



INVESTED IN TOMORROW.

PERA Board Meeting

Senator Fabian Chavez Jr. Board Room

PERA Building • 33 Plaza La Prensa • Santa Fe, NM 87507

April 27, 2017

After Investment Committee

AGENDA

- 1. Roll Call**
- 2. Approval of Agenda**
- 3. Approval of Consent Agenda**
- 4. Current Business**

- A.** Liabilities and Long Term Solvency Education Session - John Garrett, Principal and Consulting Actuary;
Part 1 Jonathon Craven, Senior Actuary; Cavanaugh
Macdonald Consulting LLC

- B.** Executive Director's Report Wayne Propst, Executive Director

- 5. Other Business**
- 6. Adjournment**

Any person with a disability who is in need of a reader, amplifier, qualified sign language interpreter, or any other form of auxiliary aid or service to attend or participate in the hearing or meeting, please contact Trish Winter at 476-9305 at least one week prior to the meeting, or as soon as possible. Public documents, including the agenda and minutes, can be provided in various accessible formats. Please contact Ms. Winter if a summary or other type of accessible format is needed.



Cavanaugh Macdonald
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The experience and dedication you deserve



PERA

Public Employees
Retirement Association
of New Mexico

INVESTED IN TOMORROW.

2017 Actuarial Education Session #1: Actuarial Principles and Funding Concepts

April 27, 2017

John Garrett, ASA, FCA, MAAA

Jonathan Craven, ASA, EA, FCA, MAAA



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Basic Principles

Actuarial Methods

How Did We Get Here?

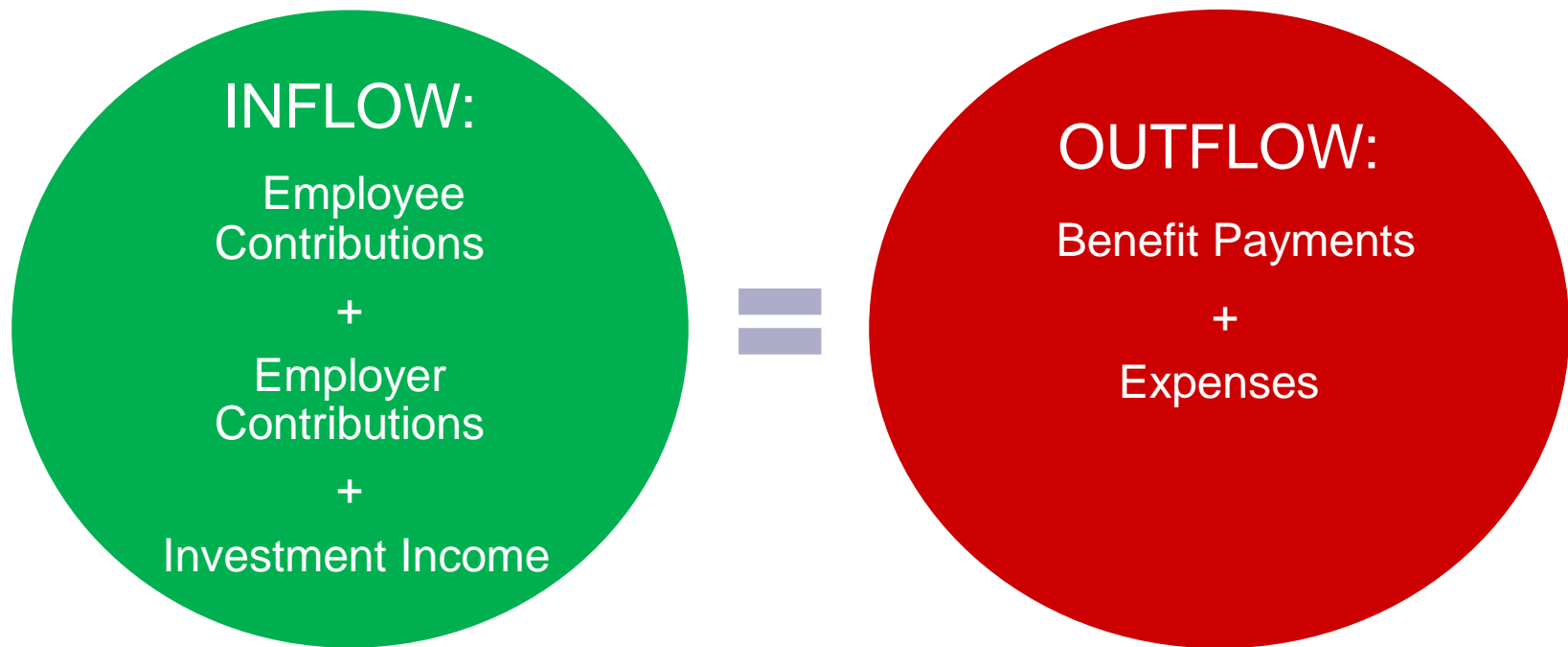
Basic Principles



- Purpose of a Defined Benefit Retirement Plan
 - Provide a lifetime of retirement income in return for a career of service
- Retirement benefits are defined in statutes
 - Vesting requirements
 - Termination benefits
 - Retirement benefits
 - Disability benefits
 - Death benefits
- Required employee contributions are also defined in statutes

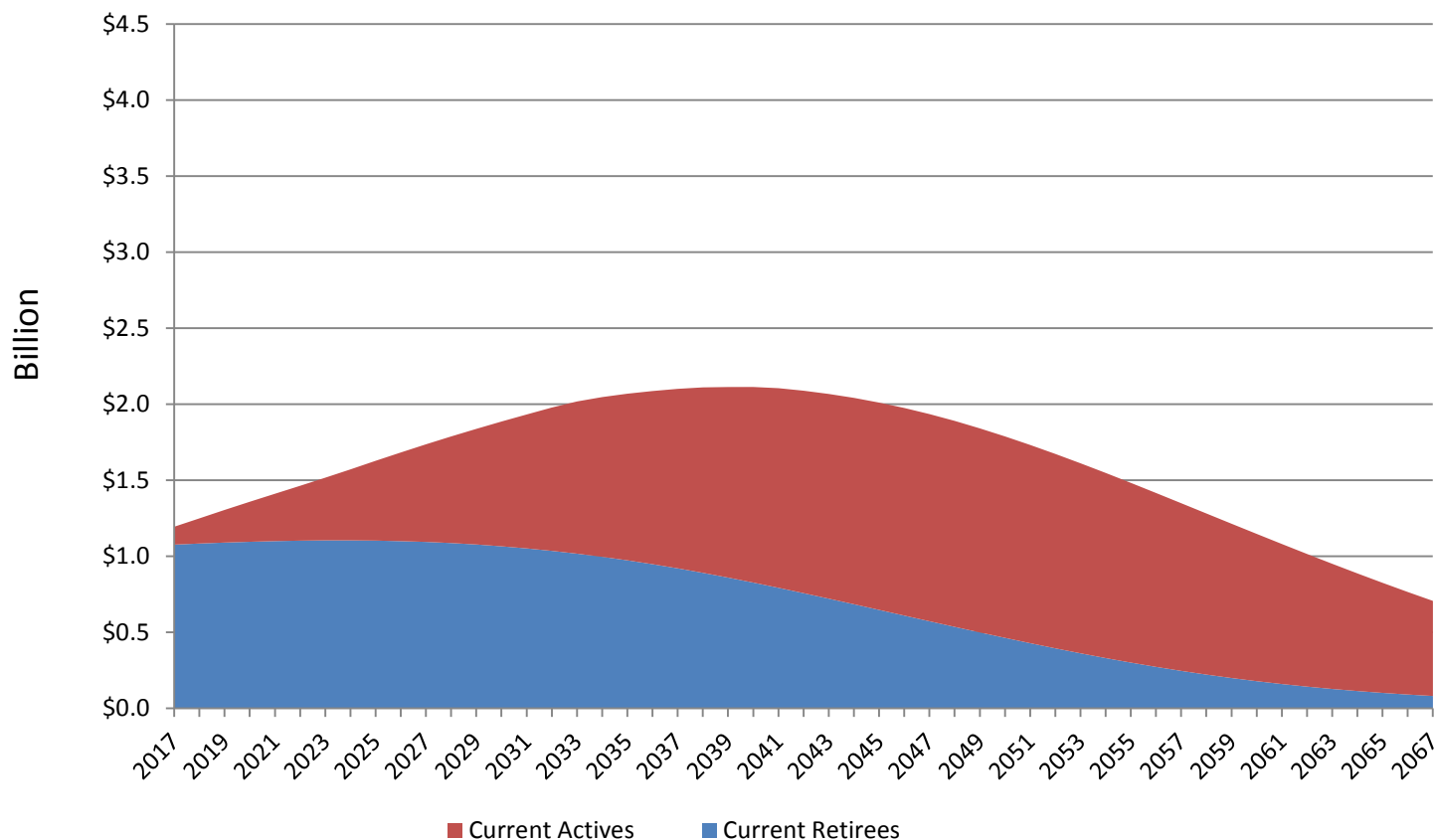
Funding Equation: $C + I = B + E$

To ensure long term solvency the inflows must equal the outflows over the life of the program



Expected Benefits Promised

**PERA Expected Total Benefit Payments Current Members
Basis for Annual Valuation Liability**



Actuarial Funding Definitions

Present Value of Benefits

- Value of benefits expected to be paid to all current participants (active and retired)
- Includes past service and expected future service

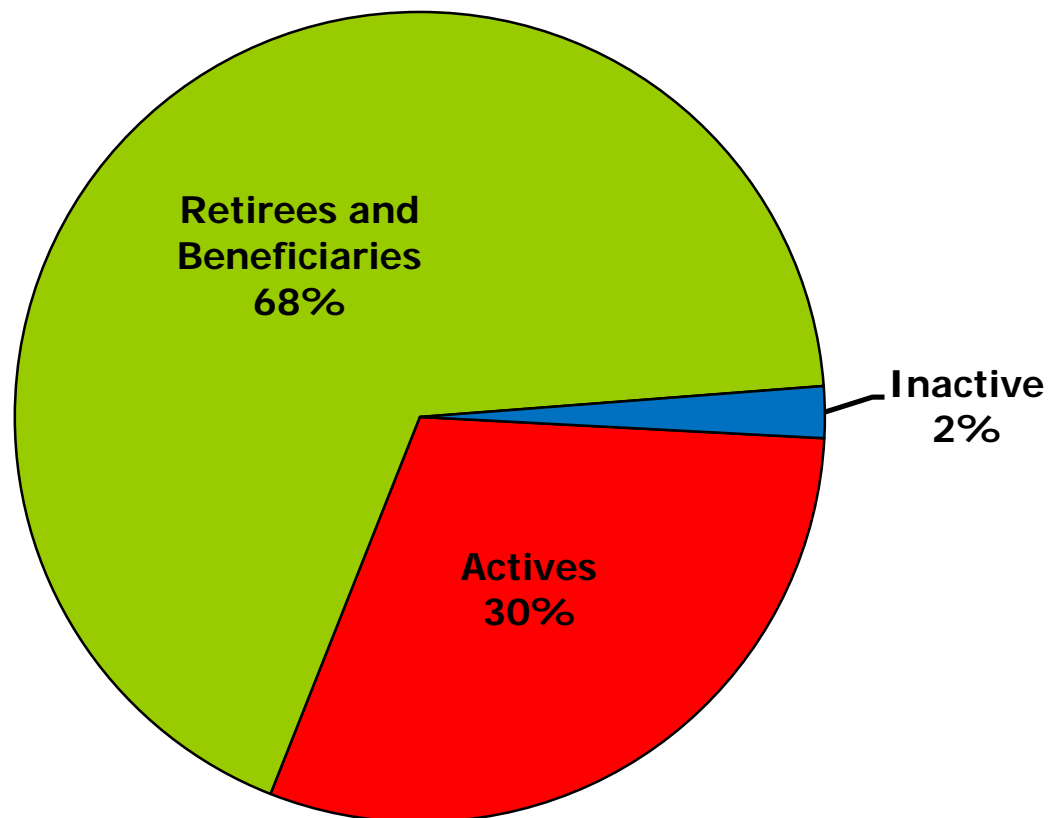
Actuarial Accrued Liability

- Present Value of Benefits allocated to past service
 - Includes all benefits for members in pay status
 - Includes the portion of active members' benefits allocated to service performed up to the valuation

