NEW MEXICO EDUCATIONAL RETIREMENT BOARD

Actuarial Valuation Report

as of June 30, 2016

Presented to Board of Trustees on October 21, 2016

R. Ryan Falls, Senior Consultant

GRS
Gabriel Roeder Smith & Company
Consultants & Actuaries
www.gabrielroeder.com

Actuarial Valuation

- Prepared as of June 30, 2016, 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
    - CAFR (Consolidated Annual Financial Report)
  - Explain changes in actuarial condition of ERB
  - Track changes over time
  - Provide early warning on new trends

Key Results

- The actuarial funded ratio improved from 63.7% to 64.2%
- Unfunded Actuarial Accrued Liability (UAAL) increased from $6.5 billion to $6.6 billion
- The normal cost rate increased from 12.98% of pay to 13.00% of pay
- The funding period increased from 43.2 years to 45.0 years
- *These above valuation results are determined as of a single point in time. The calculated funding period does not reflect:*
  - *Lower normal cost for future members*
  - *Future COLAs less than 2%*
  - *Open group projections as future hires replace retirements and terminations*

Recent Events

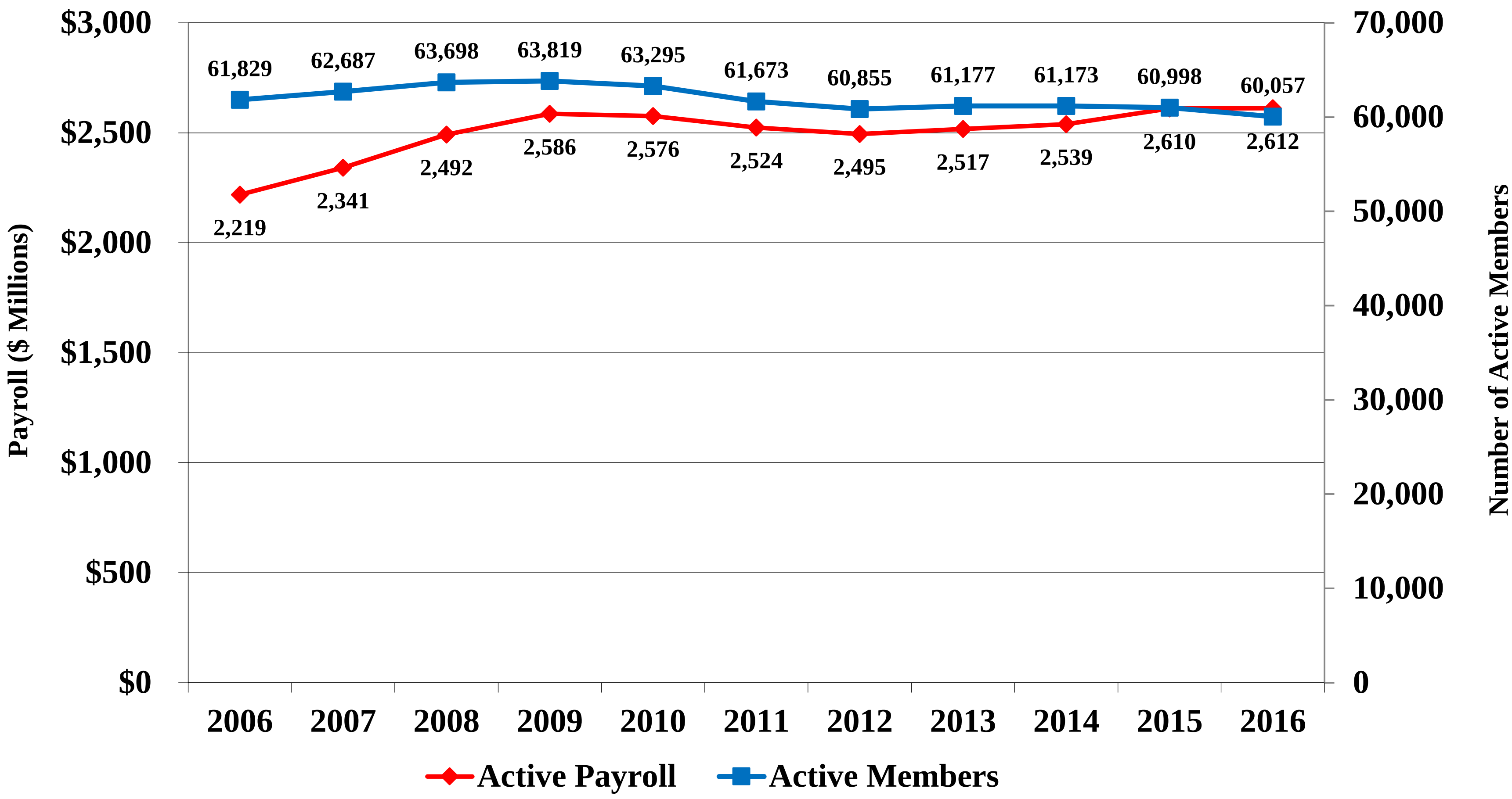
- The return on the market value of assets was 2.8%
  - Rudimentary calculation by GRS that is consistent with our methods
  - May differ from more sophisticated returns reported by investment team
- The return on the actuarial (smoothed) value of assets was 6.6%
  - Compare actual returns to assumed 7.75% return
  - $401 million in deferred losses not yet recognized
  - Created an actuarial loss of $130 million
- Experience gains totaled $193 million
  - Includes $138 million gain due to actual COLA less than the 2.0% assumed
  - CPI-U was 0.1% and most retirees received a COLA of 0.08%

