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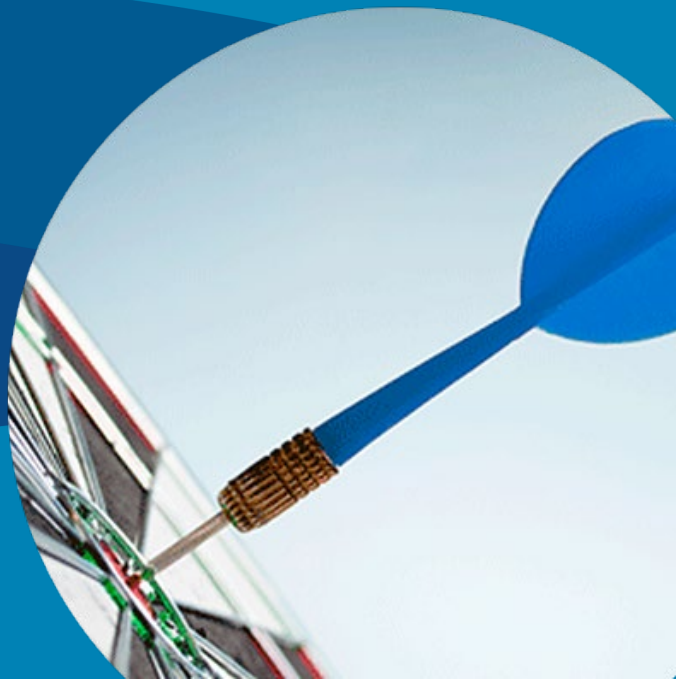
City of Dallas Employees' Retirement Fund

December 31, 2018

Final Valuation Results



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Actuarial Valuation

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- Prepared as of December 31, 2018, 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

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- 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

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- Drop in active membership resulted in payroll growing less than expected
  - 0.6% increase versus assumption of 2.75%
- Board adopted recommended change in administrative expense assumption
- 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%

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Key Issues and Changes

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- 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
  - 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

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- 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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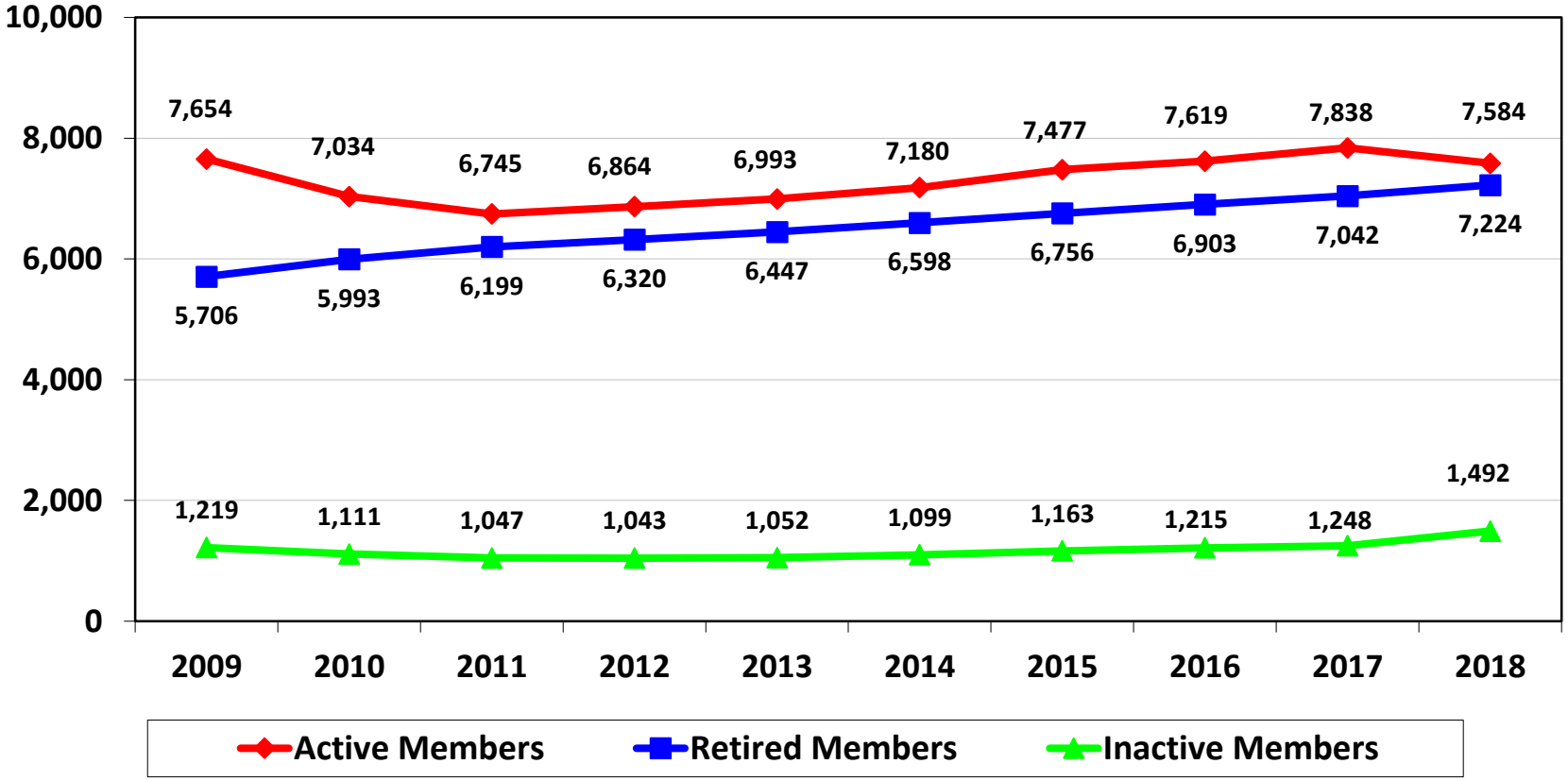
Active Members and Retired Members DRAFT



