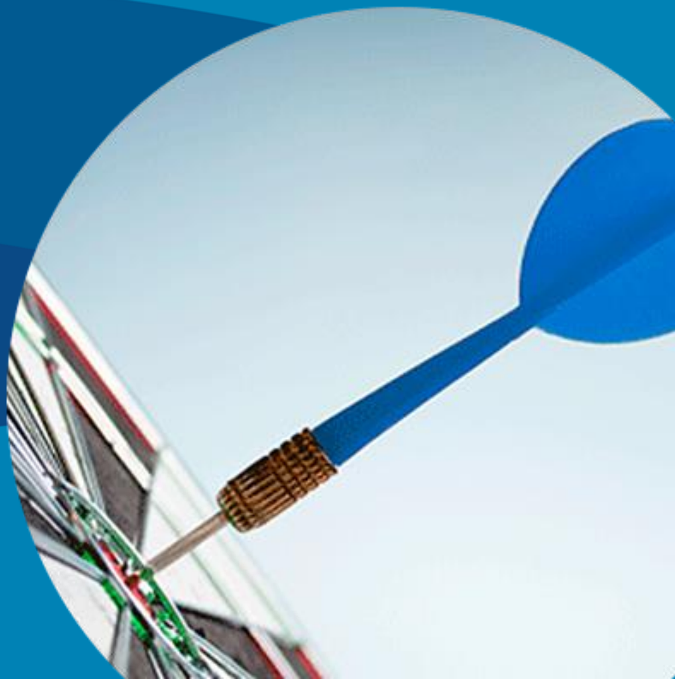
NEW MEXICO EDUCATIONAL RETIREMENT BOARD

Actuarial Valuation Report
as of June 30, 2018

Presented to Board of Trustees by
R. Ryan Falls and Dana Woolfrey on
December 7, 2018



Actuarial Valuation

- Prepared as of June 30, 2018, using member data, financial data, benefit and contribution provisions, actuarial assumptions and methods
- Purposes:
  - Measure the actuarial liabilities
  - Determine adequacy of current statutory contributions
  - Provide other information for reporting
    - GASB #67 and #68
    - CAFR (Consolidated Annual Financial Report)
  - Explain changes in the actuarial condition of ERB
  - Track changes over time
  - Provide early warning on new trends

GRS Retirement Consulting

Recent Events

- The return on the market value of assets was 7.2%
  - Often differs from more sophisticated returns reported by investment team due to treatment of administrative and investment-related expenses as well as the assumed timing of cashflows
- The return on the actuarial (smoothed) value of assets was 7.5%
  - Compare actual returns to assumed 7.25% return
  - Finished recognition of FY 2014 gains
  - Recognized an actuarial gain of $26 million in this valuation
  - $26 million in deferred losses to be recognized in future valuations

GRS Retirement Consulting

Recent Events

- Experience gains totaled $115 million
  - $25 million gain due to actual COLA less than assumed
    - Assume 1.9% and most retirees received a COLA of 1.6%
  - $26 million in asset gains
  - $64 million in other liability gains
    - Member salaries grew less than expected
    - Actual increases were about 2.6% less than expected
- UAAL grew slightly in spite of gains
  - $7.4 billion LY, $7.5 billion TY
  - Expected UAAL to grow more due to negative amortization
- Total payroll stayed flat at $2.6 billion since last year
  - Anticipate growth of approximately 3% per year