Demographic Summary

Membership – Actives

- The number of active members decreased from 60,998 to 60,057, a decrease of 1.5%
  - Tier 1 members decreased from 38,967 to 36,048
  - Tier 2 members decreased from 9,551 to 8,197
  - Tier 3 members increased from 12,480 to 15,812
- Total payroll of active members increased from $2,610 million to $2,612 million
  - Annual increase of 0.1%
  - Over the last ten years, total payroll has increased an average of 1.6% per year

Membership – Actives



GRS

Membership – Actives

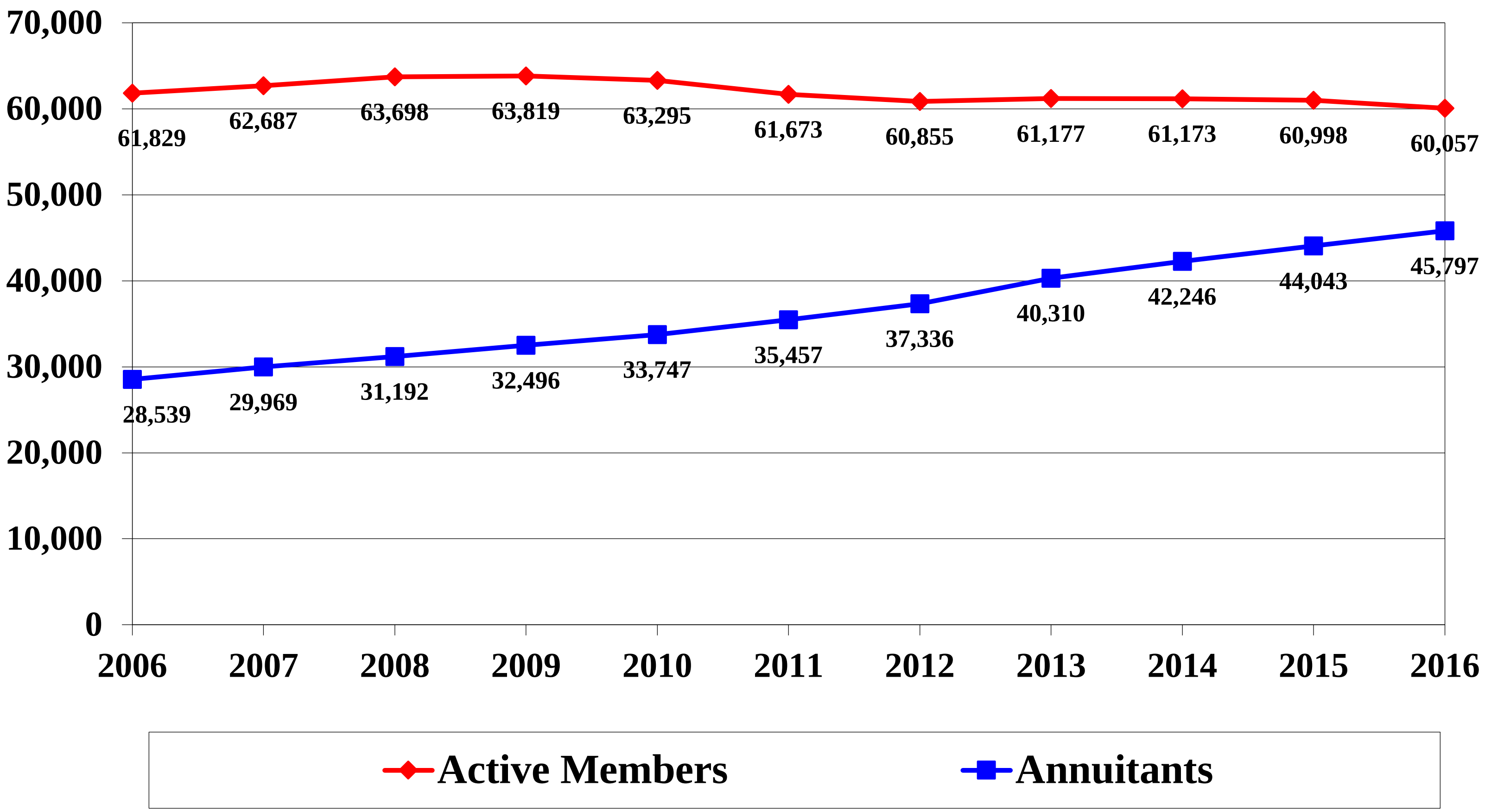
- Average pay for active members increased from $42,793 to $43,493
  - Annual increase of 1.6%
  - Over the last ten years, average pay has increased an average of 1.9% per year
- Average age of active members is 46.4
  - 46.5 last year
  - 45.7 ten years ago
- Average years of service is 9.8
  - 9.7 last year
  - 9.2 ten years ago

