TRS Board of Trustees Meeting

November 20 - 21, 2014

TEACHER RETIREMENT SYSTEM OF TEXAS MEETING
BOARD OF TRUSTEES

AGENDA

November 20, 2014 – 8:30 a.m.
November 21, 2014 – 9:30 a.m.

TRS East Building, 5th Floor, Boardroom

NOTE: The Board may take up any item posted on the agenda during its meeting on Thursday, November 20, 2014 or during the meeting on the following day beginning at the time and place specified on this agenda.

The open portions of the November 20-21, 2014 Board meeting are being broadcast over the Internet. Access to the Internet broadcast of the Board meeting is provided on TRS' website at www.trs.state.tx.us.

1. Call roll of Board members.

2. Consider Board administrative matters, including the following – Nanette Sissney:

   A. Approval of the October 17, 2014 meeting minutes.

   B. Excusing Board member absences from the October 17, 2014 Board meeting.

   C. Setting, rescheduling, or canceling future Board meetings.

3. Recognize the service of Marianne Woods Wiley – Nanette Sissney

4. Provide opportunity for public comments – Nanette Sissney.

5. Review the TRS Pension Trust Fund Actuarial Valuation as of August 31, 2014 and consider adoption of adjusted mortality assumption – Joseph Newton, Gabriel, Roeder, Smith & Company.

6. Review the TRS-Care Actuarial Valuation and Other Post Employment Benefit (OPEB) reports as of August 31, 2014 and receive an overview and update on TRS-Care and TRS-ActiveCare – Joseph Newton; Amy Cohen; and William Hickman, Gabriel, Roeder, Smith & Company.

7. Discuss the following investment matters :

   A. Performance Review: Third Quarter 2014 – Brady O'Connell and Steve Voss, Hewitt EnnisKnupp.

   B. Receive an update on the Strategic Partnership Network – David Veal

8. Review and discuss the Executive Director's report on the following matters – Brian Guthrie:

   A. Administrative operational matters, including updates on financial, audit, legal, staff services, board administration activities, special projects, long-term space planning, and strategic planning.

   B. Board operational matters, including a review of draft agendas for upcoming meetings.

NOTE: *The Board meeting likely will recess after the last item above for a lunch break and to conduct committee meetings. The Board will resume upon adjournment of the committee meetings to take up the items listed below.*

9. Review the Comprehensive Annual Financial Report for fiscal year 2014 – Jamie Pierce and Cindy Haley.

10. Review the reports of the Chief Financial Officer, including a report of expenditures that exceed the amount of operating expenses appropriated from the general revenue fund and are required to perform the fiduciary duties of the Board – Don Green.

11. Review the report of the Investment Management Committee on its November 20, 2014 meeting – Todd Barth.

12. Review the report of the Policy Committee on its November 20, 2014 meeting, and consider committee recommendations on the following related matters – Joe Colonnetta:

    A. Adoption of proposed amendments to the Resolution Designating Persons Authorized to Sign TRS Vouchers.

    B. Adoption of proposed amendments to the TRS Board of Trustees Training Policy.

    C. Adoption of the four-year statutory rule review of TRS rules in Chapters 21-51 of Title 34 of the Texas Administrative Code, including the readoption of rules in those chapters with or without changes, and the adoption of proposed amended rules in the following chapters:

       i. Chapter 25 (Membership Credit);

       ii. Chapter 27 (Termination of Membership and Refunds);

       iii. Chapter 29 (Benefits);

       iv. Chapter 31 (Employment After Retirement);

       v. Chapter 39 (Proof of Age);

vi. Chapter 41 (Health Care and Insurance Programs);

vii. Chapter 47 (Qualified Domestic Relations Orders); and

viii. Chapter 51 (General Administration).

13. Review the report of the Risk Management Committee on its November 20, 2014 meeting – Karen Charleston.

NOTE: *The Board meeting likely will recess after the last item above and resume Friday morning to take up items listed below.*

14. Provide opportunity for public comments – Nanette Sissney.

15. Receive an update on the TEAM Program, including an update on the process improvement plan – Adam Fambrough; Barbie Pearson; David Cook; Ernie Sanders, and Jay Masci, Provaliant.

16. Receive a presentation from the TEAM Program Independent Program Assessment (IPA) Vendor – Michael Johnson, Bridgepoint Consulting.

17. Review the report of the Audit Committee on its November 21, 2014 – Christopher Moss.

18. Review Deputy Director's Report, including matters related to administrative, financial, and staff services operations – Ken Welch

19. Review the report of the General Counsel on pending and contemplated litigation, including updates on litigation involving benefit-program contributions, retirement benefits, health-benefit programs, and open records – Carolina de Onís.

20. Consider personnel matters, including the appointment, employment, evaluation, compensation, performance, duties, discipline, or dismissal of the Executive Director, Chief Investment Officer, or Chief Audit Executive – Nanette Sissney.

21. Consult with the Board's attorney(s) in Executive Session on any item listed above on this meeting agenda as authorized by Section 551.071 of the Texas Open Meetings Act (Chapter 551 of the Texas Government Code) – Nanette Sissney.

Tab 2 A

Minutes of the Board of Trustees

October 17, 2014

The Board of Trustees of the Teacher Retirement System of Texas met on October 17, 2014 in the boardroom located on the fifth floor of the TRS East Building offices at 1000 Red River Street, Austin, Texas. The following board members were present:

David Kelly, Chair
Todd Barth
Karen Charleston
David Corpus
Christopher Moss
Anita Palmer
Dolores Ramirez
Nanette Sissney

Others present:

Brian Guthrie, TRS
Ken Welch, TRS
Amy Barrett, TRS
Carolina de Onís, TRS
Don Green, TRS
Howard Goldman, TRS
Ronnie Bounds, TRS
Amy Conrad, TRS
Jan Engler, TRS
Edward Esquivel, TRS
Michelle Fasel, TRS
Dan Herron, TRS
Clarke Howard, TRS
Dan Junell, TRS
Lynn Lau, TRS
Bob Jordan, TRS
Jim Pinkard, TRS
Vicki Rees, TRS
Rebecca Smith, TRS
Yimei Zhang, TRS
Steve Huff, Reinhart Boerner Van Deuren
Bill Hickman, Gabriel Roeder Smith and Company
Amy Cohen, Gabriel Roeder Smith and Company
Dr. Ignacio Salinas, Retirees Advisory Committee
Grace Mueller, Retirees Advisory Committee
Meredyth Fowler, Speaker Joe Straus
Pattie Featherston, Legislative Budget Board
Ronnie Jung, Texas Retired Teachers Association
Sally Reaves, Sagebrush Solutions
Ann Fickel, Texas Classroom Teachers Association
Tim Lee, Texas Retired Teachers Association
Josh Sanderson, Association of Texas Professional Educators
John Grey, Texas State Teachers Association
Barbara Franklin, Texas State Teachers Association
Ted Melina Raab, Texas American Federation of Teachers
Dr. Carole Buchanan, Texas Retired Teachers Association
Graciela Herrera, Texas State Teachers Association
Philip Mullins, Texas Retired Teachers Association
Beaman Floyd, Texas Association of School Administrators
Michael Clayton, State Auditor's Office
Mark Wermes, ESI
Russ Harper, Aetna
Dr. Catherine Gaffigan, Aetna
Jim Hickey, Aetna
Michael Nelson, Aetna
Eric St. Pierre, Aetna
Becky Chmielewski, Aetna
Patrick O'Brien, Aetna
Pat Del Rio, Aetna
Ross Puller, Aetna
Rick Edwards, Caremark
Joni Lozano, Caremark
Justin Emerson, Caremark
Dominic Giarratani
Gerald Haschke, Texas State Teachers Association
Tom Rogers, Austin Retired Teachers Association and Texas Retired Teachers Association

Mr. Kelly called the meeting to order at 8:44 a.m.

1. Call roll of Board members.

Ms. Lau called the roll. A quorum was present. Mr. Colonnetta was absent.

2. Consider Board administrative matters, including – David Kelly:

A. Approval of the September 18-19, 2014 Board meeting minutes.

On a motion by Ms. Palmer, seconded by Ms. Ramirez, the board unanimously adopted the minutes of the September 18-19, 2014 meeting, as presented.

B. Setting, rescheduling, or canceling future Board meetings.

Mr. Kelly stated that he would be absent from the November 20-21 meeting. After discussion, the board decided to meet on November 20-21, as scheduled.

3. Provide opportunity for public comments – David Kelly.

Ms. Ann Fickel of Texas Classroom Teachers Association stated that she would like to receive a copy of the TRS-ActiveCare and TRS-Care study report before it was finalized. She suggested including in the report the impact each proposal would have on either retirees or active members in dollar amounts. She stated that the study should communicate to the legislature that a lack of additional state funds would lead to poor working and economic conditions for active employees that could undermine efforts to retain teachers.

Mr. Beaman Floyd of the Texas Association of School Administrators (TASA) concurred with Ms. Fickel that the report should include the financial impact each proposal would have on active members in dollar amounts. He stated that inflation rates for health care had reached a level that would need to be addressed by the legislature. He stated that research shows that the majority of school districts were contributing more than the statutory minimum and allowing employees to use salary increases as an offset to the increased cost of health care premiums. He noted that the state contribution had not increased since TRS-ActiveCare was created in 2001. He stated that TASA would discuss with the legislature how to help improve the financial situation of health care programs. Mr. Floyd also commented on the slides in the *TRS-Care Sustainability and TRS-ActiveCare Affordability Study* that compared employer contributions for state employees with those for public school employees. He stated that the district contribution to TRS-ActiveCare was presented as flat and did not include data showing the portion of salary increases that districts had used as an offset to increased health care costs. Mr. Guthrie stated that staff could present the slides with clarification.

Mr. Josh Sanderson of the Association of Texas Professional Educators addressed issues concerning workforce quality. He noted that a recent census report on public education shows that Texas spent significantly less than any other state on public education employee benefits on a per-pupil basis. Per Mr. Barth's request, Mr. Sanderson stated that he would provide the board with the report.

Mr. John Grey of the Texas State Teachers Association addressed issues relating to reduction of health care benefits, increases in premiums, and an insufficient state contribution. He stated that he hoped that the study would provide the legislature with facts that would help teachers and retirees receive good health care at a reasonable cost.

Mr. Tim Lee of the Texas Retired Teachers Association addressed topics relating to funding issues TRS-Care would face in the coming years. He spoke about topics that could be brought to the legislature's attention, including significant changes to potential retirement patterns for future retirees that would take place as a result of the enactment of Senate Bill 1458. He stated that the changes would affect TRS-Care and the compatibility of the revenue structure within the existing program.

4. Consider certifying to the State Comptroller of Public Accounts the estimated amount of state contributions necessary to pay the state's contributions for those individuals participating in the Optional Retirement Program Fiscal Years 2016 and 2017 – Don Green.

Mr. Guthrie stated that Senate Bill 1812, which was passed in the last legislative session, required that TRS certify the estimated amounts necessary to pay the state's contribution to the Optional Retirement Program. Mr. Green provided an overview of the program, including its participation, funding sources, and benefits.

On a motion by Mr. Moss, seconded by Mr. Corpus, the board unanimously adopted the following certification to the State Comptroller of Public Accounts:

> At its meeting on October 17, 2014, the Board of Trustees of the Teacher Retirement System (TRS), in compliance with Texas Government Code, Section 830.201(h), on a motion by Mr. Moss, seconded by Mr. Corpus, voted to certify the following estimated amounts as necessary to pay the state's contributions from General Revenue to the optional retirement system for the 2016–2017 biennium:
>
> | | |
> |---|---|
> | Fiscal Year 2016 | $ 112,980,622 |
> | Fiscal Year 2017 | $ 111,111,995 |
>
> To the best of the Board's knowledge and belief, these amounts are based on the existing state contribution rate and account for contribution changes as stipulated in Government Code, Section 830.201(g). The analysis supporting these amounts was a joint effort between staff of TRS and the Texas Higher Education Coordinating Board (THECB) based on data collected by THECB and reviewed by TRS staff for reasonableness.

5. Discuss and receive an Independent Audit Report on TRS-Care Service Providers – Yimei Zhao; Sally Reaves, Sagebrush Solutions, LLC.

Ms. Sally Reaves of Sagebrush Solutions provided an overview of the audit of TRS-Care service providers, Aetna, Caremark, and Express Scripts, Inc. (ESI) and the Medicare Part D program. She laid out the audit's scope, methodology, results, and recommended actions. She stated that, except for one measure in 2012 relating to Aetna's turnaround time, all vendors met or exceeded contractual requirements and industry standards. She stated that Aetna had since improved its turnaround time to reach an acceptable level in 2013. Ms. Reaves confirmed for Mr. Barth that because of the complexity of medical and pharmacy payments, ESI still exceeded contractual and industry standards, despite the fact that two co-pay errors were identified. She provided further detail relating to the errors. She also explained for Mr. Corpus the sampling and statistical methods.

6. Receive an update on the TRS health benefits programs – Bob Jordan.

An update on TRS-ActiveCare, including recent enrollment, procurement activity, compound drug trend and projection, was presented by Mr. Jordan in Ms. Betsey Jones' absence. Mr. Jordan noted adjustments needed for changes made by participants after the enrollment deadline. Responding to a question from Mr. Moss regarding the issue of meeting the deadline, Mr. Jordan stated that staff was planning to provide clear guidelines regarding the enrollment deadline for third-party vendors. There was a discussion relating to compound drug cost issues and solutions. Mr. Jordan also introduced new TRS-ActiveCare benefits, including Teladoc and NeoCare Solutions.

Mr. Jordan provided an update on TRS-Care, including recent enrollment, procurement activity, and new initiatives. He confirmed for Ms. Palmer that premium rates for TRS-Care were guaranteed for calendar years 2013 and 2014; although rates had been increased for 2015, the increase would not impact plan participants but would rather impact how much the plan would need to pay Aetna. He confirmed for Ms. Palmer that adjustments to reimbursements to Medical Advantage (MA) plans were considered annually. He stated that staff planned to issue a request for proposal for a fully insured MA plan in January 2015 and make a recommendation to the board in June 2015. Mr. Jordan also introduced the new initiative involving the use of Medicare Part D Advisors for handling the Medicare Part D Retiree Drug Subsidy.

7. Discuss and consider a plan design amendment to TRS-Care 1, the retiree health benefits program, regarding out-of-pocket maximums – Clarke Howard.

Mr. Guthrie stated that the current item was needed to correct an oversight relating to the TRS-Care plan design adopted by the board in September. Mr. Howard recapped that no changes were made to TRS-Care 1 in September. He stated that staff subsequently determined that to make out-of-pocket maximums consistent with TRS-ActiveCare changes, adjustments would be needed to the out-of-pocket maximums in TRS-Care 1. He stated that staff's current proposal would lower out-of-pocket maximums to make them consistent with those in TRS-ActiveCare. He noted that the proposed resolution states that "TRS-Care is projected to remain financially solvent during the currently funded biennium." Mr. Howard confirmed for Mr. Kelly that claims filed by those who had already reached the out-of-pocket maximum would not be readjudicated.

On a motion by Ms. Sissney, seconded by Ms. Charleston, the board unanimously voted to approve the following resolution presented by the staff concerning premiums and plan design for TRS-Care 1:

> **Whereas,** Chapter 1575, Insurance Code, authorizes the Teacher Retirement System of Texas ("TRS"), as trustee, to implement and administer the uniform group health benefits program ("TRS-Care") under the Texas Public School Retired Employees Group Benefits Act, as described in the statute;
>
> **Whereas**, During its June 2014 meeting, the TRS Board of Trustees ("Board") adopted a resolution maintaining the current plan design for TRS-Care 1 for the 2015 plan year;
>
> **Whereas,** Due to the funding available to TRS-Care, TRS staff and the TRS health benefits consultant, Gabriel, Roeder, Smith & Company ("GRS") have recommended that for the 2015 plan year, beginning September 1, 2014, the benefit plan design for the TRS-Care 1 Standard plan be

changed from the current plan design to decrease the Individual Out-of-pocket maximum from $7,000 to $6,350, to decrease the Family Out-of-pocket maximum from $14,000 to $12,700, and to include deductibles within the Out-of-pocket maximums, resulting in the elimination of the Individual Co-Insurance Limit and the Family Co-Insurance Limit; and

Whereas, The TRS Board of Trustees ("Board") desires to adopt the recommendations of TRS staff and GRS; now, therefore, be it

Resolved, That for the TRS-Care 1 Standard plan, for the 2015 plan year beginning September 1, 2014, and for all plan years thereafter, until further action by the Board, the Board hereby adopts and authorizes the current benefit plan design for this plan in place for the 2014 plan year, subject to the following benefit plan design changes - the Individual Out-of-pocket maximum is changed from $7,000 to $6,350, the Family Out-of-pocket maximum is changed from $14,000 to $12,700, and the Out-of-pocket maximums now include deductibles, resulting in the elimination of the Individual Co-Insurance Limit and the Family Co-Insurance Limit;

Resolved, That the Board finds that, considering the actions taken in the resolutions above, TRS-Care is projected to remain financially solvent during the currently funded biennium; and

Resolved, That for the 2015 plan year commencing on September 1, 2014 for the TRS-Care 1 Standard plan, and for all plan years thereafter, until further action by the Board, the Board authorizes the Executive Director or his designees to take any actions that he or his designee in his or their discretion deem to be necessary or advisable to implement this resolution, and to otherwise implement and continue the TRS-Care 1 Standard plan until further action by the Board.

8. Receive a presentation on performance networks and accountable care organizations – Mike Nelson and Dr. Catherine Gaffigan, Aetna.

Mr. Mike Nelson and Dr. Catherine Gaffigan of Aetna provided a presentation on how value-based contracting models with health care providers improve health care quality, enhance patient experience, and reduce cost. Mr. Kelly asked whether the models would be portable and their benefits could be maintained if TRS contracted with another administrator in the future. Dr. Gaffigan stated that the Accountable Care Organization (ACO) models were not owned by Aetna and could possibly be sustained with another contractor, if TRS contracted with another vendor. Mr. Nelson stated that Aetna would strive to keep the service affordable. Mr. Guthrie stated that staff could require an ACO-type structure as part of a future procurement with a condition that the data would be TRS' whenever there is a change of administrator. Dr. Gaffigan further explained collaboration and data sharing processes within Aetna's ACO models.

9. Discuss activities of the Retiree Advisory Committee (RAC) – Dr. Ignacio Salinas and Grace Mueller.

Dr. Salinas and Ms. Mueller provided an update on the Retiree Advisory Committee meetings on April 10 and May 22. Dr. Salinas stated that the meetings were intended to inform the committee about health care issues and facilitate open conversations where individuals could ask questions and review possible options. He also recapped options discussed with the board at the February board meeting for attaining TRS-Care solvency.

After a recess at 11:30 a.m., the board reconvened the meeting at 12:11 p.m.

Mr. Kelly announced that the board would take up agenda item 3 to hear public comment.

3. Provide opportunity for public comments – David Kelly.

Mr. Ted Melina Raab of Texas American Federation of Teachers (AFT) stated that Texas AFT would only support options that would provide comprehensive, affordable health care to active and retired educators. He stated that the long-term solution would be to provide members with prefunded health care. He stated that TRS-ActiveCare plans and benefit levels should return to where they were at program inception. He stated that providing affordable health care is critical for public education.

10. Receive an update on the TRS Health Benefits Study – Brian Guthrie and William Hickman and Amy Cohen, Gabriel, Roeder, Smith & Co.

Mr. Guthrie provided an overview of the two-part study of TRS-Care and TRS-ActiveCare. He discussed the study process and timeline. He stated that the study included an updated study on TRS-Care sustainability and a new TRS-ActiveCare Affordability Study. He highlighted key findings from the TRS-Care report. He stated that a supplemental appropriation request for 2016-2017 for TRS-Care of $746 million would be needed to sustain the program for the biennium without significant structural changes. He stated that TRS had taken other actions such as offering members Medicare Advantage and Medicare Part D plans and ensuring competitive vendor management to extend TRS-Care sustainability; however, help would be needed from the legislature going forward. Mr. Guthrie provided overviews of TRS-Care plan structure, enrollment, and funding structure, as well as previous sustainability initiatives. Discussing the funding projection, he stated that there would be a $2 billion shortfall at the end of FY 2019 if cost and funding trends continued without changes. He noted non-Medicare retirees as one of the cost drivers. He stated that since the average age of retirees was about 61, there were a four-year delay before retirees were eligible for Medicare.

Mr. Guthrie explained in detail seven proposed options for attaining TRS-Care sustainability through funding strategies and plan structure changes. He noted that some options could be combined. He discussed the three funding option groups: (1) pre-funding, (2) biennial funding, and (3) 10-year funding. He confirmed for Ms. Sissney that the proposed increase to the state contribution under Option 2(a) would increase the total contribution per retiree from $124 to $289. Mr. Barth asked if comparative data on the funding requirements of other states could be included in a meaningful way in the study. Mr. Hickman stated that public and private sector employer data were available in the report. He also stated that TRS staff and GRS were in the process of reviewing the public sector data and could look into the possibility of refining the data to public education employees only. Mr. Hickman concurred with Mr. Guthrie that data gathering for the public sector could be difficult because of different funding and plan structures. Mr. Guthrie discussed four other options involving benefits modifications: (4) eliminating subsidy, (5) requiring mandatory purchase of Medicare Part B and participation in Medicare Advantage and Medicare Part D plans, and (6) a defined contribution approach. Mr. Guthrie confirmed to Mr. Kelly that TRS-Care's large enrollment gives the program a certain amount of purchasing power in the marketplace. Mr. Hickman confirmed that TRS-Care has been taking advantage of this purchasing power whenever possible. Mr. Guthrie noted that the advantage would not necessarily come into play when addressing younger enrollees who could purchase competitive coverage in

the public exchanges. Mr. Guthrie discussed option 7 involving a consumer-directed health care plan that would require members to take preventative action for health care issues. Mr. Kelly asked if data about quality and cost shifts over the years since the inception of TRS-Care could be included in the study. Mr. Hickman stated that it would be difficult to measure quality at inception. He noted that it would be possible to review quality metrics in the recent time period, as well as costs and value of benefits.

Mr. Guthrie highlighted key findings in the TRS-ActiveCare report. He stated that the main issue faced by the program was affordability. He noted benefit and premium disparities between TRS-ActiveCare and the Texas state employee plans. He stated that cost increases and plan design changes for TRS-ActiveCare were consistent with national trends. He confirmed for Ms. Sissney that data gathered from the Kaiser Family Foundation and the Health Research & Educational Trust Employee Benefits 2014 annual survey were from both public and private sectors. Mr. Hickman noted that it was about two-thirds of private sector data and one-third public sector data. Mr. Guthrie provided an overview of the TRS-ActiveCare plans, including plan structure and funding sources. Discussing enrollment trends over the years, he stated that cost shifts affected the distribution of employees by plan. He noted that currently the 1-HD plan, which has the highest deductible, was the most popular plan. He stated that the study also compared the 10 largest ActiveCare districts with the 10 largest non-ActiveCare districts (districts that do not participate in TRS-ActiveCare) in terms of monthly contributions towards premiums. He stated that results showed that half of the ActiveCare districts contributed $260 or less and the lowest contribution among non-ActiveCare districts was $317. He confirmed for Mr. Kelly that districts that paid $350 or more were property-wealthy districts.

Mr. Guthrie discussed proposed options for the TRS-ActiveCare plans, including (1) increasing state and district/employer funding to restore the FY 2003 cost sharing ratio; (2) offering only a high deductible plan with a Health Savings Account (HSA) with defined contributions; (3) offering only a self-funded Exclusive Provider Organization (EPO) plan (a statewide HMO); (4) eliminating uniform statewide coverage; (5) eliminating spousal coverage; (6A) creating a new program for both active members and retirees that offers the same benefits as the state employee plan; and (6B) creating a new program for both active members and retirees and increases employer funding to $400 per participant.

Concerning Option 5, Mr. Hickman confirmed for Ms. Sissney that the plan would be eliminated for employees and their families. He stated that about 11 percent of the enrollment was for employee-and-family coverage. Mr. Guthrie stated that eliminating spousal coverage might make some employees' spouses eligible for the subsidy offered by the exchanges. Further discussion followed on the experience of the exchanges and their projected trend.

Responding to a question from Mr. Barth concerning the timeline going forward, Mr. Guthrie stated that the plan was to provide a draft to the board next week for review and comment and provide the final document in mid-November. Responding to questions from Ms. Palmer concerning the amount that TRS could request for the health care programs through the Appropriation Act, Mr. Guthrie stated that as the administrator of TRS-Active-Care, TRS could not make an appropriation request for the active plans.

At the end of his presentation, Mr. Guthrie expressed his appreciation to Ms. Jones, who was not present at the meeting, for her significant contribution to the studies.

11. Discuss and receive information from staff on the TRS-Care pharmacy benefits manager contract, including considering a finding that deliberating or conferring on the pharmacy benefits manager contract in open meeting would have a detrimental effect on the position of the retirement system negotiations with a third person – Betsey Jones.

Mr. Kelly called for a motion to find that deliberating or conferring in an open meeting about the TRS-Care Pharmacy Benefits Manager contract renewal and related procurement issues would have a detrimental effect on TRS's position in negotiations with a third person. On a motion by Ms. Charleston, seconded by Ms. Ramirez, the board voted unanimously to enter into closed session on agenda item 11.

Mr. Kelly announced that the board would go into executive session on agenda item 11 under §825.115(e) of the Government Code to deliberate procurement matters and under §551.071 of the Government Code to seek advice of legal counsel, as needed. He asked all members of the public and staff not needed for executive session to leave the meeting room and take their belongings with them.

Whereupon, the open session of the board meeting recessed at 2:00 p.m. to go into executive session.

The board meeting reconvened in open session at 2:45 p.m. Mr. Kelly announced that the board would adjourn at that time. The meeting was adjourned at 2:50 p.m.

Tab 5

Teacher Retirement System of Texas

Actuarial Valuation as of August 31, 2014

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

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Agenda

- 2014 Valuation Results
  - Impact on the "Plan"
  - Historical Metrics
  - Sensitivity to Investment Returns
- Changes to the Post-Retirement Mortality Assumption
- Recent Trends and Publications on Funding Policies
- Summary

Actuarial Valuation

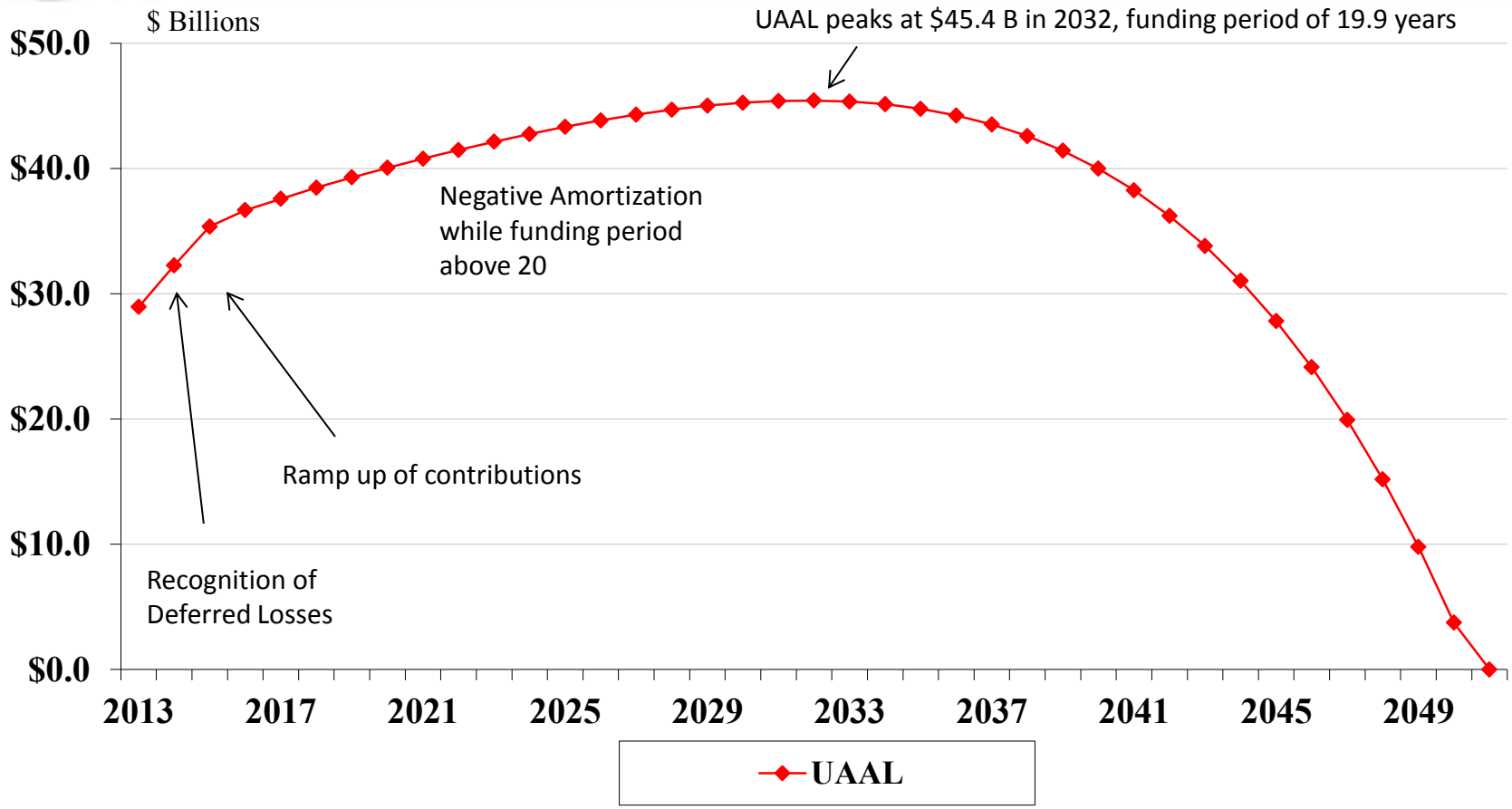
- Prepared as of August 31, 2014 using member data, financial data, benefit and contribution provisions, actuarial assumptions and methods as of that date
- Purposes:
  - Measure the actuarial liabilities
  - Determine adequacy of current statutory contributions
  - Provide other information for reporting
    - GASB #67
    - CAFR
  - Explain changes in actuarial condition of TRS
  - Track changes over time
  - Warn about possible future problems and issues

Actuarial Valuation – Key Changes and Issues

- Forecast improved from previous valuation:
  - Increase in revenue with more to come
  - Market assets returns 16.8%, net of expenses
  - Return was large enough to eliminate previous deferred losses and now the System is in a position of deferred investment gains
- Funding period of 30 years based on smoothed assets
  - Assumes all scheduled contribution increases occur and no further benefit enhancements
- Projections have an expectation of an increasing funded status

GRS

Projection of UAAL (From Last Year's Presentation)



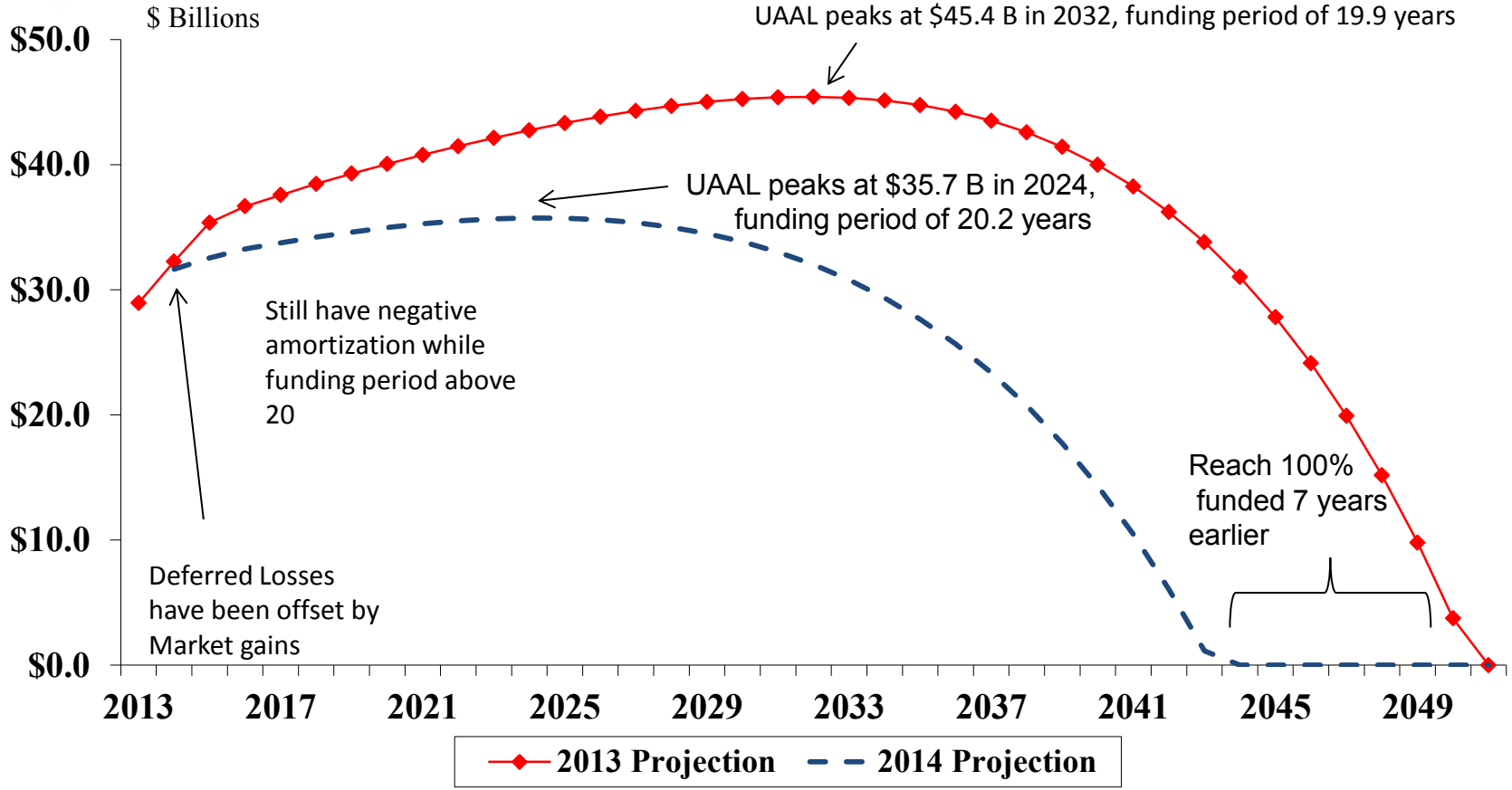
The above assumes all assumptions exactly met, including 8% annual investment returns based on MVA

Assumes no changes to benefit policy

Assumes current statutory contribution policy remains throughout period

GRS

Projection of UAAL (Updated with 2014 Experience)



The above assumes all assumptions exactly met, including 8% annual investment returns