PERA Actuarial Results



**June 30, 2016 Actuarial Accrued Liability =
\$19,474,241,000**



Actuarial Funding Definitions

Normal Cost

- Present value of active member's benefits allocated to the upcoming year of service
- Sometimes called service cost – the additional cost resulting from an additional year of service

Present Value of Future Normal Costs

- Value of all future annual normal costs
- Present Value of Benefits allocated to future service

Actuarial Funding Definitions

Actuarial Cost Method

- A method used to allocate the Present Value of Benefits between past service (Actuarial Accrued Liability) and future service (Present Value of Future Normal Costs)
- PERA uses the Entry Age Normal cost method
- All cost methods maintain the following relationship:



Actuarial Funding Definitions

Actuarial Value of Assets

- Typically utilizes a smoothing method to dampen the effect that market value fluctuations have on funding requirements

Funded Ratio

- The ratio of the Actuarial Value of Assets to the Actuarial Accrued Liability
- Commonly used to monitor the progress toward funding objectives

Unfunded Actuarial Accrued Liability (UAAL)

- The difference between the Actuarial Accrued Liability and the Actuarial Value of Assets
- Liability allocated to past service in excess of assets
- Also reflects the cumulative effect of experience gains and losses

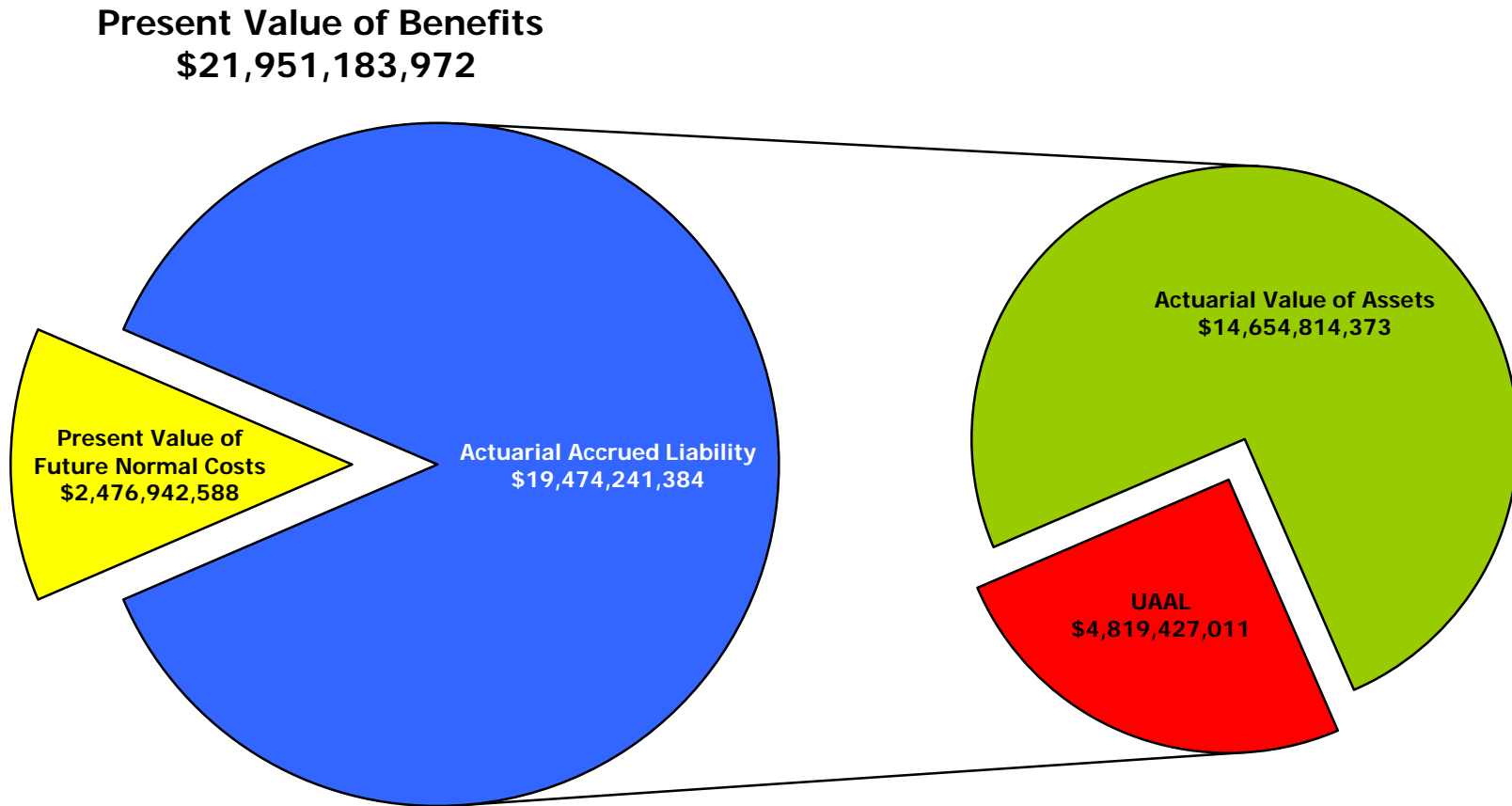
Funding Period

- The number of years to fully amortize the Unfunded Actuarial Accrued Liability – also called Amortization Period

Purpose of Valuations

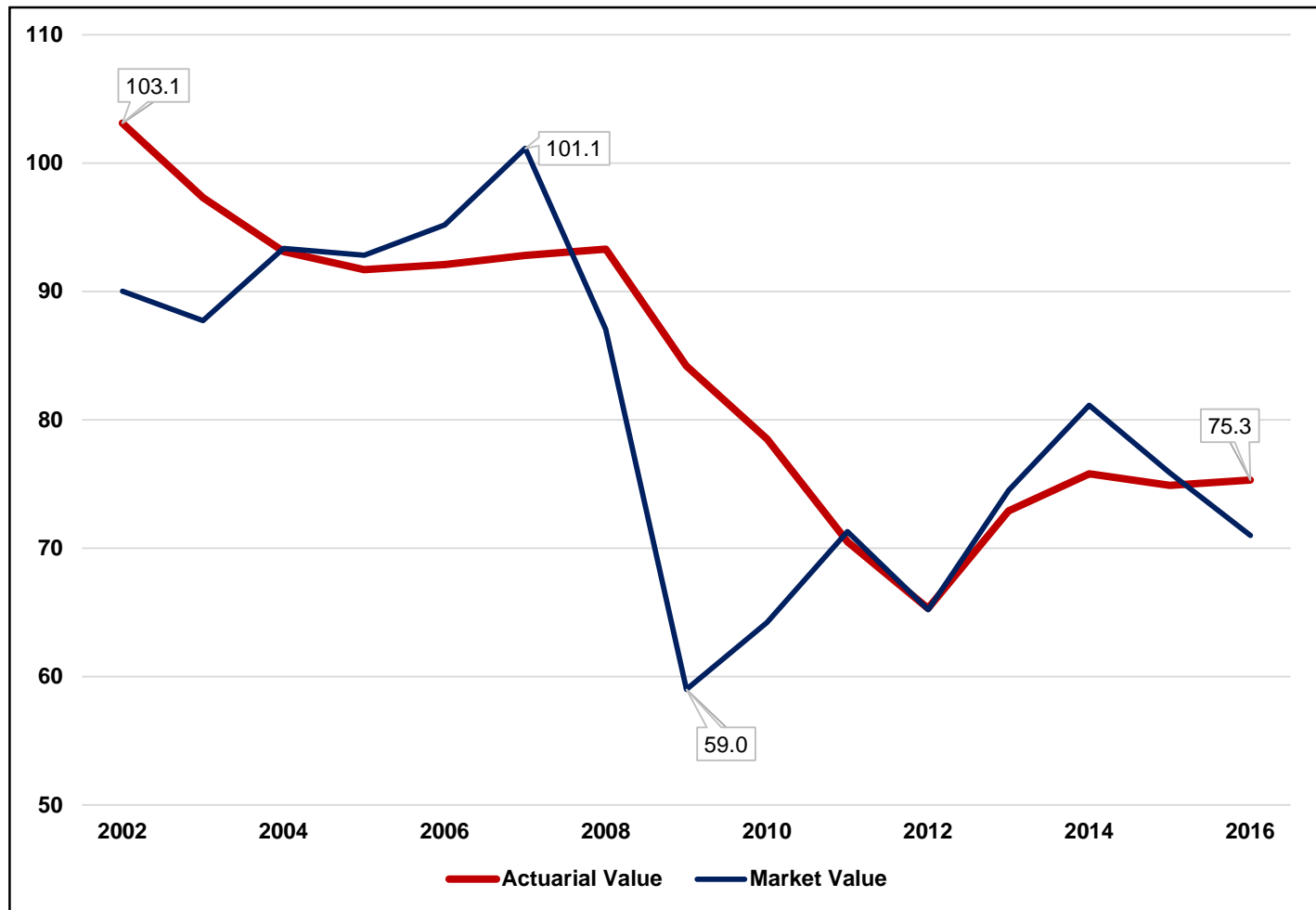
- Benefits payments are “set”
- Employee contributions are “set”
- Investment Income (net of expenses) is “assumed”
- Employer Contributions are “set”
- Demographic behavior is “assumed”
- Funding progress is measured
 - Funded ratios (assets/liabilities)
 - Amortization period to pay UAAL
 - UAAL/payroll
 - Contribution shortfall