GRS

Membership – Annuitants

- The number of annuitants increased from 44,043 to 45,797, a 4.0% increase
  - Annuitants include service retirees, disabled retirees, and beneficiaries receiving benefits
  - Over the last ten years, the number of annuitants has grown an average of 4.8% per year
- Average annual benefit is $21,976
  - Reflects cost-of-living increase for July 1, 2016
  - Over the last ten years, the average annual benefit has grown an average of 2.2% per year
- There are 1.3 active members for each annuitant
  - Ten years ago the ratio was 2.2

Active Members and Annuitants



GRS

Membership – Inactives

- 10,219 inactive vested members
  - Generally waiting to commence annuity
  - Includes 271 members under Tier 2
- 34,009 inactive nonvested members
  - Generally only due refund of contributions

GRS

Assets

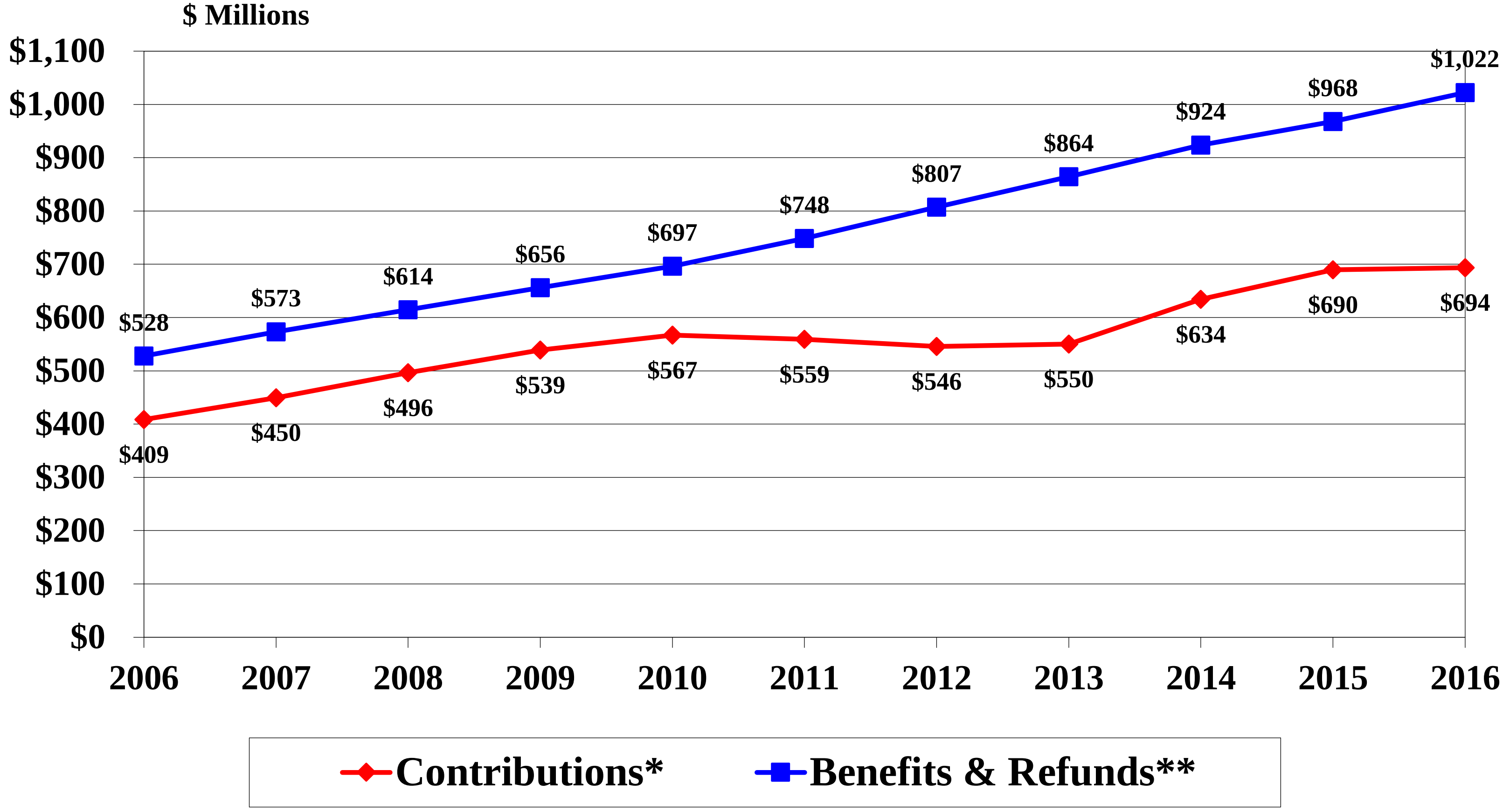
Assets

- Fair market value increased from $11,497.7 million to $11,498.2 million
- Contributions
  - Member contributions = $297 million, including service purchases
    - 10.70% in FY 2016 and thereafter
  - Employer contributions = $392 million
    - 13.90% in FY 2016 and thereafter
  - ARP contribution = $5 million (3% of ARP payroll)
- Total contributions of $694 million, compared to $690 million last year

Assets

- Total distributions—benefit payments, refunds and administrative expenses—totaled $1,022 million
- Therefore, net external cash flow was -$329 million, or -2.9% of market value of assets at end of year
  - Projected to stay at or below -5%
- Return of approximately 2.8% in FY 2016 (net of administrative and investment expenses)
  - 6.5% for last five years
  - 5.7% for last 10 years
  - 5.7% for last 15 years
  - 6.8% for last 20 years

