



TRS Board of Trustees Meeting

February 12 – 14, 2014

**TEACHER RETIREMENT SYSTEM OF TEXAS MEETING
BOARD OF TRUSTEES**

AGENDA

February 12, 2014 – 9:00 a.m.

February 13, 2014 – 8:00 a.m.

February 14, 2014 – 8:00 a.m.

**Region 2, Educational Service Center – Room 3-23
209 North Water St., Corpus Christi, TX 78401**

NOTE: Any item posted on the agenda may be taken up during the Board meeting on Wednesday, February 12, 2014, or during the continuation of the meeting on Thursday, February 13, 2014, or Friday, February 14, 2014, beginning at the times and place specified on this agenda.

The open portions of the February 12-14, 2014 Board meetings are being broadcast over the Internet. Access to the Internet broadcast of the Board meeting is provided on TRS' web site at www.trs.state.tx.us.

1. Call roll of Board members.
2. Consider the approval of the December 12–13, 2013 Board meeting minutes – David Kelly.
3. Provide opportunity for public comment – David Kelly.
4. Overview of the February 12-14, 2014 TRS Board meeting, including an introduction of issues and instructions for participating in the afternoon TRS health care town hall discussion – Brian Guthrie.
5. Receive presentation on and discuss national and state health care history and trends and the TRS health benefits plans – Betsey Jones; William Hickman and Amy Cohen, Gabriel, Roeder, Smith & Company.
6. Panel Discussion on health care matters and the federal Patient Protection and Affordable Care Act (PPACA) – Betsey Jones (Moderator); Jeff Bernhard and Sally Imig, Aetna; Dr. Dan McCoy and Ethan Baumfeld, Blue Cross and Blue Shield of Texas; Kevin DeStefino, RPh, Towers Watson; and Dr. Steve Miller, Express Scripts.
7. Meet with representative(s) from the Retirees Advisory Committee (RAC) and discuss the role of the RAC and issues regarding TRS-Care – Ignacio Salinas, Jr. Ph.D., Chair and Bill Barnes, Member

8. Conduct the TRS health care town hall meeting –Brian Guthrie (Moderator); Betsey Jones and William Hickman, Gabriel, Roeder, Smith & Company:
 - A. Receive an introduction on the health care town hall meeting, including instructions for participation.
 - B. Discuss the TRS health benefits studies.
 - C. Respond to in-person and web-cast audience questions on health care matters.
9. Discuss and consider selecting a TRS-ActiveCare Health Plan Administrator (HPA) and Pharmacy Benefit Manager (PBM), including considering a finding that deliberating or conferring on the selection of the HPA and PBM in open meeting would have a detrimental effect on the position of the retirement system in negotiations with a third person – Betsey Jones.

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

10. Provide opportunity for public comment – David Kelly.
11. Review and discuss the Executive Director's report on the following matters – Brian Guthrie:
 - A. Overview of the agenda for February 13, 2014.
 - B. Review TRS functions and organizational structure, including a workforce overview and a discussion of agency accomplishments and goals.
 - C. Preview draft agendas for upcoming Board meetings.
 - D. Receive the Board training calendar.
12. Discuss strategic planning – Brian Guthrie; Rebecca Merrill; and Keith Robinson, Focus Consulting Group.
13. Discuss preparation for the upcoming 2015 Texas legislative session – Ken Welch and Don Green.
14. Receive an update and discuss TRS long-term space planning issues – Don Green and Jerry Albright

15. Review the report under § 825.314(b), Government Code, 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.
16. Receive a presentation by Focus Consulting Group (FCG) on the process for executive personnel evaluations – Keith Robinson, Focus Consulting Group.
17. Receive presentations on the TRS investment management and functions, including the following matters:
 - A. Panel discussion on asset allocation – Dr. Keith Brown, (Moderator); Steve Voss and Brady O’Connell, Hewitt EnnisKnupp; Joseph Newton, Gabriel, Roeder, Smith & Company; Britt Harris; Mohan Balachandran; and Ashley Baum.
 - B. Receive an update on the Emerging Manager Program – Stuart Bernstein.
 - C. Discuss the 2014 priorities for the Investment Management Division – Britt Harris.
 - D. Receive market update and discuss results of the Investment Management Division’s Best Ideas Survey – Britt Harris and James Nield.
 - E. Receive a report on the investments in private investment fund CVC European Equity Partners IV L.P. and a direct investment in restricted securities – Rich Hall and Carolina de Onís.
 - F. Discuss possible co-investment opportunities involving a foreign pension fund, including potential investments in private investment funds or the purchase, holding, or disposal of restricted securities or a private investment fund’s investment in restricted securities – David Kelly.
 - G. Receive legal advice on certain securities related to the legacy fixed income portfolio – Carolina de Onís.

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

18. Provide opportunity for public comment – David Kelly.
19. Review the agenda items to be taken up on February 14, 2014 – Brian Guthrie.
20. Receive an overview of the TEAM Program, including the program’s goals, history, and budget – TRS TEAM Program Core Management Team (CMT); David Cook, and Jay Masci, Provaliant.

21. Receive an update on open government matters and review trustee roles, responsibilities, and fiduciary duties; qualifications for office and governance – Dan Junell, Ronnie Bounds, Carolina de Onís; and Steve Huff, Reinhart Boerner Van Deuren, s.c.
22. 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 – David Kelly.
23. 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) – David Kelly.

Tab 2

Minutes of the Board of Trustees

December 12-13, 2013

The Board of Trustees of the Teacher Retirement System of Texas met on December 12, 2013, 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
Joe Colonna
David Corpus
Chris Moss
Anita Palmer
Dolores Ramirez
Nanette Sissney

Others present:

| | |
|---------------------------|--|
| Brian Guthrie, TRS | Terry Harris, TRS |
| Ken Welch, TRS | Janis Hydak, TRS |
| Amy Barrett, TRS | Dan Junell, TRS |
| Janet Bray, TRS | Eric Lang, TRS |
| Carolina de Onís, TRS | Lynn Lau, TRS |
| Howard Goldman, TRS | Denise Lopez, TRS |
| Don Green, TRS | Rebecca Merrill, TRS |
| T. Britton Harris IV, TRS | James Nield, TRS |
| Marianne Woods Wiley, TRS | Hugh Ohn, TRS |
| Jerry Albright, TRS | Noel Sherman, TRS |
| Larry Abrahamson, TRS | Rebecca Smith, TRS |
| Thomas Albright, TRS | Steve Huff, Reinhart Boerner Van Deuren |
| Michelle Bertram, TRS | Steve Voss, Hewitt EnnisKnupp |
| Grant Birdwell, TRS | Brady O'Connell, Hewitt EnnisKnupp |
| Chi Chai, TRS | Philip Mullins, Texas State Employee Union |
| Michael Friedman, TRS | Ted Melina Raab, Texas American Federation of Teachers |
| Rich Hall, TRS | Ann Fickel, Texas Classroom Teachers Association |

Mr. Kelly called the meeting to order at 1:05 p.m.

1. Call roll of Board members.

Ms. Lau called the roll. All trustees were present.

The meeting recessed briefly for technical matters to be addressed, then reconvened at 1:16 p.m.

2. Consider the approval of the October 18, 2013 Board meeting minutes – David Kelly.

On a motion by Mr. Colonna, seconded by Ms. Palmer, the board unanimously approved the minutes of the October 18, 2013 board meeting.

3. Receive public comment – David Kelly.

Mr. Kelly called for public comment. No comment was received.

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

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

On behalf of the board, Mr. Kelly presented a plaque to Ms. Sissney, Ms. Charleston, and Ms. Palmer, respectively, for their attendance at the National Council on Teacher Retirement (NCTR) conference.

Mr. Guthrie reviewed the draft agenda items for the February 2014 meeting.

B. Additional updates, including administrative operations, financial, audit, legal, staff services, board administration activities, and strategic initiatives.

Mr. Guthrie highlighted notable events since October 2013, including the State Street visit, TRS Golden Apple Awards, Institutional Investor Forum, and Mr. Harris receiving the Lifetime Achievement Award from *aiCIO* magazine.

Mr. Guthrie laid out the timeline and process for disbursing the investment incentive compensation for this year.

C. Discussion of TRS being named one of the Austin-American Statesman's top workplaces and a screening of the associated TRS video.

Mr. Guthrie announced that TRS was included in the *Austin American-Statesman's* top ten work places of 2013 in Austin. A feature video about the designation was then shown.

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

Mr. Welch recognized the 2013 Golden Apple winners: Larry Abrahamson, Grant Birdwell, Michael Friedman, Luis Ramirez, and Iliana Raup.

Mr. Welch provided a brief update on the recent enactment of Senate Bill 200 relating to a prohibition on TRS investments in companies identified as doing business with the government of Iran. He also updated the board on the implementation of Senate Bill 1458 relating to member contributions and benefits.

Mr. Welch provided other operational updates, including the current hold time of the Telephone Counseling Center, the Leadership Training Program, TEAM-related activities, and charitable events held within the agency.

Responding to a question from Mr. Colonna regarding hiring interns for full-time positions after they finish school, Mr. Welch replied that the Investment Management Division had been most successful in doing that.

- 6. Discuss and consider investment matters, including the following items:**
 - A. Receive presentation from Dr. Keith Brown on investment risk management and asset allocation – Dr. Keith Brown.**

Dr. Brown provided a presentation on risk management and asset allocation.

- B. Performance Review: Third Quarter 2013 – Brady O’Connell and Steve Voss, Hewitt EnnisKnupp.**

Mr. Voss of Hewitt EnnisKnupp presented the performance review for the third quarter of 2013.

- C. Review Quarterly Portfolio Performance and market update – Britt Harris.**

Mr. Harris discussed the US regional economic development and highlighted some global financial market phenomena.

- D. Receive an update on the Strategic Partnership Network – David Veal.**

Mr. Veal provided a brief update on the Public and Private Markets Strategic Partnership Networks, including their asset allocations and commitments as well as their performance targets and track records.

- E. Review the report of the Investment Management Committee on its December 12, 2013 meeting, and consider related matters – Todd Barth.**

Mr. Barth, Committee Chair, provided a report of the Investment Management Committee:

The Investment Management Committee met today. The first presentation was a review of the investment risk management team, strategies, 2013 priorities and 2014 priorities, by Jase Auby. Next Mohan Balachandran reviewed the strategic asset allocation, stable value and tactical asset allocation teams and their respective processes and 2014 priorities.

- 7. Receive the report of the Policy Committee on its December 12, 2013 meeting, and consider related matters – Joe Colonna:**

Mr. Colonna, Committee Chair, provided a report of the Policy Committee:

The Policy Committee met today, December 12. The committee conducted required reviews of the TRS Mission Statement, Soft Dollar/Commission Sharing Agreement policy, and Securities Lending Policy. No changes were recommended to the Mission Statement or the policies.

The committee then completed the four-year statutory review of TRS' 403(b) rules. The committee recommended to the board adoption of the four-year rule review and re-adoption of the rules with no amendments.

The committee also completed the required review of the Proxy Voting Policy and recommended to the board Proxy Voting Policy amendments.

The committee recommended board adoption of amendments to the Trustee Ethics Policy, Employee Ethics Policy, and related documents.

A. Consider proposed changes to the TRS Mission Statement, if necessary;

No changes to the Mission Statement were proposed.

B. Consider adoption of the four-year statutory rule review of Chapter 53 of TRS' rules in Title 34, Part 3, of the Texas Administrative Code, including the re-adoption of the Chapter 53 rules with or without changes;

On a motion by Mr. Colonna, the board unanimously adopted the proposed order completing the statutory review of Chapter 53 of TRS rules and authorizing the board chair to sign the order on behalf of the board as recommended by the Policy Committee.

C. Consider proposed changes to the Proxy Voting Policy;

On a motion by Mr. Colonna, the board unanimously adopted the amended Proxy Voting Policy as recommended by the Policy Committee.

D. Consider proposed changes to the Soft Dollar / Commission Sharing Arrangement Policy and the Securities Lending Policy, if necessary;

No changes to the Soft Dollar/Commission Sharing Arrangement Policy were proposed.

E. Consider proposed changes to the Trustee Ethics Policy and Position Description; and

F. Consider proposed changes to the Employees Ethics Policy and related materials, the proposed resolution adopting revised determination of Key Employees, and the proposed new Key Employee Enhanced Disclosure Form.

On a motion by Mr. Colonna, the board unanimously adopted the following resolutions amending the Trustee Ethics Policy, the Employee Ethics Policy and related documents, and revising key employee determinations as recommended by the Policy Committee:

Resolution Approving Certain Changes to the Board of Trustees Ethics Policy

Whereas, In December 2011, the Board of Trustees of the Teacher Retirement System of Texas (the "Board") adopted the Board of Trustees Ethics Policy; and

Whereas, It is now necessary and prudent to adopt certain changes to the Board of Trustees Ethics Policy to implement changes made possible by 2013 revisions to TRS' ethics statute, Gov't Code § 825.212, and to conform it, in part, to the Employee Ethics Policy; and now, therefore be it

Resolved, That the Board hereby adopts the revisions to the Board of Trustees Ethics Policy, as presented by the staff to the Policy Committee.

Resolution Approving Certain Changes to the Employee Ethics Policy and Related Forms

Whereas, In October 2009, the Board of Trustees of the Teacher Retirement System of Texas (the "Board") adopted the Employee Ethics Policy and last revised the Policy in April 2012; and

Whereas, It is now necessary and prudent to adopt certain changes to the Employee Ethics Policy to implement changes made possible by 2013 amendments to TRS' ethics statute, Gov't Code § 825.212, and to make other prudent revisions, including to forms related to the Employee Ethics Policy; and now, therefore be it

Resolved, That the Board hereby adopts the revisions to the Employee Ethics Policy, the Ethics Compliance Statement for Employees and Certain Contractors, and the Key Employee Enhanced Disclosure Form, as presented by the staff to the Policy Committee.

Resolution Adopting Revised TRS Key Employee Determinations

Whereas, In accordance with Government Code Section 825.212 and the Employee Ethics Policy, as revised from time to time, the Board of Trustees of the Teacher Retirement System of Texas (the "Board") has authority to determine employees who exercise significant fiduciary authority ("key employees"); and

Whereas, The Board desires to adopt the following determinations of key employees; now, therefore be it

Resolved, That the following positions are determined to be key employees and their current and future incumbents subject to all applicable requirements for key employees:

| Title |
|---------------------------------|
| Executive Director |
| Deputy Director |
| Chief Investment Officer |
| Deputy Chief Investment Officer |
| Chief Benefit Officer |
| Chief Financial Officer |

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|---|
| General Counsel |
| Chief Audit Executive |
| Chief Information Officer |
| Deputy Chief Information Officer |
| Director of Health Care Policy and Administration |
| Director of Strategic Initiatives |
| Manager of General Accounting |
| Manager of Investment Accounting |

Further resolved, That all employees who hold a voting position on the Internal Investment Committee at any time during a reporting period are determined to be key employees subject to all applicable requirements for key employees;

Further resolved, That all Investment Management Division employees who hold the working title of Director or higher during a reporting period are determined to be key employees and subject to all applicable requirements for key employees;

Further resolved, That all employees who have authority to approve or execute securities trades in the TRS order management system during a reporting period are determined to be key employees and subject to all applicable requirements for key employees;

Further resolved, That all employees who hold authority during a reporting period under the Board's Authority Resolution (TRS 477) either through direct delegation from the Board or otherwise are determined to be key employees and subject to all applicable requirements for key employees;

Further resolved, That the Executive Director is authorized to designate, upon notice to the General Counsel, an employee not identified above to be a supplemental key employee if the Executive Director determines that it would be prudent for TRS to have the employee subject to the key employee requirements because of the influence the employee exercises, the nature of the employee's job, the information to which the employee has access, or another appropriate reason; at the next meeting of the Board after any supplemental key employee designations, the Executive Director shall notify the Board of the designations for the Board to consider ratification of the designations;

Further resolved, That the foregoing resolutions and all applicable key employee requirements, including submitting enhanced disclosures required by the Employee Ethics Policy, are effective for the 2012 reporting year and shall remain effective until modified by the Board.

8. Review the report of the Risk Committee on its December 12, 2013 meeting, and consider related matters – Karen Charleston.

Ms. Charleston, Committee Chair, provided a report of the Risk Management Committee:

The Risk Committee met on December 12, 2013. Risk management and strategic planning staff provided a report on the Enterprise Risk Management (ERM) function, which included information on TRS ERM structure and an update on the spotlight report and related Enterprise Risk Management activities. The Chief Benefit Officer provided a report on the value of ERM from the perspective of the user.

9. **Discuss possible co-investment opportunities involving a foreign pension fund, including potential investments in private investment funds or the purchase, holding, or disposal of restricted securities or a private investment fund's investment in restricted securities – David Kelly.**
10. **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 – David Kelly.**

Mr. Kelly announced that the board would go into executive session on agenda items 9 and 10 under section 825.3011 of the Government Code to confer about confidential investment matters, and under section 551.071 of the Government Code to seek advice from legal counsel. He stated that the board would also go into executive session on agenda item 10 under section 551.074 of the Government Code to discuss the personnel matters posted under that item. He asked all members of the public and staff not needed for the executive session to leave the meeting room and take their belongings with them.

Whereupon, the board went into executive session at 4:32 p.m.

The meeting was reconvened in open session and then recessed at 5:46 p.m.

The Board of Trustees of the Teacher Retirement System of Texas reconvened on December 13, 2013, 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
 Joe Colonna
 David Corpus
 Chris Moss
 Anita Palmer
 Dolores Ramirez
 Nanette Sissney

Others present:

| | |
|---------------------------|---|
| Brian Guthrie, TRS | T. A. Miller, TRS |
| Ken Welch, TRS | Melinda Nink, TRS |
| Amy Barrett, TRS | Scot Leith, TRS |
| Janet Bray, TRS | Mike Rehling, TRS |
| Carolina de Onís, TRS | Hugh Ohn, TRS |
| Jerry Albright, TRS | Noel Sherman, TRS |
| Janet Bray, TRS | Garry Sitz, TRS |
| Howard Goldman, TRS | Beckie Smith, TRS |
| Don Green, TRS | Tim Wei, TRS |
| Betsey Jones, TRS | Cindy Yarbrough, TRS |
| Amy Morgan, TRS | Yimei Zhao, TRS |
| Marianne Woods Wiley, TRS | Steve Voss, Hewitt EnnisKnupp |
| Michelle Bertram, TRS | Brady O'Connell, Hewitt EnnisKnupp |
| David Cook, TRS | Steve Huff, Reinhart Boerner Van Deuren |
| John Dobrich, TRS | Tim Lee, Texas Retired Teachers Association |

Darryl Gaona, TRS
Dennis Gold, TRS
Cindy Haley, TRS
Clarke Howard, TRS
Dan Junell, TRS
Lynn Lau, TRS
Jay LeBlanc, TRS
Rebecca Merrill, TRS
Jamie Michels, TRS

Bill Hickman, Gabriel Roeder Smith and Company
Joe Newton, Gabriel Roeder Smith and Company
Amy Cohen, Gabriel Roeder Smith and Company
Jay Masci, Provaliant
Michael Johnson, Bridgepoint Consulting
Philip Mullins, Texas State Employees Union
Ted Melina Raab, Texas American Federation of Teachers
Ann Fickel, Texas Classroom Teachers Association

Mr. Kelly called the meeting to order at 10:10 a.m.

2. Call roll of Board members.

Ms. Lau called the roll. All trustees were present.

11. Receive public comment – David Kelly.

Mr. Derly Rivera of the Austin Retired Teachers Association expressed his appreciation to board members and TRS staff for the services they provided to over a quarter million Texas retirees.

Mr. Tim Lee of the Texas Retired Teachers Association provided his input on the matters relating to the appointments to the Retiree Advisory Committee and funding for TRS-Care. He expressed his appreciation to board members for their services.

Mr. Kelly then asked for a motion to excuse the absence of Mr. Moss from the October 18, 2013 board meeting. On a motion by Mr. Barth, seconded by Ms. Sissney, the board unanimously excused the absence of Mr. Moss.

12. Receive the Chief Financial Officer's report under § 825.314(b), Government Code, 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.

Pursuant to section 825.314(b) of the Government Code, Mr. Green presented a report of the expenditures paid during the months of September and October of 2013. He confirmed for Ms. Sissney that the administrative expenses excluded benefit payments.

13. Review the Comprehensive Annual Financial Report for fiscal year 2013 – Jamie Michels and Cindy Haley.

Ms. Michels and Ms. Haley presented the Comprehensive Annual Financial Report for the fiscal year ended August 31, 2013.

14. Review the TRS Pension Trust Fund Actuarial Valuation as of August 31, 2013 – Joseph Newton, Gabriel, Roeder, Smith & Company.

Mr. Newton presented the pension trust fund actuarial valuation as of August 31, 2013. He highlighted the changes to the pension accounting standards adopted by the Governmental

Accounting Standards Board (GASB). He discussed the slow wage growth and the rising benefit, pension and healthcare costs in the U.S. economy. He noted the positive impact of population growth in Texas on the pension plan. Responding to a question from Mr. Barth concerning the 2011 changes in the asset smoothing methodology, Mr. Newton described the effects, including how they had helped accelerate the convergence of actuarial and market values.

Mr. Newton concluded that the current valuation was positive. He stated that future benefit increases should accompany additional funding from other sources to avoid potential risk to the financial health of the pension plan.

15. Review the TRS-Care Actuarial Valuation and Other Post Employment Benefit (OPEB) reports as of August 31, 2013, and receive an overview and update on TRS-ActiveCare – Joseph Newton; William Hickman; and Amy Cohen, Gabriel, Roeder, Smith & Company.

Mr. Newton provided the background of the TRS-Care actuarial valuation and other post-employment benefit studies based on the GASB Statements No. 43 and No. 45. Mr. Newton highlighted the cash estimates for FY 2014 and stated that the current projected contribution rate was 2.2% of payroll, which would need to be increased to 5.86% for advance funding.

Mr. Hickman and Ms. Cohen provided a health benefits briefing. Ms. Cohen provided an overview of TRS-Care, including the plans' benefits and levels of coverage, participation, claims cost, funding sources, historical expenditures, and cost drivers. She noted that there was no relationship between the revenue and incurred cost. Presenting the financial history and projection through FY 2018 with data through August 2013, Ms. Cohen stated that with the implementation of the Medicare Advantage and Part D plans, TRS-Care was projected to be solvent through the end of FY 2015 instead of FY 2013, as previously projected.

Ms. Cohen provided an overview of TRS-ActiveCare. She highlighted the plan design changes implemented over the past year. She provided an overview of the levels of coverage, current and historical plan participation and expenditures, claims cost, funding sources, and cost drivers.

Mr. Kelly asked staff to present at a future board meeting potential issues and solutions for keeping the health benefits plans solvent.

16. Receive an update on the procurement of the TRS-ActiveCare Health Plan Administrator (HPA) and Pharmacy Benefit Manager (PBM) contracts, including potentially receiving information from staff in closed session after considering a finding that deliberating or conferring on the selection in open meeting would have a detrimental effect on the position of the retirement system in negotiations with a third person – Betsey Jones.

Ms. Jones provided a brief update on the procurement process for the TRS-ActiveCare Health Plan Administrator (HPA) and Pharmacy Benefit Manager (PBM). She stated that the current contracts would expire on August 31, 2014. She stated that in light of the complexity of the selection, staff recommended deferring selections of vendors until the February 2014 board meeting to provide additional time to discuss and consider the proposals.

17. Review the report of the Benefits Committee on its December 13, 2013 meeting, and consider appointments to the Retirees Advisory Committee – Anita Palmer.

Ms. Palmer, Committee Chair, provided the report of the Benefits Committee as follows:

The Benefits Committee met on December 13, 2013 to review reports on benefit services and TRS website statistics and to consider proposed appointments to the Retirees Advisory Committee (RAC), and make a related recommendation to the board. Marianne Woods Wiley, Chief Benefit Officer, presented FY 2013 and past fiscal year information on some of the activities of the Benefits Service Division, including benefit processing and counseling. She also provided current average service delivery turnaround time and current telephone hold times. For additional details, board members may refer to item 2 on the Benefits Committee agenda.

Howard Goldman, Director of Communications, presented an overview of TRS website activity during FY 2013. He also reviewed outreach activities, the website redesign project, and social media information.

Betsey Jones, Director of Health Care Policy and Administration, explained the RAC appointment process and presented information on nominees for the five expiring RAC positions. There were no nominations for the retired school auxiliary position. Based on committee discussion, the following motion is proposed for the board to consider, and these are the positions: Position for retired teacher, Bill Barnes; retired teacher, Marcia McNeill; active teacher, Grace Mueller; and active administrator, Ignacio Salinas.

On a motion by Mr. Corpus, seconded by Mr. Moss, the board unanimously appointed the following four individuals for a four-year term on the RAC from February 1, 2014 to January 31, 2018 in the following positions:

| | |
|-----------------------|--------------------|
| Retired teacher: | Bill Barnes; |
| Retired teacher: | Marcia McNeill; |
| Active teacher: | Grace Mueller; and |
| Active administrator: | Ignacio Salinas. |

18. Review the reports on the Historically Underutilized Businesses (HUB) and consider related goals for fiscal year 2014 – John Dobrich.

Mr. Dobrich provided the reports on the Historically Underutilized Businesses (HUB) with details on current and historical HUB utilizations, accomplishments, and future initiatives. He noted that state agencies could set goals that differed from statewide goals in each category to accommodate expenditure differences resulting from each agency's unique mission. Agencies could also set goals that were higher than statewide goals to further support the HUB program. He stated that TRS' goals were structured to address both of these situations.

On a motion by Mr. Barth, seconded by Ms. Sissney, the board unanimously adopted the following resolution to approve the HUB goals for fiscal year 2014:

Whereas, TRS staff met on November 8, 2013 and reviewed the report of the Texas Comptroller of Public Accounts on TRS HUB expenditures for fiscal year 2013 and discussed the 2013 HUB Program Annual Status Report to be presented to the TRS Board of Trustees (Board);

Whereas, TRS staff developed proposed HUB goals for fiscal year 2014 for the Board to consider; and

Whereas, The Board has received and discussed the HUB expenditure reports, and the Board desires to adopt TRS' HUB goals for fiscal year 2014; now, therefore, be it

Resolved, That the Board hereby adopts the following HUB expenditure goals for fiscal year 2014:

| Category | TRS FY13 Goals | TRS FY13 Actual | TRS FY14 Goals |
|-----------------------|----------------|-----------------|----------------|
| Special Trade | 25% | 22.47% | 25% |
| Professional Services | 5% | 4.35% | 5% |
| Other Services | 20% | 10.08% | 15% |
| Commodity Purchases | 50% | 26.52% | 35% |

19. Receive the report of the Audit Committee on its December 13, 2013 meeting, and discuss and consider related matters – Chris Moss.

Mr. Moss, Committee Chair, provided the report of the Audit Committee as follows:

The Audit Committee met at 8:30 a.m. on Friday, December 13, 2013 in the 5th Floor Boardroom. The State Auditor's Office presented the results of the audit of the TRS comprehensive annual financial report for FY 2013. Protiviti presented their plan for developing a health care risk assessment and model three-year audit plan. TRS staff provided overviews of implementation activities for legislative changes for cost of living adjustments and changes to calculations of service purchase credit. Internal Audit presented the results of two audits in those areas.

Internal Audit presented a plan for issuing an overall opinion on the effectiveness of controls in the Investment Management Division and the related results of quarterly interim testing. They also presented the results of the quarterly investment compliance testing. Internal Audit presented an overview of the annual internal audit report, the status of prior audit and consulting recommendations, and audit administrative matters.

Mr. Kelly announced that the board would take up agenda item 21.

21. Receive a presentation on the progress of the TEAM Program, including a discussion on project interdependencies and the pension line of business project entitled TRUST (Teacher Retirement Unified System for Technology) – Jay Masci, Barbie Pearson, and Adam Fambrough.

Mr. Masci provided an update on the TEAM program progress and stated that all the projects

were on or ahead of schedule.

Mr. Cook presented the current TEAM budget report. He noted that future reports would track budgets for each project as well as the overall program. Mr. Kelly suggested including the buyout, cost to complete, and current expenditure in the report and aggregating the contingency left in each project into an overall program contingency. He stated that by combining all the contingencies into an aggregate, any change order would come out of the overall contingency. Mr. Cook concurred with Mr. Kelly's suggestion. Mr. Green stated that he would work with Ms. Sissney and Mr. Cook on the report and present some options at the February meeting.

Mr. Cook noted that the total project cost had risen to the \$95 million threshold because of a contingency added to the Hewlett-Packard contract and the hardware and software maintenance costs added after the end of the project implementation. Mr. Green and Mr. Welch noted that the ongoing maintenance cost would be an add-on and would be budgeted separately during the Legislative Appropriation Request process. Mr. Masci clarified for Mr. Barth that the estimated starting date for the enterprise financial system implementation was inaccurate because the contract negotiations took longer than expected. He stated that staff would notify the board if there was a budgetary or scheduling change-control.

Mr. Kelly suggested having a refresher training on the TEAM project in February for trustees to have a clear understanding of the budgetary and scheduling issues as well as the monitoring and control process. Mr. Welch stated that staff would include it on the February agenda.

Mr. Masci gave a presentation on the TEAM program interdependencies. He presented the projected interdependencies from now through FY 2016.

Mr. Fambrough provided an update on the pension Line of Business (LOB) project. He described the implementation plan for each solution.

Ms. Pearson provided an update on the TEAM milestones and accomplishments.

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

Mr. Johnson provided an update on the TEAM program assessment. He stated that the risks identified during the planning phase had substantially been addressed, and no new risk had been identified since then. He described the risk-based approach and discussed the risks associated with the execution of the LOB project. He confirmed for Mr. Kelly that he believed HP was the right vendor for the LOB project, and the process of selecting HP was deliberative.

Mr. Johnson profiled the HP Clarety Pension Administration network. He noted the staffing and execution risks identified during this reporting period. He stated that TRS currently did not have the level of skills for maintaining a large-scale enterprise system on a new platform and highlighted the need to have the skill sets for acceptance testing. He concluded his report by presenting the activities for the next reporting period.

Mr. Moss requested that a glossary of acronyms be provided at the February meeting. He noted that he was comfortable with the status of CGI's progress.

Responding to a question from Mr. Colonna concerning ownership of the TEAM project, Mr. Guthrie stated that he and Mr. Welch owned the project. Mr. Colonna concurred with Mr. Guthrie, and stated that he prioritized the success of the project over the proposed budget and schedule issues. Mr. Kelly concurred with Mr. Colonna and stated that staff would have the board's support when issues arose.

22. Review the report of the Chief Benefit Officer, and consider the following related matters – Marianne Woods Wiley:

A. Approve members qualified for retirement.

Ms. Woods Wiley presented the list of members and beneficiaries receiving initial benefit payments during the reporting period from June 1, 2013 through August 31, 2013. She referred the board to the detailed list of payments made available for their review.

On a motion by Ms. Sissney, seconded by Mr. Moss, the board unanimously approved the list of members and beneficiaries who qualified for retirement, disability, DROP, PLSO, survivor, or death benefits initiated during the reporting period.

B. Approve minutes of Medical Board meetings.

Ms. Woods Wiley presented the minutes of the July 9, 2013 and September 17, 2013 Medical Board meetings.

On a motion by Ms. Sissney, seconded by Mr. Moss, the board approved the minutes of the Medical Board meetings as presented, thereby ratifying the actions of the Medical Board reflected in those minutes.

23. Consider concurring in the Medical Board's certification regarding a disability retiree under § 824.307 of the Government Code, discontinuing annuity payments, and restoring the individual to membership – Marianne Woods Wiley.

Ms. Woods Wiley presented information regarding a determination made by the Medical Board that a specific disability retiree was no longer disabled. She noted that per a previous discussion with the board regarding the procedure for reviewing the disability status of a retiree, the Medical Board had reviewed the case again and made the final determination that the retiree was no longer disabled and should be restored to membership.

On a motion by Mr. Colonna, seconded by Ms. Sissney, the board unanimously voted to concur with the Medical Board certification in discontinuing the disability retiree's annuity payments and restoring her to active status.

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

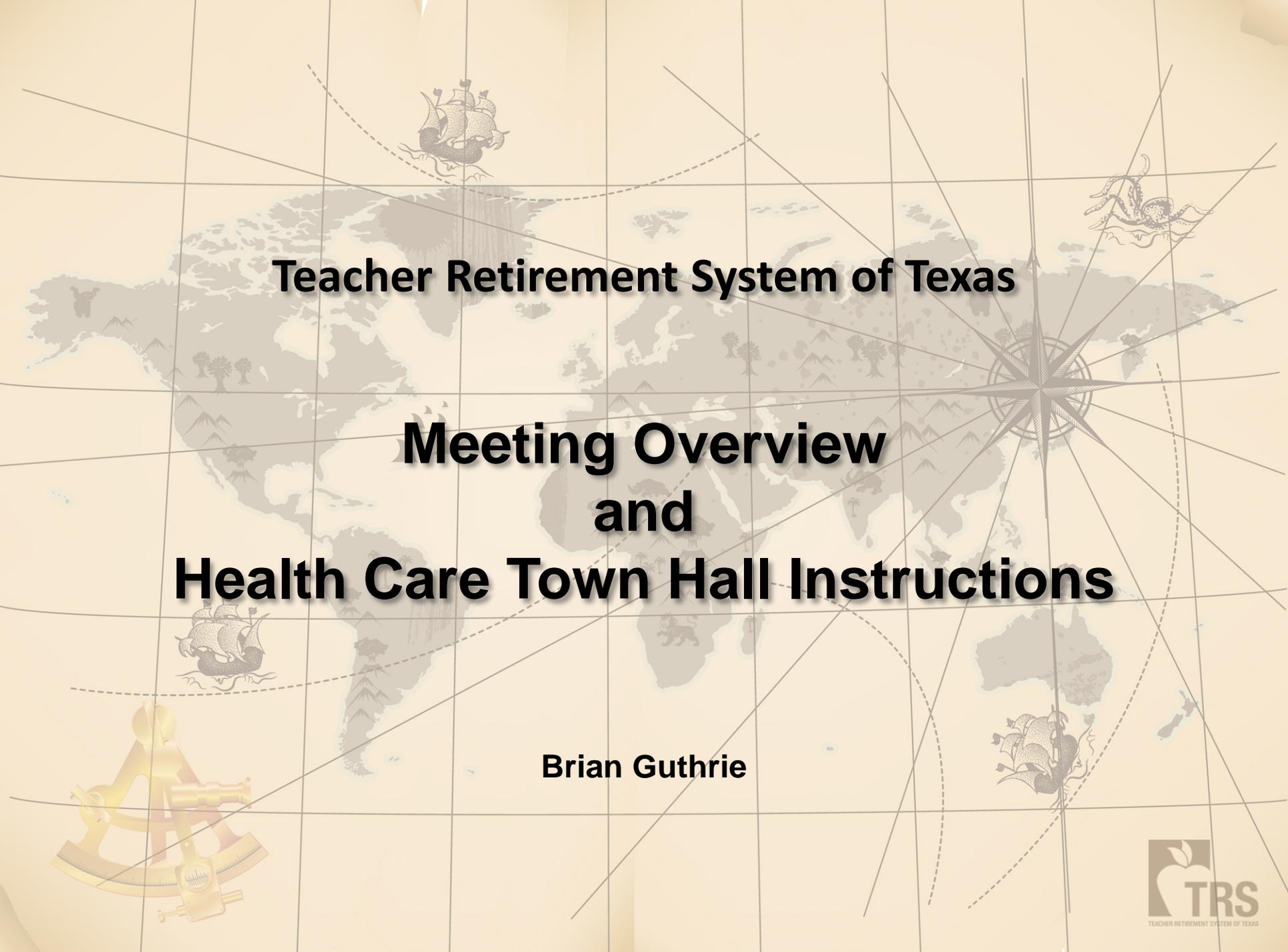
The board members had no questions about the litigation report.

- 25. Consult with the Board's attorney(s) in Executive Session on any item listed above on this meeting agenda as authorized by § 551.071 of the Texas Open Meetings Act (Chapter 551 of the Texas Government Code) – David Kelly.**

The board took up no further business under agenda item 25.

The meeting was adjourned at 1:50 p.m.

Tab 4

The background features a stylized world map with a grid of latitude and longitude lines. A sailing ship is positioned in the upper left quadrant, an octopus in the upper right, and a compass rose on the right side. Dashed lines represent travel routes across the map.

Teacher Retirement System of Texas

Meeting Overview and Health Care Town Hall Instructions

Brian Guthrie



Presentation Overview

- Meeting agenda review.
- Review instructions for participation in TRS Health Care Town Hall.

Meeting Overview



Charting the Course

The effect of sailing is produced by a judicious arrangement of the sails to the direction of the wind.

- William Falconer

- Three-day retreat meeting.
- Major items include:
 - Health Care 101 and panel.
 - Retiree Advisory Committee discussion.
 - Health Care Town Hall.
 - TRS-ActiveCare Procurements.
 - Strategic asset allocation.
 - TEAM
 - Strategic planning.
 - Space planning
 - Legislative preparation and budget matters.

Wednesday, February 12th

| Topics | Times |
|---|-------------------------|
| ▪ Overview of agenda and town hall instructions | 9:15 a.m. – 9:30 a.m. |
| ▪ Health Care 101 | 9:30 a.m. – 11:00 a.m. |
| ▪ Health Care Panel | 11:00 a.m. – 12:30 p.m. |
| ▪ Retiree Advisory Committee | 12:30 p.m. – 1:00 p.m. |
| ▪ Health Care Town Hall <ul style="list-style-type: none">• Instructions• TRS Health Benefits Study• Respond to Questions | 1:00 p.m. – 3:00 p.m. |
| ▪ TRS-ActiveCare Procurements | 3:00 p.m. – Recess |

Thursday, February 13th

| Topics | Times |
|---|-------------------------|
| ▪ Public Comment | 8:00 a.m. – 8:15 a.m. |
| ▪ Executive Director's Report | 8:15 a.m. – 9:30 a.m. |
| ▪ Strategic Planning | 9:30 a.m. – 10:30 a.m. |
| ▪ Discuss Legislative Preparation | 10:30 a.m. – 11:15 a.m. |
| ▪ Space Planning | 11:15 a.m. – 11:45 a.m. |
| ▪ CFO Report | 11:45 a.m. – 12:00 p.m. |
| ▪ Executive Evaluations | 12:00 p.m. – 12:30 p.m. |
| ▪ Investment Presentations | 12:30 p.m. – Recess |
| • Strategic Asset Allocation | |
| • EM Update | |
| • 2014 IMD Priorities | |
| • Best Ideas Survey | |
| • Due Diligence and Legal Matters (In Closed Session) | |

Friday, February 14th

Topics

Times

- | | |
|-----------------------|------------------------|
| ▪ Public Comment | 8:00 a.m. – 8:15 a.m. |
| ▪ Review Daily Agenda | 8:15 a.m. – 8:30 a.m. |
| ▪ TEAM Overview | 8:30 a.m. – 10:30 a.m. |
| ▪ Legal Training | 10:30 a.m.– Adjourn |

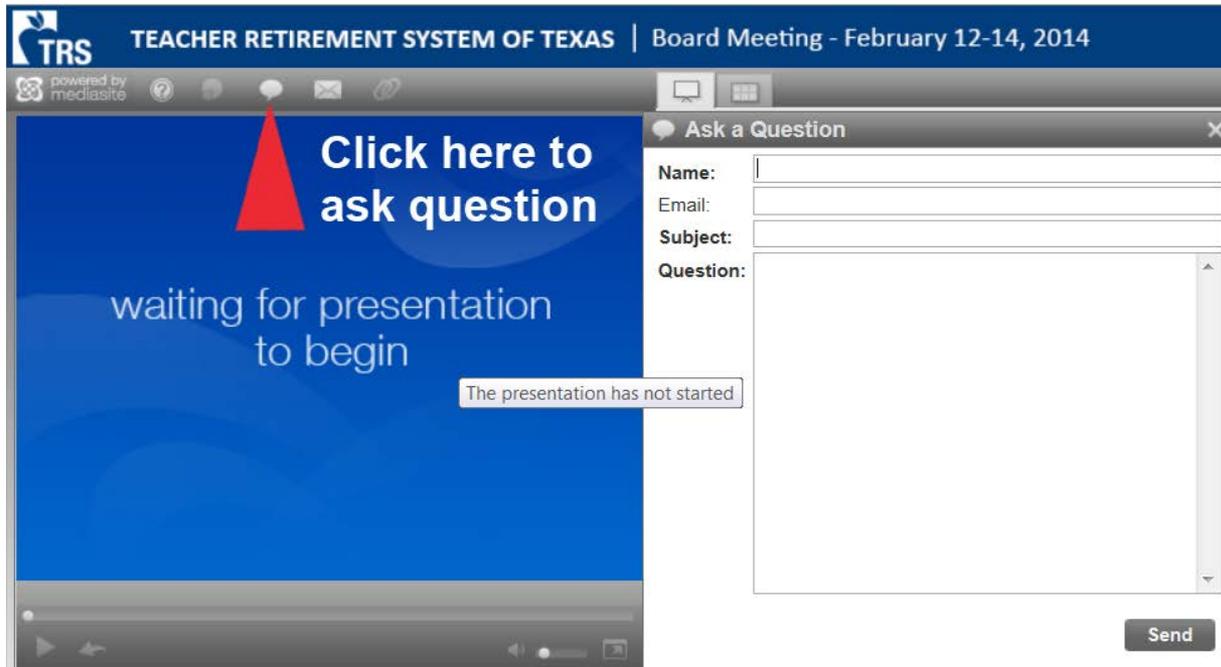
Health Care Town Hall Instructions



Health Care Town Hall

- During the Health Care Town Hall, TRS will offer interactive Q & A sessions on health care matters related to TRS.
 - Audience present in hall can submit questions in writing on the cards provided.
 - Web-cast audience can submit questions via the internet link.
 - Also accepting questions via Twitter at #trstownhall.
 - TRS will respond to questions during the town hall meeting.
 - Please do not submit questions regarding personal health situations. TRS cannot discuss an individual's personal health information in this forum.

Ask A Question Feature



- Click on the “Ask a Question” Balloon
- Email box will appear
- Name and email are optional, but suggested
- Submit subject and question
- Click on ‘send’ button

Tab 5

Teacher Retirement System of Texas

5. TRS Health Benefits

Betsey Jones, TRS

Bill Hickman, GRS

Amy Cohen, GRS

February 2014

Health Care History



Key dates in the history of U.S. healthcare

- 1847** First sickness insurance policy issued by Massachusetts Health Insurance Company
- 1849** First general insurance law passed by the State of New York
- 1915** American Association of Labor Legislation (AALL), with support of the American Medical Association (AMA), drafted a model bill creating health insurance for the working class and other individuals earning less than \$1200 per year. Costs were to be shared between employee, employer and the state. The bill was opposed by both the private insurance industry and the American Federation of Labor (AFL), who feared that it would create a system of government supervision over people's health.
- 1929** A group of school teachers arrange for Baylor Hospital in Dallas, TX to provide room, board and specified services at a pre-determined monthly cost.
- 1939** Blue Cross Blue Shield of Texas issues its first health insurance policy
- 1940s** Wage and price controls during and post WWII resulted in improvements to employee benefits packages as employers competed for workers.

Sources: Employee Benefit Research Institute (EBRI); Centers for Medicare and Medicaid Services (CMS); PBS.org.

Key dates in the history of U.S. healthcare

1965 Title XVIII and Title XIX of the Social Security Act

Medicare provided coverage for individuals over the age of 65; Medicaid provides coverage for low-income children.

1973 Health Maintenance Organization (HMO) Act

Established requirements for entities seeking designation as a federally qualified HMO.

1974 Employee Retirement Income Security Act of 1974 (ERISA)

Established uniform standards for employee benefits plans in order to receive tax-favored status.

1986 Consolidated Omnibus Budget Reconciliation Act (COBRA)

Requires employers to offer health care coverage to terminated employees and dependents for up to 18-36 months.

Mandatory Medicare Coverage

State and local government employees hired (or rehired after March 31, 1986) are subject to mandatory Medicare coverage.

Key dates in the history of U.S. healthcare

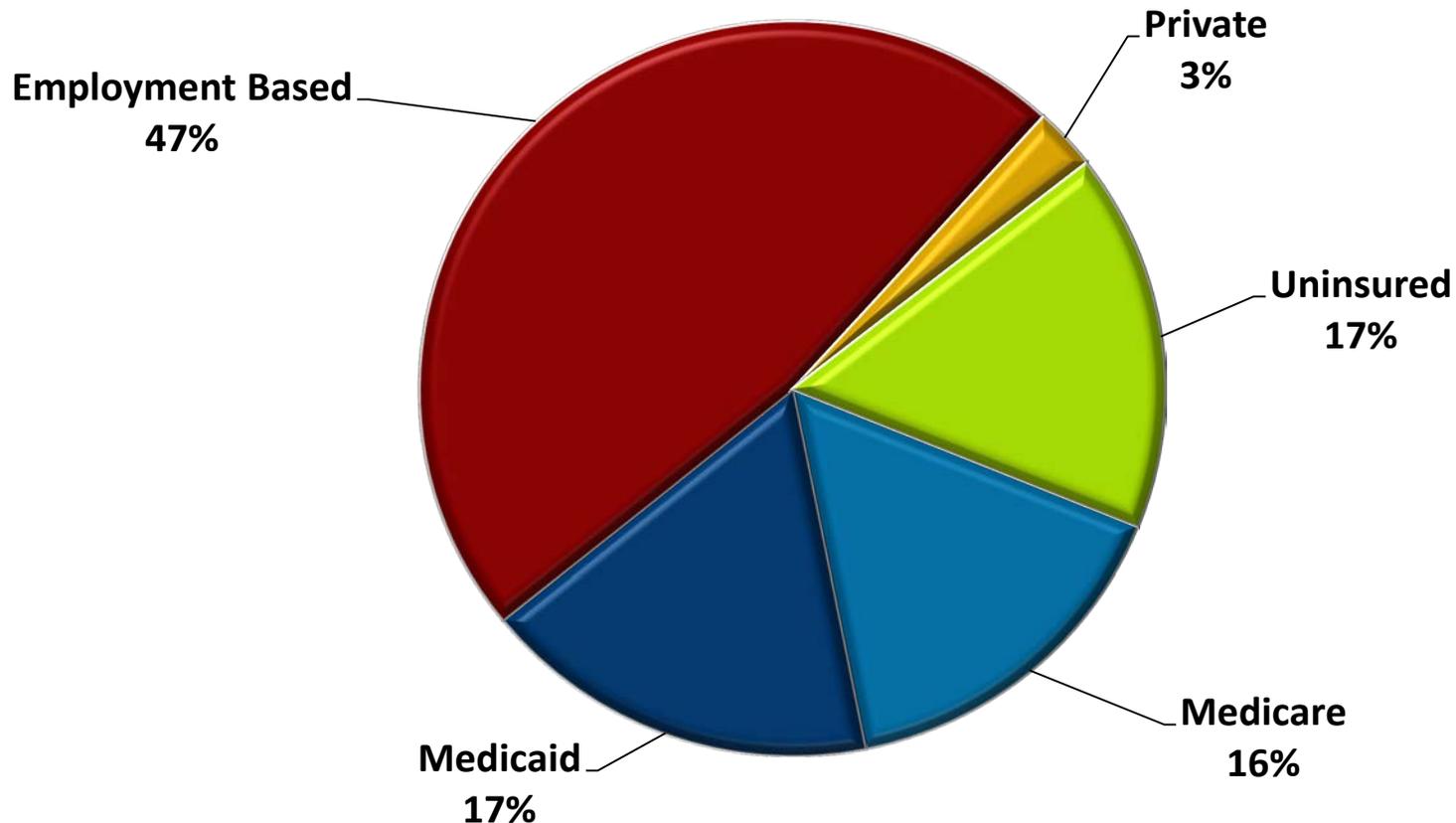
- 1996 Health Insurance Portability and Accountability Act (HIPAA)**
Established non-discrimination and portability standards for individual coverage, HMOs and group health plans; standardized electronic formats to ensure privacy of personal health data.
- 1997 Balanced Budget Act (BBA)**
Created the State Children's Health Insurance Program (SCHIP) and a Medicare+ Choice program.
- 2003 Medicare Prescription Drug, Improvement and Modernization Act (MMA)**
Created a new prescription drug card until 2006; created a voluntary Part D benefit available to both private drug plans as well as Medicare Advantage enrollees.
- 2010 Patient Protection and Affordable Care Act (PPACA)**
Created public healthcare exchanges in order to increase the access to and affordability of health care coverage for Americans.