Note: active membership decreased 3.2% over last year

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Projected Active Membership

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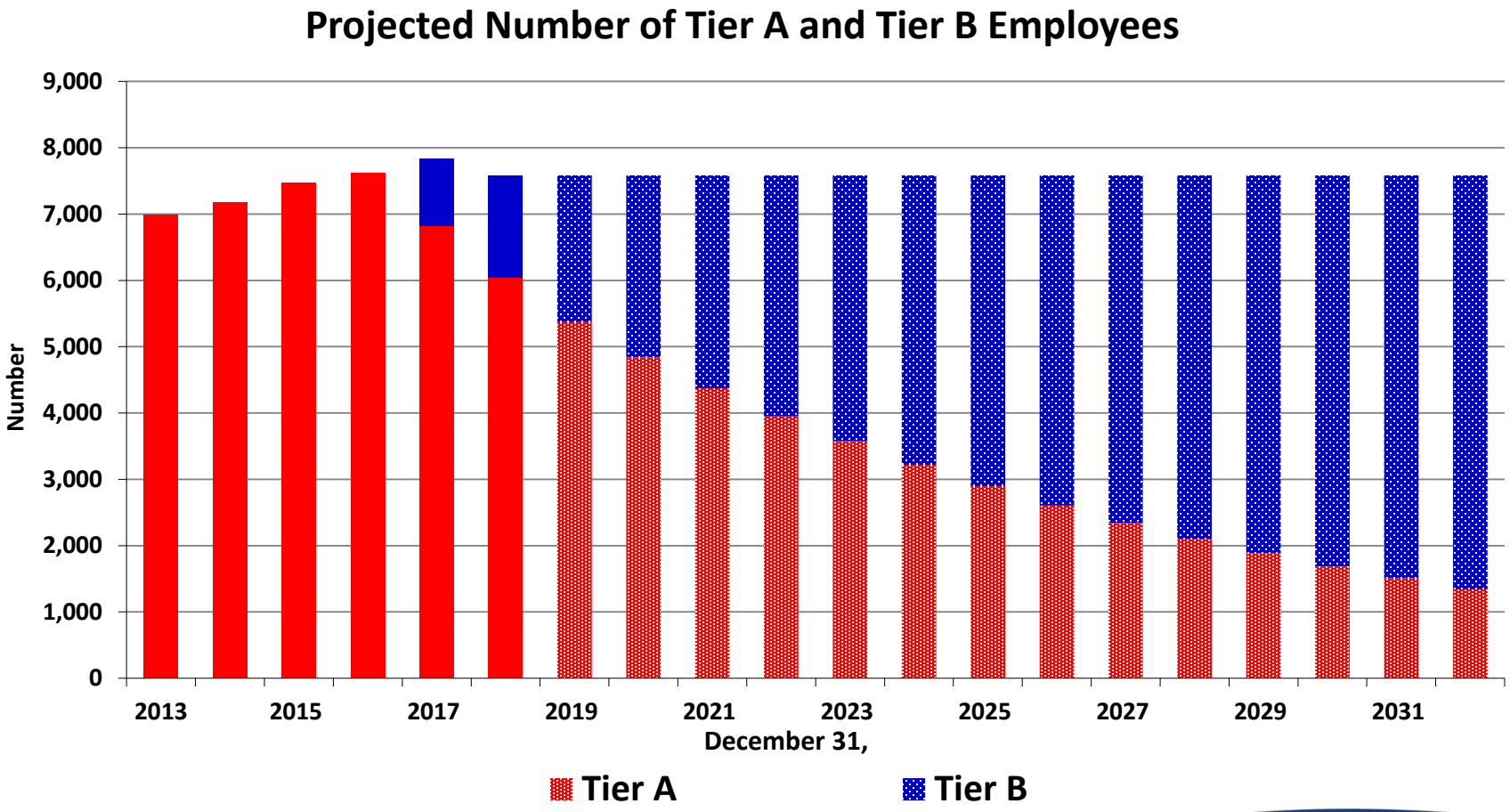