Assumes no changes to benefit policy

Assumes current statutory contribution policy remains throughout period

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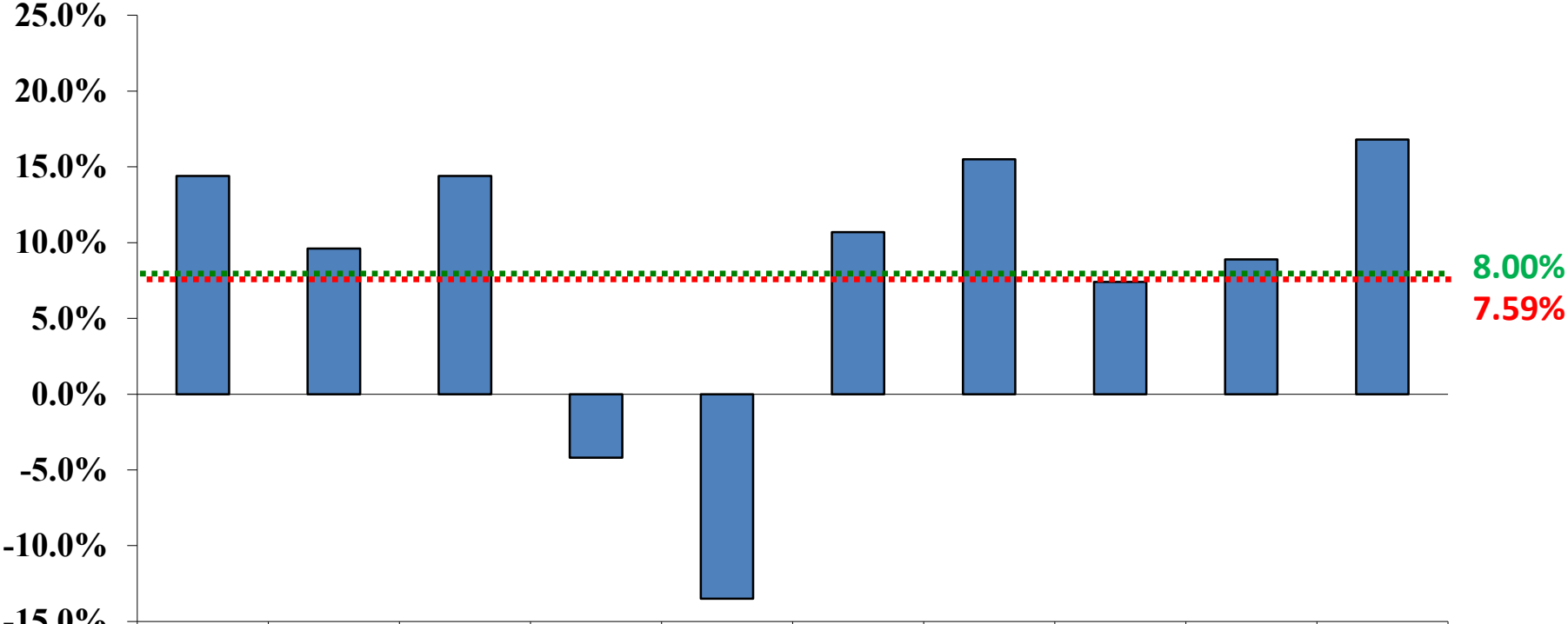
Estimated Yields Based on Market Value of Assets



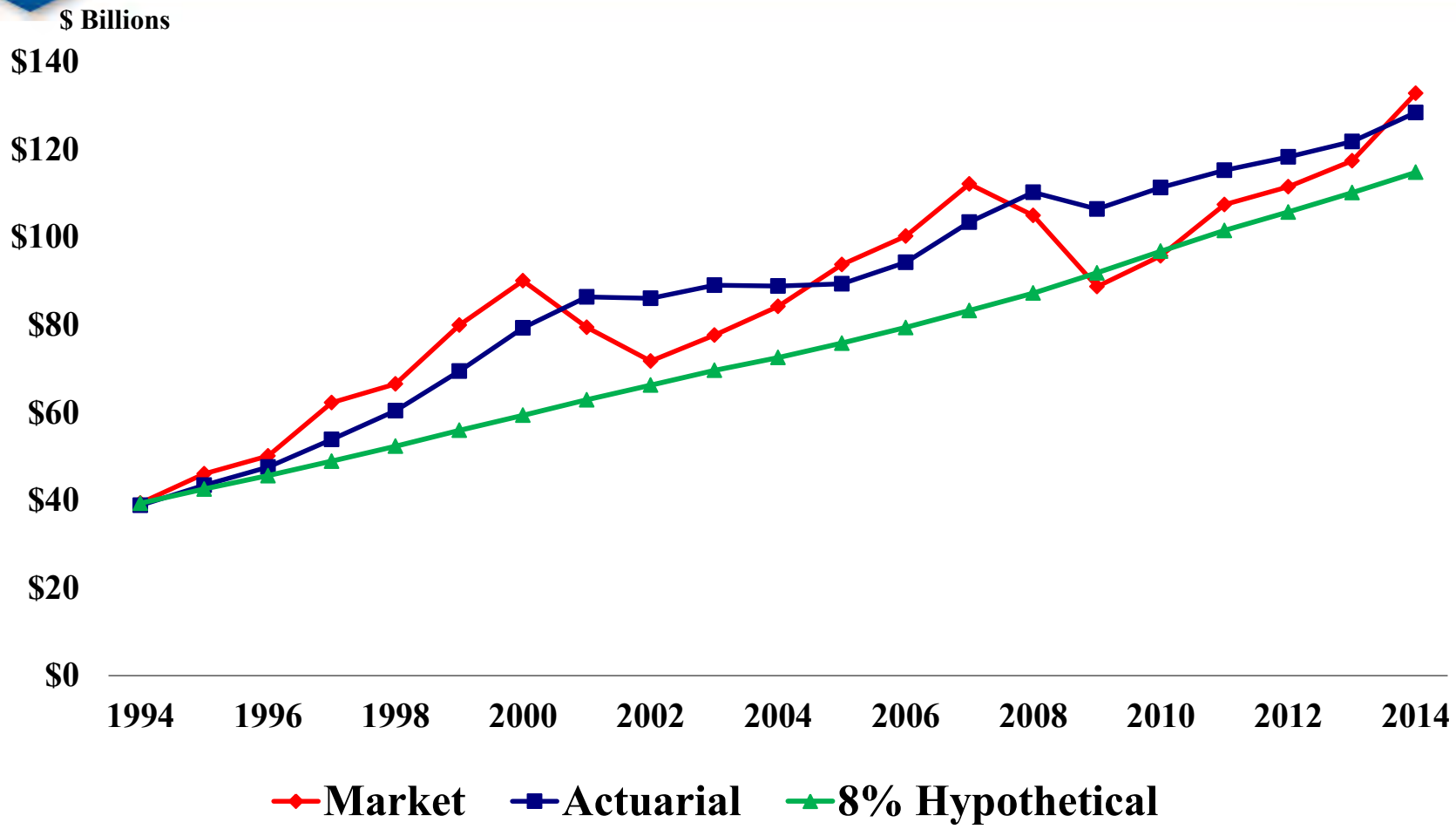
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Market	14.4%	9.6%	14.4%	-4.2%	-13.5%	10.7%	15.5%	7.4%	8.9%	16.8%

7.59% average compound return (on market value) over last 10 years. 8.50% over last 20 years.

9.21% since 1989

GRS

Market and Actuarial Values of Assets



8% Hypothetical assumes 8% had been earned on market every year since 1994, all cash flows unchanged

8.50% average compound return (on market value) over last 20 years.

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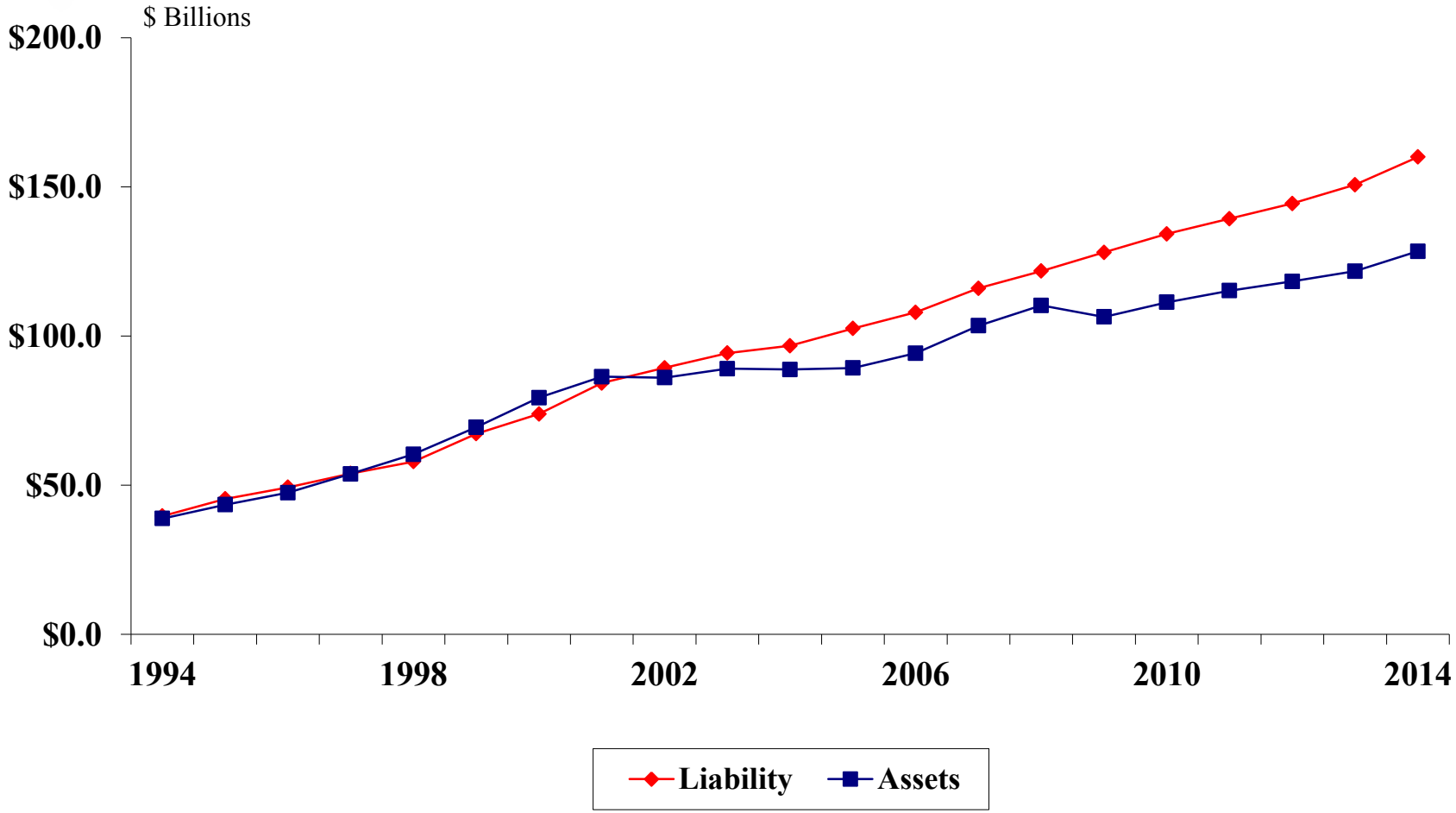
Actuarial Values of Assets vs. Actuarial Accrued Liability



Average Annual Growth 1994-2003: Assets 9.7%, Liabilities 10.1%

Average Annual Growth 2003-2014 Assets 3.4%, Liabilities 4.9%

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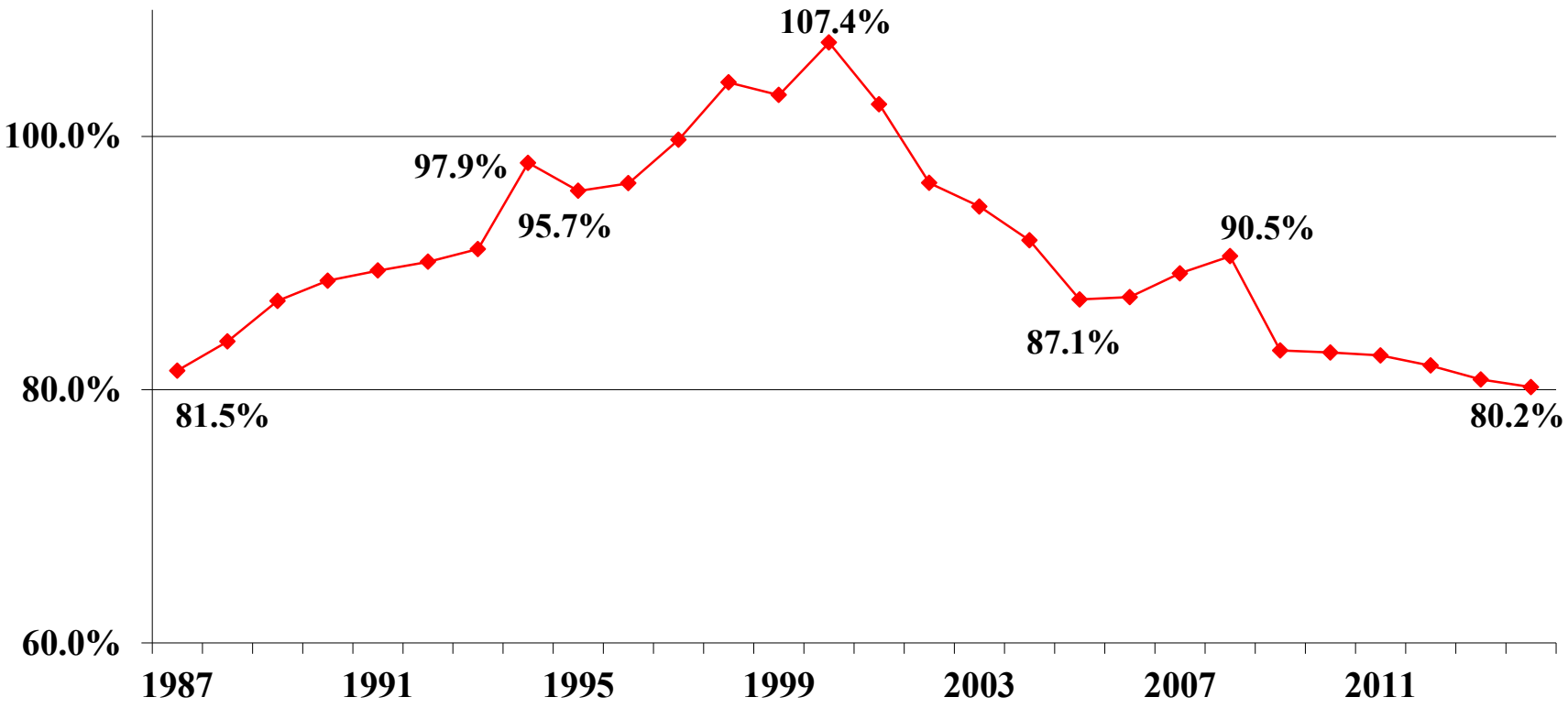
GASB #25 Funded Ratio



83.0% based on market value of assets as of August 31, 2014, 77.9% last year

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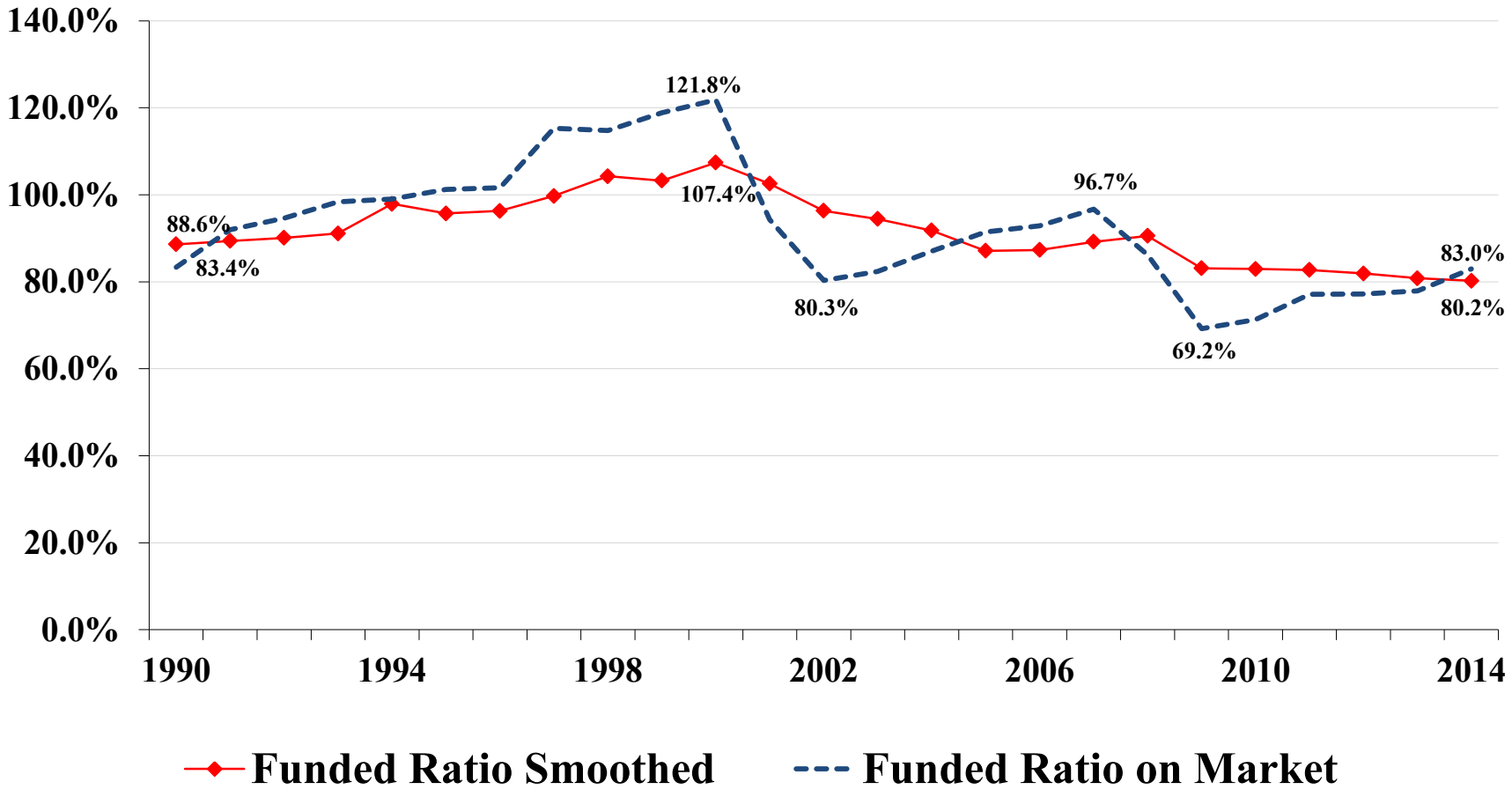
Funded Ratio: Smoothed vs Market



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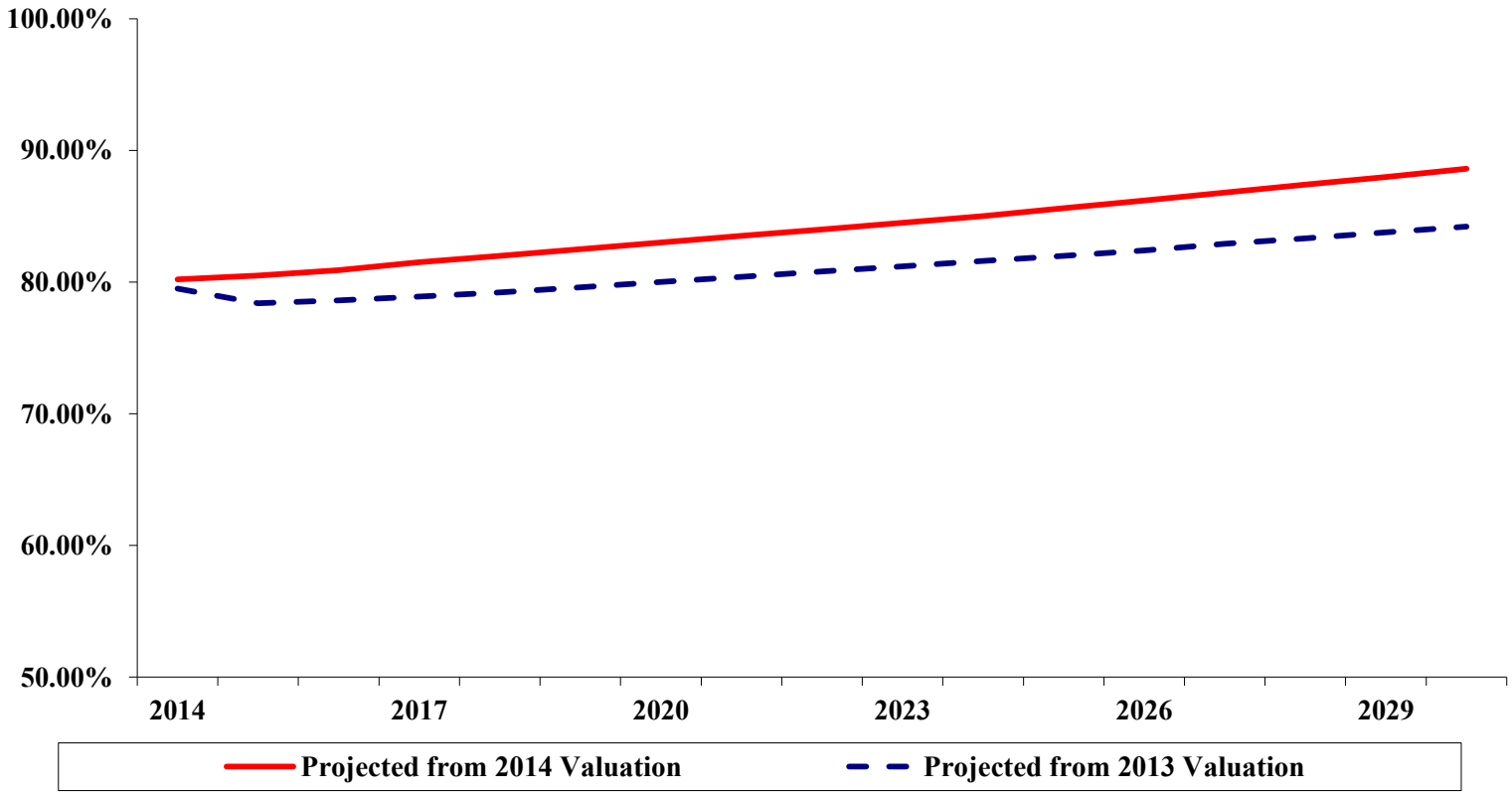
Projection of Funded Ratio



All projections assume contribution policy outlined in legislation continues indefinitely and no future changes to benefits

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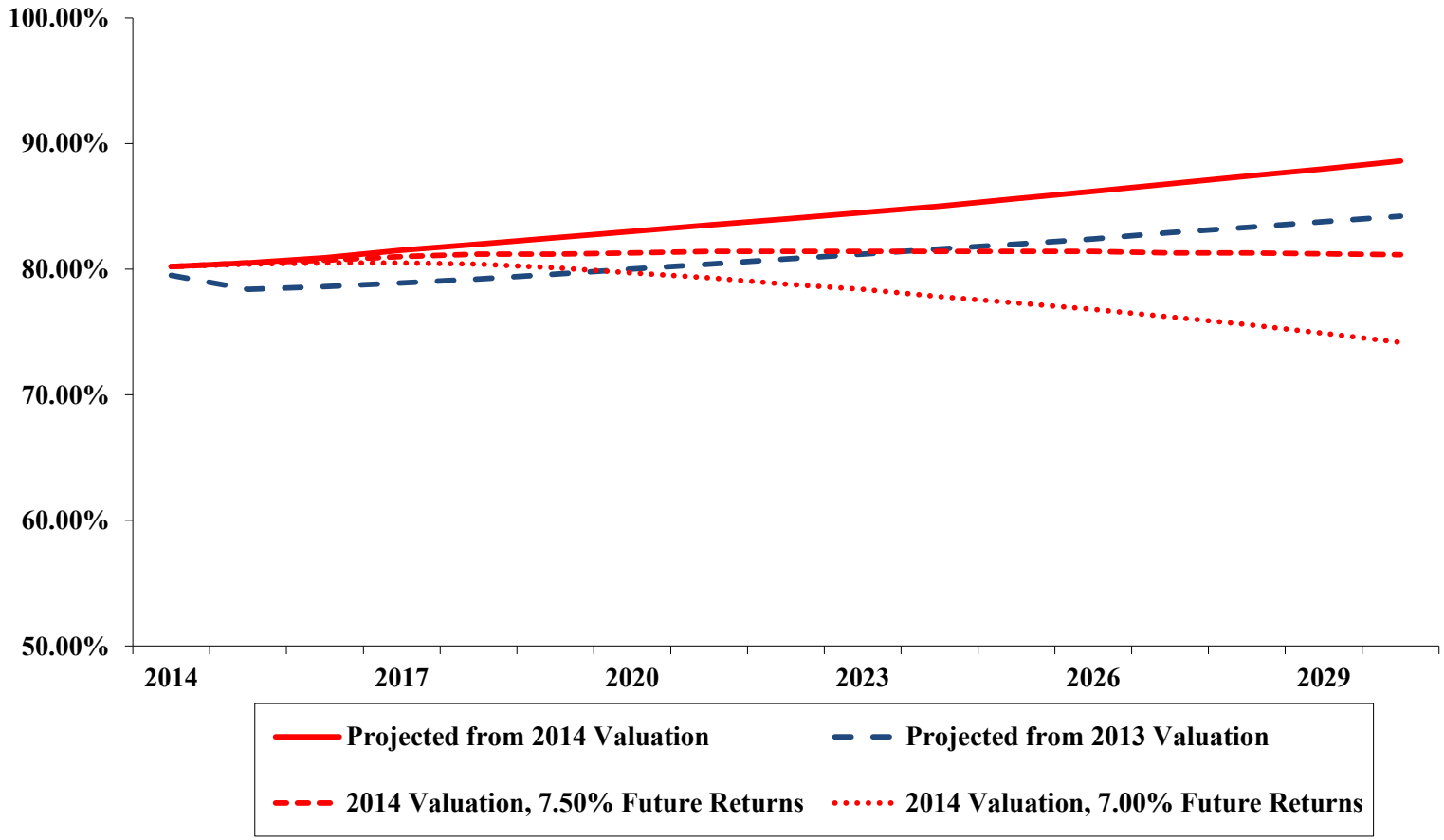
Projection of Funded Ratio Investment Return Sensitivity



All projections assume contribution policy outlined in legislation continues indefinitely and no future changes to benefits

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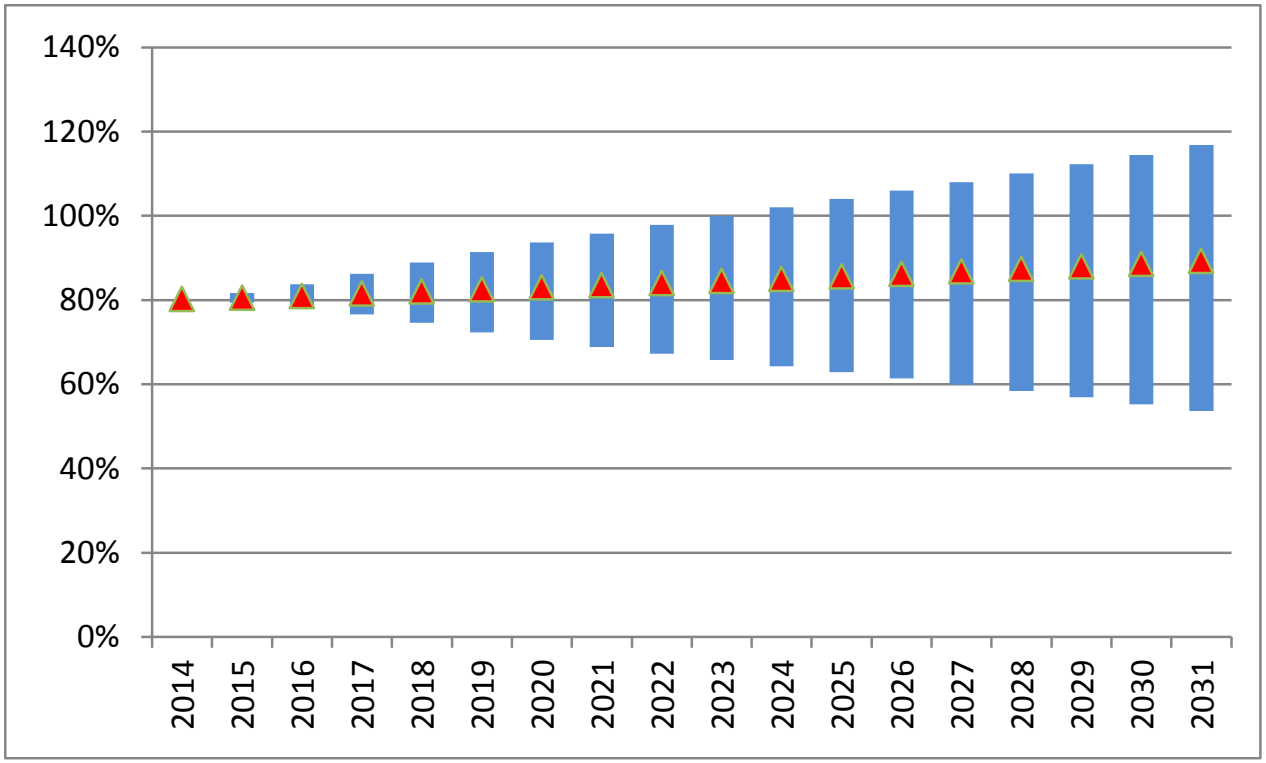
Projected Funded Ratio



Median Expectation

25th-75th percentile of expectation

- Assumes new contribution policy, projected from as of August 31, 2014
- Assumes constant active population and payroll grows at assumed 3.50% per year

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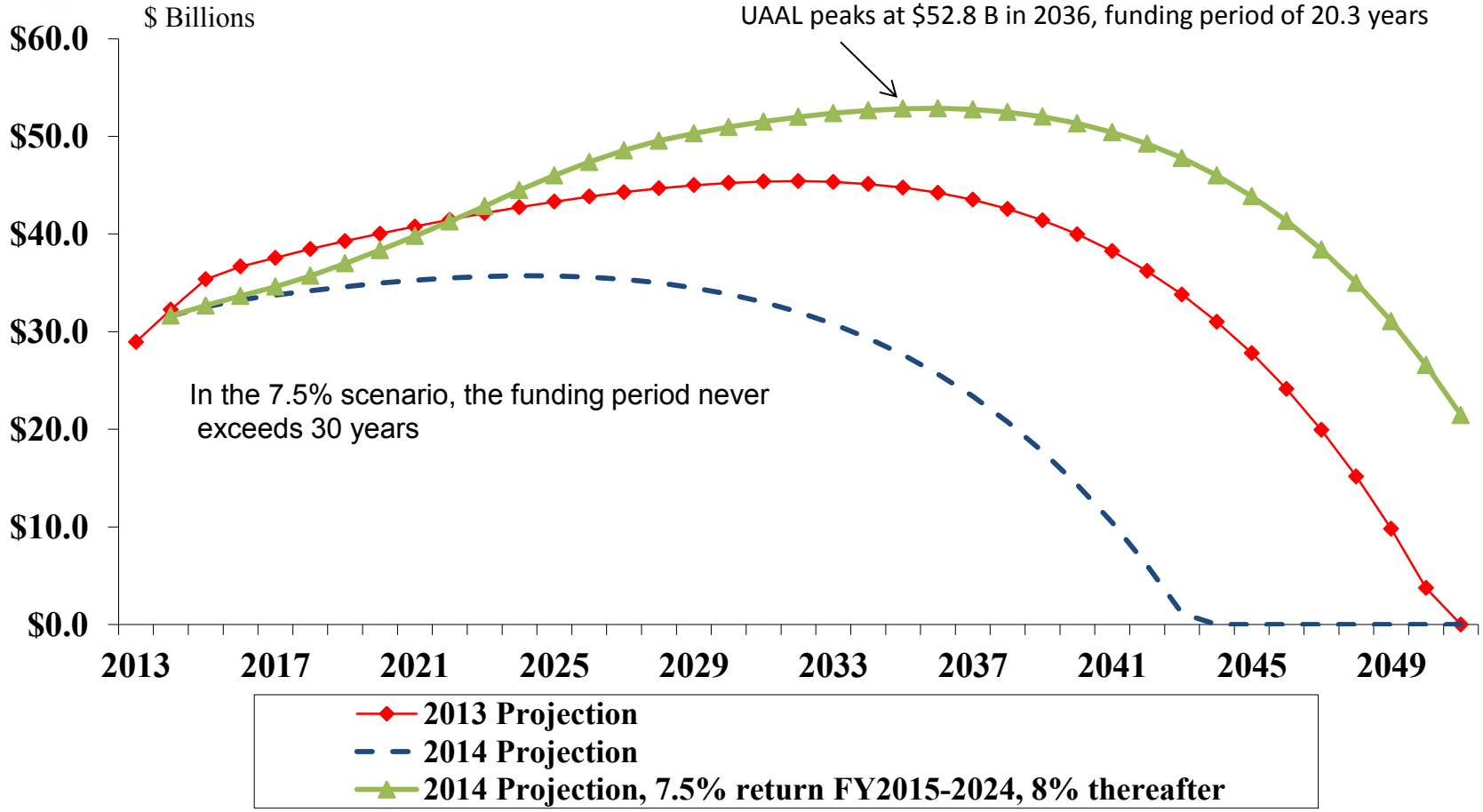
Projection of UAAL (Updated with 2014 Experience)



The above assumes all assumptions exactly met, including 8% annual investment returns

Assumes no changes to benefit policy

Assumes current statutory contribution policy remains throughout period

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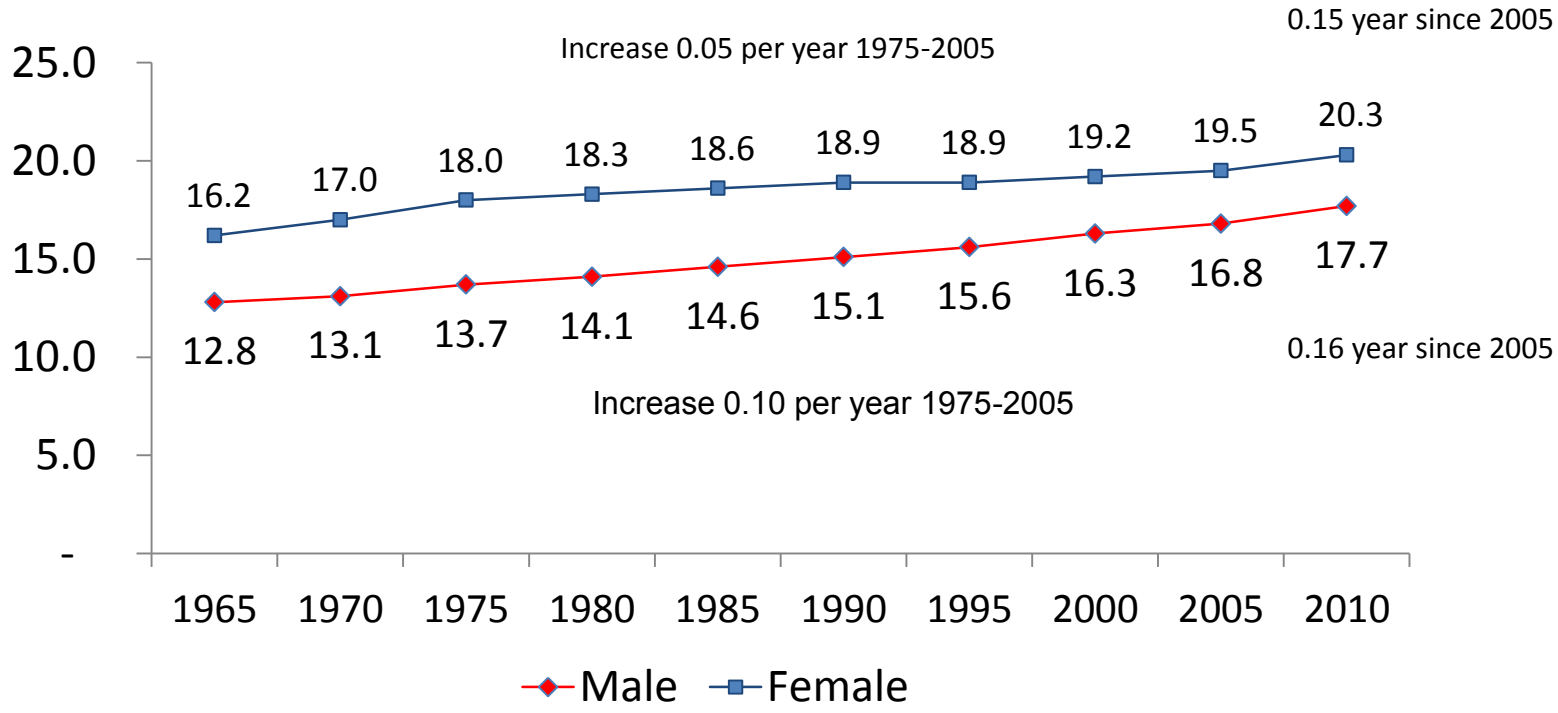
Mortality Assumption

- Consistent with trends across the country, the life expectancy for the beneficiaries of TRS have continued to improve
- Also consistent with national trends, the rate of improvement has accelerated over the recent past

Life Expectancy for the General US Population - from Age 65



Since 2010, life expectancies continue to increase. The latest published rates (2012) are 20.5 years for females and 17.9 years for males, both from age 65.