National Health Care Trends



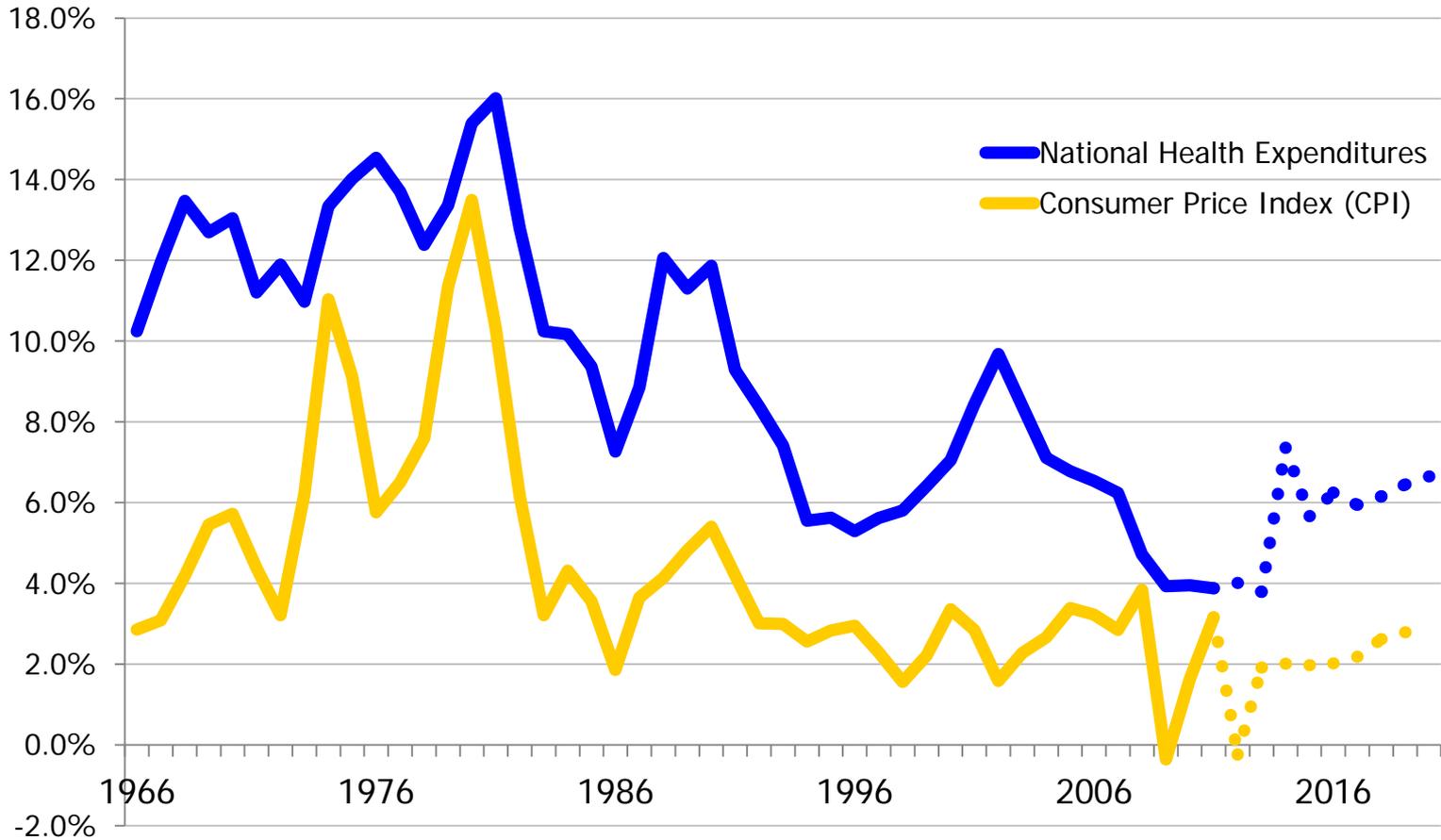
Where do we get health coverage?

Out of 330 million people in the United States, 83% received accessed health coverage through either the government, an employer or in the private sector in 2012.



Source: CBO publications, May/June 2013.

Annual Growth Rates



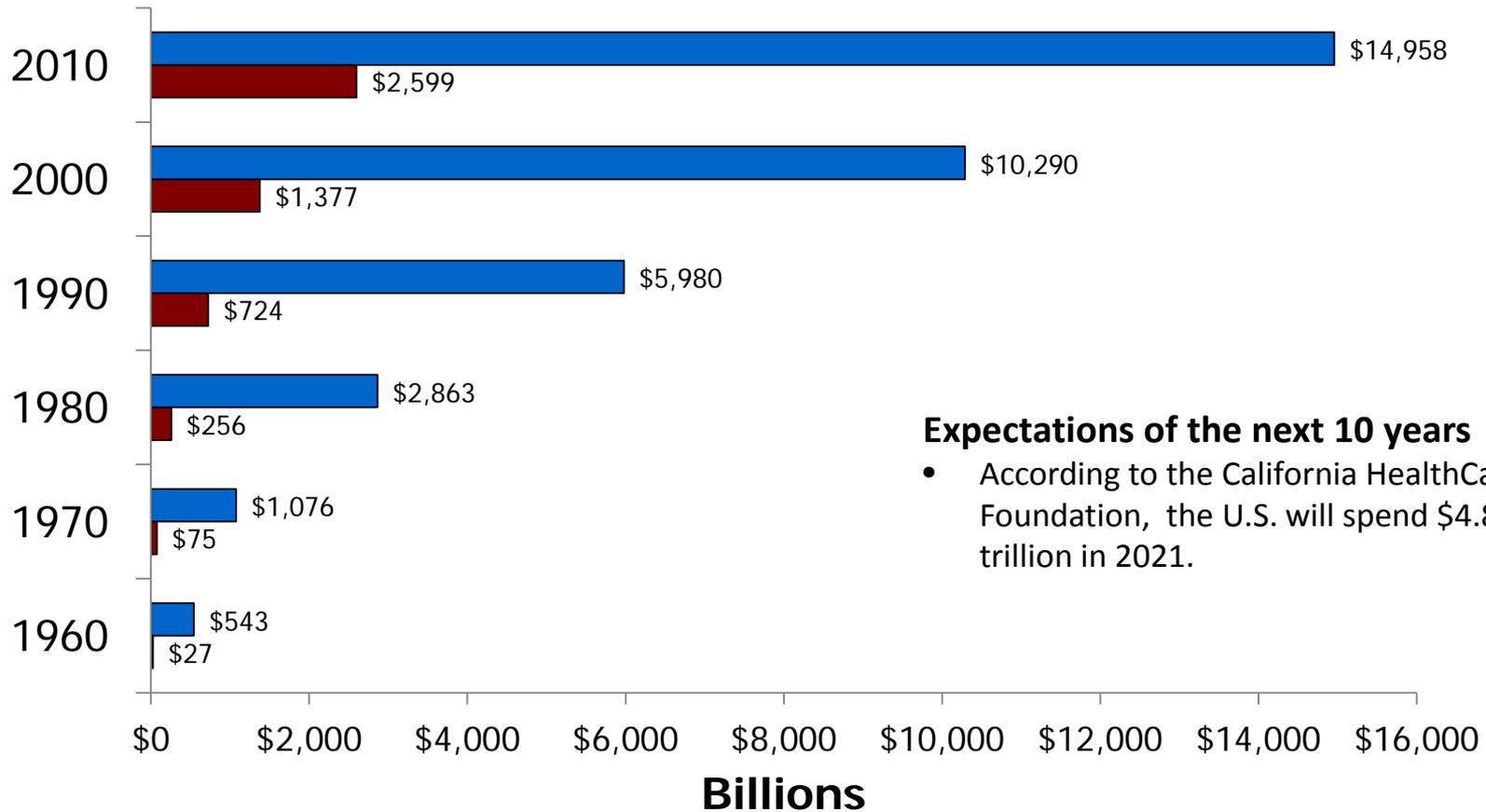
Sources: CMS, Office of the Actuary, National Health Expenditures, 2013; Bureau of Labor and Statistics: CPI-U, US City average.

Why is healthcare spending going up?

Factors that contribute to growth in spending:

- Emergence, adoption and diffusion of new medical technologies
- Increases in personal income
- Expanded scope of health insurance coverage
- Defensive medicine
- Supplier-induced demand
- Specialty pharmacy

How much do we spend on healthcare?



Expectations of the next 10 years

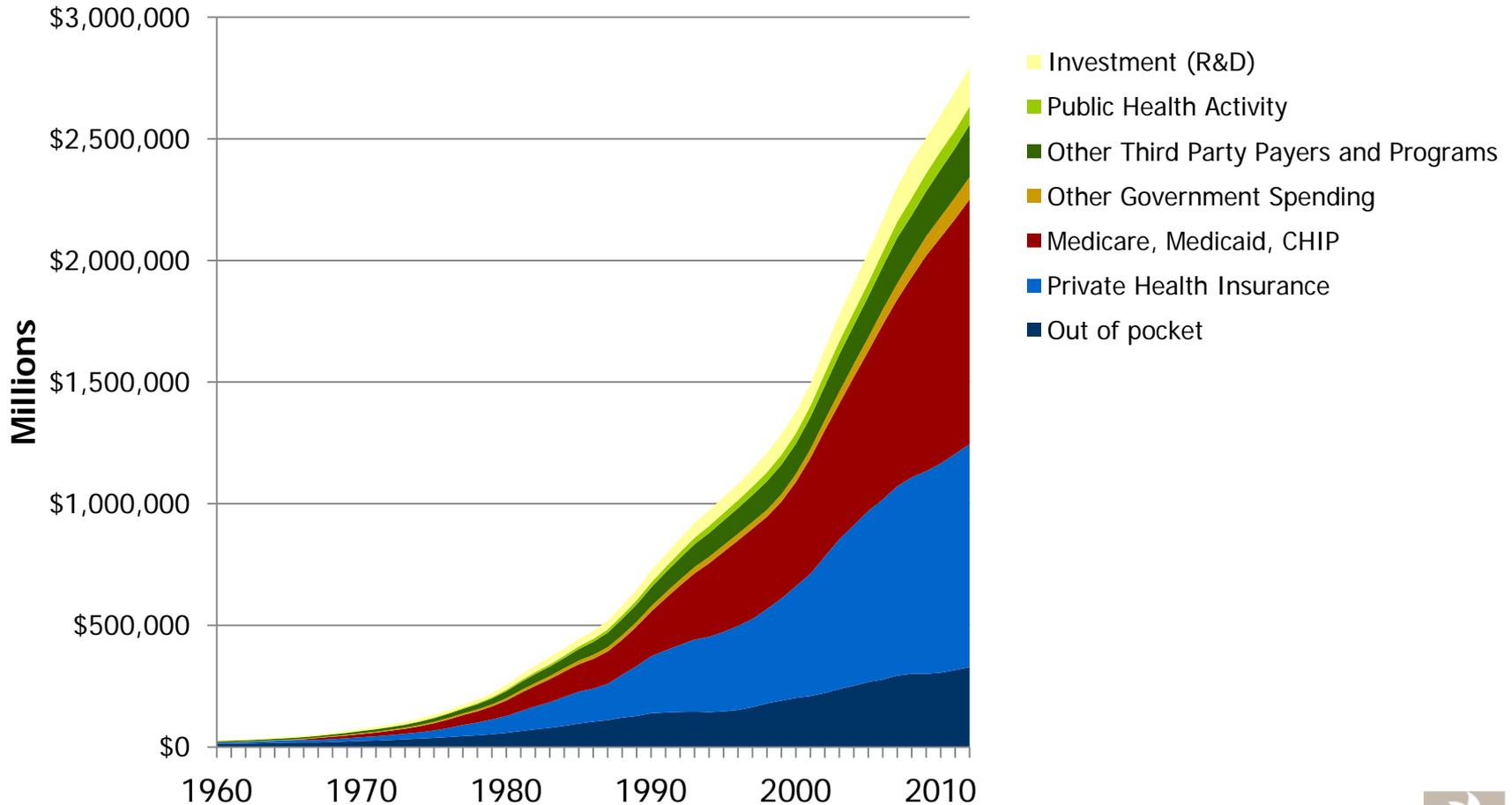
- According to the California HealthCare Foundation, the U.S. will spend \$4.8 trillion in 2021.

■ Gross Domestic Product ■ National Health Expenditures

Sources: Centers for Medicare & Medicaid Services, Office of the Actuary, National Health Statistics Group; California HealthCare Foundation (CHCF), September 2013.



How much do we spend on healthcare?



How much do we spend on healthcare?

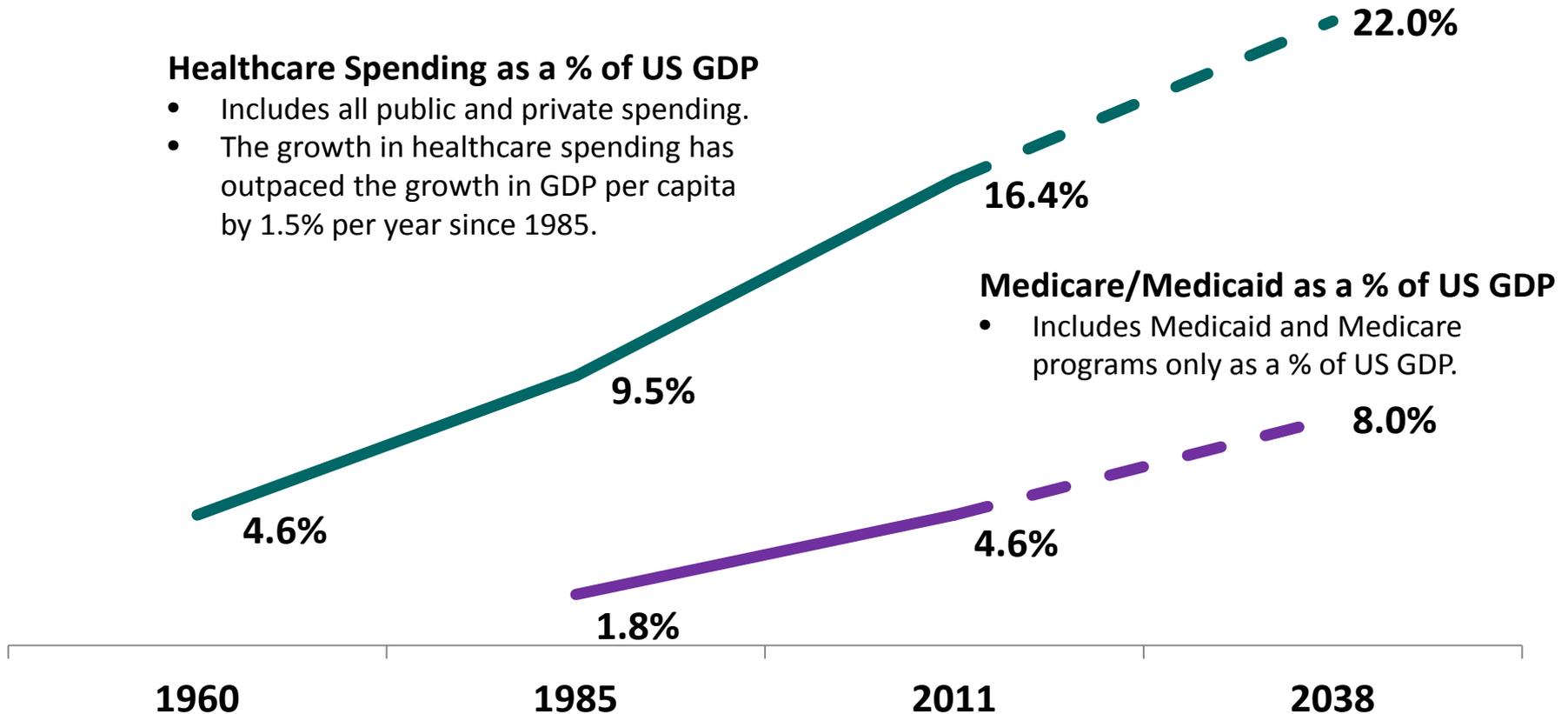
In 2012, the US spent \$2.8 trillion on healthcare. That's \$8,915 per person.

Healthcare Spending as a % of US GDP

- Includes all public and private spending.
- The growth in healthcare spending has outpaced the growth in GDP per capita by 1.5% per year since 1985.

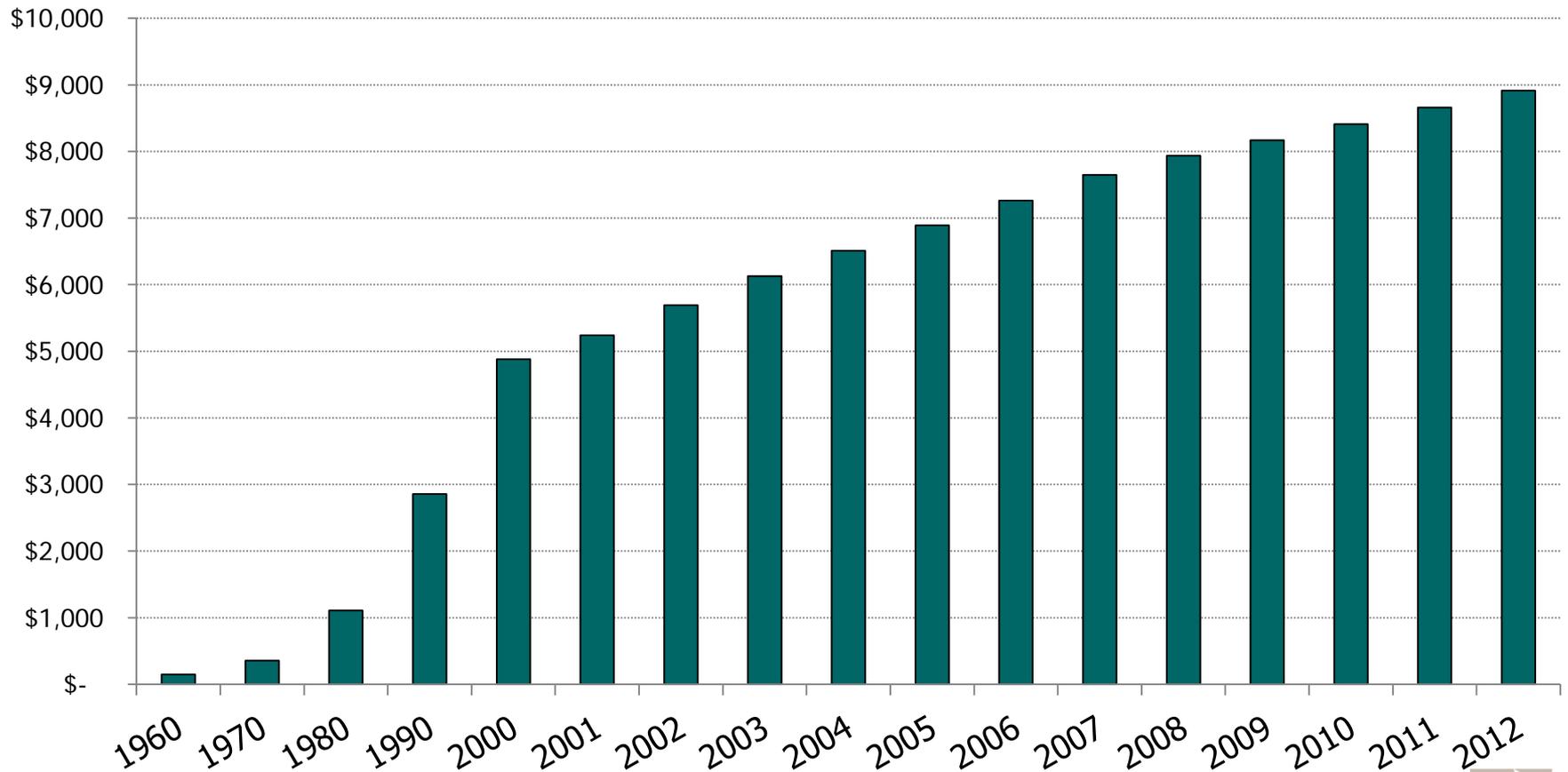
Medicare/Medicaid as a % of US GDP

- Includes Medicaid and Medicare programs only as a % of US GDP.



How much do we spend on healthcare?

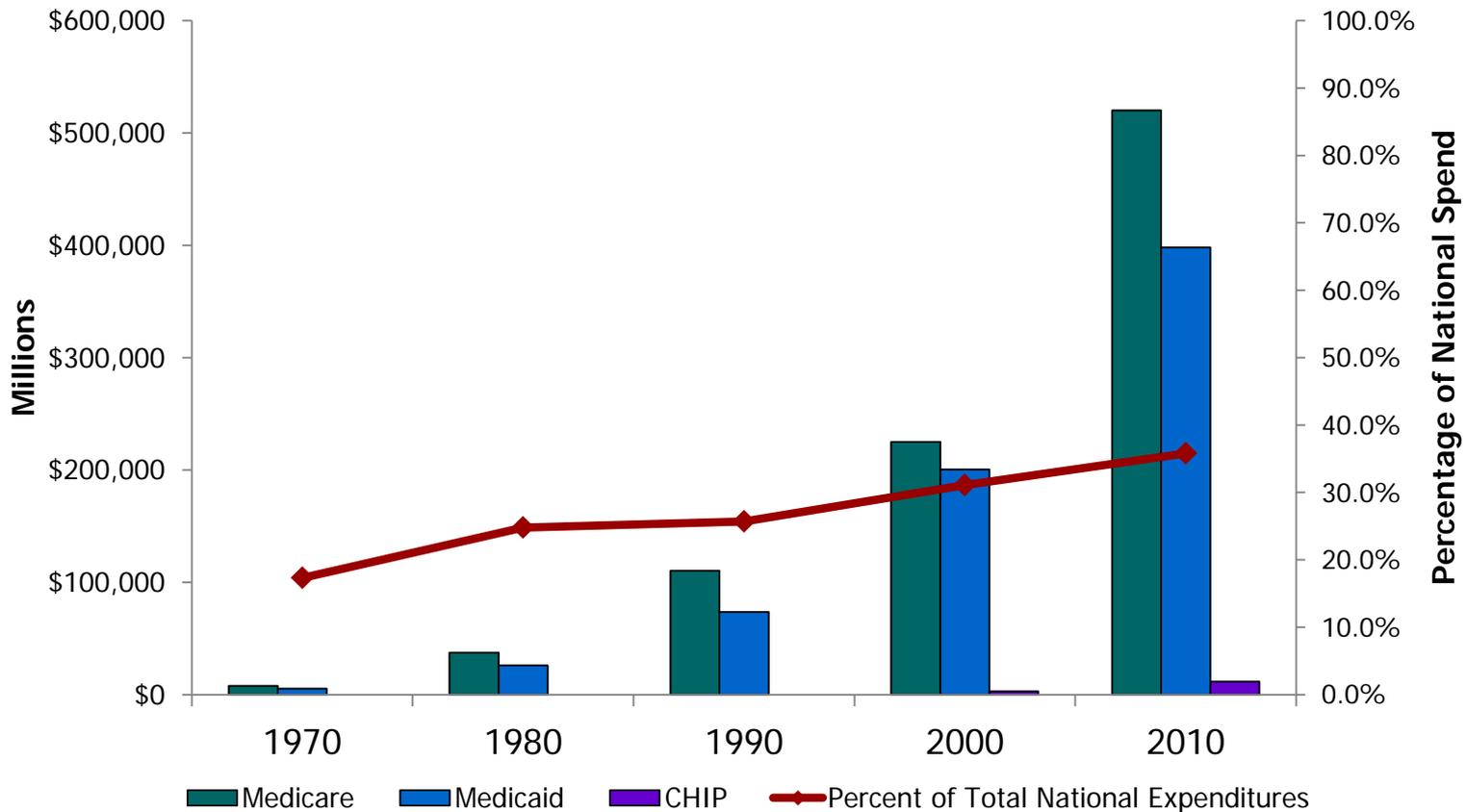
National Health Care Spend, Per Capita



Sources: Centers for Medicare & Medicaid Services, Office of the Actuary,
National Health Statistics Group.

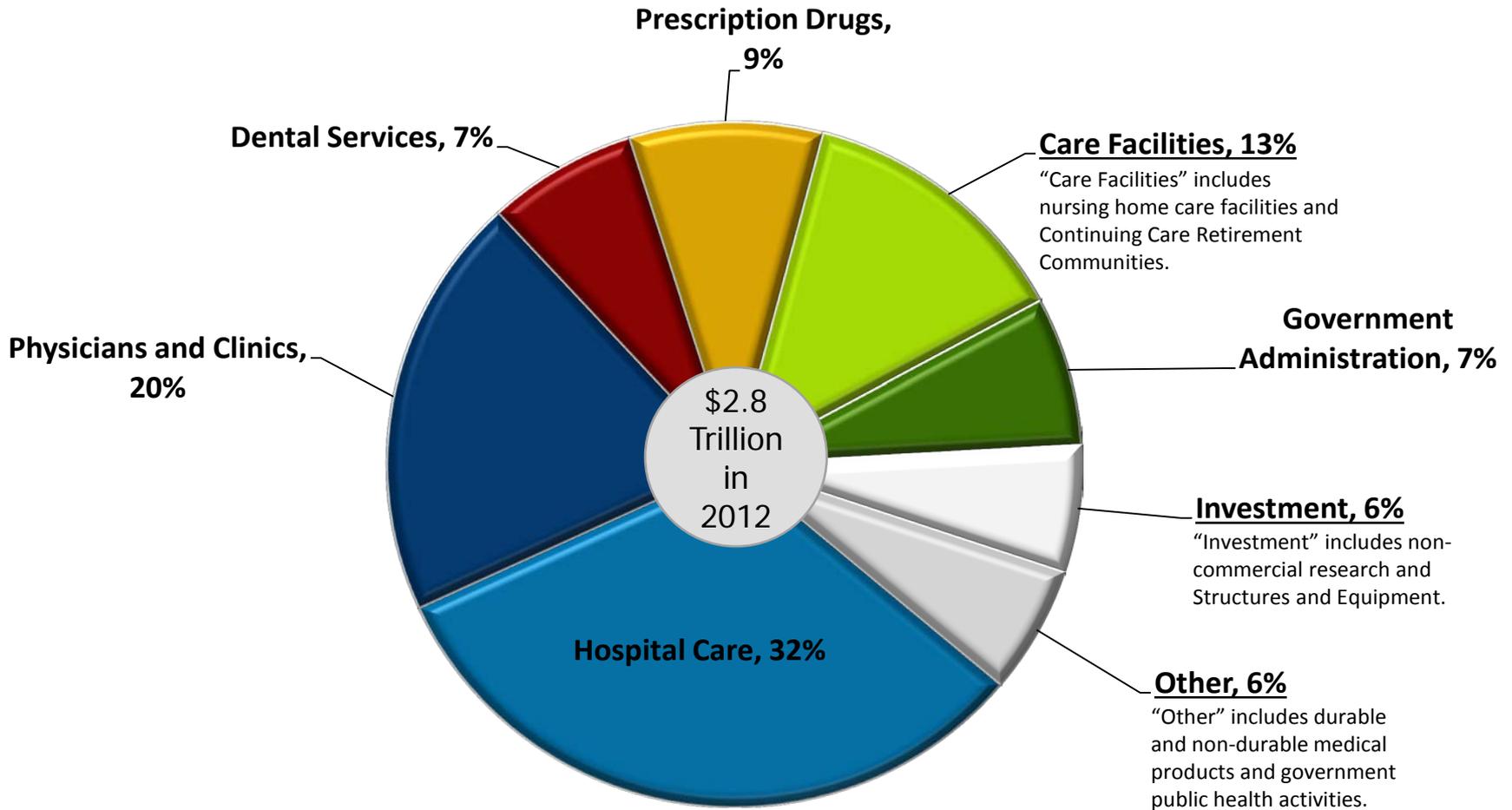
How much do we spend on healthcare?

National Health Care Spend on Medicare, Medicaid and CHIP Programs



Sources: Centers for Medicare & Medicaid Services, Office of the Actuary, National Health Statistics Group.

What did we pay for?



Sources: Centers for Medicare & Medicaid Services, Office of the Actuary, National Health Statistics Group.

Who pays the bill?

Private Spending (53%)

■ Insurers

- Plan benefits paid by insurance carriers with premium and investment income dollars

■ Consumers

- Out-of-pocket expenses such as deductibles, copays, coinsurance and non-covered services

■ Other Private Spending

- Research
- Structures and Equipment

Public Spending (47%)

■ Medicaid and CHIP

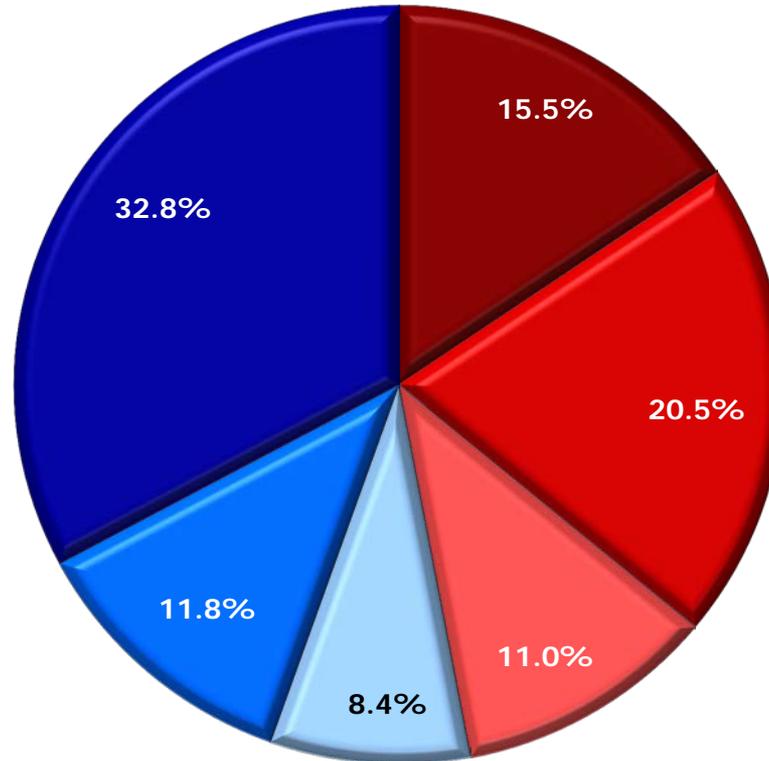
- Program administration
- Premiums
- Medicaid expansion programs

■ Medicare

- Benefits paid under Part s A, B and D
- Medicare Advantage and Part D plan subsidies

■ Other Public Spending

- Department of Veterans Affairs
- Department of Defense
- Worker's compensation claims

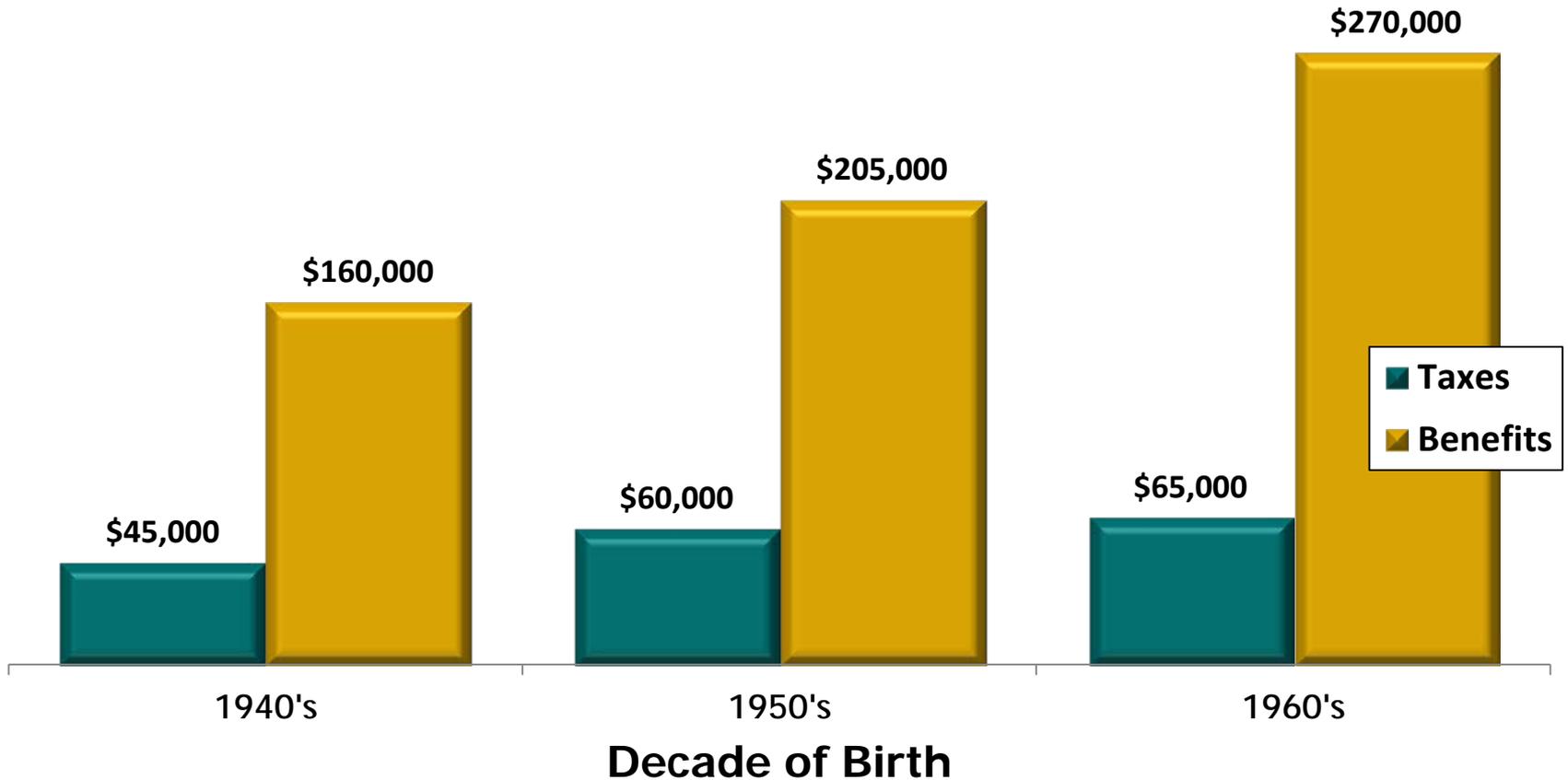


Calendar Year 2012

Sources: Centers for Medicare & Medicaid Services, Office of the Actuary,
National Health Statistics Group.

Medicare Growth, Taxes and Benefits

Median Lifetime Medicare Payroll Taxes and Benefits for Various Cohorts by Decade of Birth. Thousands of 2013 dollars.

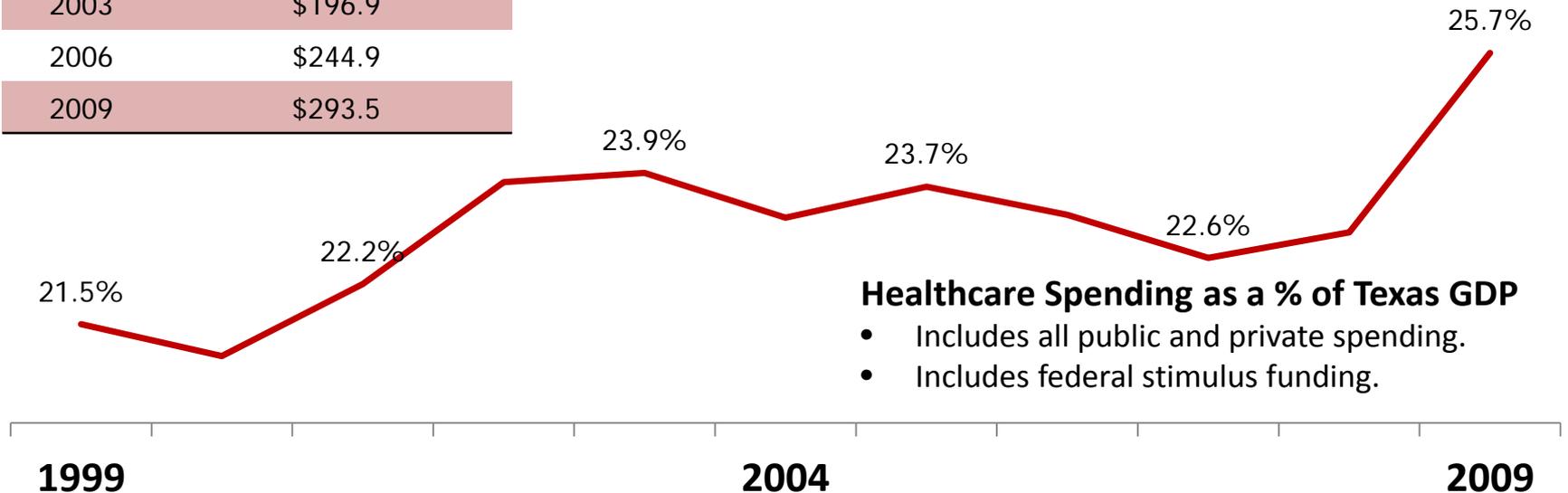


Texas Health Care Trends

How much do Texans spend on healthcare?

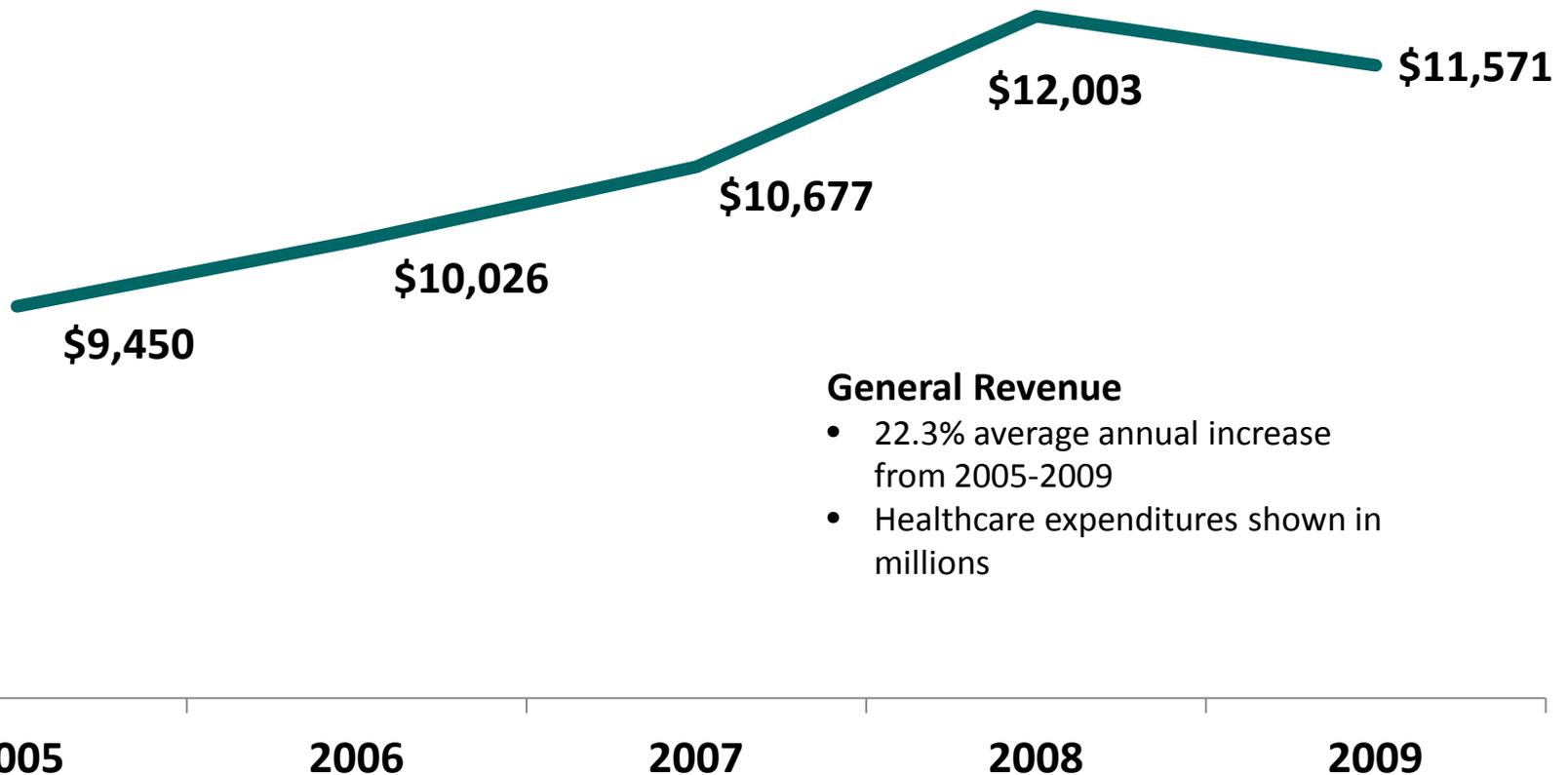
In 2009, Texans spent \$293.5 billion on healthcare, or \$11,847 per capita.

| Year | Healthcare Spend (Billions) |
|------|-----------------------------|
| 1997 | \$127.7 |
| 2000 | \$153.8 |
| 2003 | \$196.9 |
| 2006 | \$244.9 |
| 2009 | \$293.5 |



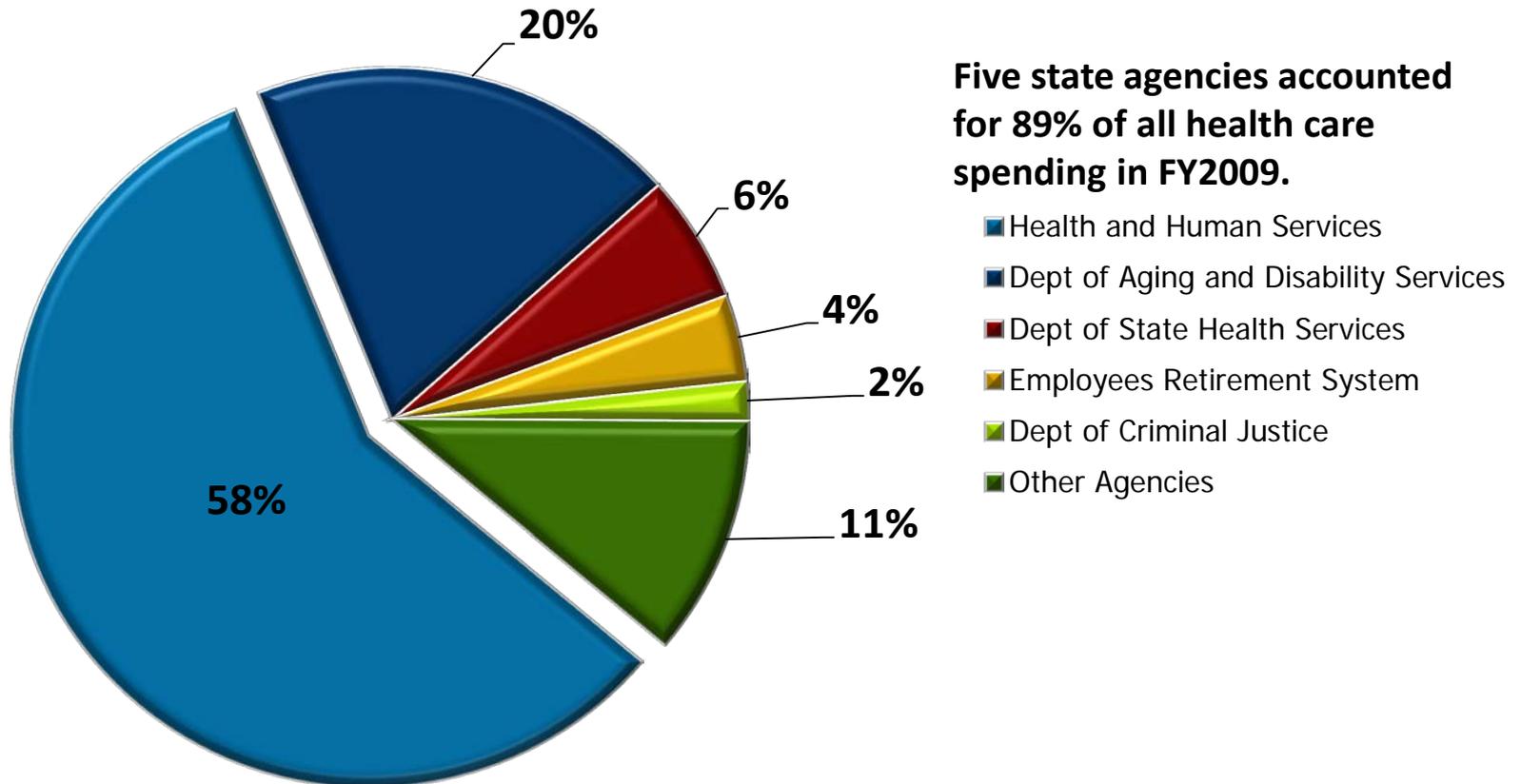
Source: National healthcare expenditure data from the Department of Health and Human Services.