PERA Actuarial Results

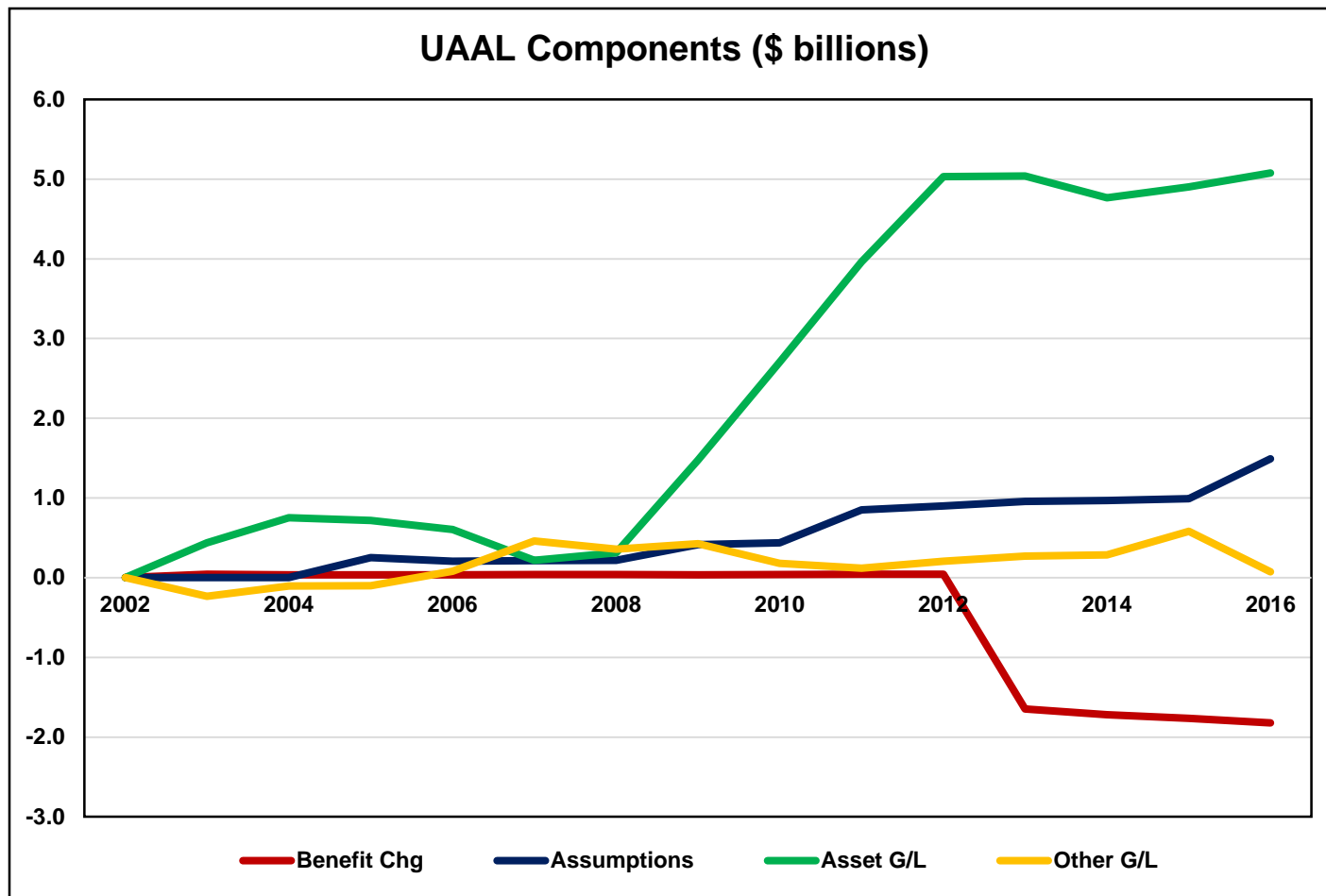


2016 Funded Ratio = Assets/Accrued Liability or 75.3%

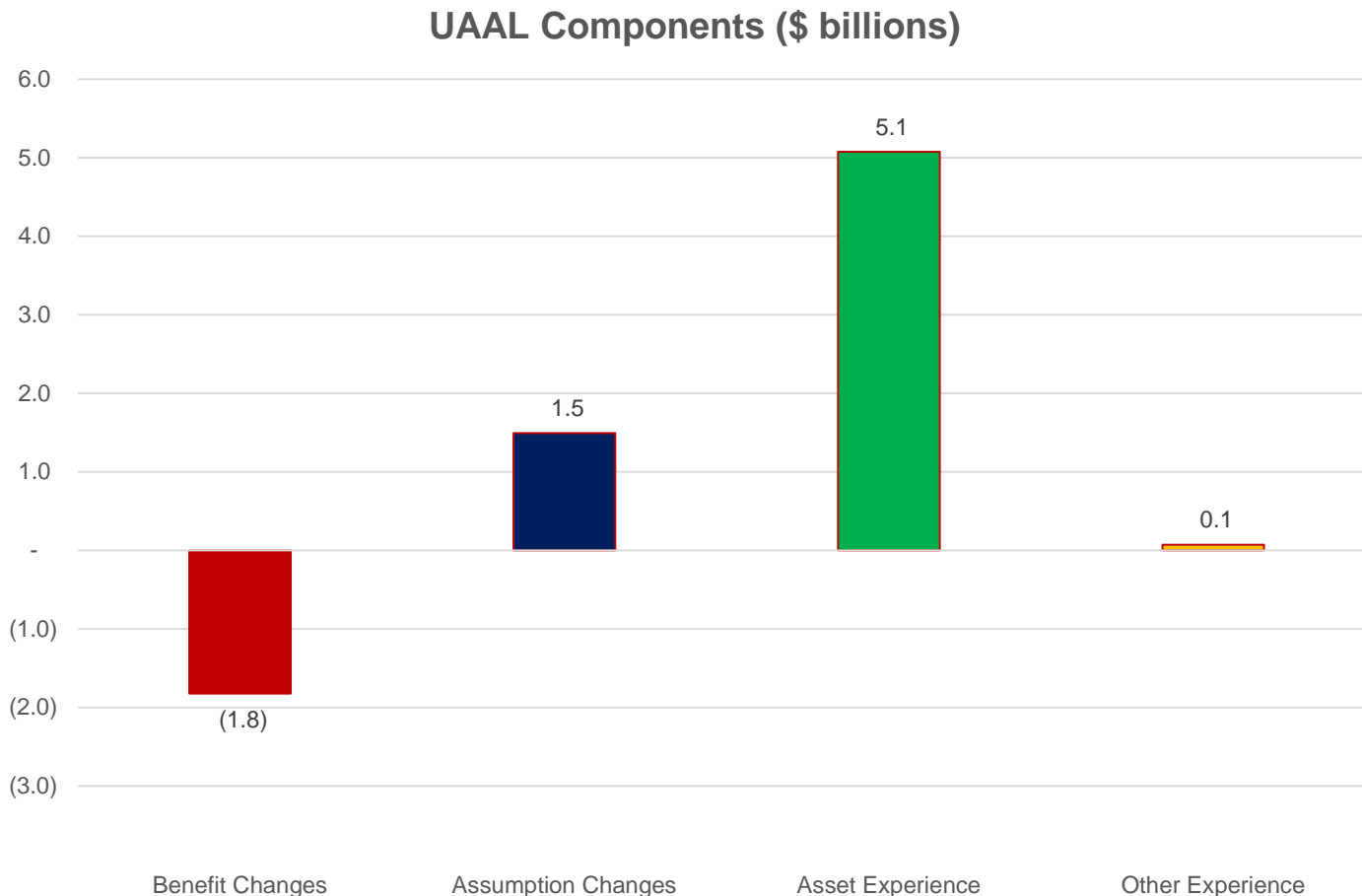
PERA Funded Status 2002-2016



Sources of UAAL (\$4.82 billion) Since Full Funding in 2002



Sources of UAAL (\$4.82 billion) Since Full Funding in 2002

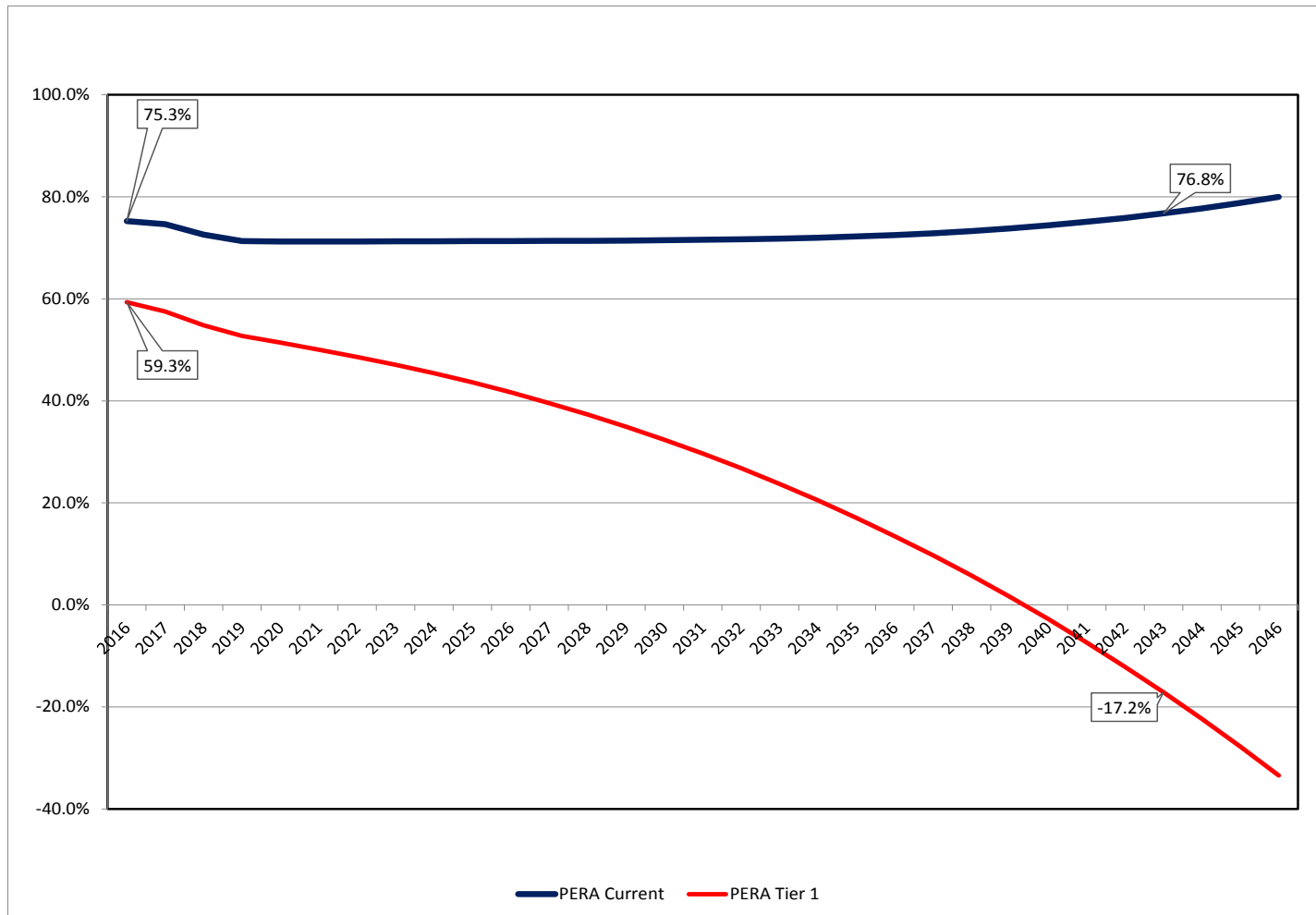


Impact of SB 27 on Normal Costs

| | 6/30/2013 | 6/30/2014 | 6/30/2015 | 6/30/2016 |
|--------------------------|-----------|-----------|-----------|-----------|
| All PERA | 18.92% | 16.67% | 16.58% | 16.55% |
| State General | 17.58% | 15.75% | 15.54% | 15.46% |
| State Police/Corrections | 28.51% | 21.13% | 20.87% | 20.66% |
| Municipal General | 15.82% | 14.10% | 14.20% | 14.31% |
| Municipal Police | 27.37% | 22.94% | 22.67% | 22.54% |
| Municipal Fire | 27.64% | 26.17% | 25.86% | 25.63% |
| | | | | |