Contributions vs. Benefits and Refunds



* Includes member contributions, employer contributions, and service purchases

** Includes administrative expenses

GRS

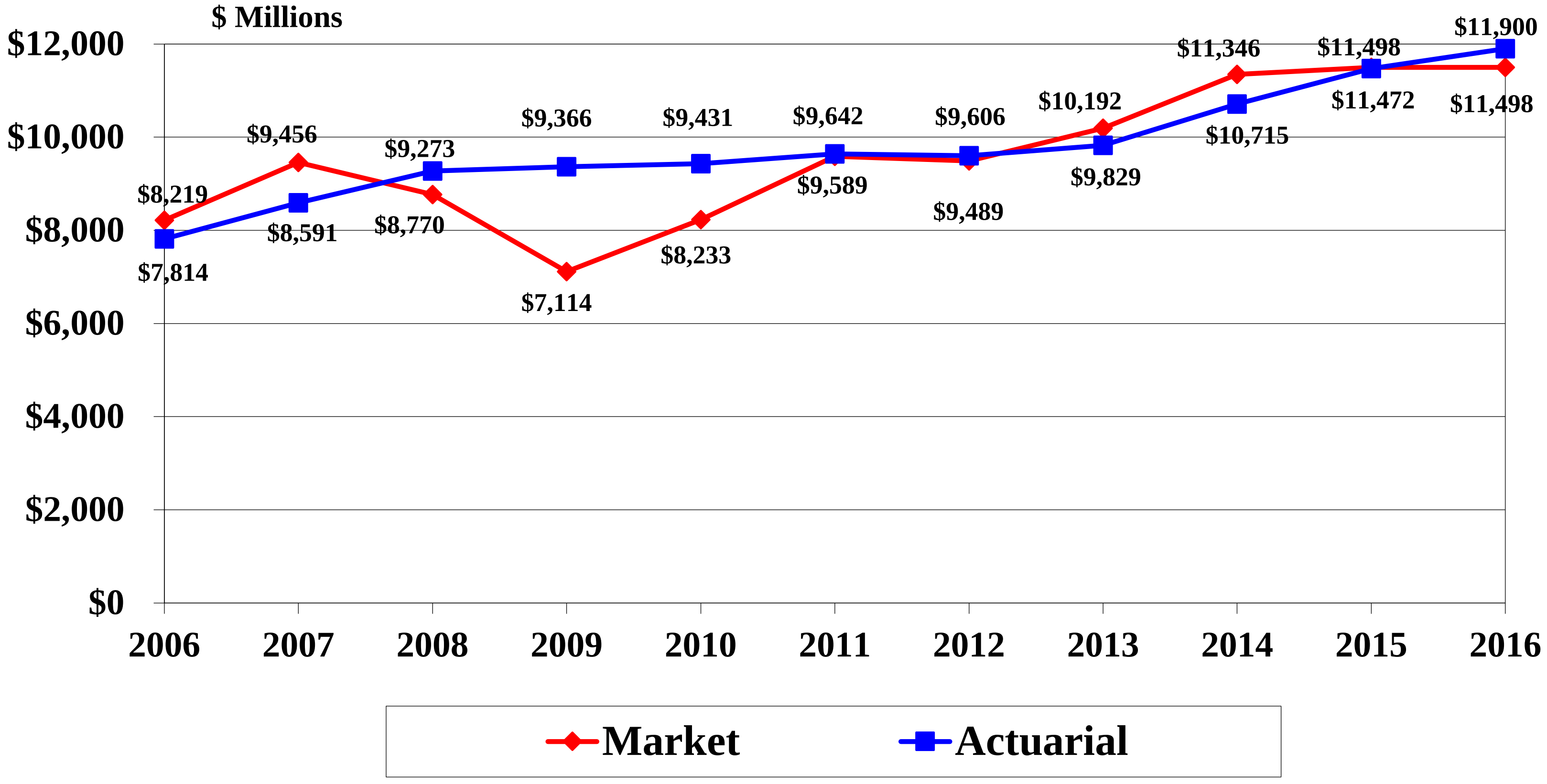
Assets

- 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
  - 20% of the difference between last year's expected return on market and the actual return
  - 40% of FY 2015 difference, 60% of FY 2014 difference and 80% of FY 2013 difference
- Actuarial value is now $11,900 million, compared to $11,472 million last year

Assets

- Actuarial return was 6.6% in FY 2016, compared to 9.7% in FY 2015
  - 20% of the good returns in FY 2014 and FY 2013, offset by the lower returns in FY 2012, FY 2015 and FY 2016
  - Compared to assumed return of 7.75%
- Actuarial value is 103.5% of fair market value, versus 99.8% last year
- $401 million in deferred losses, not yet recognized

Market and Actuarial Values of Assets



Funding Valuation Results

Funding Valuation Results

- Unfunded actuarial accrued liability (UAAL) increased from $6,542 million to $6,637 million
- Funded ratio (actuarial assets divided by actuarial accrued liability) increased from 63.7% to 64.2%
  - Ratio using market value decreased from 63.8% to 62.0%
- 13.90% employer contribution for FY 2016 comprised of:
  - Employer normal cost: 2.30%
  - Amortization payment: 11.60%