How much GR does Texas Government spend on healthcare?



Source: Comptroller, State Health Care Spending, 2011.

Which Texas state agencies spend the money?



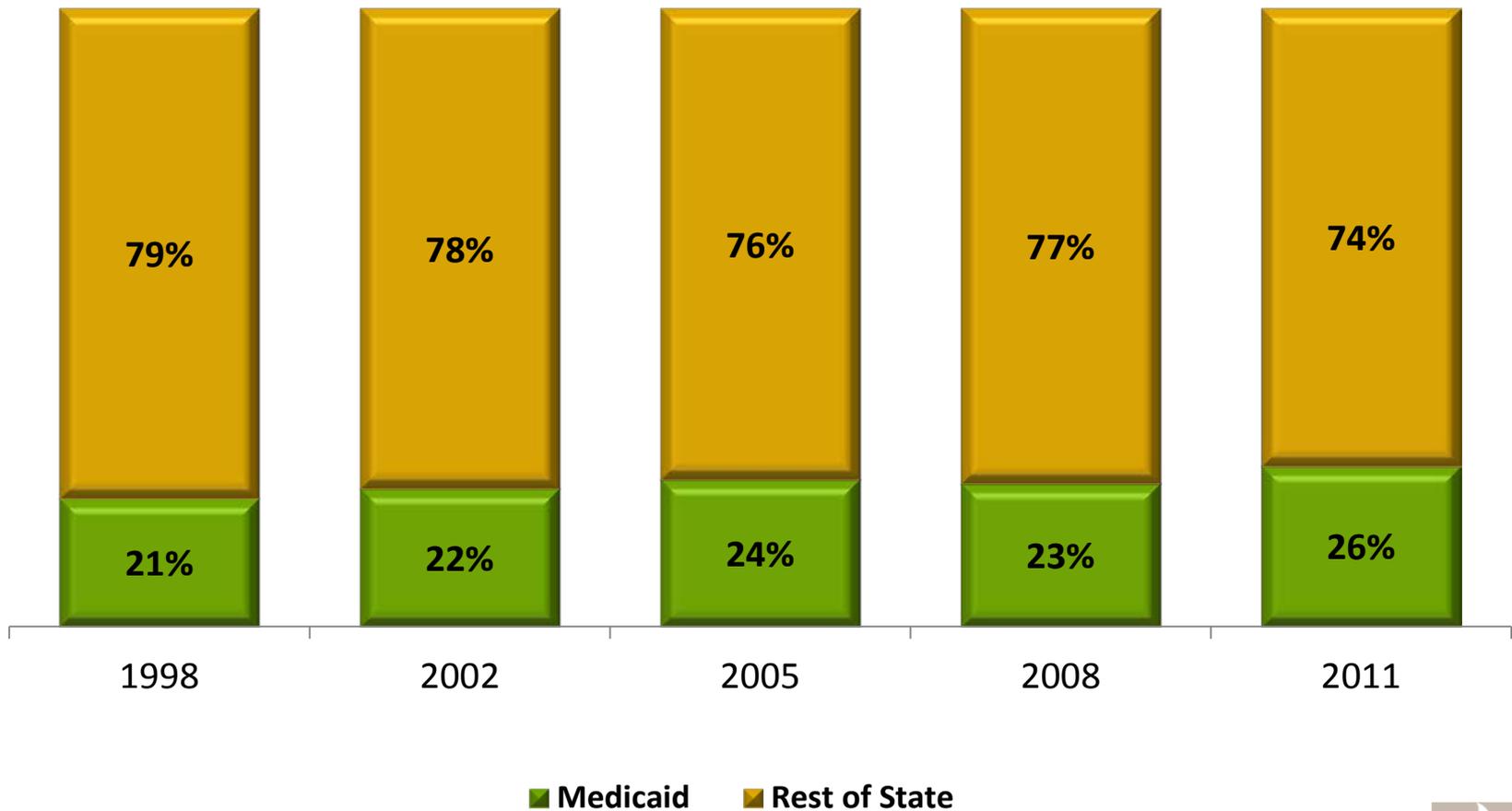
Acute Care Services as a % of HHSC

- 77% of Texas HHSC spend was for acute care for Medicaid clients.

Facts about Texas Medicaid

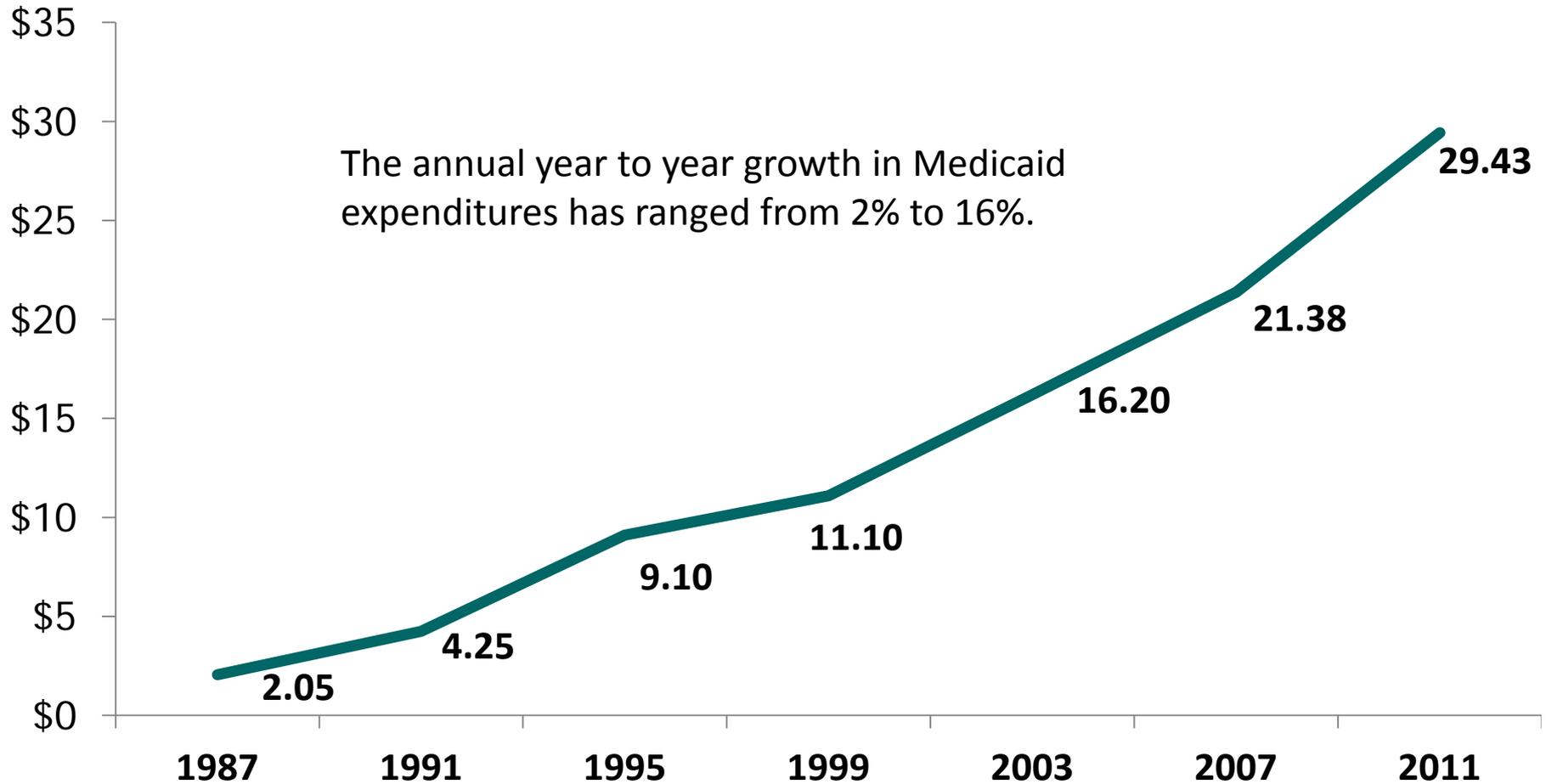
- Medicaid is a joint state/federal program that provides insurance to certain eligible populations
- Medicaid appropriations made up 23.4% of the 2012-13 appropriated Texas all funds budget
- % of Texans living in poverty in 2009: 17.2
- % of Texas children living in poverty in 2009: 24.4
- % of Texans without health insurance in 2009: 25.5
- % of Texas births in FY09 paid for by Medicaid: 55.9

What portion of the state budget is Medicaid?



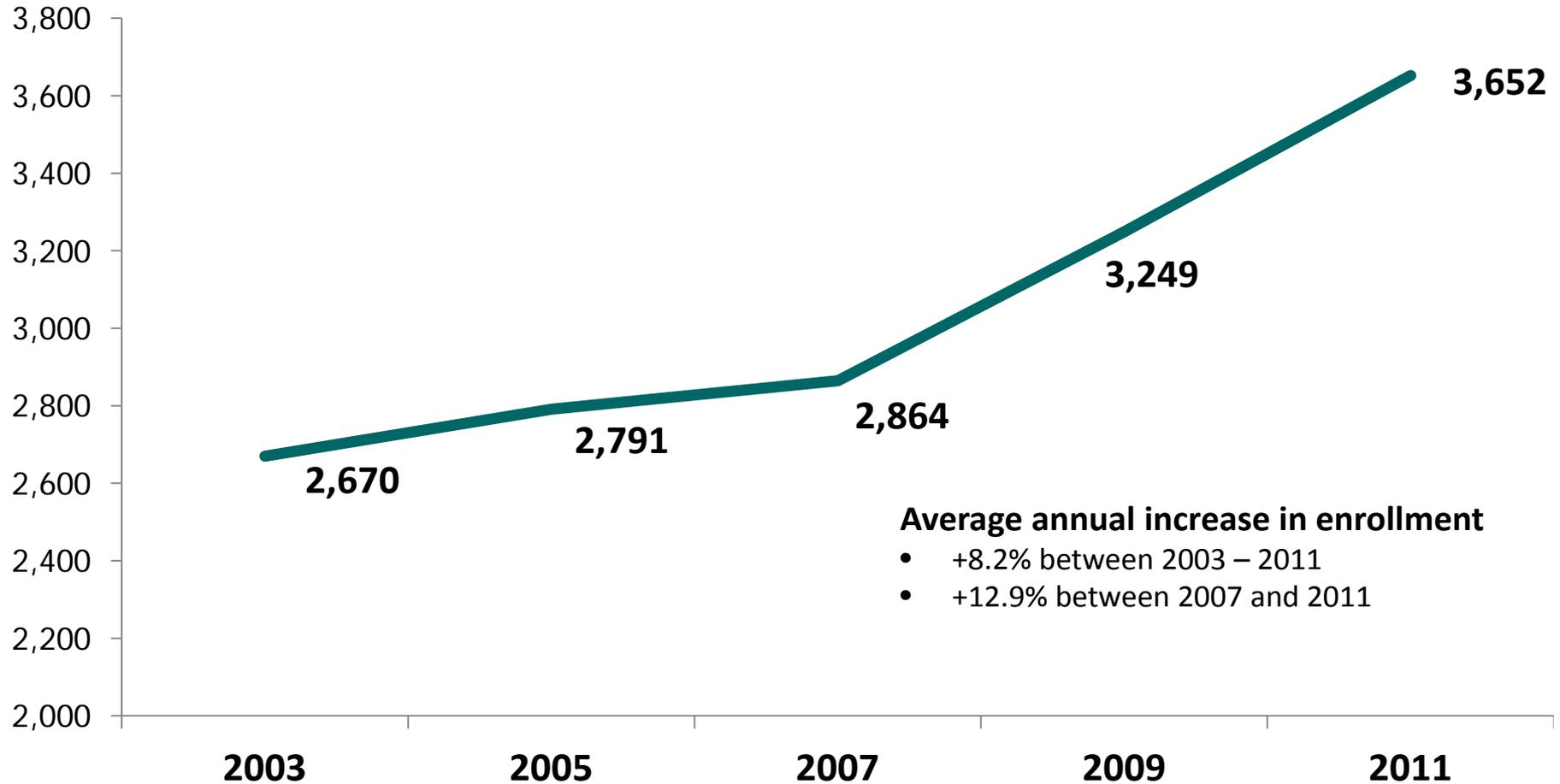
Source: Texas Medicaid and CHIP in Perspective, 9th Edition, January 2013.

Medicaid Expenditure History (All funds, in Billions \$)



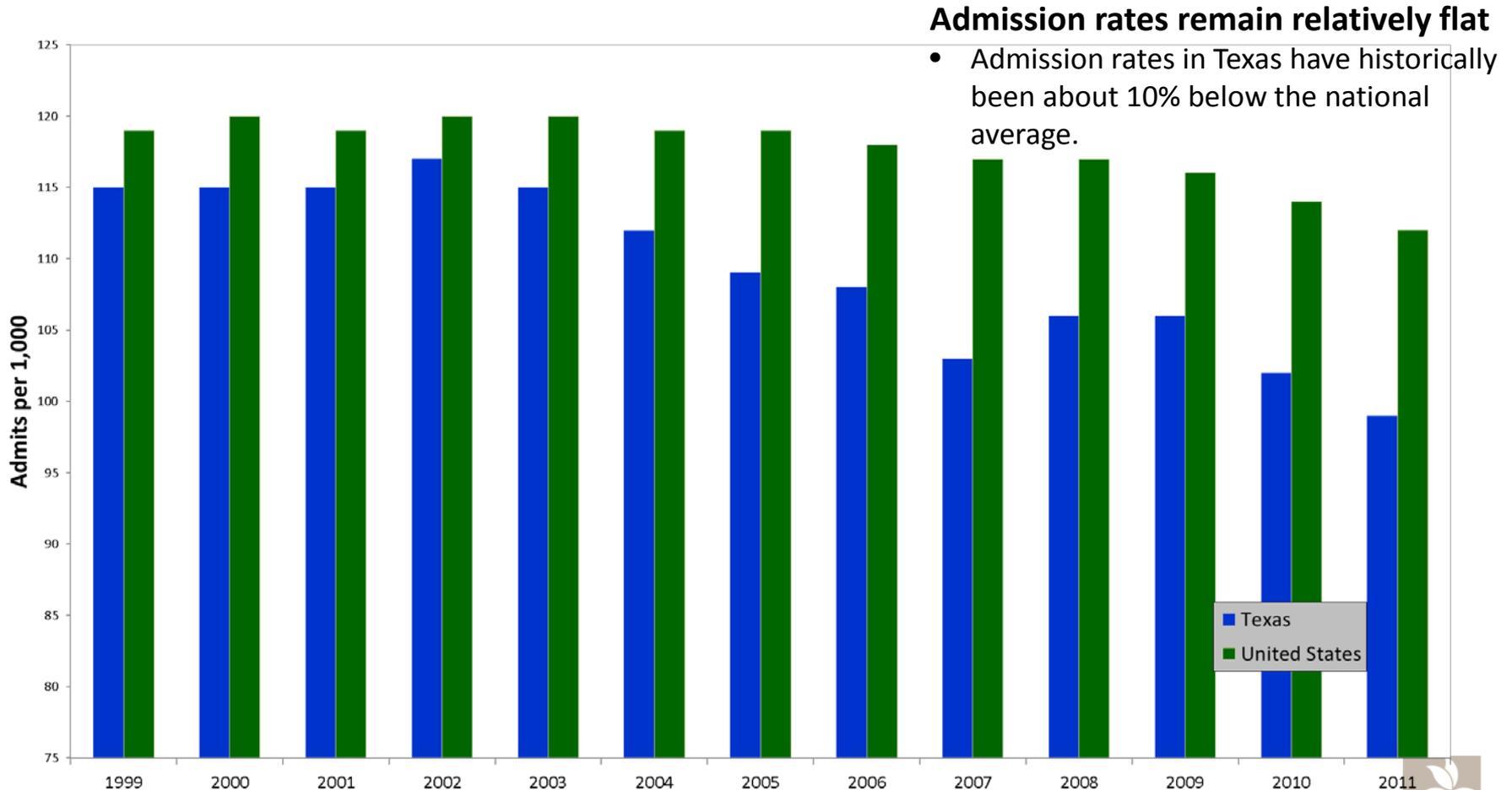
Source: Texas Medicaid and CHIP in Perspective, 9th Edition, January 2013.

Medicaid Enrollees (in thousands)



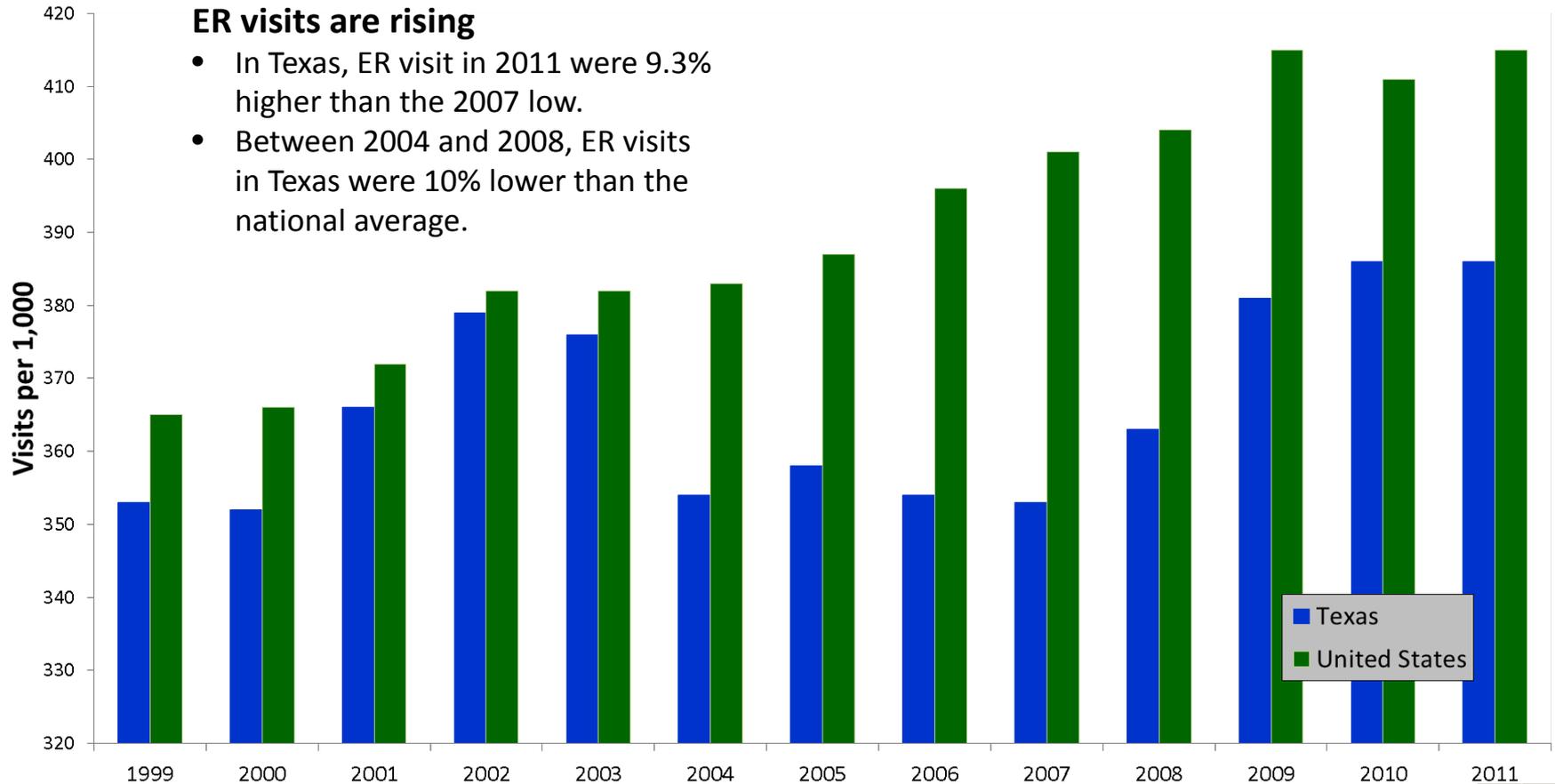
Source: Texas Medicaid and CHIP in Perspective, 9th Edition, January 2013.

Hospital Admissions

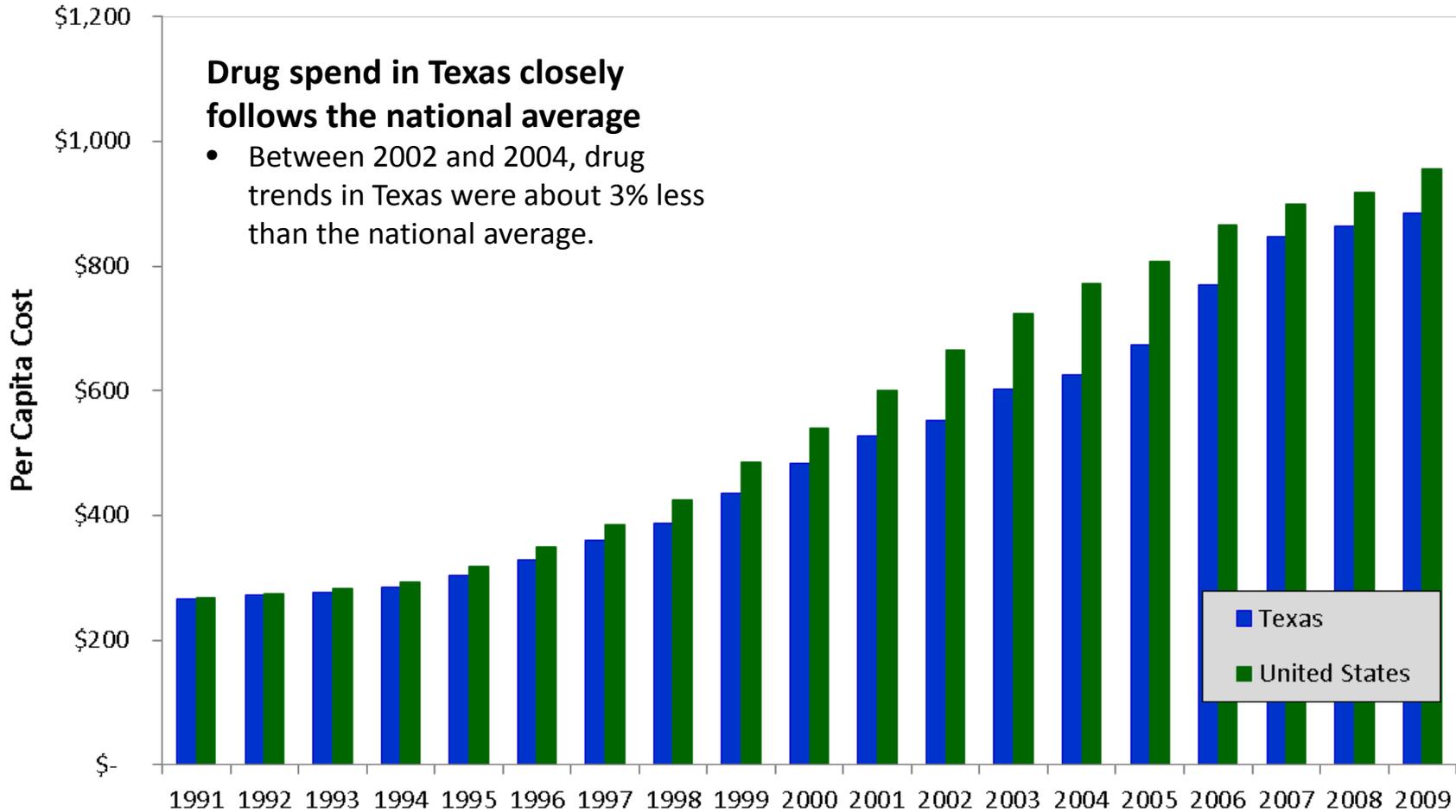


Source: The Kaiser Family Foundation

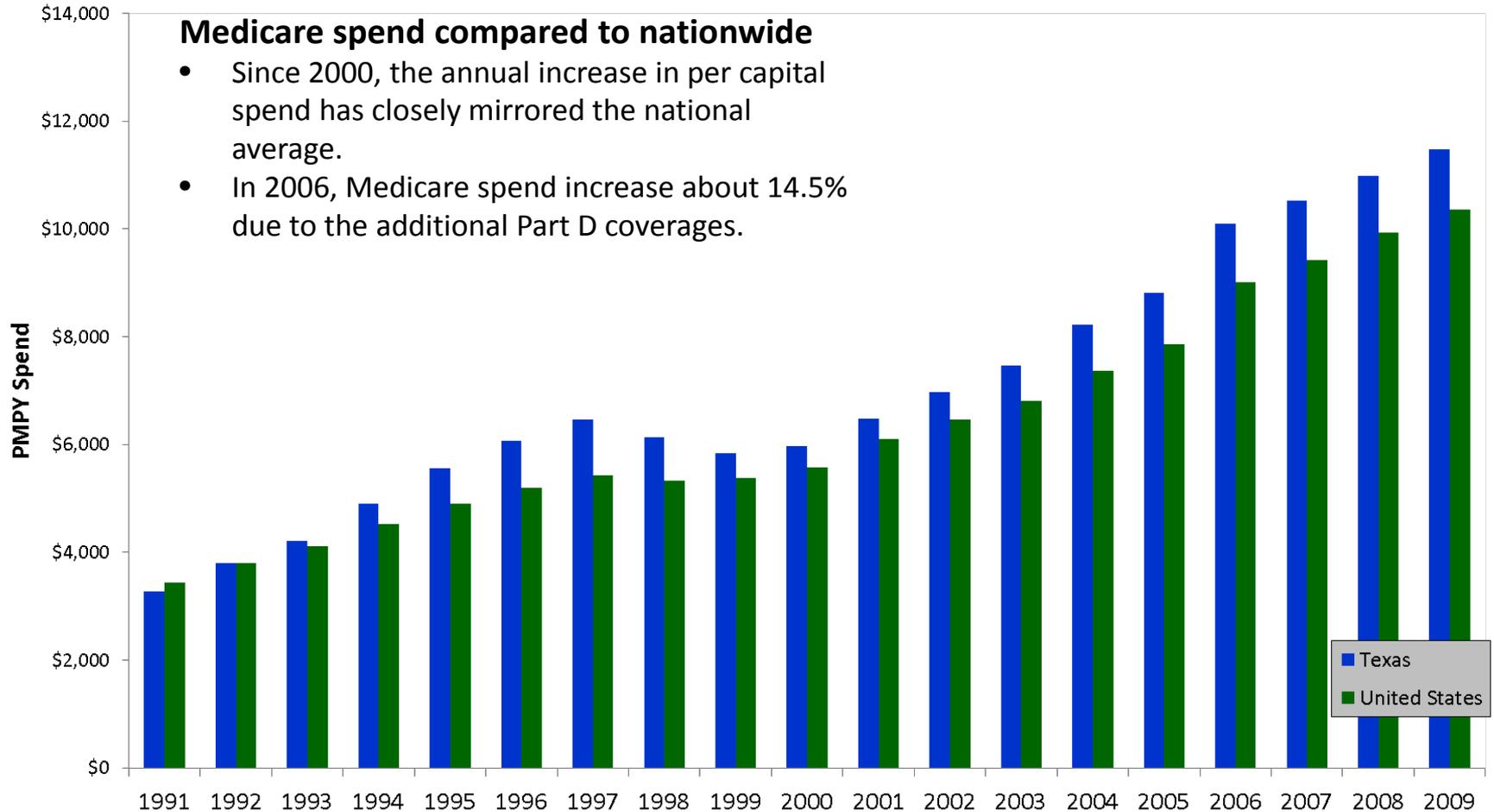
Emergency Room Utilization

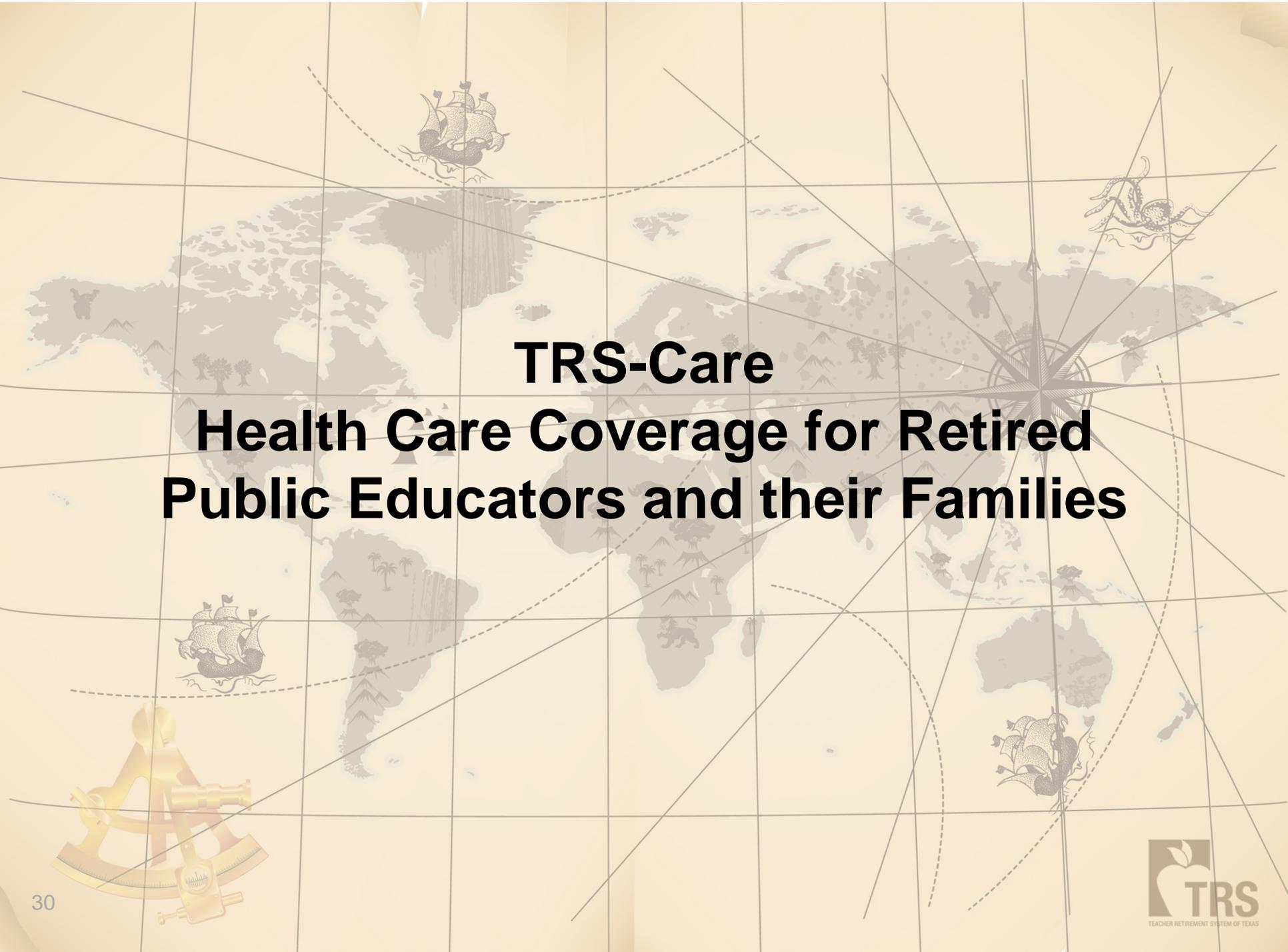


Prescription Drug Spend per Capita



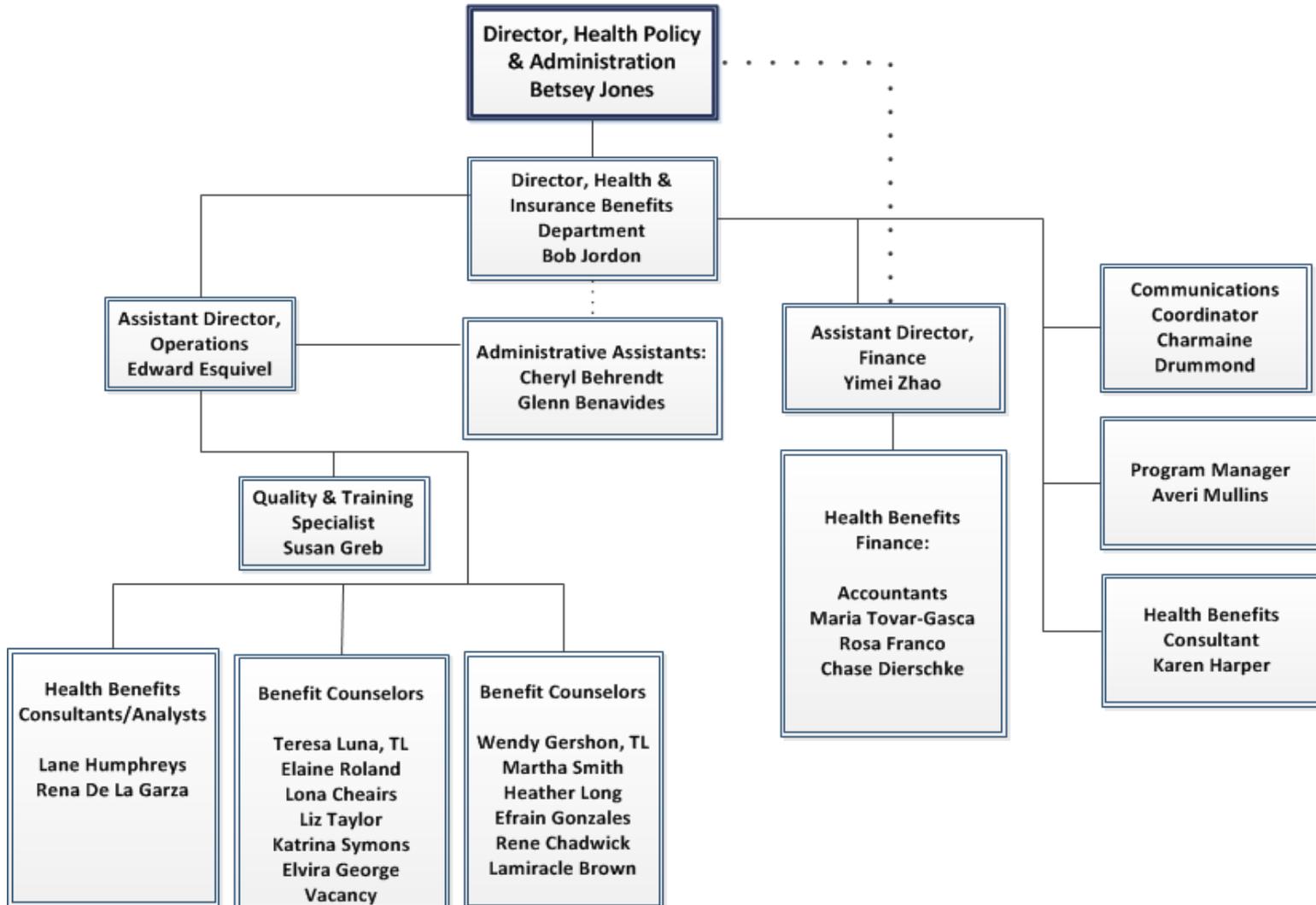
Medicare Spend per Enrollee





TRS-Care Health Care Coverage for Retired Public Educators and their Families

Health Benefits Division



History of TRS-Care

1981

- Group insurance bill for retired public education employees was passed by legislature but vetoed due to lack of funding.

1983

- A survey of Texas school districts found that only 429 of the 1,100 school districts offered some sort of retiree health coverage.
- 14 of the 429 districts also provided contributions to the premium costs.

1985

- Every school district endorsed and lobbied the legislature for a group health insurance program.
- Districts agreed to payroll deduct a percentage of active teacher salaries to help fund the program.
- S.B.387 provided that 1985-86 school year was to be used by TRS to "design, build and implement" the new program to be effective September 1, 1986.

History of TRS-Care

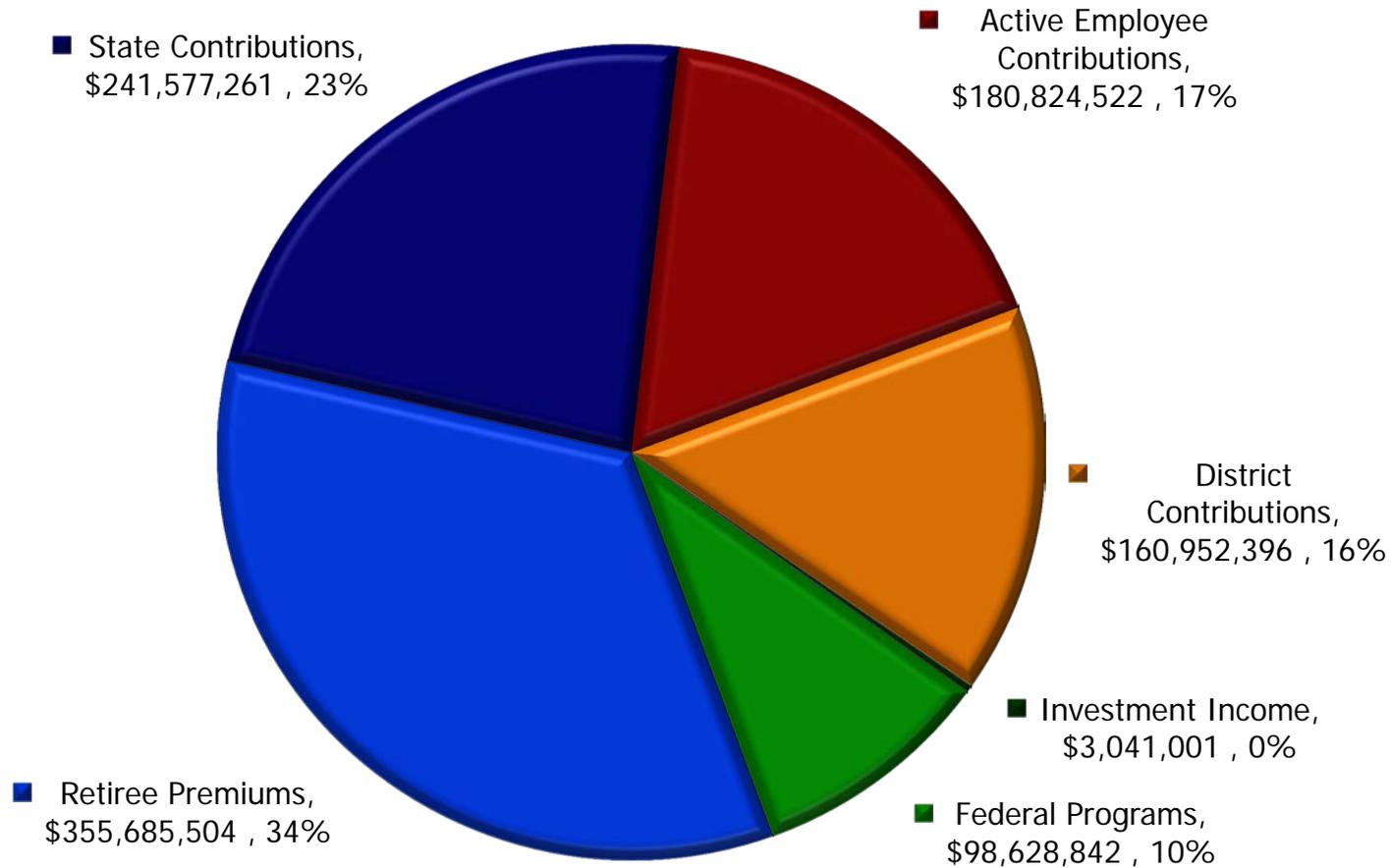
1985 to 1986

- The program was created as an interim solution but has endured for more than 25 years. It was redesigned in 2004 to provide an additional decade of solvency.
- Catastrophic coverage was to be offered to all retirees at no cost, with the Board given the option of offering a more comprehensive option that would be paid for by the retiree. Coverage for dependents was to be paid for by retirees.
- The State initially contributed 0.35% and active employees 0.25% of the active employee payroll to fund TRS-Care.
- Several increases were made over the years to State (currently 1%) and active employee contributions (currently 0.65%).
- School districts began contributing 0.40% in the 2004-05 school year and currently contribute 0.55% of active employee payroll.

TRS-Care Funding

- State Contributions: 1% of public education covered payroll.
- 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.