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Assets

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- 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

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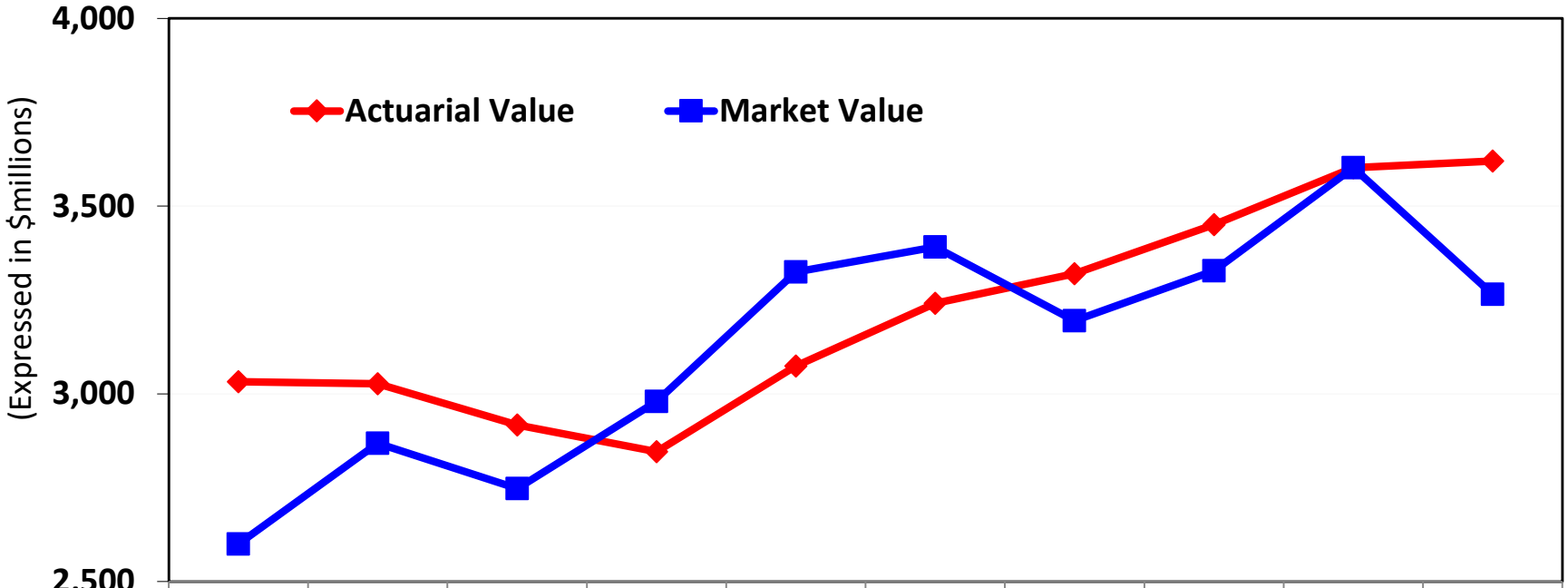