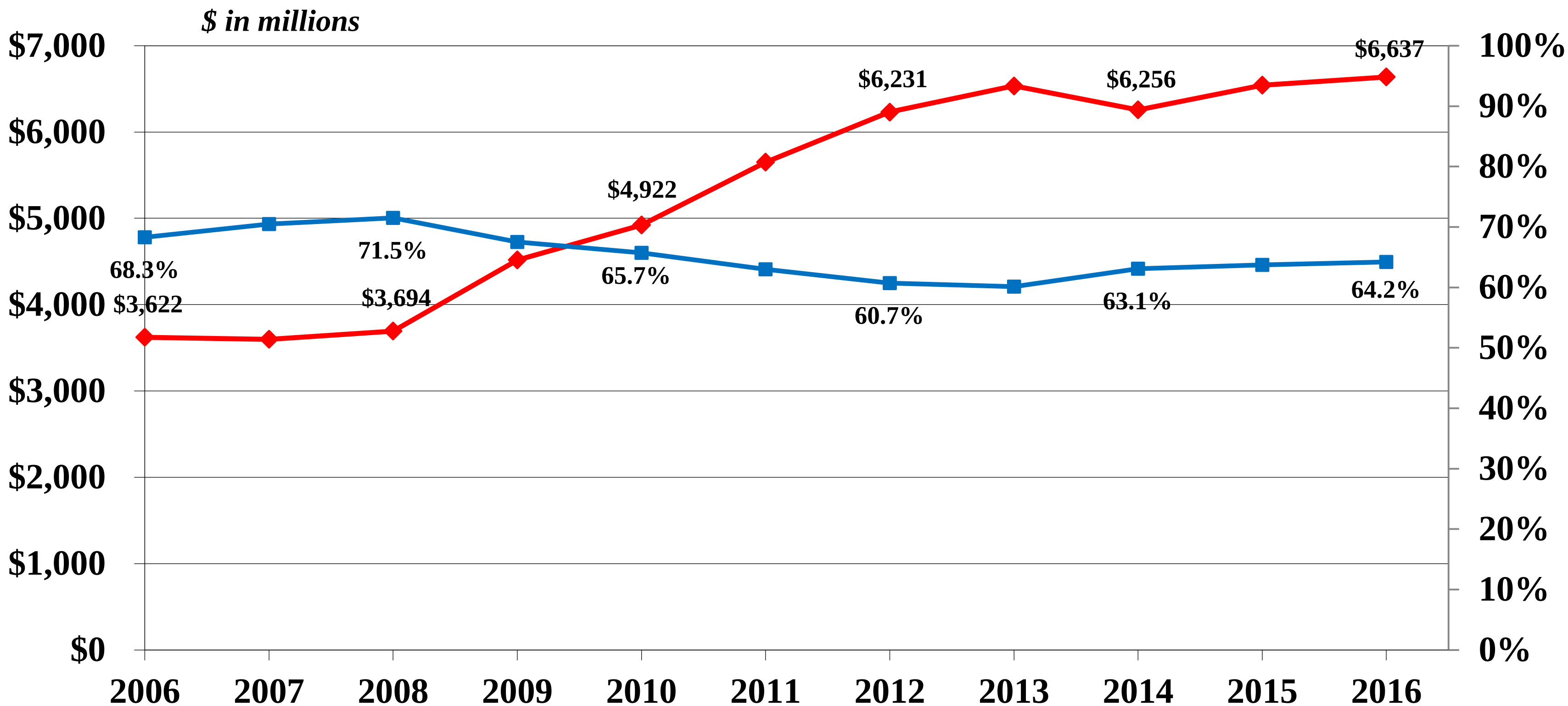
GRS

Change in UAAL for the Year ($ in millions)

	2015/16	2014/15
1. UAAL at beginning of year	$6,256.3	$6,256.3
2. Interest on UAAL	507.0	484.9
3. Amortization contributions	(349.7)	(350.7)
4. Liability experience	(54.6)	54.4
5. Investment experience	130.4	(204.8)