GRS Retirement Consulting

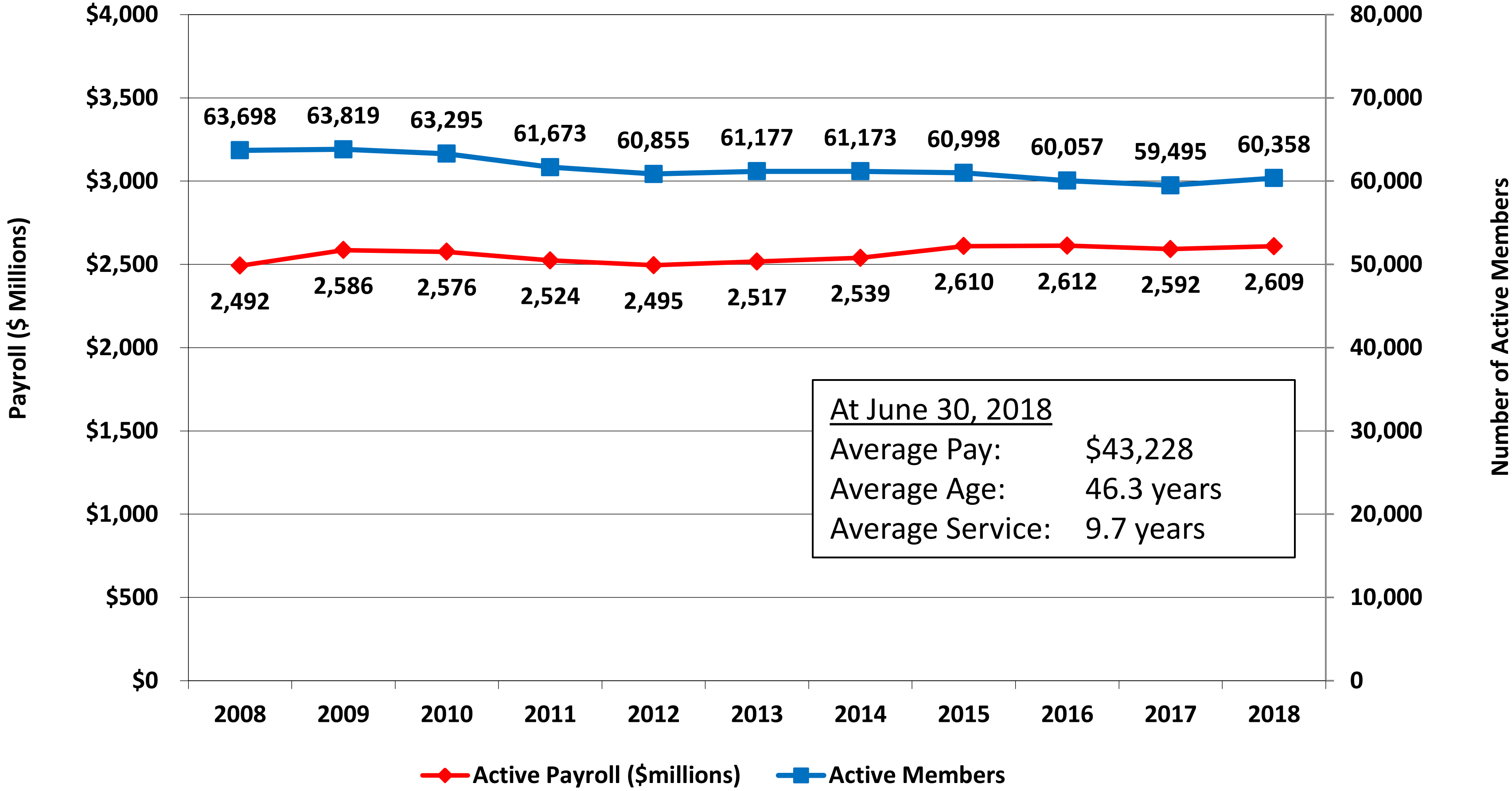
Key Results

	June 30, 2017	June 30, 2018
Valuation Payroll	$2.6 billion	$2.6 billion
Actuarial Funded Ratio	62.9%	63.5%
Unfunded Actuarial Accrued Liability (UAAL)	$7.4 billion	$7.5 billion
Normal Cost Rate	13.62%	13.68%
Funding Period ***Closed Group Valuation***	124.6 years	Infinite
Funding Period ***Open Group Projection****	61 years	70 years

** Reflects: (1) lower normal cost for future members, (2) future COLAs less than 1.9%, (3) current market value of assets.*