TRS-Care Funding FY 2013



TRS-Care Eligibility

- Generally includes TRS public school service retirees with at least ten years of service credit **and**
 - Rule of 80 **or**
 - 30 or more years of service credit
- Disability retirees with at least ten years of service credit

TRS-Care Eligibility

- Dependents
 - Spouse
 - Children up to age 26 (disabled children beyond 26)
 - Surviving spouse and surviving child of deceased retiree
 - Surviving spouse and surviving child of deceased active member with at least 10 years of service credit

TRS-Care Eligibility

- May enroll in any plan option during initial enrollment opportunity
- Opportunity to change plans limited to:
 - Turning age 65
 - Special enrollment event

TRS-Care Eligibility

- 83rd Legislative Session passed SB 1458
 - Provision goes into effect September 1, 2014
 - TRS-Care 1 only until age 62
 - Grandfathered if as of August 31, 2014:
 - Age plus years of service 70 or greater
 - 25 years of service credit
 - No impact until FY 2020

Plan Structure

- Self-funded PPO plans
- Law requires that a catastrophic plan be offered at no cost for retiree only coverage
- Premiums for optional coverage based on years of service and Medicare status
- Effective January 1, 2013, 2 fully insured Medicare Advantage plans through Aetna

Plan Structure

TRS-Care 1 offers a high deductible plan at no cost for employee only coverage with different deductibles based on Medicare status.

| Medicare Status | Deductible | Retiree Only Premium | Retiree & Spouse Premium |
|-----------------|------------|----------------------|--------------------------|
| Parts A & B | \$1,800 | \$-0- | \$20 |
| Part B Only | \$3,000 | \$-0- | \$75 |
| No Medicare | \$4,000 | \$-0- | \$140 |

Plan Structure for Medicare Retirees

| | TRS-Care 2 | TRS-Care 3 | Medicare Advantage for TRS-Care 2 | Medicare Advantage for TRS-Care 3 |
|--|--------------------------------|--------------------------------|-----------------------------------|-----------------------------------|
| Deductible | \$1,000/\$2,000 | \$300/\$600 | \$500 | \$150 |
| Coinsurance | 80%/20% after Medicare payment | 80%/20% after Medicare payment | 95%/5% | 95%/5% |
| Max Coinsurance (Excluding Deductible) | \$3,000/\$2,000 | \$3,000/\$2,000 | \$3,000 | \$3,000 |
| Inpatient Hospital | 80%/20% after Medicare payment | 80%/20% after Medicare payment | \$500 copay per stay | \$250 copay per stay |
| Office Visits | | | \$5 PCP \$10 Specialist | \$5 PCP \$10 Specialist |
| Urgent Care | | | \$35 copay | \$35 copay |
| Emergency Room | | | \$65 copay | \$50 copay |

Plan Structure

| | TRS-Care 2 | TRS-Care 3 | Medicare Part D for TRS-Care 2 | Medicare Part D for TRS-Care 3 |
|--------------------------|------------|------------|-----------------------------------|-----------------------------------|
| <u>Retail Copays</u> | | | | |
| Generic | \$10 | \$10 | \$5 | \$5 |
| Preferred Brand | \$30 | \$25 | \$25 | \$20 |
| Non-Preferred Brand | \$50 | \$40 | \$40 | \$40 |
| <u>Mail Order Copays</u> | | | | |
| Generic | \$20 | \$20 | \$15 | \$15 |
| Preferred Brand | \$75 | \$50 | \$70 | \$45 |
| Non-Preferred Brand | \$125 | \$80 | \$125 | \$80 |

Plan Premiums

| Medicare Status | TRS-Care 2 \$1,000 Deductible | | TRS-Care 3 \$300 Deductible | |
|-----------------|----------------------------------|--------------------------------|--------------------------------|--------------------------------|
| | Retiree Only Premium | Retiree & Spouse Premium | Retiree Only Premium | Retiree & Spouse Premium |
| Parts A & B | \$70 | \$175 | \$100 | \$255 |
| Part B Only | \$155 | \$340 | \$230 | \$505 |
| No Medicare | \$200 | \$430 | \$295 | \$635 |

- Premiums shown are for retirees with 20-29 years of service
- Participants in the Medicare Advantage Plan pay \$15 less per month

TRS-Care Enrollment

- As of December 2013

- 242,600 participants

| | | |
|--------------|---------|-----|
| – TRS-Care 1 | 30,600 | 13% |
| – TRS-Care 2 | 54,000 | 22% |
| – TRS-Care 3 | 158,000 | 65% |

- Distribution by Medicare status

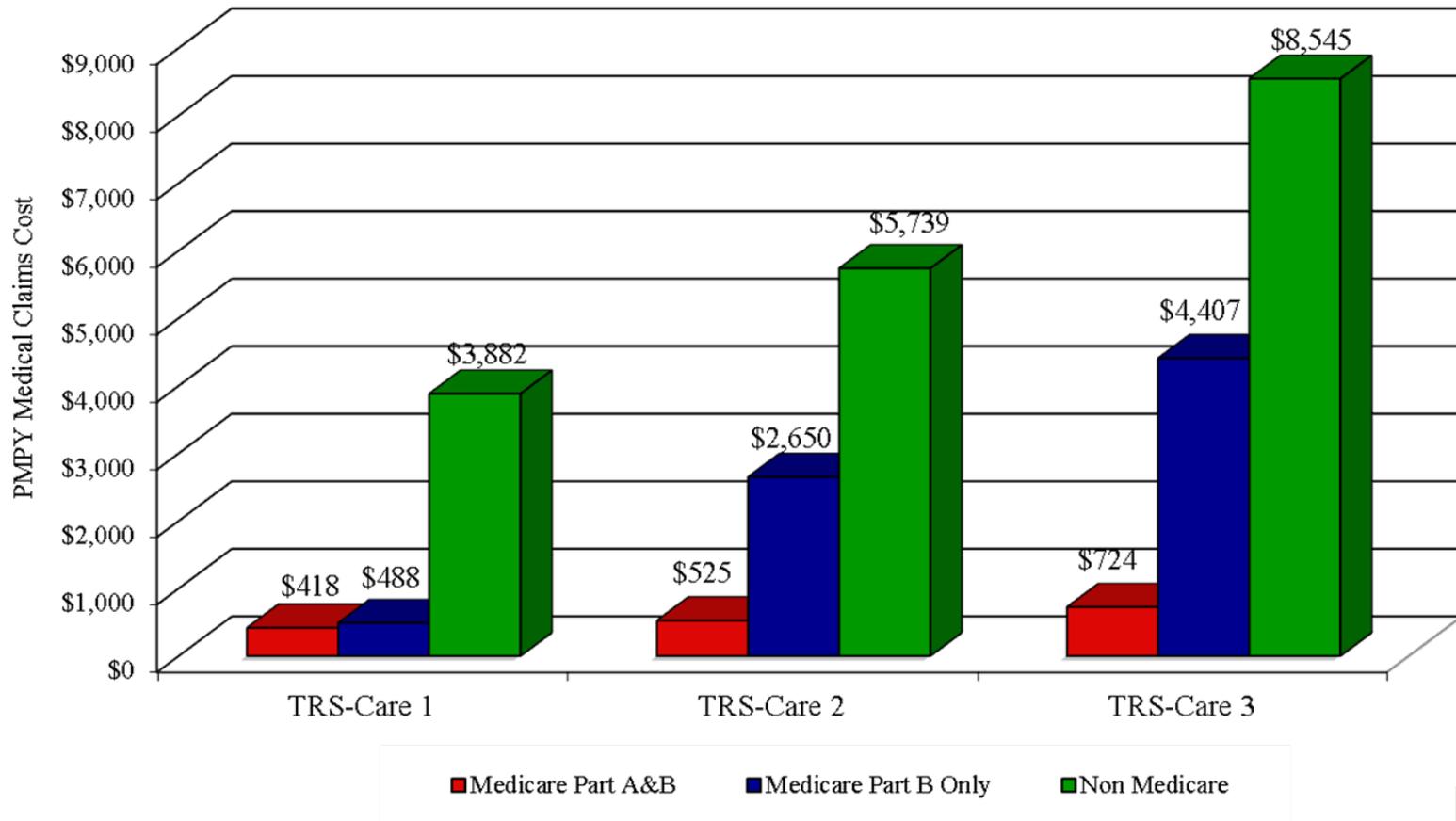
- Medicare A & B 59%
- Medicare B only 8%
- Non-Medicare 33%

TRS-Care Enrollment

- Medicare Advantage participation rate: 68.5%
- Medicare Part D participation rate: 81.2%
- Total new enrollees effective January 1, 2014
 - Medicare Advantage: 3,704
 - Medicare Part D: 2,352
- Workshops held in service centers around the state
- Will work with vendors to enlist new strategies to improve enrollement
- Auto-enrollment of age-ins effective April 1, 2014

TRS-Care Claims Cost Self-Funded Plans

FY 2013



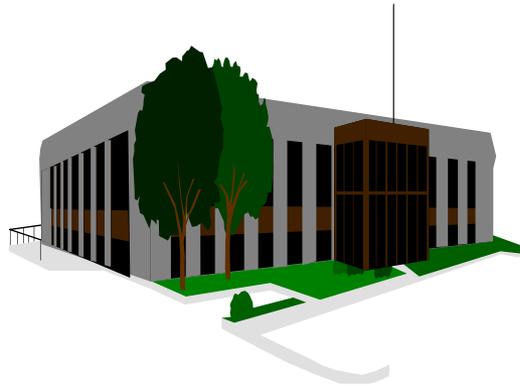
TRS-Care Administration

- Medical is administered by Aetna
 - San Antonio – Claims, customer service, case management
 - Sugar Land – Disease Management
 - Arlington – Medicare Advantage customer service
- Pharmacy is administered by Express Scripts
 - Irving – Customer service
 - Fort Worth – Front end pharmacy
 - Corpus Christi – Medicare Part D customer service

TRS-Care Operations Fiscal Year 2013

Resources

- \$2.3M Budget
- 17 FTEs
- \$551M Net Assets of TRS-Care Trust Fund
- Health Plan Administrator (HPA) 421 dedicated and designated FTE's
- Pharmacy Benefits Manager (PBM) 120-140 designated FTE's
- Health Care Actuarial Consultants
- TRS Resources and Support



Outputs

- 4.6M Medical Claims Processed
- \$686M Medical Claims Cost
- 6.3M Pharmacy Claims Processed
- \$552M Pharmacy Claims Cost
- \$5,178 Average Total Claims Cost Per Participant
- 91,714 Incoming Calls Answered by Staff
- 118,866 Incoming Mail, Fax, & Email Processed by Staff
- 1,397 Walk-in Member Visits Serviced
- 14,099 New Enrollee Packets Issued
- 475,590 Calls Answered by HPA and PBM
- Monitored and Audited HPA and PBM Contract Compliance and Performance Guarantees

TRS-Care Staff Key Process

- Enrollment
- Contract monitoring and management
- Customer service
- Communication
- Claims and administrative payments
- Monitor external (third party) audits of administrative operations

TRS-Care Staff Key Processes

- Monitor trust fund balance
- Recommend program changes as necessary
- Monitor medical and insurance industry developments
- Conduct meetings of the Retirees Advisory Committee.
- Conduct bidding and contracting processes when necessary

Vendor Responsibilities

- Network contracting and management
- Claims processing
- Customer service
- Utilization review, disease and case management, formulary management
- Custom website
- Data/statistical reporting

TRS-Care Funding Projection

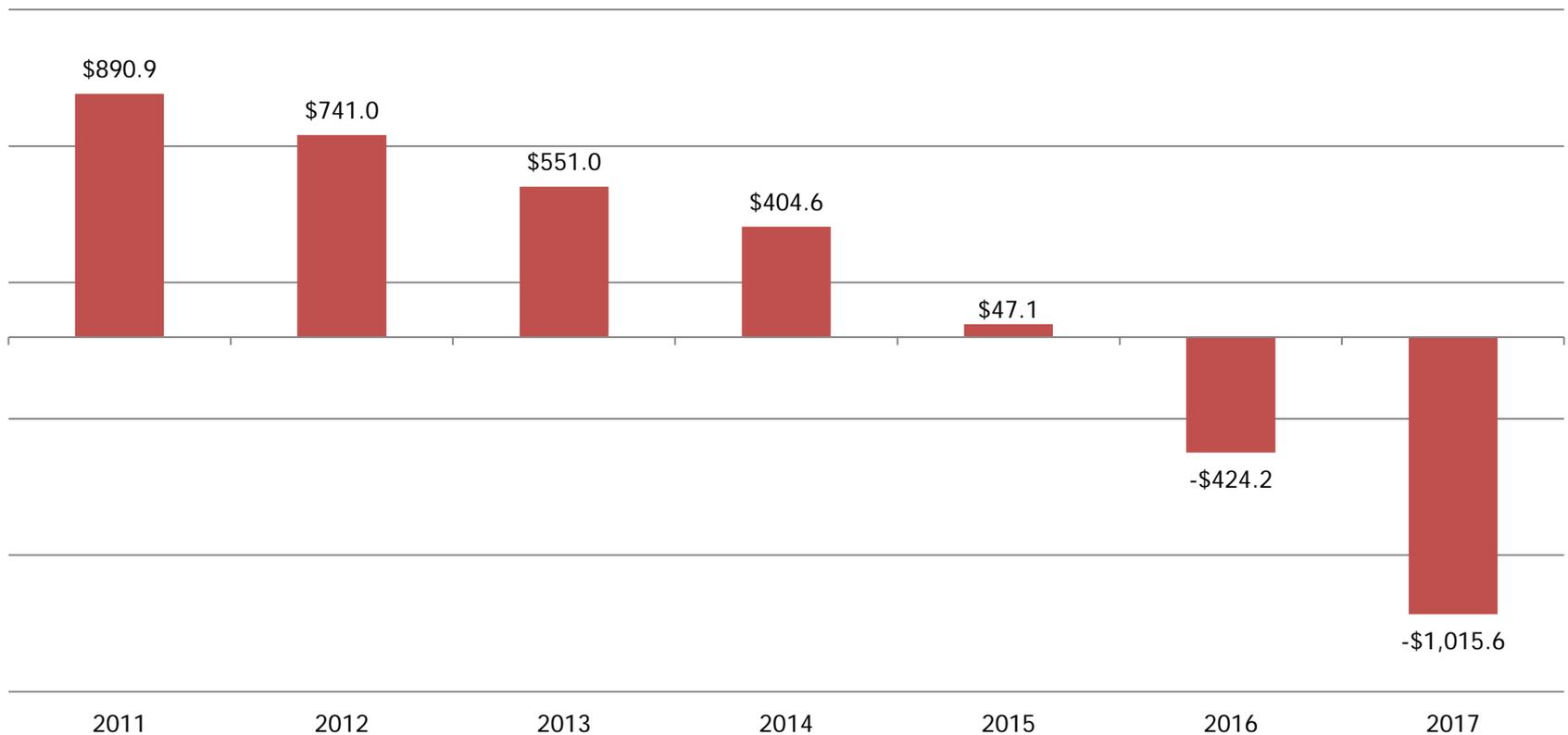
| Fiscal Year | Contributions | | | | | | | | | Expenditures | | | | Ending Balance (Incurred Basis) |
|-------------|-----------------------|---------------------|-----------------------------|-------------------------------|------------------------|-------------------|-----------------------|---------------|------------------|---------------|-----------------------------|----------------------|-------------------|---------------------------------|
| | 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 | | |
| 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 | \$26,332,200 | |
| 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 | \$239,213,357 | \$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 | \$370,182,412 | \$274,644,494 | \$36,058,148 | \$178,518,921 | \$159,131,892 | \$6,075,477 | \$130,976,078 | \$0 | \$667,383,512 | \$559,766,454 | \$27,118,003 | \$47,728,559 | \$404,639,177 | |
| FY 2015 | \$378,308,222 | \$274,644,494 | \$0 | \$178,518,921 | \$159,131,892 | \$3,300,332 | \$135,924,623 | \$0 | \$734,039,833 | \$653,574,031 | \$44,500,241 | \$55,205,172 | \$47,148,384 | |
| FY 2016 | \$385,316,159 | \$274,644,494 | \$0 | \$178,518,921 | \$159,131,892 | \$264,183 | \$144,485,437 | \$0 | \$780,204,380 | \$727,489,204 | \$51,454,250 | \$54,532,924 | (\$424,171,287) | |
| FY 2017 | \$391,256,121 | \$274,644,494 | \$0 | \$178,518,921 | \$159,131,892 | \$0 | \$153,494,934 | \$0 | \$826,804,910 | \$808,161,308 | \$59,450,625 | \$54,034,134 | (\$1,015,575,901) | |
| FY 2018 | \$397,006,466 | \$274,644,494 | \$0 | \$178,518,921 | \$159,131,892 | \$0 | \$162,597,109 | \$0 | \$876,253,674 | \$896,022,809 | \$68,484,123 | \$52,031,671 | (\$1,736,469,295) | |

NOTES

- * Actual data through November 30, 2013
- * Reduction in pharmacy spend as a result of the implementation of ESI/Medco as the new PBM effective 9/1/2012;
- * 70% participation in Medicare Advantage and 83% participation in Part D plan, which was effective 1/1/2013; CY2013 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
- * 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 = 1%

TRS-Care Funding Projection

Fund Balance
(Incurred Basis in Millions)



Challenges

- \$1 billion funding shortage for 2016-2017 biennium
- Long-term solution for the sustainability of TRS-Care
 - Update the TRS-Care Study
- Staff will come with recommendations in June for any benefits or premium changes



TRS-ActiveCare Health Care Coverage for Active Public Educators and their Families

History of TRS-ActiveCare

Prior to 2001

- Coverage varied significantly from district to district.
- Many small districts found it difficult to provide stable health care coverage.
- Many districts were unable to provide coverage comparable to ERS HealthSelect as required by law
- 1996 – TRS administered elective district-participation health plan for public school employees:
 - Minimal district participation (peak of 3 districts participating, 327 covered lives)
 - No district participation after FY 99

History of TRS-ActiveCare

2001-2002

- H.B. 3433 was passed by the 77th Texas Legislature.
 - TRS was given the authority to begin plan management of TRS-ActiveCare.
 - The bill required districts with less than 500 employees to participate in the health plan with coverage to be effective September 1, 2002.
 - The State's contribution was set at \$900 PEPY.
 - The school district's contribution was set at \$1,800 PEPY.

TRS-ActiveCare Funding

- Funded by premiums for level of coverage selected
- Districts must contribute a minimum of \$150 per month per employee (districts may elect to contribute more)
- State contributes \$75 per month per employee, through school finance formulas
- Funding requirements for Districts and State have not changed since program inception

TRS-ActiveCare Eligibility

- Employed by a participating district
 - Active, contributing TRS member, or
 - Work 10 or more regularly scheduled hours each week

- Dependents
 - Spouse
 - Children up to age 26

Enrollment Opportunities

- Annual enrollment
- Opportunity to change plans
 - Annual enrollment
 - Special enrollment event

Plan Structure

- 3 self-funded PPO options
- 3 fully-insured regional HMOs in select service areas

Plan Structure

- ActiveCare-1 HD plan design changes

| | Prior Plan Designs | | New Plan Design |
|-----------------|--------------------|-----------------|-----------------|
| | ActiveCare-1 | ActiveCare-1HD | ActiveCare-1HD |
| Deductible | \$1,000/\$3,000 | \$2,400/\$2,400 | \$2,400/\$4,800 |
| Coinsurance Max | \$2,000/\$6,000 | \$3,000/\$5,000 | \$3,850/\$4,200 |

- ActiveCare-1 eliminated
- ActiveCare-1HD redesigned effective 9/1/2013
- 9% premium increase for Employee Only coverage

Plan Structure

- ActiveCare-2 plan design changes

| | Prior Plan Designs | New Plan Design |
|----------------------------------|--------------------|-----------------|
| Deductible* | \$750/\$2,250 | \$1,000/\$3,000 |
| Coinsurance Max* | \$2,000/\$6,000 | \$4,000/\$8,000 |
| Retail Short-term drug copays** | \$15/\$35/\$60 | \$20/\$40/\$65 |
| Retail Maintenance drug copays** | \$20/\$45/\$75 | \$25/\$50/\$80 |

*Individual/Family

**Generic/preferred brand/non-preferred brand

- 15% increase in premiums

Plan Structure

- ActiveCare-3 Plan Design
 - No changes
 - Enrollment closed to new enrollees
 - 25% increase in premiums

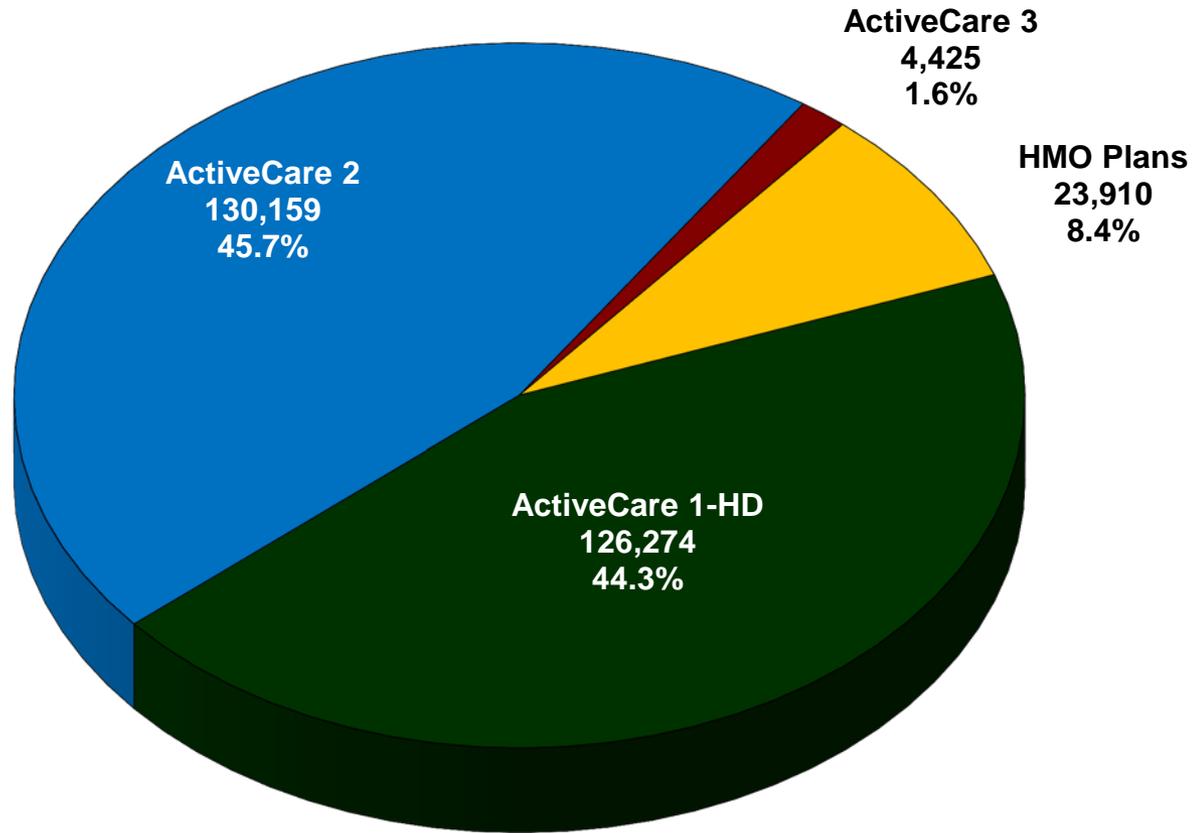
Plan Premiums

Total Premium

| | AC-1 HD | AC-2 | AC-3 |
|---------------------|---------|---------|---------|
| Employee Only | \$325 | \$529 | \$796 |
| Employee and Family | \$1,060 | \$1,323 | \$1,990 |

- Employees get a minimum contribution of \$225 month (\$150 from the district and \$75 from the state through school finance formulas) toward the cost of coverage in the table above.

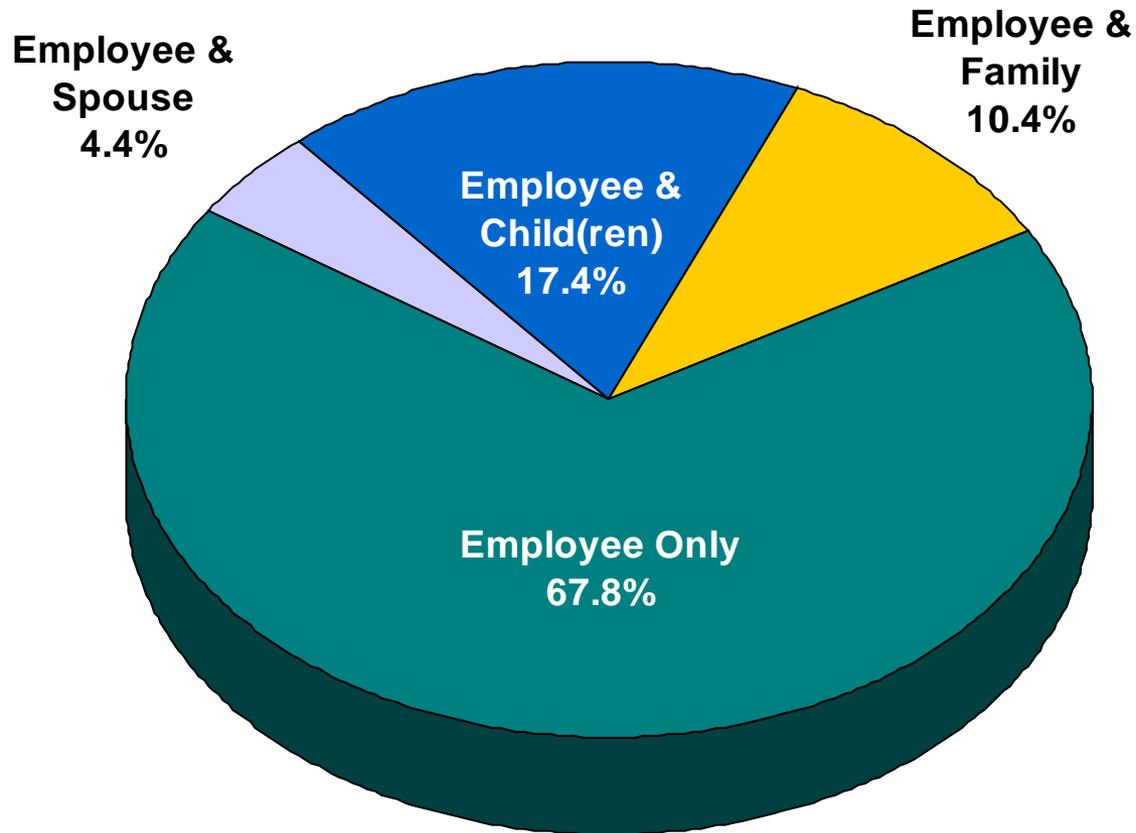
Enrollment (Employees by Plan, December 2013)



FirstCare Health Plans 3.6% Scott & White Health Plan 3.7% Valley Baptist Health Plans 1.0%

284,768 Contracts (Employees) • 468,308 Members

TRS-ActiveCare Participation

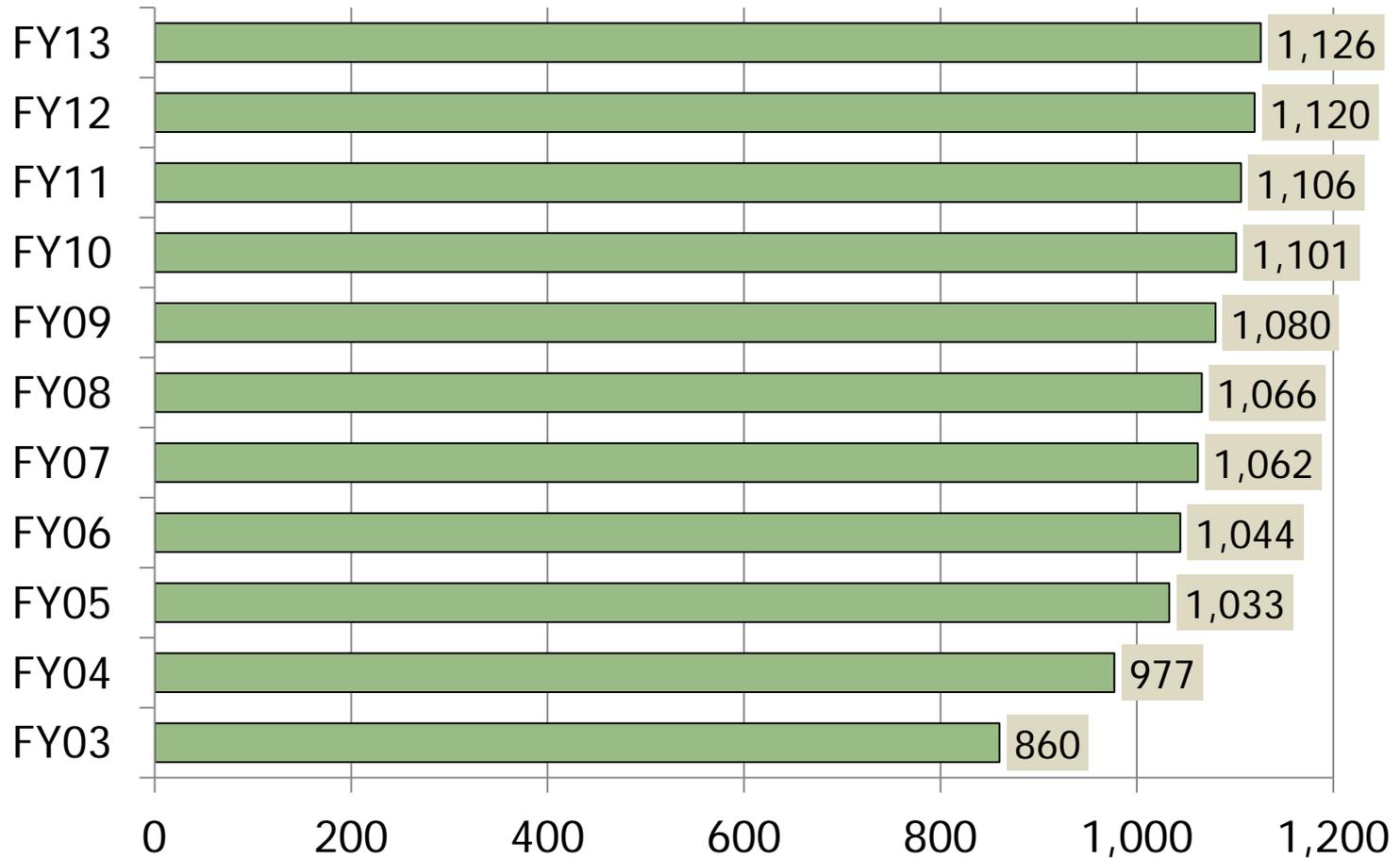


63% females, 37% males

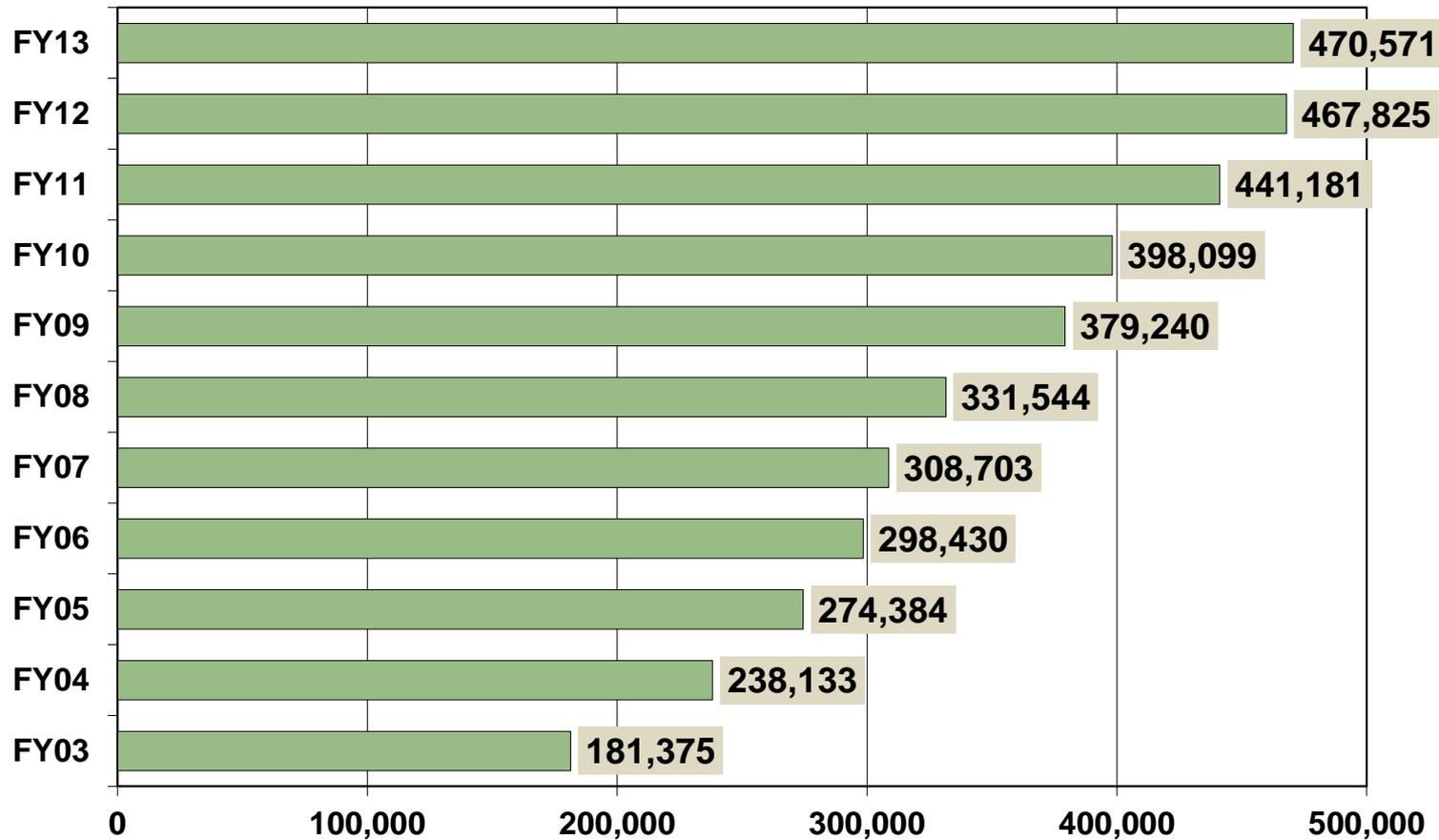
TRS-ActiveCare Participation

| Entity Type | # Eligible | # Participating | % Participating |
|-----------------|------------|-----------------|-----------------|
| Less than 500 | 820 | 805 | 98.2% |
| 500 – 1,000 | 111 | 97 | 87.4% |
| More than 1,000 | 98 | 49 | 50.0% |
| Charter | 193 | 152 | 78.8% |
| RSC | 20 | 20 | 100.0% |
| <u>Other Ed</u> | <u>5</u> | <u>5</u> | <u>100.0%</u> |
| Total | 1,247 | 1,128 | 90.5% |

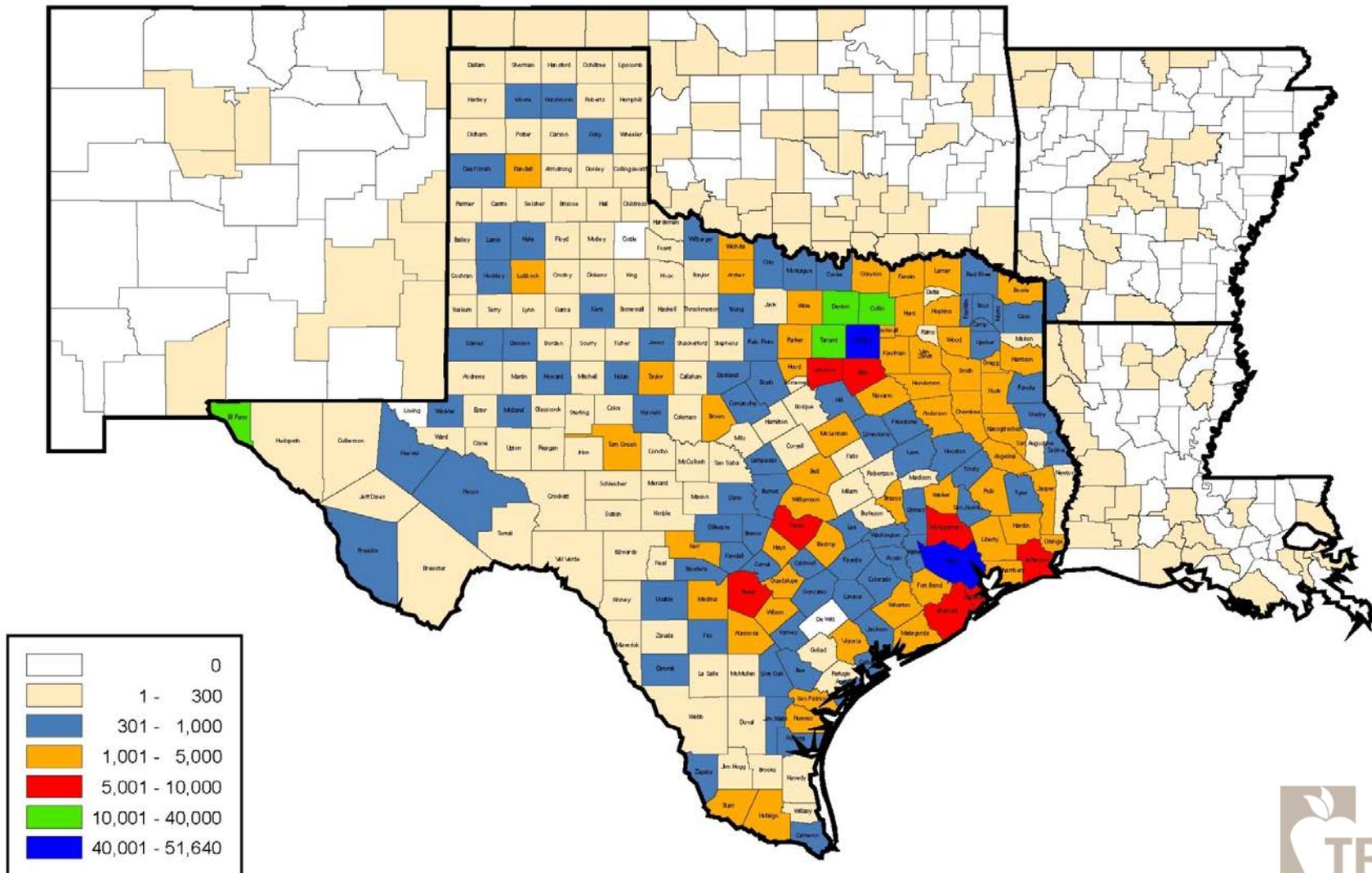
TRS-ActiveCare Participation Districts



TRS-ActiveCare Participation Covered Lives

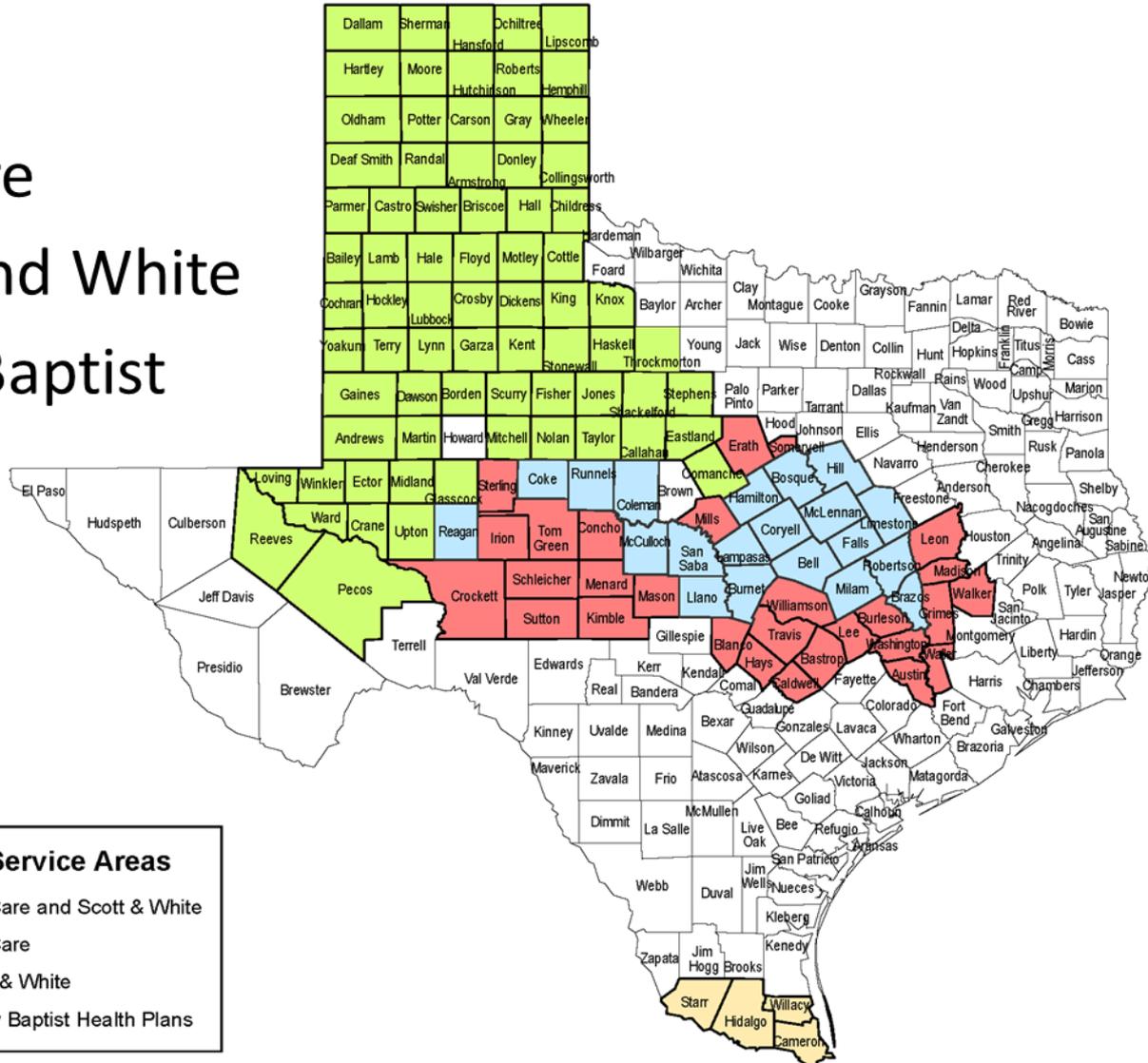


TRS-ActiveCare Participation by Location December 2013



TRS-ActiveCare HMO Plan Options

- FirstCare
- Scott and White
- Valley Baptist



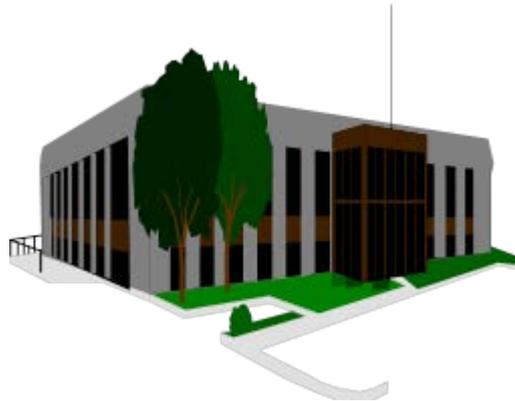
TRS-ActiveCare Administration

- Medical is administered by BCBSTX
 - Wichita Falls-Customer service and claims
 - Richardson-Disease and case management
- Pharmacy is administered by Express Scripts
 - Irving-Customer service
 - Fort Worth- Front end pharmacy
- Both contracts expire 8/31/14 and vendors will be selected today

TRS-ActiveCare Operations Fiscal Year 2013

Resources

- \$1.8M Budget
- 10 FTEs
- (\$118M) Net Assets of TRS-ActiveCare Trust Fund
- Health Plan Administrator (HPA); 120 designated FTEs
- Pharmacy Benefits Manager (PBM); 90 designated FTEs
- Three Health Maintenance Organizations (HMO)
- Health Care Actuarial Consultants
- TRS Resources and Support



Outputs

- 5.0M Medical Claims Processed
- \$1.49 Billion Medical Claims Cost
- 4.7M Pharmacy Claims Processed
- \$294M Pharmacy Claims Cost
- \$4,016 Average Total Claims Cost Per Participant
- 5,084 Calls Handled by Staff
- 1,026,099 Calls Handled by HPA and PBM
- 1,127 Participating Entities Billed Monthly for Premiums
- 1,624 Benefits Administrators Trained at 20 Remote Locations
- 24,487 New Enrollments Processed
- Monitored HPA and PBM Contract Compliance and Performance Guarantees

TRS-ActiveCare Staff Key Processes

- Contract monitoring and management
- Customer service
- Communication
- Claims and administrative payments
- Monitor external (third party) audits of administrative operations

TRS-ActiveCare Staff Key Processes

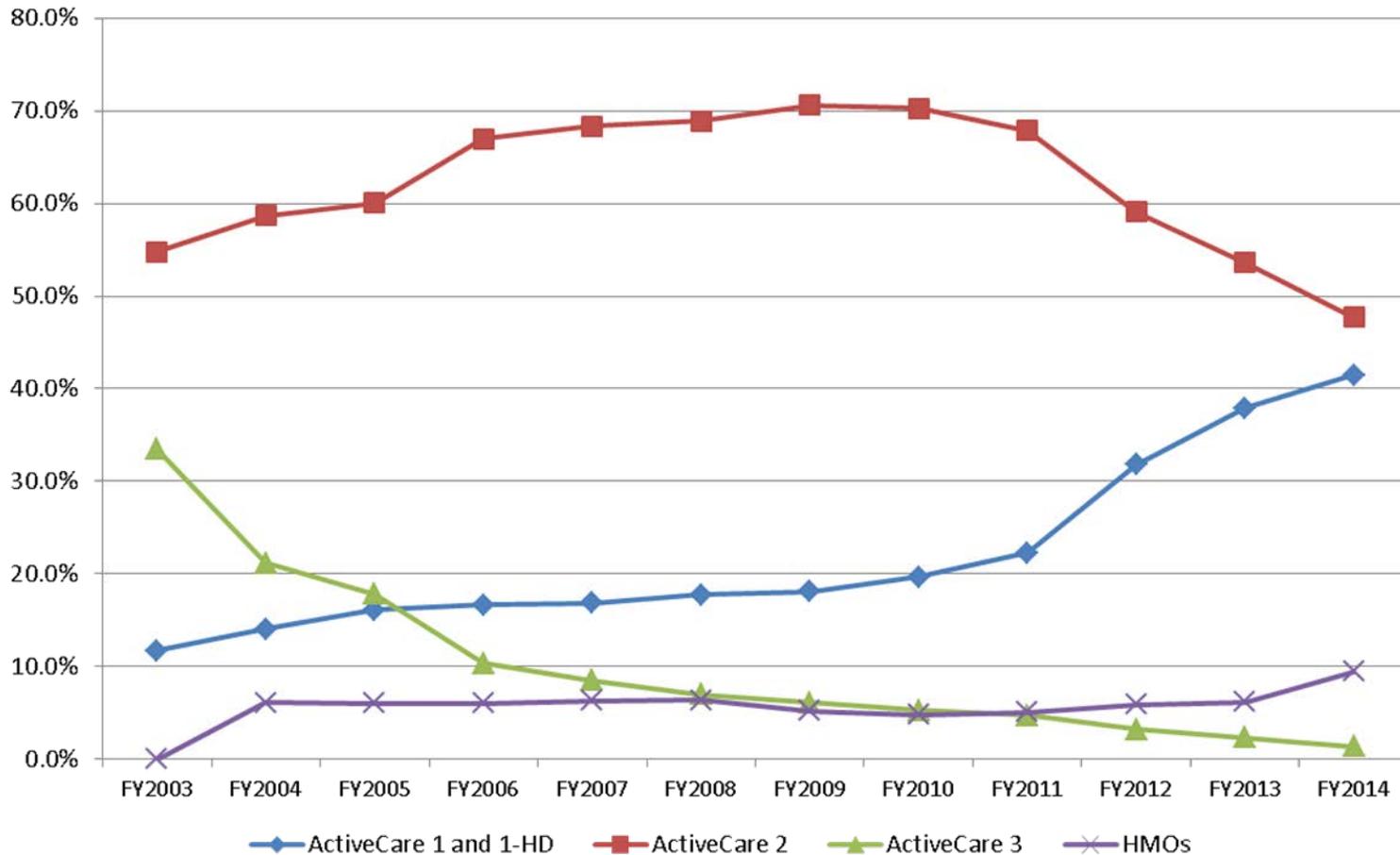
- Monitor trust fund balance
- Recommend program changes as necessary
- Monitor medical and insurance industry developments
- Conduct bidding and contracting processes when necessary

Vendor Responsibilities

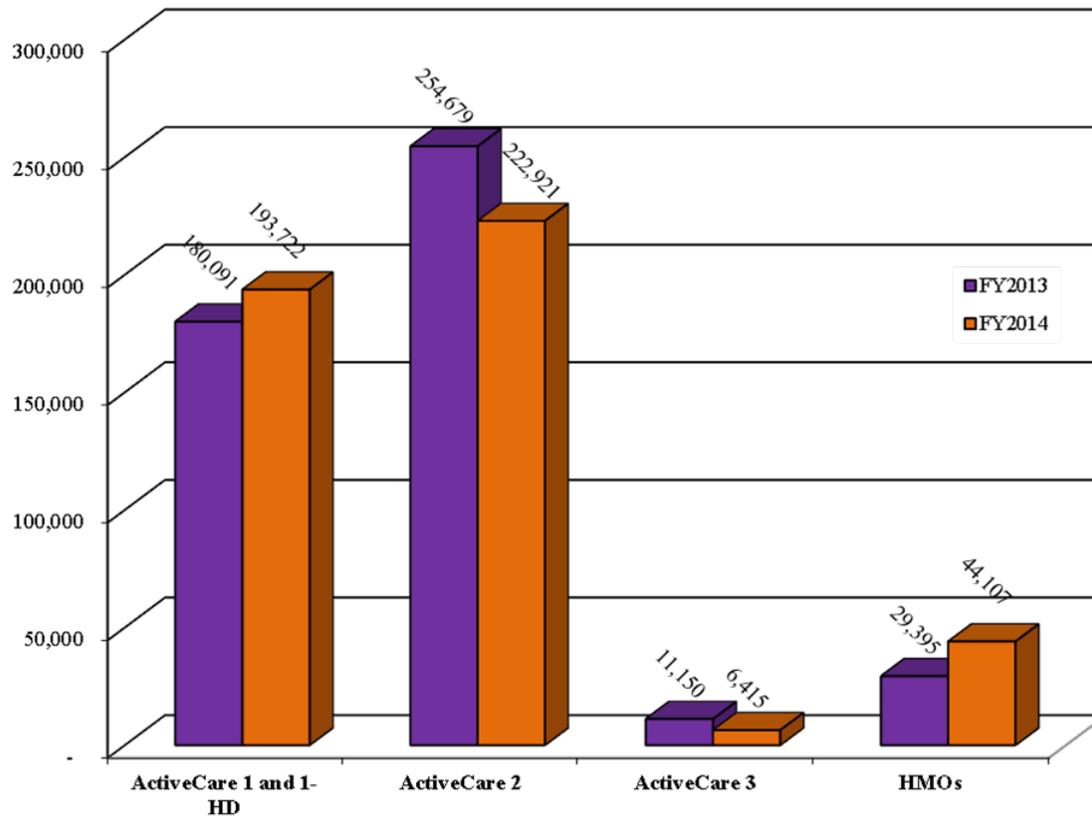
- Enrollment
- Network contracting and management
- Claims processing
- Customer service
- Utilization review, disease and case management, formulary management
- Custom website
- Data/statistical reporting