Source: National Vital Statistics Reports

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What does Life Expectancy in a given year mean?

- It is important to understand how to interpret the data in the statistics
- When females age 65 in 2010 had a life expectancy of 20.3, that does not actually mean people who are age 65 in 2010 will live 20.3 years. In fact, they will live longer
- Instead, the 20.3 years represents a hypothetical life expectancy for the population using the probability of death from 2010 at *all ages above age 65.* We will defined this as "static"
- This is similar to watching a race in which the runners will run 4 laps. If you are sitting at the finish line at the end of lap 3, you can:
  - Tell who is ahead
  - Tell how fast they ran the last lap, or last quarter lap, etc.
  - Tell who appears to be running the fastest
  - Project out the final outcome and times
- The snapshot of the race at the end of lap 3 is the "static", the projection of the final outcome is "projected"
- The question becomes how to project future probabilities of death?
  - There are standard, published actuarial techniques to do this

Actuarial Standards of Practice No. 35

Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations

From Background Section:

As mortality rates have continued to decline over time, concern has increased about the impact of potential future mortality improvements on the magnitude of pension commitments.

*In the view of **many actuaries**, the guidance regarding mortality assumptions should more **explicitly recognize estimated future mortality improvement as a fundamental and necessary assumption**, and the actuary's provision for such improvement should be disclosed explicitly and transparently.*

From Section 3.5.3: Mortality and Mortality Improvement Assumptions

The actuary should consider the effect of mortality improvement both prior to and subsequent to the measurement date.

With regard to mortality improvement, the actuary should do the following:

i. adjust mortality rates to reflect mortality improvement prior to the measurement date.
*ii. **include an assumption as to expected mortality improvement after the measurement date**.*

From Section 3.9: Reviewing Assumptions

At each measurement date the actuary should consider whether the selected assumptions continue to be reasonable. The actuary is not required to do a complete assumption study at each measurement date. However, if the actuary determines one or more of the previously selected assumptions are no longer reasonable, the actuary should follow the general process described in section 3.3 and select reasonable new assumptions as appropriate.

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Recent and Commissions and Publications

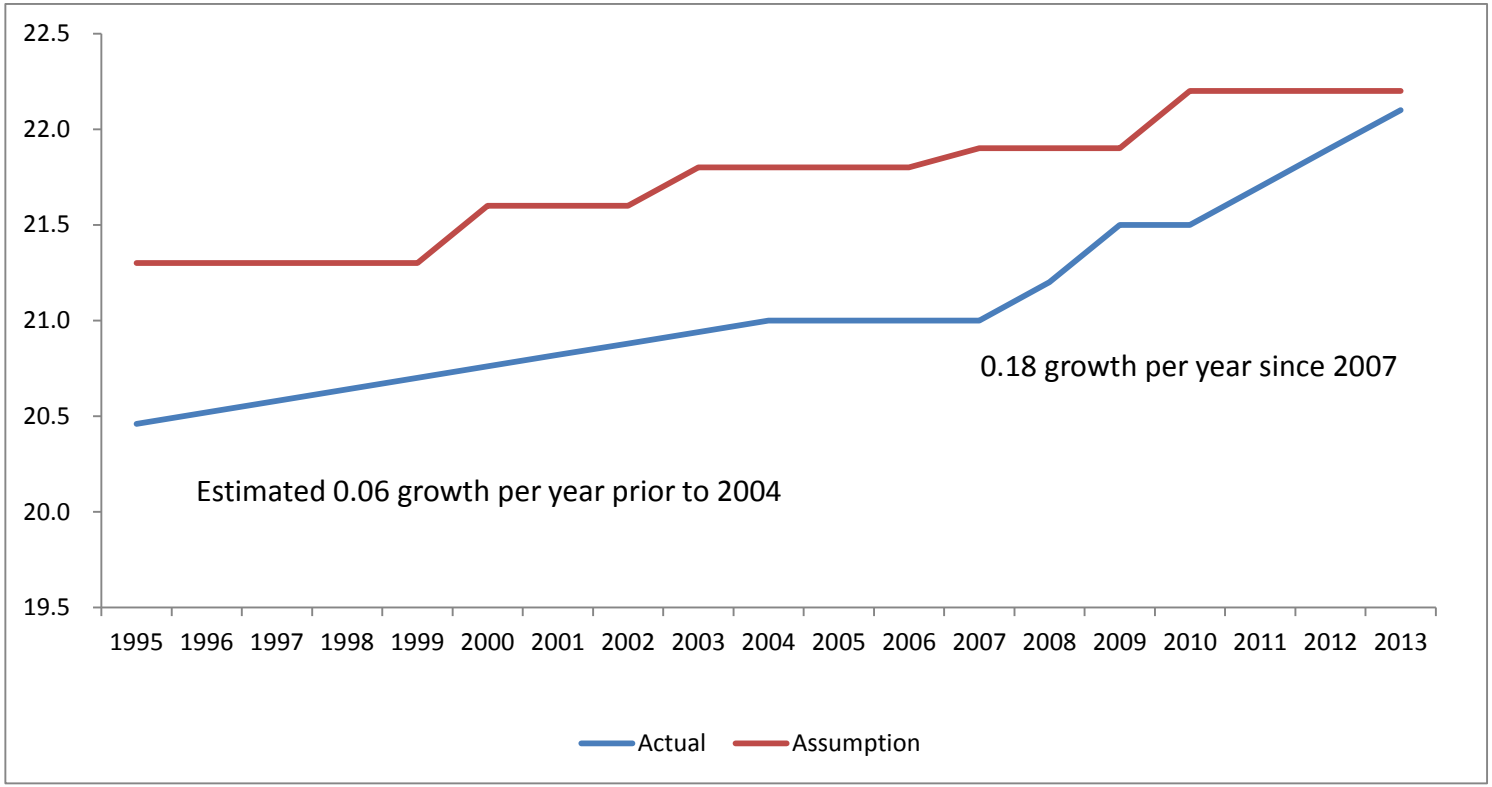
- Society of Actuaries (SOA) Retirement Plans Experience Committee (RPEC), published in September of 2012
  - *"In light of the nearly continuous pattern of increasing longevity in the United States over the past century, the Committee recommends that actuaries incorporate adequate provisions for future mortality improvement into their calculations."*
- In February 2014, the SOA issued an exposure draft (now finalized) with a new mortality table RP-2014 along with updated projection scales MP-2014
  - Substantially increased life expectancy compared to previous tables and substantially increased the expected rate of increase in the future

TRS History and Experience

- Traditionally, TRS has had "Experience Studies" performed every 4-5 years to examine all of the assumptions
  - We find this still to be a preferred approach
  - The next full analysis is scheduled to occur next summer
- In the last experience study (2010), new life expectancy tables were adopted which provided margin for future improvement in mortality consistent with historical trends at the time and published actuarial tables at the time
  - A/E of 110% for males and 111% for females
  - Equivalent of adding an entire year of life expectancy for a 65 year old retiree (21.2 actual versus 22.2 expected for females)
- However, in four years, all of the margin has been overtaken
  - 99% A/E for females and 95% A/E for males in FY2014
- This combined with a strong annual trends and confirmation by other national statistics and peer Systems suggests the current mortality assumption has no margin for future improvement - and thus is no longer reasonable

TRS History: Healthy Females

Static Life Expectancy for 65 Year Old Healthy Female (in Years)



Not all data points prior to 2003 were available and were estimated based on linear growth between known points

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Recommended Changes to Current Assumptions

- With the experience study scheduled to be completed prior to the next valuation, we recommend a temporary assumption that meets the definition of reasonable
  - The final RP-2014 tables and MP-2014 projection scales are scheduled to be finalized this fall
  - We have added in 0.7 years in life expectancy, or 7% margin, to create a reasonable assumption for future improvement
  - This added approximately $2 billion to the UAAL
  - The long term assumption will be examined in the experience study next summer, and it is likely further strengthening will be needed

Recent Publications with Model Funding Policies

- There has been quite a bit of recent focus on funding policies for Public Plans
  - Impact of GASB disclosures
  - Impact of Funding Deficits and plan experience showing weaknesses in past practices
  - Examples:
    - Blue Ribbon Panel Report on Funding Principles
      - Published by Society of Actuaries
      - Recommend 15 year amortization periods
    - Actuarial Funding Policies and Practices for Public Pension Plans
      - Published by the Conference of Consulting Actuaries (CCA) Public Plans Community
      - Recommendations follow

Model Practices from CCA Paper

The paper recognizes layered fixed period amortization periods by source of UAAL as follows as the "Model Practice"

Source	Amortization Periods
Active Plan Amendments	Lesser of Active Demographics or 15 Years
Inactive Plan Amendments	Lesser of Inactive Demographics or 10 Years
Experience Gain/Loss	15-20 Years
Assumption or Method Changes	15-25 Years

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Other Practices from CCA Paper

Category	Examples
Acceptable with Conditions	Up to 25 year fixed period amortization by source, for all sources, Or, Rolling amortization of a single combined gain/loss layer with an amortization period short enough to not entail any negative amortization (<20 years using TRS assumptions)
Non-recommended	Layered fixed period amortization by source of UAAL over longer than 25 years
Unacceptable	Layered fixed amortization by source of UAAL over longer than 30 years Rolling (open) amortization with negative amortization For plan amendments: “any period that would entail negative amortization is inconsistent with the general policy goals of intergenerational equity and governance” “particularly for retiree benefit increases, amortization period should control for negative cash flow”

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Impact on Public Plans

- These reports are not binding to the Systems, the Sponsors, or the actuaries
- But, they so show where public opinion and the general consensus of the industry (actuarial and financial) are going
- While we don't agree with all of the recommendations from the reports, we do agree with the spirit and feel the recommendations are closer to "Best Practices" than many current funding policies across the population of retirement systems
- Systems that have historically used investment gains or refinancing of the UAAL to provide COLAs will need to reassess those policies
- As discussed previously in the presentation, we support the continuation of the current "Plan" which has an approximate funding period of 30 years. As the "Plan" moves forward, the expectation is that the calculated funding period will decrease and fully amortize the UAAL. As the calculated funding period decreases, we believe a constructive policy would have the current boundary of 30 years also decrease over time to a shorter standard. This would help ensure the longevity of the funding progress as shown under the "Plan".

Summary

- The System is financially "healthy"
  - The scheduled increases in contributions are *absolutely necessary* to sustain the financial health
- Projections expect the UAAL to increase in nominal dollars over the next decade before beginning to decrease
- TRS members continue to live longer (which is good), but this can put further funding pressure on the System
  - Further analysis of this assumption to occur in the next Experience Study
- Any future benefit enhancements need to be supported by a representative increase in revenue

Disclaimers

- This presentation is intended to be used in conjunction with the actuarial valuation report issued on _____. This presentation should not be relied on for any purpose other than the purpose described in the valuation report.
- Circular 230 Notice: Pursuant to regulations issued by the IRS, to the extent this presentation concerns tax matters, it is not intended or written to be used, and cannot be used, for the purpose of (i) avoiding tax-related penalties under the Internal Revenue Code or (ii) marketing or recommending to another party any tax-related matter addressed within. Each taxpayer should seek advice based on the individual's circumstances from an independent tax advisor.
- This presentation shall not be construed to provide tax advice, legal advice or investment advice.

Tab 6

Teacher Retirement System

TRS-Care Trust Fund
Actuarial Valuation Highlights as of 8/31/14

- Unlike the TRS pension trust fund, the TRS-Care fund is not pre-funded. It is a cost-sharing multiple employer plan that is funded on a "pay as you go" basis to maintain benefits each biennium.
- The TRS-Care trust is projected to remain solvent through FY 2015 largely due to the January 1, 2013 successful implementation of the Medicare Advantage and Medicare Part D plans.
- TRS-Care is facing a financial shortfall of $727.2 million for the 2016-2017 biennium.
- There have been no member premium increases for TRS-Care since FY 2005.
- There was a one-time reduction to the State contribution to 0.5% for FY 2013. The State contribution was reinstated to 1% effective FY 2014.
- Results of the 8/31/14 TRS-Care valuation with 2013 comparative data are summarized below:

TRS-Care Trust Fund Valuation	8/31/2014	8/31/2013
Unfunded Actuarial Accrued Liability UAAL)	$33.3 billion	$29.3 billion
Annual Required Contribution (FY 15)	$2.7 billion	$2.4 billion
Funding Ratio	1.40%	1.80%
Normal Cost as a % of Payroll	3.93%	3.59%
Employee Contribution Rate	0.65%	0.65%
Employer Contribution Rate:		
State	1.00%	0.50%
District	0.55%	0.55%

TRS-Care OPEB

GASB 43 & 45

2014 Actuarial Valuation

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

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Current Funding Policy

- Active Employees: 0.65% of payroll
- Local Employers: 0.55% of payroll
- State assistance: 1.00% of payroll
- There is a statutory requirement that the State is responsible for any shortfall

Impact of changes

- Baseline 2014 results with prior assumptions were slightly higher than those expected in 2013 valuation.
  - Medicare Advantage premiums increased faster than expected
  - Retiree premiums remained level
- Key changes to OPEB assumptions
  - Reset the trend assumption to increase initial trend from 7.25% to 7.5% and also decrease trend at a slower pace so the ultimate trend is reached at 2028 instead of 2022.
  - Update mortality to match pension valuation.
  - The manufacturer's Rx rebate assumption was increased from 7% to 12%.

2014 Results
Current Funding Policy ($millions)

	2014	2013	2012
	(1)	(2)	(3)
Discount Rate	5.25%	5.25%	5.25%
Unfunded Actuarial Accrued Liability (in Millions)	$33,261	$29,284	$26,801
Normal Cost (in Millions)	$1,266	$1,094	$1,069
Annual Required Contribution (in Millions)	$2,701	$2,358	$2,225
ARC per active member ($)	$3,862	$3,480	$3,347
Total ARC as a % of Payroll	8.38%	7.73%	7.47%
Employer ARC as a % of Payroll (Net of Active Member Contributions)	7.73%	7.08%	6.82%

Contributions:	2012	2013	2014
State	1.00%	0.50%	1.00%
District	0.55%	0.55%	0.55%
Total	1.55%	1.05%	1.55%

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Results by Scenario
Advanced Funding Policy ($millions)

	2014	2013	2012
	(1)	(2)	(3)
Discount Rate	8.00%	8.00%	8.00%
Unfunded Actuarial Accrued Liability (in Millions)	$22,215	$19,664	$17,982
Normal Cost (in Millions)	$736	$606	$604
Annual Required Contribution (in Millions)	$2,070	$1,787	$1,684
ARC per active member ($)	$2,960	$2,637	$2,533
Total ARC as a % of Payroll	6.42%	5.86%	5.65%
Employer ARC as a % of Payroll (Net of Active Member Contributions) Current Contributions: State 1.00% District 0.55% Total 1.55%	5.77%	5.21%	5.00%

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Cash Estimates for FY2015

- The current projected contributions are $709 million (2.20% of payroll)
- The current expected net claims are $960 million ($251 million more than projected contributions)
- To increase to advance funding, the contribution requirement is 6.42% of payroll (increase of $1,361 million above the current $709 million)

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Health Benefits Briefing

Teacher Retirement System of Texas

November, 2014

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TRS-Care

Health Care Program
for Retired Public School Employees and Their Dependents

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History

- Created in 1985…coverage began September 1, 1986
- Historically operated through a separate trust fund
- Provides health coverage for retired Texas public school employees
- Higher education retirees are generally covered by ERS, UT or A&M
- Benefits provided through medical and pharmacy networks
  - Medical benefits administered by Aetna
    - Self-funded PPO plan design options
    - Fully insured Medicare Advantage plan options
  - Pharmacy benefits administered by Express Scripts
    - Self-funded prescription drug benefits for non-Medicare participants
    - Self-funded Medicare Part D drug benefits for Medicare participants

Plan Design

Self-funded PPO plans

- TRS-Care 1
  - Catastrophic plan with different deductibles for retirees (1) under 65, (2) with Medicare Part B Only, and (3) with Medicare Parts A&B
- TRS-Care 2
  - Comprehensive plan with $1,000 deductible and $35 office visit copay and includes managed pharmacy program
- TRS-Care 3
  - Comprehensive plan with $300 deductible and $25 office visit copay and includes managed pharmacy program
- Retiree premium structure based on years of service and Medicare status

Plan Design

Program redesigned in FY2013 for Medicare primary individuals

- Fully Insured Medicare Advantage plans effective January 1, 2013
  - Insured by Aetna
  - Retirees not covered by both Medicare Parts A&B, along with those opting out of the Medicare Advantage plans, continue to be covered under the self-funded plans administered by Aetna
  - With 70% participation, savings through the biennium ending August 31, 2015 were expected to be $299.3 million
  - Actual participation level approximately 68.7% of retirees with Medicare Parts A&B with estimated savings through FY2014 of approximately $160 million
  - $180 per year reduction in retiree premium for each member enrolled in a Medicare Advantage plan

Plan Design

Program redesigned in FY2013 for Medicare primary individuals

- Self-funded Medicare Part D Plans effective January 1, 2013
  - Administered by Express Scripts
  - Retirees not covered by either Medicare Part A or Part B, along with those opting out of the Medicare Part D plans, continue to be covered under the self-funded plans administered by Express Scripts
  - With 80% participation, savings through the biennium ending August 31, 2015 were expected to be $162.1 million
  - Actual participation levels are approximately 81.3% of retirees covered by Medicare Part A and/or Part B

Overview of TRS-Care

Medical Plan Design

	TRS-Care 2	TRS-Care 3	Medicare Advantage for TRS-Care 2	Medicare Advantage for TRS-Care 3
MEDICARE RETIREES				
Deductible	$1,000 / $2,000	$300 / $600	$500	$150
Coinsurance	80%/20% after Medicare payment	80%/20% after Medicare payment	95%/5%	95%/5%
Maximum Out-of-Pocket (Including deductible, coinsurance and copays)	$4,400 / $8,800	$3,700 / $7,400	$3,500	$3,150
Inpatient Hospital	80%/20% after Medicare payment	80%/20% after Medicare payment	$500 copay per stay	$500 copay per stay
Office Visit			$5 PCP $10 Specialist	$5 PCP $10 Specialist
Urgent Care			$35 copay	$35 copay
Emergency Room			$65 copay	$50 copay

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Overview of TRS-Care

Prescription Drug Plan Design

	TRS-Care 2	TRS-Care 3	Medicare Part D Plan for TRS-Care 2	Medicare Part D Plan for TRS-Care 3
MEDICARE RETIREES				
Retail Copays				
Generic	$10	$10	$5	$5
Preferred Brand	$30	$25	$25	$20
Non-Preferred Brand	$50	$40	$50	$40
Specialty Tier Drugs	N/A	N/A	$50	$40
Mail Order Copays				
Generic	$20	$20	$15	$15
Preferred Brand	$75	$50	$70	$45
Non-Preferred Brand	$125	$80	$125	$80
Specialty Tier Drugs	N/A	N/A	$125	$80

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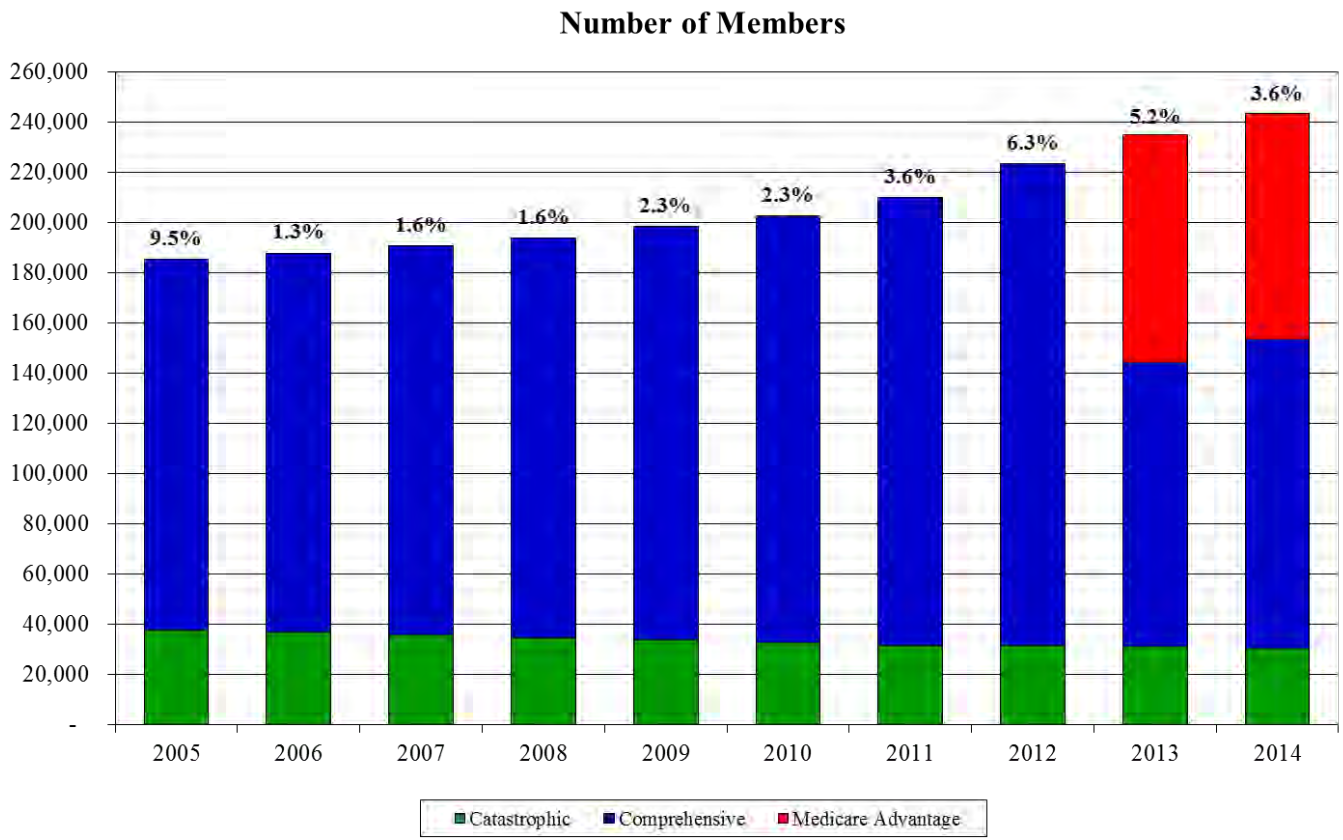
TRS-Care Participation Growth

Overall Membership



- Most retirees participate in TRS-Care health care coverage
- Most elect comprehensive coverage

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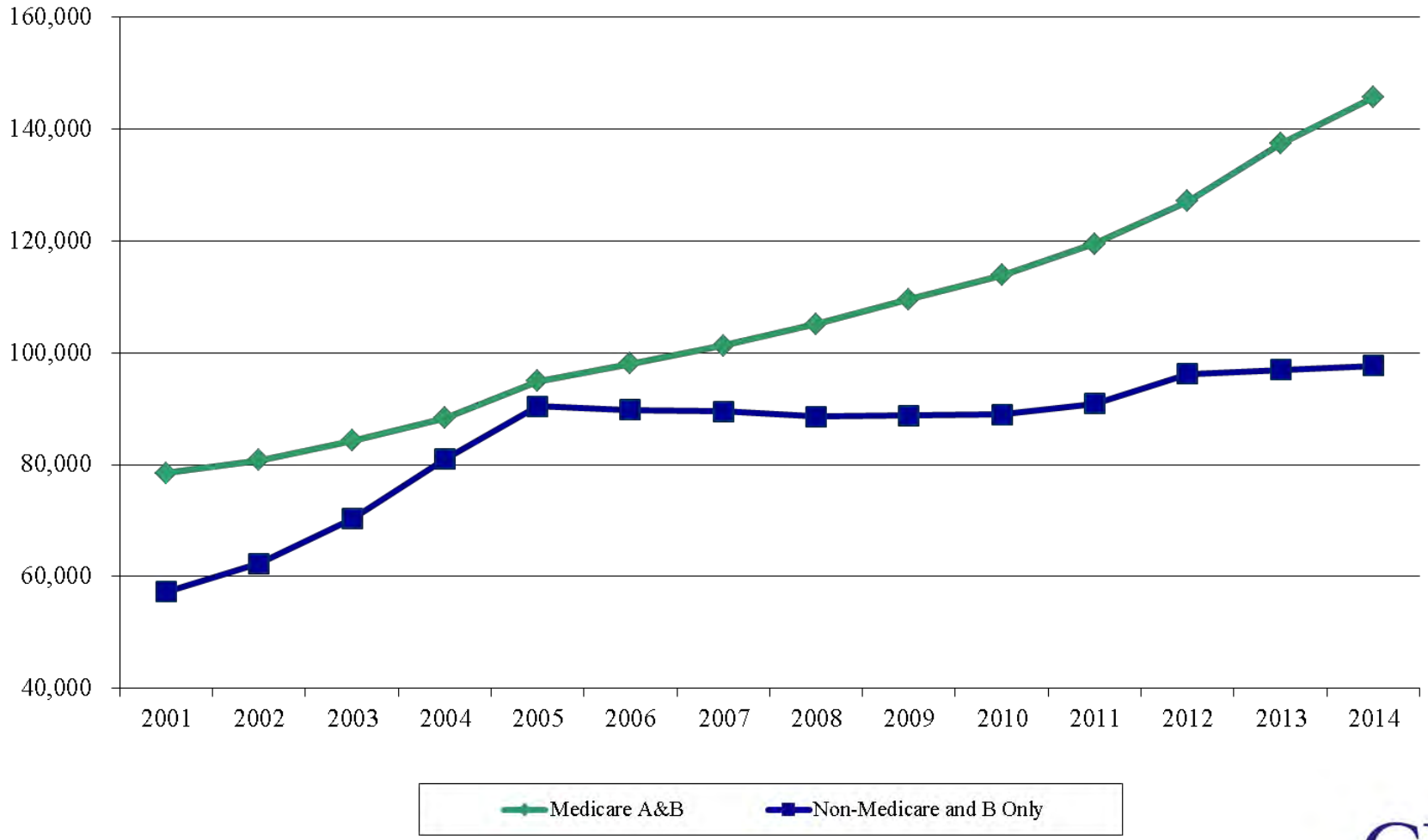
TRS-Care Participation Growth

Number of Members by Medicare Status



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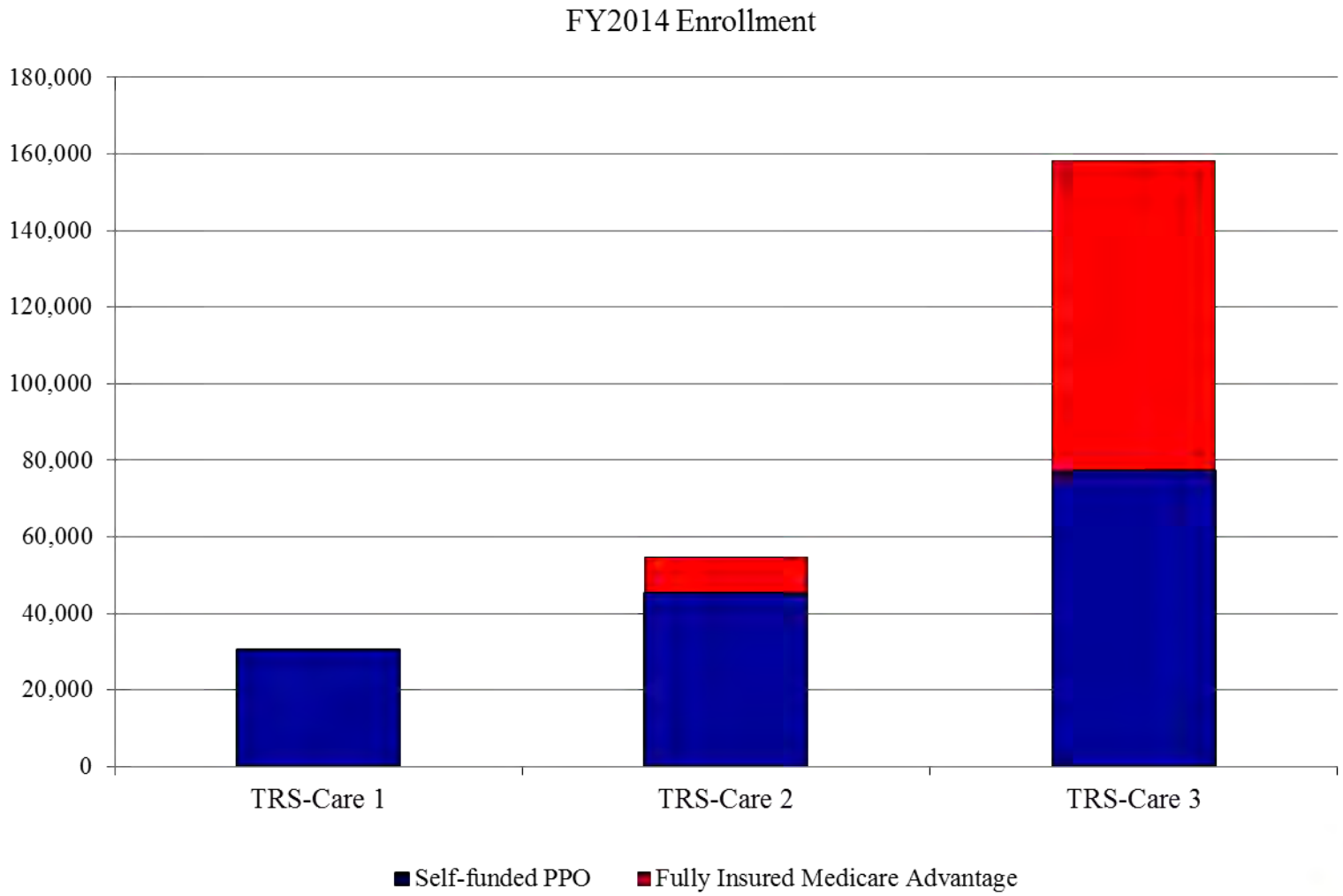
TRS-Care Participation Growth

Number of Members by TRS-Care Plan



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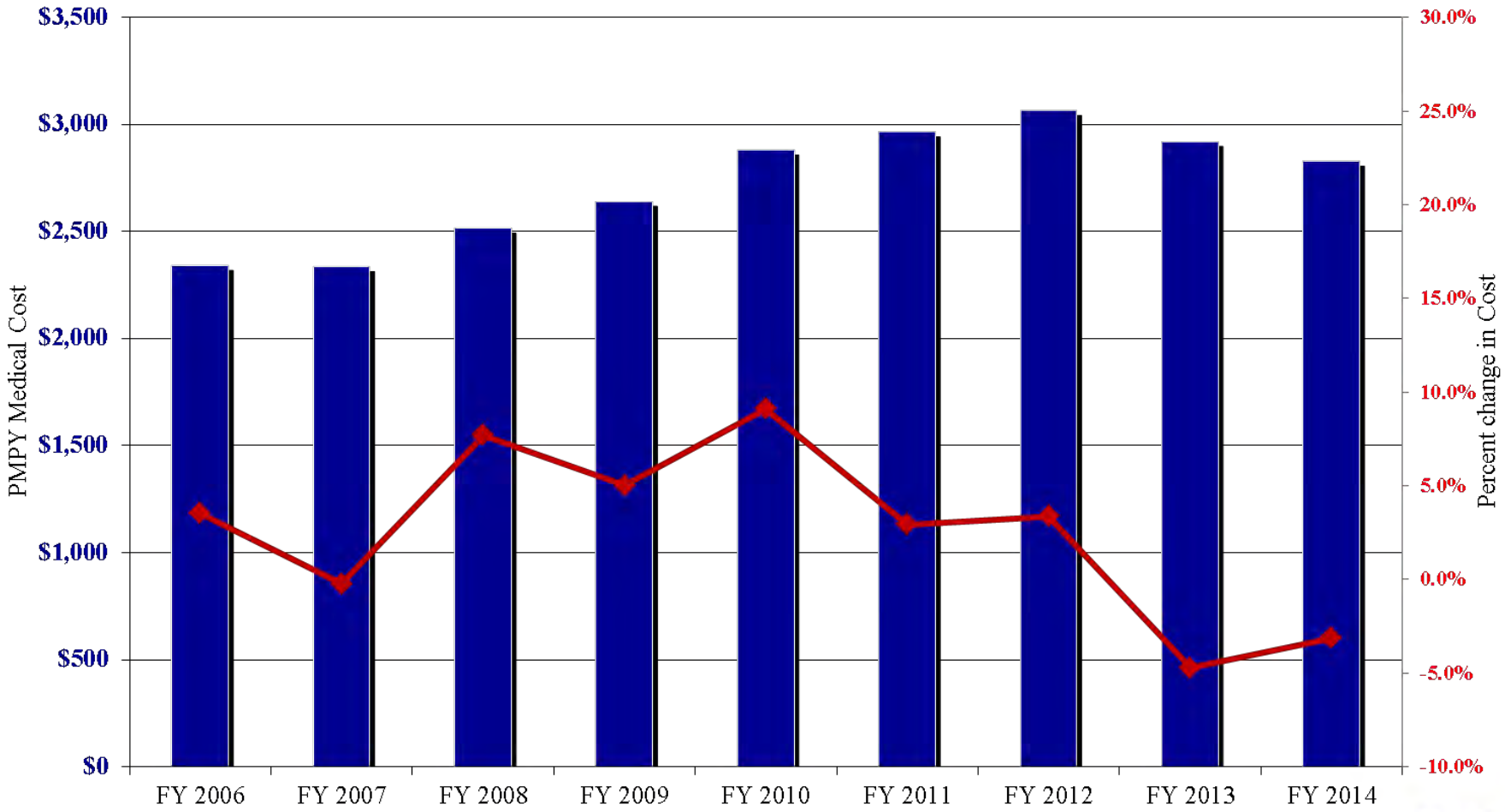
TRS-Care Claims Cost