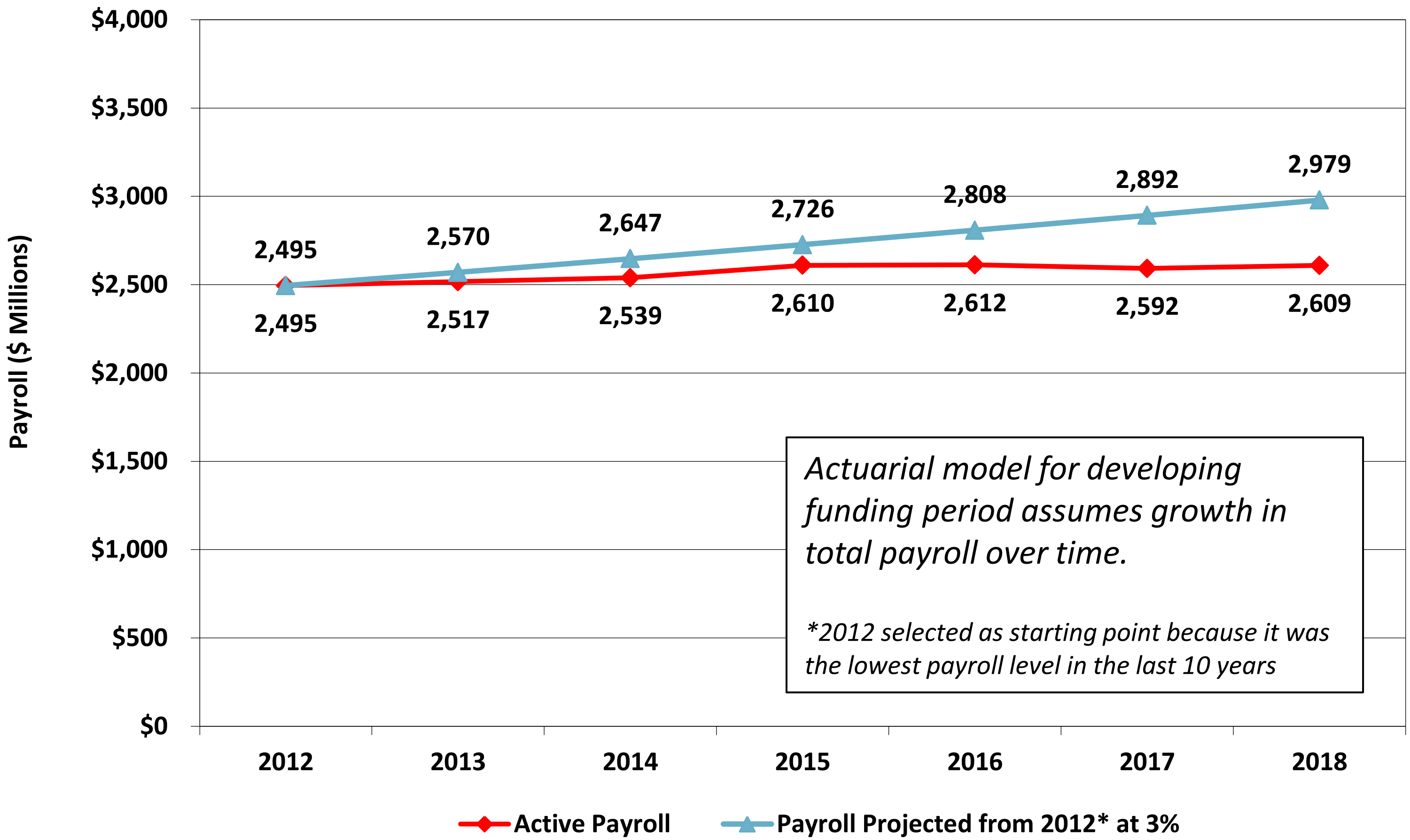
GRS Retirement Consulting

Membership – Actives



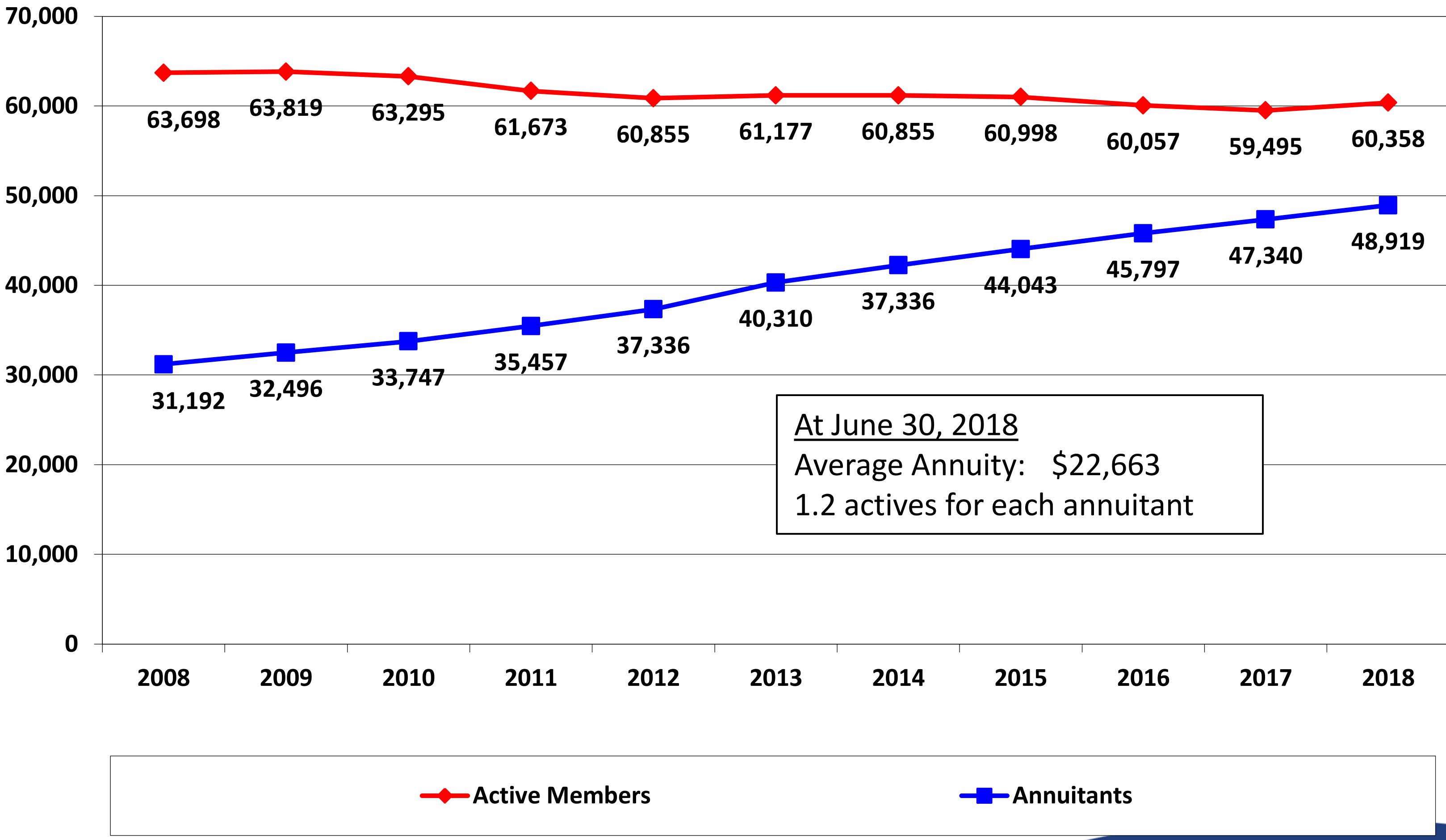
GRS Retirement Consulting

Membership – Actives



GRS Retirement Consulting

Membership – Actives vs. Annuitants



GRS Retirement Consulting

Assets

- Fair market value increased from $12,509 million to $12,970 million as of June 30, 2018
- Contributions
  - Member contributions = $290 million, including service purchases
    - Currently 10.70% of pay
  - Employer contributions = $383 million
    - Currently 13.90% of pay
  - ARP contribution = $6 million (3% of ARP payroll)
- Total contributions of $679 million, compared to $692 million last year