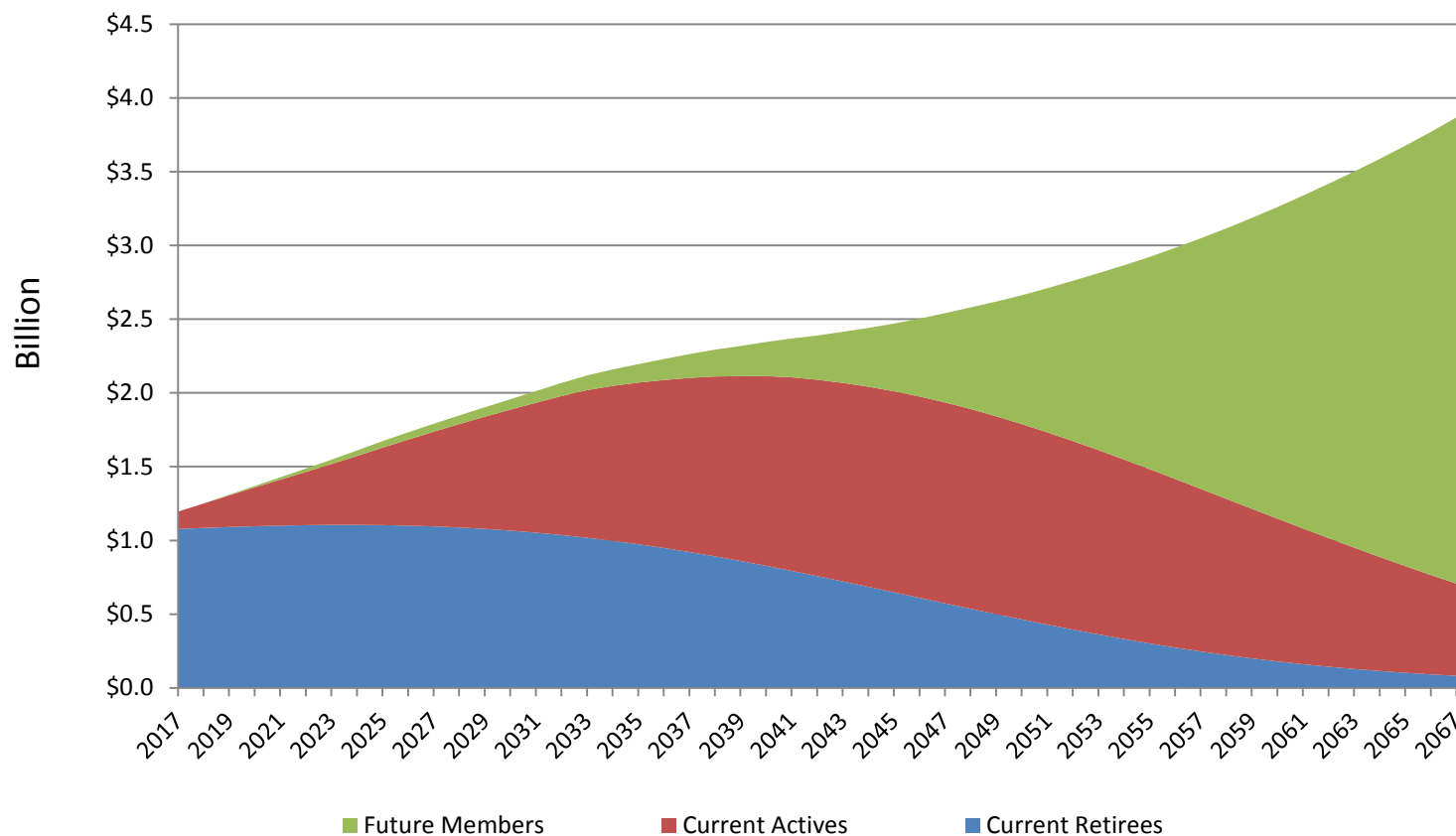
Impact of SB 27 on 2016 Projections

(2043 Funded Ratios Labeled)



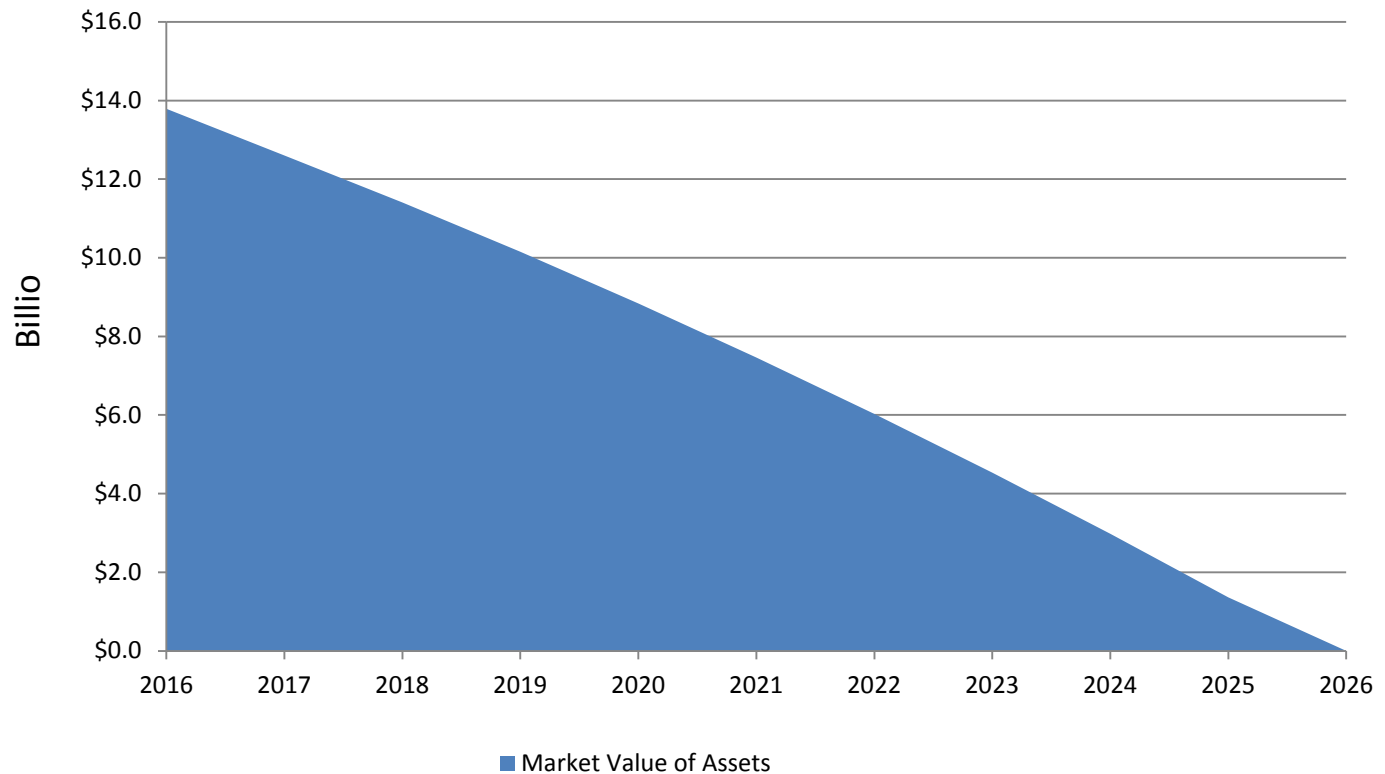
Expected Benefits Promised

PERA Expected Total Benefit Payments Including Future Members – Basis for Projections