6. Actual COLA more/(less) than expected	(138.3)	(47.0)
7. Change of actuarial assumptions	0.0	348.9
8. Benefit changes	0.0	0.0
9. UAAL at end of year	$6,636.8	$6,542.0

GRS

Historical UAAL and Funded Ratio



- Based on actuarial value of assets

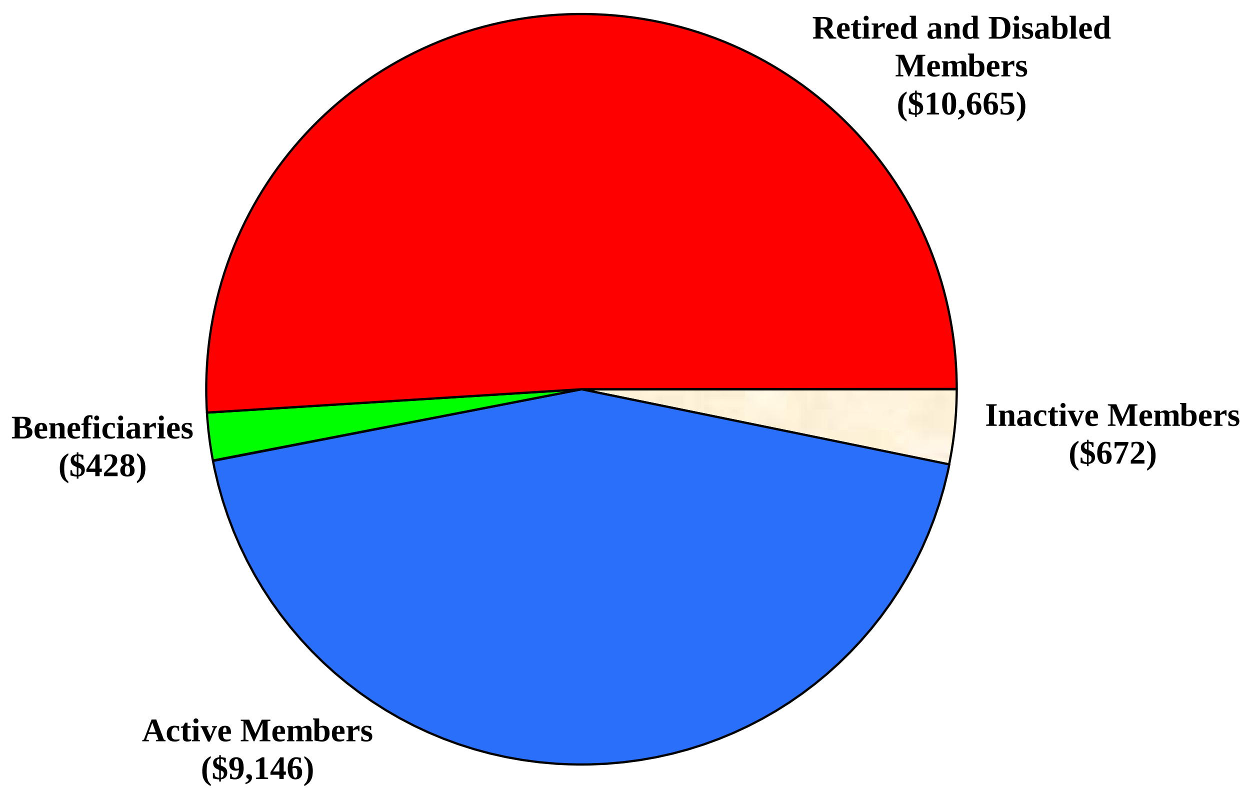
- Assumption changes in 2005, 2011, 2013 and 2015