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Actuarial Value	3,032	3,027	2,917	2,846	3,074	3,241	3,320	3,451	3,602	3,620
Market Value	2,600	2,868	2,748	2,980	3,325	3,391	3,195	3,328	3,602	3,265

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Actuarial Results

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- 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

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- 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

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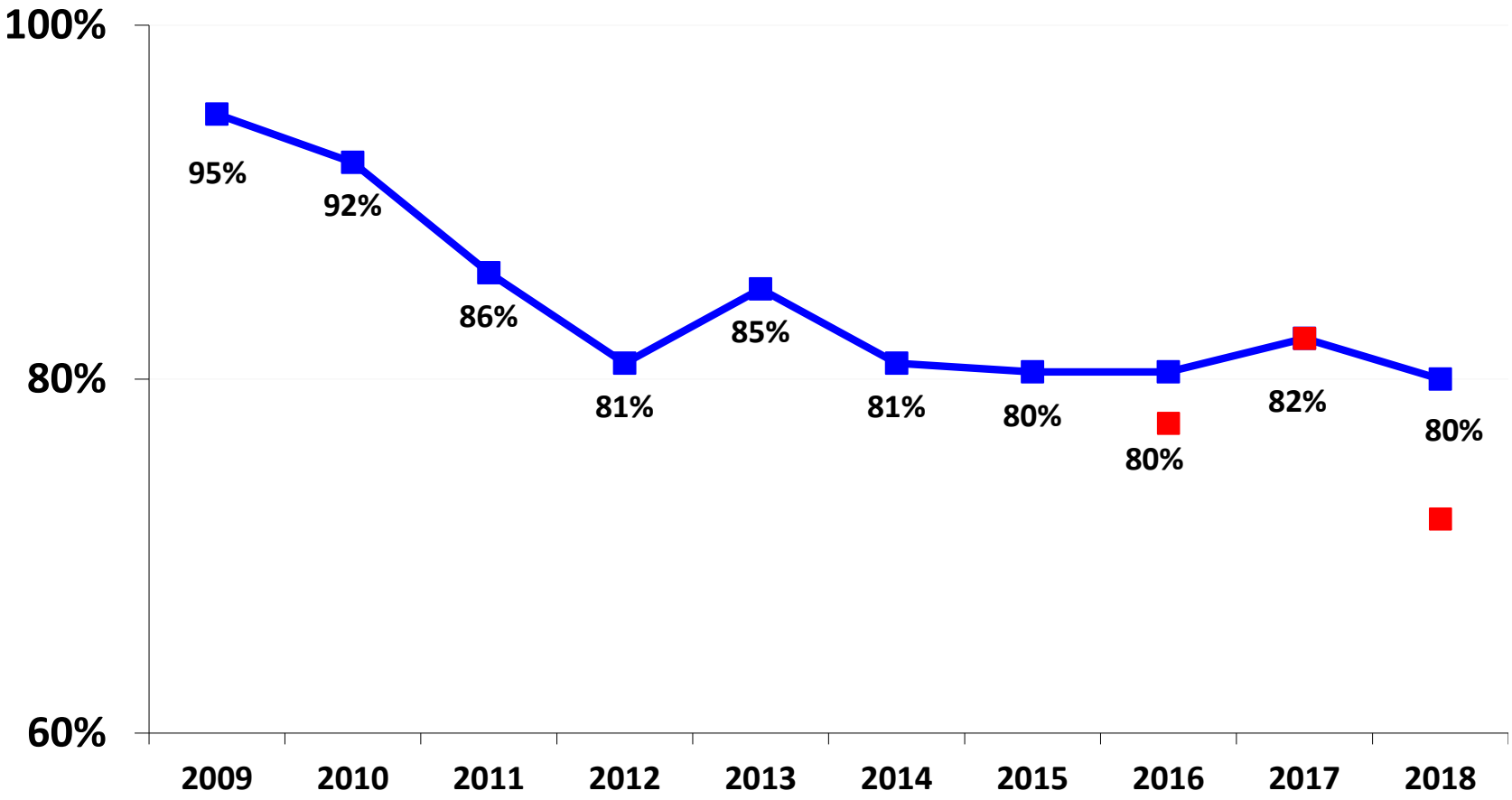

Funded ratio using market value of assets as of December 31, 2016 is 78%.
Funded ratio using market value of assets as of December 31, 2017 is 82%.
Funded ratio using market value of assets as of December 31, 2018 is 72%.