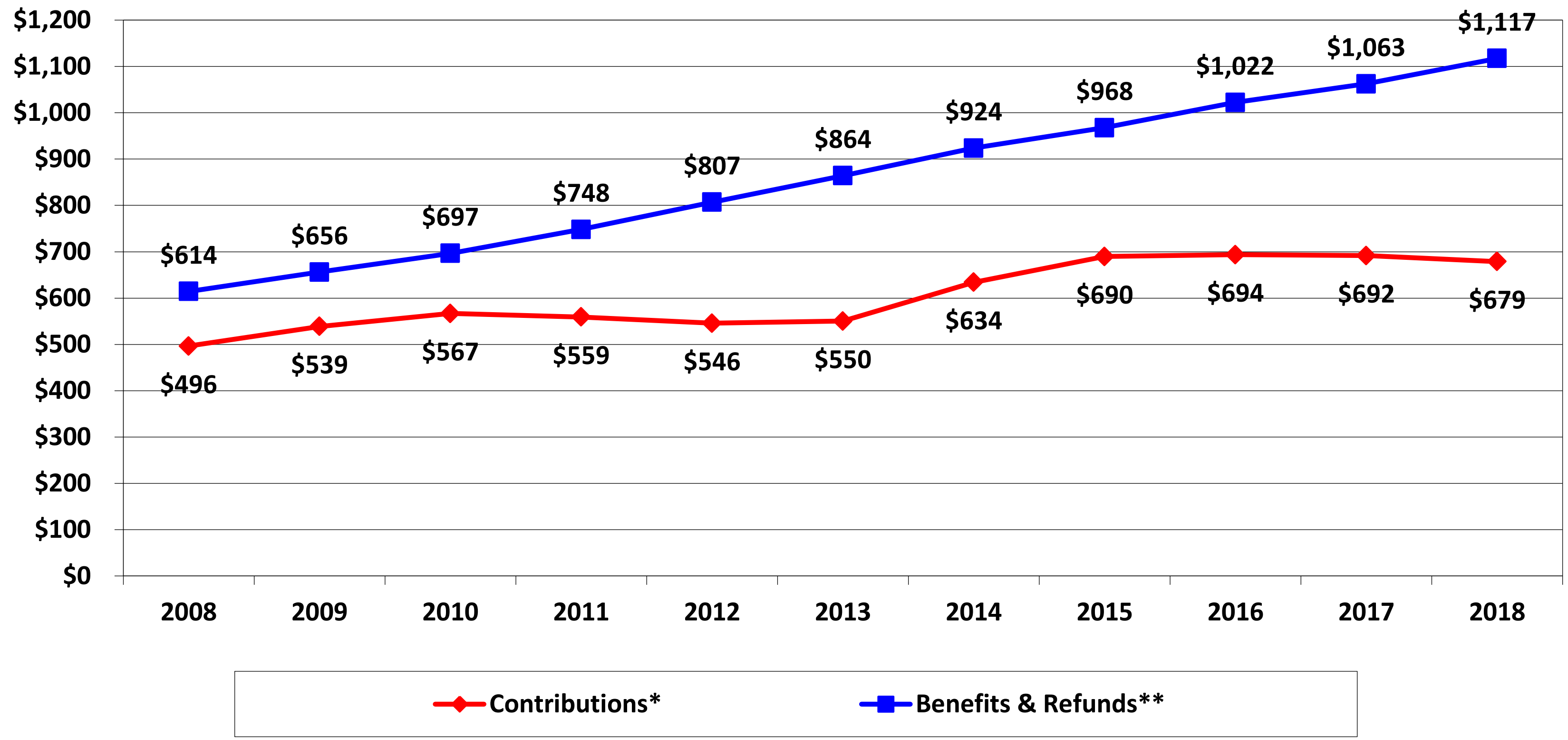
GRS Retirement Consulting

Assets

- Total distributions—benefit payments, refunds and administrative expenses—totaled $1,117 million
- Therefore, net external cash flow was -$439 million, or -3.4% of market value of assets at end of year
  - Typical for a mature DB plan where investment earnings are expected to finance a large portion of benefit payments
  - Not projected to go below -5%
- Return of approximately 7.2% in FY 2018 (net of administrative and investment expenses)
  - 7.9% for last five years
  - 6.6% for last 10 years
  - 7.5% for last 15 years
  - 5.8% for last 20 years