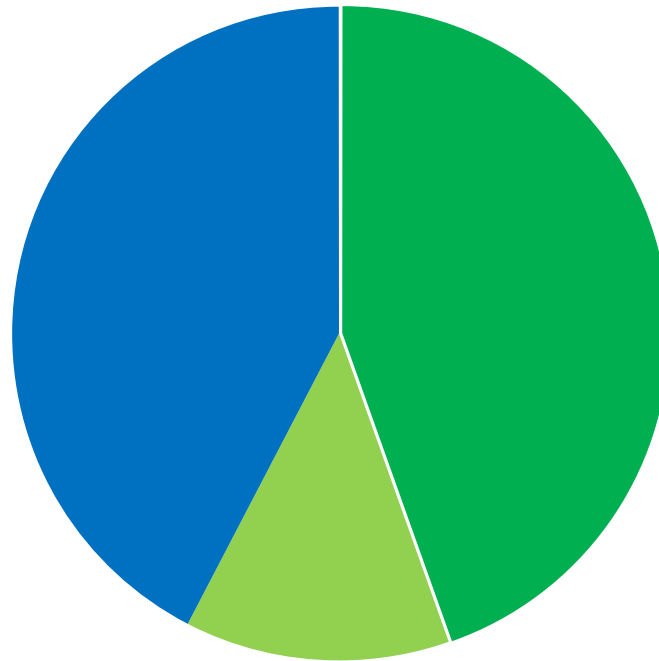
Assets to Pay Expected Benefits

**Market Value of PERA
Assets No Contributions Zero Return**



Sources of Contributions

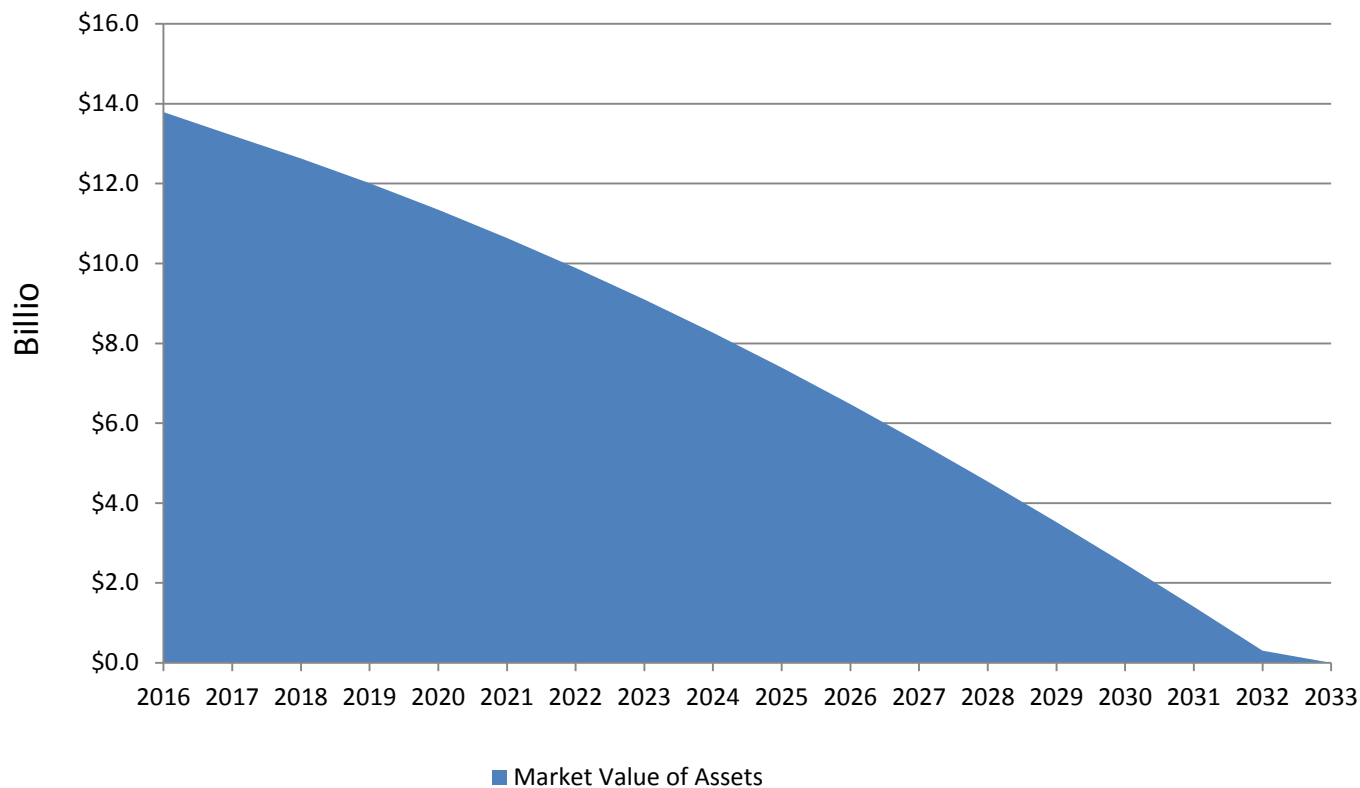
2016 PERA Total Contribution Rates



- 12.28% Employee Contribution Rate
- 3.61% Employer Normal Cost Contribution
- 11.67% Employer Unfunded Accrued Liability Amortization Rate