GRS

Funding Valuation Results

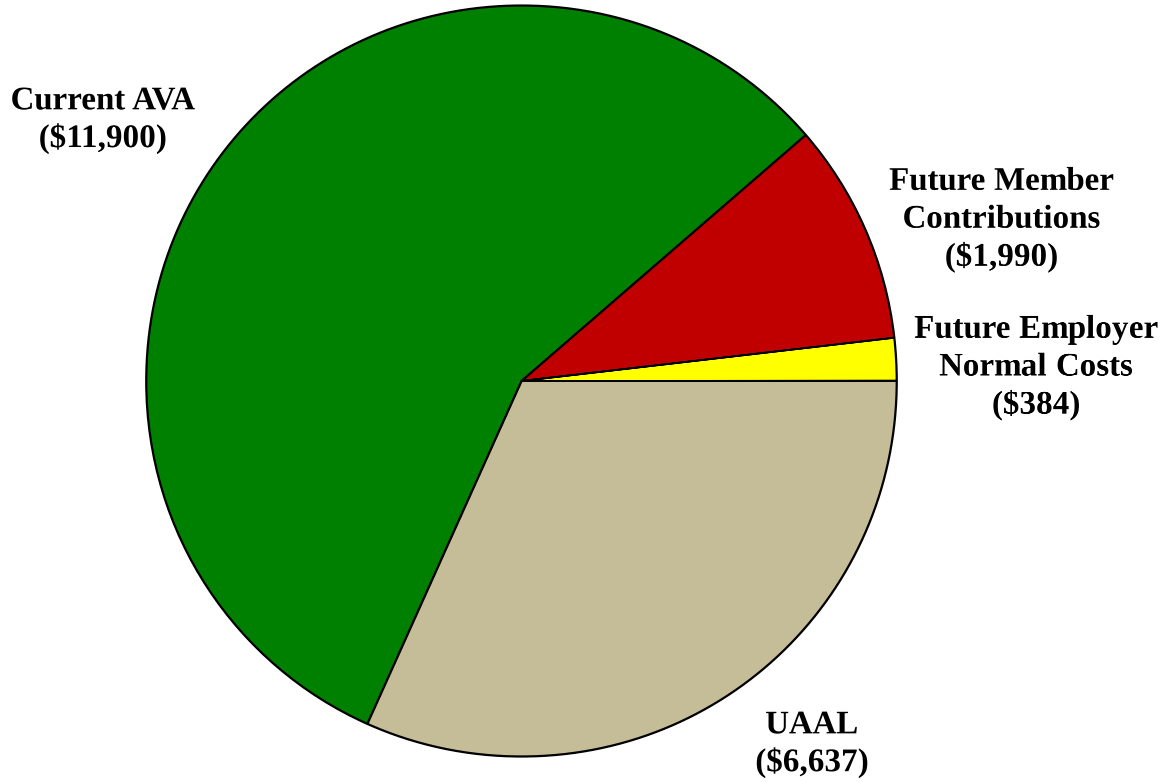
- Funding period is 45.0 years
- Funding Policy Contribution is 17.32%
  - 26-year amortization (30 years from 2012), plus employer normal cost
  - Shortfall (17.32% - 13.90%) of 3.42%
- These metrics do not incorporate certain improvements going forward
  - Lower normal cost for future members
  - Future COLAs less than 2%

Where the Present Value of Future Benefits ($20,911 Million) Will Go



GRS

How Present Value of Future Benefits ($20,911 Million) Will Be Funded



Accounting Valuation Results

Accounting Valuation Results

- ERB elected to adopt GASB 67 for plan year ending June 30, 2013
- New measures reported in ERB's CAFR
  - Total Pension Liability (equivalent to AAL)
  - Plan Fiduciary Net Position (equivalent to MVA)
  - Net Pension Liability (equivalent to UAAL)
- GASB 68 reporting now required for employer fiscal years ending June 30, 2015

Determining the Discount Rate

- Discount rate used in determining the Total Pension Liability (TPL) is a blend of two rates
  - Long-term expected rate of return on pension plan investments (7.75% for ERB)
    - Can be used to discount plan obligations as long as there are projected assets sufficient to pay projected plan benefits
  - Yield or index rate for a 20-year, tax-exempt general obligation municipal bond (2.85% as of June 30, 2016)
    - Used to discount plan obligations after the projected assets have been extinguished