GRS Retirement Consulting

Contributions vs. Benefits and Refunds



* Includes member contributions, employer contributions, and service purchases

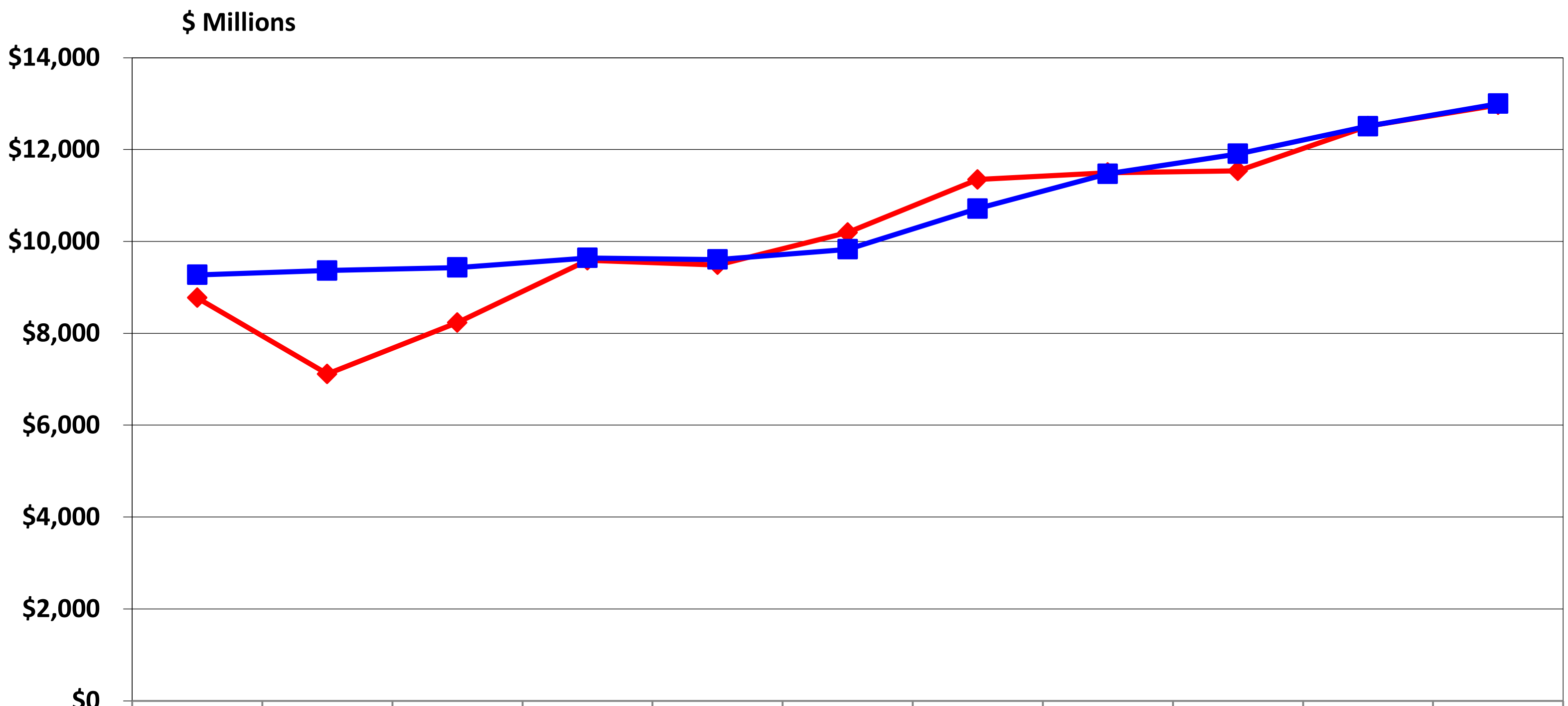
** Includes administrative expenses

Smoothed Assets

- Most actuarial calculations are based on actuarial value of assets, not market value
- Actuarial value only reflects a portion of the actual market returns over the past five years
  - Recognize 20% of the unexpected asset gain/loss each year
- Actuarial value is now $12,997 million, compared to $12,508 million last year
  - Actuarial return was 7.5% in FY 2018, compared to 8.2% in FY 2017
- $26 million in deferred losses, not yet recognized

GRS Retirement Consulting

Actuarial and Market Values of Assets



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Market	$8,770	$7,114	$8,233	$9,589	$9,489	$10,192	$11,346	$11,498	$11,533	$12,509	$12,970
Actuarial	$9,273	$9,366	$9,431	$9,642	$9,606	$9,829	$10,715	$11,472	$11,906	$12,508	$12,997

GRS Retirement Consulting

Funding Valuation Results

- Unfunded actuarial accrued liability (UAAL) increased from $7,363 million to $7,461 million
  - The increase in the UAAL is less than expected
  - Experience gains
- Funded ratio (actuarial assets divided by actuarial accrued liability) increased from 62.9% to 63.5%
  - Ratio using market value increased from 63.0% to 63.4%
- 13.90% employer contribution for FY 2019 comprised of:
  - Employer normal cost: 2.98%
  - Amortization payment: 10.92%