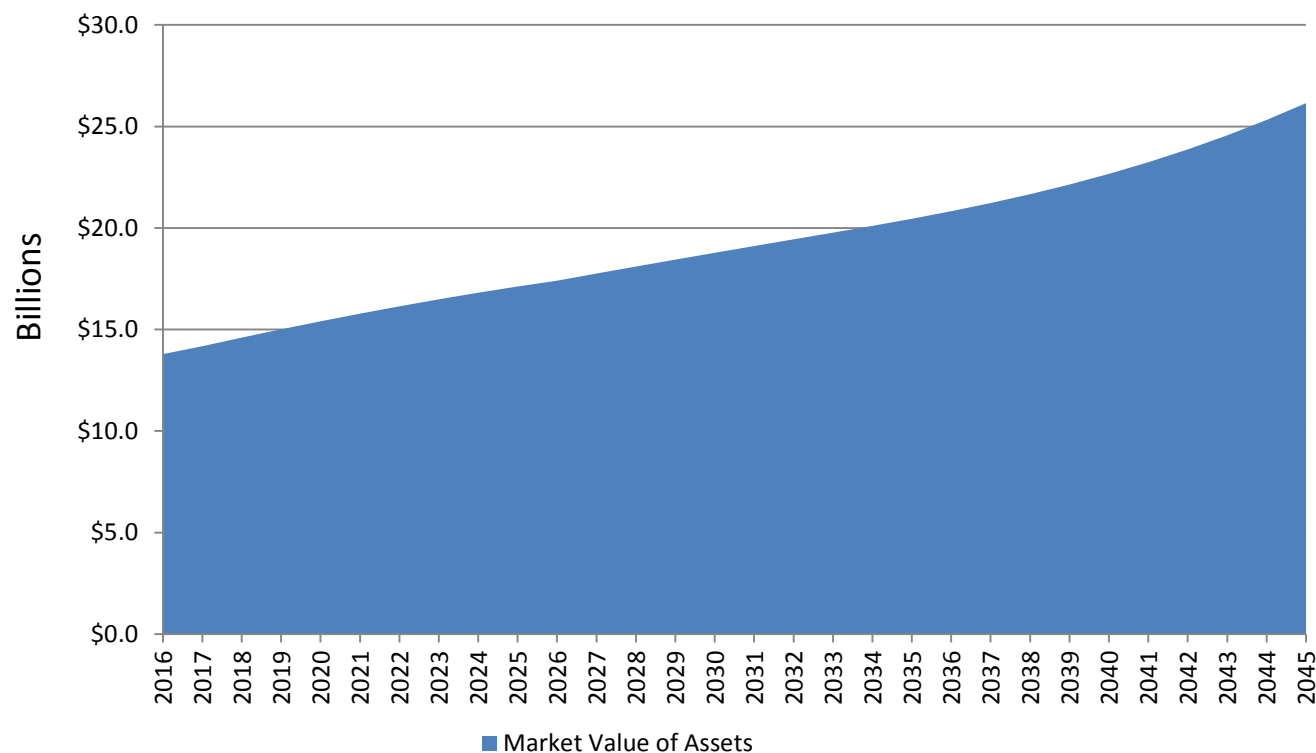
Assets to Pay Expected Benefits

**Market Value of Assets
PERA Assets Statutory Contributions Zero Return**

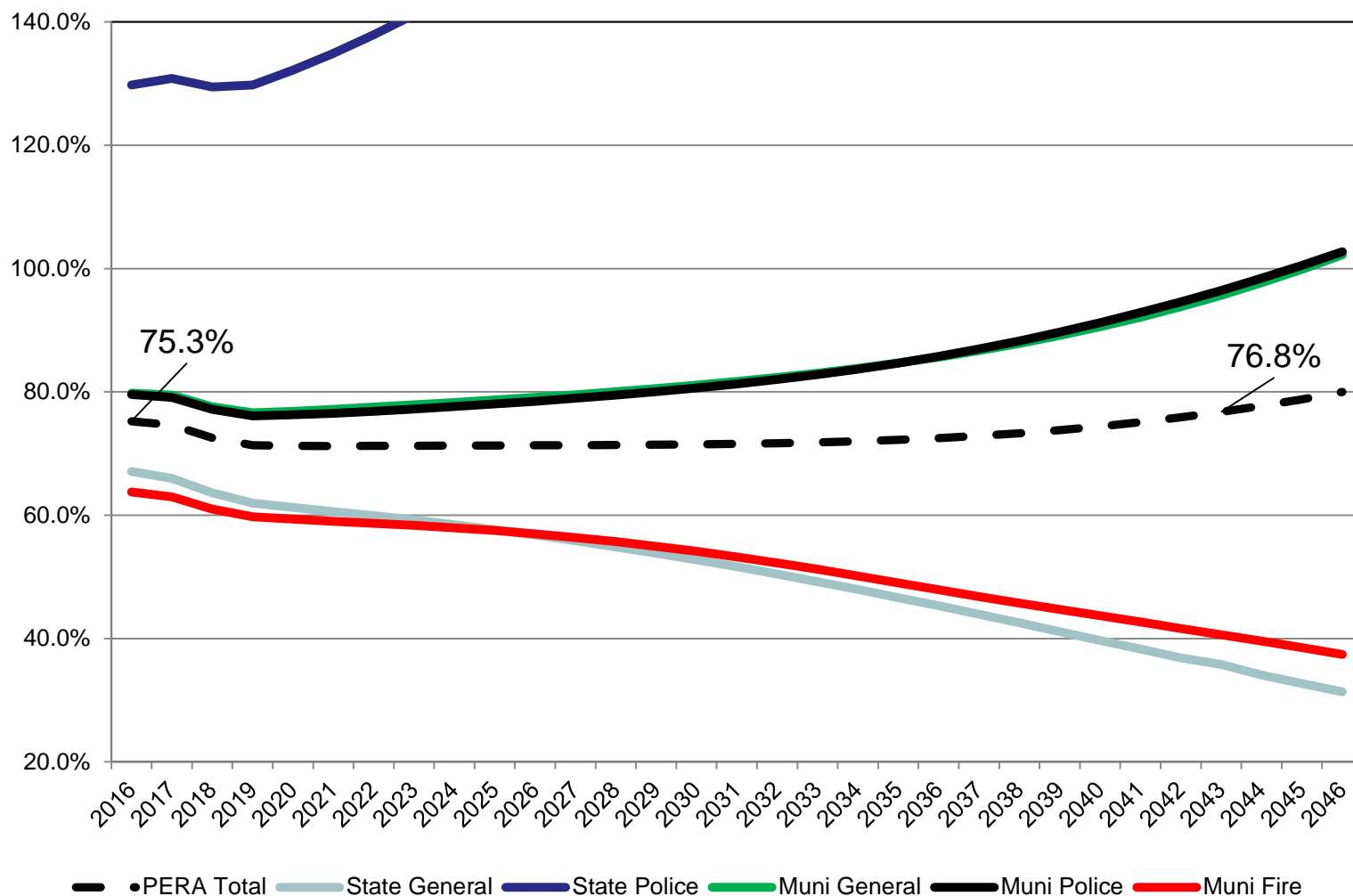


Assets to Pay Expected Benefits

Market Value of Assets
PERA Assets Statutory Contributions Expected Return



Projection of PERA Funded Ratios

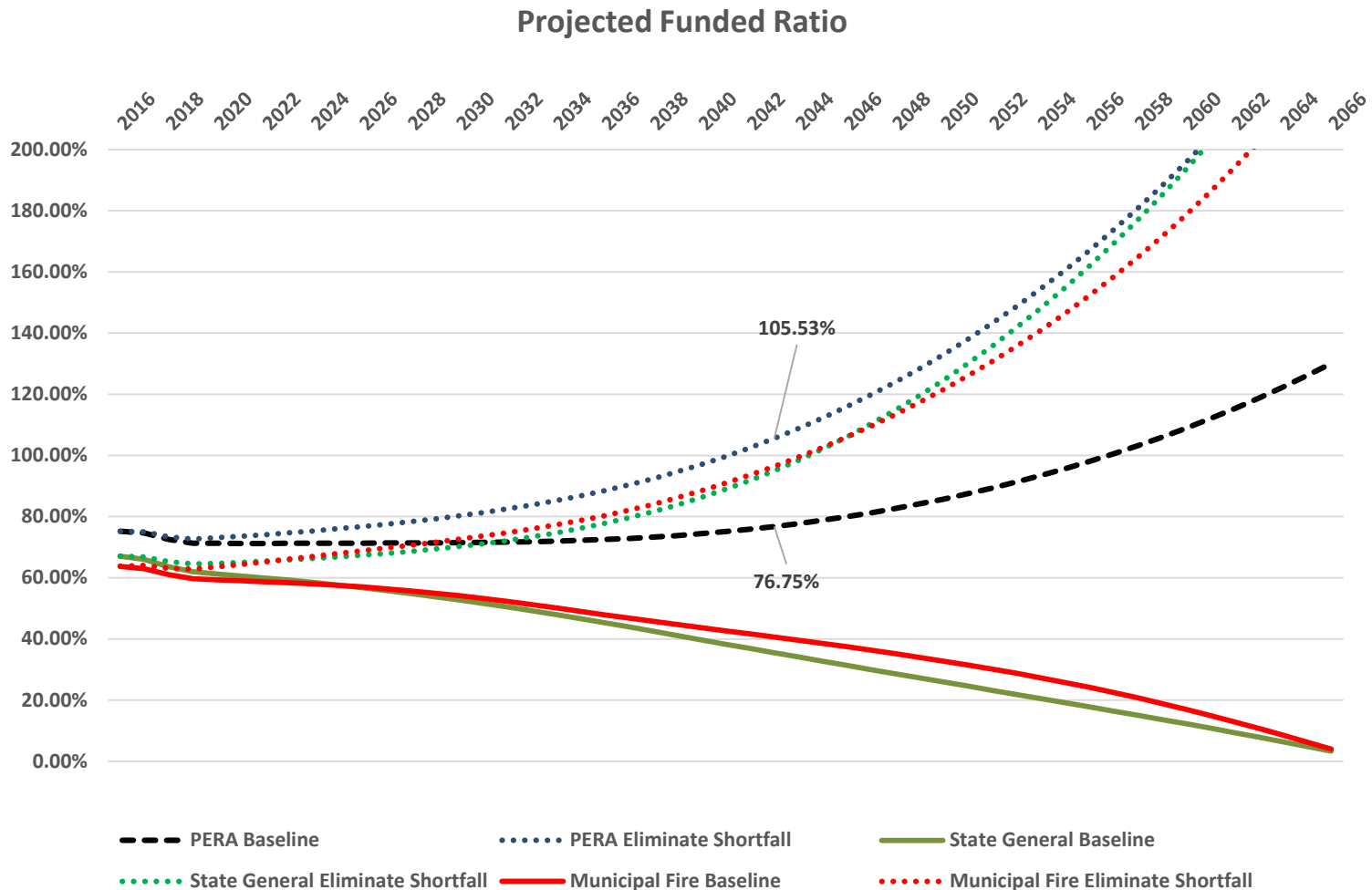


Significant Funding Shortfalls 2016 Valuation



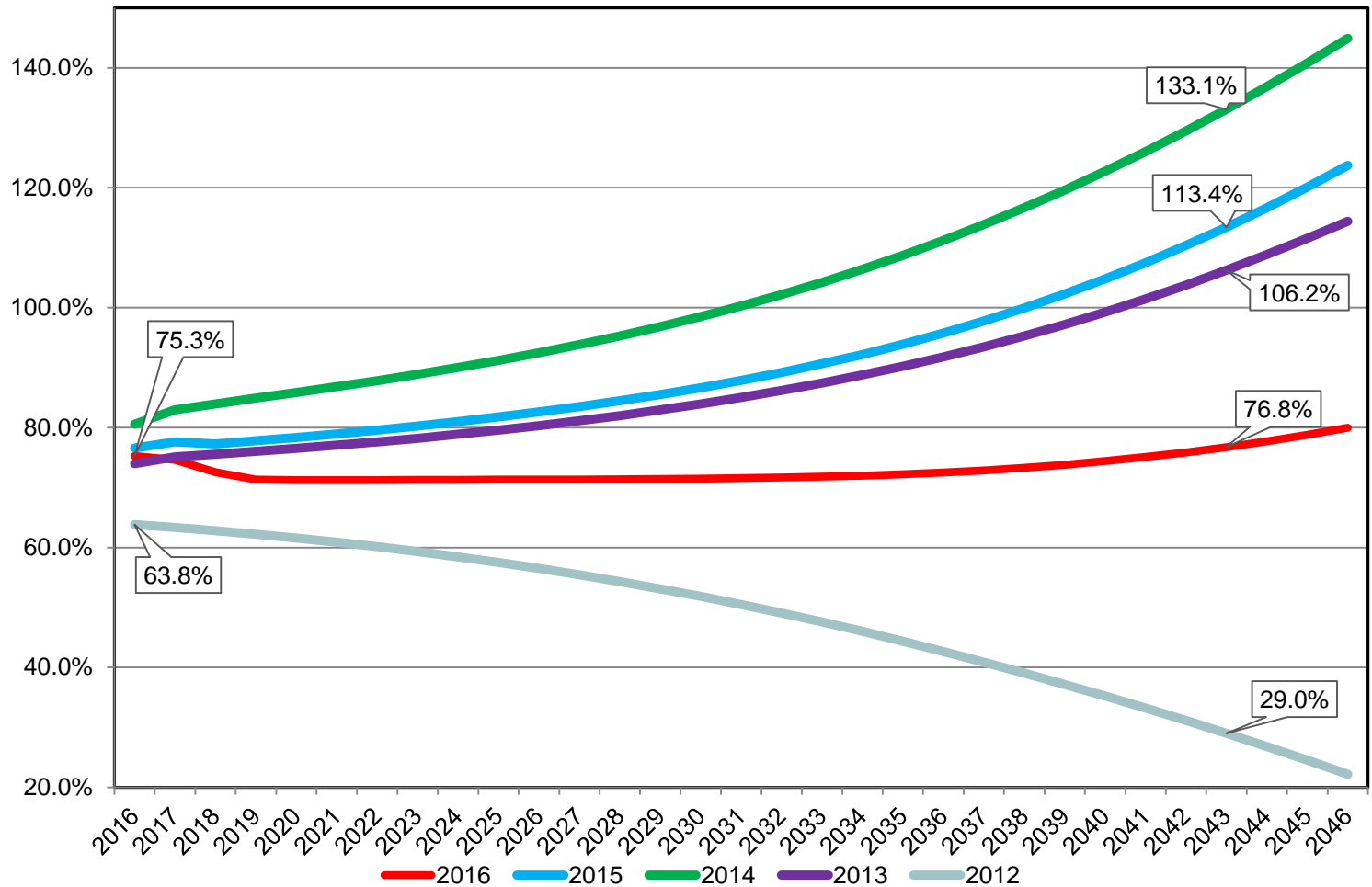
- State General 7.99% of pay
- Municipal Fire 13.87% of pay

Fixing Contribution Shortfalls of State General and Municipal Fire



Projection of PERA Funded Ratios

Comparison of Projections Total PERA 2012 to 2016

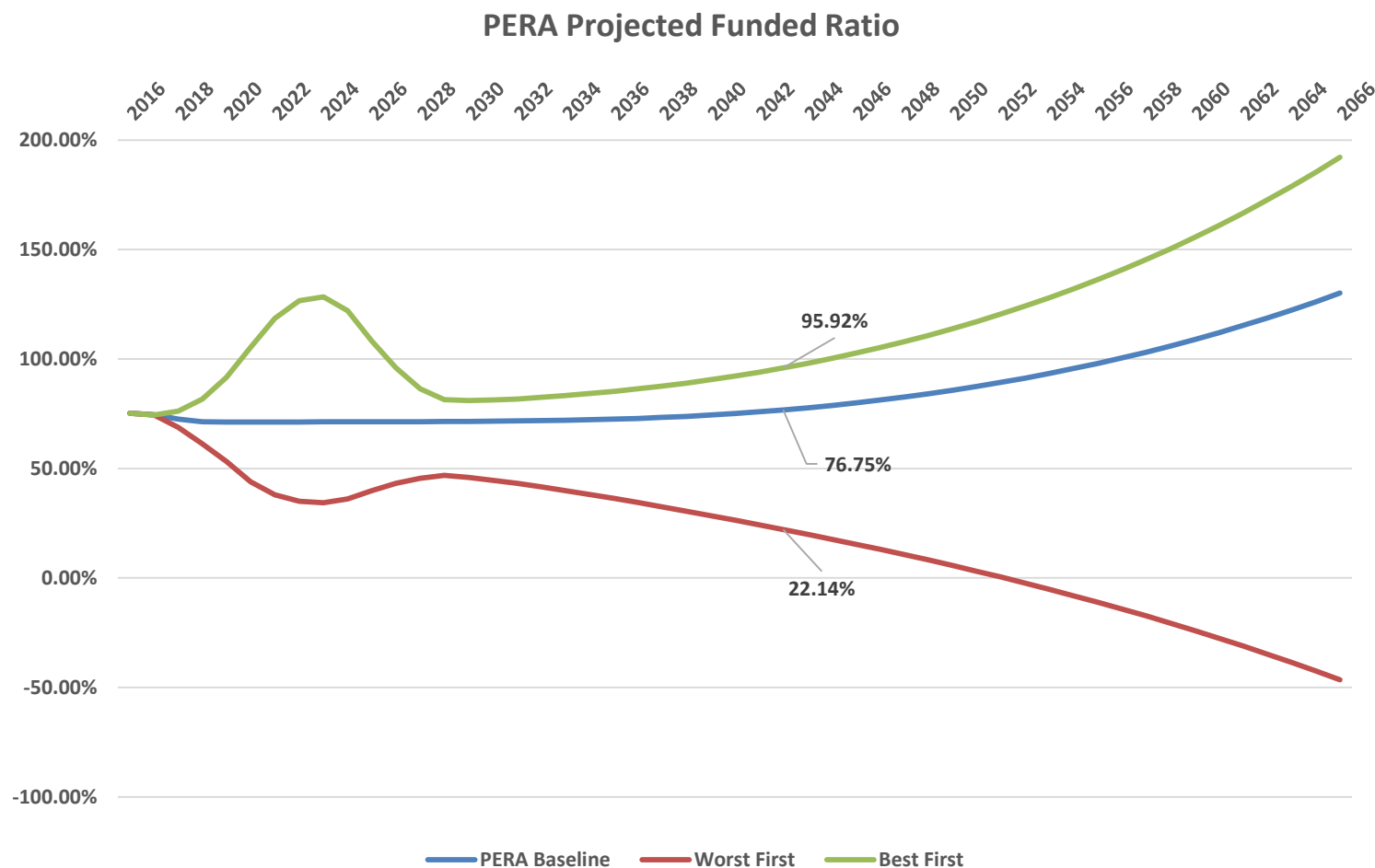


Volatility of Investment Rate of Return

| Statistical Analysis of Expected Real Return Distribution (Net of Investment Related Expenses) | | | | | | | |
|---|---------------------------------|-----------------------|------------------------------------|------------------|------------------|------------------|------------------|
| Time Span In Years | Mean Real Rates of Return | Standard Deviation | Real Rates of Return by Percentile | | | | |
| | | | 5 th | 25 th | 50 th | 75 th | 95 th |
| 1 | 5.9% | 10.7% | -10.6% | -1.5% | 5.4% | 12.8% | 24.4% |
| 5 | 5.5% | 4.7% | -2.1% | 2.3% | 5.4% | 8.7% | 13.5% |
| 10 | 5.5% | 3.4% | 0.1% | 3.2% | 5.4% | 7.7% | 11.1% |
| 20 | 5.4% | 2.4% | 1.6% | 3.9% | 5.4% | 7.1% | 9.4% |
| 30 | 5.4% | 1.9% | 2.3% | 4.2% | 5.4% | 6.8% | 8.7% |
| 50 | 5.4% | 1.5% | 3.0% | 4.4% | 5.4% | 6.5% | 7.9% |