Accounting Valuation Results

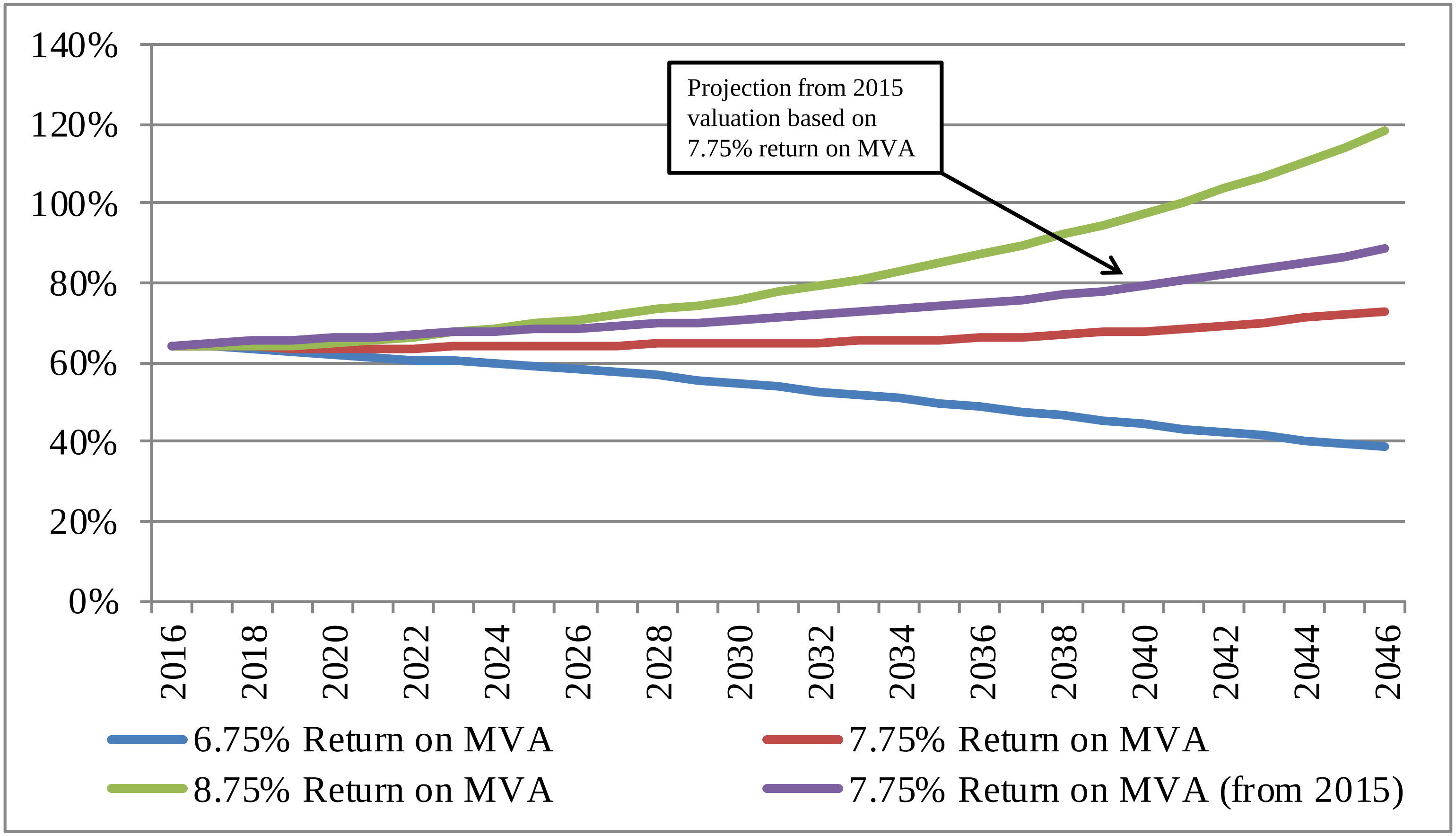
- Based on GASB procedures, projected plan assets will not be extinguished
- TPL as of June 30, 2016 will be determined based on the full investment return assumption of 7.75%
- TPL as of June 30, 2016 is based on "roll forward" of prior actuarial valuation, so there will be slight disconnect between TPL and AAL

	June 30, 2016 (in millions)	June 30, 2015 (in millions)
Total Pension Liability	$18,729	$17,975
Plan Fiduciary Net Position	11,498	11,498
Net Pension Liability	7,231	6,477

GRS

Looking Forward

Projection – Funded Ratios



Projection results assuming 7.75% return market value, 0.00% annual membership growth, current assumptions and plan provisions, and variable COLAs based on future funded ratios

GRS

Current Topics

- Potential for new actuarial standards
  - Will most likely include a solvency liability as a required disclosure
- Discussions over Financial Economics approach in actuarial community
- Upcoming experience study