GRS Retirement Consulting

Funding Valuation Results

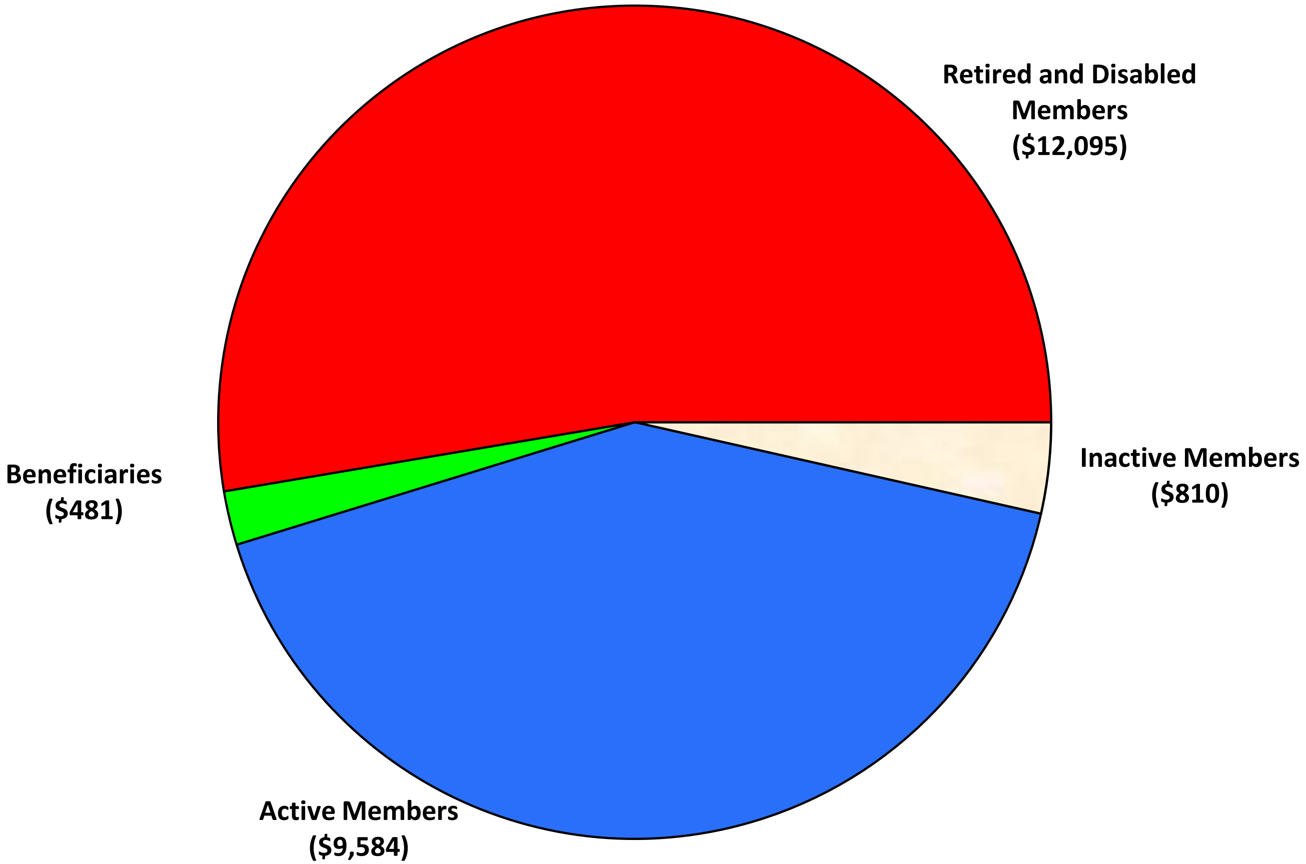
- “Valuation” Funding Period is Infinite (124.6 LY)
  - Based on the Actuarial Value of Assets, the current normal cost level, and a 1.9% COLA assumption for each year in the future, unfunded liability is expected to continue to grow indefinitely
- “Open Group” Funding Period is 70 years
  - Based on the market value of assets, lower normal cost rate in the future for Tier 3 benefits, and accumulated savings from COLAs lower than 1.9%