Medical Claims Per Member



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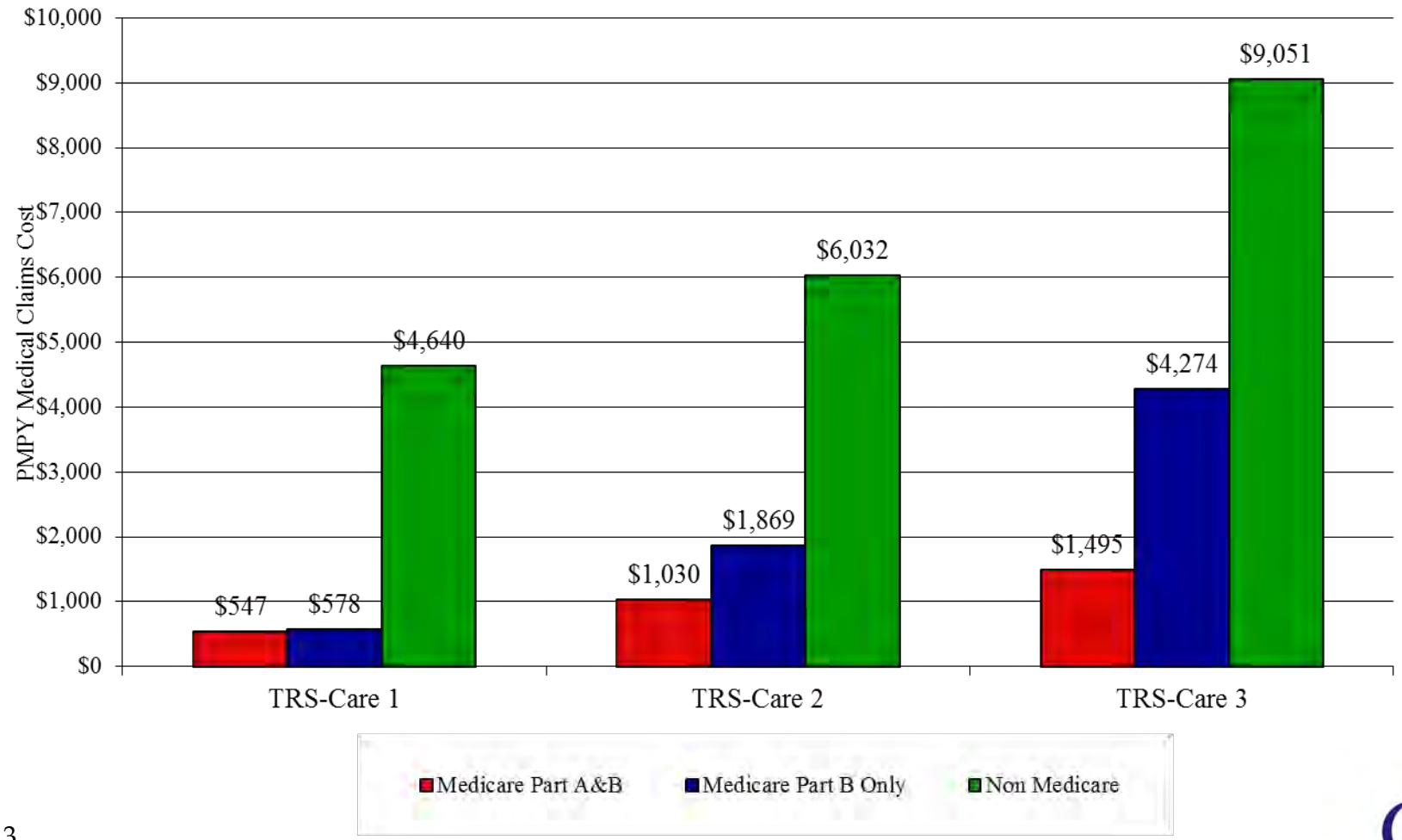
TRS-Care Claims Cost
FY2014 Average Medical Claims for Self-Funded Plans



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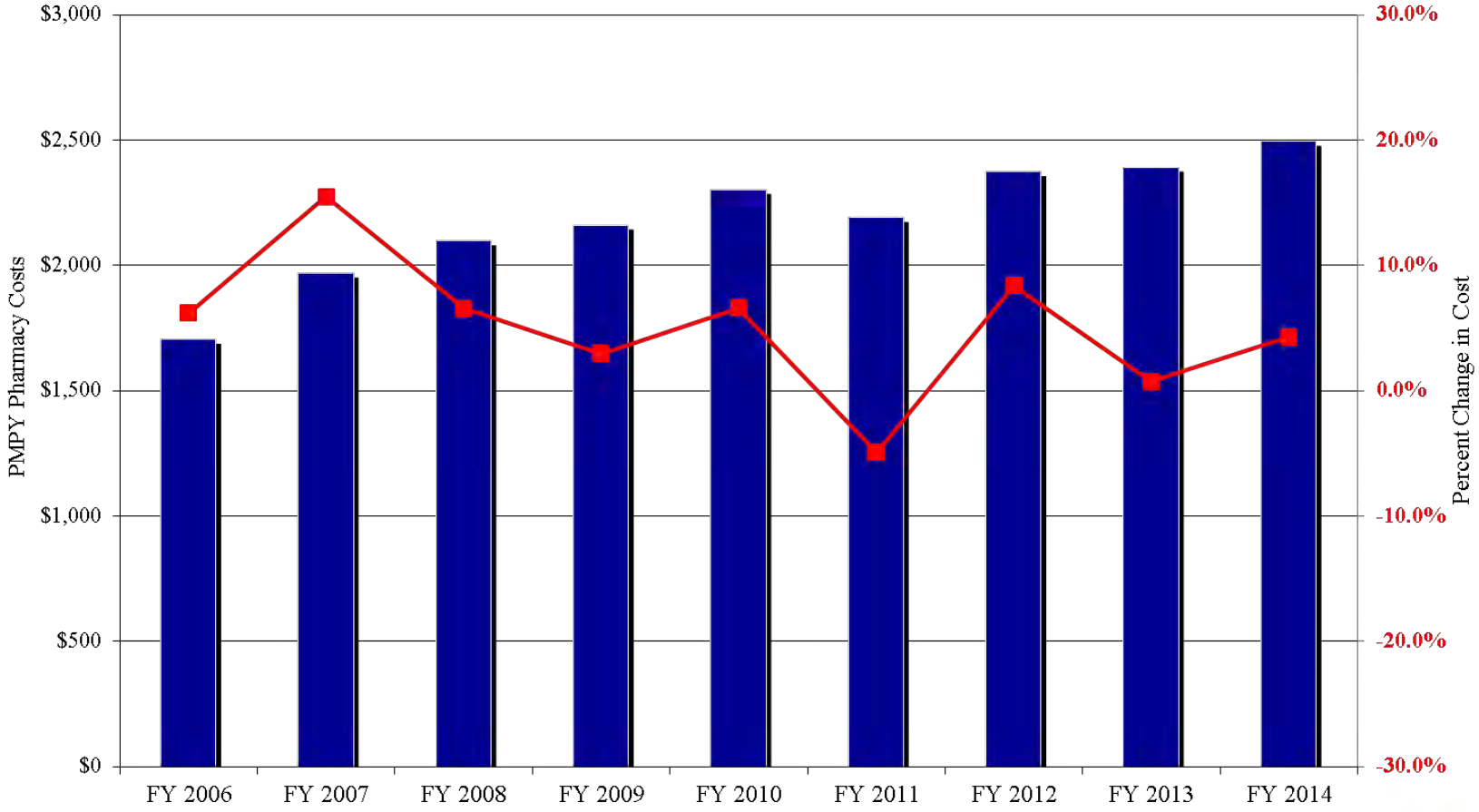
TRS-Care Claims Cost

Average Pharmacy Claims Net of Rebates



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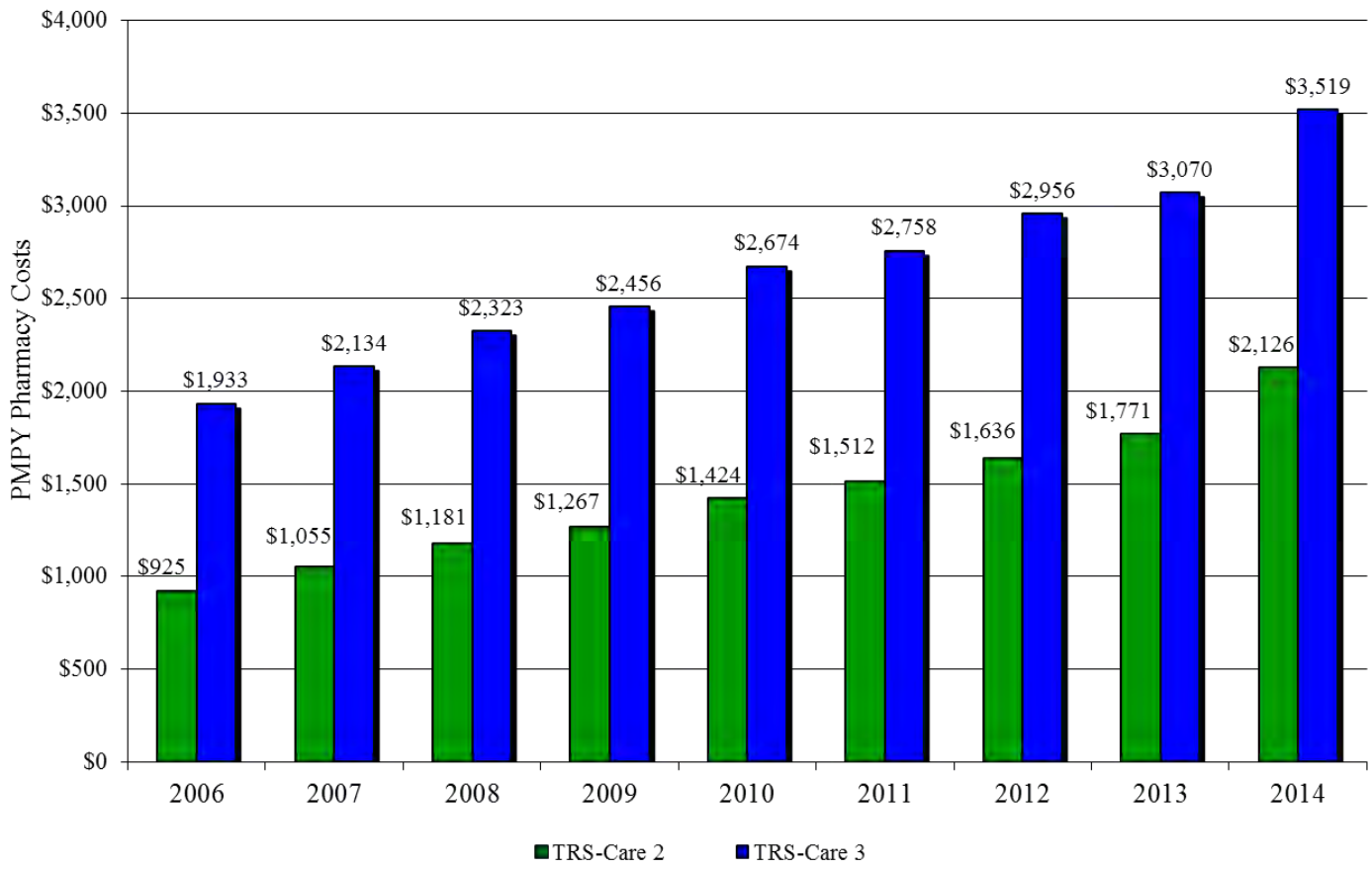
TRS-Care Claims Cost

Average Pharmacy Claims Per Member



FY2013 and FY2014 costs include both the commercial Rx plan and the Medicare Part D Plans for TRS-Care 2 and TRS-Care 3.

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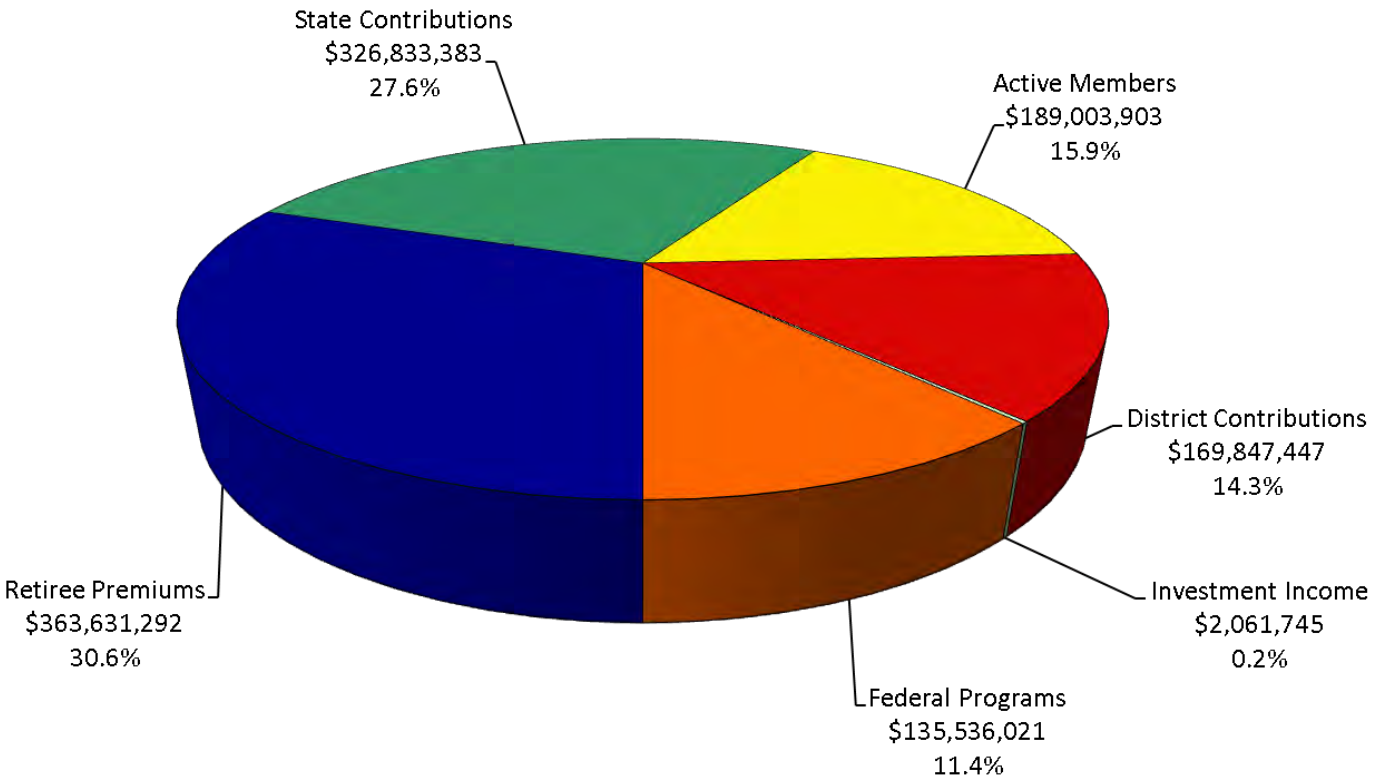
TRS-Care Funding Sources

- State Contributions: 0.5% of public education covered payroll for FY 2013; reinstated to 1.0% in FY2014
- Active TRS members: 0.65% of employee's salary
- School Districts: 0.55% of employee's salary
- Supplemental funding
- Retiree Contributions: tiered by years of service and Medicare status for Care 2 & 3 Coverage and Dependent Coverage
- Employer surcharge to account for the "return to work" employees
- Prescription Drug Subsidies
  - Retiree Drug Subsidy (RDS)
  - PDP Subsidy
  - Coverage Gap Discounts
  - Catastrophic Reinsurance
- Investment Income
- Retirees also pay substantial amounts for deductibles, copays, medical co-insurance and Medicare Part B premiums

FY2014 TRS-Care Funding Sources



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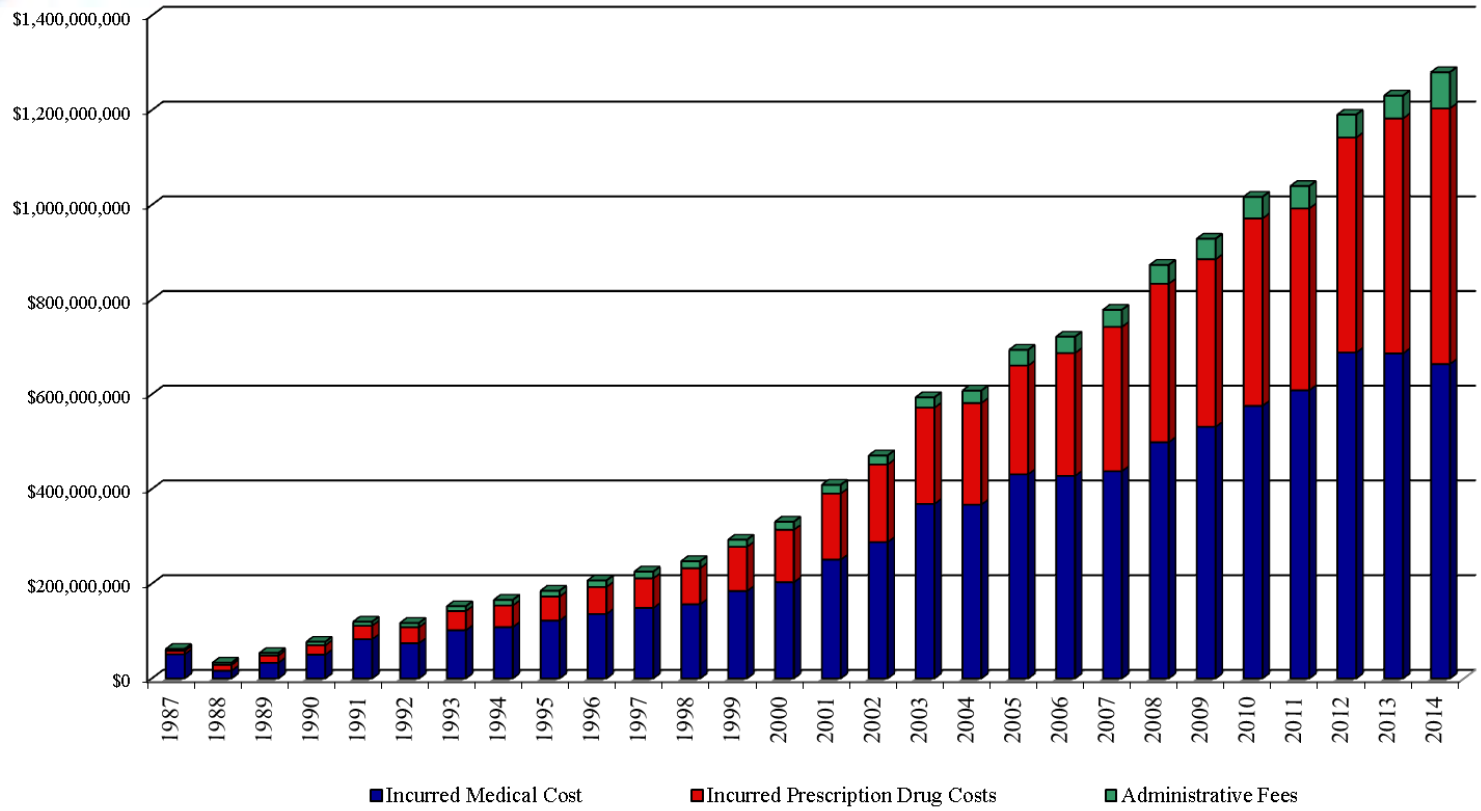
TRS-Care Historical Expenditures



This chart is only part of the picture of total health care costs. In addition to expenditures paid by TRS-Care, retiree costs are shared by Medicare, provider discounts, and retirees. In FY 2014 Medicare paid an estimated $1.56 billion. Provider discounts contributed over $940 million and retiree copayments and payments for non-covered services are estimated at $1 billion.

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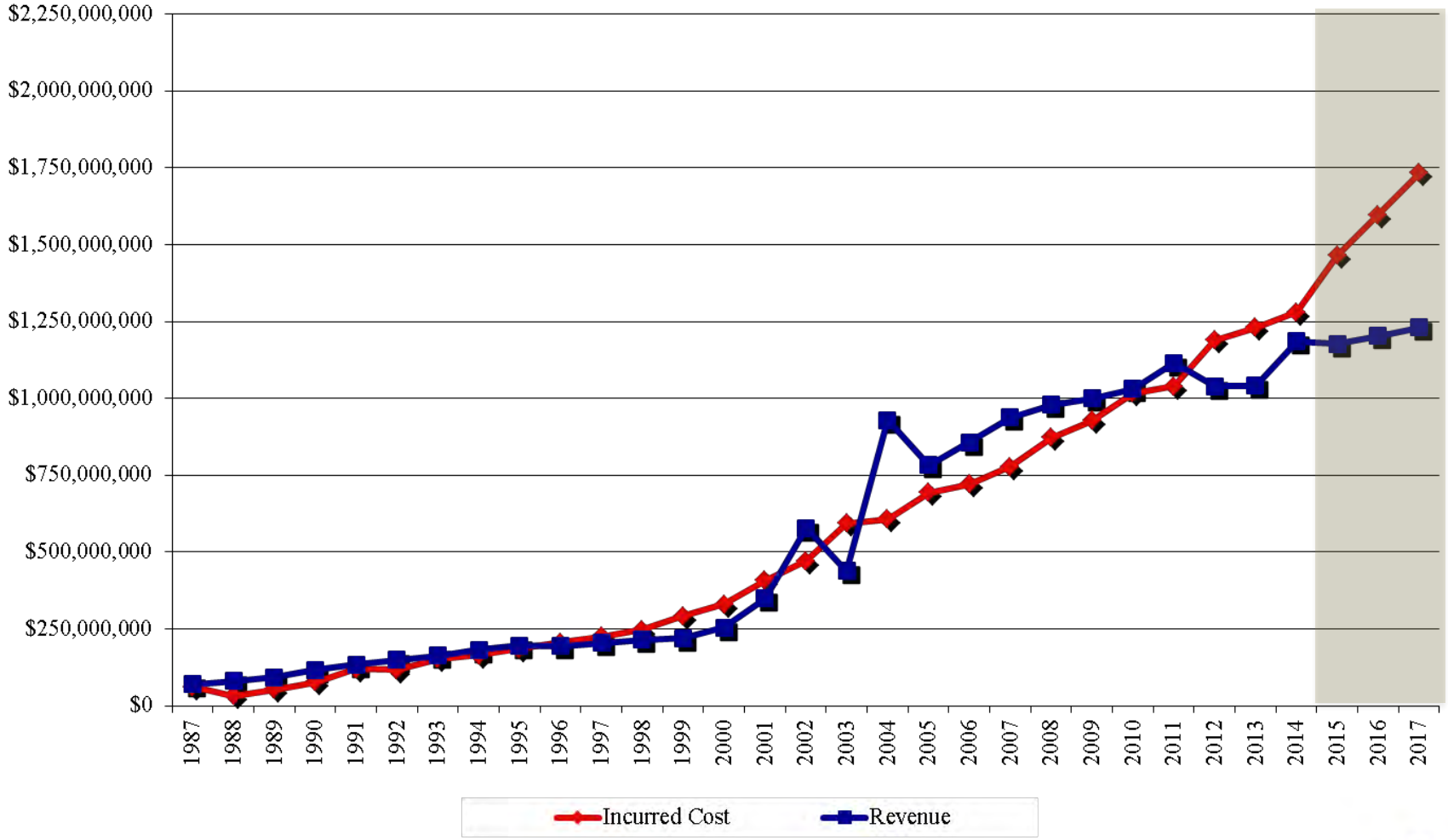
TRS-Care Funding

Revenue Versus Incurred Cost



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TRS-Care Funding

Financial History & Projection Through FY 2019 with Data Through August 2014

	Contributions								Expenditures				
Fiscal Year	Retiree Contributions	State Contributions	Supplemental Appropriations	Active Employee Contributions	District Contributions	Investment Income	CMS& Part D Subsidies	ERRP Subsidy	Medical Incurred	Drug Incurred	Medicare Advantage Premiums	Administrative Costs	Ending Balance (Incurred Basis)
FY 1986	$0	$0	$250,000	$17,625,194	$0	$572,153	$0	$0	$0	$0	$0	$362,371	$18,084,976
FY 1987	$22,617,624	$25,931,680	$0	$18,522,629	$0	$2,568,998	$0	$0	$50,988,845	$7,044,825	$0	$3,941,936	$25,750,301
FY 1988	$23,948,600	$31,357,632	$0	$19,598,520	$0	$5,703,832	$0	$0	$16,157,649	$12,441,672	$0	$4,614,755	$73,144,809
FY 1989	$25,428,632	$37,420,711	$0	$20,789,215	$0	$8,802,914	$0	$0	$32,926,324	$15,458,710	$0	$5,212,073	$111,989,174
FY 1990	$37,556,561	$44,369,915	$0	$22,184,958	$0	$13,098,835	$0	$0	$50,171,919	$19,835,965	$0	$7,186,851	$152,004,708
FY 1991	$46,563,787	$47,277,743	$0	$23,638,871	$0	$15,801,047	$0	$0	$82,697,189	$28,683,081	$0	$8,258,029	$165,647,857
FY 1992	$56,395,797	$50,392,512	$0	$25,196,592	$0	$17,314,372	$0	$0	$74,307,953	$33,829,694	$0	$8,862,560	$197,946,923
FY 1993	$65,154,653	$54,029,406	$0	$27,014,703	$0	$17,181,190	$0	$0	$101,627,864	$40,700,513	$0	$10,067,359	$208,931,140
FY 1994	$80,128,944	$56,912,083	$0	$28,456,041	$0	$16,467,438	$0	$0	$108,284,693	$45,712,060	$0	$11,668,828	$225,230,065
FY 1995	$89,006,331	$59,849,850	$0	$29,924,925	$0	$16,841,673	$0	$0	$122,054,551	$50,782,093	$0	$12,219,847	$235,796,353
FY 1996	$82,622,236	$63,634,087	$0	$31,817,043	$0	$16,818,747	$0	$0	$135,982,304	$57,074,921	$0	$13,593,578	$224,037,663
FY 1997	$87,657,784	$67,616,395	$0	$33,808,197	$0	$16,202,440	$0	$0	$148,823,489	$62,530,982	$0	$14,097,454	$203,870,554
FY 1998	$91,390,173	$72,210,190	$0	$36,105,095	$0	$15,260,517	$0	$0	$156,537,913	$76,256,158	$0	$14,616,678	$171,425,780
FY 1999	$96,474,107	$76,488,424	$0	$38,244,213	$0	$9,762,741	$0	$0	$184,398,533	$93,459,890	$0	$14,905,196	$99,631,646
FY 2000	$120,227,960	$85,505,637	$0	$42,738,069	$0	$6,923,485	$0	$0	$203,029,971	$110,903,247	$0	$16,837,127	$24,256,451
FY 2001	$131,213,445	$90,118,787	$76,281,781	$45,059,394	$0	$5,824,134	$0	$0	$250,691,898	$139,774,848	$0	$18,237,767	($35,950,521)
FY 2002	$143,797,748	$94,792,026	$285,515,036	$47,378,092	$0	$7,140,560	$0	$0	$287,729,918	$163,979,754	$0	$19,017,292	$71,945,978
FY 2003	$162,954,010	$98,340,798	$124,661,063	$49,170,399	$0	$3,394,956	$0	$0	$368,462,963	$203,281,400	$0	$21,690,329	($82,967,487)
FY 2004	$248,552,679	$198,594,194	$298,197,463	$99,297,097	$79,457,387	$4,840,982	$0	$0	$366,840,457	$214,514,500	$0	$26,332,200	$238,285,158
FY 2005	$322,780,191	$202,397,566	$64,172,167	$101,198,783	$80,914,228	$11,300,868	$0	$0	$431,036,095	$229,522,988	$0	$33,333,010	$327,156,868
FY 2006	$326,844,982	$215,666,940	$0	$140,183,511	$118,607,527	$21,435,792	$34,611,607	$0	$427,553,404	$259,532,887	$0	$34,434,969	$462,985,967
FY 2007	$323,957,945	$238,190,720	$0	$154,823,968	$136,008,512	$32,671,539	$52,329,617	$0	$437,519,747	$304,773,401	$0	$35,878,194	$622,796,927
FY 2008	$328,505,433	$254,722,174	$0	$165,569,413	$141,672,630	$29,252,347	$59,486,239	$0	$498,767,038	$334,742,500	$0	$39,656,301	$728,839,324
FY 2009	$329,723,191	$267,471,299	$0	$173,856,344	$149,562,613	$17,482,143	$61,530,735	$0	$531,239,020	$353,893,845	$0	$43,184,393	$800,148,391
FY 2010	$332,481,933	$279,250,547	$0	$181,512,856	$155,918,241	$11,679,229	$70,795,686	$0	$575,539,788	$395,817,017	$0	$45,465,776	$814,964,302
FY 2011	$345,164,271	$282,782,431	$0	$183,808,580	$158,724,010	$8,168,640	$66,258,008	$70,629,797	$608,461,321	$384,017,059	$0	$47,151,354	$890,870,304
FY 2012	$363,348,030	$271,925,242	$0	$176,751,407	$154,607,926	$5,189,934	$71,575,942	($2,941,996)	$687,987,585	$454,143,825	$0	$48,181,723	$741,013,656
FY 2013	$355,685,504	$139,213,557	$102,363,704	$180,824,522	$160,952,396	$3,041,001	$98,628,841	$0	$686,321,003	$496,229,923	$1,075,388	$47,048,587	$551,048,281
FY 2014	$363,631,292	$290,775,235	$36,058,148	$189,003,903	$169,847,447	$2,061,745	$135,536,021	$0	$663,776,623	$539,842,962	$27,507,107	$48,894,894	$457,940,487
FY 2015	$375,291,323	$296,590,741	$0	$192,783,981	$173,034,641	$1,694,204	$137,677,069	$0	$714,665,024	$634,446,432	$62,892,586	$52,386,573	$170,621,830
FY 2016	$382,137,484	$302,522,555	$0	$196,639,661	$176,297,139	$416,968	$144,712,600	$0	$755,744,560	$707,499,930	$82,457,154	$52,158,581	($224,511,988)
FY 2017	$387,975,081	$308,573,006	$0	$200,572,454	$179,624,887	$0	$153,688,432	$0	$799,618,332	$787,070,948	$95,233,285	$51,229,199	($727,229,892)
FY 2018	$393,627,717	$314,744,467	$0	$204,583,903	$183,019,190	$0	$162,754,687	$0	$845,711,895	$873,829,518	$109,665,218	$51,407,169	($1,349,113,729)
FY 2019	$399,553,659	$321,039,356	$0	$208,675,581	$186,481,379	$0	$171,684,575	$0	$897,729,265	$968,227,767	$125,776,180	$52,374,579	($2,105,786,969)

NOTES

- *Actual data through August 31, 2014*
- *70% participation in Medicare Advantage and 83% participation in Part D plan, which was effective 1/1/2013; CY2015 CMS Subsidy values assumed for Part D Revenue.*
- *State Contribution rate of 1%; District Contribution rate of 0.55%; and Active Contribution rate of 0.65%.*
- *Enrollment assumptions based on GASB headcounts*
- *4% increase in payroll growth for FY2014; 2% increase in payroll growth thereafter.*
- *Medical trends: 7% for Care 1; 7% for Care 2; 7% for Care 3.*
- *Pharmacy trends: 7% for Care 2; 7% for Care 3; 7% for EGWP plans.*
- *Interest Rate = 0.4%*
- *Medicare Part D Risk Score of 0.811 beginning January 1, 2015*

GRS

Cost Drivers

- Increase in medical costs
- Increase in Rx costs
- Maintaining access and choice in managing providers
- Increased utilization due to aging population
- Potential increase in number of retirees (Non-Medicare)
- Potential plan changes in Medicare program
- Technology increases and development of new biogenetic drugs
- CMS reimbursements for Medicare Advantage and Medicare Part D Plans

TRS-ActiveCare

Health Care Program
for Employees and Dependents of
Public Education Entities

GRS

History

- Coverage began on September 1, 2002
  - Medical benefits administered by Blue Cross Blue Shield
  - Prescription drug benefits administered by Express Scripts, Inc. (Medco)
- Three self-funded, managed care plan options
- Effective September 1, 2014, plan design changes were implemented
  - Medical benefits administered by Aetna
  - Prescription drug benefits administered by CVS/Caremark
- Approximately 10.5% of the covered population has elected coverage in the fully insured HMO plans

ActiveCare-1HD Plan Design Changes

	FY2014	FY2015
Deductible*	$2,400/$4,800	$2,500/$5,000
Coinsurance Max*	$3,850/$4,200	N/A
Maximum Out-of-Pocket*	N/A	$6,350/$9,200
Teladoc Physician Services	N/A	$40 consultation fee

* Individual/Family

- 0% premium increase for Employee Only coverage

ActiveCare-Select Plan Design

	FY2014	FY2015
Deductible*	N/A	$1,200/$3,600
Maximum Out-of-Pocket*	N/A	$6,350/$9,200
Coinsurance	N/A	80/20%
Office Visit	N/A	$30 PCP $60 Specialist
Emergency Room Visit	N/A	$150 copay per visit
Teladoc Physician Services	N/A	Copay waived
Annual Drug Deductible	N/A	$200, excluding generic drugs
Retail Short-term drug copays**	N/A	$20/$40/50%
Retail Maintenance drug copays** (after 1st fill)	N/A	$25/$50/50%
Mail Order drug copays**	N/A	$45/$105/50%
Specialty drug coinsurance	N/A	20% coinsurance

* Individual/Family
** Generic/preferred brand/non-preferred brand

ActiveCare-2 Plan Design Changes

	FY2014	FY2015
Deductible*	$1,000/$3,000	$1,000/$3,000
Coinsurance Max*	$4,000/$8,000	N/A
Out-of-Pocket Maximum*	N/A	$6,000/$12,000
Teladoc Physician Services	N/A	100% covered
Quest Lab Services	N/A	100% covered
Specialty drug copay	$200 per fill	$200 per fill 0-31 days supply $400 per fill 32-90 days supply

