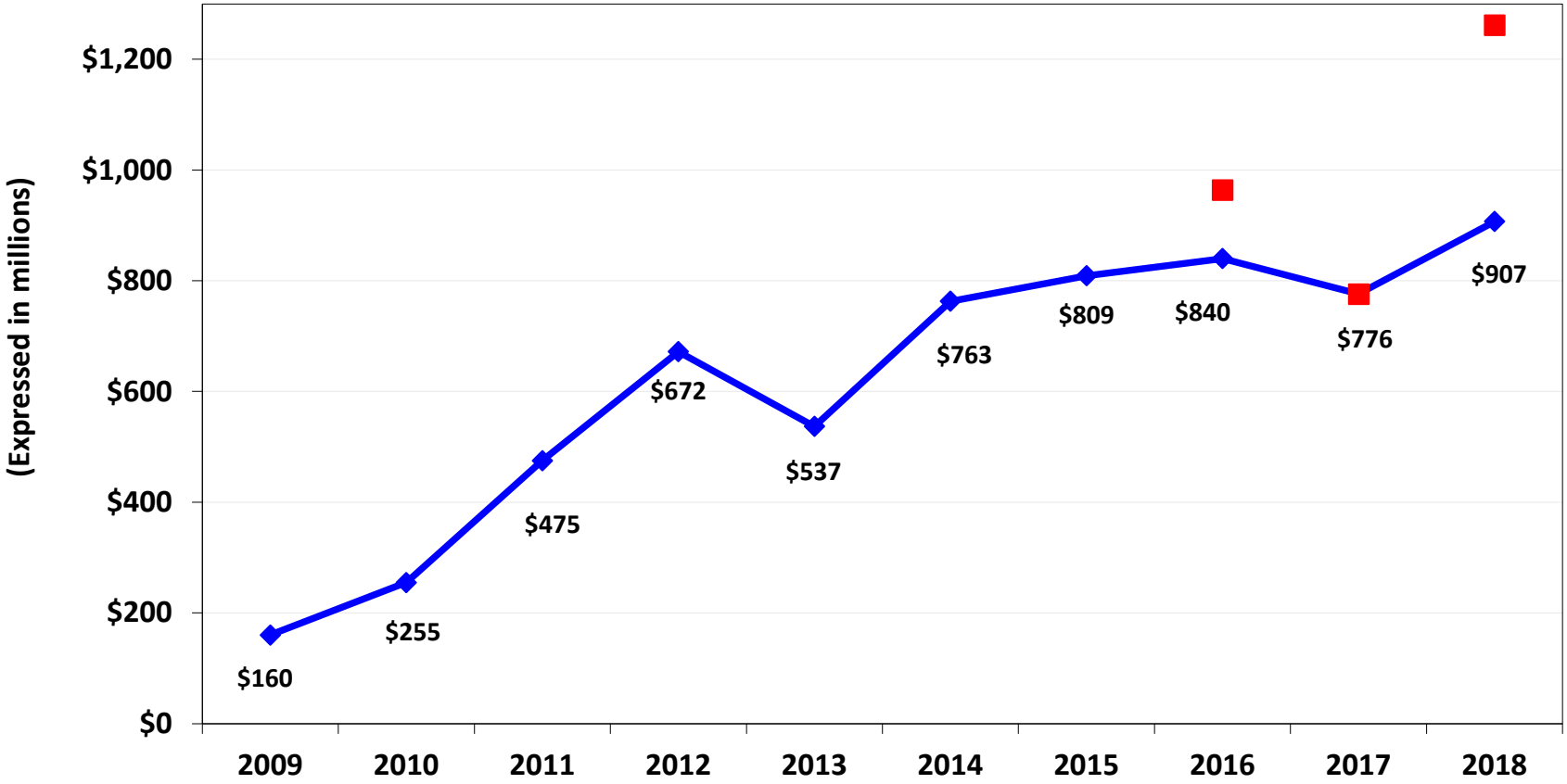
Unfunded Actuarial Accrued Liability (UAAL)



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.
UAAL based on market value of assets as of December 31, 2018 is $1,262 million.