TRS-ActiveCare Funding Impact

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

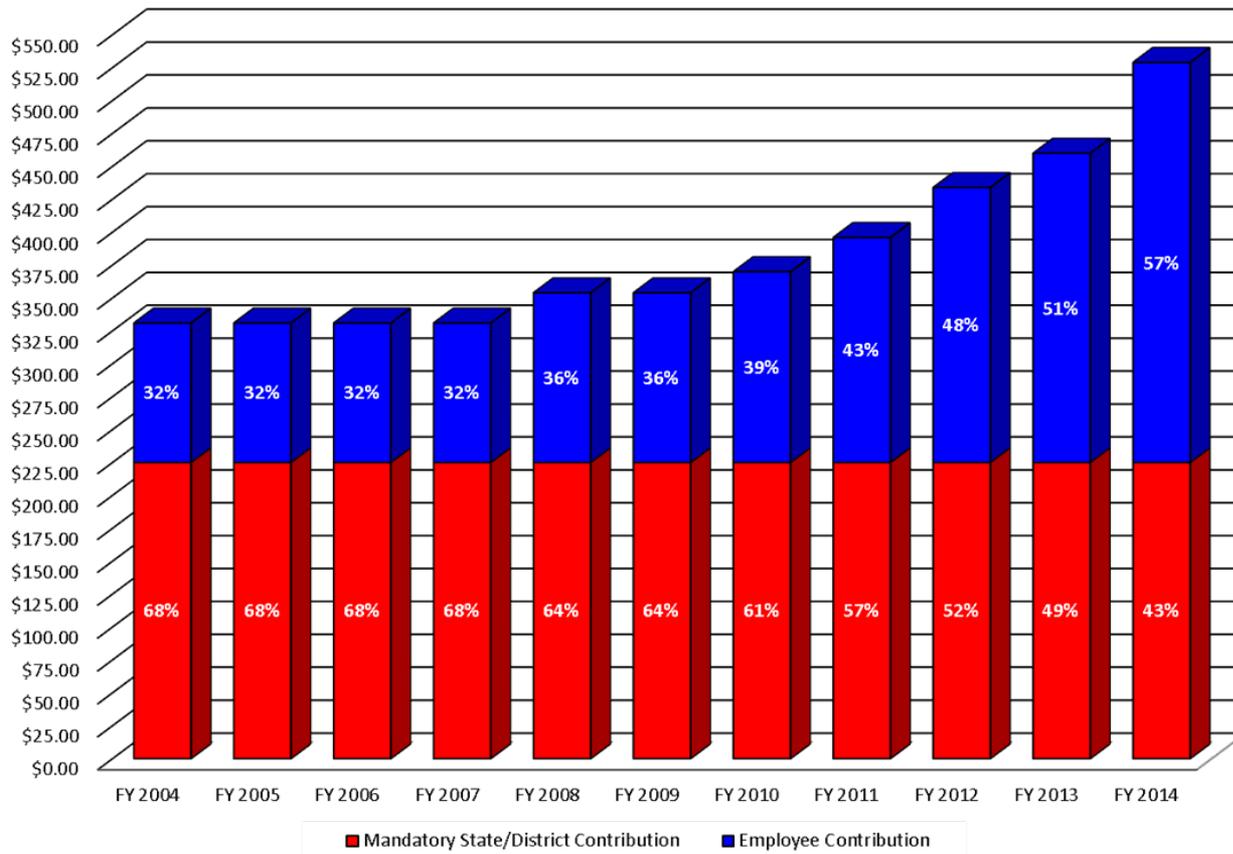


TRS-ActiveCare Funding Impact



TRS-ActiveCare Funding Impact

TRS ActiveCare 2 Employee Only Contributions



Challenges

- To continue to provide a valuable benefit under the current funding levels
 - TRS-ActiveCare study
- Staff will come with recommendations in June for any benefits or premium changes

Tab 7

Teacher Retirement System of Texas

7. Retiree Advisory Committee

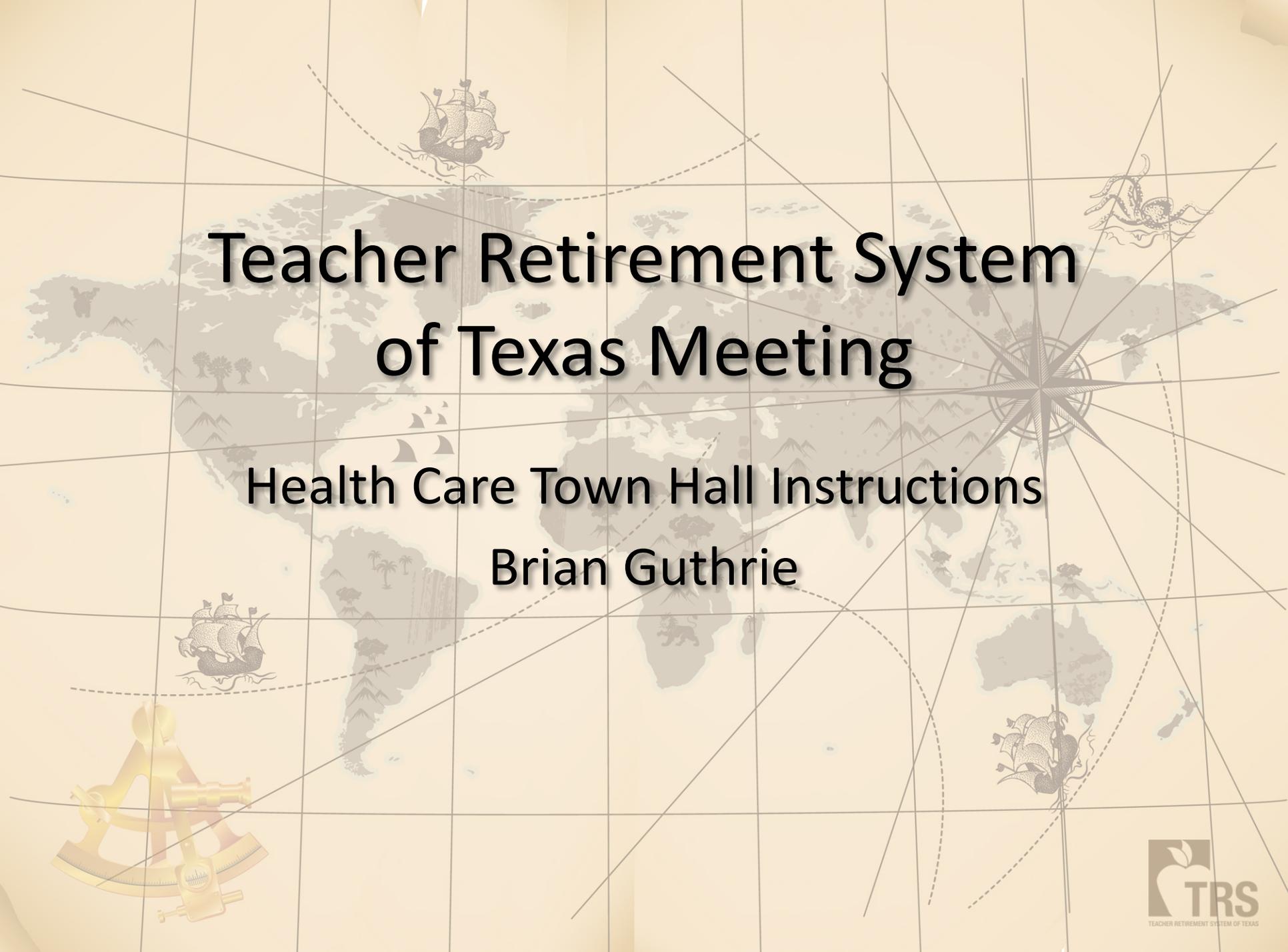
Betsey Jones

February 2014

Retirees Advisory Committee- Responsibilities

- Hold public hearings on group coverage for TRS-Care
- Recommend to the trustee minimum standards and features of a plan under the group program that the committee considers appropriate
- Recommend to the trustee desirable changes in rules and legislation affecting the group program

Tab 8 A

The background features a stylized world map with a grid of latitude and longitude lines. Several sailing ships are depicted on the map, along with a large compass rose on the right side and a sextant in the bottom left corner. The map is rendered in a light, faded style against a warm, yellowish-gold background.

Teacher Retirement System of Texas Meeting

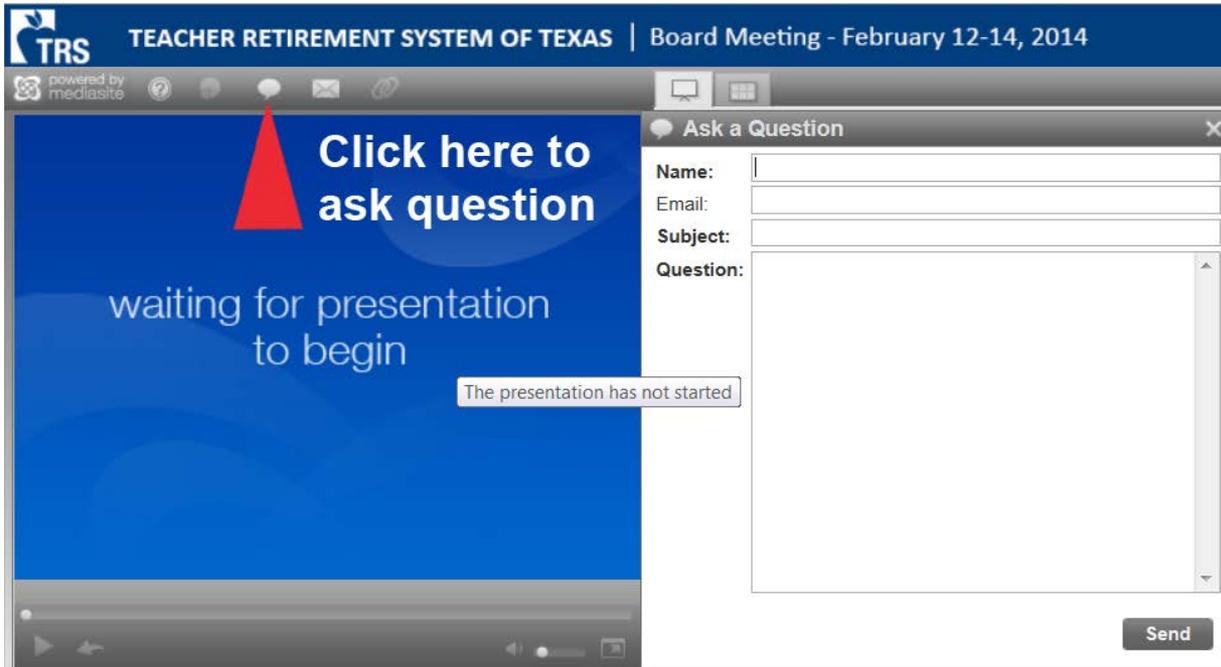
Health Care Town Hall Instructions

Brian Guthrie

Health Care Town Hall

- During the Health Care Town Hall, TRS will offer interactive Q & A sessions on health care matters related to TRS.
 - Audience in Corpus can submit questions in writing on the cards provided.
 - Web-cast audience can submit questions via the internet link.
 - Twitter users can submit questions via #trstownhall.
 - TRS will respond to questions during the town hall meeting.
 - Please do not submit questions regarding personal health situations. TRS cannot discuss an individual's personal health information in this forum.

Ask A Question Feature



- Click on the “Ask a Question” Balloon
- Email box will appear
- Name and email are optional, but suggested
- Submit subject and question
- Click on ‘send’ button

Tab 8 B

Teacher Retirement System of Texas

8. Health Care Studies

Betsey Jones

February 2014

TRS-Care Study

- In 2011, the 82nd Legislative Session charged TRS to conduct a study
 - Comprehensive review of potential plan design and other changes that would improve the sustainability of the program
 - Report finds and recommendations by September 1, 2012

TRS-Care Study

- Option 1
 - Prefund the long-term liability
- Option 2
 - Fund on a pay-as-you-go basis for the biennium
 - Only funding change would be the contribution from the state
 - Needed funding would be shared by the state, the school districts, and active public educators
 - Needed funding would be shared proportionally and would include retiree premium increases

TRS-Care Study

- Option 3
 - Retiree pays full cost of optional coverage
- Option 4
 - Require participants to purchase Medicare Part B
- Option 5
 - Mandatory participation in Medicare Advantage and Medicare Part D plans. Those opting out would be enrolled in TRS-Care 1

TRS-Care Study

- Option 6
 - Tighten eligibility requirements-minimum age 60 (or 62) to enroll in TRS-Care
- Option 7
 - TRS-Care 1 only until age 65
- 83rd Legislative Session passed SB 1458
 - Provision goes into effect September 1, 2014
 - TRS-Care 1 only until age 62
 - Grandfathered if as of August 31, 2014:
 - Age plus years of service 70 or greater
 - 25 years of service credit
 - No impact until FY 2020

TRS-Care Study

- Option 8
 - Defined Contribution
 - Fund a Health Reimbursement Account
 - Retiree would shop in the private market

- Option 9
 - Non-Medicare retirees would be moved to TRS-ActiveCare

TRS-ActiveCare Study

Potential Areas of Consideration:

- Funding increase
- Federal exchange
- Private exchange
- Defined contribution
- Consumerism
- Age based premiums
- Restricted networks
- Steerage

TRS/ERS Comparison Funding and Premiums

| | TRS-Care | TRS-AC | ERS |
|------------------------|--|--|---|
| Funding Sources | Based on payroll: State -- 1% Active employees-- .65% School districts-- .55% Retiree premiums | State -- \$75/month District-- \$150/month (minimum) Employee premiums | State Premiums (applies to part-time, dependent, and interim coverage) |

| | TRS-Care 3 | TRS-AC 2 | TRS-AC 1-HD | ERS |
|--|------------------|-----------|-------------|-------|
| Employee/Retiree Only Share of Premium: | | | | |
| Monthly | \$90-\$310* | \$304** | \$100** | \$-0- |
| Annually | \$1,080-\$3,720* | \$3,648** | \$1,200** | \$-0- |

* Premium range based on years of service and Medicare eligibility.

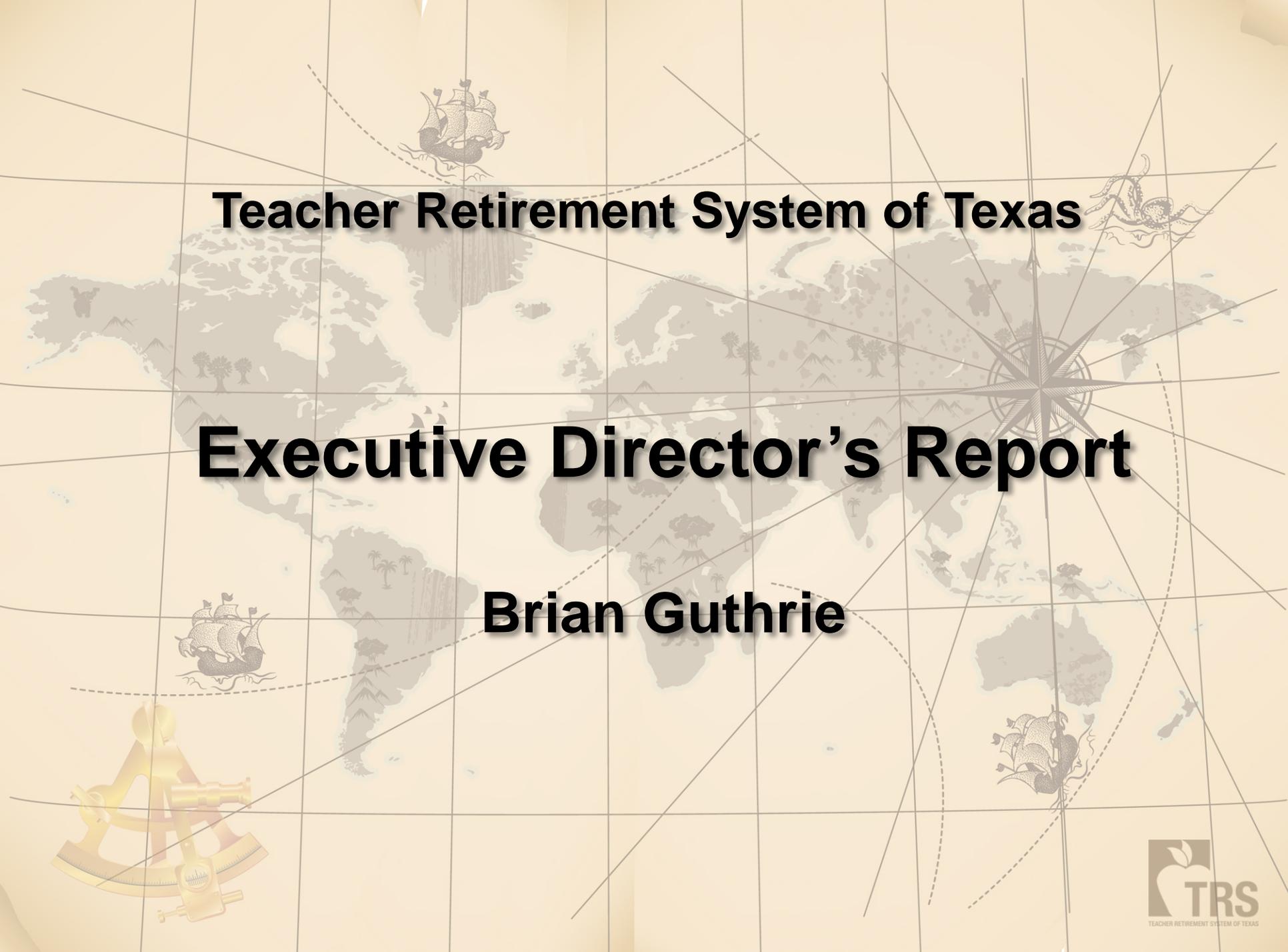
** Assumes \$75 state contribution and \$150 minimum district contribution. Districts can contribute more to lower employee costs.

TRS/ERS Comparison Benefits

| | TRS-Care-3 | TRS-AC 2 | TRS-AC 1-HD | ERS |
|---|------------|------------------------|----------------------------------|---------|
| Medical Deductible | \$300 | \$1,000 | \$2,400 | \$-0- |
| Out-of-pocket maximum | \$3,000 | \$4,000 | \$3,850 | \$2,000 |
| Drug Deductible | \$-0- | \$200 brand-name drugs | Combined with medical deductible | \$50 |
| Retail short term | | | | |
| Generic | \$10 | \$20 | | \$15 |
| Brand preferred | \$25 | \$40 | 20% after deductible | \$35 |
| Brand non-preferred | \$40 | \$65 | | \$60 |
| Mail Order and Retail-Plus (90 day supply) | | | | |
| Generic | \$20 | \$45 | | \$45 |
| Brand preferred | \$50 | \$105 | 20% after deductible | \$105 |
| Brand non-preferred | \$80 | \$180 | | \$180 |

- Enrollees in ActiveCare 2 and ERS HealthSelect pay an additional copay if filling a maintenance drug at retail.

Tab 11

The background features a stylized world map with a grid of latitude and longitude lines. A sailing ship is positioned in the upper left, an octopus in the upper right, and a compass rose on the right side. Dashed lines represent travel routes across the map.

Teacher Retirement System of Texas

Executive Director's Report

Brian Guthrie



Presentation Overview

- Daily agenda review.
- TRS functions and responsibilities overview.
- TRS organizational structure and workforce overview.
- Charting the Course: 2012 background, 2013 accomplishments, and 2014 goals.
- Preview upcoming Board agendas.
- Receive the Board Training Calendar.

Daily Agenda Review



Thursday, February 13th

| Topics | Times |
|---|-------------------------|
| ▪ Executive Director's Report | 8:15 a.m. – 9:30 a.m. |
| ▪ Strategic Planning | 9:30 a.m. – 10:30 a.m. |
| ▪ Discuss Legislative Preparation | 10:30 a.m. – 11:15 a.m. |
| ▪ Space Planning | 11:15 a.m. – 11:45 a.m. |
| ▪ CFO Report | 11:45 a.m. – 12:00 p.m. |
| ▪ Executive Evaluations | 12:00 p.m. – 12:30 p.m. |
| ▪ Investment Presentations <ul style="list-style-type: none"><li>• Strategic Asset Allocation<li>• EM Update<li>• 2014 IMD Priorities<li>• Market Update and Best Ideas Survey<li>• Due Diligence and Legal Matters (Closed Session) | 12:30 p.m. – Recess |

TRS History and Responsibilities and Organizational Structure.



TRS History: Significant Events

| | 1936 | 1950s | 1960s | 1970s | 1980s | 1990s | 2000s | 2010-12 | 2013 |
|----------------------|--------------------------|----------------------------|-------|-------------------------------|---|---|---|-----------------------------------|--|
| New Programs | Pension Fund Established | | | | TRS-Care Established | | 403(b) Program and TRS-ActiveCare Established | | |
| Investment Authority | | Corporate Stocks and Bonds | | Prudent Person Rule Adopted | | Authorized Limited Partnerships Investments | Authorized Derivatives and External Managers | External Managers Extended | |
| Benefit Changes | | | | Significant Benefit Increases | Compensation above \$25,000 was made creditable | Significant Benefit Increases | New Pension and Care Eligibility | Multiple Streamlining Initiatives | Minimum age 62 for Pension and Care with Grandfather |
| Other Changes | | | | | | Legislative Intervention Benefits Exceeded Contributions Legacy Systems Not Addressed | Significant Market Declines IMD Growth | National Pension Debate TEAM | State and member contribution rate increased (member increase phased in). New 1.5% district contribution |

TRS Responsibilities

Pension Fund

- 1M active members
- 348K retirees
- Actuarially sound (28 Years)
- 9.1% return over 25 years
- \$124B (12/31/13)

403(b) Program

- Fee limits set by TRS rule
- Companies certify with TRS that products meet TRS fee specifications
- Salary-reduction agreements available only for certified companies with registered products

TRS-Care

- 237K participants (8/31/13)
- Funded by contributions from the state (1%), districts (0.55%), active employees (0.65%), and member premiums
- \$1.24B total expenditures (8/31/13)

TRS-ActiveCare

- 455K Current Participants (8/31/13)
- 1,128 Participating Entities
- Funded by contributions from the state (\$75/month), districts (\$150/month), and member premiums
- \$1.78B total expenditures (8/31/13)

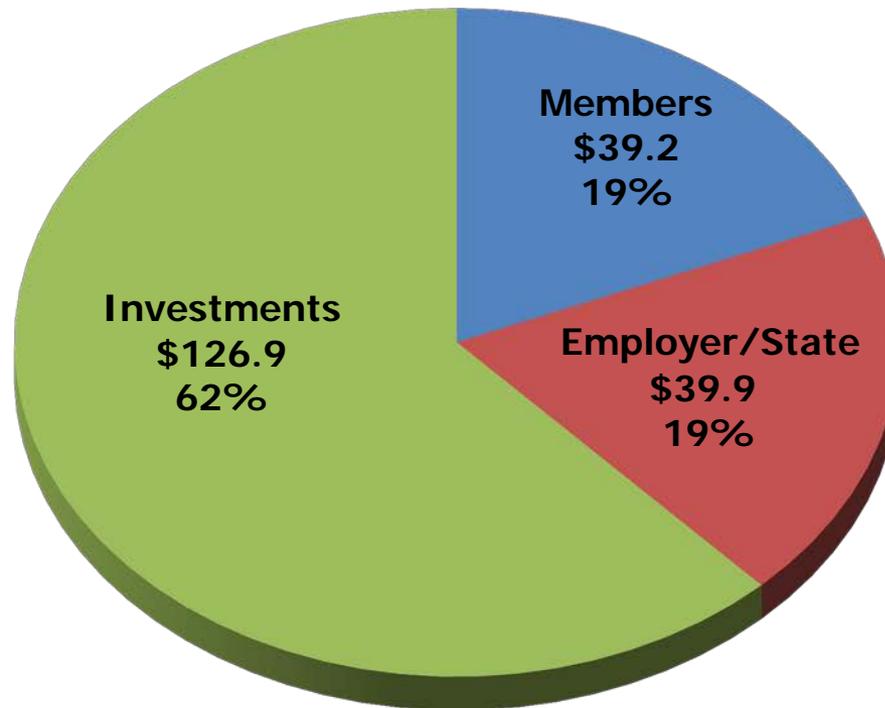
Pension Trust Fund

- Estimated balance of \$123.9 billion as of 12/31/13.
- The average retirement check is \$1,981 per month with
- \$8.1 billion paid in retirement benefits in 2013.
- 1,369,640 active members & annuitants as of 8/31/2013.
- Actuarially sound as of 8/31/2013.
- Historical rates of return:

| As of 12/31/2013 | |
|------------------|-------|
| 1 Year | 12.1% |
| 3 Year | 9.1% |
| 5 Year | 12.4% |
| 10 Year | 6.9% |
| 25 Year | 9.1% |

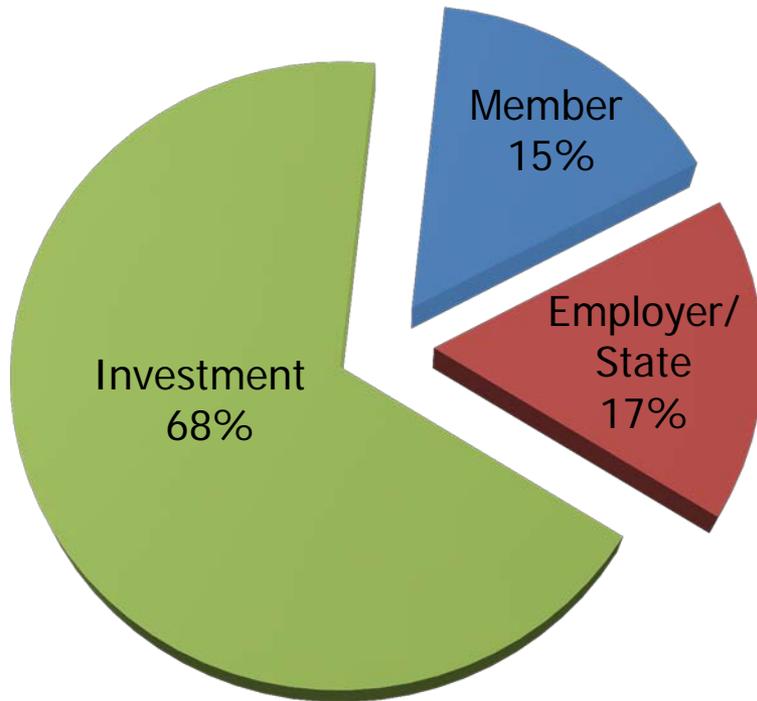
Pension Trust Fund (\$ billion)

Sources of Pension Fund Revenue (1938 – 2013)



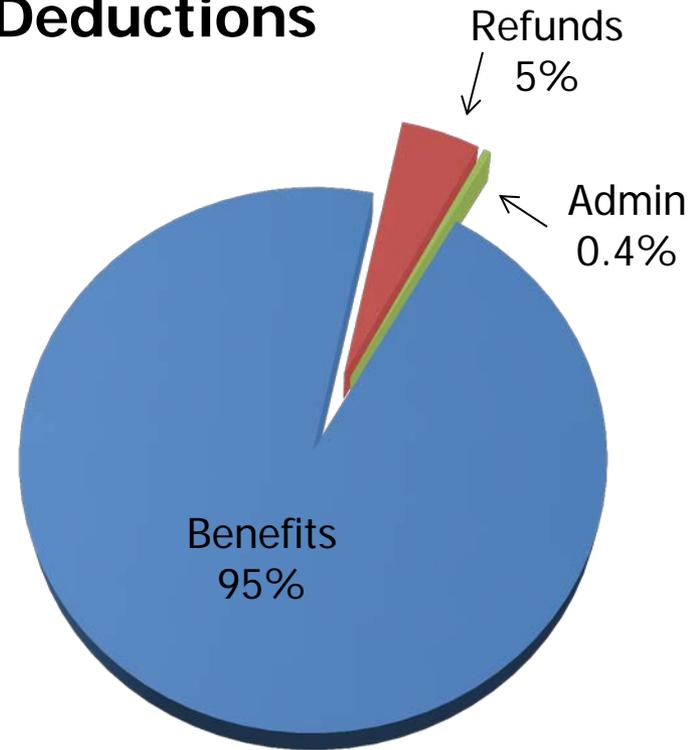
Trust Fund – FY 2013

Additions



\$14.5 billion

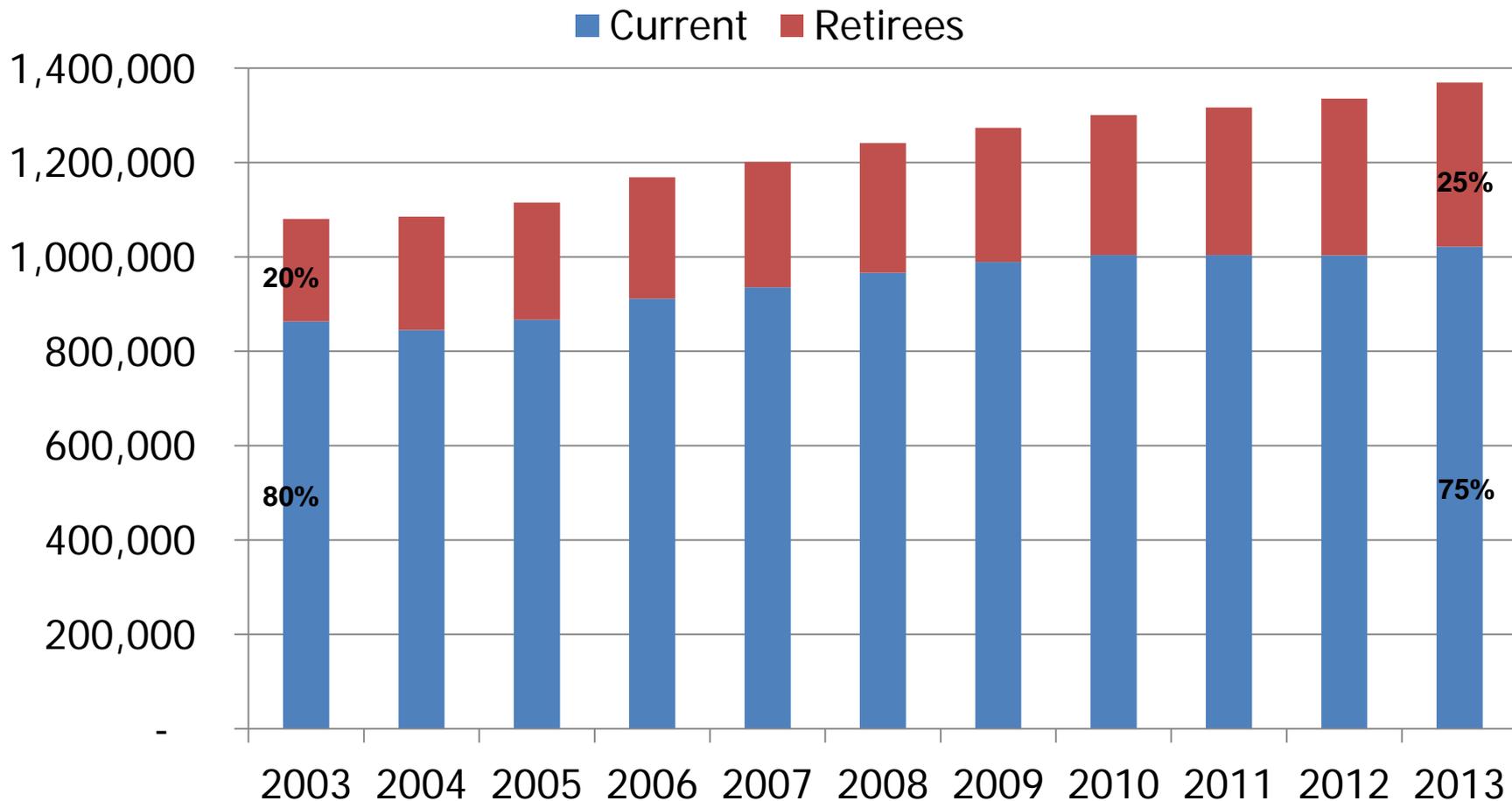
Deductions



\$8.6 billion

\$5.9 billion addition to net assets

Membership Growth 10 Year Trend



Active member growth – 18.3%

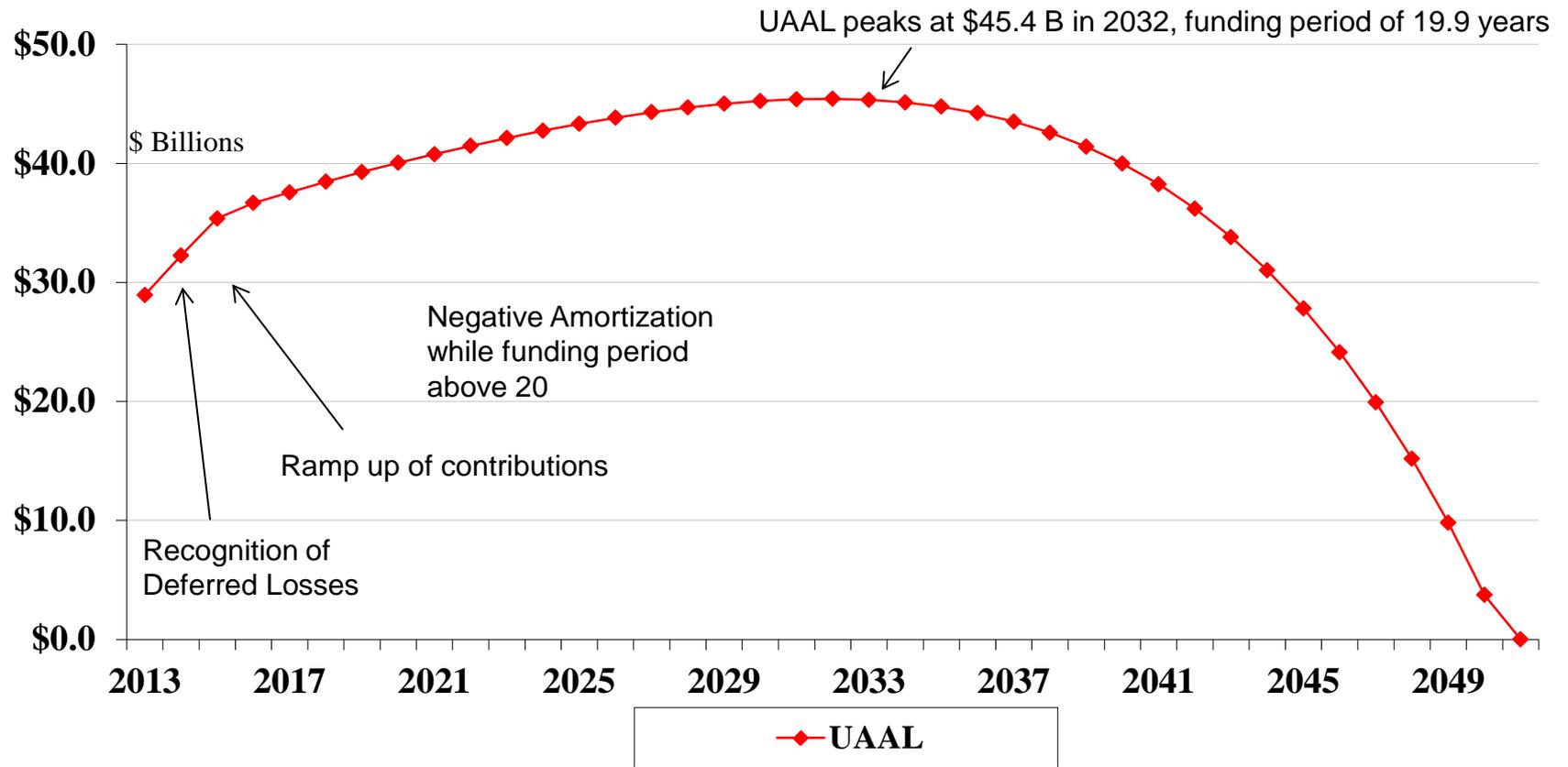
Retired member growth – 60.1%

TRS Pension Overview

Before and After 2013 Legislation

| | Before | After |
|---|---|---|
| State Contribution Rate | 6.4% | 6.8% in FY 14 and FY 15 |
| Member Contribution Rate | 6.4% | 6.4% in FY 14 gradually increasing over four years to 7.7% in FY 17 |
| Non-Social Security School District Contribution Rate | None | 1.5% |
| Normal-Age Retirement | Rule of 80 + either No minimum age or minimum age 60 depending on when member joined the system | Rule of 80 + 62 for new hires and non-vested members |
| Pre-62 Retirement Penalty | Varied | 5% per year |
| Funding Ratio | 81.4% | 80.8% |
| Funded Period | Never | 28 Years (after COLA) |
| UAAL | \$27.4 billion | \$28.9 billion |
| Depletion Date | 2069 | None |
| COLA | Ad hoc | 3% (capped at \$100 /mo) for those retired on or before 8/31/2004. First COLA in over a decade was paid beginning October 2013. |

Projection of UAAL (Based on MVA)*



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

*Slide provided by Gabriel, Roeder, Smith & Co.

TRS Pension Fund Operations

Fiscal Year 2013

Incoming Activity

- \$9.8B dividends and interest income
- \$2.3B member deposits
- \$2.4B state & employer deposits
- 504K incoming calls
- 9,597 1-on-1 member visits
- 10-25 1-on-1 visits per day peaking in summer
- 1,365 monthly employer reports covering 846,178 employees
- 1.060M Website visits



Outgoing Activity

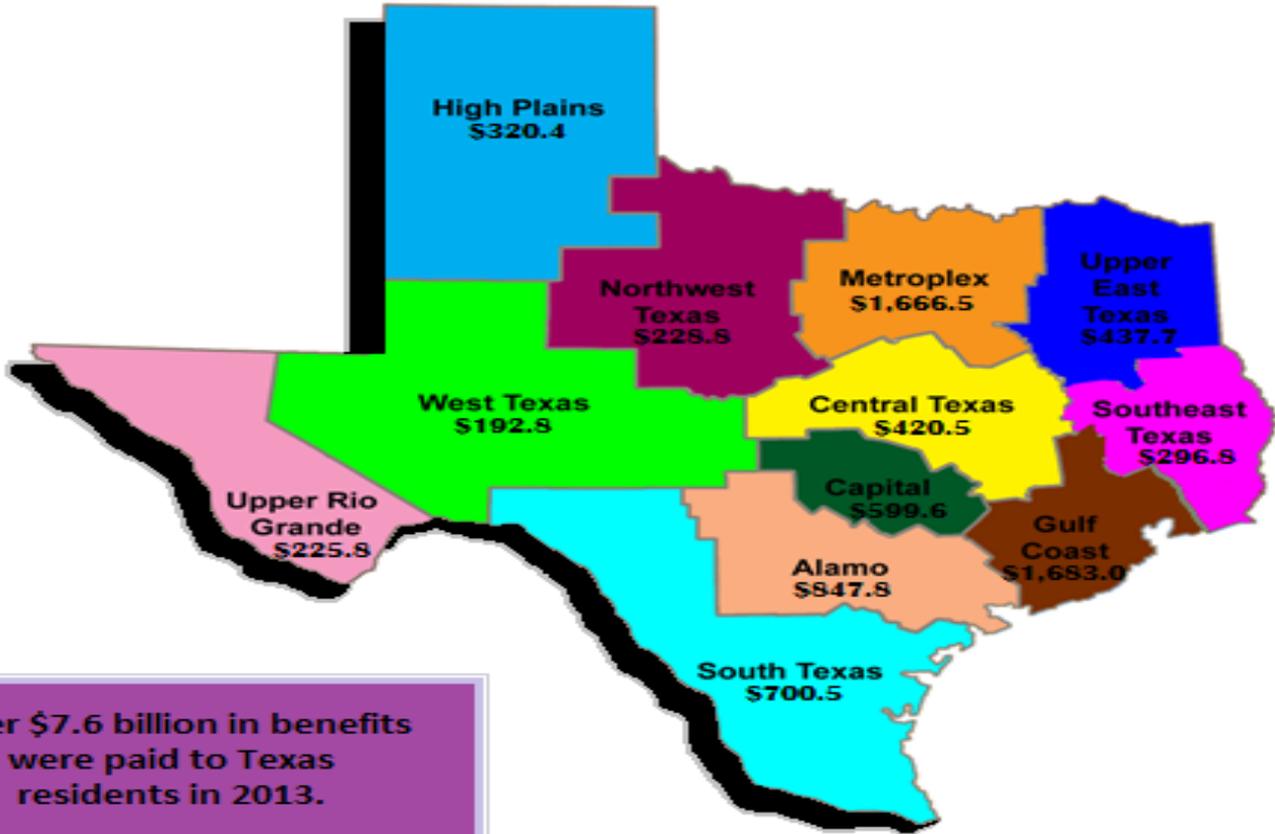
- \$8.1B in pension benefit payments
- 41K refunds processed
- 28K retirement estimates prepared
- 21K new retirements processed
- 8,641 service purchase bills processed
- 8,680 death claims processed
- 181 group counseling presentations for 12,825 members
- 67,759 callbacks
- 423 Field counseling sessions

TRS Profile*

1.3M pension trust members
\$117.4B net assets

*As of 8/31/2013

**2013
Benefit Payments
(in millions)**



Over \$7.6 billion in benefits were paid to Texas residents in 2013.