* Individual/Family

- 4.9% increase for Employee Only coverage

ActiveCare-3 Plan Design Changes

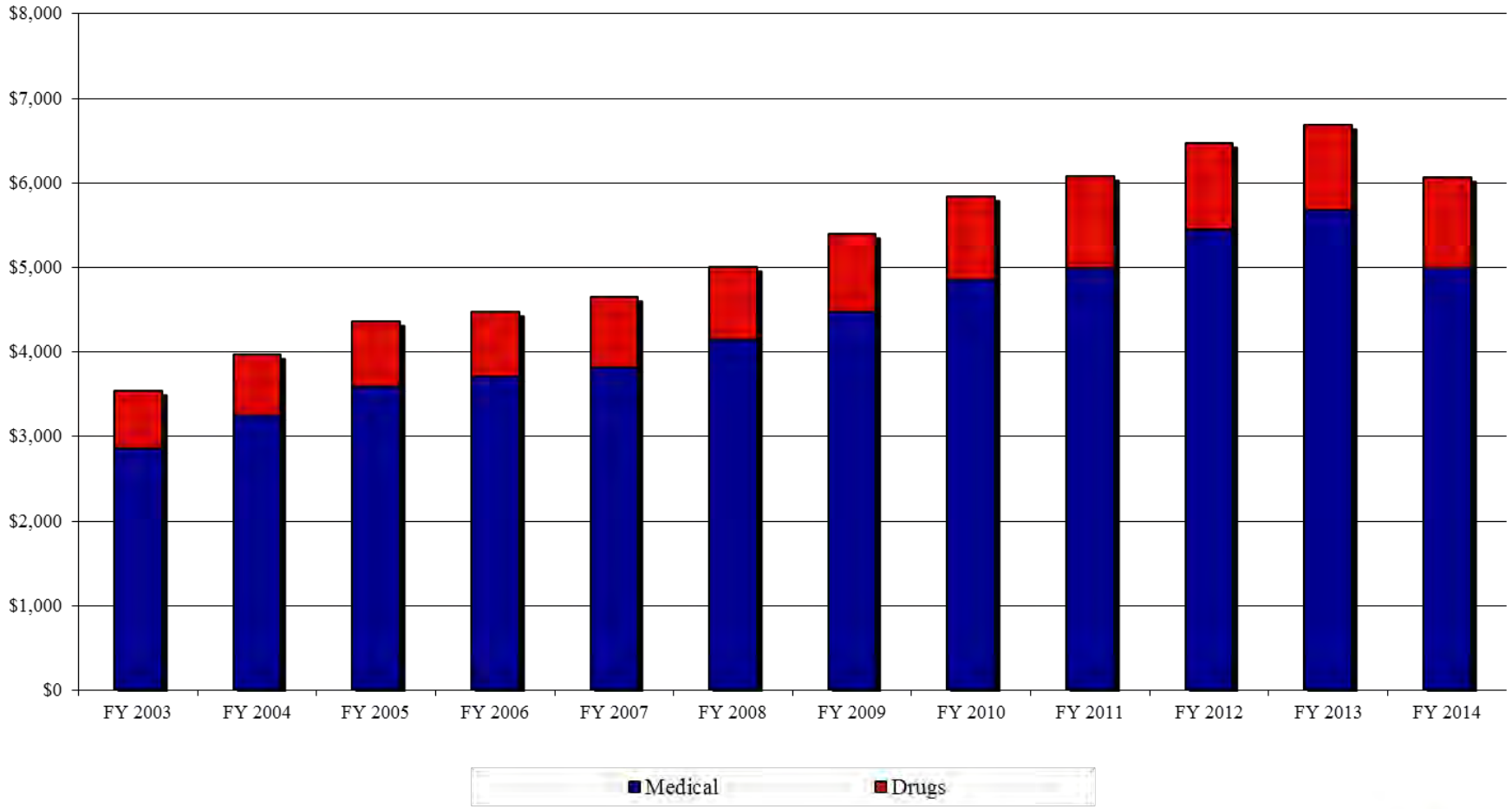
- Enrollment closed to new enrollees for FY2014
- Plan discontinued for FY2015

TRS-ActiveCare Participation

Entity Type	# Eligible	# Participating	% Participating
Less than 500	816	801	98.2%
500 – 1,000	111	98	88.3%
More than 1,000	97	48	49.5%
Charter	190	146	76.8%
RSC	20	20	100.0%
Other Ed	5	5	100.0%
Total	**1,239**	**1,118**	**90.2%**

GRS

TRS-ActiveCare Claims Cost

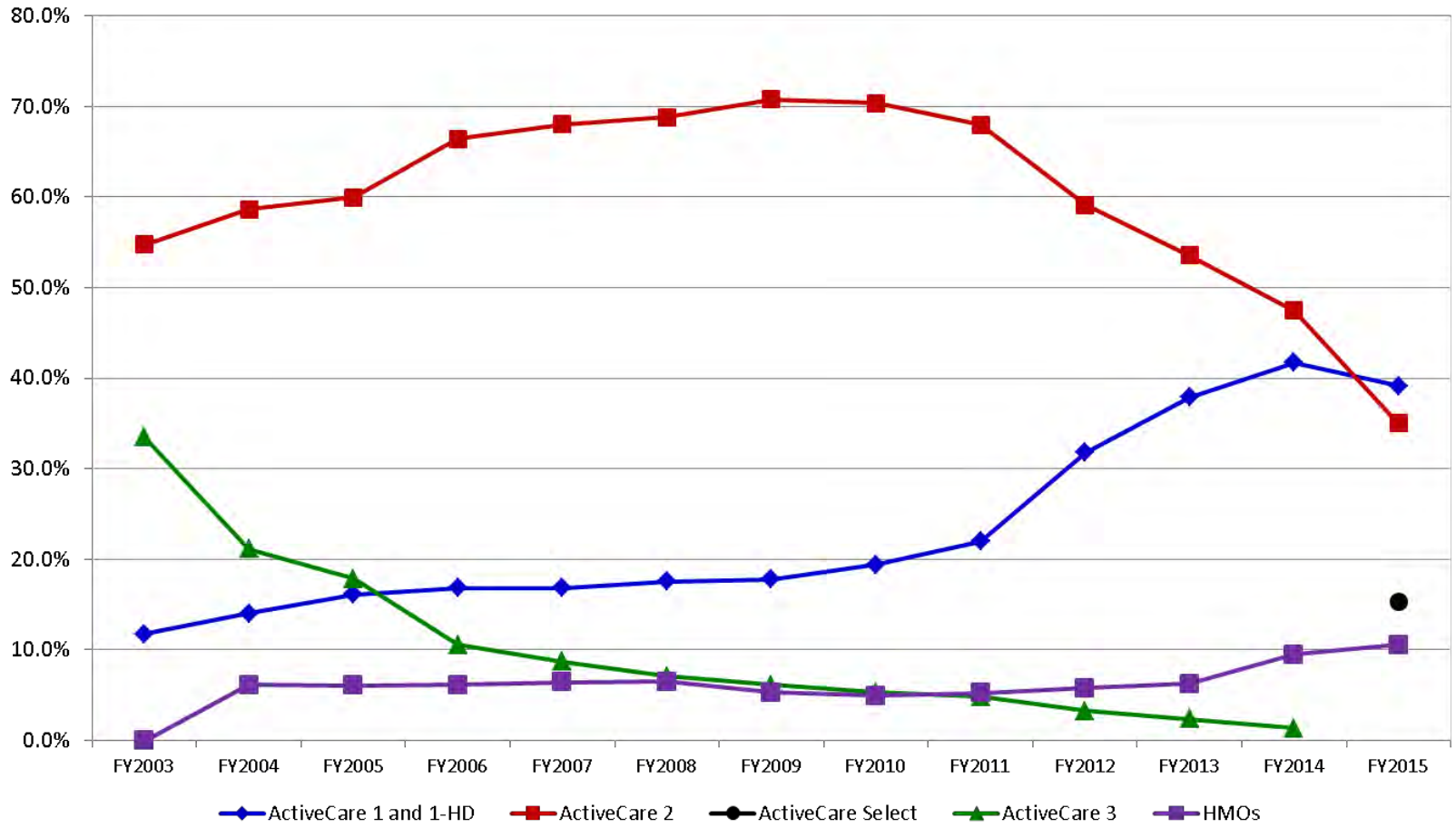


GRS

TRS-ActiveCare Funding

- District Funding
  - Required to contribute $150 per month per employee (districts may elect to contribute more)
- State Funding
  - Contributes $75 per month per employee, through school finance formulas
- Funding requirements for Districts and State have not changed since program inception in 2002.

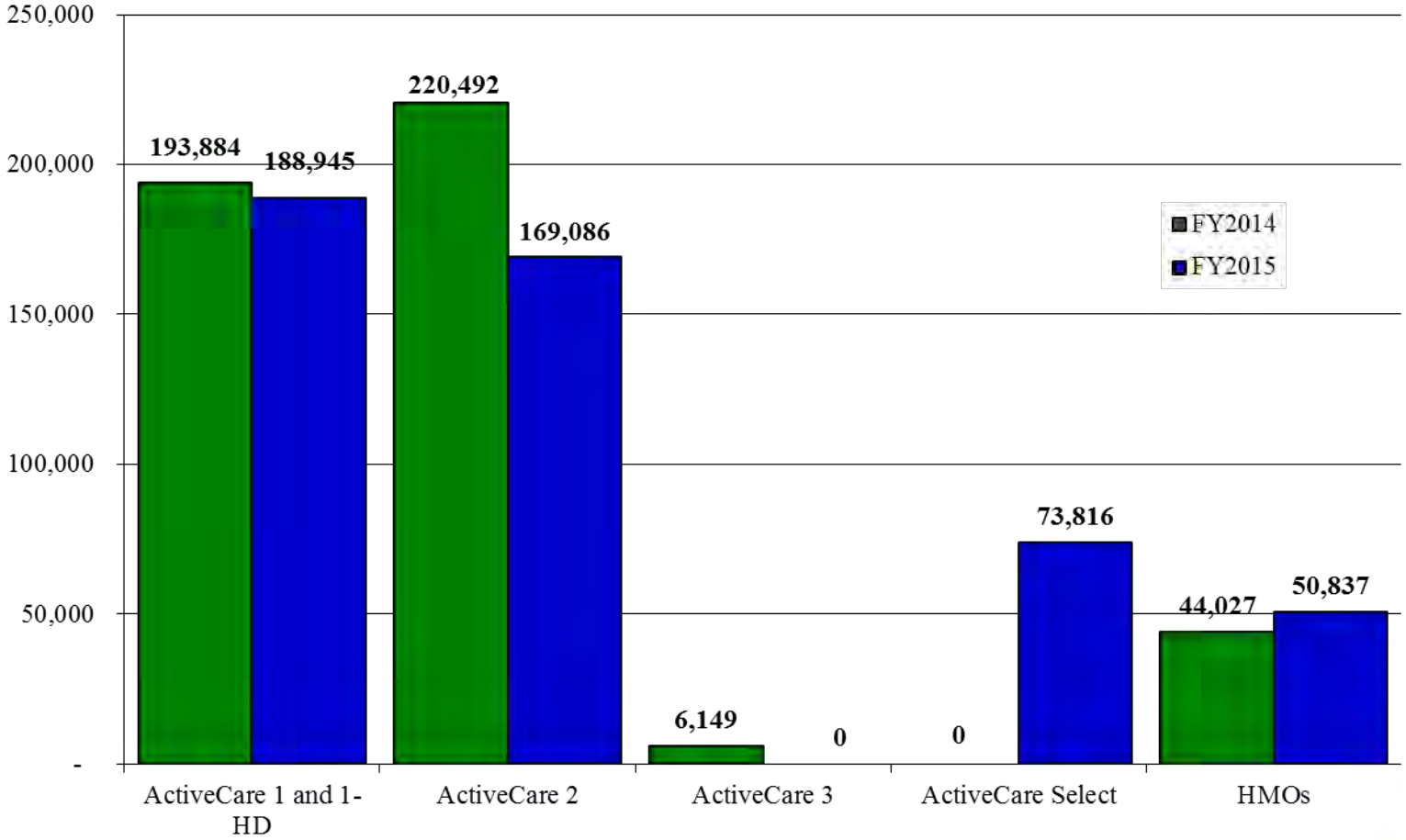
TRS-ActiveCare Participation



There has been a significant shift in enrollment as premiums have increased and benefits have been reduced.

GRS

TRS-ActiveCare Participation



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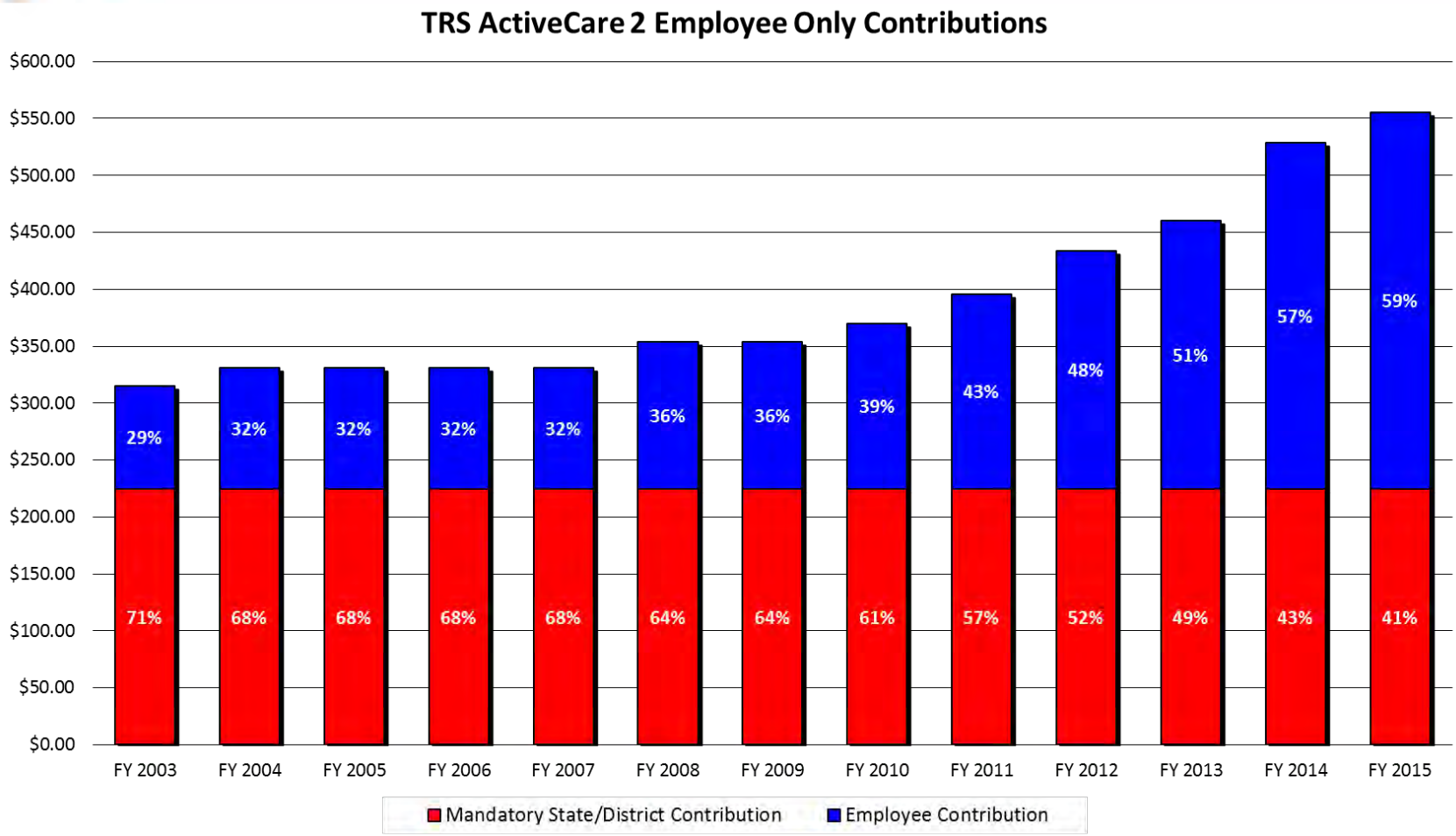
TRS-ActiveCare 2

Monthly Contribution per Employee



Assumes $225 PEPM State and District contributions.

GRS

Cost Drivers

- Increase in number of participating entities and employees
- Increase in medical costs
- Increase in pharmacy costs
- State and district contribution toward premium not linked to industry trend
- Technology increases and development of new biogenetic drugs
- Potential adverse selection due to the availability of public exchanges

Tab 7 A

Teacher Retirement System of Texas

Performance Review: Third Quarter 2014

November 2014

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Summary

- Worsening economic conditions in Europe and Japan, along with a strengthening US dollar, muted third quarter Global Equity returns; in domestic markets higher quality investments generally outperformed as the S&P 500 Index eclipsed all-time highs before trailing off through quarter end; small caps fared much worse
  - The Treasury yield curve flattened further during the third quarter as inflation remained subdued; this resulted in a spike in commodity volatility as energy and grain prices fell
- TRS posted a 0.0% return during the third quarter and underperformed its performance benchmark by 6 basis points
  - During the trailing 12 month period, TRS returned 11.4% vs. 10.9% for its performance benchmark
  - TRS performance remains strong on an absolute and relative basis over the trailing 1, 3, 5, and 10 year periods
- Investments that detracted from relative results during the quarter included:
  - Collective underperformance by Domestic Large Cap Equities
  - Below-target allocations to Long Treasuries hurt as these investments performed well during the quarter
- Investments delivering positive relative returns during the third quarter included:
  - Outperformance within Private Equity and Non-US Developed Equities
  - An overweight to Absolute Return strategies which posted strong positive results during the quarter

1. Market Summary – Third Quarter 2014

	Third Quarter	YTD	One Year	Three Years	Five Years	Ten Years
Global Equity:						
MSCI USA Standard	0.9%	8.2%	19.3%	23.0%	15.8%	8.3%
MSCI USA Small Cap	-5.4	0.4	9.4	23.5	16.4	9.4
MSCI EAFE + Canada Index	-5.7	-0.7	4.9	13.2	6.5	6.5
MSCI Emerging Markets Index	-3.5	2.4	4.3	7.2	4.4	10.7
HFRI Fund of Funds Composite Index	0.3	2.4	6.2	5.2	3.4	3.4
State Street Private Equity Index (qtr lagged)	4.5	14.6	20.7	11.5	15.1	12.6
Global Equity Policy Benchmark	-1.3	5.2	11.7	14.4	10.6	
Stable Value:						
Barclays Capital Long Treasury Index	2.7%	15.1%	11.6%	2.0%	7.0%	6.8%
HFRI Fund of Funds Conservative Index	0.2	2.9	5.6	4.9	3.4	2.8
3 Month LIBOR + 2%	0.6	1.7	2.2	2.3	2.3	4.0
90 Day US Treasury Bill	0.0	0.0	0.0	0.1	0.1	1.6
Stable Value Policy Benchmark	2.0	11.5	9.7	2.6	6.2	
Real Return:						
Barclays Capital US Treasury TIPS Index	-2.0%	3.7%	1.6%	1.3%	4.5%	4.6%
NCREIF ODCE (qtr lagged)	2.7	8.1	11.7	11.4	9.0	
Cambridge Nat. Resources (75) / CPI (qtr lagged) (25)	6.8	7.9				
Goldman Sachs Commodities Index	-12.5	-7.5	-7.8	-0.1	1.3	-2.8
Real Return Policy Benchmark	2.1	7.1	9.0	9.5	9.0	
TRS Policy Benchmark	0.1%	6.8%	10.9%	11.4%	9.8%	7.0%

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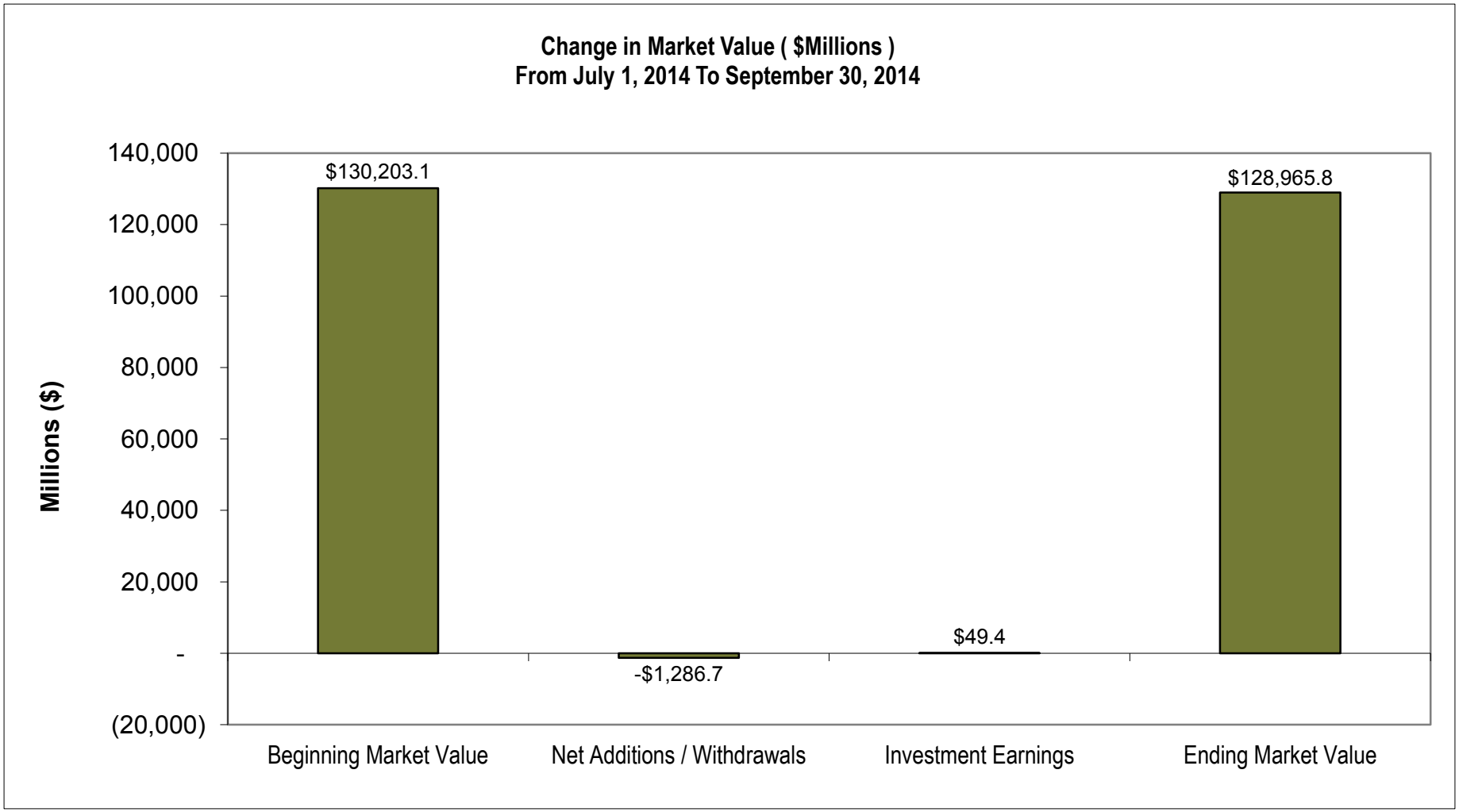
2. Market Value Change



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3. Asset Allocation Detail

	Market Value ($ in millions) as of 9/30/2014		Policy Target	Relative Allocation to Policy Target	Ranges
	($)	(%)			
Total Fund	**$128,966**	**100%**	**100%**	**---**	**--**
U.S. Large	$26,738	20.7%	18%	+2.7%	13-23%
U.S. Small	$2,369	1.8%	2%	-0.2%	0-7%
Non-U.S. Developed	$19,336	15.0%	15%	0.0%	10-20%
Emerging Markets	$14,314	11.1%	10%	+1.1%	5-15%
Directional Hedge Funds	$6,561	5.1%	5%	+0.1%	0-10%
Private Equity	$15,435	12.0%	11%	+1.0%	6-16%
Global Equity	**$84,753**	**65.7%**	**61%**	+4.7%	**54-68%**
Long Treasuries	$13,508	10.5%	13%	-2.5%	0-20%
Stable Value Hedge Funds	$5,245	4.1%	4%	+0.1%	0-10%
Absolute Return (including OAR)	$687	0.5%	0%	+0.5%	0-20%
Cash	$652	0.5%	1%	-0.5%	0-5%
Stable Value	**$20,092**	**15.6%**	**18%**	-2.4%	**13-23%**
TIPS	$6,165	4.8%	5%	-0.2%	0-10%
Real Assets	$15,272	11.8%	13%	-1.2%	8-18%
Energy and Natural Resources	$2,565	2.0%	3%	-1.0%	0-8%
Commodities	$118	0.1%	0%	+0.1%	0-5%
Real Return	**$24,121**	**18.7%**	**21%**	-2.3%	**16-26%**

Note: Actual allocations above are based upon Account Level information

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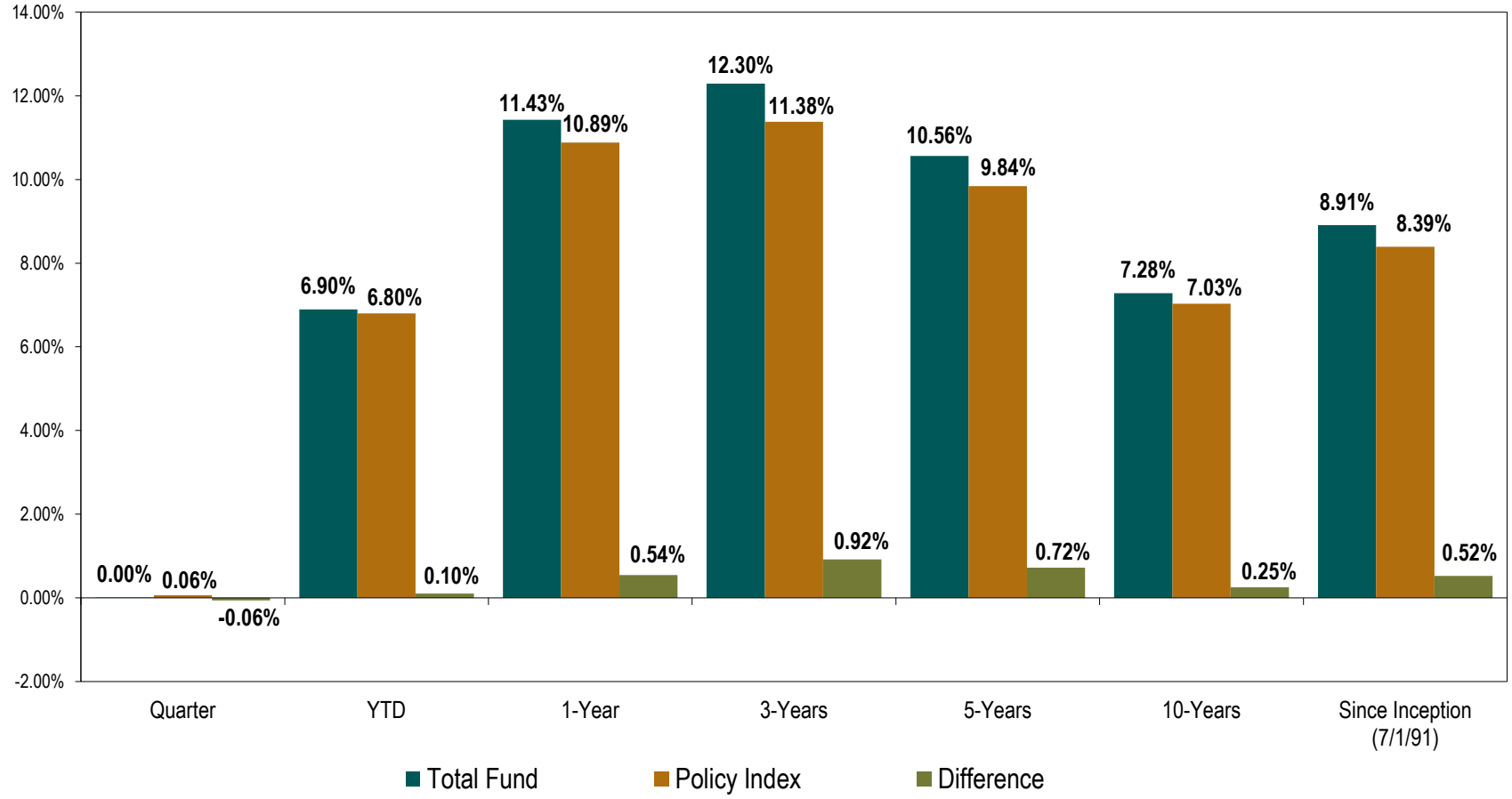
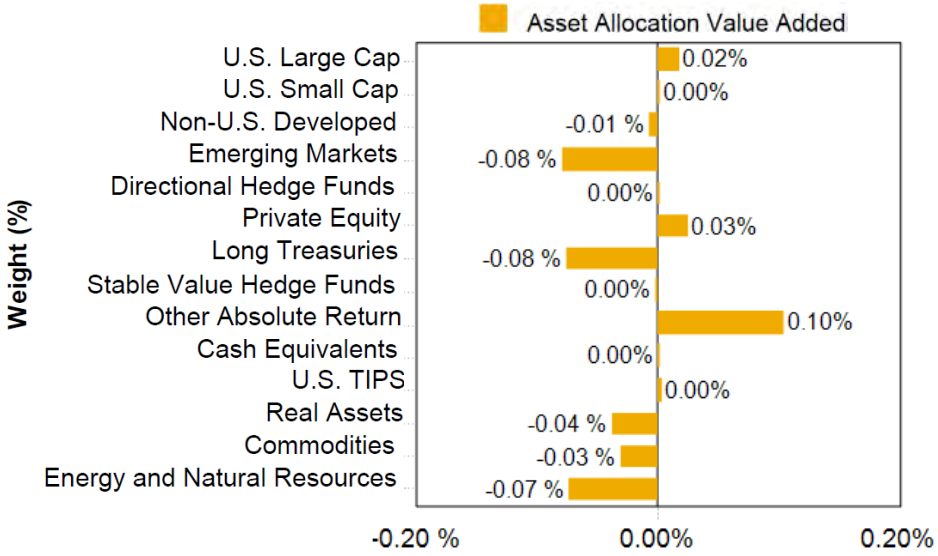
4. Total TRS Performance Ending 9/30/2014

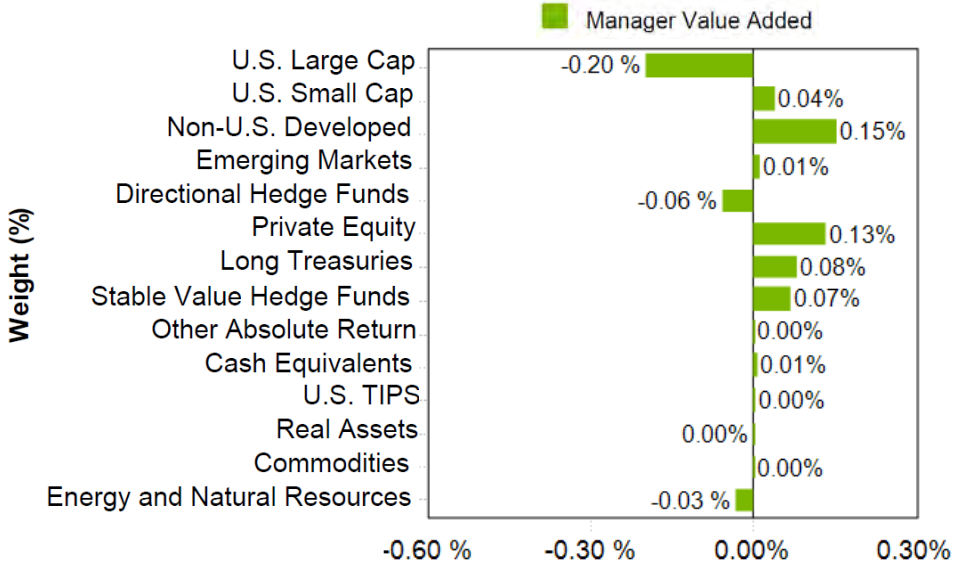
Investment Results
As of 9/30/2014

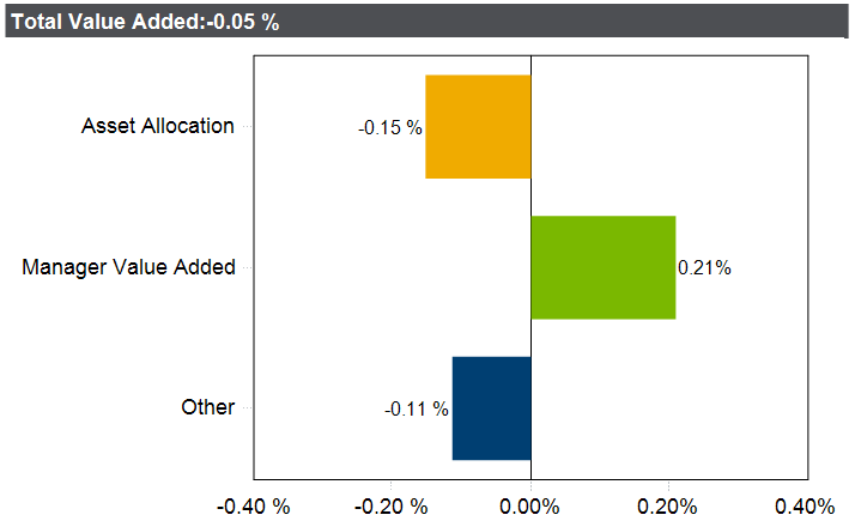


Note: The excess returns shown above may not be a perfect difference between the actual and benchmark returns due entirely to rounding.

5. Total Fund Attribution - Quarter Ending 9/30/2014







Note: Differences in value-added figures reported here (5 basis points) and on the previous page (6 basis points) are due entirely to rounding.