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Actuarial Required Contribution Rate

($ amounts in thousands)

	Dec. 31, 2017		Dec. 31, 2018	
	Dollar	% of Pay	Dollar	% of Pay
1) Amortization %[1]	$50,730	11.72%	$59,385	13.64%
2) Normal Cost	82,871	20.04%	81,299	19.56%
3) Assumed Expense	5,883	1.36%	6,045	1.39%
Total	$139,484	33.12%	$146,729	34.59%

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

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Fiscal Year Beginning October 1, 2019

1.	Prior Adjusted Total Obligation Rate	36.00%
2.	Actuarially Required Contribution Rate	34.59%
3.	Debt Service	
	a. Scheduled Debt Service Payment	$ 36,908,687
	b. Projected Payroll	$435,375,357
	c. Pension Obligation Bond Credit (a/b)	8.48%
4.	Current Total Obligation Rate (2+3c)	43.07%
5.	Current Adjusted Total Obligation Rate	36.00%
6.	Allocation of Contribution Rates for Fiscal Year Beginning October 1, 2019	
	a. Employee (5 x .37)	13.32%
	b. City (5 x .63)	22.68%
7.	City Contribution to Fund (6.b. – 3.c)	14.20%

The formula for contributions are based on Dallas City Code 40A originally established with City ordinance 25695

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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) 43.07%
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)] = 39.54%
   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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Valuation Summary

- The Actuarially Required Contribution to the Fund increased from 33.12% to 34.59%
- The total contribution rate including the debt service increased from 41.41% to 43.07%
- $355 million in deferred investment losses still to be recognized or offset

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Valuation Summary

- Calculated contribution rate is projected to decline slowly each year (<u>if all assumptions are met including 7.75% return on AVA</u>)
  - 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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GASB Preview

- The Net Pension Liability is the Total Pension Liability (TPL) less the market value of assets
  - TPL is similar to the actuarial accrued liability (AAL)
  - If the GASB "Single Discount Rate (SDR) Test" is passed then for the ERF the TPL would equal the AAL
- GASB Test – a proscribed cash flow model using
  - Current market value of assets
  - Projected benefit payments for current members
  - Projected contributions of current members
  - Projected City contributions not associated with future member's cost of benefits (excludes future members normal costs)
- If projected assets go to zero before all benefit payments are made then remaining payments are discounted at municipal bond rate

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GASB Preview

- The NPL can be very volatile due to:
  - The use of the market value of assets – year to year fluctuations in the market value of assets flow directly into the NPL
  - Bouncing back and forth between passing and failing "SDR Test"
  - Changes in the municipal bond rate from year to year if required to use a blended discount rate
- Last year Dallas ERF passed the SDR test and used the long-term rate of return (7.75%) for the SDR
- This year due to 2018 investment performance Dallas ERF does not pass the SDR test and will be required to use a blended discount rate

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GASB Preview

- Single Discount Rate of approximately 5.6%
  - Versus 7.75% last year
- NPL will increase from $776 million last year to more than $2 billion as of 12-31-2018
  - If market value of assets had been $120 million larger then ERF would have passed the SDR test
  - Volatile number, a return of at least 12% in 2019 could allow ERF to pass the SDR test next year decreasing the NPL at 12-31-2019 by $1 billion

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Actuarial Audit Recommendations

- Deloitte recommended an additional actuarial determined contribution rate be disclosed in the valuation report
  - The rate would use a funding policy based on a "Best Practice" or at a minimum satisfy the Pension Review Board guidelines for actuarial soundness
    - There are many options
  - Proposed changes to Actuarial Standards of Practice (ASOP) No. 4 would require the disclosure at a future date if adopted
  - We wanted to get the Board's input before making a decision on what and when to include another rate
    - Staff's recommendation is to wait for the finalization of ASOP No. 4 and include any new requirements on its effective date

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Actuarial Audit Recommendations

- Deloitte recommended the addition of +/- 1% sensitivity analysis on the investment return assumption be added to the valuation report
  - Several key metrics: UAAL, ADC, etc. would be shown using an investment return assumption 1% higher and 1% lower than the current 7.75% assumption
  - This year's report will have a new section disclosing the Risk associated with measuring pension liabilities and contributions (ASOP No. 51)
  - If added we would put the information in this section

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Disclaimers

- This presentation shows preliminary valuation results. These results could change. We urge the reader to review the subsequent valuation presentation made in May of 2019 along with the actuarial valuation report issued in May 2019. 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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