Annual Impact of Payments on Texas Business

| 2013 | |
|--------------------|----------------|
| Total Expenditures | \$15.4 billion |
| Personal Income | \$4.6 billion |
| Permanent Jobs | 96,278 |

Annuity Distribution

| Monthly Annuity | Number of Annuitants | Percent of Annuitants |
|------------------------|-----------------------------|------------------------------|
| \$0 - \$1,000 | 101,877 | 30.5% |
| \$1,000 - \$2,000 | 78,420 | 23.5% |
| \$2,001 - \$4,000 | 127,453 | 38.1% |
| \$4,001 - \$6,000 | 22,223 | 6.6% |
| \$6,001 - \$8,000 | 3,289 | 1.0% |
| > \$8,000 | 912 | 0.3% |
| Total | 334,174 | 100.0% |

TRS–Care Operations

Fiscal Year 2013



Networks

Medical Network:

- ❑ 46,351 Physicians
- ❑ 674 Hospitals
- ❑ 24,857 Other Providers

Pharmacy Network:

- ❑ 4,788 TX Retail Pharmacies
- ❑ 68,113 Natl. Retail Pharmacies

Transactions

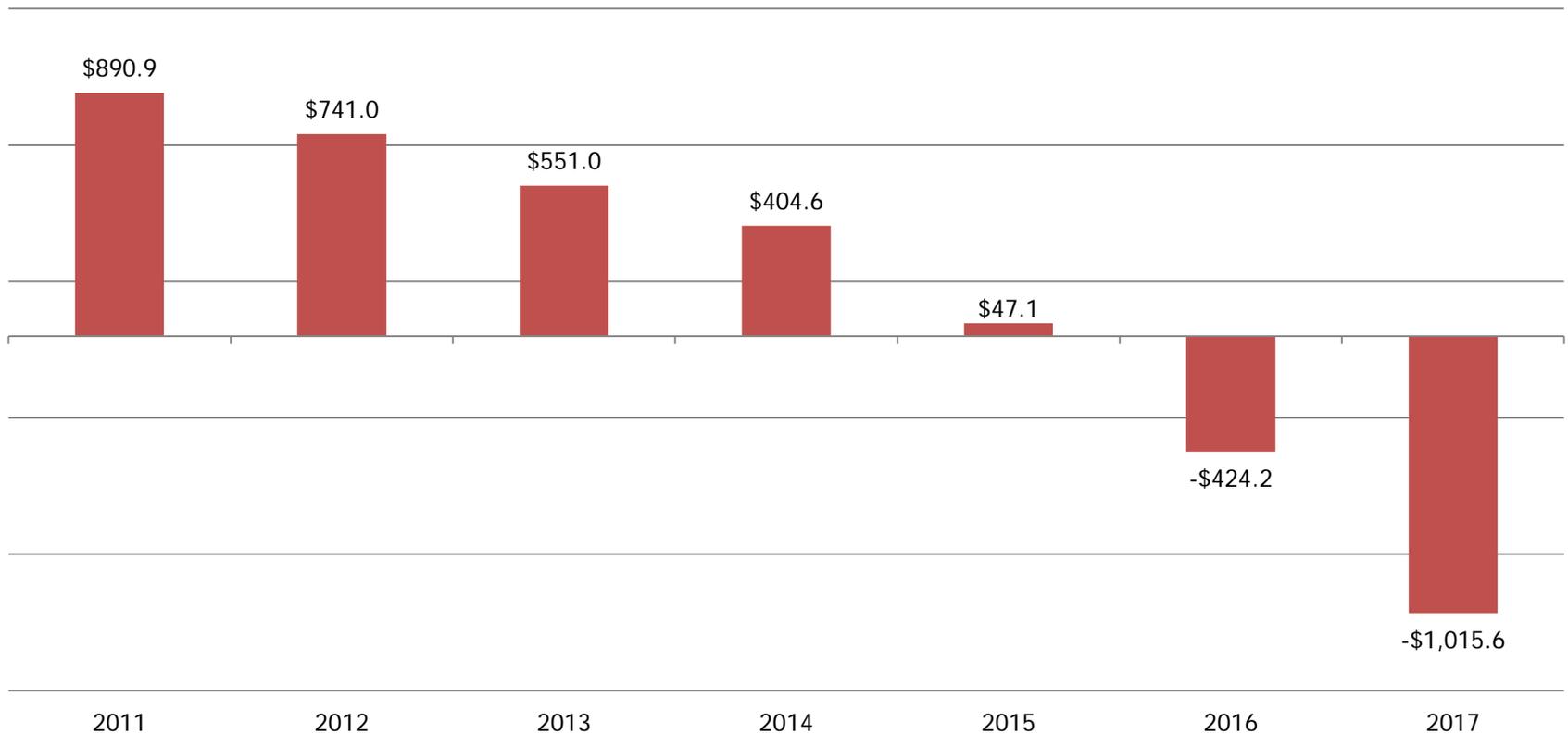
- ❑ 6.3M Rx Claims Paid
- ❑ 4.6M Medical Claims Paid
- ❑ \$1.24B Total Expenditures

TRS –Care Profile

- ❑ 243K Covered Lives
- ❑ \$551M Fund Bal. as of 8/31/2013

TRS-Care Funding Projection

Fund Balance
(Incurred Basis in Millions)





TRS–ActiveCare Operations Fiscal Year 2013

Networks

Medical Network:

- 43,484 Physicians
- 578 Hospitals
- 28,211 Other Providers

Pharmacy Network:

- 4,788 TX Retail Pharmacies
- 68,113 Natl. Retail Pharmacies

Transactions

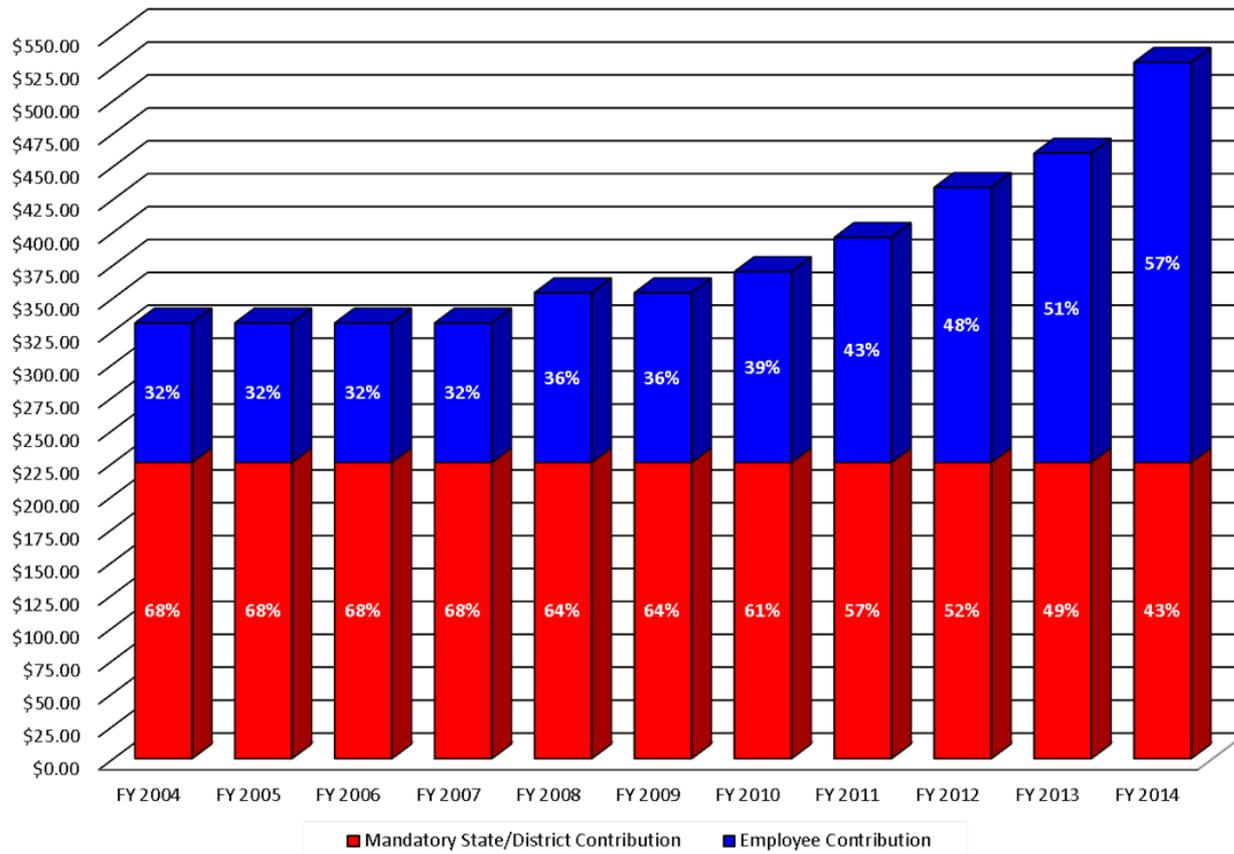
- 4.2M Rx Claims Paid
- 4.5M Medical Claims Paid
- \$1.78B Total Expenditures

TRS –ActiveCare Profile

- 468K Covered Lives
- 1,128 Participating Entities
- \$0 In Reserve

TRS-ActiveCare Funding Impact

TRS ActiveCare 2 Employee Only Contributions





TRS 403(b)
TEACHER RETIREMENT SYSTEM OF TEXAS

Registration Program

Allowable Fees

- 6% combined front-and back-end sales load
- 2.75% asset-based (annually)
- 10% surrender/withdraw
- \$50 loan Initiation
- \$50 administrative (annually)

Operations

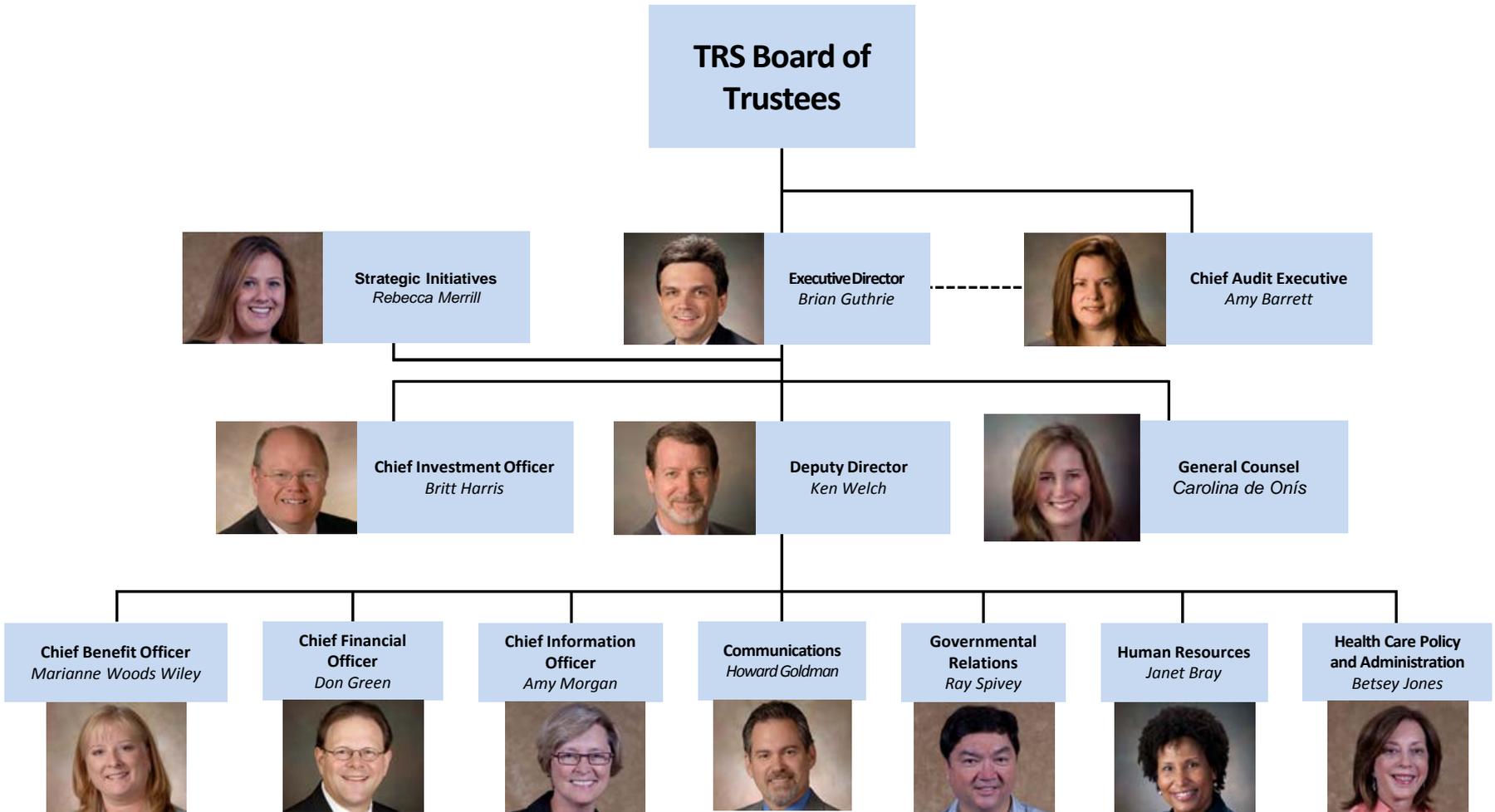
- Maintain and update web site for members to compare products
- 70 certified companies
- Over 9,700 registered product options

Funding

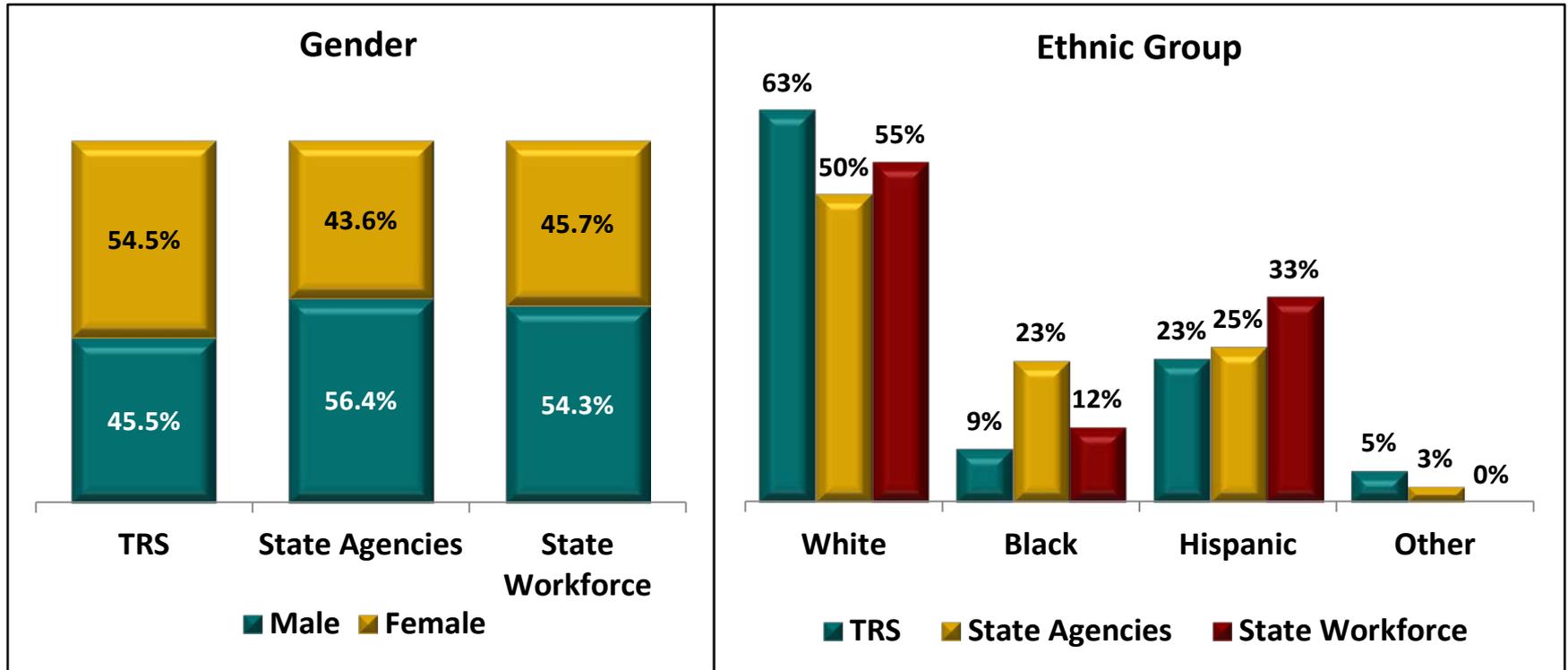
- State law allows fees for program sustainability
- \$3,000 per certification and per registration
- Certification and registration renewed every five years

TRS Organizational Structure and Workforce Overview

Organizational Structure



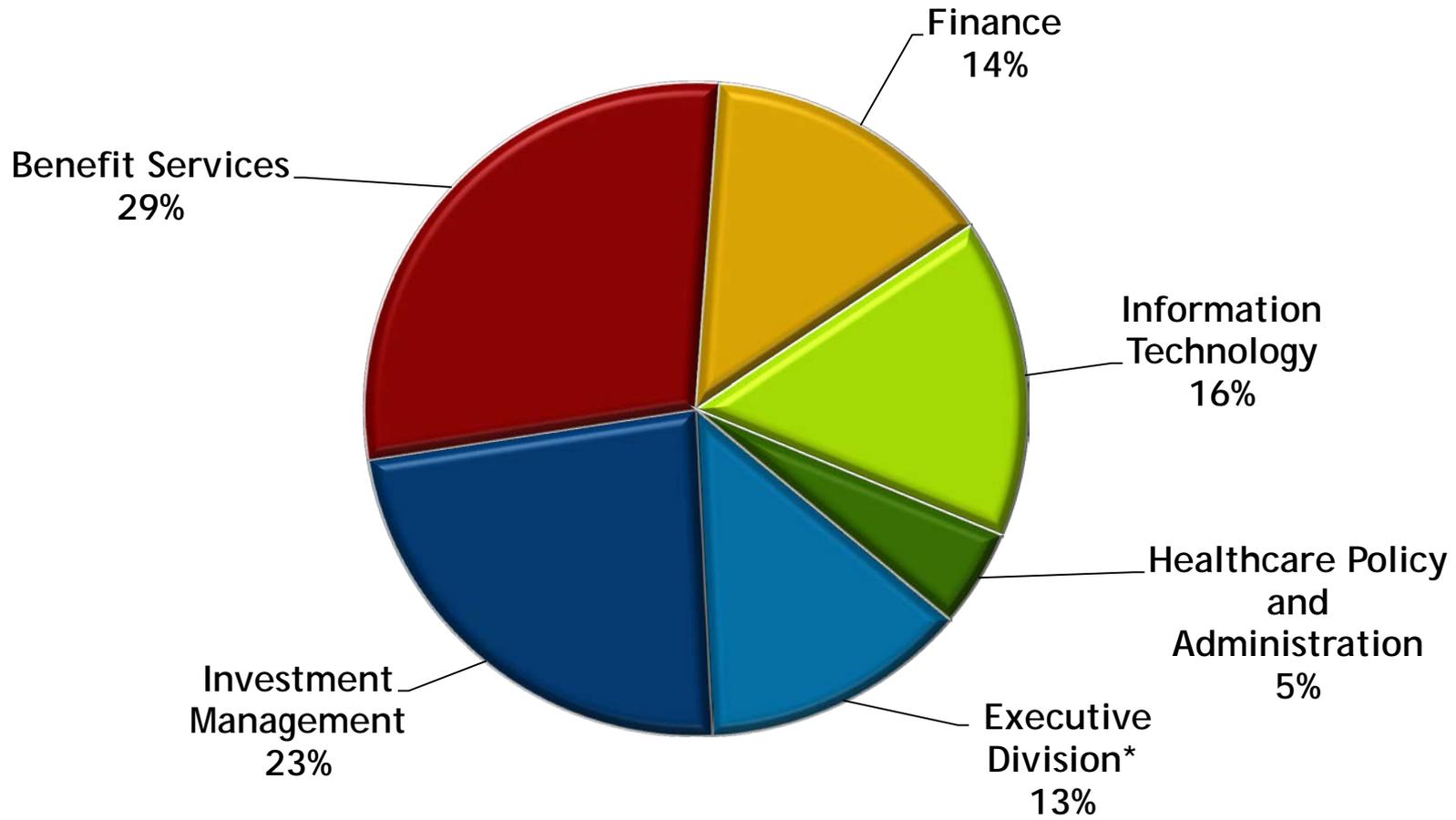
Workforce Demographics



Notes:

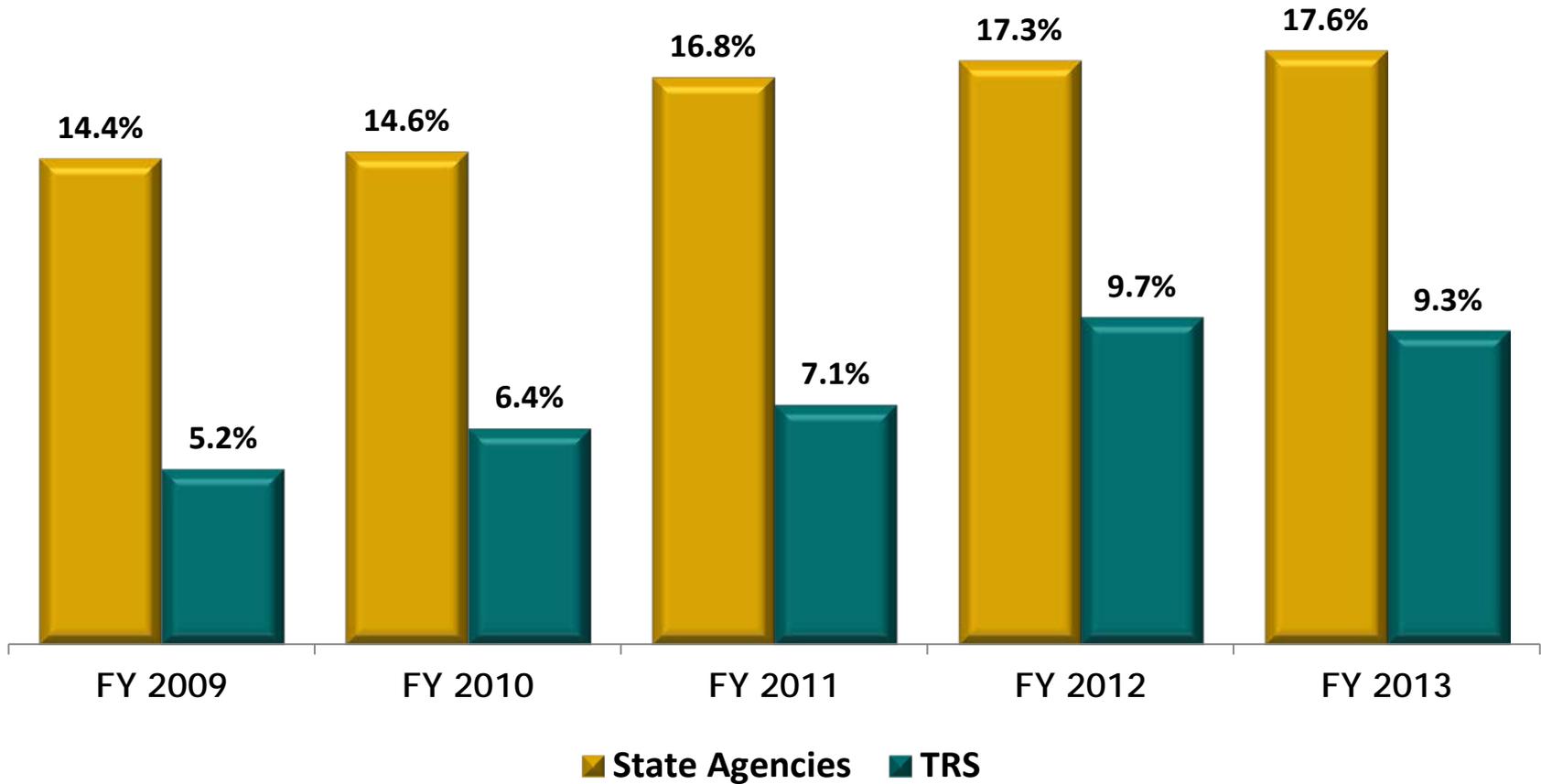
- The Texas Workforce Commission, Civil Rights Division (TWC-CRD) prepares statewide workforce availability reports. Data for this summary is from the 2011-2012 Equal Employment Opportunity and Minority Hiring Practices Report. TWC data does not include information on “other” race groups.
- TRS and state agency data is pulled using FY 2013 data.

Distribution of TRS Positions



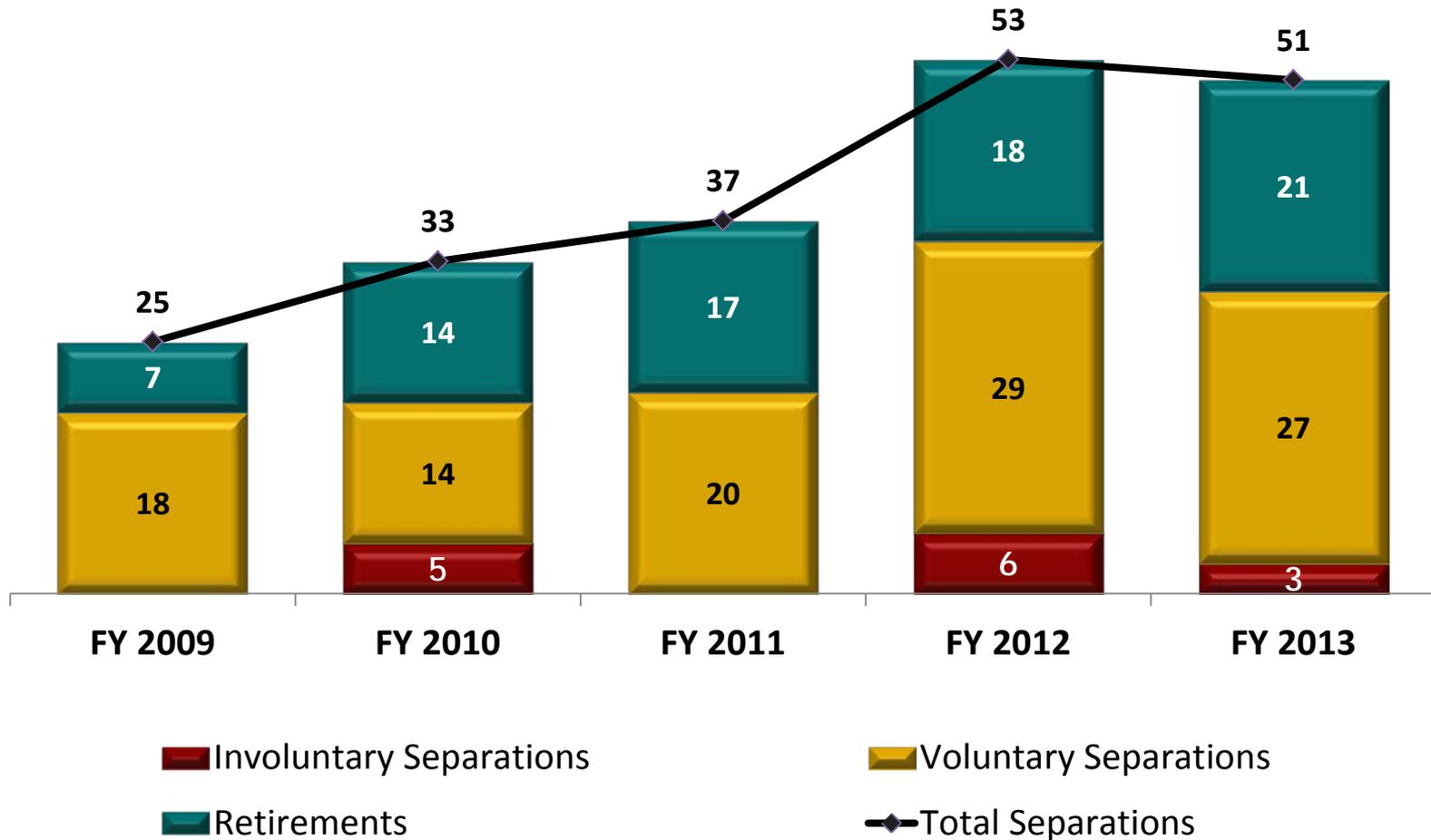
***Note: Executive Division includes other support services such as Legal, Human Resources and Communications. Data as of 12/31/2013**

Turnover Trends



Note: Includes classified full-time, classified part-time, and exempt positions.

Employee Separations



Note: Includes classified full-time, classified part-time, and exempt positions.

TRS Turnover Rates by Division

| Division | FY 2012 | | FY 2013 | |
|--------------------------------------|-----------|-------------|-----------|-------------|
| | # | % | # | % |
| Executive Division | 7 | 11.7% | 6 | 8.1% |
| Investment Management | 15 | 13.4% | 6 | 5.4% |
| Benefit Services | 13 | 8.1% | 18 | 10.8% |
| Finance | 12 | 13.7% | 11 | 14.3% |
| Information Technology | 3 | 3.3% | 6 | 6.7% |
| Healthcare Policy and Administration | 3 | 13.3% | 4 | 14.5% |
| TRS Overall | 53 | 9.7% | 51 | 9.3% |

Retirement Eligibility Projections

| Department | Percent of TRS Employees Eligible to Retire as of: | | | | | |
|--------------------------------------|--|------------------|--------------------|------------------|--------------------|------------------|
| | January 2014 | | January 2017 | | January 2019 | |
| | Eligible Employees | Percent Eligible | Eligible Employees | Percent Eligible | Eligible Employees | Percent Eligible |
| Executive Division | 22 | 28.6% | 29 | 37.7% | 36 | 46.8% |
| Investment Management | 5 | 3.9% | 9 | 7.0% | 11 | 8.5% |
| Benefit Services | 21 | 12.0% | 34 | 19.4% | 45 | 25.7% |
| Finance | 17 | 21.3% | 30 | 37.5% | 38 | 47.5% |
| Information Technology | 24 | 26.9% | 29 | 32.3% | 38 | 41.9% |
| Healthcare Policy and Administration | 2 | 7.4% | 7 | 25.9% | 8 | 29.6% |
| Total | 91 | 16.9% | 138 | 24.9% | 176 | 31.3% |
| Executive Council Members | 6 | 42.9% | 9 | 64.3% | 9 | 64.3% |

Estimates are based on the rule of 80 using active employees as of 12/31/2013. These numbers include return-to-work retirees, but excludes employees who retired in January 2014. Areas with more than 40% of employees eligible for retirement are highlighted.

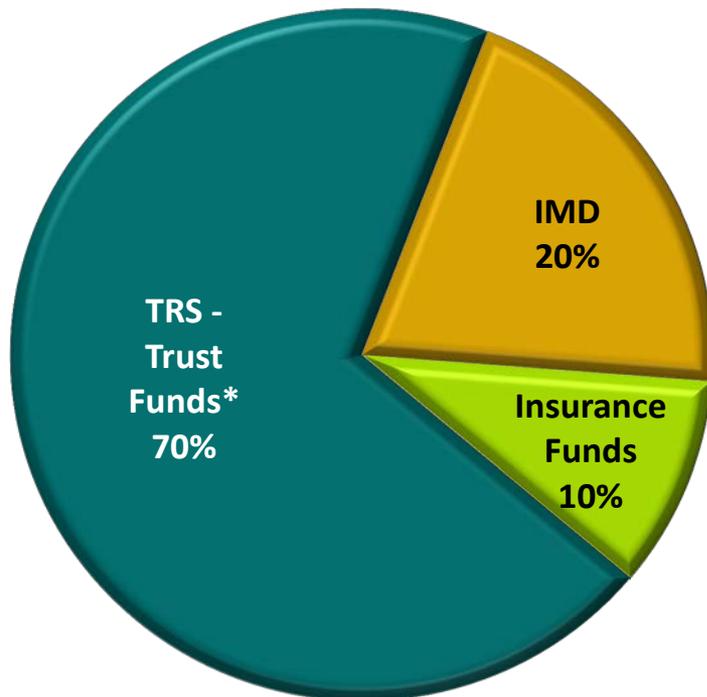
Workforce Continuity

To address risks related to workforce continuity and upcoming retirements, TRS is working on:

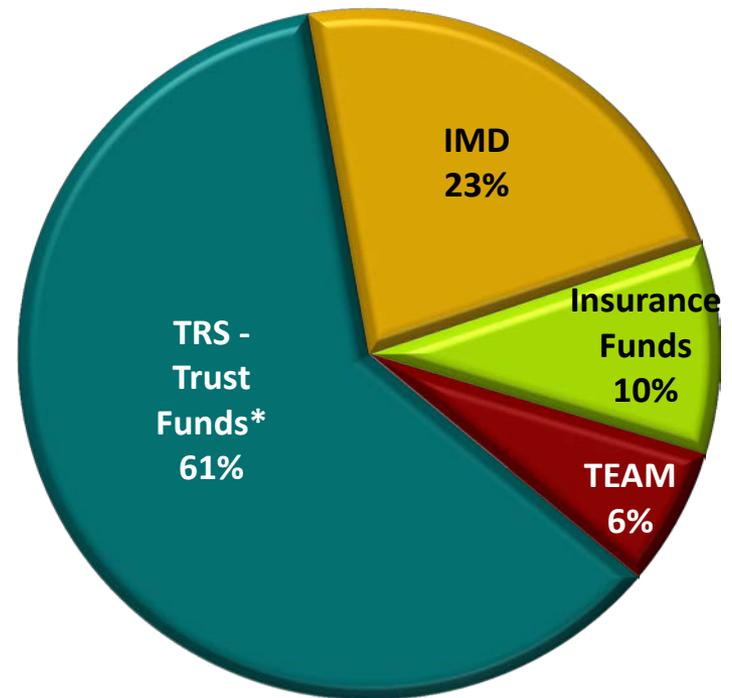
- Increasing professional development opportunities for all levels of staff
- Developing and promoting a competitive total rewards package
- Updating and implementing effective recruitment strategies
- Exploring the use of formal knowledge transfer programs

FTE Comparison

FY 2009

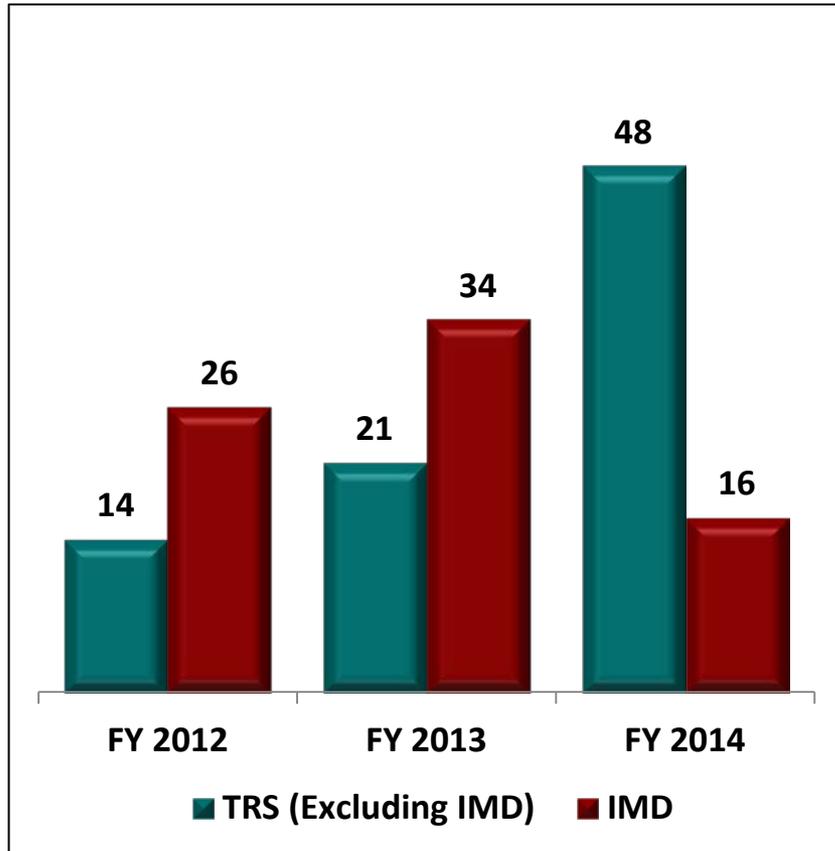


FY 2014



*TRS Trust Fund FTEs include positions paid from the Trust Fund, excluding IMD and TEAM. FY 2009 data is an average of filled FTEs during the year. FY 2014 data is an average of filled FTEs from September-December 2013.

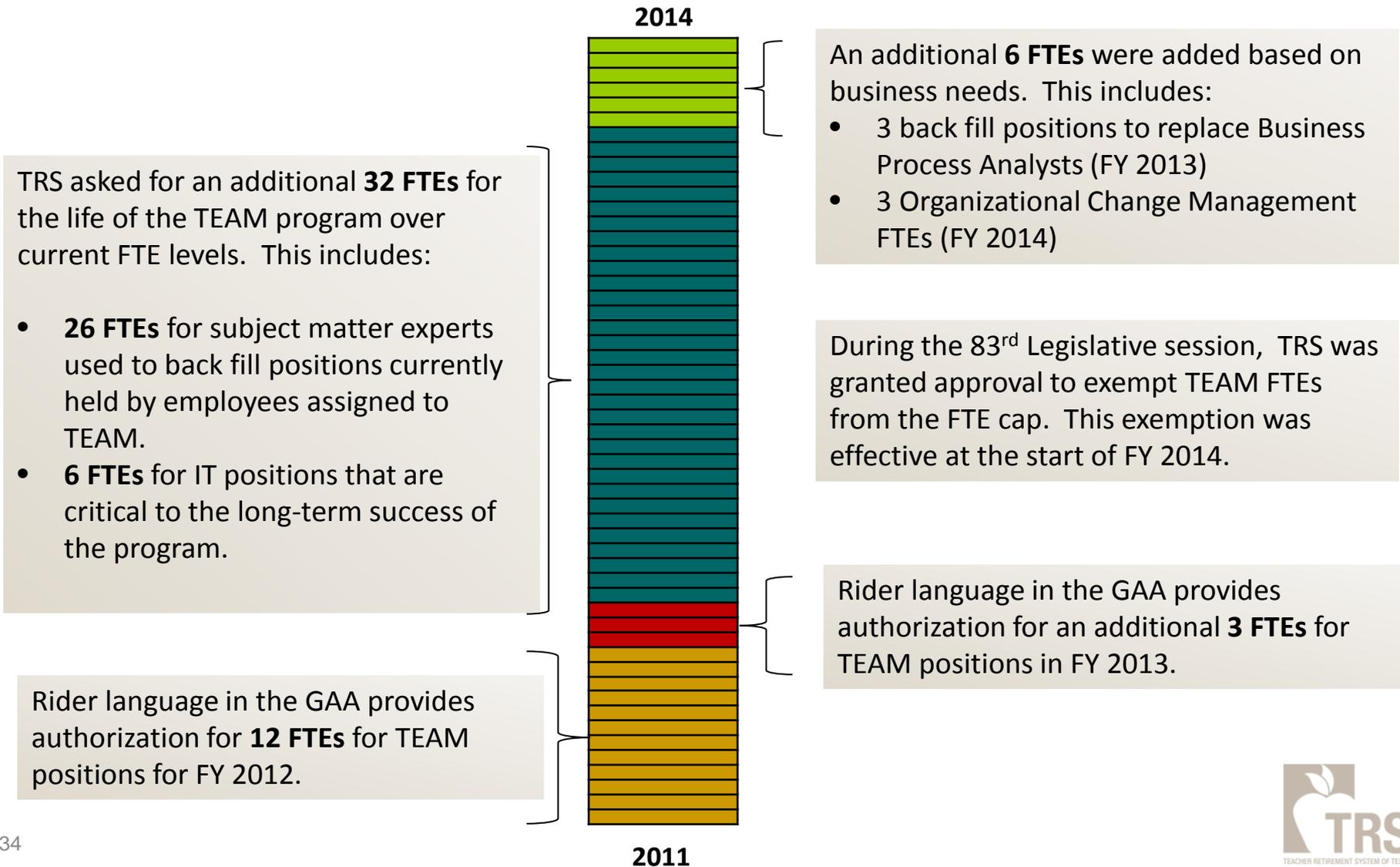
Contract Positions



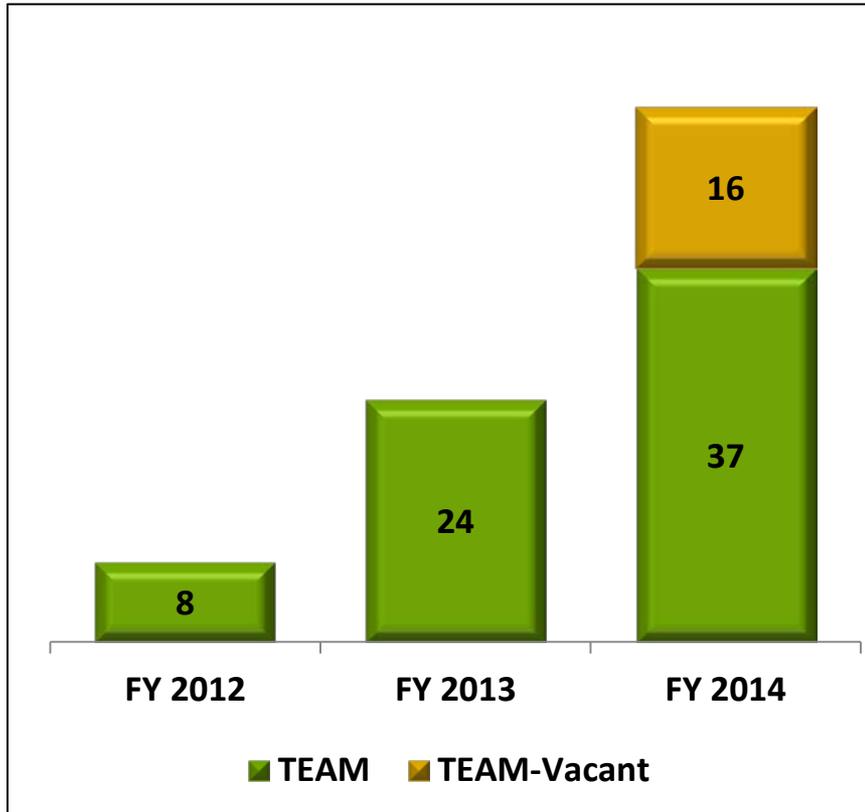
- Contract positions at TRS are used for a variety of needs including:
 - positions that augment current agency staff;
 - specialized services (e.g. State Street for investment management); and
 - positions dedicated to major projects or initiatives such as TEAM.
- The number of on-site contractors at TRS increased in FY 2014 due to the implementation of TEAM.
- The number of on-site contractors at IMD decreased in FY 2014 due to the addition of 24 budgeted FTEs in IMD. In the fall of 2013, 16 of the vacant FTEs were posted and filled.

Note: FY 2012 and FY 2013 were pulled as of August 31 of each fiscal year. For fiscal year 2014, the numbers are pulled as of 1/1/2014. Contract positions only include individuals physically on-site at TRS. Many contracts include the use of individuals working outside TRS' physical location.

TEAM FTE History



TEAM FTEs



- In FY 2012-2013 FTEs dedicated to TEAM included positions in the Project Management Office and IT systems architecture.
- In FY 2013, divisions began to hire for the additional 32 positions used for support or to backfill TEAM-dedicated positions. Those positions were not charged to the TEAM budget until FY 2014.
- Currently, 16 of the 53 TEAM FTEs are vacant. Of those vacant, 10 are currently posted.

Note: Data represents the number of positions filled as of the last day of each fiscal year for 2012 and 2013. FY 2014 numbers are as of January 2014.



**Charting the Course:
2012 Background
2013 Accomplishments
2014 Goals**

Charting the Course: 2012 Challenges

Where We Started:

- Pension trust was not actuarially sound and defined benefit plans around the country were under scrutiny.
- TRS-Care faced a projected funding shortfall as early as 2014 but no later than 2015.
- TEAM received initial approval in 2011 Legislative session, but faced a second round of more intensive vetting in 2013.
- Agency culture was well known but not articulated.
- Distinct silos created barriers to communication.
- Key Executive Council positions were in transition.
- Agency succession planning identified as key future challenge.
- New Executive Director eager to define a new path.

Charting the Course: 2012-2013 Accomplishments

What We Accomplished:

- Two significant studies prepared and released. Pension study receives national attention.
- Combination of contribution and benefit changes resulted in an actuarially sound pension trust fund and the first COLA for many retirees since 2002.
- Strong investment returns for CY 2013: \$13.5 billion in gains (12.1%) including \$1.2 billion in alpha over benchmark.
- TRS named Institutional Investor's Large Public Plan Manager of the Year along with individual accolades.
- TRS named a top workplace in Austin (2012 and 2013)

Charting the Course: 2012-2013 Accomplishments

What We Accomplished (Cont'd):

- TEAM received funding and FTE flexibility to begin implementation of LOB and FSR. Contracts awarded for both in fall of 2013.
- Agency culture formalized through creation of agency core values. Began work on a performance appraisal system supportive of agency values and essential competencies.
- Advanced strategic planning through creation of a new Strategic Initiatives Division.
- Executive Council strengthened by new faces and the steady erosion of communication barriers.

Charting the Course: 2014 Challenges

What We Face:

- TRS-Care was not addressed by 83rd Legislature, but implementation of Medicare Advantage program provided two more years of solvency.
- TRS ActiveCare emerged as a new long-term concern.
- Long-term space planning needs to be addressed during next legislative session.

Charting the Course: 2014 Challenges

What Needs to Be Done:

- Priorities/successes from 2012 and 2013 require ongoing attention to maintain and build on momentum:
 - TEAM Program implementation (entering critical phase).
 - Agency succession and workforce planning.
 - Further strengthening of agency culture, with special emphasis on excellence.
- Agency focus on national leadership must continue.

Charting the Course: 2014 Goals and Objectives

Goal Setting Process:

- Agency accomplishments and challenges are reviewed in July.
- Upcoming goals and objectives are initially presented in September and reviewed in December.
- Each February is a time for reflection and focus.
- Annual goals contain objectives that, largely, can be executed this year and support the agency's strategic goals, culture, and core values.

Charting the Course: 2014 Goals and Objectives

- The 2014 agency goals are to:
 - Focus on health care.
 - Continue trust fund earnings growth.
 - Advance the TEAM Program.
 - Continue developing agency culture.
 - Identify a long-term space plan for TRS.
 - Develop additional avenues of member outreach.
 - Prepare for the new Government Accounting Standards Board requirements.
 - Improve trustee orientation and education.
 - Provide opportunities for staff professional development.
 - Continue to raise TRS' national profile.



2014 Board Agendas

2014 Board Agendas

March 27-28, 2014 Major items include (2 Day Quarterly Meeting):

- Report on Q4 Earnings.
- Dr. Brown Educational Presentation – Risk Parity. (Could be taken up in June)
- Strategic Planning Update.
- Adopt Legislative Implementation Rules.
- SPN Update

Committees

- **Investment Management Committee Meeting**
 - Internal Public Markets Review.
 - Trading Management Group Presentation.
- **Risk Management Committee Meeting**
 - Bi-Annual Risk Report.
- **Policy Committee Meeting**
 - Consider recommending adoption of legislative implementation rules.
 - Begin 4-Year statutory rule review.
 - Begin review of Trustee External Communication Policy.
- **Audit Committee Meeting**
 - Report on the Post Payment Audit.

2014 Board Agendas

June 5-6, 2014 Major items include (2 Day Quarterly Meeting):

- Report on Q1 Earnings.
- Strategic Asset Allocation Update.
- Legislative Appropriations Request Update.
- TRS-Care and TRS-ActiveCare Rates and Plan Design Adoption.
- Health Benefits Study Update.
- Actuarial Audit Procurement.
- SPN Update.

Committees

- **Budget Committee Meeting**
 - FY 2015 Operating Budget (Discuss only – adopt in July).
- **Investment Management Committee Meeting**
 - Private Equity Review.
 - Real Assets Review.
 - Energy and Natural Resources Portfolio.
- **Risk Management Committee Meeting**
 - Enterprise Risk Management Update.
- **Policy Committee Meeting**
 - Continue 4-Year statutory rule review.
 - Begin review of Authority to Approve Benefit and Refund Payments Policy.
- **Benefits Committee Meeting**
 - Recommend adoption of TRS-Care and TRS-ActiveCare Rates and Plan Design.
- **Audit Committee Meeting**
 - TRS-ActiveCare Audit from Sagebrush
 - Quarterly Investments Testing (External Public Markets and Hedge Funds)

2014 Board Agendas

July 11, 2014 Major items include (1 Day Off-Quarter Meeting):

- Space Planning Options Presentation.
- Legislative Appropriations Request.
- Adopt TRS FY 2015 Operating Budget.
- TEAM.
- Executive Evaluations.

Committees

- **Budget Committee Meeting**
 - Recommend adoption of FY 2015 Operating Budget
- **Audit Committee Meeting**
 - Evaluate the Chief Audit Executive.

2014 Board Agendas

September 18-19, 2014 Major items include (2 Day Quarterly Meeting):

- Report on Q2 Earnings.
- Board Committees and Committee Chairs.
- Board Meeting Dates for CY 2015.
- Adopt the Investment Policy Statement Amendments, Including SAA Amendments.
- SPN Update.

Committees

- **Investment Management Committee Meeting**
 - External Public Markets Portfolio.
 - SPN
- **Risk Management Committee Meeting**
 - Bi-Annual Risk Report.
- **Policy Committee Meeting**
 - Investment Policy Statement Amendments, Including SAA Amendments.
 - Begin Review of Performance Incentive Pay Plan.
 - Begin Review of the Board of Trustee Bylaws.
 - Finalize the 4-year Statutory Rule Review
- **Audit Committee Meeting**
 - Adopt the Annual Audit Plan.

2014 Board Agendas

October 17, 2014 Major items include (1 Day Off-Quarter Meeting):

- No Committees.
- Legislative Preparation Update.
- TEAM Update.

November 20-21, 2014 Major items include (2 Day Quarterly Meeting):

- Comprehensive Annual Financial Report (CAFR).
- Pension Fund Valuation.
- TRS-Care Valuation (Other Post Employment Benefits – OPEB) Valuation.
- TRS-ActiveCare Benefits Briefing.

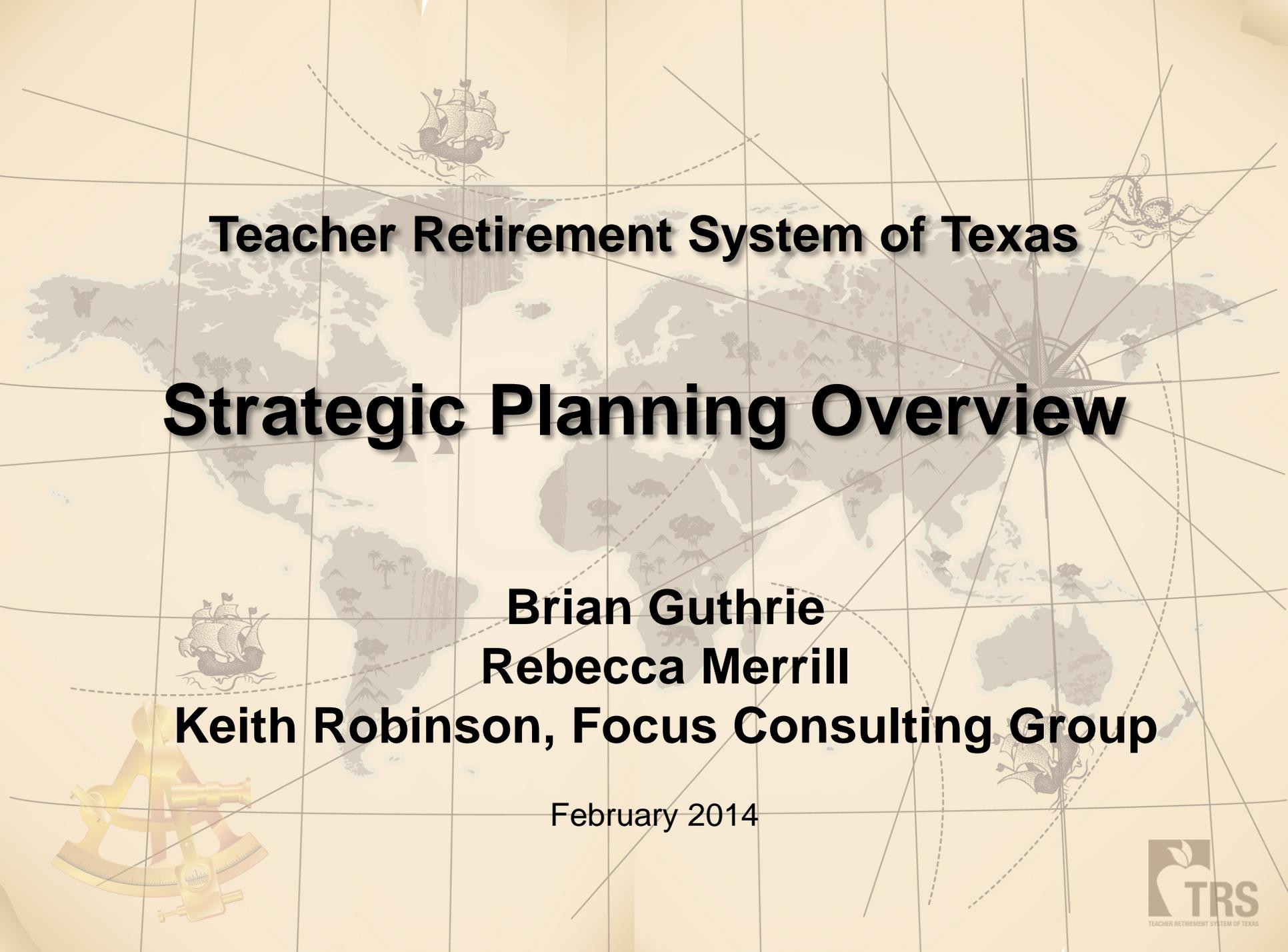
Committees

- **Investment Management Committee Meeting**
 - Strategic Asset Allocation Group Presentation.
 - Risk Group Presentation.
- **Risk Management Committee Meeting**
 - Enterprise Risk Management
- **Policy Committee Meeting**
 - Recommend Adoption of Trustee Bylaw Amendments, if any.
 - Recommend Adoption of Performance Incentive Pay Plan Amendments, if any.
- **Audit Committee Meeting**
 - Report on the CAFR Audit.