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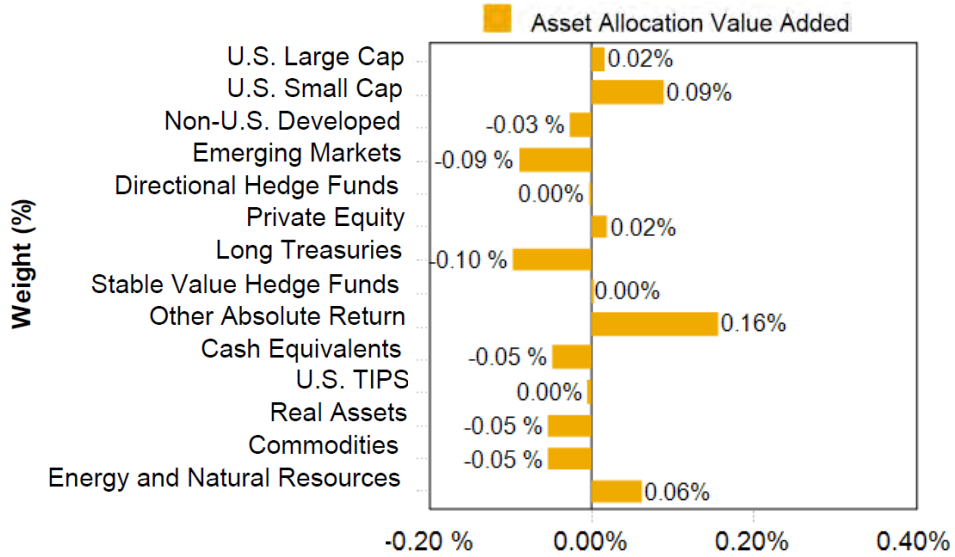
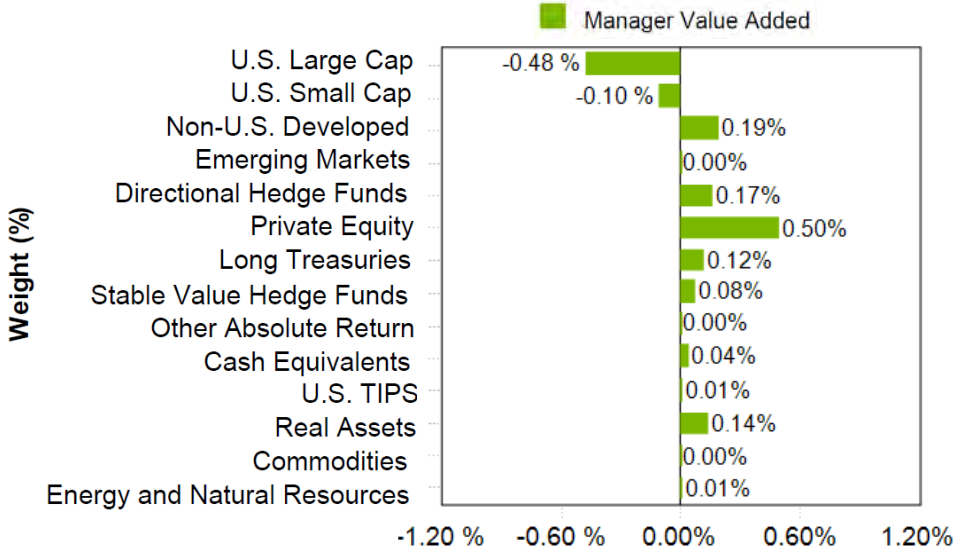
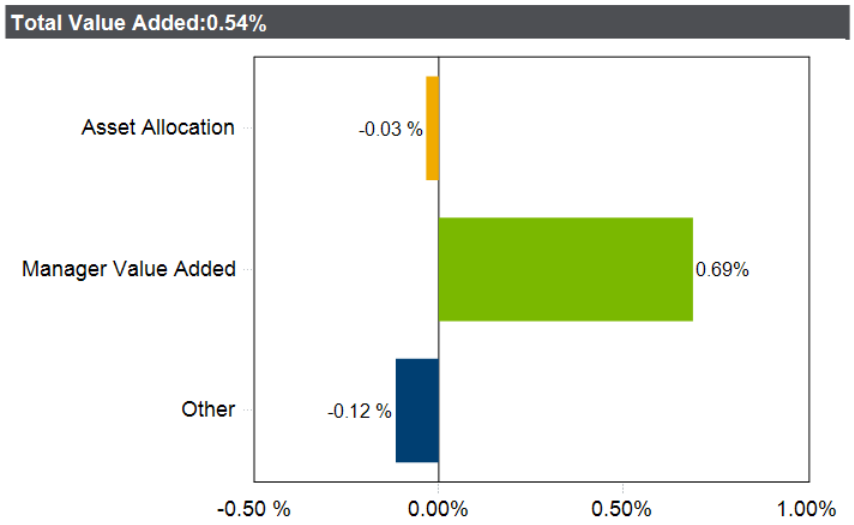
5. Total Fund Attribution – Trailing One Year Ending 9/30/2014







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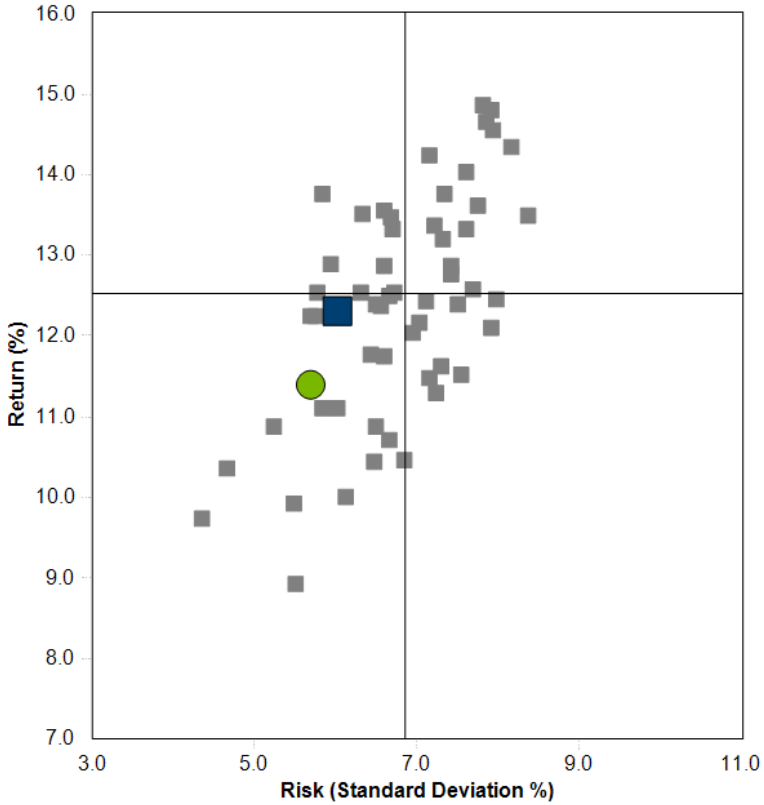
6. Risk Profile: Total Fund Risk-Return vs. Peers

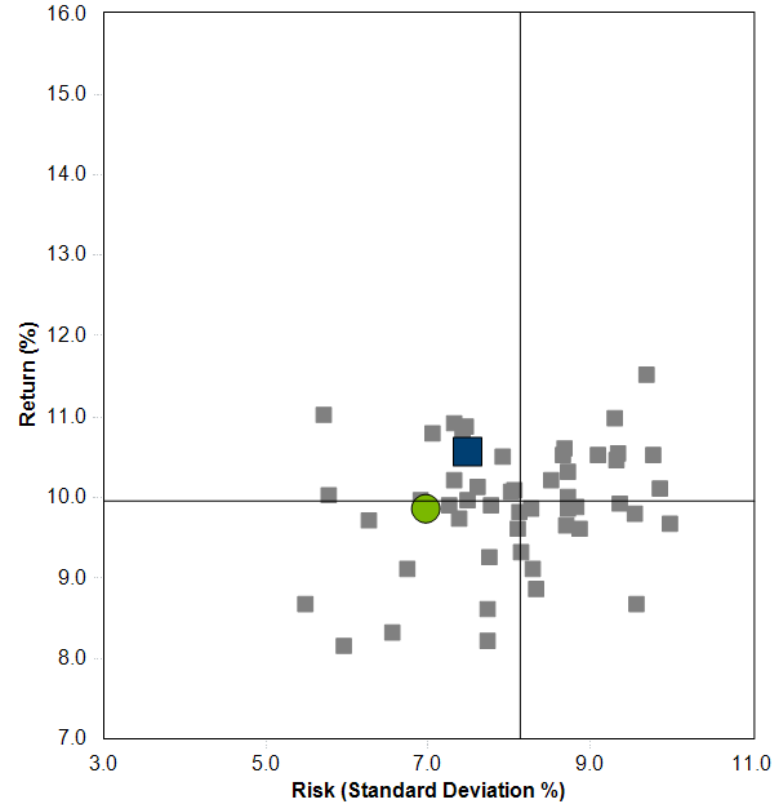
All Public Plans > $1B-Total Fund

Annualized Return vs. Annualized Standard Deviation
3 Years Ending September 30, 2014



	Return	Standard Deviation
Total Fund	12.30	6.02
Total Fund Benchmark	11.38	5.69
Median	12.53	6.85

Annualized Return vs. Annualized Standard Deviation
5 Years Ending September 30, 2014



	Return	Standard Deviation
Total Fund	10.56	7.49
Total Fund Benchmark	9.84	6.98
Median	9.95	8.13

Plan Sponsor Peer Group composed of 63 public funds with total assets in excess of $1B as of 9/30/14.

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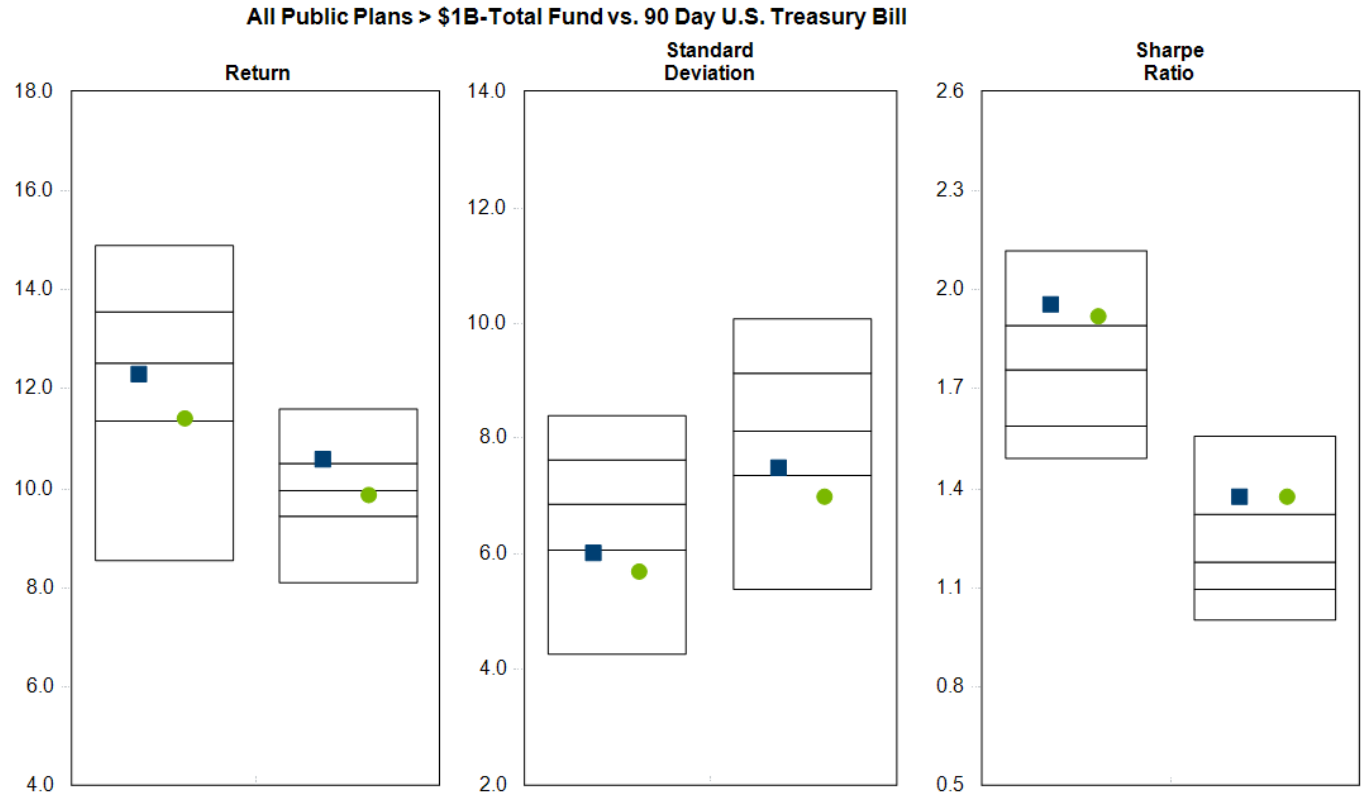
6. Risk Profile: Trailing 3-Year and 5-Year Risk Metrics Peer Comparison



	Return 3 Years	Return 5 Years	Standard Deviation 3 Years	Standard Deviation 5 Years	Sharpe Ratio 3 Years	Sharpe Ratio 5 Years
■ Total Fund	12.30 (60)	10.56 (21)	6.02 (76)	7.49 (71)	1.95 (20)	1.37 (21)
● Total Fund Benchmark	11.38 (75)	9.84 (61)	5.69 (85)	6.98 (82)	1.92 (22)	1.37 (21)
5th Percentile	14.92	11.61	8.40	10.08	2.12	1.56
1st Quartile	13.58	10.51	7.62	9.12	1.89	1.32
Median	12.53	9.95	6.85	8.13	1.76	1.18
3rd Quartile	11.37	9.45	6.08	7.36	1.59	1.09
95th Percentile	8.55	8.10	4.26	5.40	1.49	1.00

Plan Sponsor Peer Group composed of 63 public funds with total assets in excess of $1B.

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7. Global Equity: Performance Summary Ending 9/30/2014

	Third Quarter	YTD	One Year	Three Years	Five Years
Total Global Equity	**-1.1%**	**5.2%**	**12.2%**	**15.6%**	**11.1%**
Global Equity Benchmark	-1.3	5.2	11.7	14.4	10.6
Difference	*+0.2*	*+0.0*	*+0.5*	*+1.2*	*+0.5*
Total U.S.	**-0.3**	**5.6**	**15.6**	**22.5**	**15.2**
U.S. Benchmark	0.3	7.4	18.3	23.1	15.7
Difference	*-0.6*	*-1.8*	*-2.7*	*-0.6*	*-0.5*
U.S. Large Cap	**0.0**	**6.5**	**16.8**	**22.6**	**15.2**
Large Cap Benchmark	0.9	8.2	19.3	23.0	15.5
Difference	*-0.9*	*-1.7*	*-2.5*	*-0.4*	*-0.3*
U.S. Small Cap	**-3.4**	**-2.2**	**6.1**	**23.4**	**16.3**
Small Cap Benchmark	-5.4	0.4	9.4	23.5	16.4
Difference	*+2.0*	*-2.6*	*-3.3*	*-0.1*	*-0.1*
Non-U.S. Equity	**-4.2**	**0.3**	**5.3**	**11.3**	**6.2**
Non-U.S. Benchmark	-4.8	0.6	4.7	10.8	5.8
Difference	*+0.6*	*-0.3*	*+0.6*	*+0.5*	*+0.4*
Non-U.S. Developed	**-4.8**	**-1.1**	**6.2**	**13.7**	**7.2**
MSCI EAFE + Canada	-5.7	-0.7	4.9	13.2	6.5
Difference	*+0.9*	*-0.4*	*+1.3*	*+0.5*	*+0.7*
Emerging Markets	**-3.4**	**2.3**	**4.4**	**8.3**	**4.9**
MSCI Emerging Markets	-3.5	2.4	4.3	7.2	4.4
Difference	*+0.1*	*-0.1*	*+0.1*	*+1.1*	*+0.5*

Note: The excess returns shown in this presentation may differ from State Street statements due entirely to rounding. These differences are generally within a few basis points and are not material.

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7. Global Equity: Performance Summary Ending 9/30/2014 (cont'd)

	Third Quarter	YTD	One Year	Three Years	Five Years
Directional Hedge Funds	**-0.8%**	**4.2%**	**9.4%**	**8.7%**	**--**
HFRI Fund of Funds Composite Index	0.3	2.4	6.2	5.2	--
Difference	*-1.1*	*+1.8*	*+3.2*	*+3.5*	--
Total Public Equity	**-2.3**	**2.8**	**10.0**	**15.5**	**9.7**
Public Equity Benchmark	-2.2	3.5	10.2	15.1	9.7
Difference	*-0.1*	*-0.7*	*-0.2*	*+0.4*	*+0.0*
Total Private Equity	**4.5**	**16.6**	**23.2**	**15.9**	**18.3**
Private Equity Benchmark	3.2	12.8	18.2	10.7	14.7
Difference	*+1.3*	*+3.8*	*+5.0*	*+5.2*	*+3.6*

Note: The excess returns shown in this presentation may differ from State Street statements due entirely to rounding. These differences are generally within a few basis points and are not material.

8. Stable Value: Performance Summary Ending 9/30/2014

	Third Quarter	YTD	One Year	Three Years	Five Years
Total Stable Value	**3.3%**	**12.7%**	**11.4%**	**4.2%**	**7.9%**
Total Stable Value Benchmark	2.0	11.5	9.7	2.6	6.2
Difference	*+1.3*	*+1.2*	*+1.7*	*+1.6*	*+1.7*
Long Treasuries	**3.5**	**16.2**	**12.7**	**2.6**	**7.7**
Treasury Benchmark	2.7	15.1	11.6	2.0	7.0
Difference	*+0.8*	*+1.1*	*+1.1*	*+0.6*	*+0.7*
Stable Value Hedge Funds	**2.0**	**4.7**	**7.6**	**4.0**	**3.8**
Hedge Funds Benchmark	0.2	2.9	5.6	4.9	3.9
Difference	*+1.8*	*+1.8*	*+2.0*	*-0.9*	*-0.1*
Other Absolute Return	**11.8**	**20.2**	**36.7**	**21.0**	**16.9**
Other Absolute Return Benchmark	0.6	1.7	2.2	2.3	2.3
Difference	*+11.2*	*+18.5*	*+34.5*	*+18.7*	*+14.6*
Cash Equivalents	**0.7**	**3.0**	**3.4**	**1.9**	**0.7**
Cash Benchmark	0.0	0.0	0.0	0.1	0.1
Difference	*+0.7*	*+3.0*	*+3.4*	*+1.8*	*+0.6*

Note: Performance of Cash Equivalents is shown net of fees paid to TRS Strategic Partners

Note: The excess returns shown in this presentation may differ from State Street statements due entirely to rounding. These differences are generally within a few basis points and are not material.

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9. Real Return: Performance Summary Ending 9/30/2014

	Third Quarter	YTD	One Year	Three Years	Five Years
Total Real Return	**1.6%**	**8.4%**	**9.6%**	**9.1%**	**9.5%**
Real Return Benchmark	2.1	7.1	9.0	9.5	9.0
Difference	*-0.5*	*+1.3*	*+0.6*	*-0.4*	*+0.5*
TIPS	**-2.0**	**3.8**	**1.8**	**1.5**	**4.6**
U.S. TIPS Benchmark	-2.0	3.7	1.6	1.3	4.5
Difference	*+0.0*	*+0.1*	*+0.2*	*+0.2*	*+0.1*
Real Assets	**2.8**	**9.9**	**13.0**	**13.3**	**12.6**
Real Asset Benchmark	2.7	8.1	11.7	11.4	9.0
Difference	*+0.1*	*+1.8*	*+1.3*	*+1.9*	*+3.6*
Energy and Natural Resources	**5.5**	**10.7**	**11.6**	**--**	**--**
Energy and Natural Resources Benchmark	6.8	7.9	9.5	--	--
Difference	*-1.3*	*+2.8*	*+2.1*	--	--
Commodities	**-21.0**	**12.8**	**-2.7**	**-12.3**	**-4.8**
Commodities Benchmark	-12.5	-7.5	-7.8	-0.1	1.3
Difference	*-8.5*	*+20.3*	*+5.1*	*-12.2*	*-6.1*

Note: The excess returns shown in this presentation may differ from State Street statements due entirely to rounding. These differences are generally within a few basis points and are not material.

Appendix – Supplemental Reporting

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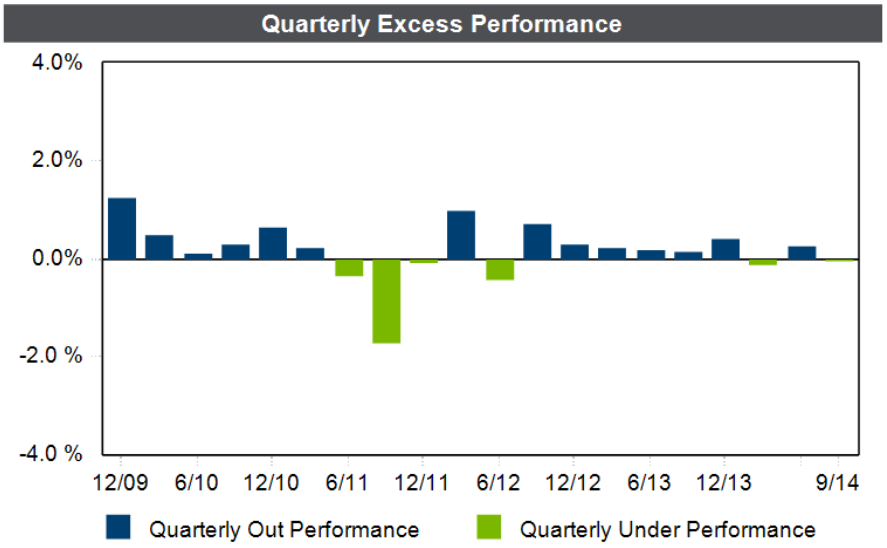
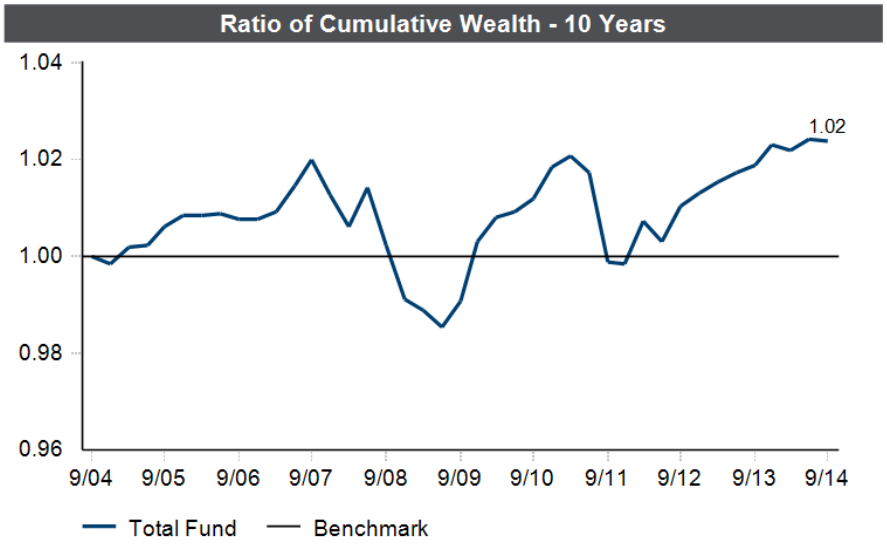
Historical Excess Performance

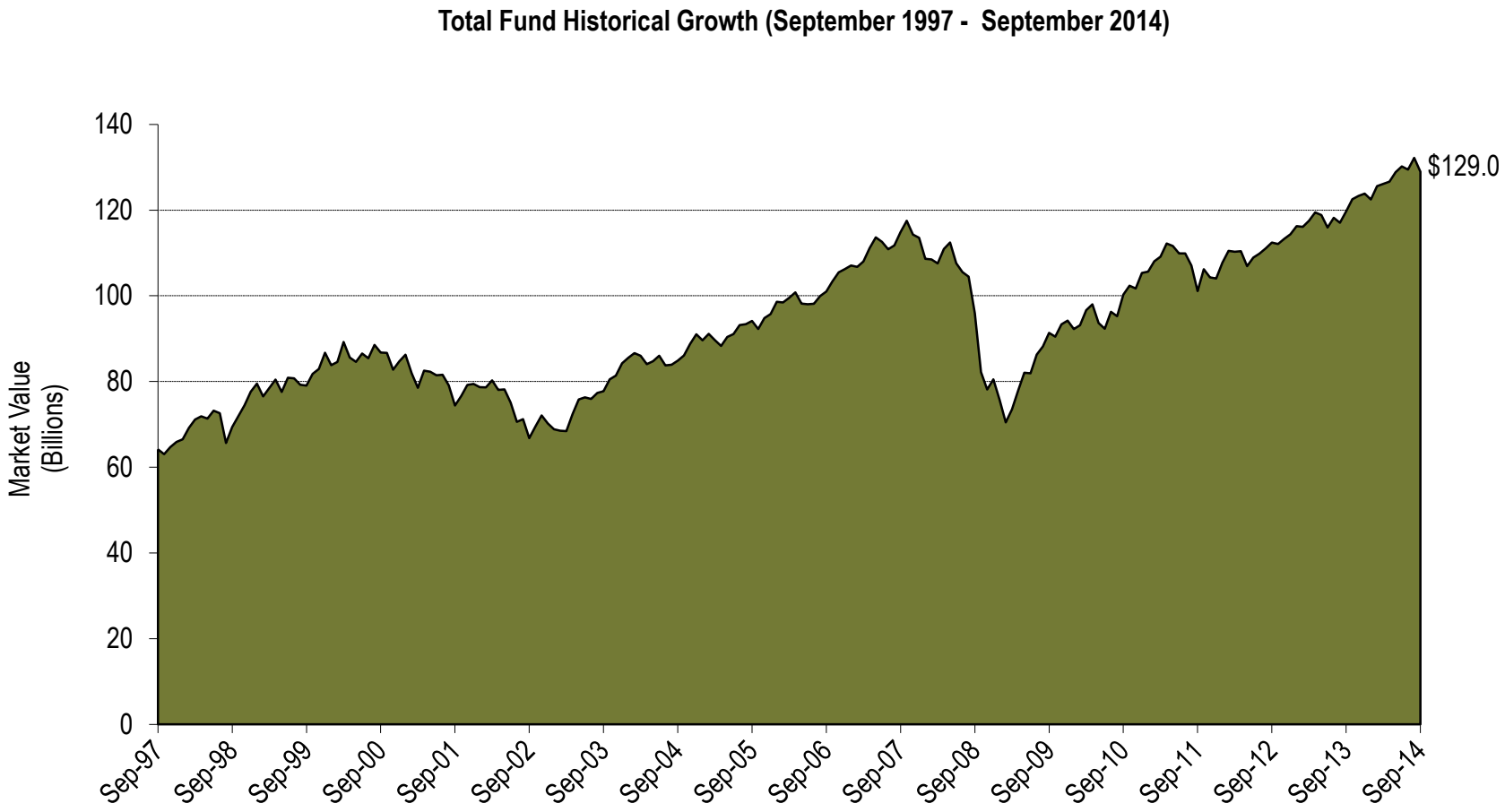
Quarterly and Cumulative Excess Performance

Total Fund vs. Total Fund Benchmark





TRS Asset Growth



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External Manager Program:
Public Equity Performance as of 9/30/2014

	Allocation ($ in billions)	Third Quarter	YTD	One Year	Three Years
EP Total Global Equity	**$34.8**	**-3.0%**	**2.1%**	**8.9%**	**15.2%**
EP Global Equity Benchmark	--	-2.2	3.3	9.5	14.6
Difference	--	*-0.8*	*-1.2*	*-0.6*	*+0.6*
EP U.S. Large Cap	**$7.5**	**-1.3**	**5.0**	**14.8**	**22.1**
EP Large Cap Benchmark	--	0.9	8.2	19.3	23.0
Difference	--	*-2.2*	*-3.2*	*-4.5*	*-0.9*
EP U.S. Small Cap	**$2.0**	**-2.3**	**0.6**	**9.4**	**23.6**
EP Small Cap Benchmark	--	-5.4	0.4	9.4	23.5
Difference	--	*+3.1*	*+0.2*	*+0.0*	*+0.1*
EP Non-U.S. Developed	**$4.7**	**-6.3**	**-3.6**	**3.7**	**12.5**
MSCI EAFE + Canada Index	--	-5.7	-0.7	4.9	13.2
Difference	--	*-0.6*	*-2.9*	*-1.2*	*-0.7*
EP Emerging Markets	**$8.3**	**-3.6**	**2.6**	**4.6**	**8.2**
MSCI Emerging Markets Index	--	-3.5	2.4	4.3	7.2
Difference	--	*-0.1*	*+0.2*	*+0.3*	*+1.0*
EP World Equity	**$5.9**	**-3.9**	**1.2**	**9.6**	**17.3**
EP World Equity Benchmark	--	-2.3	3.7	11.3	16.6
Difference	--	*-1.6*	*-2.5*	*-1.7*	*+0.7*
EP Directional Hedge Funds	**$6.4**	**-0.8**	**4.4**	**10.1**	**9.0**
HFRI Fund of Funds Composite Index	--	0.3	2.4	6.2	5.2
Difference	--	*-1.1*	*+2.0*	*+3.9*	*+3.8*

Note: The excess returns shown in this presentation may differ from State Street statements due entirely to rounding. These differences are generally within a few basis points and are not material.

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External Manager Program:
Stable Value/Total Program Performance as of 9/30/2014

	Allocation ($ in billions)	Third Quarter	YTD	One Year	Three Years
EP Total Stable Value	**$5.4**	**2.6%**	**6.0%**	**9.3%**	**7.4%**
EP Stable Value Benchmark	--	0.0	0.1	0.1	0.3
Difference	--	*+2.6*	*+5.9*	*+9.2*	*+7.1*
EP Stable Value Hedge Funds	**$5.2**	**2.0**	**4.7**	**7.6**	**4.0**
EP Stable Value Hedge Funds Benchmark	--	0.2	2.9	5.6	4.9
Difference	--	*+1.8*	*+1.8*	*+2.0*	*-0.9*
EP Absolute Return	**$0.2**	**11.1**	**27.8**	**42.6**	**44.1**
EP Absolute Return Benchmark	--	0.6	1.7	2.2	2.3
Difference	--	*+10.5*	*+26.1*	*+40.4*	*+41.8*
Total External Public Program	**$40.2**	**-2.3**	**2.6**	**8.9**	**14.1**
EP External Public Benchmark	--	-1.9	3.3	9.0	13.1
Difference	--	*-0.4*	*-0.7*	*-0.1*	*+1.0*

Note: The excess returns shown in this presentation may differ from State Street statements due entirely to rounding. These differences are generally within a few basis points and are not material.

Public Strategic Partnership Program (SPN): Performance Summary as of 9/30/2014

	Allocation ($ in billions)	Third Quarter	YTD	One Year	Three Years
Public Strategic Partnership	**$6.4**	**-0.8%**	**6.1%**	**11.7%**	**14.1%**
Public SPN Benchmark	--	-1.6	6.0	10.3	12.4
Difference	--	*+0.8*	*+0.1*	*+1.4*	*+1.7*
Blackrock	**$1.6**	**-0.2%**	**6.8%**	**12.8%**	**13.2%**
J.P. Morgan	**$1.6**	**-1.0%**	**5.1%**	**10.7%**	**15.1%**
Neuberger Berman	**$1.6**	**-2.7%**	**4.7%**	**9.3%**	**12.4%**
Morgan Stanley	**$1.6**	**0.8%**	**7.7%**	**13.6%**	**15.6%**

- The Public SPNs in aggregate outperformed the benchmark during the third quarter and year-to-date, as well as trailing one-year and three-year periods
  - All managers have 3-year returns at or above that of the benchmark

Note: The excess returns shown in this presentation may differ from State Street statements due entirely to rounding. These differences are generally within a few basis points and are not material.

Benchmarks

- **Total Fund Performance Benchmark** – 18% MSCI US Standard, 2% MSCI US Small Cap, 10% MSCI Emerging Markets, 15% MSCI EAFE plus Canada, 5% HFRI FoF Composite Index, 11% State Street Private Equity (1 qtr lagged), 13% BC Long Term Treasury, 4% HFRI FoF Conservative Index, 1% Citigroup 3 Mo T-Bill, 5% BC US TIPS, 13% NCREIF ODCE (1 qtr lagged), and 3% Energy and Natural Resources Benchmark.
- **Global Equity Benchmark**– 24.6% MSCI EAFE plus Canada, 29.5% MSCI US Standard, 3.3% MSCI US Small Cap,16.4% MSCI Emerging markets index, 8.2% HFRI FoF Composite Index, and 18.0% State Street Private Equity (1 qtr lagged)
  - US Large Cap Benchmark - MSCI US Standard Index
  - US Small Cap Benchmark - MSCI US Small Cap Index
  - Emerging Markets Benchmark – MSCI Emerging Markets
  - Non-US Developed Benchmark– MSCI EAFE plus Canada
  - Directional Hedge Funds – HFRI Fund of Funds (FoF) Composite Index
  - Private Equity Benchmark - State Street Private Equity (1 qtr lagged)

Note: Returns and market values (based on account level) reported are provided by State Street. Net additions/withdrawals are reported on a gross (adjusted for expenses) total fund level as provided by State Street. All rates of return for time periods greater than one year are annualized. The excess returns shown in this presentation may differ from State Street statements due entirely to rounding. These differences are generally within a few basis points and are not material.

Benchmarks (cont'd)

- **Stable Value Benchmark** – 22.2% HFRI FoF Conservative Index, 72.2% BC Long Term Treasury, and 5.6% Citigroup 3 mo T-Bill.
  - US Treasuries Benchmark – Barclays Capital (BC) Long Term Treasury
  - Stable Value Hedge Funds – HFRI Fund of Funds (FoF) Conservative Index
  - Other Absolute Return Benchmark - 3 Mo LIBOR + 2%
  - Cash Benchmark - Citigroup 3 Mo T-Bill
- **Real Return Benchmark** – 23.8% BC US TIPS, 61.9% NCREIF ODCE, and 14.3% Energy & Natural Resources Benchmark
  - US TIPS Benchmark – BC US TIPS Index
  - Real Assets Benchmark – NCREIF ODCE (1qtr lagged)
  - Energy and Natural Resources – 75% Cambridge Associates Natural Resources (reweighted) / 25% quarterly Seasonally-Adjusted Consumer Price Index (1qtr lagged)
  - Commodities Benchmark – Goldman Sachs Commodity Index

Note: Returns and market values (based on account level) reported are provided by State Street. Net additions/withdrawals are reported on a gross (adjusted for expenses) total fund level as provided by State Street. All rates of return for time periods greater than one year are annualized. The excess returns shown in this presentation may differ from State Street statements due entirely to rounding. These differences are generally within a few basis points and are not material.