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Liabilities vs. Assets

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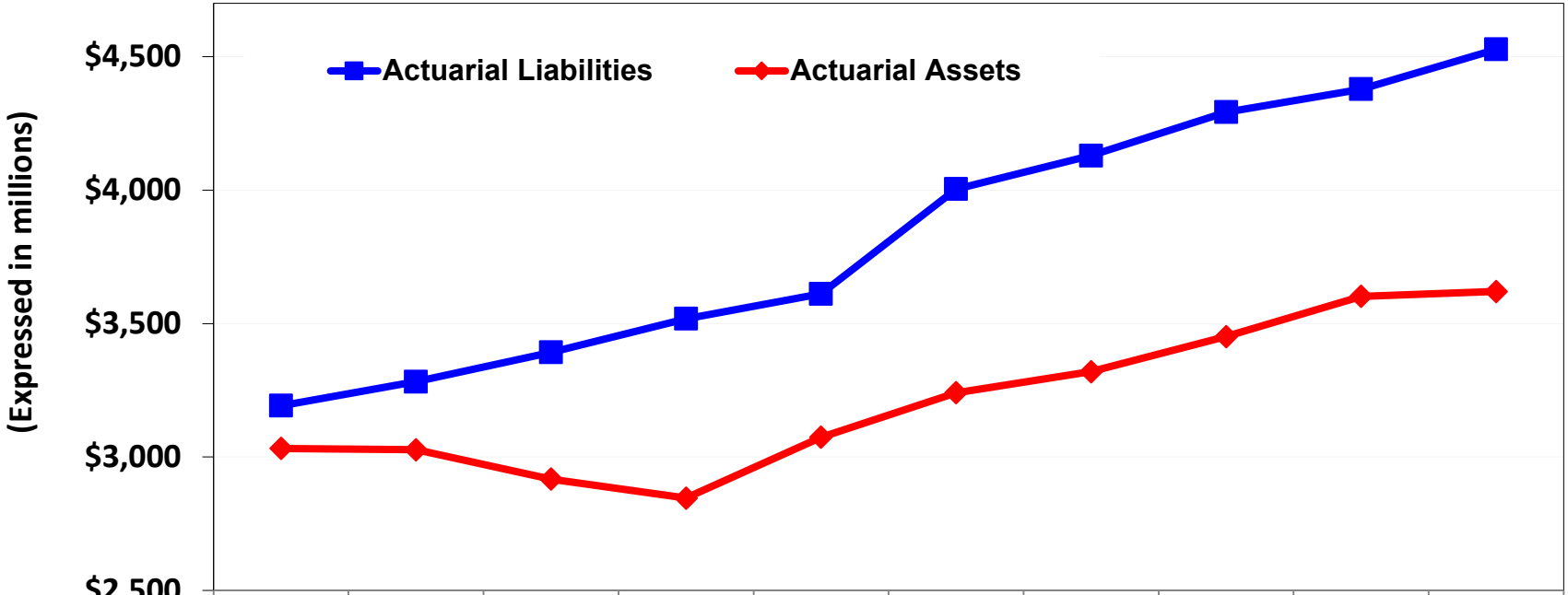

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Actuarial Liabilities	3,192	3,282	3,392	3,518	3,611	4,004	4,129	4,292	4,378	4,527
Actuarial Assets	3,032	3,027	2,917	2,846	3,074	3,241	3,320	3,451	3,602	3,620

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Unfunded Actuarial Accrued Liability (UAAL)