GRS Retirement Consulting

Funding Valuation Results

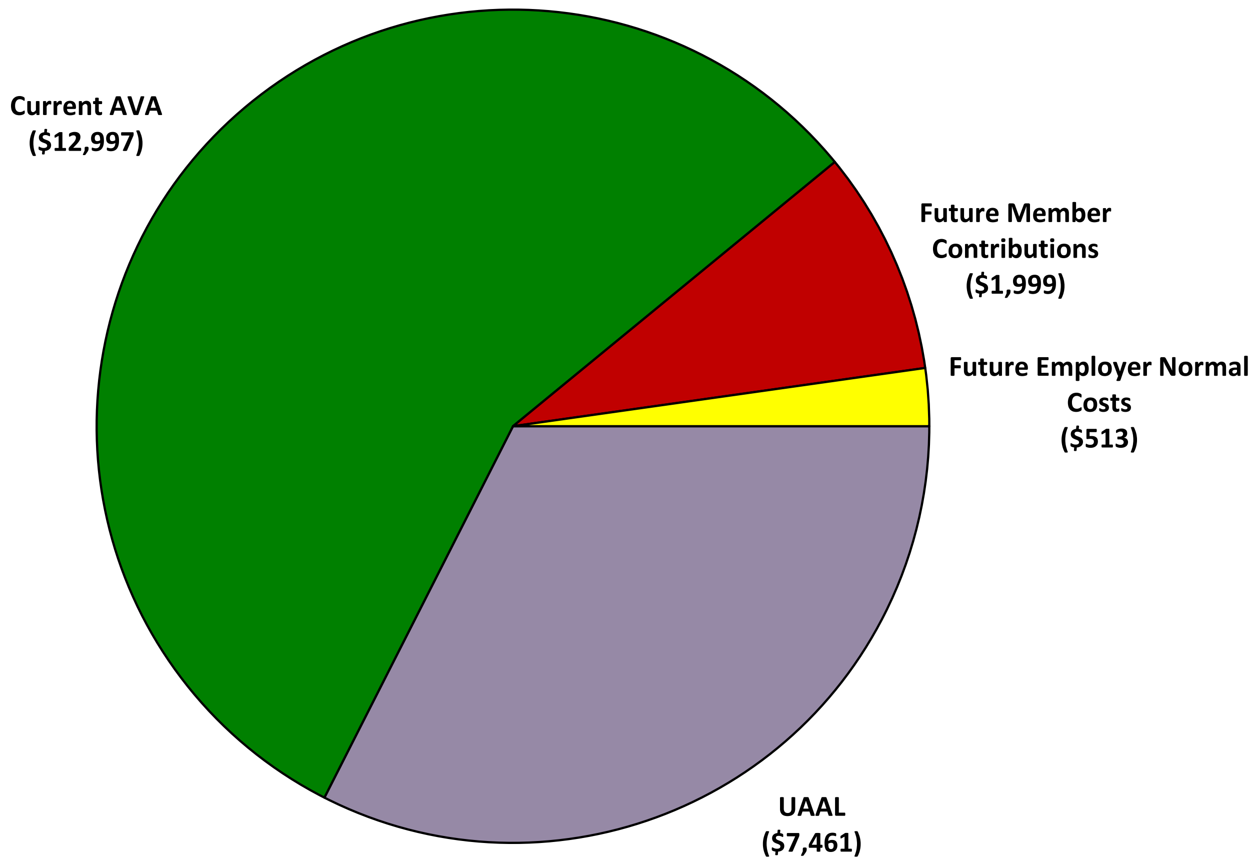
- 2012 Funding Policy Contribution is 20.78%
  - 24-year amortization (30 years from 2012), plus employer normal cost
  - Shortfall (20.78% - 13.90%) of 6.88%
  - Does not incorporate lower normal cost for future members and future COLAs less than 1.9%
- 30-Year Funding Policy Contribution is 18.69%
  - 30-year amortization (30 years from 2018), plus employer normal cost
  - Shortfall (18.69% - 13.90%) of 4.79%
  - Based on current provisions