Board Training Calendar

| | | |
|---------|---------|--|
| March | 23 – 26 | TEXPERS Annual Conference – Fort Worth, TX |
| April | 22 – 23 | The 2014 Pension Bridge Annual – Four Seasons, San Francisco |
| | 23 – 24 | Introduction to Investments, Callan College, San Francisco, CA |
| July | TBD | NCTR Trustee Institute and Workshop, West Coast |
| August | 02 – 06 | National Association of Retirement Administrators, Asheville, NC |
| | 10 – 12 | TEXPERS Summer Education Forum – Houston, TX |
| Sept. | TBD | Hewitt EnnisKnupp Client Conference – Chicago |
| October | TBD | Public Pension Seminar–Pension Review Board Austin, TX |
| | 11 – 15 | NCTR Annual Convention, Indianapolis, IN |
| | 28 – 29 | Introduction to Investments, Callan College, San Francisco, CA |

Tab 12

The background features a stylized world map with a grid of latitude and longitude lines. Several sailing ships are depicted in various positions across the map, and a large compass rose is visible on the right side. The overall color scheme is a warm, golden-brown hue.

Teacher Retirement System of Texas

Strategic Planning Overview

Brian Guthrie
Rebecca Merrill

Keith Robinson, Focus Consulting Group

February 2014

Presentation Objectives

- Discuss the agency's strategic goals.
- Review the strategic planning background, structure, and process.
- Hear from Focus Consulting on goal development, the role of the strategic planning team, and key strategy questions.

Agency Strategic Goals

Brian Guthrie
Executive Director



TRS Mission

WHAT IS YOUR
MISSION?

TRS Mission

Improving the retirement security of Texas educators by prudently investing and managing trust assets and delivering benefits that make a positive difference in members' lives.

TRS Core Values



Customer Satisfaction

We focus on our customers, both external and internal, by ensuring that their needs are met and their expectations are exceeded.

Collaboration/Teamwork

We work together to achieve common goals through a diverse, yet unified team.

Accountability

We hold ourselves accountable and take responsibility for our actions, behavior and outcomes.

Respect

We treat each other with respect, fairness and kindness in constant pursuit of a trusting environment.

Ethics

We will be truthful and act with honesty and integrity in everything we do.

Excellence

We commit to demonstrating excellence in our work and look for ways to continuously improve.

Employee Fulfillment

We have a workplace where each employee has a strong sense of purpose, feels good about coming to work and is highly engaged.

Agency Strategic Goals

- Sustain a financially sound pension trust fund.
- Build and maintain strong, customer-focused relationships.
- Facilitate access to competitive, reliable health care benefits for our members.
- Attract, retain, and develop a highly competent staff.

Agency Strategic Goals

- TEAM is addressed under the goal “Build and maintain strong, customer-focused relationships.”
- Long-term space planning is a strategic issue for TRS. A Space Planning Workgroup has been established, and we are working through whether space planning is listed as a stand-alone goal in the Strategic Plan or whether it can reasonably fall under one of the other identified goals.

The background features a stylized world map with a grid of latitude and longitude lines. Several sailing ships are depicted on the map, along with a large compass rose on the right side. In the bottom left corner, there is a golden sextant. The overall color scheme is a warm, light beige.

Strategic Planning Background, Structure and Process

Rebecca Merrill
Director of Strategic Initiatives

Strategic Planning Background

- Under state law, TRS must prepare a strategic plan in advance of every legislative session.
- The Strategic Plan serves as a basis for the Legislative Appropriations Request (LAR) with the format and much of the content proscribed.
- This is an opportunity to make the Strategic Plan meaningful to TRS and use it as a guiding document that not only establishes goals but also provides stronger metrics to gauge success.

Strategic Planning Background

To prepare:

- Began identifying needed updates in the existing Strategic Plan;
- Created the Department of Strategic Initiatives (DSI) to align resources and raise the profile;

Strategic Planning Background Con't

- Created the Strategic Planning Team structure to involve all layers of TRS resources; and
- Engaged Focus Consulting Group to facilitate the process.

Strategy Team Structure



- Support Team consists of divisions that perform agency-wide functions (e.g. Human Resources, Legal, etc).
- Benefits Team consists of both Pension and Health Care Divisions.

Strategy Team Composition

Benefits Team

Team Lead – Edward Esquivel, Health Care
Kathy Mynar, Pension
Al Huebel, Pension

Support Team

Chet Henry, IT
Will Burgess, IT
Beckie Smith, Legal
Shunne Powell, HR
Christine Bailey, HR
Dan Herron, Comm
Merita Zoga, GR
Janie Duarte, Finance
Scot Leith, Finance

IMD Team

Team Lead – Mike Pia
Tommy Albright
Patrick Cosgrove
Lulu Llano
Mark Telschow

Strategy Team Charges

IMD + Support

- Sustain a financially sound pension trust fund.

Benefits + Support

- Facilitate access to competitive, reliable health care benefits for our members

IMD + Benefits + Support

- Build and maintain strong, customer-focused relationships.
- Attract, retain, and develop highly competent staff.

Strategic Planning Steps – Completed or Underway

Educate & begin
January 13

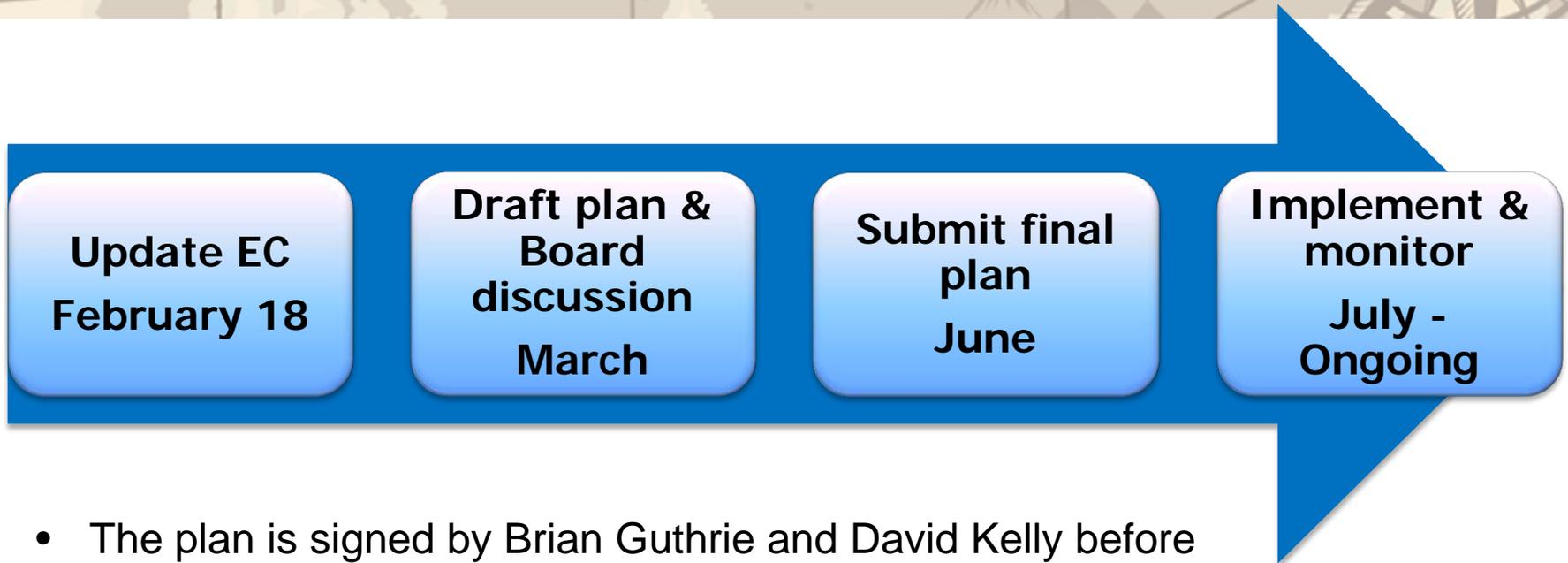
Align EC
January 16

Refined goals and delivered to teams
January 24

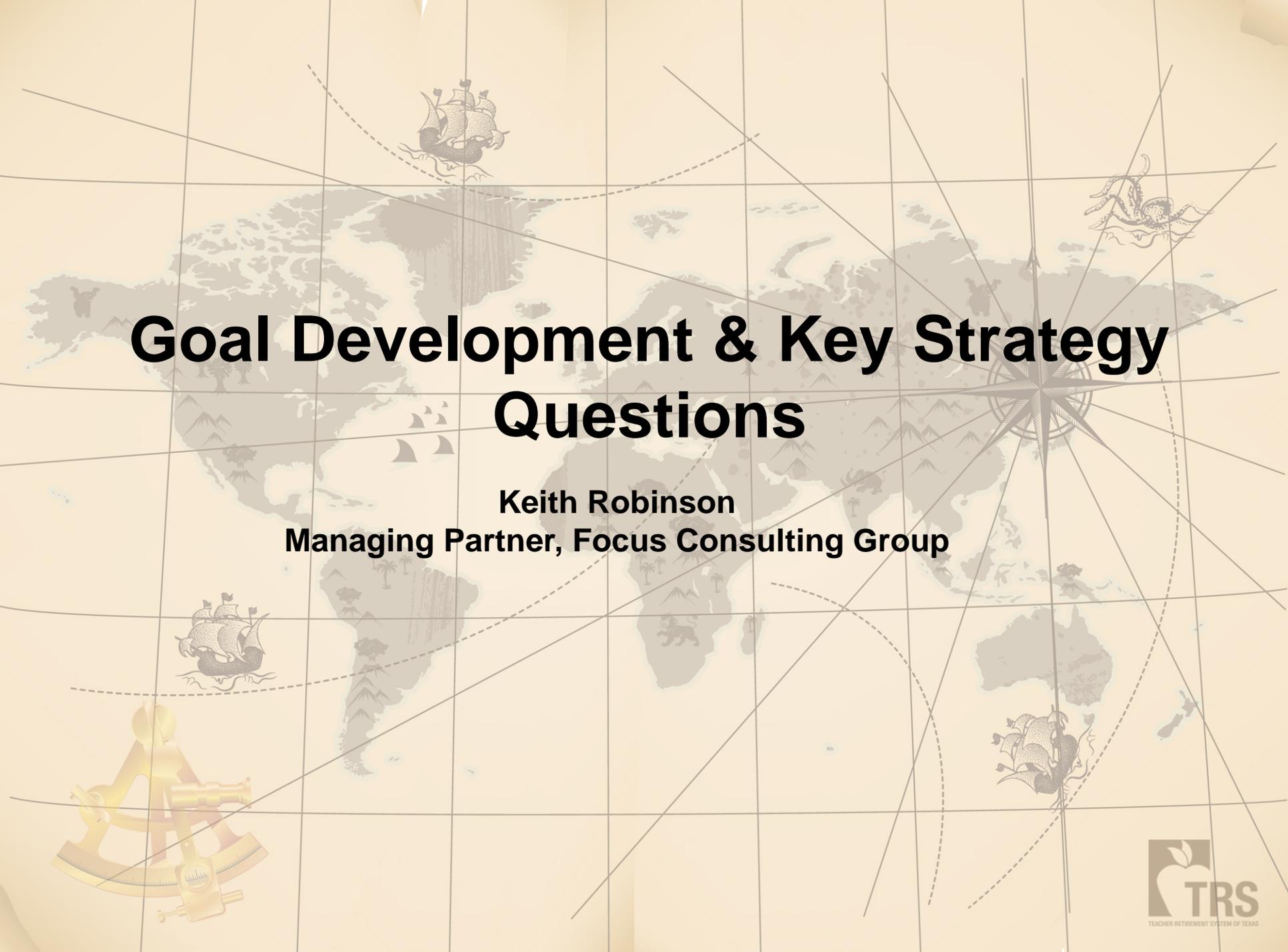
Strategy teams meet
January / February

- “Planning to plan” meeting with Focus, Division of Strategic Initiatives (DSI), and strategy team.
- EC Retreat to align on goals.
- Refining of goals and delivery to strategy teams.
- Strategy teams have begun their work.

Strategic Planning Steps – Next Steps



- The plan is signed by Brian Guthrie and David Kelly before submission.
- EC oversees implementation.
- DSI serves as the Executive Division's resource in goal implementation and monitoring.

The background features a stylized world map with a grid of latitude and longitude lines. Several navigation-related icons are scattered across the map: a sailing ship in the upper left, an octopus in the upper right, a compass rose on the right side, another sailing ship in the lower left, and a sextant in the bottom left corner. Dashed lines represent various paths or routes across the map.

Goal Development & Key Strategy Questions

Keith Robinson
Managing Partner, Focus Consulting Group

TRS Strategic Plan

Supports the Mission, Guided by the Values



Improving the retirement security of Texas educators by prudently investing and managing trust assets and delivering benefits that make a positive difference in members' lives.



Key strategy questions

1. What **purpose** is the plan designed to achieve? Are they clearly articulated in the form of vision, goals, objectives?
2. What are the **resources** (tangible, intangible, human) that will be allocated to achieve the plan's purpose?
3. Who is **accountable** for achieving each of the goals? What is the **time frame**?
4. What is the **budget** for the plan?
5. Are the firm's functions **aligned** or will they be pulling against each other?
6. Are **metrics** in place to monitor progress?
7. Is there a **project template** to ensure that all resource-consuming projects are meeting agreed-upon strategic criteria?
8. Have the appropriate **communication** vehicles been put in place?

Definition of Terms

| <u>Goal</u> | <u>Objective</u> | <u>Strategy</u> | <u>Tactic</u> |
|-------------|------------------|-----------------|---------------|
| What | What | How | How |
| General | Specific | General | Specific |

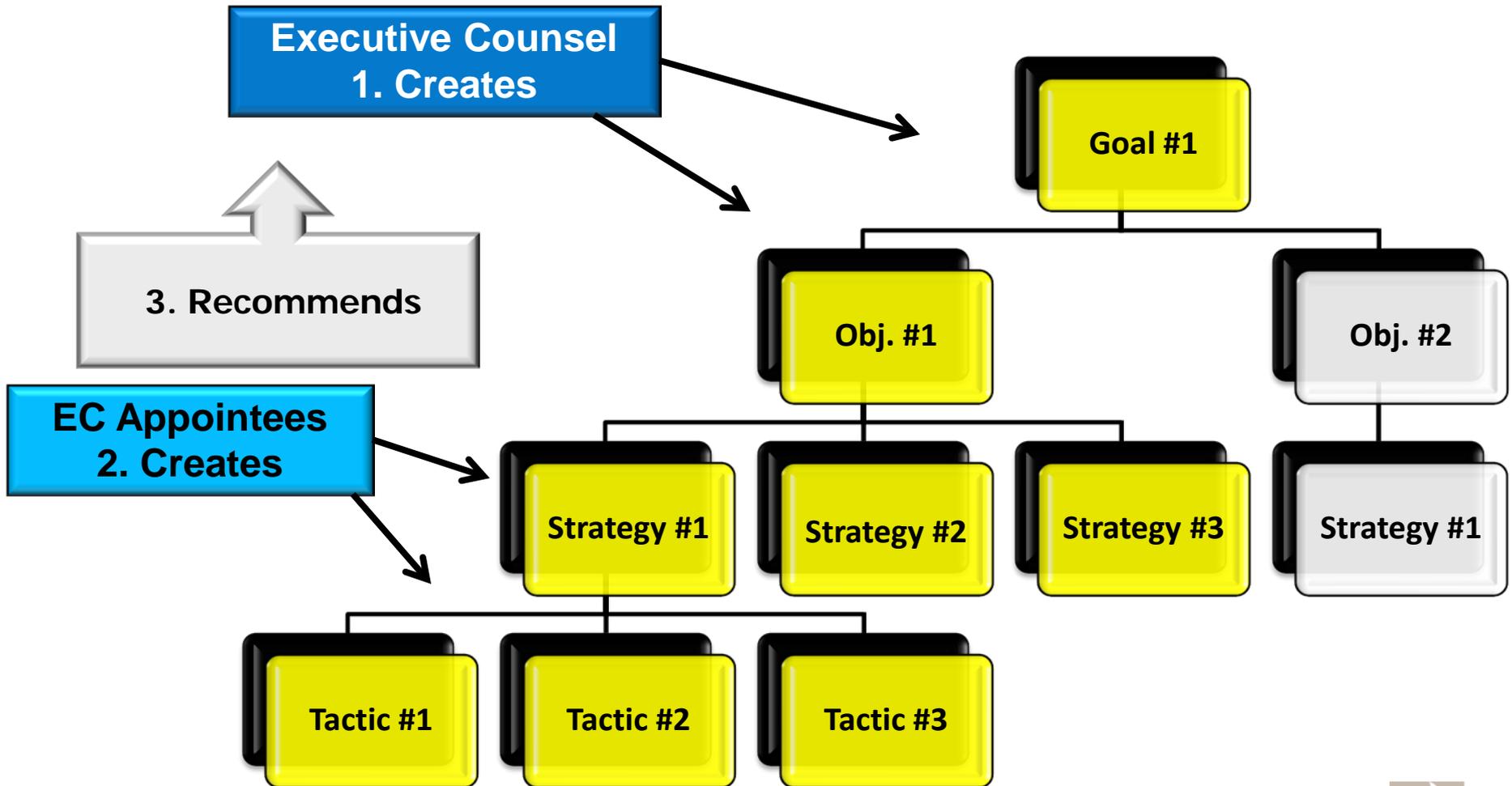
- **G**oal = General statement of desired outcome: “Weight loss”
- **O**bjective = Specific statement of desired outcome: “10 pounds”
- **S**trategy = General statement of HOW the goal will be achieved: “more exercise, healthier food choices”
- **T**actics = Specific statements of HOW the goal will be achieved: “join the health club, eliminate sugar and wheat from diet”

Definition of Terms

TRS Example: TEAM

| | |
|--------------------|---|
| <u>Goal</u> | Build and maintain strong, customer focused relationships |
| | <u>Objectives</u> |
| | O1 (out of 5): Implement modern pension and benefit information systems (TEAM) that allow TRS staff to serve our members and deliver accurate benefits effectively and timely by May 2017. |
| | <u>Strategies</u> |
| | S1 (out of 5): Research peer funds and identify solutions in the market. |
| | <u>Tactics</u> |
| | Develop and issue a Request for Offer (RFO) seeking partners to aid in the implementation of a modern pension framework by June, 2014 (Already Completed) |

G.O.S.T. Illustration and Focus



Focus Team

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(312) 371-4598

mfalk@focusCgroup.com

Keith Robinson
Exec Assessment Lead
312-560-7216

krobinson@focusCgroup.com

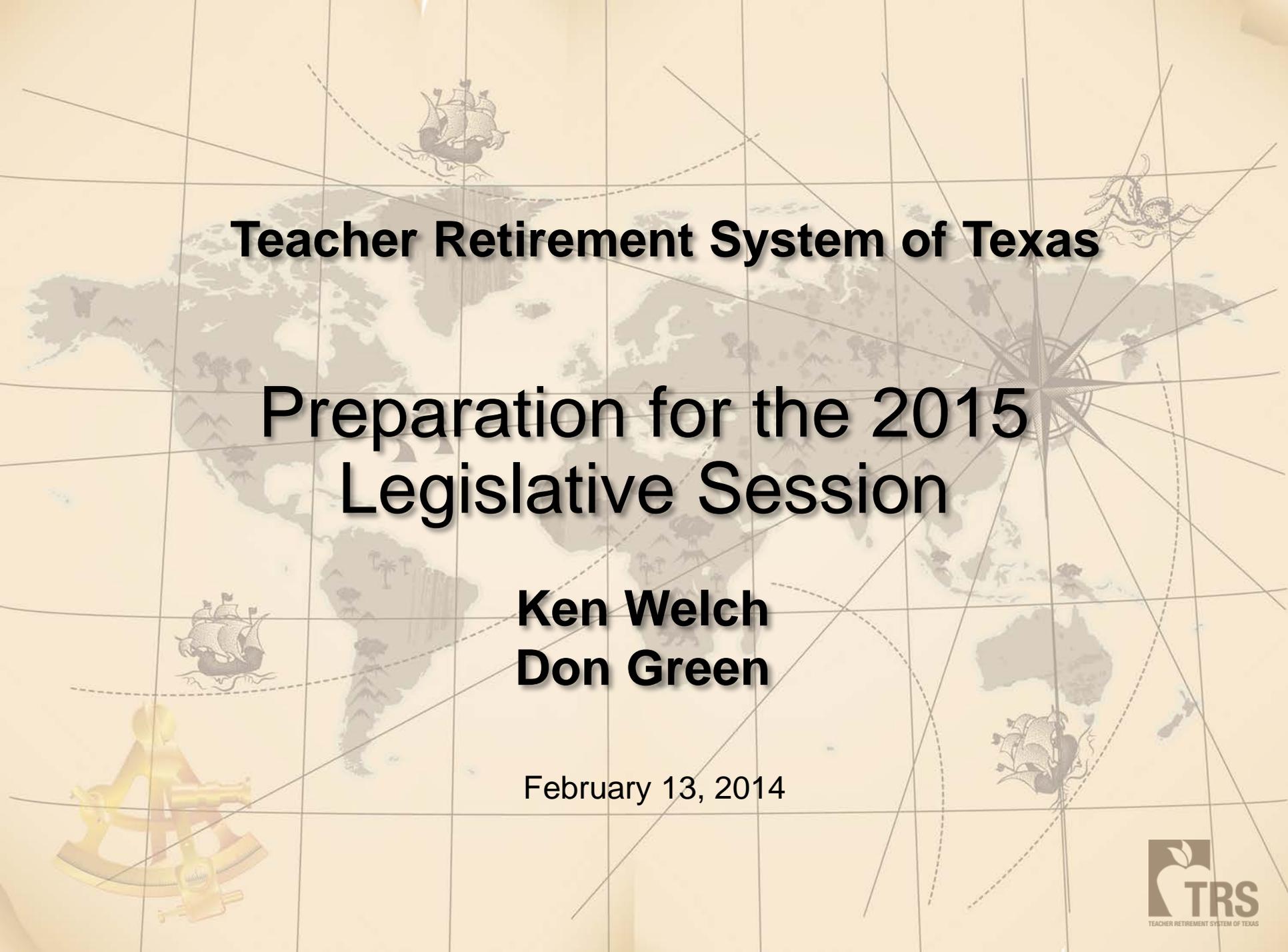
Liz Severyns
Survey Lead
(847) 989-5699

lseveryns@focusCgroup.com

Jim Ware, CFA
Founder
847-373-8853

jware@focusCgroup.com

Tab 13

The background features a stylized world map with a grid of latitude and longitude lines. Several sailing ships are depicted in various positions across the map, and a large compass rose is visible on the right side. The overall color scheme is a warm, light beige.

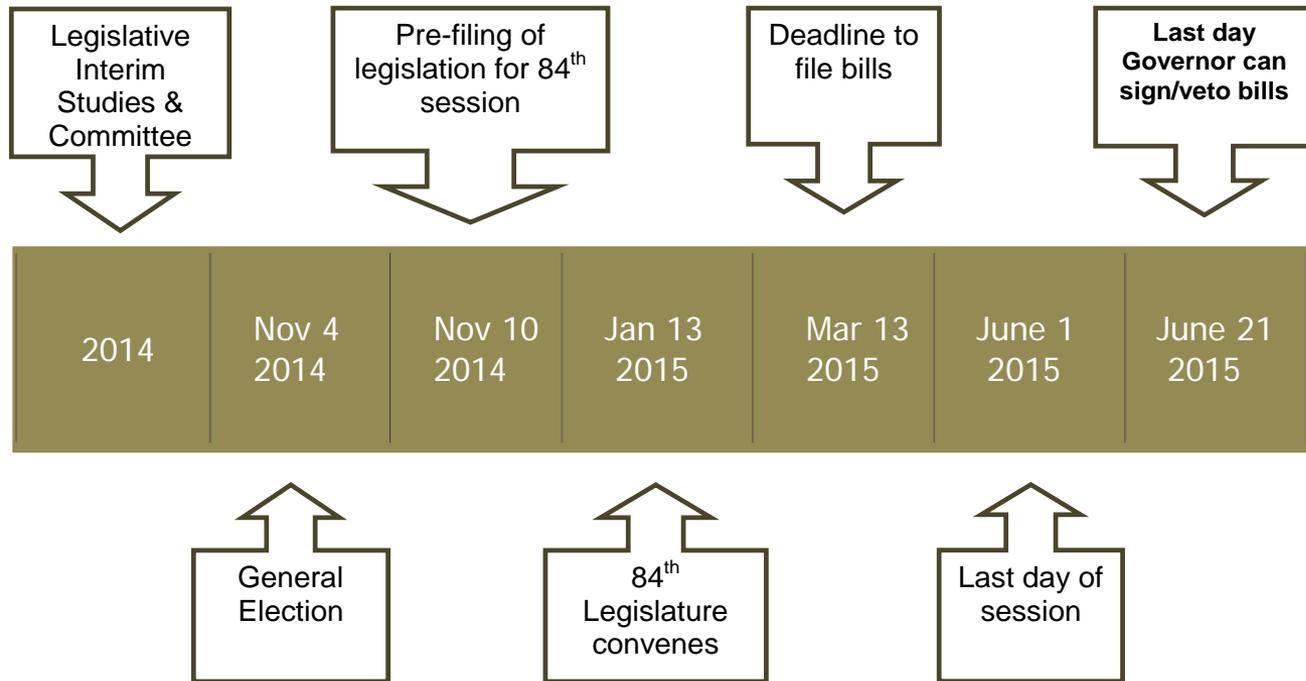
Teacher Retirement System of Texas

Preparation for the 2015 Legislative Session

**Ken Welch
Don Green**

February 13, 2014

Legislative Timeline



Senate Confirmation of New TRS Trustees

The appointments process requires that the nomination of a person by the Governor be confirmed by the Texas Senate. The Senate Nominations Committee will decide during legislative session if testimony is required of the nominee and vote to place nominees before the full Senate for final confirmation.

What's Next

- The Speaker of the Texas House of Representatives issued interim charges for standing committees. The charges highlight some of the issues that the Texas House will study and prepare for the 2015 legislative session.
- The House Committee on Appropriations & House Committee on Pensions will create a joint committee to:
 - Study the affordability of health care for active public school employees. Examine how premiums and out-of-pocket costs have increased over time and how these increases have affected employees and school districts, and make appropriate recommendations.
 - Examine the immediate and long-term fiscal impact of the Teacher Retirement System (TRS) health care plan (TRS-Care).

What's Next

- The House Committee on Pensions will separately:
 - Examine the new reporting requirements proposed by the Governmental Accounting Standards Board (GASB).
 - Conduct legislative oversight and monitoring of the agencies and programs under the committee's jurisdiction and the implementation of relevant legislation passed by the 83rd Legislature. In conducting this oversight, the committee should:
 - a. consider any reforms to state agencies to make them more responsive to Texas taxpayers and citizens;
 - b. identify issues regarding the agency or its governance that may be appropriate to investigate, improve, remedy, or eliminate;
 - c. determine whether an agency is operating in a transparent and efficient manner; and
 - d. identify opportunities to streamline programs and services while maintaining the mission of the agency and its programs.

What's Next

- New state leadership for 2015 Legislature.
- The statewide elected officials terms expire in 2014.
- Many are not seeking re-election or are seeking another office.

| Office | Open/Incumbent Challenge |
|--------------------------|--------------------------|
| Governor | Open Seat |
| Lieutenant Governor | Incumbent Challenge |
| Attorney General | Open Seat |
| Comptroller | Open Seat |
| Land Commissioner | Open Seat |
| Agriculture Commissioner | Open Seat |

Texas Budgeting Timeline

Even Year; 2014

- February/Mar Strategic Planning Instructions to Agencies
- Mar – May Negotiate Structure and Measure Changes
- May Biennial Budget Request Instructions sent
- June / July Agencies Submit Strategic Plans
- July / August Agencies Submit Budget Requests (LARs)
- August / Sept GOBPP/LBB Joint Budget Hearings
- November LBB meets to adopt a spending limit
- Sept – Dec LBB and GOBPP Budget Preparations

Texas Budgeting Timeline

Odd Year; 2015

- January LBB submits budget estimates to 84th Leg
- January Comptroller releases Biennial Revenue Estimate
- Jan/Feb Governor delivers budget by State of the State
- Jan - May Legislature adopts appropriations bill
- June Comptroller certifies appropriations bill
- June Governor signs bill with line item vetoes
- Summer/Fall Agencies develop Budgets for FY 2016

The Budget Players

■ Legislative Budget Board

- Adopts a constitutional spending limit
- Prepares a general appropriations bill
- Prepares agency performance reports
- Prepares, fiscal notes identifying the probable costs of proposed legislation and impact statements

■ Comptroller of Public Accounts

- Submits the *Biennial Revenue Estimate* (BRE)
- Certifies the appropriations bill by determining whether anticipated revenue will be sufficient to cover appropriations
- Collects state taxes, tracks revenue and spending funds

The Budget Players

- **Office of the Governor**
 - Involved in the process beginning with strategic planning and ending with budget execution; provides overall direction
 - Has line-item veto power

- **State Auditor's Office**
 - Serves as independent auditor of state agencies, including institutions of higher education
 - Audits the accuracy of reported performance measures and assesses the related internal controls

- **House Appropriations Committee (HAC) and Senate Finance Committee (SFC)**
 - Has jurisdiction over all bills and resolutions appropriating money from the state treasury

Constitutional Spending Limits

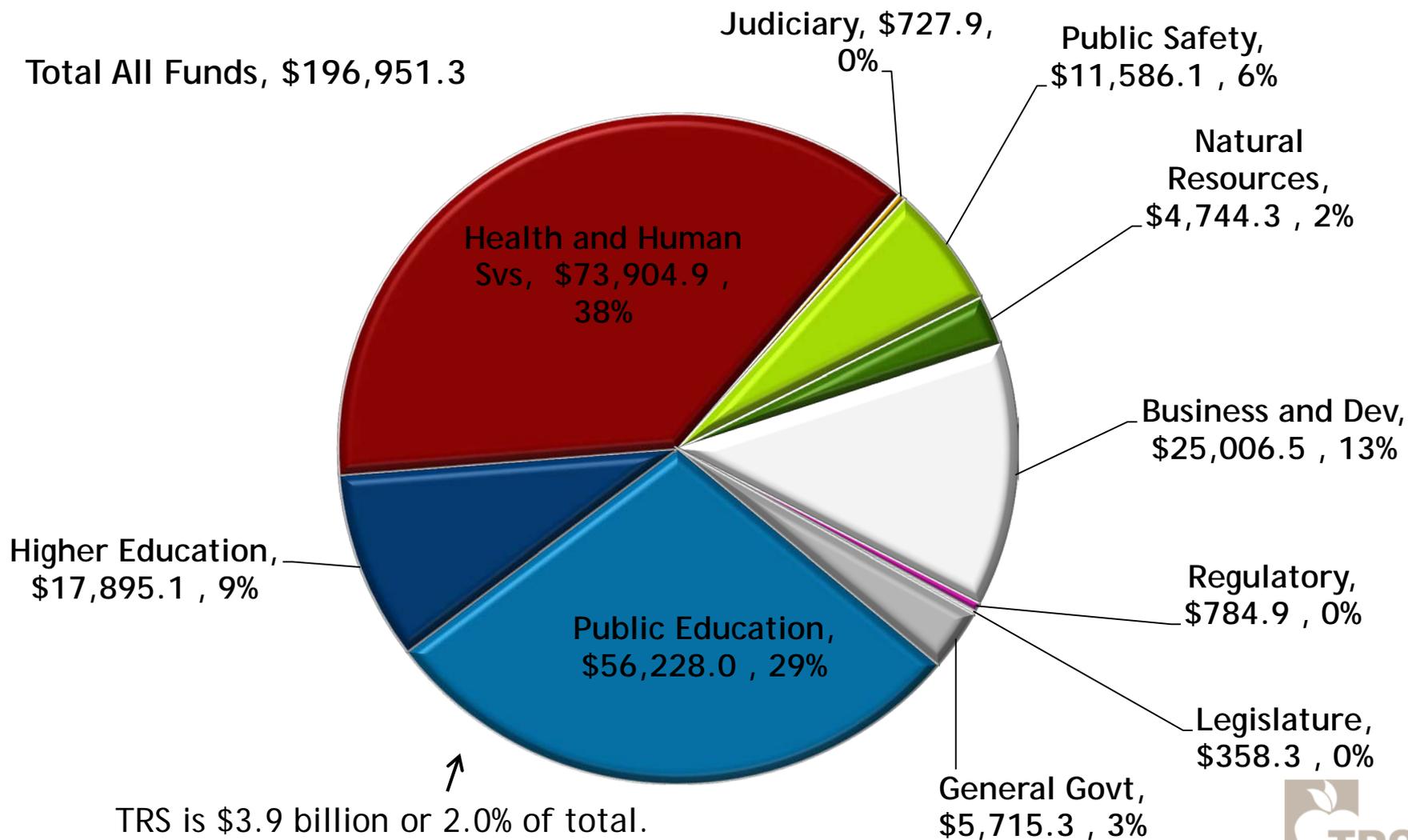
- **Pay-As-You-Go Limit**: Requires bills making appropriations be sent to the Comptroller of Public Accounts (CPA) for certification
- **Limitation on the Growth of Certain Appropriations**: Limits the biennial growth of appropriations from state tax revenue not dedicated by the Constitution to the estimated rate of growth of the state's economy (10.71%)
- **Welfare Spending Limit**: Provides the amount that may be paid out of state funds for assistance grants not exceed 1 percent of the state budget in any biennium
- **Debt Limit**: Limits the authorization of additional state debt, if in any fiscal year, the resulting annual debt service payable from unrestricted GR exceeds 5 percent of the average annual unrestricted GR funds for the previous three years

State Revenue Sources

- **Total state revenue for FY14-15 is \$196,951.3 million.**
 - Federal revenue is \$68,706.8 million or 35%.
 - General revenue and general revenue dedicated is \$101,419.9 million or 51%.
 - Other funds are \$26,824.6 million or 14%. Other funds include property tax relief fund, bond proceeds, highway funds, etc.

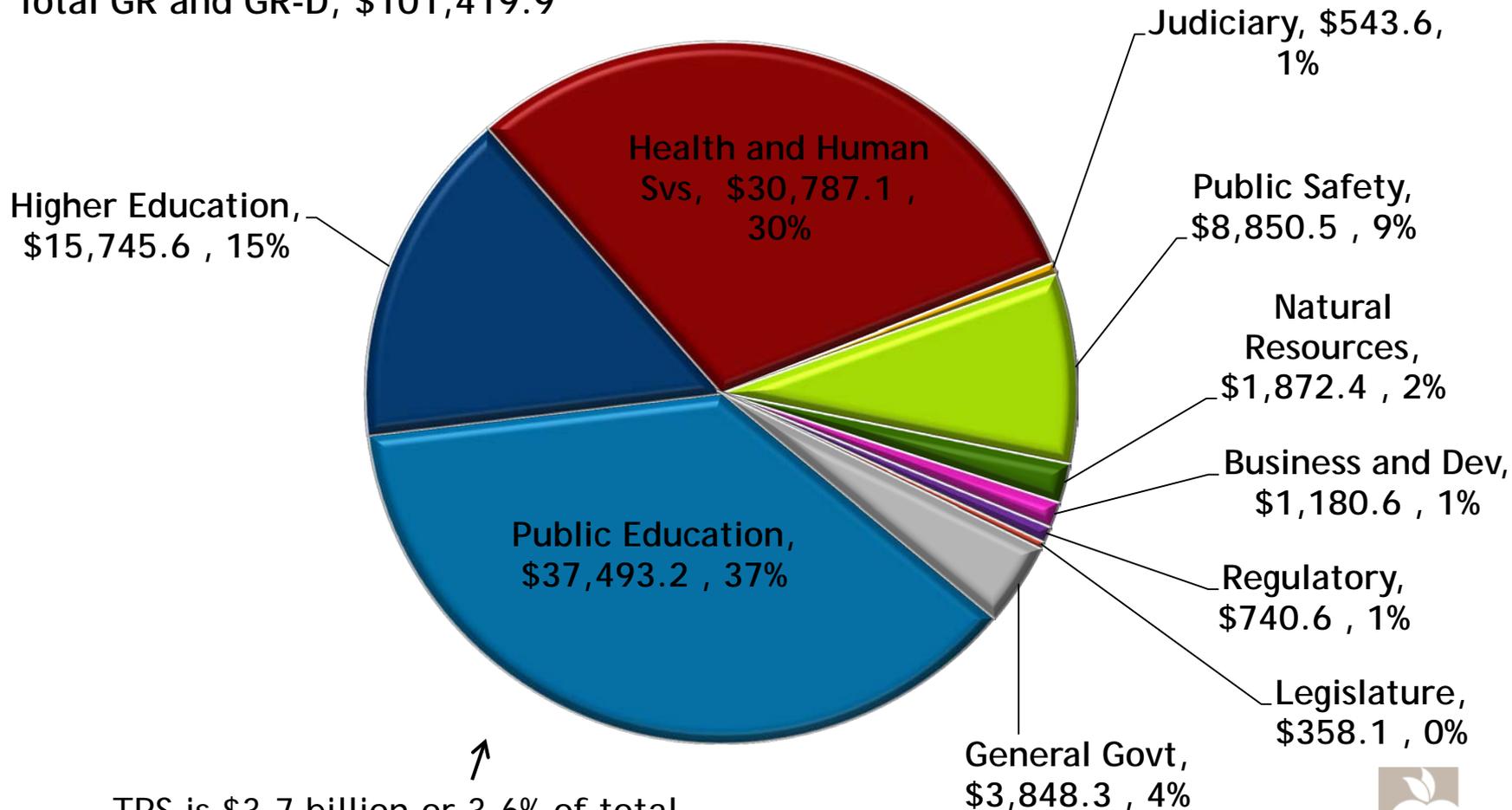
- **Taxes of \$96.9 billion include:**
 - \$62.1 billion in sales tax (64% of total)
 - \$7.4 billion in rental and fuel taxes
 - \$9.5 billion in franchise taxes
 - \$7.1 billion in natural gas and oil production taxes
 - \$10.8 billion in other taxes (sin, hotel and insurance)

FY 2014-15 Biennial Appropriations (\$ Millions)



FY 2014-15 Biennial Appropriations (\$ Millions)

Total GR and GR-D, \$101,419.9



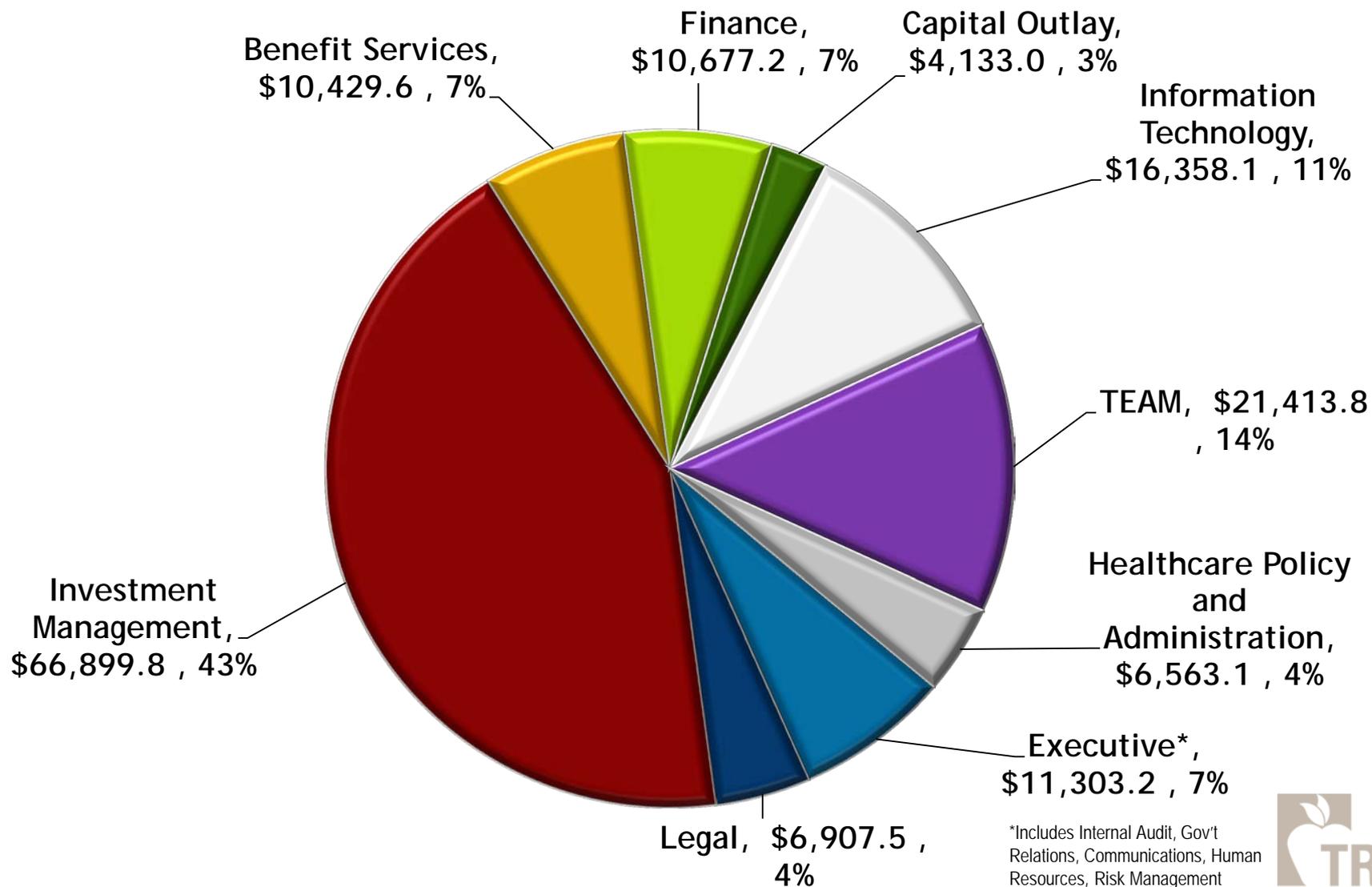
↑
TRS is \$3.7 billion or 3.6% of total.



TRS FY 2014 Approved Budget

| | Appropriated Funds | | Non Appropriated Funds | | | Totals |
|-----------------|--------------------|-------------------|------------------------|------------------|------------------|--------------------|
| | Admin Ops | TEAM | Soft Dollar | TRS Care | Active Care | |
| Personnel | 54,613,098 | 2,661,786 | | 2,760,469 | 1,580,313 | 61,615,666 |
| Incentive Comp | 9,350,000 | | | | | 9,350,000 |
| Prof Fees | 7,126,714 | 13,302,000 | 4,008,864 | 1,061,750 | 773,000 | 26,272,328 |
| Supplies | 513,210 | | | 5,200 | 3,000 | 521,410 |
| Utilities | 1,074,955 | | | 5,200 | 1,500 | 1,081,655 |
| Rentals | 2,380,031 | | 42,000 | 82,511 | 62,245 | 2,566,787 |
| Travel | 1,405,028 | 25,000 | | 11,955 | 8,350 | 1,450,333 |
| Capital | 6,123,984 | 875,000 | | | | 6,998,984 |
| Other Operating | 11,035,896 | 4,550,000 | 29,034,631 | 182,645 | 24,900 | 44,828,072 |
| Totals | 93,622,916 | 21,413,786 | 33,085,494 | 4,109,730 | 2,453,308 | 154,685,235 |

FY 2014 Budget by Division (\$ Thousands)



Legislative Planning Timeline

2014

- February 12-14 Board review of LAR components and 2016-17 drivers
- March Staff begins preparing draft of 2015-2019 Strategic Plan
- June Board receives 2015-19 Strategic Plan;
Budget Committee meets to review budget planning
- July Board approves 2016-17 LAR
Board approves 2015 Administrative Operations Budget
- August TRS submits 2016-17 LAR
GOBPP/LBB Budget Hearings
- November Pre-filing of legislation begins

2015

- January 84th Legislative Session begins

TRS LAR Components

- **Assumptions on covered payroll growth**

Using historical trending with assumptions for future growth, appropriations for 2014-15 were based on net zero growth in covered payroll. Those assumptions will change for 2016-17.

- **Assumptions on member contribution rate**

Statutory member contribution rates: 6.7% in FY 15; 7.2% in FY 16, and 7.7% in FY 17.