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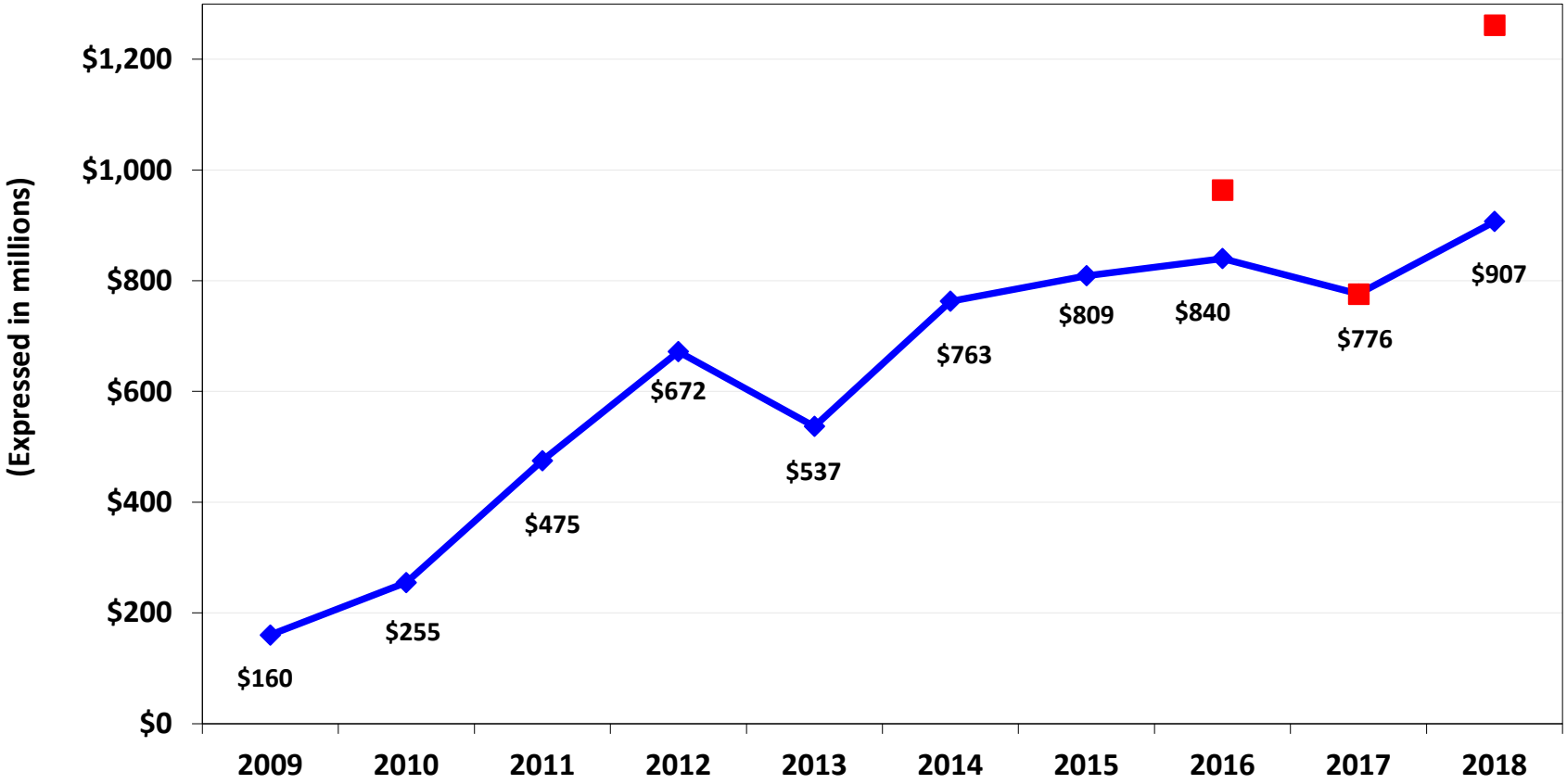

UAAL based on market value of assets as of December 31, 2016 is $964 million.