Order Matters

Reordering 7.32% 10 Year Average Returns

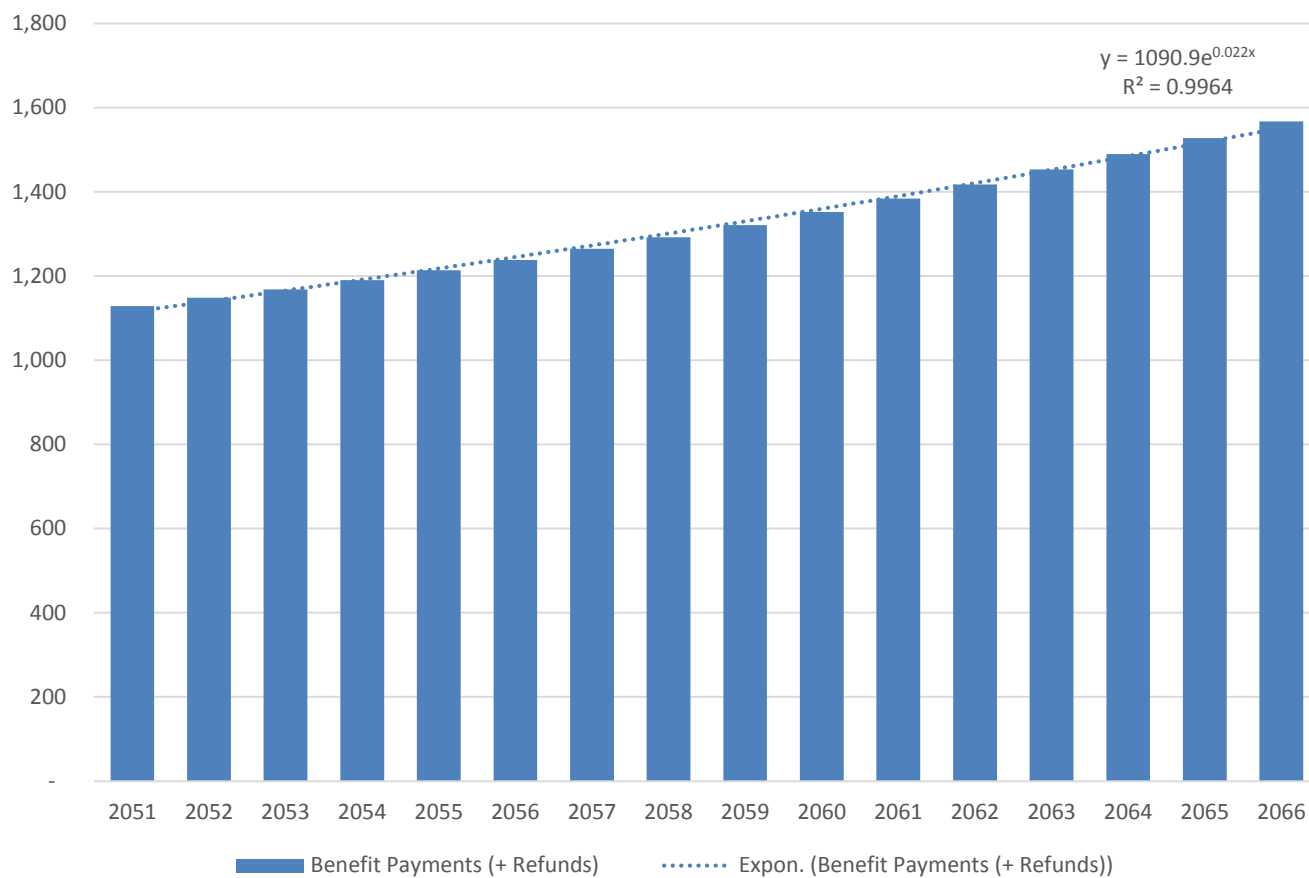


Actuarial Model

- Model Funded Ratio, Cash Flow and Net Cash Flow.
- Ultimate trend of annual cash outflow increase also approximates minimum sustainable asset growth for ongoing system.
- Maximum sustainable negative cash flow is expected return less outflow trend.

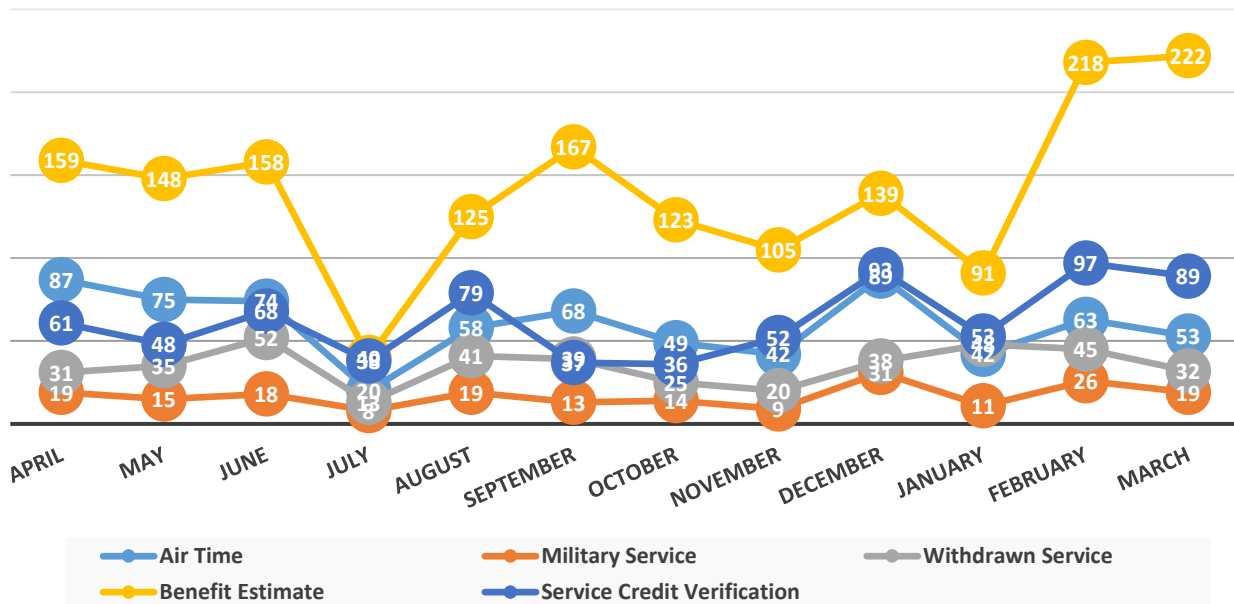
State General Cash Outflow Trend

Ultimate Trend in Benefit Payments (\$millions)

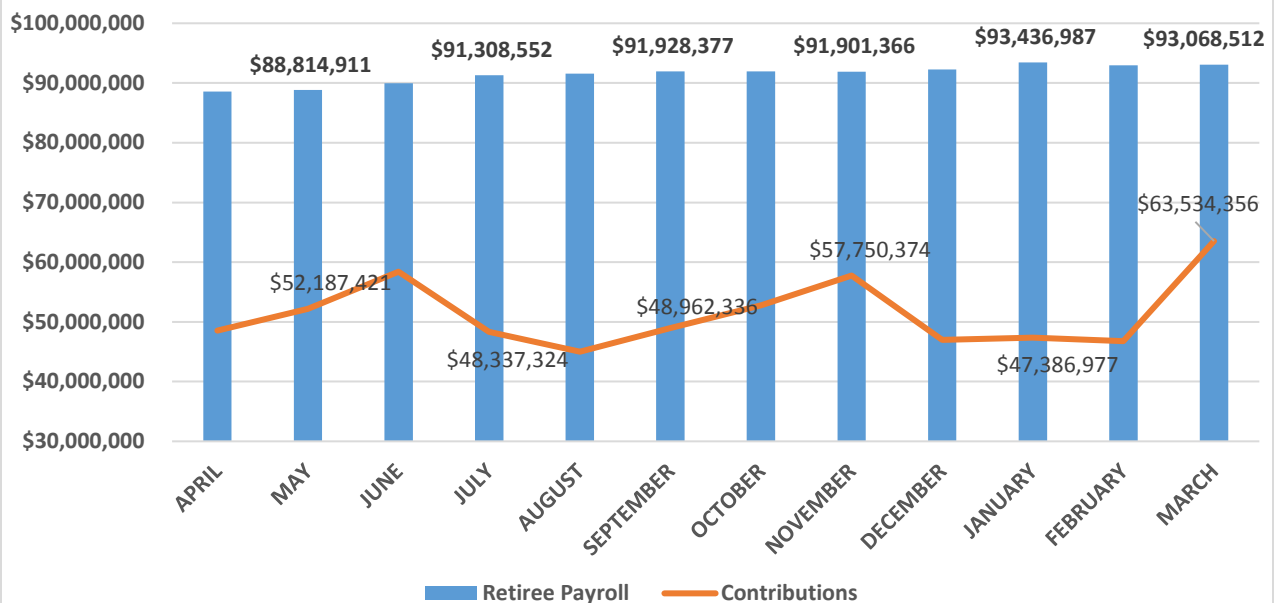


EXECUTIVE DIRECTOR'S REPORT PERA BOARD MEETING – APRIL 27th, 2017

Request Types April 2016 - March 2017



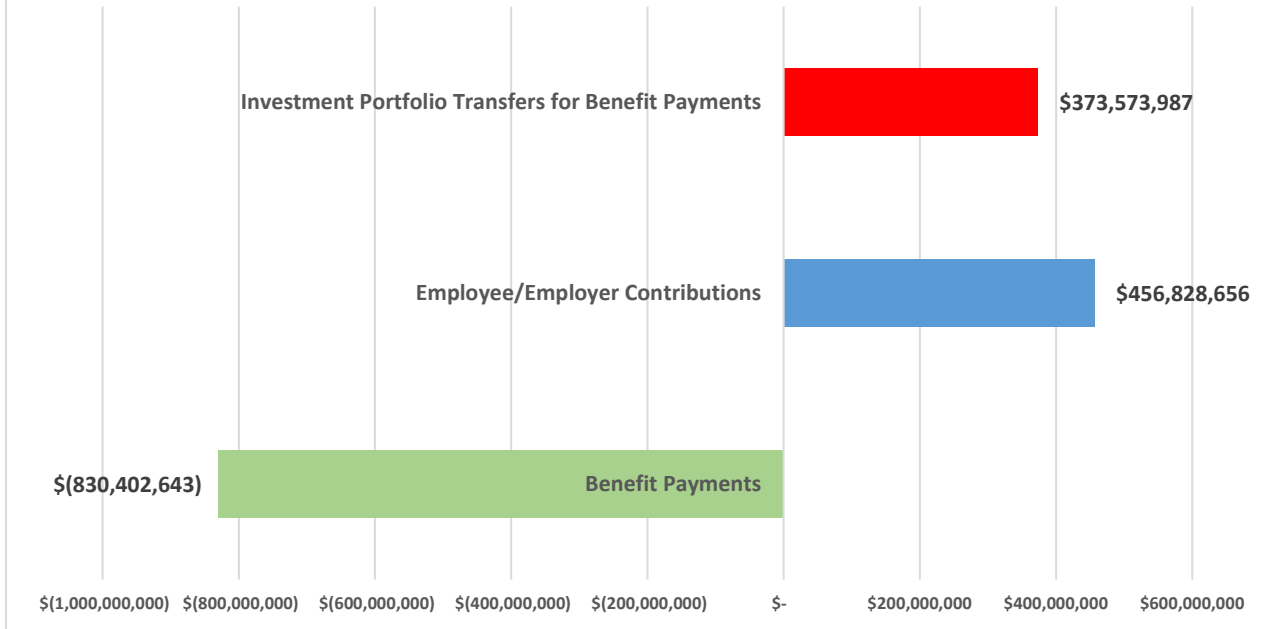
Retiree Payroll vs: Total Contributions - April 2016 - March 2017