Description of Performance Attribution

- A measure of the source of the deviation of a fund's performance from that of its policy benchmark. Each bar on the attribution graph represents the contribution made by the asset class to the total difference in performance. A positive value for a component indicates a positive contribution to the aggregate relative performance. A negative value indicates a detrimental impact. The magnitude of each component's contribution is a function of (1) the performance of the component relative to its benchmark, and (2) the weight (*beginning of period)* of the component in the aggregate.
- The individual Asset Class effect, also called Selection Effect, is calculated as

  Actual Weight of Asset Class x (Actual Asset Class Return – Asset Class Benchmark Return)
- The bar labeled Allocation Effect illustrates the effect that a Total Fund's asset allocation has on its relative performance. Allocation Effect calculation = (Asset Class Benchmark Return –Total Benchmark Return) x (Actual Weight of Asset Class – Target Policy Weight of Asset Class).
- The bar labeled Other is a combination of Cash Flow Effect and Benchmark Effect:
  - Cash Flow Effect describes the impact of asset movements on the Total Fund results. Cash Flow Effect calculation = (Total Fund Actual Return – Total Fund Policy Return) – Current Selection Effect – Current Allocation Effect
  - Benchmark Effect results from the weighted average return of the asset classes' benchmarks being different from the Total Funds' policy benchmark return. Benchmark Effect calculation = Total Fund Policy Return – (Asset Class Benchmark Return x Target Policy Weight of Asset Class)
- Cumulative Effect

  Cumulative Effect calculation = Current Effect t *(1+Cumulative Total Fund Actual Return t-1) +

  Cumulative Effect t-1*(1+Total Fund Benchmark Return t)

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Tab 7 B

Strategic Partnerships & Research (SPR) Update

David T. Veal
Director
November 2014

Public Markets SPN

Performance and Positioning as of September 30, 2014

Program	Assets		Annualized Return %			Annualized Alpha %			Tracking Error			Information Ratio		
	NAV ($m)	% of Trust	1 Year	3 Year	Since Incept.	1 Year	3 Year	Since Incept.	1 Year	3 Year	Since Incept.	1 Year	3 Year	Since Incept.
BlackRock	1,555.1	1.2%	12.8	13.3	7.0	2.5	0.8	0.9	2.6	2.0	2.1	1.0	0.4	0.4
JP Morgan	1,647.5	1.3%	10.7	15.1	7.8	0.4	2.6	1.7	1.8	2.0	2.3	0.2	1.3	0.7
Morgan Stanley	1,615.4	1.2%	13.6	15.6	7.7	3.3	3.2	1.6	3.1	2.4	1.9	1.1	1.3	0.8
Neuberger Berman	1,574.4	1.2%	9.3	12.4	7.1	-1.0	-0.1	1.0	1.6	1.5	2.1	-0.6	-0.1	0.5
Total Public SPN	**6,392.5**	**4.9%**	**11.7**	**14.1**	**7.4**	**1.4**	**1.6**	**1.3**	**1.7**	**1.3**	**1.4**	**0.8**	**1.2**	**0.9**

Asset Allocation As of 09/30/2014

	Global Equity					Stable Value				Real Return			
		US		Non-US									
Benchmark	Total	LC	SC	EAFE	EM	Total	US Long Treasury	Non $ Sov Debt	Credit	Total	Inflation Linked	Com	REITs
Neutral	68%	28%	6%	20%	14%	20%	20%	0%	0%	12%	7%	3%	2%
Minimum	53%	8%	-4%	10%	4%	-10%	-5%	-5%	-5%	-5%	-3%	-2%	-3%
Maximum	83%	48%	16%	30%	24%	40%	30%	10%	10%	25%	17%	8%	7%
BlackRock	1.7%	1.9%	-4.0%	0.6%	3.2%	-8.5%	-14.4%	0.0%	5.9%	-6.6%	-2.7%	-2.0%	-2.0%
JP Morgan	6.3%	6.3%	0.6%	-0.1%	-0.5%	9.2%	-5.9%	7.3%	7.7%	-3.6%	-3.2%	-0.3%	-0.1%
Morgan Stanley	-0.6%	2.1%	-0.6%	1.5%	-3.7%	-15.4%	-15.0%	-0.4%	0.0%	-6.6%	-2.9%	-3.7%	-0.1%
Neuberger Berman	14.6%	7.7%	0.5%	0.0%	6.5%	7.3%	-5.5%	8.0%	4.7%	-1.2%	-1.0%	-0.1%	0.0%
Total (Average)	5.5%	4.5%	-0.9%	0.5%	1.4%	-1.9%	-10.2%	3.7%	4.6%	-4.5%	-2.4%	-1.5%	-0.6%

Change in Allocation Since 06/30/2014

BlackRock	-1.3%	-2.1%	0.0%	-0.4%	1.2%	-0.9%	-1.4%	0.0%	0.5%	-2.1%	-1.2%	-1.0%	0.0%
JP Morgan	1.3%	2.2%	-0.3%	0.0%	-0.6%	1.5%	0.1%	1.3%	0.1%	0.3%	-0.1%	0.4%	0.0%
Morgan Stanley	0.8%	0.8%	-0.4%	-3.7%	4.1%	-9.9%	-8.0%	-1.9%	0.0%	0.4%	-0.1%	0.6%	-0.1%
Neuberger Berman	6.7%	5.8%	0.4%	-1.7%	2.1%	5.8%	3.0%	2.7%	0.1%	-0.8%	-0.3%	-0.5%	0.0%
Total (Average)	1.9%	1.7%	-0.1%	-1.4%	1.7%	-0.9%	-1.6%	0.5%	0.2%	-0.6%	-0.4%	-0.1%	0.0%

TRS

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SPN Priorities/Research

For 2H14-2015

- Coordinating potential future capital requirements with other IMD units
- Developing specific plans to address current and potential unique opportunities
- Optimizing entire private markets relationship structure and working processes

2H14 Strategic Research Projects	
Firm	**Topic**
BlackRock	Trust-level risk factor exposures
JP Morgan	Hedge fund risk models
Morgan Stanley	US profit margins: new normal and key signposts
Neuberger Berman	Integrating risk premia into TAA
Apollo	SPN/Funding financial model
KKR	SPN/Funding financial model

TRS

Tab 8

Teacher Retirement System of Texas

Executive Director's Report

Brian Guthrie
November 20, 2014

TRS

- Update on 2015 Board of Trustees election.
- TRS Austin American-Statesman Top Workplace.
- New Chief Information Officer.
- Acting Chief Benefit Officer.
- February 2015 meeting.

2015 Board of Trustees Election

- In the spring of 2015, TRS will hold an election for one of the two active public education positions on the Board – the position currently held by Nanette Sissney.

- The election is for a six-year term that will begin as early as Sept. 1, 2015 and will expire on Aug. 31, 2021.

- Eligible TRS members may now request nominating petitions. Those petitions must be signed by 250 public school district employees who are TRS members and whose most recent credited service is or was performed for a public school district, charter school or regional education service center.

2015 Board of Trustees Election

- All valid petitions must be filed with TRS by Jan. 20, 2015.
- By March 15, 2015, TRS will mail ballots and a *TRS News* issue containing candidate information to all participants eligible to vote in the election.
- TRS must receive completed ballots on or before May 5, 2015. We will then certify the names of the three candidates who received the highest number of votes to the governor. The governor will then appoint one of those three candidates to serve on the board.

TRS

TRS Top Workplace

- The Austin American-Statesman publishes the top workplaces – a list of the best places to work in the Greater Austin area.
- TRS has been named to the list for the third year in a row.
- This accolade is based on feedback from an employee survey. 82% of the over 500 TRS employees surveyed responded.

New Chief Information Officer

- Introduce the new Chief Information Officer

Acting Chief Benefit Officer

- Introduce the Acting Chief Benefit Officer (CBO).
- Provide update on CBO position.

February Meeting

- February 11-13, 2015 in Austin at TRS Headquarters.
- Identified topics thus far include:
  - Fiduciary and governance matters;
  - Legislative update;
  - Potentially introduce new CBO and receive overview of Benefits Division;
  - Adopt HUB goals;
  - Britt's CIO market outlook;
  - Ray Dalio on global conditions;
  - IMD Gold Tour and SPN planning results; and
  - Emerging Manager portfolio overview.
- Contact Rebecca Merrill and Melinda Nink with any other desired topics.

Tab 9

Teacher Retirement System of Texas

Comprehensive Annual Financial Report
Fiscal Year 2014

- Jamie Pierce
- Cindy Haley

TRS

Teacher Retirement System of Texas

2014 Comprehensive Annual Financial Report

A Component Unit of the State of Texas

Fiscal Year Ended August 31, 2014

Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Teachers Retirement System of Texas

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

August 31, 2013

Executive Director/CEO

Began work early on GASB 67

Communicated to the board and other key stakeholders the impact of the new standard in July of 2012

- The new disconnect between accounting and funding
- New very large liability on the balance sheet
- Increased volatility with market value of assets
- The employers recognize the proportionate NPL on their balance sheets
- Communicate to employers they will recognize pension expense differently than in the past form of annually required contributions

TRS

Comprehensive Annual Financial Report FY 2014

Began work early on GASB 67

Formed a Project Team in December 2012

- Met every 3 weeks
- Have logged over 2,000 hours in General Accounting alone
- By early 2013 we understood changes needed to incorporate into our CAFR (Financial Statements, Notes and RSI- Required Supplementary Information).

Met with State Auditors, Comptroller's Office and Actuaries several times. There was early and continued communication with GASB, the actuary and state oversight agencies.

TRS

GASB 67 Changes on Financial Statements

Contributions		
Member	$	2,357,686,000
State's General Fund - Non-Employer Contributing Entity		1,530,623,829
Employer		
State's General Fund		120,206,921
Participating Employer Contributions		851,936,793

Financial Reporting prepared pro-forma financial statement information to reflect the changes during Spring/ Summer 2014

- Contributions from the State had to be divided between their role as Employer and Non-employer Contributing Entity
- State matching format had to be updated along with system and general ledger updates
- The employer reporting system (TRAQS) required some interface updates

TRS

GASB 67 Changes

Notes to the Financial Statements

- Financial Reporting determined placement for existing information and gathered additional required information
  - Board information moved to Summary of Significant Policies Note 1
  - Added information regarding benefits, DROP and actuarial assumptions to Pension Note 12 (from other parts of CAFR)
  - Net Pension Liability and its components (differs from NPO previously reported and from UAAL shown in the Actuarial Section)
  - Discount Rate including assumptions on LTeROR and if a municipal rate was used

TRS

GASB 67 Changes

Notes to the Financial Statements (cont'd)

- Investment Accounting worked with the Investment Management Division and State Street to gather additional information required
  - Asset allocation policy and amendments
  - Long-Term Expected Real Rate of Return by asset class
  - Annual Money-weighted Rate of Return (differs from the Time-Weighted ROR in the Investment Section of the CAFR)

Required Supplementary Information RSI

- Amount of information was expanded from two schedules to four
- Some of previous RSI was moved to Actuarial section

TRS

GASB 68 Changes

- Employers in cost sharing plans have to report a proportionate share of the pension liability on their financial statements
- The new liability figure could take the equity balance negative for some schools
- To prepare TRS employers for the change, Financial Reporting along with help from IT and Benefit Accounting prepared a draft allocation schedule using FY 2013 data and the NPO (Net Pension Obligation) from that year

GASB 68 Communication

Speaking Engagements with Employer Organizations by Financial Reporting

- TASBO- Texas Association of School Business Officials
- HECB- Higher Education Coordinating Board Community College group
- Alamo Community College Financial Reporting Group with others scheduled

TRS Website

- Posted and updated information on the TRS Website as decisions were made
- Fiscal year 13 information provides rough estimate

Texas Education Agency

- TEA's State Accountability ratings include an attribute for financial standing. This new liability could adversely impact some schools. TEA staff is aware of this and may address the question in the next legislative session.

Teacher Retirement System of Texas
Highlights

PENSION TRUST FUND
(billions)

Net Position - September 1, 2013	$	**117.4**
Additions:		
Member Contributions		2.4
State Contributions		1.7
(As Non-employer Contributor $1.5B as Employer $120M)		
Investment Income		19.4
Other		1.0
Deductions:		
Retirement Benefits and Other		(8.6)
Refunds of Contributions/Admin.		(0.5)
Net Position - August 31, 2014	$	**132.8**
Administrative Cost per Member		$29.62
Investment Cost per Member (in basis points 16.0)		$141.86
Membership		
Current Members (Average Age 44.5)		1,051,425
Retirees and Beneficiaries		363,182
Total Membership		1,414,607
Participating Employers		1,357

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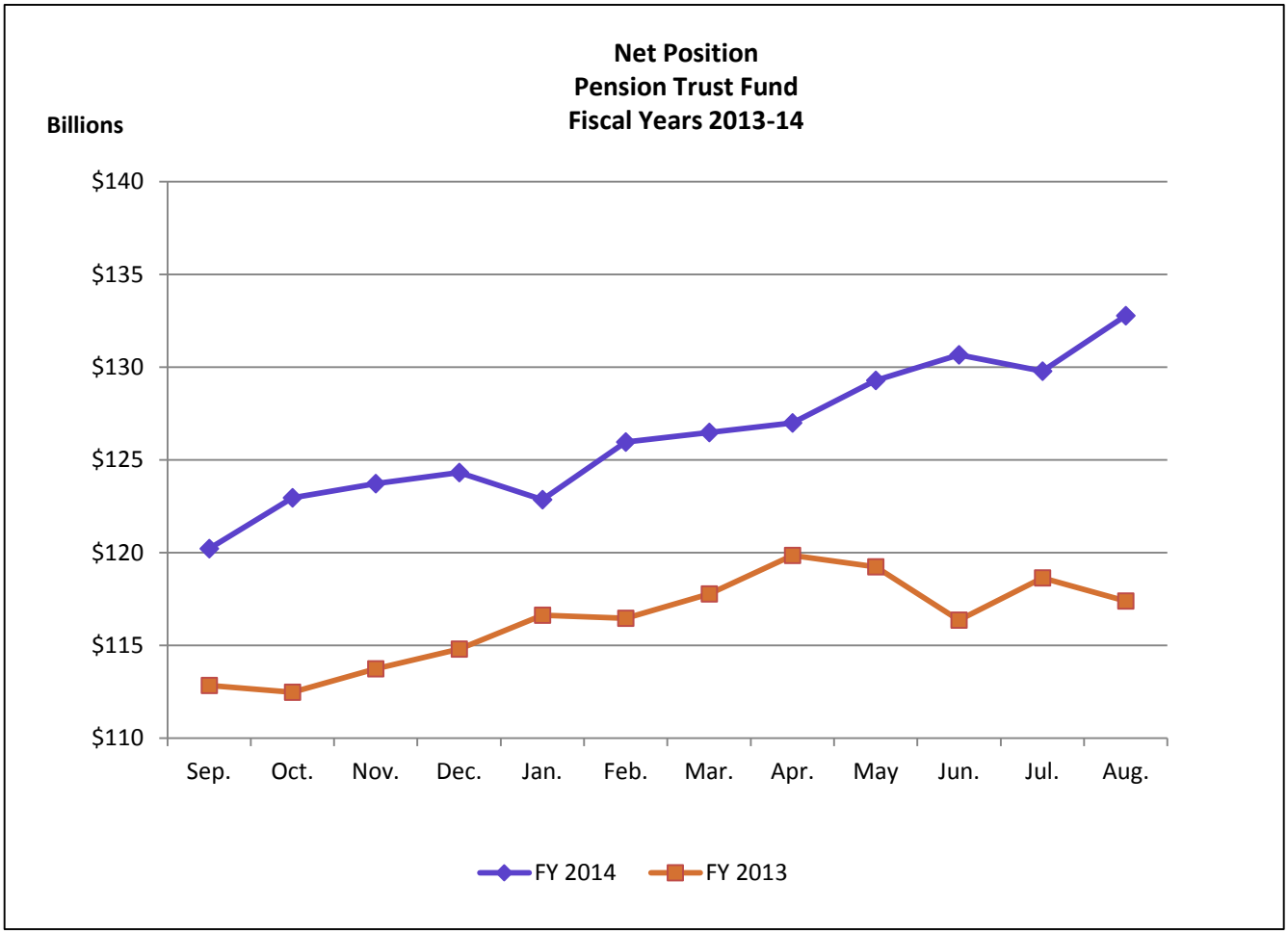
Comprehensive Annual Financial Report FY 2014



Teacher Retirement System of Texas

Highlights

HEALTH BENEFIT PROGRAMS

(millions)

	Retired	Active
Net Position - September 1, 2013	$ **551.0**	$ **(118.0)**
Additions:		
Health Care Premiums	363.6	1,928.9
State Contributions	303.5	
Member Contributions	189.0	
Participating Employers and Other Contributions	193.3	
Rebates and Discount Income	200.9	
Federal Revenue	78.6	
Investment Income/Other	2.0	1.1
Deductions:		
Medical and Rx Claims	(1,375.0)	(1,676.7)
Claims Processing/Admin. Costs	(49.0)	(112.5)
Net Position - August 31, 2014	**$ 457.9**	**$ 22.8**
Membership (and dependents)	244,784	459,232

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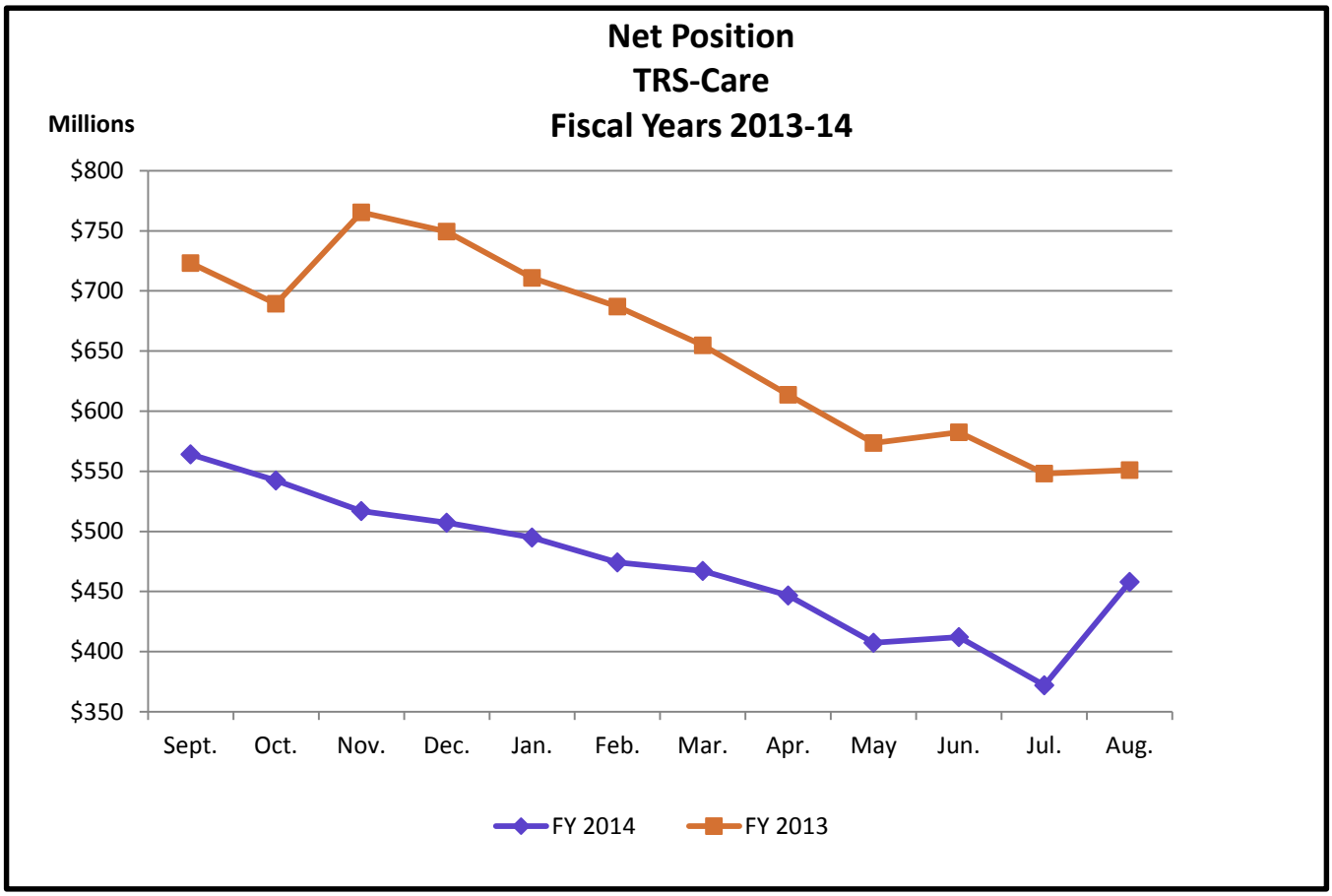
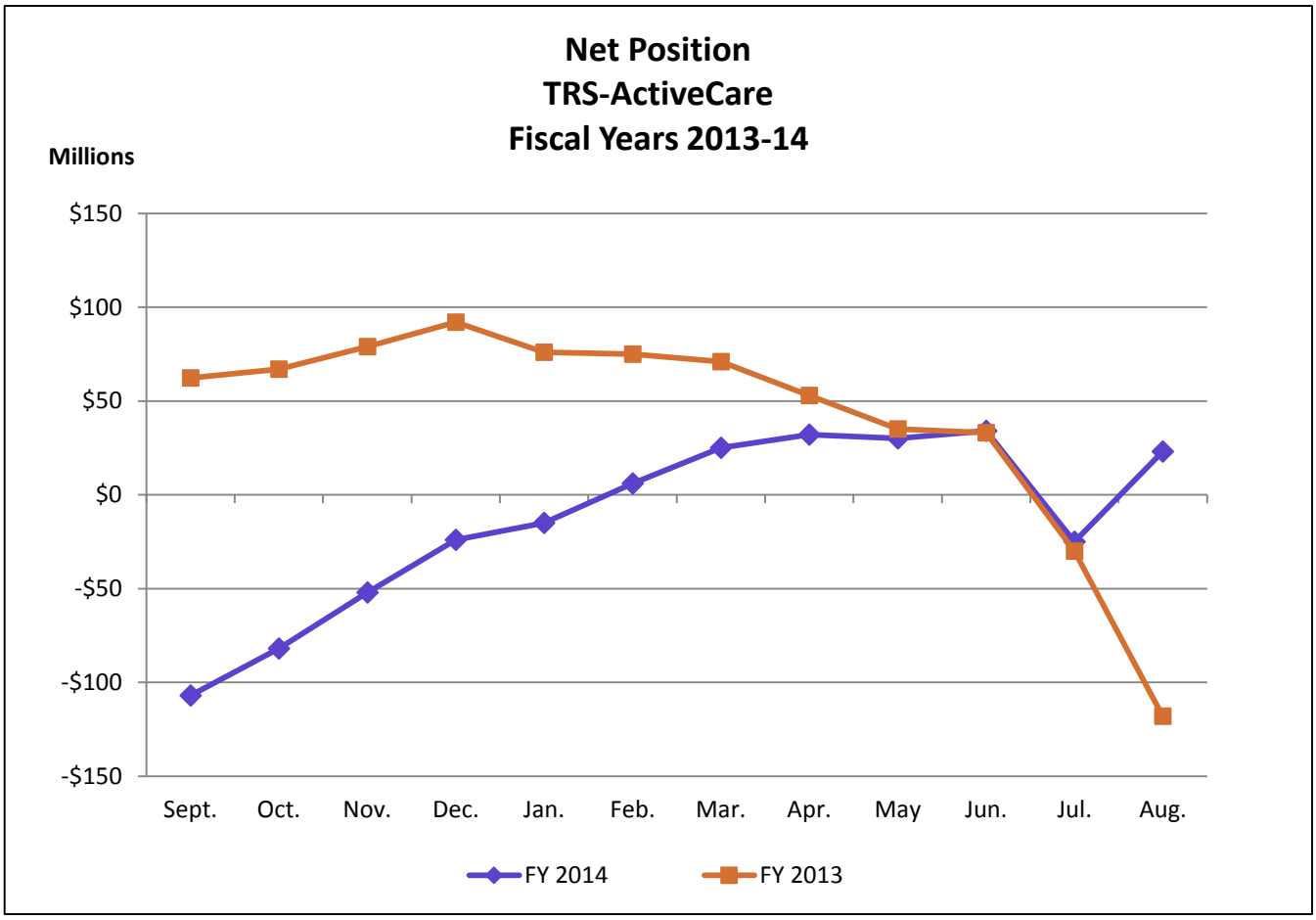
Comprehensive Annual Financial Report FY 2014



Comprehensive Annual Financial Report FY 2014



Tab 10

Teacher Retirement System of Texas

Cash Disbursements
September and October, 2014

Don Green, Chief Financial Officer

Board of Trustees Meeting

November 20, 2014

Pension Trust Fund
Cash Disbursements

	FY 2014 *	FY 2015	Variance
September	$6,970,179	$8,329,726	$1,359,547
October	6,917,337	8,291,727	1,374,390
Totals	**$13,887,516**	**$16,621,453**	**$2,733,937**

* Cash disbursements totaled $95,107,668 as of August 31, 2014.

TRS

Tab 15

Teacher Retirement System of Texas

TEAM Program Management Update

Adam Fambrough

David Cook

T.A. Miller

Jay Masci (Provaliant)

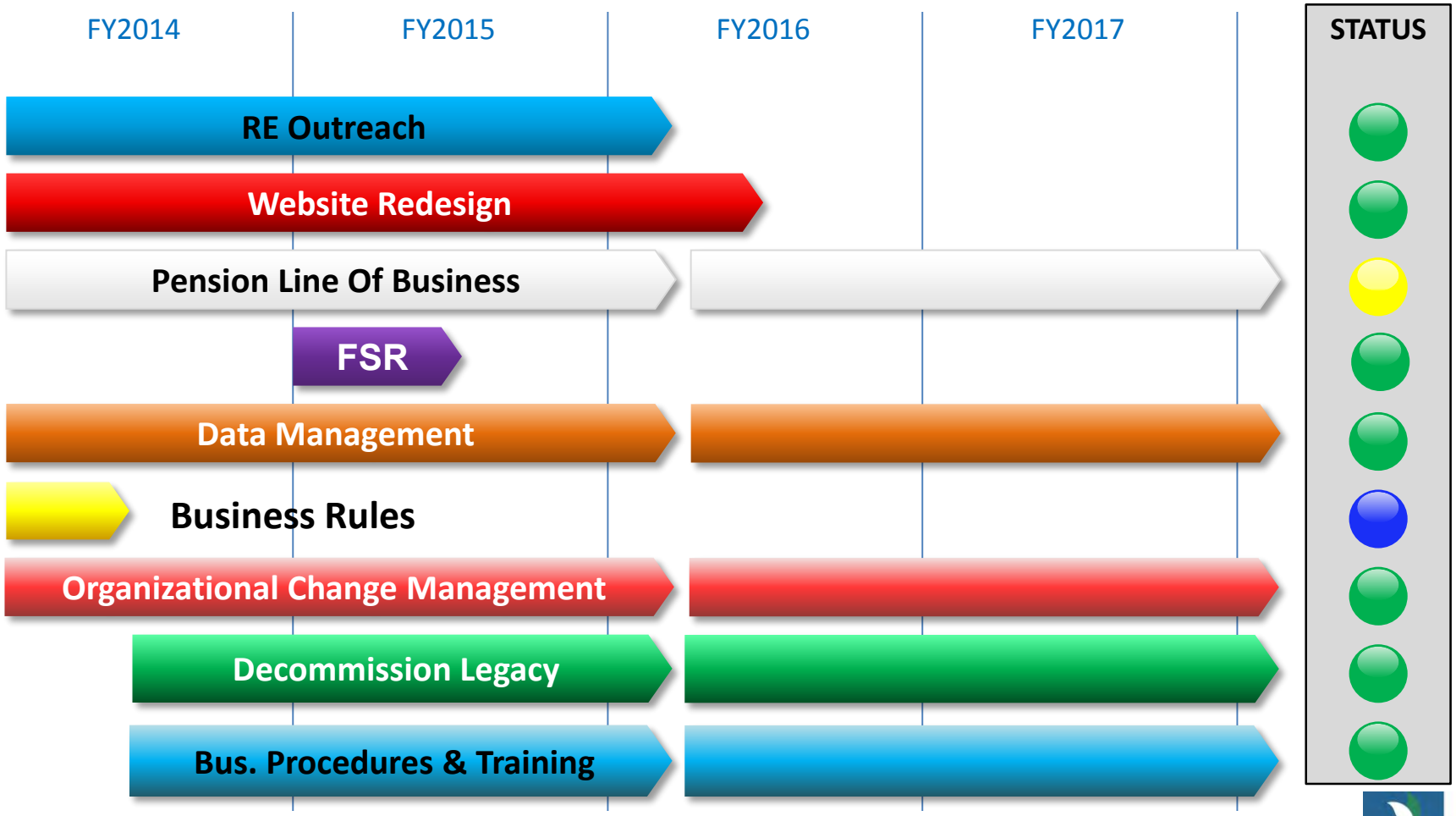
November 21, 2014

TRS

Update Items

- TEAM Program Progress
- TEAM Project Milestones
- TEAM Project Accomplishments
- TEAM Program Project Interdependencies
- TEAM Program Budget Summary
- Line of Business (LOB) Update
- Decommissioning Legacy System

TEAM Progress as of November 5, 2014



Milestones

Planned Milestones (from August Board Meeting)	Previous Planned Date	Current Planned Date	Status
Issue Website Redesign RFO		11/30/2014	**Completed**

Upcoming Milestones (next fiscal quarter: December - February)	Previous Planned Date	Current Planned Date	Status
2014 Advisory Group Meetings Conducted		12/19/2014	**On Schedule**
Phase 1 - Detail Level Requirements Definition	9/22/2014	1/31/2015	**Behind Schedule**

Accomplishments

Reporting Entity Outreach (REO)

- Met with representatives from Region 20 Education Service Center to discuss impact to software and discuss testing, training and certification
- Refreshed information contained on the TEAM Program employer communication page on the TRS website

Website Redesign (WEB)

- RFO published to ESBD October 29th

Accomplishments

Pension Line of Business (LOB)

- Decision made to stay with MS Dynamics for contact and workflow management
- Implemented Process Improvement Phase
- Completed first set of data migration and bridging documents

Financial System Replacement (FSR)

- Consultant Conducted Finance/ERP Strategy Workshop with TRS FSR Core Project Team

Accomplishments

Data Management

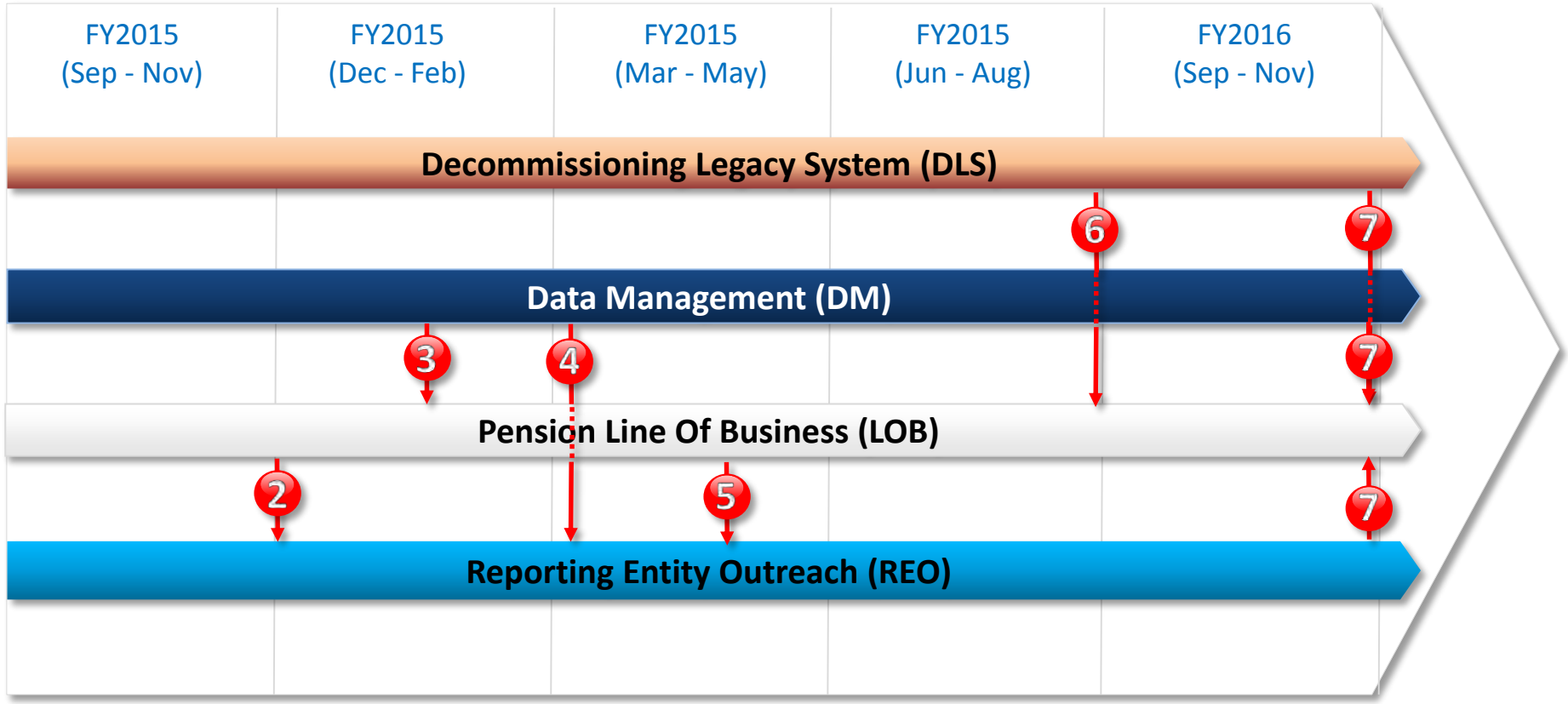
- Completed Data Management Phase 1 Data Assessment-Migration
- Accelerated portions of Data Management Phase 2 to support LOB Phase 1A and 1B
- Data assessment for Phase2 data levels started

Accomplishments

Decommissioning Legacy System (DLS)

- Completed assessment phase for the application decommissioning
- Established and validated a testing environment
- Started making program changes in the testing environment
- Created a staging area for the data from the TRUST system

TEAM Project Interdependencies



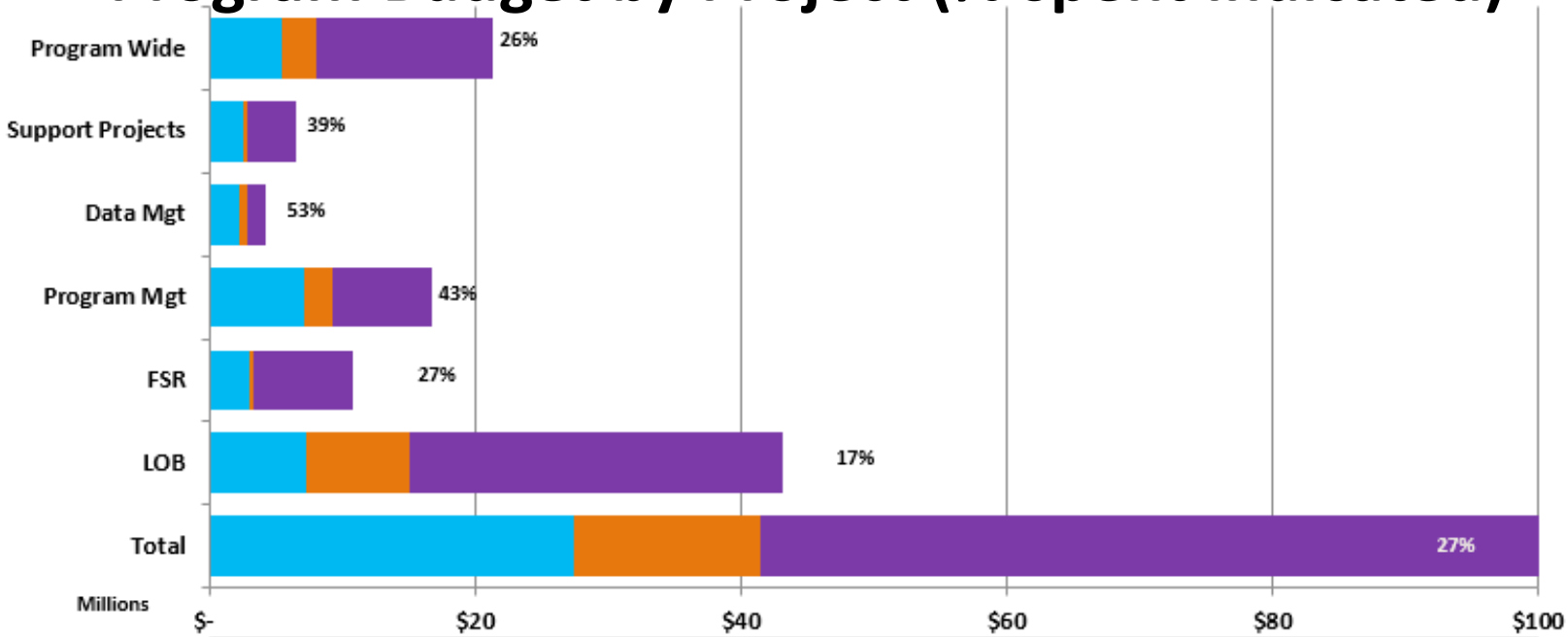
TEAM Project Interdependencies

2. **12/05/14 – The REO project needs the employer reporting file layout**
3. **01/19/15 – The LOB project needs assessed and migrated data for testing**
4. **03/09/15 – The REO project needs assessed and migrated data for user acceptance testing**
5. **04/27/15 – The REO project needs the certification environment available to begin Reporting Entity certification**
6. **09/01/15 – The LOB project needs the unit testing of the revised DLS functionality to be completed so that the integration between this functionality and pension line of business system can be tested during User Acceptance Testing**
7. **11/23/15 – The deployment of the first phase, "active membership" of the new Pension Line of Business system into production, which needs:**
   - **The legacy pension to be decommissioned and updated to support all "active" membership activities being performed in the new pension line of business system**
   - **The data to be conditioned and migrated from the legacy pension system to the new pension line of business system**
   - **The reporting entities have to be certified and ready to submit their reports to the new pension line of business system**

TRS

TEAM Program

Program Budget by Project (% spent indicated)



	Total	LOB	FSR	Program Mgt	Data Mgt	Support Projects	Program Wide
Expended	$27,355,565	$7,190,130	$2,946,040	$7,130,987	$2,186,776	$2,549,433	$5,352,200
Encumbered	$14,006,187	$7,902,084	$332,410	$2,156,215	$622,334	$342,896	$2,650,249
Remainder	$61,104,682	$28,018,649	$7,450,142	$7,368,496	$1,350,828	$3,630,387	$13,286,179

Indicator

Notes: Total Project cost is $102.5 million. Does not include services or maintenance beyond 2017. FSR figure is estimate only.