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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Reconciliation of UAAL

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$ in Millions		
▪ UAAL 12/31/17		$776.2
▪ Expected Changes		
• Amortization Payment for 2018	(50.7)	
• Interest Adjustments	58.2	
		7.5
▪ Difference between expected and actual contributions		22.9
▪ Actuarial Experience Loss		100.1
▪ UAAL 12/31/18		$906.7

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2017 Actuarial (Gains) and Losses

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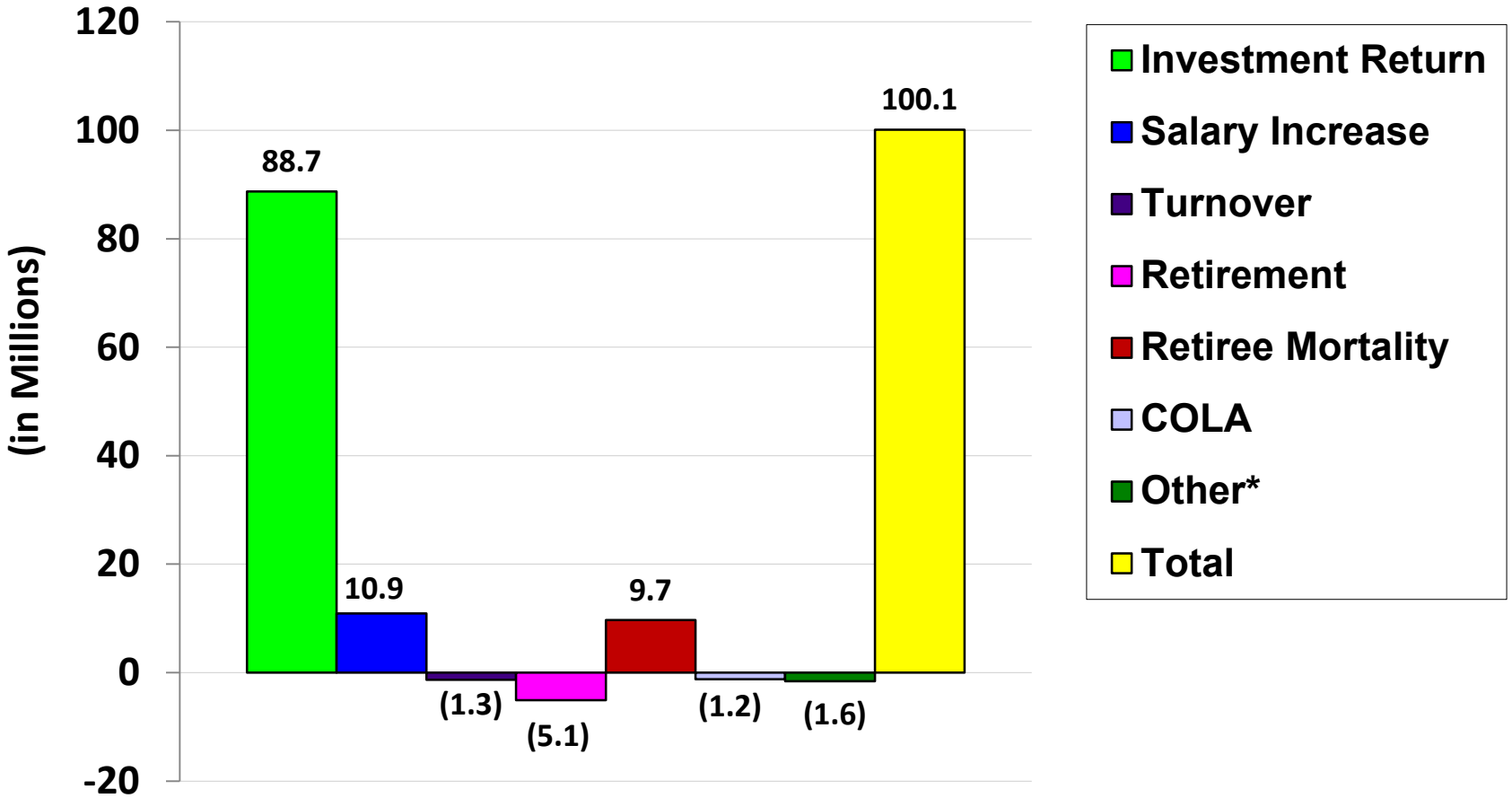

*Includes disability, active mortality, and data changes

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Actuarial Required Contribution Rate

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($ 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

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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

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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

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- 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
- One assumption change – adoption of new administrative expense assumption

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Valuation Summary

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- 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

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- GASB 67/68
  - Fund does not pass the Single Discount Rate test
  - Single Discount Rate of approximately 5.87%
  - Versus 7.75% last year
- NPL increased from $776 million last year to an estimated $2.3 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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Disclaimers

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- This presentation is intended to be used in conjunction 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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