Where the Present Value of Future Benefits ($22,970 Million) Will Go



GRS Retirement Consulting

How Present Value of Future Benefits ($22,970 Million) Will be Funded

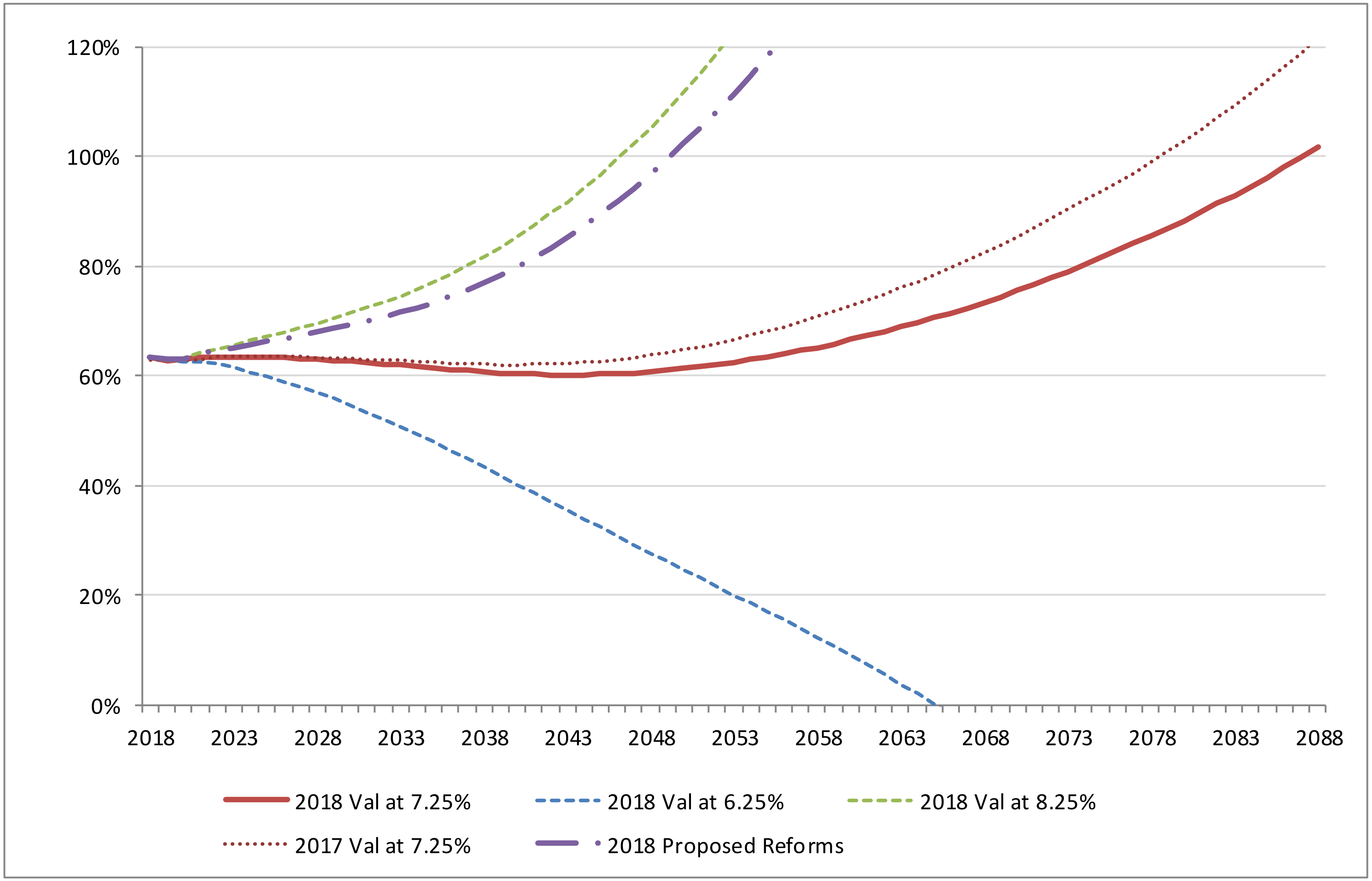


Change in UAAL for the Year ($ in millions)

		Year Ending	
	Basis	June 30, 2018	June 30, 2017
	(1)	(2)	(3)
1.	UAAL at prior valuation	$ 7,362.9	$ 6,630.5
2.	Increases/(decreases) due to:		
	a. Interest on UAAL	533.8	513.9
	b. Amortization payments [1]	(320.3)	(347.2)
	c. Liability experience	(64.3)	(135.5)
	d. Asset experience	(26.2)	(54.0)
	e. Actual COLA More/(Less) than Expected	(24.5)	(67.9)
	f. Changes in actuarial assumptions and methods	0.0	823.1
	g. Benefit changes	0.0	0.0
	h. Total	$ 98.5	$ 732.4
3.	Current UAAL (1+2h)	$ 7,461.4	$ 7,362.9

GRS Retirement Consulting

Projection – Funded Ratios



Actuarial Projection Results

- Funding period and UAAL projections based on the following assumptions:
  - Future market earnings, net of administrative and investment-related expenses, will equal 7.25% per year
  - Phases in deferred asset gains/losses
  - No benefit changes or other demographic gains/losses
  - No change in number of active members
  - Accumulates savings from expected COLAs lower than 1.9%
  - Active members who leave employment will be replaced by new entrants each year
  - Starting pay for each cohort of replacement hires increases 3.00% each year
  - Employer and member contributions will remain a constant percentage of payroll

GRS Retirement Consulting

Current Topics

- Public plan mortality tables
- Proposed revisions to Actuarial Standards of Practice

GRS Retirement Consulting

Public Retirement Plans Mortality Tables

- In August, SOA published exposure draft of the Public Retirement Plans Mortality Tables
- Separate tables for many categories (96 total)
  - Public Safety, Teachers, General Employees
  - Above median, below median, combined
  - Healthy versus Disabled
  - Active versus Retired
- Not yet final, but final tables should not change much

GRS Retirement Consulting

Life Expectancies

GRS Retirement Consulting

Proposed Revisions to ASOPs

- Exposure drafts released in March, 2018
- Carry over from Blue Ribbon Panel recommendations from 2014
- Comment period on first exposure draft ended in July
  - National organizations (NASRA, NCTR, etc) provided comments
- Still a few years away from final Standards impacting ERB valuation reports

GRS Retirement Consulting

Proposed Revisions to ASOPs

- Investment Risk Defeasement Measure (IRDM)
  - Actuary must disclose along with funding valuation
  - Intended to "reflect the cost of effectively defeasing the investment risk of the plan"
  - Liability calculated using current bond rates
- Assumption setting
  - Actuary should determine whether the assumptions are reasonable at each measurement date
    - Should not wait until next experience study if unreasonable
    - Discourages "phasing in" to new assumptions

GRS Retirement Consulting

Disclaimers

- This presentation is intended to be used in conjunction with the final draft of the actuarial valuation report issued on November 12, 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.