Line of Business Update

8 week Process Improvement Phase ended at the beginning of November

Activities That Occurred During PIP

TRS	HP
Town Hall Meeting With Subject Matter Experts	Intensive Clarety training – some sessions attended by TRS staff
Scheduled Decision Making Training for Subject Matter Experts	Revised Phase 1 DLR Schedule
Created Detail Level Requirements (DLR) Meeting Guidelines Document	Identified Key Business Analyst for Membership
Reassessed list of Subject Matter Experts	Hired additional Business Analysts

TEAM Program

Line of Business Update

Contact and Workflow Management

- Intensive meetings with HP and Microsoft to validate commitments and functionality of MS Dynamics CRM
- Provides a platform for future enhancements
- This is the product proposed in the RFO response by HP
- MS Dynamics CRM will be used

Microsoft Dynamics CRM

TRS

Decommissioning Legacy System (DLS)

- Background
- Business Opportunity
- Project History, Scope, and Goals
- Project Governance
- Project Structure
  - Application Team
  - Bridging Team
  - Agile Techniques
- Level of Effort
- High Level Project Plan and Milestones
- Interdependencies
- General Questions & Answers

TRS

Background

- The Line-of-business (LOB) project will replace the functionality currently provided by many of the legacy applications.
- To minimize risk, a two-phased implementation approach will be used for this project

Functional Area Phasing

Phase One

- Audit
- Benefit Estimate
- Cash Receipts
- Check Payment
- Contact Management
- Enrollment
- General LOB
- Health Insurance: TRS-ActiveCare
- Legal Orders
- Member Account Maintenance
- Member Statements
- Reporting Entity Reporting
- Refunds
- Reporting Entity Set-up
- Service Credit Calculation
- Service Credit Purchase
- Statistical Reporting (Actuarial: Active Members)
- Sub-Ledger
- Web Self-service: Reporting Entity Reporting
- Workflow

Phase Two

- 1099R
- Annuity Payroll
- Audit
- Benefit Adjustments
- Benefit Calculation
- Check Payment
- Contact Management
- Death Benefits
- Disability Benefits
- Health Insurance: TRS-Care, Long-Term Care
- Legal Orders
- Retirement Application Process
- Retirement System Transfer
- Sub-Ledger
- Statistical Reporting (Actuarial: Annuitants & Beneficiary)
- Web Self Service: Member & Health Insurance Third Party Administrators (TPA)
- Workflow

Business Opportunity

- As the modernization of the line-of-business application (LOB) occurs, legacy applications, databases, hardware, and software need to be deactivated.

- The phased approach of these modernization activities also requires a phased approach to these deactivation activities.

Project History

- To address this business opportunity, the Decommissioning Legacy Systems (DLS) project officially started on 3/3/14.

- The DLS project is part of the TEAM Program.

Project Scope

Project scope includes:

- Decommissioning the legacy applications whose functionality is replaced by the LOB solution
- Maintaining legacy applications and functionality that must continue to exist between the first and second phase.
  - Will require code modification
  - Will require data to be passed between the legacy applications and the LOB solution (i.e., data bridging)
- Decommissioning the hardware and software that is no longer required by TRS

Project Goals

High Level Goals:

- Ensure new and existing applications work properly together
- Minimize coding changes
- Minimize data bridging requirements
- Minimize impacts to other projects
- Produce documentation needed by other projects

Project Governance

Core Project Team

- Sets project strategic direction
- Includes key business staff
- Ensures applications are prepared for decommissioning
- Provides and coordinates key staffing within IT
- Reviews and provides feedback to the teams on major deliverables
- Resolves issues and scope changes
- Assists with Risk Mitigation/Identification
  - Use a central repository for all DLS project information

Project Governance

- Core Project Team Members

Michael Eichenberger - BPA	Mark Horbovetz – TL Decommissioning
Mark Ellis (HP)	Carolyn Klassy – TL Bridging
Dorvin Handrick/Lih-Jen Lan - IA	Billy Lowe - ISS
Chet Henry – Tech Support	T. A. Miller – Project Sponsor
Thomas Hittner - PM	Barbie Pearson – Benefit Counseling
Christi Holman - ISS	Garry Sitz - ISA

Application Decommissioning

Decommissioning Team - High Level Activities:

- Retiring over 50 Applications
  - Created an inventory and checklist for decommissioning applications
- September 2014 – completed the Assessment phase of the project and began making program changes in the testing environment
  - Target date for applications ready for QA testing – 03/2015
  - Target date for applications ready for UAT – 06/2015

Bridging

Bridging Team - High Level Activities:

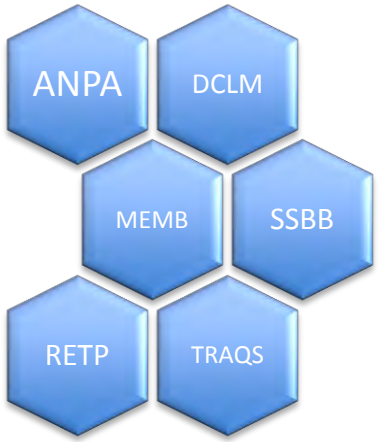
- Determined a bridging tool set
- Identifying data to be bridged
- Building staging environment for HP bridged data
- Determining transformations needed
- Coding and testing programs to bridge data from the LOB into legacy applications

TEAM Program

Bridging

TRS DATA

Line of Business (TRUST)



FORWARD BRIDGING

BACKWARD BRIDGING

Clarety	Dynamics	Corticon
LOB	Contact management	Business Rules engine
Exstream	Workflow	

Agile Techniques

- Project Sponsor asked us to break the work into smaller chunks to better track the progress and be ready to respond as new findings occur.

- DLS Management/Core Project Team decided to use several Agile techniques to accomplish this.

Agile Techniques

The DLS project are using 3 week cycles called "Sprints", which include:

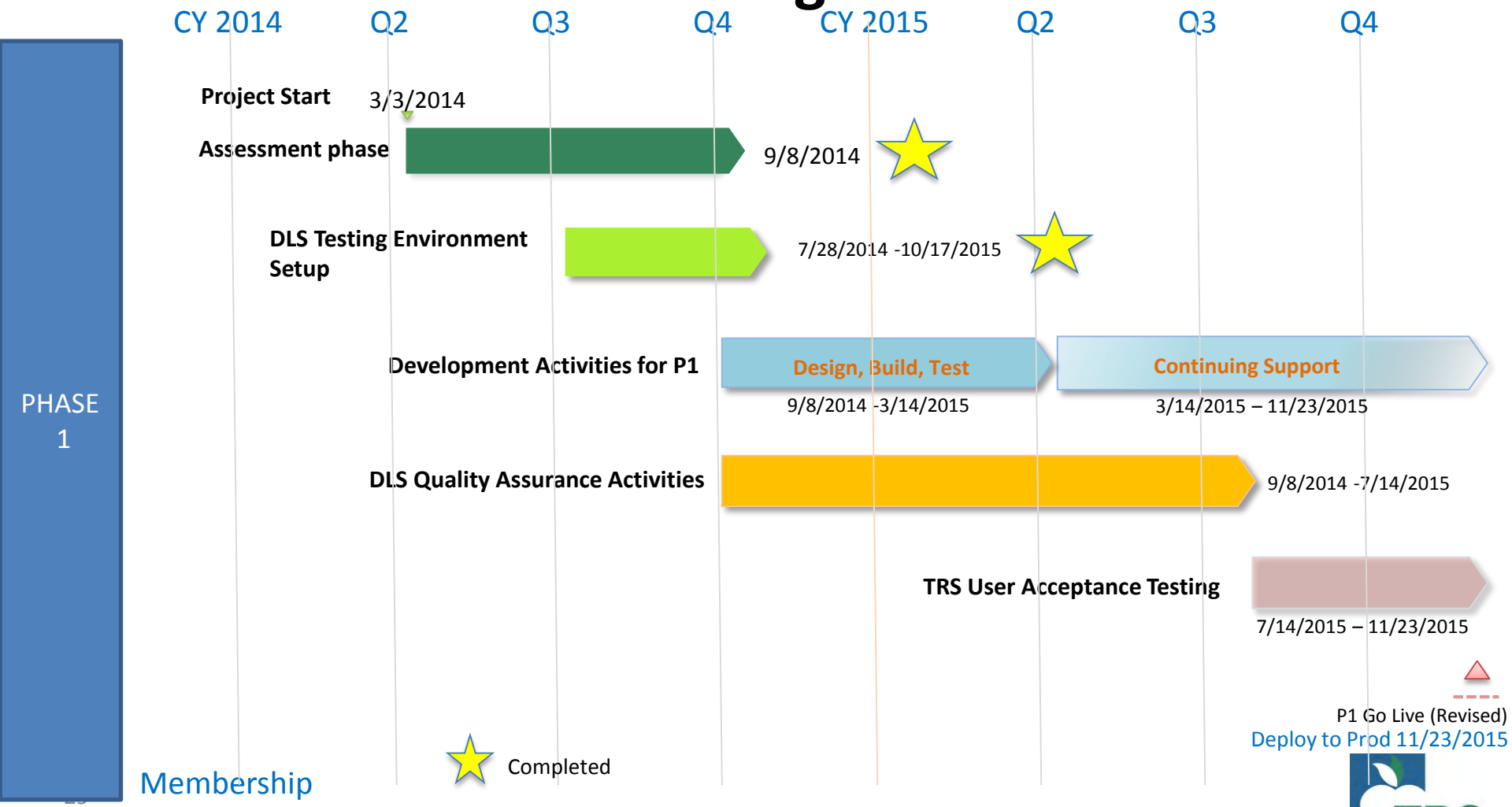
- Conducting initial planning session
- Participating in stand-up meetings
- Doing the assigned tasks
- Tracking task progress
- Reviewing results at the end of each sprint
- Collecting Plus/Delta

TEAM Program

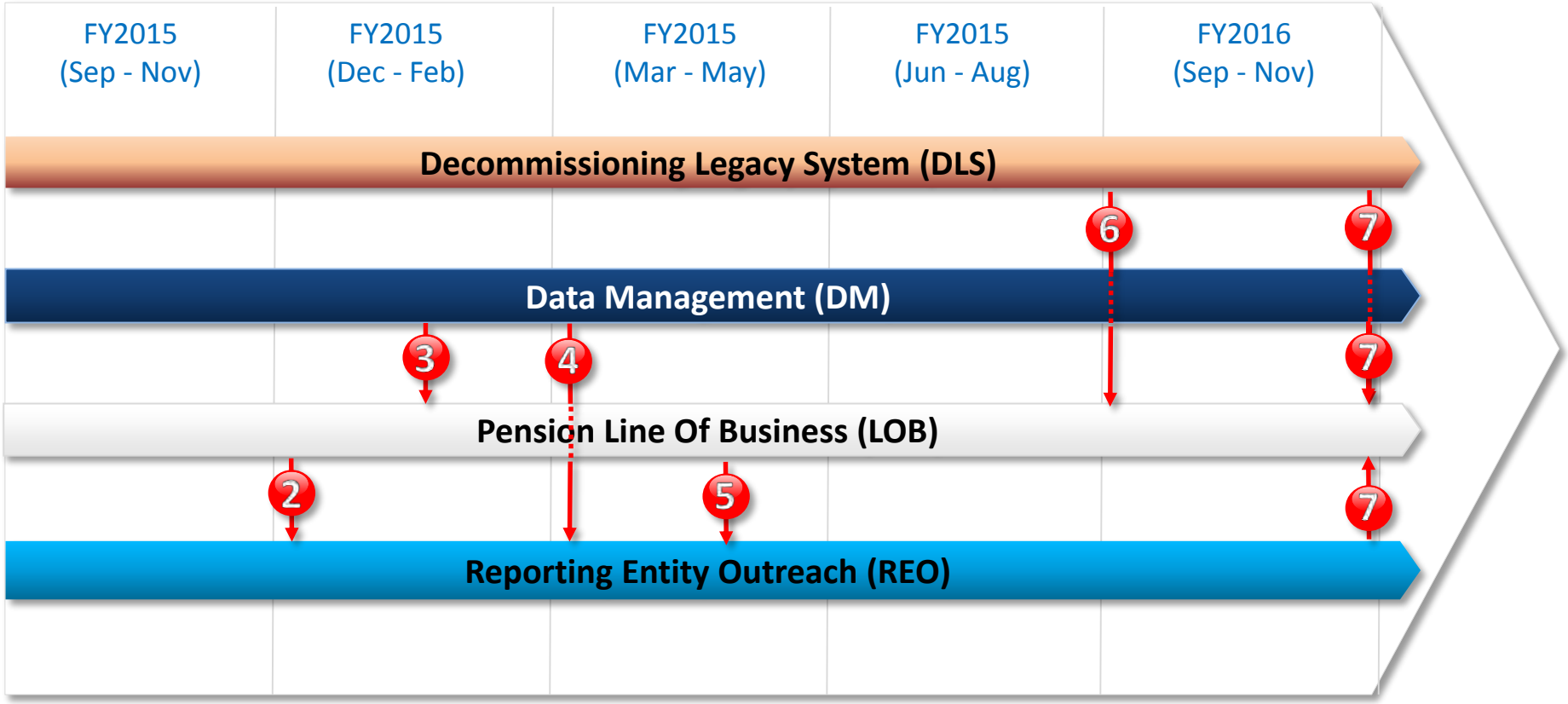
Level of Effort

- Identified over 5400 affected programs
- Will affect over 1200 database tables
- Consumed over 700 person-days on the project to date.
- Conducted numerous meetings with technical and business subject matter experts to ensure the best solution.

Decommissioning Timeline P1



TEAM Project Interdependencies



TEAM Project Interdependencies

2. **12/05/14 – The REO project needs the employer reporting file layout**
3. **01/19/15 – The LOB project needs assessed and migrated data for testing**
4. **03/09/15 – The REO project needs assessed and migrated data for user acceptance testing**
5. **04/27/15 – The REO project needs the certification environment available to begin Reporting Entity certification**
6. **07/14/15 – The LOB project needs to verify the integration between the pension line of business system and the DLS functionality during User Acceptance Testing**
7. **11/23/15 – The deployment of the first phase, "active membership" of the new Pension Line of Business system into production, which needs:**
   - **The legacy pension to be decommissioned and updated to support all "active" membership activities being performed in the new pension line of business system**
   - **The data to be conditioned and migrated from the legacy pension system to the new pension line of business system**
   - **The reporting entities have to be certified and ready to submit their reports to the new pension line of business system**

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Questions and Answers

Tab 16

Teacher Retirement System of Texas

TEAM Program:

Independent Program Assessment Board Presentation

November 2014

Bridgepoint Consulting

Objectives

Bridgepoint Consulting

- Independent Program Assessment (IPA):
  - Provide independent reporting and oversight to the TRS Board and Executive Director or designee regarding critical risks related to the TRS Enterprise Application Modernization (TEAM) Program to enable informed decision-making.
  - Critical Risks Focus:
    - Failure to meet TEAM objectives
    - Lack of user acceptance
    - Program substantially delayed
    - Program substantially over budget

IPA Observations – Summary Overview

Bridgepoint Consulting

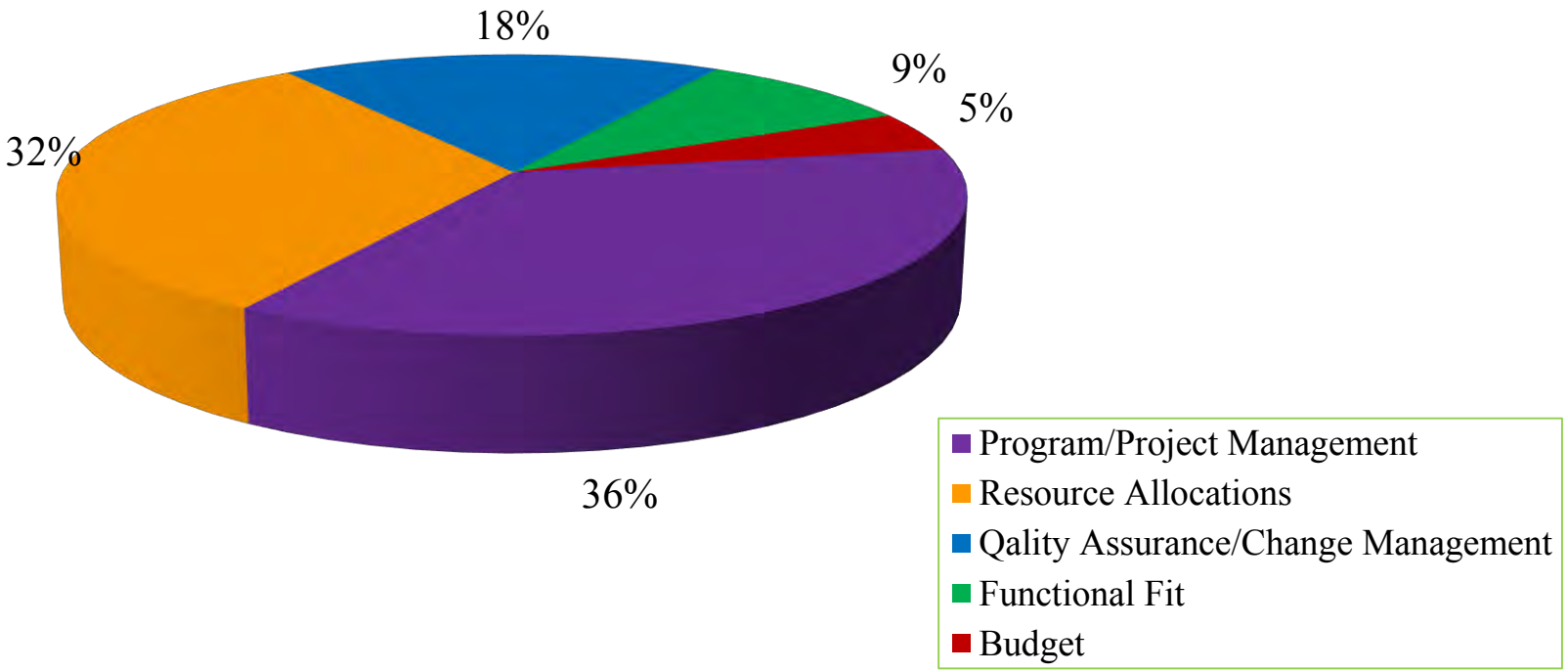
Bridgepoint identified 22 observations and risks to date within the following categories:

- Program/Project Management
  - *8 observations*
- Resources and/or Resource Loaded Planning
  - *7 observations*
- Quality Assurance/Change Management
  - *4 observations*
- Functional Fit
  - *2 observations*
- Project Cost and/or Budget Management
  - *1 observation*

IPA Observations Distribution

Bridgepoint Consulting

Bridgepoint identified 22 observations to date



SUMMARY List of IPA Observations Risks & Recommendations to Date

Bridgepoint Consulting

ID	Category & Date	Observations/Risks Identified	Recommendations	Due Date & Owner
1	PM *Jan 2013*	Re-engineering of Internal Controls has not yet been addressed within TEAM Program… **Risk:** *Inadequate internal controls environment* *Increased cost to design post go-live*	Incorporate internal controls assessment and design into applicable project plans (LOB, FSR etc.)	3/27/2013 D. Cook
2	Resource Allocation *Jan 2013*	IT Staff Strategic Planning not formalized for TEAM Implementation….. **Risk:** *Inadequate investment in IT staffing to accomplish TEAM objectives and ongoing sustainability*	Consider including cost/benefit analysis; Hire new graduates and train/develop, vs. Train and develop existing staff, vs. Hire experienced staff, vs. Outsource or combination of the above	3/27/2013 T.A. Miller
3	PM *Feb 2013*	Project Plan and Reporting Inconsistencies…. **Risk:** *Incomplete or inaccurate project plan* *Delays in projects may not be accurately reported*	Update project schedules for all projects currently in-progress with tasks and milestones.	3/27/2013 CMT
4	Resource Allocation *Feb 2013*	TEAM Program and Project level Staffing plan not detailed… **Risk:** Inadequate investment in staffing to accomplish TEAM objectives and ongoing sustainability	1. Update project plans to include detail roles and responsibilities by each team member 2. Develop a detailed staffing matrix for all TEAM projects and a resource management plan	3/27/2013 CMT

Completed | Risk Accepted or Included in PIP | Not Fully Addressed

SUMMARY List of IPA Observations Risks & Recommendations to Date

Bridgepoint Consulting

ID	Category	Observations/Risks Identified	Recommendations	Due Date & Owner
5	PM *Feb 2013*	Project Interdependencies have not been documented…. **Risk:** *Data source may not be cleansed in time Program Management structure may not operate effectively. Lack of resources or conflicts in staffing allocation to projects*	1. Develop a consolidated MS Project Plan with interdependencies identified 2. Establish Monthly Project Interdependency meetings.	3/27/2013 Provaliant
6	PM *Feb 2013*	FSR Contingency Plan has not been developed… **Risk:** *New Financial Systems may not be implemented within TEAM program on time and/or within budget*	1. Develop a contingency plan with cost/benefit analysis to facilitate Go/No-Go decision 2. PM schedule should be updated to reflect current project direction.	3/27/2013 J. Pierce
7	PM *Feb 2013*	OCM Scope has not been clearly defined… **Risk:** *Lack of clarity as to who has the overall responsibility for organizational readiness. Lack of staff acceptance. Unclear communication*	1. Clarify roles between HR, OCM, TEAM Communications Sub-Team and the "Business Procedures and Training" projects. 2. Consider adding HR rep. to CMT	3/27/2013 C. Yarbrough
8	QA/CM *Feb 2013*	Change Management and Quality Assurance Procedures have not been finalized…. **Risk:** *Lack of visibility and appropriate authorization to changes that impact scope, schedule and/or cost*	1. Develop Change Management procedures 2. Procedures should identify quality standards and plan in place to manage quality.	3/27/2013 G Sitz

SUMMARY List of IPA Observations Risks & Recommendations to Date

Bridgepoint Consulting

ID	Category	Observations/Risks Identified	Recommendations	Due Date & Owner
9	Resource Allocation *Apr 2013*	TEAM Program Implementation timeline…. **Risk:** *LOB and FSR executed concurrently* *Increase demand on TRS staff* *IT expertise*	Develop a consolidated MS Project Plan fully resources loaded (FSR &LOB); plan should incorporate estimated major milestones and interdependencies from each key project in order to determine proper resource allocation.	4/24/13 CMT
10	QA/CM *Apr 2013*	DM Delayed deliverables and inadequate deliverable acceptance documentation…. **Risk:** *Delayed deliverables may impact overall schedule and timeline*	1. MS Deliverable delays should be reported and highlighted within the published TEAM Dashboard. 2. Ensure that deliverables accepted according to the acceptance criteria in the contract.	5/14/2013 B. Pearson & G. Sitz
11	Functional Fit *Apr 2013*	FSR Overly complex and detailed requirements…. **Risk:** Scope of project may expand substantially during the design phase	Reevaluate FSR implementation timeline and consider reducing scope. Recommend using the same approach as LOB for ease of maintenance.	4/16/2013 J. Pierce
12	Budget *Jun 2013*	TEAM Program Budget Tracking and Reporting does not include cost categories.. **Risk:** Unclear program and project level financial results – specifically life-to-date and annual Actual to Budget variance	1. Include TEAM program and project level life-to-date financial information within status reports to ESC (and Board). 2. Determine cost categories to include in financial reporting and allocate project cost	4/16/2013 CMT

SUMMARY List of IPA Observations Risks & Recommendations to Date

Bridgepoint Consulting

ID	Category	Observations/Risks Identified	Recommendations	Due Date & Owner
13	Resource Allocation *Feb 2014*	Detailed LOB project schedule lacks TRS resource allocations…. **Risk:** The lack of fully resource loaded project schedule increases the risk of inadequate TRS resource levels. Conflicting priorities for key project staff may not be detected and resolved on time	1. Identify LOB Core Project Team members and document their specific area of project roles 2. Update project schedule or TEAM – Resource Plan to include resource allocations and resolve over allocations (level resources) 3. Consider adding a TEAM Project Controller position to provide additional help	Partially Addressed Risk Accepted
14	Resource Allocation *Feb 2014*	Key functional leads are only partially allocated to LOB project…. **Risk:** Key functional decisions may not always be made timely without adequate allocation of resources. Conflicting priorities for key staff	Assign designated business leads from significant functional areas to work on the project closer to 100% of their time as possible.	No due date
15	Resource Allocation *May 2014*	IT staff may not be sufficiently allocated to the LOB project….. **Risk:** Partially dedicated IT staff may not be able to develop the appropriate technology skills to provide sufficient technical support	1. Assign designated IT staff to work on the project closer to 100% of their time as possible 2. Develop an individual training plan for each IT staff according to HP technology training plan	In-Progress

SUMMARY List of IPA Observations Risks & Recommendations to Date

Bridgepoint Consulting

ID	Category	Observations/Risks Identified	Recommendations	Due Date & Owner
16	PM *May 2014*	LOB and DM project milestones completed late against baseline project schedules…. **Risk:** *Key milestone delays may impact critical path and could result in increased project cost, timeline and other implementation issues*.	Improve project schedule estimating task duration and monitoring progress, including resource allocations.	6/1/2014 PMO
17	Functional Fit *May 2014*	LOB Missing GAP Analysis… **Risk:** *The LOB project may take longer and require more effort than anticipated if the contract functional fit estimate is incorrect.*	Ensure that vendor deliverables conform to contract required Gap Analysis documentation before acceptance.	8/1/2014 PMO
18	QA/CM *May 2014*	Inconsistent quality of accepted LOB high level requirements documentation…. **Risk:** *LOB deliverables are potentially incomplete or inaccurate.*	Improve quality control of LOB deliverables and consider assigning first level review/approval responsibility to SMEs instead of having all artifact's approved by PMO only.	6/1/2014 Included in PIP
19	PM *May 2014*	Issues Management and aging actions and decisions….. **Risk:** Issues/actions/decisions may not be completed or resolved on time and may result in delayed or incomplete project tasks.	Improve issues management by keeping original assigned due date and add another column for "revised" due date in order to accurately determine aging and impact of delays.	6/1/2014 PMO

SUMMARY List of IPA Observations Risks & Recommendations to Date

Bridgepoint Consulting

ID	Category	Observations/Risks Identified	Recommendations	Due Date & Owner
20	Resource Allocation *Aug 2014*	Task level resource allocations are not consistently incorporated within TEAM MS Project Schedules … **Risk:** *The lack of fully resource loaded project schedule increases the risk of inadequate resource levels and potentially could impact overall project cost and timeline. Additionally, conflicting priorities for key project staff may not be detected and resolved on time*	(Repeat recommendation from Feb 2014 see #13) Assign specific resources to all project tasks to allow for fully resource loaded project schedules, including the BPT project.	Management Partially agrees with observation Risk Accepted 9/30/2014 PMO
21	PM Aug 2014	LOB project milestones continue to be completed late against baseline project schedule…. **Risk:** *Key milestone delays impact critical path and could result in increased project cost, timeline and other implementation issues.*	(Repeat recommendation from May 2014 see #16) Improve project schedule estimating task duration and monitoring progress, including resource allocations	10/31/2014 PMO Included In PIP
22	QA/CM *Aug 2014*	Inconsistent quality of LOB Detail Level Requirements sessions and deliverable artifacts... **Risk:** *LOB DLR deliverables (functional specs) are potentially incomplete or inaccurate.*	(Repeat recommendation from May 2014 see #18) Continue to improve quality of LOB deliverables and consider assigning first level review/approval responsibility to appropriate key business Subject Matter Experts (SME).	Management Partially agrees with observation Risk Accepted 10/31/2014 PMO

Prior IPA Recommendations Not Addressed or Partially addressed

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#1 Incorporate internal controls into applicable project plans….

- *Status as of 10/24/2014 (DJC) - Separate Key Internal Controls spreadsheets have been created for each functional area and those have been added to the DLR prep checklist. The key internal controls have also been reviewed again (in summer 2014 for updates) by the business areas. Internal Audit staff have also prepared a Guidance for Internal Controls document that is linked from the DLR Guidelines document. Review of key internal controls is discussed in the DLR sessions, not as a separate activity. Identified items that cannot be automated are communicated to the Business Procedures and Training project to ensure that human-based controls are included in procedure documentation.*

#3 Update project schedules with milestones and tasks for all projects currently in-progress…. – (Business Procedures & Training)

- *Status as of 10/27/2014 (DJC) - Project schedules have been developed and are being maintained as living documents. Resources for these projects are assigned either in the specific project schedule or in the global resource project plan.*

#4 Update project schedules with Resource Allocations…

- *Status as of 10/27/2014 (DJC) - TRS has developed a Resource Plan that includes allocation of TRS resources to milestone level activities. This was updated on 10/26 to include specific resource allocations for detailed level requirements, business function testing, and user acceptance testing through Phase 1 of the LOB. When specific training activities are scheduled, those resources will be added to the resource plan.*

Prior IPA Recommendations Not Addressed or Partially addressed

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#5 Develop a consolidated MS Project Plan with interdependencies…..

- *Status as of 10/27/2014 (DJC) - Project interdependencies are documents in the Project interdependency schedule and are discussed at regular PMO meetings. We have not had a interdependency meeting for several months because of the fact that the LOB schedule will be changing, which will impact other interdependencies.*

#14 Assign designated business leads from significant functional areas to work on the project closer to 100%....

- *Status as of 10/26/2014 (TAM) - As part of the Process Improvement Phase TRS has identified both Primary and Backup Subject Matter Experts (SMEs) for each of the functional areas. The intent is that the primary SME will be available 100% time for the requirements gathering for their functional area.*

Prior IPA Recommendations Not Addressed or Partially addressed

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#15 Assign designated IT Staff to work on the project closer to 100%....

- *Status as of 10/26/2014 (TAM) - TRS brought 8 backfill contractors onboard at TRS to help with the legacy development activities. These contractors have taken some responsibilities to allow the subject matter experts to participate more in the detailed level requirement sessions. The IT managers also developed spreadsheets showing current skills, gaps, and educational needs to help with the planning. We have also contracted with vendors like Red Hat and UnboundID to help with the training and transition to the enterprise service bus (ESB) and the lightweight directory access protocol (LDAP) respectively. Training in Java has been offered for members of the IT team. Several developers are currently working in the areas of the ESB and LDAP.*
- *TRS IT has the latitude to bring additional contractors onboard and has 3 unfilled TEAM positions.*

#16 Improve project schedule estimating task duration and monitoring progress, including resource allocations…..

- *Status as of 10/24/2014 (DJC) - This observation, when originally shared, related to the High Level Requirements which did not have an impact on the overall schedule. However, since that time milestones have been missed that do impact the schedule. TRS and HP instituted the Process Improvement Phase to address some of these issues and will develop a new schedule after that Process Improvement Phase.*

Summary of IPA Recommended Actions

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1. Assign a full-time, dedicated, empowered project executive

   Status as of 10/29/14: *TRS has dedicated Adam Fambrough as a full-time business representative to oversee the TEAM LOB Project.*

2. Dedicate full-time subject matter experts to lead the various functional areas

   Status as of 10/29/14: TRS has identified primary and backup subject matter experts for each of the functional areas with the intent that the primary subject matter expert will be dedicated full-time to that functional area when they are needed.

3. Co-locate TRS and HP project team members in functional groups

   Status as of 10/29/14: TRS is working with Facilities Staff to convert 420E to a collaborative work space for HP Business Analysts, developers, Business Process Managers, Business Process Analysts and Subject Matter experts.

Activities Completed – Current Period

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1. Attended weekly CMT status meetings, Executive Briefing or ESC and LOB, Project Team Meetings.

2. Continued with a detailed project management documentation review, including: overall TEAM Program Management status reports, individual project schedules and status reports, project Action and Decision Logs and other program/project related reports.

3. Completed the review of Phase 1, Increment 1 HP LOB DLR deliverables and artifact acceptance documentation. Continued to attend selected LOB DLR HP led sessions for various functional areas.

4. Continued to evaluate LOB related training and documentation development scope, timeline and responsibilities within TEAM Program.

5. Prepared status review of all IPA Observations identified to date, including risks and recommendations. Presented list to CMT and ESC. Incorporated management status update to each observation.

6. Prepared the IPA Board Report and current status for the TRS Novevmber Board meeting.

Activities for Next Period

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1. Continue to attend and observe weekly Executive Steering Committee (ESC) and Core Management Team (CMT) meetings.

2. Assess Business Procedures and Training Project Team meetings, observe interaction between vendor staff and TRS teams, current project issues and risks identified during team meetings.

3. Review and evaluate updated consolidated TEAM Program level resource allocation plans; verify that resource requirements are aligned with schedule within each project plan and resource contentions across projects are clearly identified.

4. Review and evaluate updated and consolidated TEAM Interdependency schedule (when available) including updated LOB, REO, BPT, DLS and Data Management project schedules and related interdependencies.

5. Review and evaluate LOB Process Improvement Plan results and documentation (when available) and detail level project schedule to verify updated timeline and resource allocations.

6. Review and analyze LOB development schedule, deliverables plan and resource allocation.

7. Continue to monitor TRS risk mitigation activities related to execution risks.

IPA Budget Status

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IPA Financial summary status through October 15, 2014

➢ Total hours incurred	2,554
➢ Total calculated cost incurred	$451,390
➢ Total billings for deliverables	$420,000
➢ Variance	$31,390