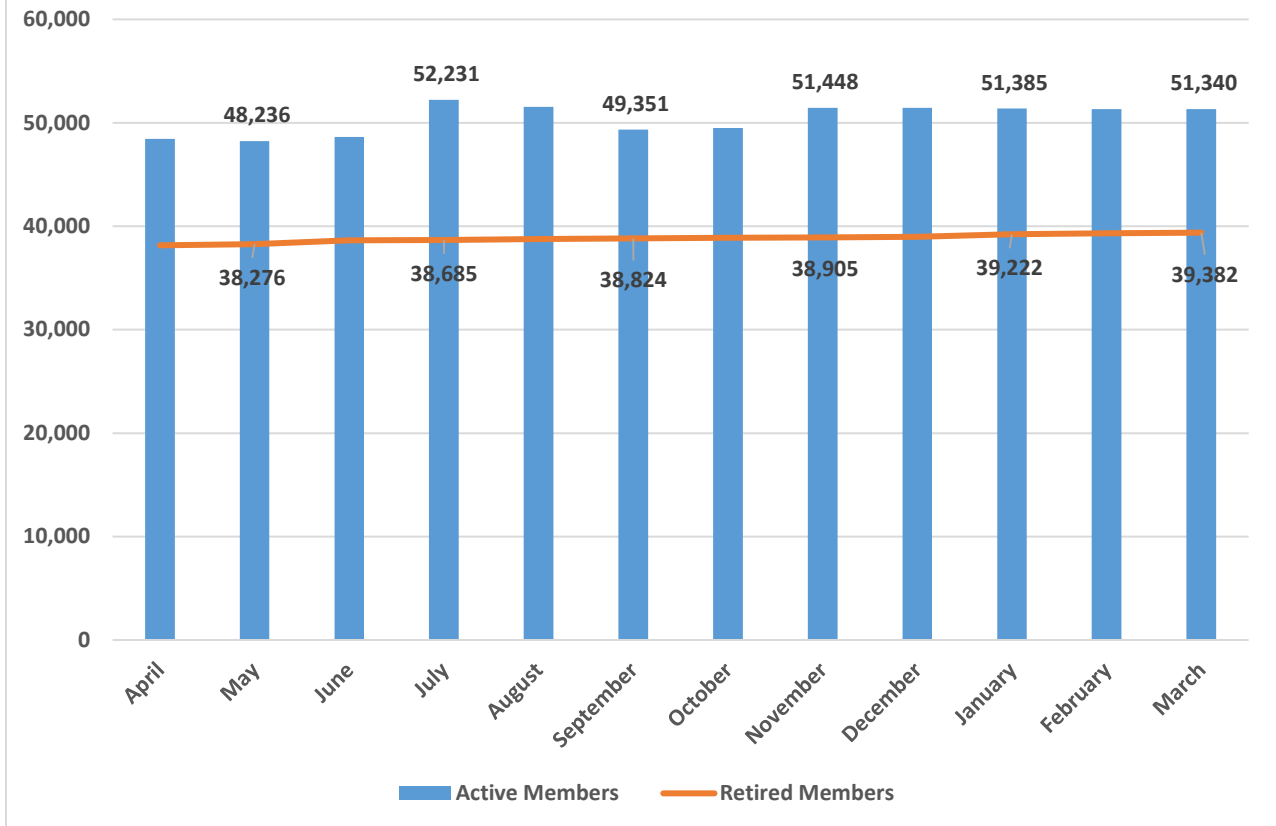
Total Retiree Payroll = \$1,097,726,892 Total Contributions: \$616,693,096

**** Due to adjustments to Employer reports contributions amounts are subject to change**

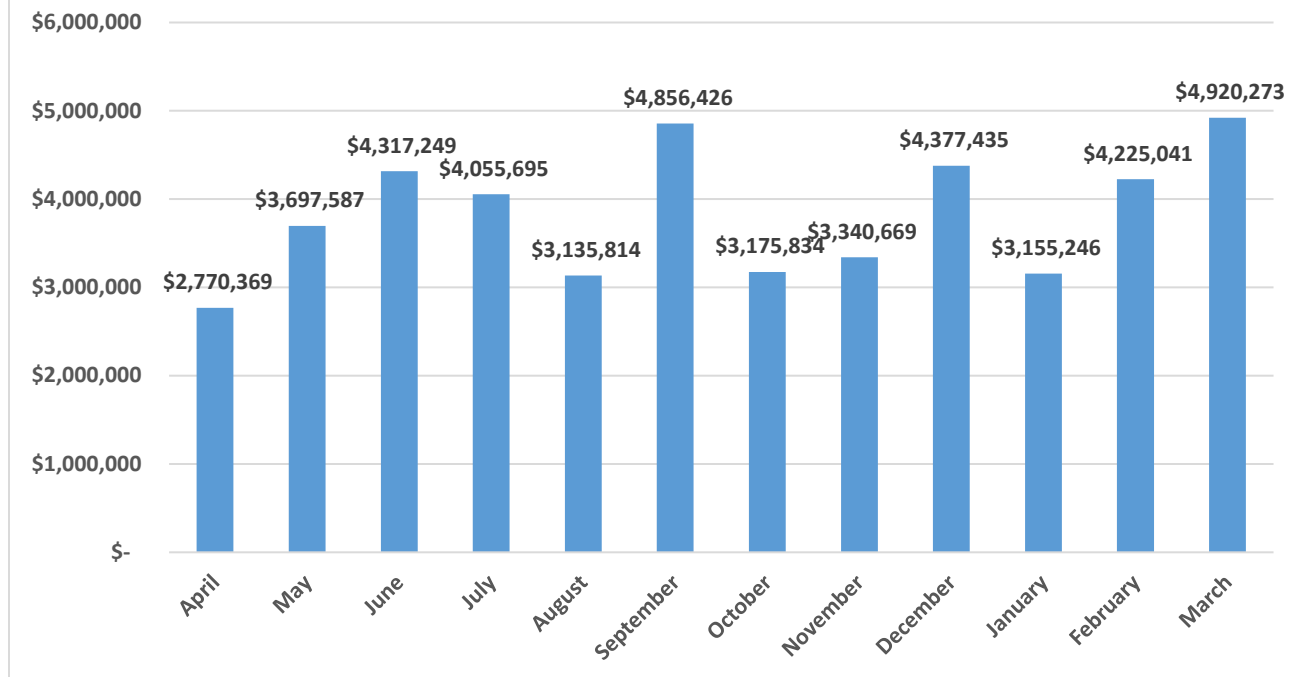
FY17 Contributions: Investment Income & Contributions thru March 2017



Active Members vs: Retired Members - March 2016 - February 2017



Refunds - April 2016 - March 2017



**** Total Refunds Paid during this period was \$46,027,638**

| VACANCY REPORT | | | |
|-------------------------------|-------------------------|--------------|---------------------|
| Position | Division | Date Vacated | Status |
| Accountant & Auditor-O | Member Services | 10/14/2016 | Under Review |
| Public Relations Specialist-A | Outreach | 2/1/2016 | Under Review |
| IT Generalist II | Information Technology | 2/1/2016 | Interviews Underway |
| IT End User Support III | Information Technology | 1/9/2016 | Under Review |
| Line Manager II | Administrative Services | 1/1/2017 | Awaiting Posting |
| Chief Investment Officer | Investments | 4/11/2017 | Position Posted |

PERA has 84 authorized FTE and currently has 6 vacancies

| ADDITIONS/DEPARTURES/PROMOTIONS | | | |
|---------------------------------|---------------------------------|----------------------|-------------|
| Employee | Position/Division | Date Started/Vacated | Status |
| Joel Sanchez | IT Network Specialist | 4/24/2017 | New Hire |
| Isaac Olaoje | Financial Analyst - Investments | 4/24/2017 | New Hire |
| Jon Grabel | Chief Investment Officer | 4/11/2017 | Resignation |

| MEMBER OUTREACH | | | |
|-----------------|--------------------|----------------------|----------------------------------|
| Date | Outreach Officer | Location/Employers | Type |
| 4/3 - 4/4 | Christina Gauthier | Village of Los Lunas | PERA General Information Seminar |
| 4/11/2017 | Christina Gauthier | City of ABQ | PERA General Information Seminar |
| 4/12/2017 | Grant Wright | PERA Santa Fe | PERA General Information Seminar |
| 4/13/2017 | Christina Gauthier | PERA ABQ | PERA General Information Seminar |

| PERA SmartSave Items of Interest - April 2017 | | | |
|---|---------------------|---------------------|----------------|
| County by Region <i>North</i> | Group Presentations | Individual Meetings | Benefits Fairs |
| San Miguel | 2 | 4 | |
| Santa Fe | 9 | 23 | |
| | | | |
| County by Region <i>Central</i> | | | |
| Bernalillo | 12 | 12 | |
| Sandoval | 2 | 1 | |
| | | | |
| County by Region <i>South</i> | | | |
| Dona Ana | 4 | 17 | |
| Grant | 7 | 10 | |
| SmartSave Participants as of March 31, 2017 - 20,269 | | | |
| SmartSave Assets as of March 31, 2017 - \$553,230,011 | | | |

| MARCH 2017 AIR TIME PURCHASES | |
|-------------------------------|------------------|
| Plan Type | No. of Purchases |
| State Plan 3 | 11 |
| Municipal Plan 2 | 2 |
| Municipal Plan 3 | 2 |
| Municipal Plan 4 | 0 |
| Municipal Fire Plan 5 | 4 |
| Municipal Police Plan 5 | 5 |
| State Police/Corrections | 1 |
| | |
| TOTAL: | 25 |
| | |
| | |
| | |
| | |

| MARCH 2017 AIR TIME PURCHASES | |
|-------------------------------|------------------|
| No. of Months | No. of Purchases |
| 1 | 4 |
| 2 | 2 |
| 3 | 2 |
| 4 | 1 |
| 5 | 1 |
| 6 | 1 |
| 7 | 0 |
| 8 | 0 |
| 9 | 1 |
| 10 | 0 |
| 11 | 1 |
| 12 | 12 |
| TOTAL: | 25 |

STAFF TRAVEL:

Greg Trujillo, Greg Portillos & Jessica Perea – Public Retirement Information Systems Management (PRISM) Conference – Nashville, TN, April 8 – 12, 2017

LeAnne Larranaga-Ruffey – Manager Due Diligence – New York, NY, April 3 – 4, 2017

Kristen Varela – Manager Due Diligence – Houston, TX, April 13 – 14, 2017

Jude Perez – Conference – San Francisco, CA, April 17 – 19, 2017

Kristen Varela – Conference – New York, NY, April 19 – 21, 2017

LeAnne Larranaga-Ruffey – Conference – Los Angeles, CA, April 24 – 25, 2017