- **Assumptions on state contribution rate**

Pension fund will be 6.8% (each 0.1% costs ~\$35 million)

TRS Care will be 1.0%

Local contribution will be 1.5%

TRS LAR Components (continued)

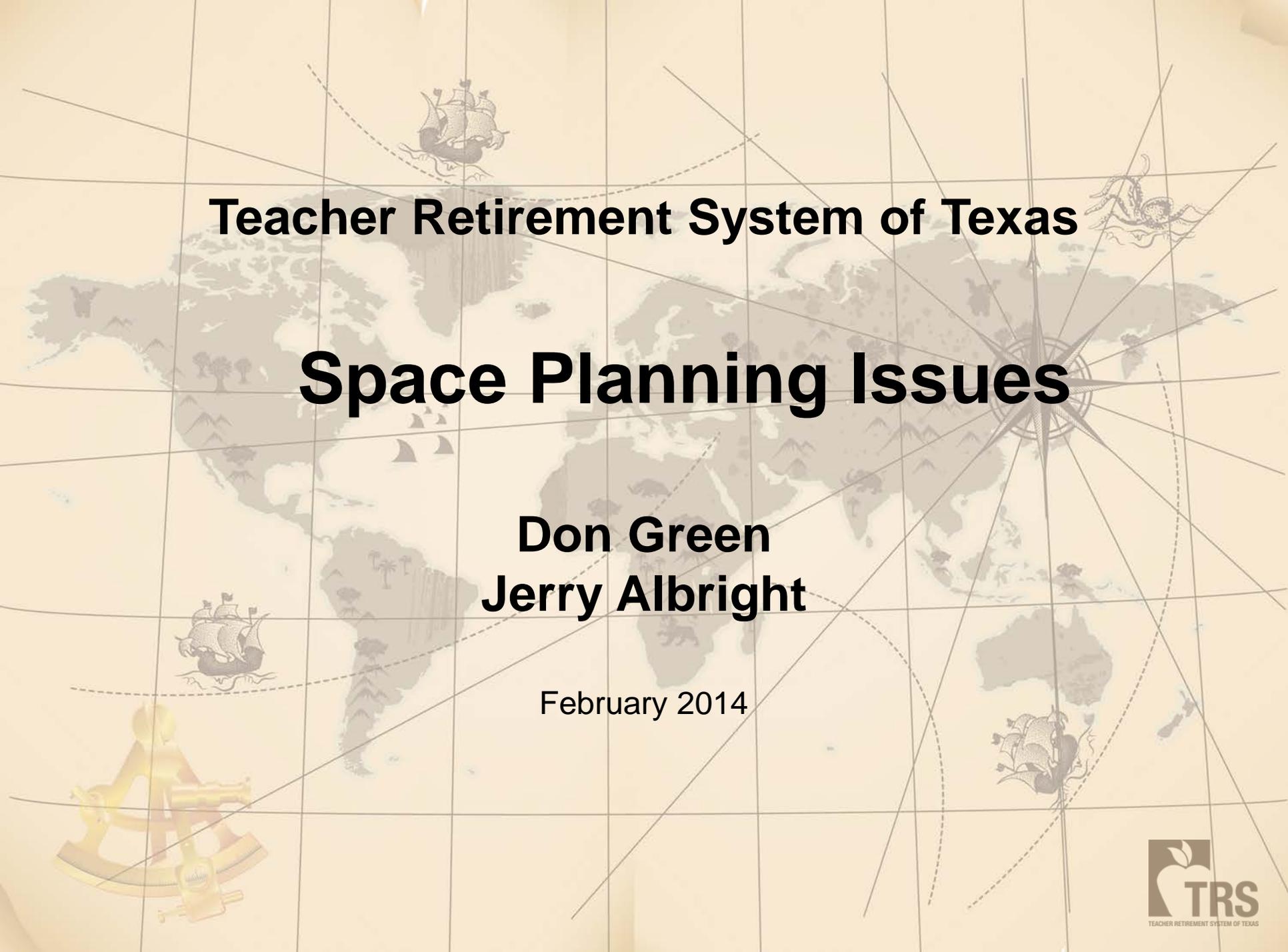
- **Rider additions and/or deletions**
- **Performance measure changes**
- **Pension Trust Fund Administrative Operations**
 - Appropriated by the legislature and funded by the trust
 - Full Time Equivalents (FTEs) appropriation
 - Balance oversight with operational flexibility
- **TEAM**
 - Requesting base amount to continue with Unexpended Balances (UB) Authority from FY 2014-15; third installment of plan

2016-2017 LAR Issues

- **TRS Care Funding**
 - Base request will include assumed 1.0% state contribution rate.
 - Exceptional item will be for additional funding needed to achieve solvency for 2016-17 biennium.
 - Other options to address TRS-Care could be considered in separate legislation, but the LAR must assume current law.

- **Soft Dollar Migration to Hard Dollar Budget**

Tab 14

The background features a stylized world map with a grid of latitude and longitude lines. Overlaid on the map are several navigation-related icons: a sailing ship in the upper left, a compass rose on the right, another sailing ship in the lower left, and a sextant in the bottom left corner. Dashed lines represent various navigational paths across the map.

Teacher Retirement System of Texas

Space Planning Issues

Don Green
Jerry Albright

February 2014

History

| | | |
|------|--|----------------------------------|
| 1937 | ▪ Leased first office at the Labor Temple Building | 200 E 10 th Street |
| 1939 | ▪ Moved to 3,200 square feet of leased space | 608 Lavaca |
| 1946 | ▪ Relocated to the Tribune Building | 10 th and Colorado |
| 1954 | ▪ Moved to the First Federal S&L Building | 11 th and San Jacinto |
| 1959 | ▪ Relocated to Sam Houston Building | 14 th and San Jacinto |
| 1964 | ▪ Moved to the Lowich Building | 314 W 11 th Street |
| 1965 | ▪ A constitutional amendment gave TRS the authority to build headquarters. | |

History

| | |
|------|--|
| 1974 | <ul style="list-style-type: none">▪ West Building construction was completed.<ul style="list-style-type: none">• It has a gross area of 80,384 square feet. |
| 1988 | <ul style="list-style-type: none">▪ West Building central plant was completed.<ul style="list-style-type: none">• The 5th floor mechanical room houses the central plant.• It is equipped to provide heating, ventilating, and air conditioning for the East and West buildings. |
| 1990 | <ul style="list-style-type: none">▪ East Building construction was completed.<ul style="list-style-type: none">• It has a gross area of 137,592 square feet.• It has five level of underground parking with a gross area of 141,912 square feet and 329 spaces.• Surface parking provides an additional 160 spaces.▪ West Building remodel was completed. |
| 2009 | <ul style="list-style-type: none">▪ Investment Management Division leased 47,034 square feet at 816 Congress Avenue. |

Major Repairs and Renovations

| | |
|------|--|
| 2001 | <ul style="list-style-type: none">▪ The water cooling tower was replaced<ul style="list-style-type: none">• The water cooling tower pre-cools water for the air conditioning system. |
| 2005 | <ul style="list-style-type: none">▪ The roof was replaced<ul style="list-style-type: none">• Roof is under warranty until 2025 |
| 2006 | <ul style="list-style-type: none">▪ Caulking and waterproofing project was completed.<ul style="list-style-type: none">• Only above ground water proofing was included in this project. |
| 2007 | <ul style="list-style-type: none">▪ West Building air handlers were replaced.<ul style="list-style-type: none">• Only major floor air handlers were included in this project.• No upgrades were made to the data center air handling equipment. |
| 2008 | <ul style="list-style-type: none">▪ Building Automation System (BAS) project was completed.<ul style="list-style-type: none">• No automation of Data Center HVAC equipment was done under this project.• An estimated 15% energy reduction was achieved after the BAS project. |
| 2011 | <ul style="list-style-type: none">▪ Elevators were modernized.▪ Security systems were upgraded and modernized. |
| 2012 | <ul style="list-style-type: none">▪ HAVC Retrofit Project.<ul style="list-style-type: none">• Replace HAVC system components with fully automated, high-efficiency components.• Automate Data Center HVAC equipment.• Install an emergency power generator for the Data Center and the Data Center HVAC equipment. |

Anticipated Future Needs

| | |
|-------------|--|
| 2014 - 2015 | <ul style="list-style-type: none">▪ Replace East Building air handlers.▪ Correct air pressure imbalance in West Building stairwells.▪ Replace kitchen vent hood fire suppression system |
| 2016 - 2017 | <ul style="list-style-type: none">▪ Replace the East Building garage sump pump system.▪ Replace East Building garage fire sprinkler piping.▪ Replace electrical switch gear.▪ Retrofit East Building water supply |
| 2018 - 2019 | <ul style="list-style-type: none">▪ Repair spalling and waterproof building exterior concrete.▪ Repair East Building garage underground waterproofing. |
| 2020 - 2021 | <ul style="list-style-type: none">▪ Renew interiors. |

Assessment

A space assessment completed by the Texas Facilities Commission in July 2011 concluded:

- TRS should develop short- and long-range facility planning strategies.
- The Red River campus interior architecture and infrastructure systems are obsolete and grossly inefficient.
- An analysis should be conducted to determine the costs and benefits of several options to accommodate TRS administrative space needs:
 - Current status.
 - Remodel the Red River campus.
 - Demolish the Red River campus and build a new facility on the site.
 - Purchase a new building and sell the Red River campus.
 - Build on another site and sell the Red River campus.

Phase I: Initiate

Phase II: Strategy Development

Phase III: Business Case Development

Research

Establish internal Core Team with members of all affected areas

Select Professional Services firm to assist TRS in space plan development

Collect data regarding members and TRS workforce

Communicate plan and strategy to TRS workforce and obtain input

BOARD FEBRUARY 12 - 13, 2014

Determine Occupancy Requirements

Review organization, vision, and leadership structure

Understand current space needs and planning directives

Evaluate workplace efficiencies

Interview appropriate executives/managers to identify what is and is not working

Understand technical requirements

Understand member requirements/needs

Understand current and future workforce impact

Owned/Leased Asset Review

Tour existing owned/leased location to understand and evaluate:
-operations,
-parking and
-maintenance

Perform valuation exercise for existing buildings and land

Understand and evaluate building retrofit costs or lease costs

Perform a space planning and utilization analysis

Establish and prioritize project evaluation criteria

BOARD MARCH 27 - 28, 2014

Commence Strategic Plan Development

Identify space saving opportunities if space were configured (in owned asset or as part of consolidated strategy)

Determine adjacency priorities based on business work flow

Consider baseline occupancy, alternate occupancy options and summary of possible scenarios

Identify schedule and risk issues associated with all scenarios that are modeled including impact on major projects

Identify and evaluate financial and non-financial trade-offs, findings, conclusions & recommendations

Communicate plan to TRS workforce

Prepare recommendations for Board consideration

Understand any regulatory issues that affect space planning

Develop budget and timeline for each scenario for Board consideration

Consider environmental and energy efficiency designs including power redundancy

BOARD DECISION JULY 11, 2014

42 days

104 days

Major Goals

Establish team and communication

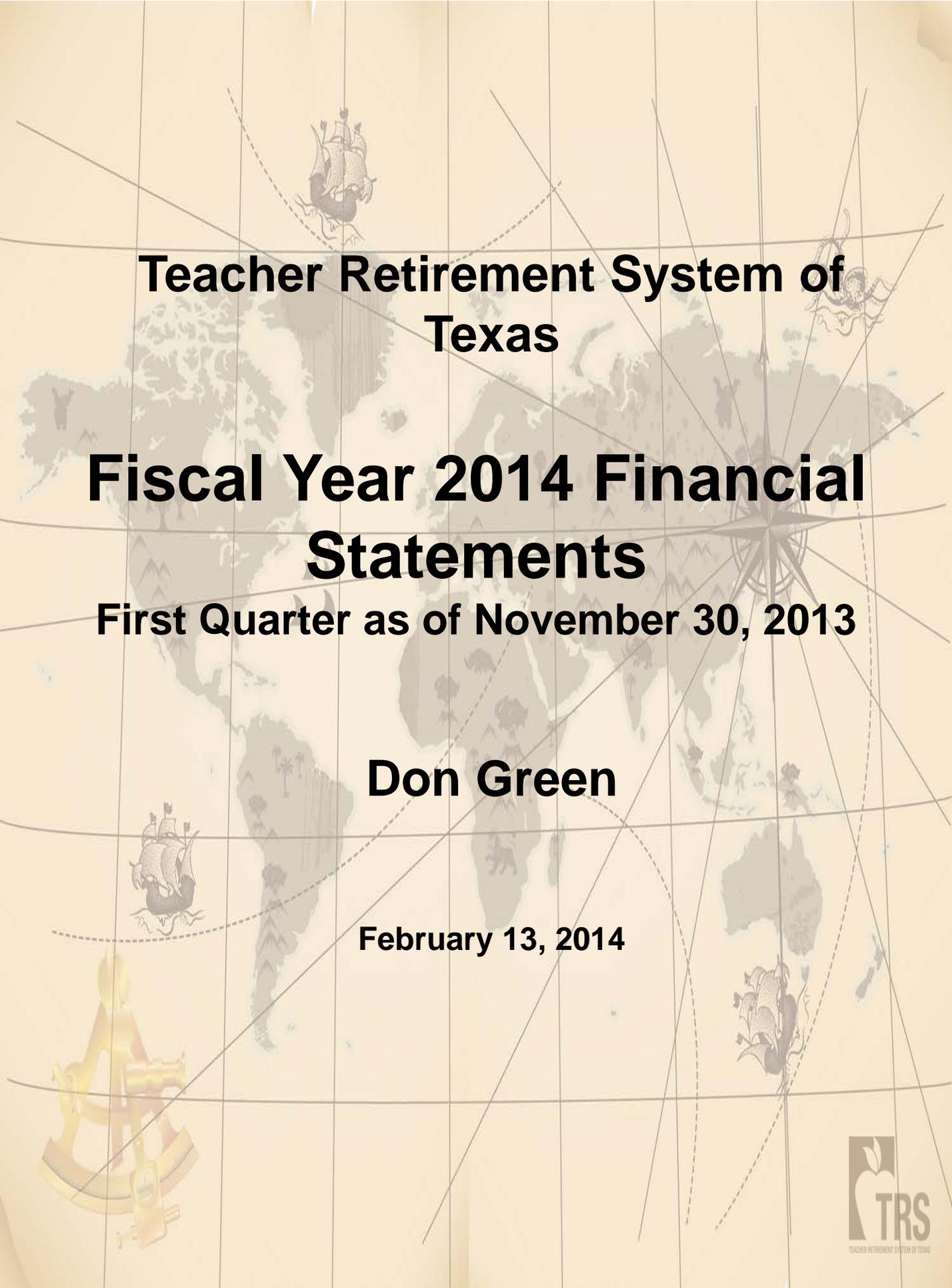
Major Goals

Understand current situation and space utilization
Understand value/constraints with existing site
Identify areas of opportunity for operational improvement
Identify financial data required for analysis
Create plan that **addresses issues**

Major Goals

Understand comparative occupancy **costs** for different scenarios
Understand schedule and risk issues
Identify market dynamics that will impact selected scenarios
Create "go forward" strategy

Tab 15



**Teacher Retirement System of
Texas**

**Fiscal Year 2014 Financial
Statements**

First Quarter as of November 30, 2013

Don Green

February 13, 2014

Financial Statements

First Quarter – FY 2014

November and December 2013 Cash Disbursements Pension Trust Fund

To: TRS Board of Trustees
Brian Guthrie, Executive Director
Ken Welch, Deputy Director

From: Don Green, Chief Financial Officer

Date: February 13, 2014

Section 825.314(b) of the Texas Government Code requires the staff of the retirement system to report to the board at each board meeting the amounts and uses since the preceding board meeting of any money expended by the system from the Pension Trust Fund along with an explanation of why the amounts were needed to perform the fiduciary duties of the board. The 83rd Texas State Legislature adopted provisions allowing operating expenses of the system to be paid out of the Pension Trust Fund. On June 14, 2013, the board approved the Administrative Operations budget for fiscal year 2014.

Total Administrative Expenses (excluding TEAM Program) of \$6.2 million were disbursed in November, 2013. *Salaries and Other Personnel Costs* were \$4.2 million, *Professional Fees* were \$404 thousand, and *Other Operating Expenses* were \$1.7 million. Items of interest include \$142 thousand for rent/lease/parking, \$590 thousand for insurance premiums, \$227 thousand in outside legal counsel, and \$414 thousand in postage.

Total Administrative Expenses (excluding TEAM Program) of \$5.8 million were disbursed in December, 2013. *Salaries and Other Personnel Costs* were \$4.2 million, *Professional Fees* were \$483 thousand, *Capital Projects* were \$70 thousand, and *Other Operating Expenses* were \$1.0 million. Items of interest include \$321 thousand for rent/lease/parking, \$247 thousand in outside legal counsel, and \$121 thousand in computer hardware maintenance.

TEAM Program Expenses of \$465 thousand were disbursed in November, 2013. *Salaries and Other Personnel Costs* were \$212 thousand, *Professional Fees* were \$201 thousand, and *Other Operating Expenses* were \$52 thousand.

TEAM Program Expenses of \$788 thousand were disbursed in December, 2013. *Salaries and Other Personnel Costs* were \$226 thousand, *Professional Fees* were \$504 thousand, and *Other Operating Expenses* were \$58 thousand.



Financial Statements

First Quarter – FY 2014

Pension Trust Fund

Cash Disbursements - FY 2014

YTD for the Month Ended December 31

| | <u>2013</u> | (b) | <u>2014</u> | |
|-----------|----------------------|-----|----------------------|-----|
| September | \$ 6,956,188 | | \$ 6,970,179 | |
| October | 7,527,488 | | 6,917,337 | |
| November | 7,342,717 | | 6,708,686 | |
| December | 5,384,514 | | 6,566,553 | |
| Totals | <u>\$ 27,210,907</u> | | <u>\$ 27,162,756</u> | (a) |

(a) Includes reimbursements of \$2,195.45

(b) Cash disbursements totaled \$82,959,217 at August 31, 2013

Financial Statements

First Quarter – FY 2014

Financial Report for the First Quarter Ended November 30, 2013 Pension Trust Fund

To: TRS Board of Trustees
Brian Guthrie, Executive Director
Ken Welch, Deputy Director

From: Don Green, Chief Financial Officer

Date: February 13, 2014

Net Position:

For the first quarter ended November 30, 2013, *Net Position* was \$123.7 billion, an increase of \$6.3 billion over the fiscal year beginning *Net Position* of \$117.4 billion. *Total Additions* excluding Net Appreciation in Fair Value of Investments were \$1.6 billion. Interest, dividend, and securities lending income totaled \$411 million. *Total Deductions* were \$2.3 billion including external manager fees of \$33.3 million. Benefit payments account for 92% of all deductions.

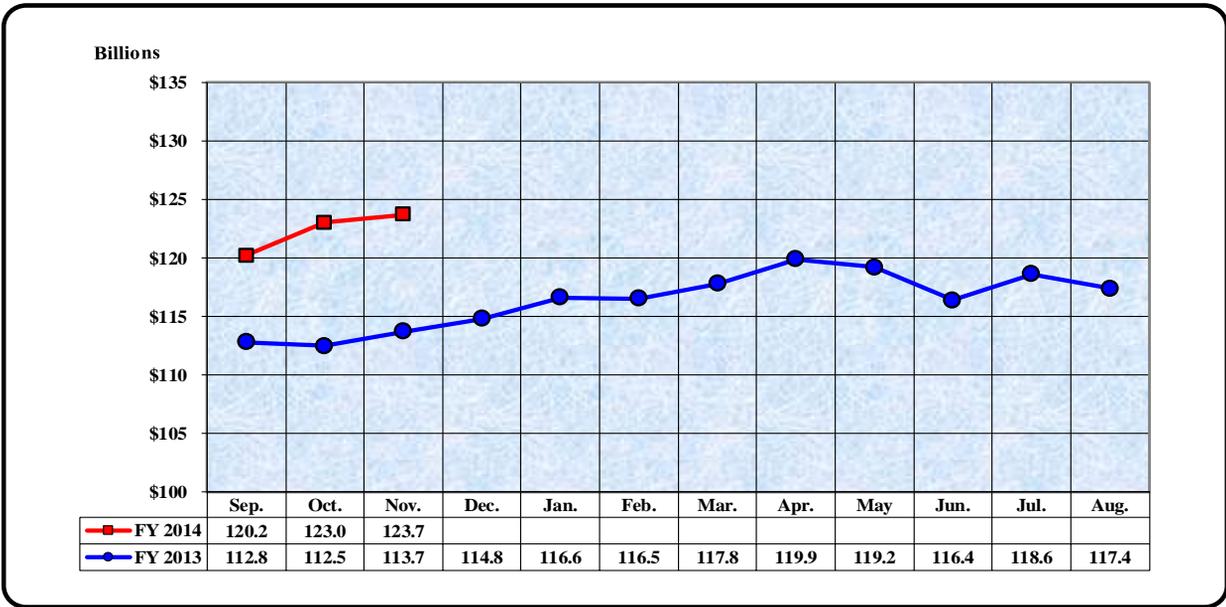
Administrative Operations:

Total Administrative Expenses were \$16.5 million of which \$5.3 million was for September, \$5.5 million for October, and \$5.7 million for November. *Salaries and Other Personnel Costs* were \$12.1 million, *Professional Fees and Services* were \$146 thousand, *Other Operating Expenses* were \$4.2 million, and *Capital Expenses* were \$35 thousand. At the end of the first quarter 82% of the total funds budgeted were remaining.

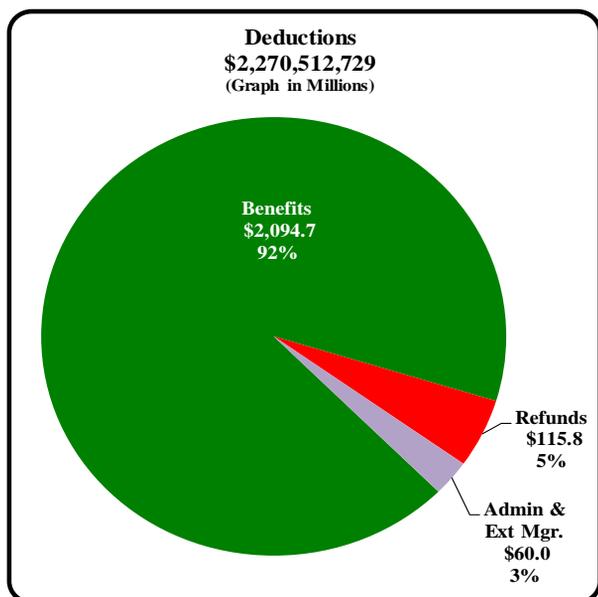
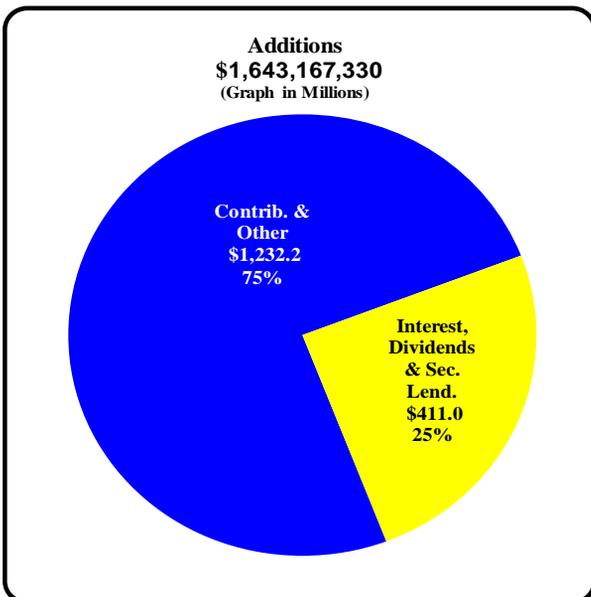
Financial Statements

First Quarter – FY 2014

Pension Trust Fund Net Position - FY 2014 YTD and FY 2013



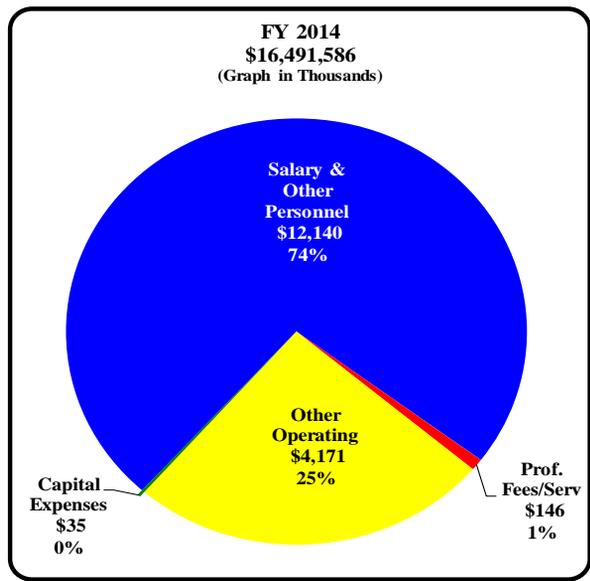
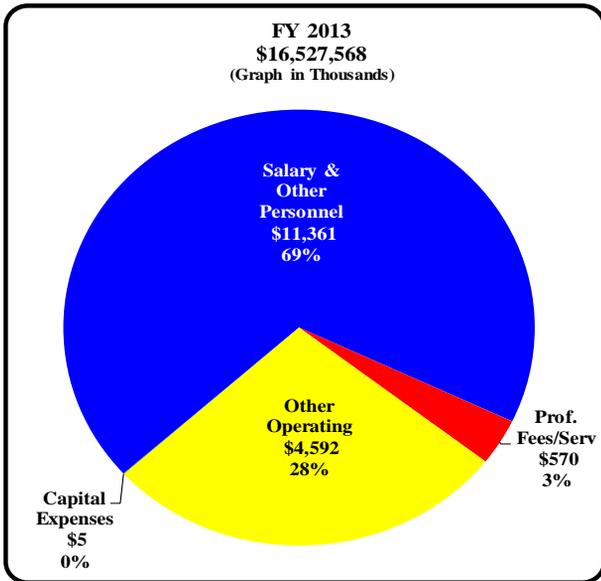
Additions and Deductions - FY 2014 YTD for the First Quarter Ended Nov 30



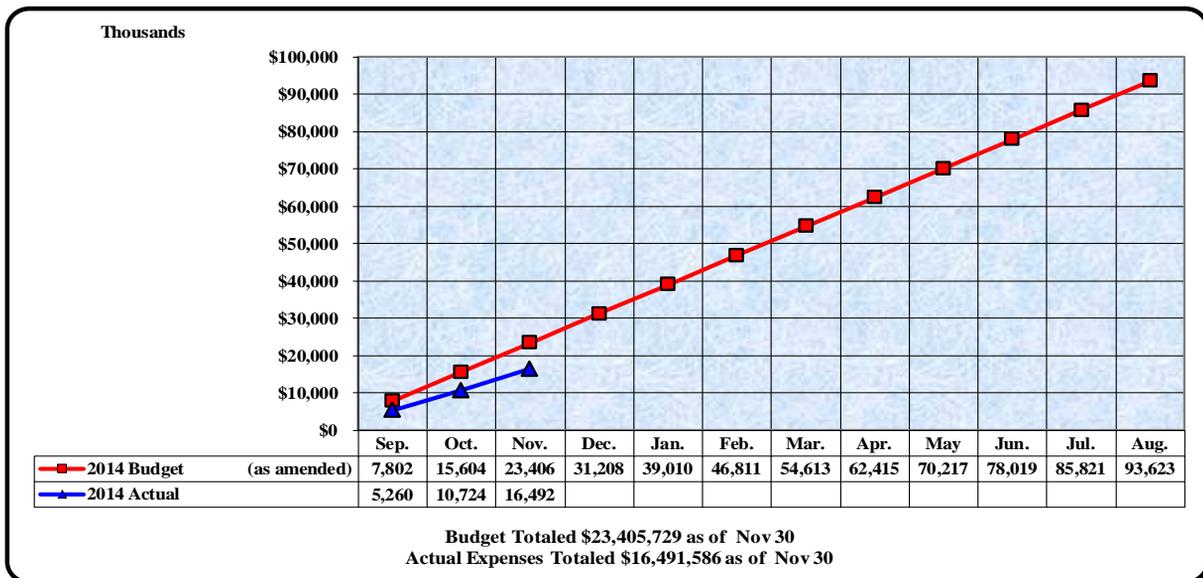
Financial Statements

First Quarter – FY 2014

Pension Trust Fund (excludes TEAM) Administrative Expenses YTD for the First Quarter Ended Nov 30 - FY 2013 and FY 2014



Budget to YTD Actual - FY 2014 (Excluding TEAM and Encumbered Funds)



Financial Statements

First Quarter – FY 2014

Pension Trust Fund (Excludes TEAM)

FY 2014 Budget Basis Administrative Expenses

| | Actual YTD November 30, 2013 | Encumbered YTD November 30, 2013 | Annual Budget Amount | Remaining Budget Amount | % Expended |
|---|------------------------------------|--|----------------------------|-------------------------------|---------------|
| SALARIES AND OTHER PERSONNEL COSTS | | | | | |
| Salaries and Wages | \$ 9,505,635.98 | \$ | \$ 50,355,133.00 | \$ 40,849,497.02 | 19% |
| Longevity Pay | 151,660.00 | | 660,240.00 | 508,580.00 | 23% |
| Employer Retirement Contributions | 650,583.23 | | 2,732,644.00 | 2,082,060.77 | 24% |
| Employer FICA Contributions | 510,664.79 | | 3,471,120.00 | 2,960,455.21 | 15% |
| Employer Health Insurance Contributions | 1,297,892.10 | | 6,133,308.00 | 4,835,415.90 | 21% |
| Benefit Replacement Pay | 9,353.07 | | 120,653.00 | 111,299.93 | 8% |
| Other Employee Benefits | 14,507.01 | 12,360.00 | 470,500.00 | 443,632.99 | 6% |
| TOTAL SALARIES AND OTHER PERSONNEL COSTS | \$ 12,140,296.18 | \$ 12,360.00 | \$ 63,943,598.00 | \$ 51,790,941.82 | 19% |
| PROFESSIONAL FEES AND SERVICES | \$ 145,953.04 | \$ 1,357,989.70 | \$ 7,129,714.00 | \$ 5,625,771.26 | 21% |
| OTHER OPERATING EXPENSES | | | | | |
| Consumable Supplies and Fuels | \$ 90,436.29 | \$ 70,279.23 | \$ 514,210.00 | \$ 353,494.48 | 31% |
| Utilities | 206,880.19 | 290,078.60 | 1,074,955.00 | 577,996.21 | 46% |
| Travel | 332,134.80 | 71,275.31 | 1,425,028.00 | 1,021,617.89 | 28% |
| Rentals | 528,435.22 | 106,607.46 | 2,208,031.00 | 1,572,988.32 | 29% |
| Dues, Fees and Staff Development | 57,087.92 | 16,493.20 | 496,501.00 | 422,919.88 | 15% |
| Subscriptions and Reference Information | 58,109.02 | 39,473.23 | 323,215.00 | 225,632.75 | 30% |
| Printing and Reproduction Services | 807.50 | 1,262.50 | 620,650.00 | 618,580.00 | 0% |
| Postage, Mailing and Delivery Services | 960,264.58 | 126,342.42 | 2,647,300.00 | 1,560,693.00 | 41% |
| Software Purchases and Maintenance | 1,012,161.69 | 431,502.74 | 3,299,930.00 | 1,856,265.57 | 44% |
| Computer Hardware Maintenance | 33,823.47 | 226,338.82 | 487,102.00 | 226,939.71 | 53% |
| Miscellaneous Expenses | 90,169.01 | 119,260.44 | 1,408,000.00 | 1,198,570.55 | 15% |
| Insurance Premiums | 617,387.00 | 25,568.55 | 728,055.00 | 85,099.45 | 88% |
| Furniture and Equipment - Expensed | 43,780.08 | 29,991.98 | 545,700.00 | 471,927.94 | 14% |
| Maintenance - Buildings and Equipment | 139,376.53 | 173,206.03 | 991,433.00 | 678,850.44 | 32% |
| TOTAL OTHER OPERATING EXPENSES | \$ 4,170,853.30 | \$ 1,727,680.51 | \$ 16,770,110.00 | \$ 10,871,576.19 | 35% |
| TOTAL OPERATING EXPENSES | \$ 16,457,102.52 | \$ 3,098,030.21 | \$ 87,843,422.00 | \$ 68,288,289.27 | 22% |

Source: Unaudited monthly financial statements

Financial Statements

First Quarter – FY 2014

Pension Trust Fund (Excludes TEAM)

FY 2014 Budget Basis Administrative Expenses

| | Actual YTD November 30, 2013 | Encumbered YTD November 30, 2013 | Annual Budget Amount | Remaining Budget Amount | % Expended |
|--|------------------------------------|--|-----------------------------|-------------------------------|----------------|
| CAPITAL EXPENSES | | | | | |
| Furniture and Equipment | \$ 5,948.92 | \$ 5,009.57 | \$ 126,504.00 | \$ 115,545.51 | 9% |
| Capital Budget Items | 28,534.70 | 391,669.39 | 5,652,990.00 | 5,232,785.91 | 7% |
| TOTAL CAPITAL EXPENSES | \$ 34,483.62 | \$ 396,678.96 | \$ 5,779,494.00 | \$ 5,348,331.42 | 7% |
| TOTAL OPERATING AND CAPITAL EXPENSES* | \$ 16,491,586.14 | \$ 3,494,709.17 | \$ 93,622,916.00 | \$ 73,636,620.69 | 21% |
| PERFORMANCE INCENTIVE COMPENSATION | \$ | \$ | \$ | \$ | \$ |
| TOTAL OPERATING AND CAPITAL EXPENSES INCLUDING PERFORMANCE INCENTIVE COMPENSATION | \$ 16,491,586.14 | \$ 3,494,709.17 | \$ 93,622,916.00 | \$ 73,636,620.69 | 21% |
| METHOD OF FINANCE | | | | | |
| Administrative Operation Appropriations | \$ 14,023,092.95 | \$ 3,494,709.17 | \$ 81,165,191.00 | \$ 63,647,388.88 | 22% |
| Employer Retirement Contributions | 650,583.23 | | 2,732,644.00 | 2,082,060.77 | 24% |
| Employer FICA Contributions | 510,664.79 | | 3,471,120.00 | 2,960,455.21 | 15% |
| Employer Health Insurance Contributions | 1,297,892.10 | | 6,133,308.00 | 4,835,415.90 | 21% |
| Benefit Replacement Pay | 9,353.07 | | 120,653.00 | 111,299.93 | 8% |
| TOTAL OPERATING AND CAPITAL EXPENSES | \$ 16,491,586.14 | \$ 3,494,709.17 | \$ 93,622,916.00 | \$ 73,636,620.69 | 21% |

*Amounts are net of reimbursements.

Financial Statements

First Quarter – FY 2014

TRS Enterprise Application Modernization - TEAM FY 2014 Budget Basis Administrative Expenses

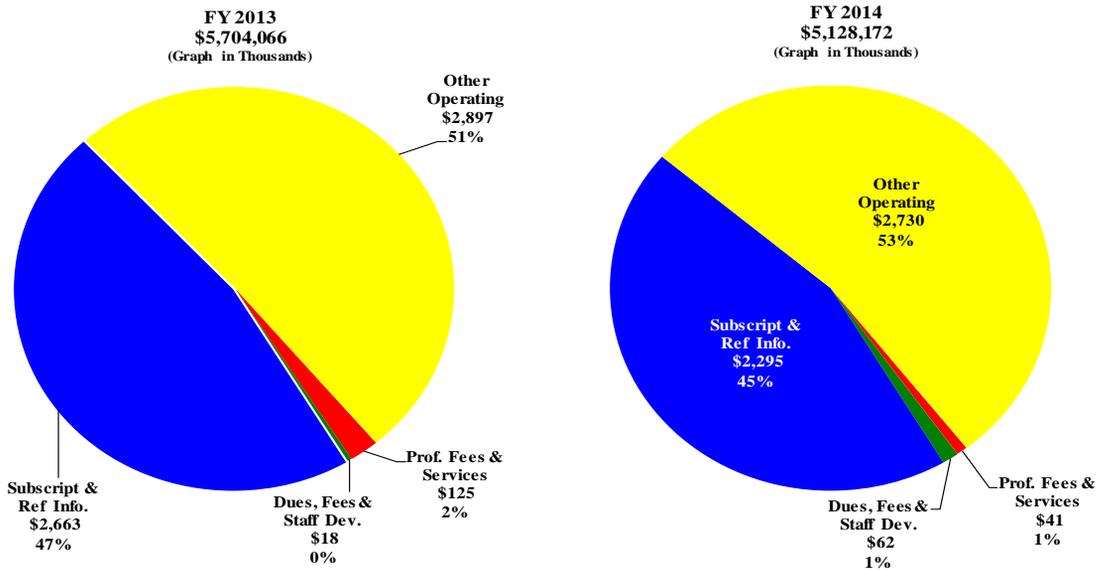
| | Actual YTD November 30, 2013 | Encumbered YTD November 30, 2013 | Annual Budget Amount | Remaining Budget Amount | % Expended |
|---|------------------------------------|--|----------------------------|-------------------------------|---------------|
| SALARIES AND OTHER PERSONNEL COSTS | | | | | |
| Salaries and Wages | \$ 498,690.06 | \$ | \$ 2,349,141.00 | \$ 1,850,450.94 | 21% |
| Longevity Pay | 6,220.00 | | 25,920.00 | 19,700.00 | 24% |
| Employer Retirement Contributions | 34,351.35 | | 162,413.00 | 128,061.65 | 21% |
| Employer FICA Contributions | 37,161.80 | | 181,801.00 | 144,639.20 | 20% |
| Employer Health Insurance Contributions | 46,197.44 | | 149,791.00 | 103,593.56 | 31% |
| Benefit Replacement Pay | 257.79 | | 4,125.00 | 3,867.21 | 6% |
| Other Employee Benefits | | | 15,095.00 | 15,095.00 | |
| TOTAL SALARIES AND OTHER PERSONNEL COSTS | \$ 622,878.44 | \$ | \$ 2,888,286.00 | \$ 2,265,407.56 | 22% |
| PROFESSIONAL FEES AND SERVICES | \$ 125,746.90 | \$ 6,433,311.31 | \$ 12,945,500.00 | \$ 6,386,441.79 | 51% |
| OTHER OPERATING EXPENSES | | | | | |
| Consumable Supplies and Fuels | \$ | \$ | \$ | \$ | |
| Utilities | | | | | |
| Travel | 6,214.53 | | 25,000.00 | 18,785.47 | 25% |
| Rentals | | | | | |
| Dues, Fees and Staff Development | 8,577.00 | 17,000.00 | 150,000.00 | 124,423.00 | 17% |
| Subscriptions and Reference Information | | | | | |
| Printing and Reproduction Services | | | | | |
| Postage, Mailing and Delivery Services | | | | | |
| Software Purchases and Maintenance | 459,622.85 | 91,114.59 | 4,210,000.00 | 3,659,262.56 | 13% |
| Computer Hardware Maintenance | | | | | |
| Miscellaneous Expenses | | | | | |
| Insurance Premiums | | | | | |
| Furniture and Equipment - Expensed | 2,056.23 | 112,665.53 | 300,000.00 | 185,278.24 | 38% |
| Maintenance - Buildings and Equipment | 1,250.00 | | 20,000.00 | 18,750.00 | 6% |
| TOTAL OTHER OPERATING EXPENSES | \$ 477,720.61 | \$ 220,780.12 | \$ 4,705,000.00 | \$ 4,006,499.27 | 15% |
| TOTAL OPERATING EXPENSES | \$ 1,226,345.95 | \$ 6,654,091.43 | \$ 20,538,786.00 | \$ 12,658,348.62 | 38% |

Source: Unaudited monthly financial statements

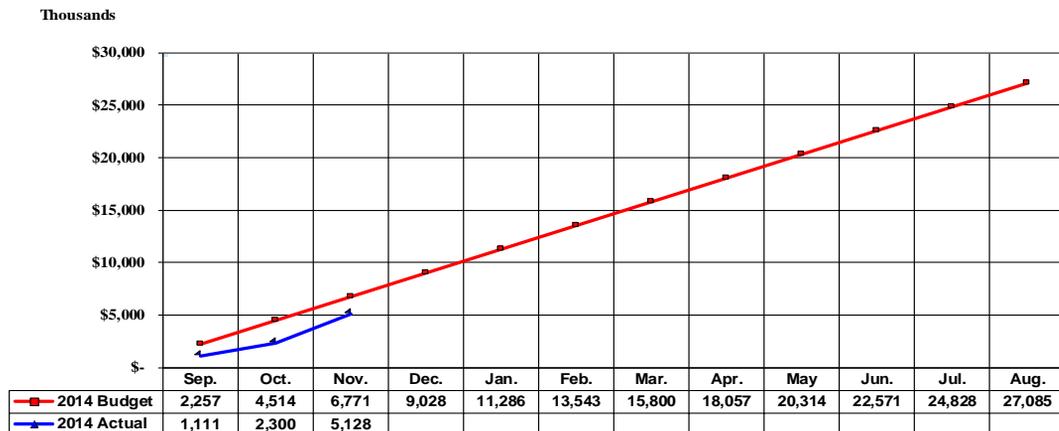
Financial Statements

First Quarter – FY 2014

Investment Soft Dollars Administrative Expenses YTD for the First Quarter Ended November 30 - FY 2013 and FY 2014



Budget to YTD Actual - FY 2014



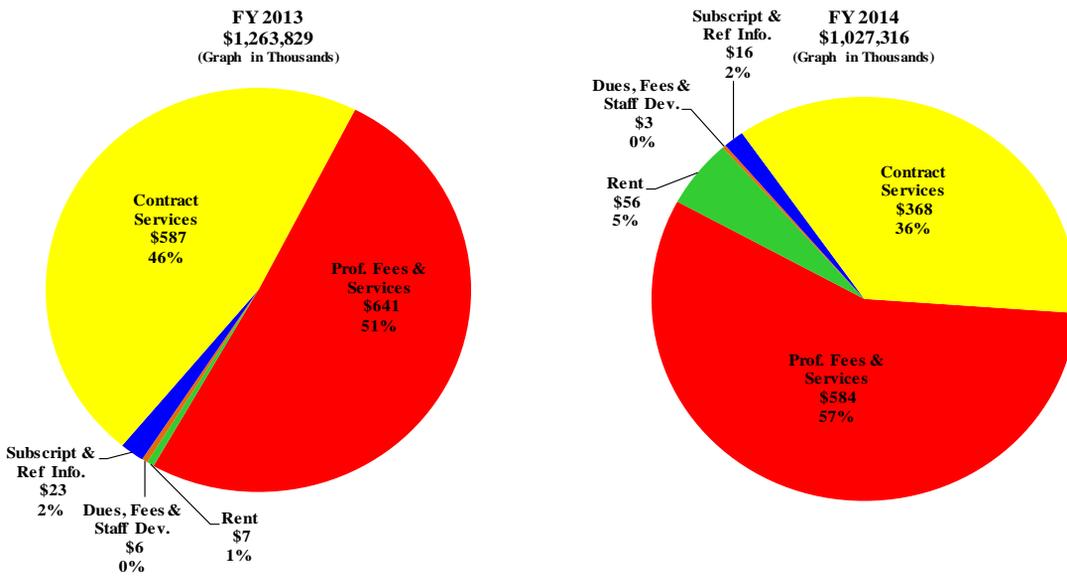
Budget Totaled \$27,085,494 as of November 30
Actual Expenses Totaled \$5,128,172 as of November 30

Source: Unaudited monthly financial statements

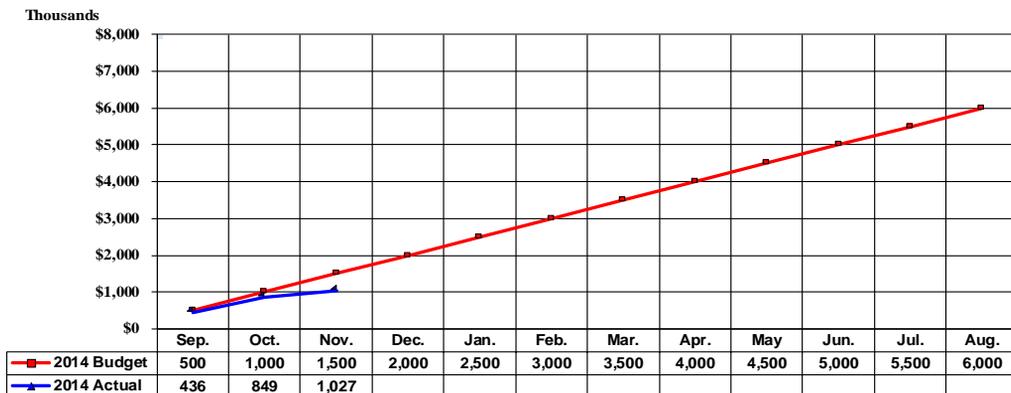
Financial Statements

First Quarter – FY 2014

SSB/TRS Partnership Account Administrative Expenses YTD for the First Quarter Ended November 30 - FY 2013 and FY 2014



Budget to YTD Actual - FY 2014



Budget Totaled \$6,000,000 as of November 30
Actual Expenses Totaled \$1,027,316 as of November 30

Source: Unaudited monthly financial statements

Financial Statements

First Quarter – FY 2014

Financial Report for the First Quarter Ended November 30, 2013 TRS-Care

To: TRS Board of Trustees
Brian Guthrie, Executive Director
Ken Welch, Deputy Director

From: Don Green, Chief Financial Officer

Date: February 13, 2014

Net Position:

For the first quarter ended November 30, 2013, *Net Position* was \$517.0 million, a decrease of \$34.0 million over the fiscal year beginning net position of \$551.0 million. *Total Additions* include contributions and other additions of \$190.2 million, premiums of \$91.1 million, and federal revenue of \$14.9 million. *Total Deductions* were \$330.2 million including medical claims payments and processing fees of \$166.1 million and pharmacy claims payments and processing fees of \$163.4 million.

Administrative Operations:

Total Administrative Expenses were \$708 thousand of which \$203 thousand was for September, \$292 thousand for October, and \$213 thousand for November. *Salaries and Other Personnel Costs* were \$596 thousand, *Professional Fees and Services* were \$33 thousand, and *Other Operating Expenses* were \$79 thousand. As anticipated, overall expenses continued to track closely with budgeted funds. At the end of the first quarter, 82% of the total funds budgeted were remaining.

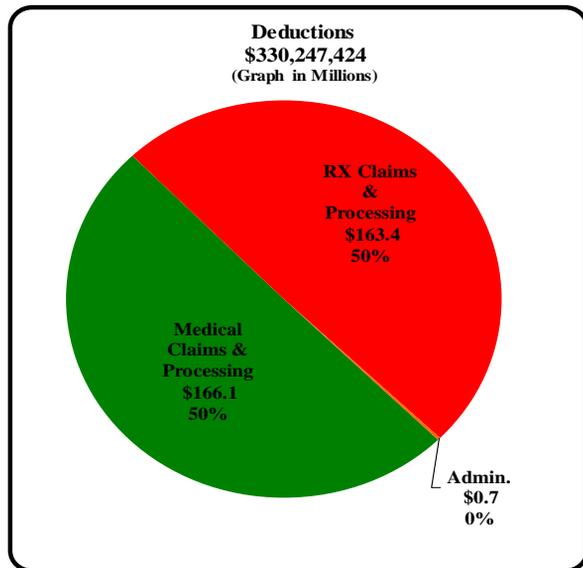
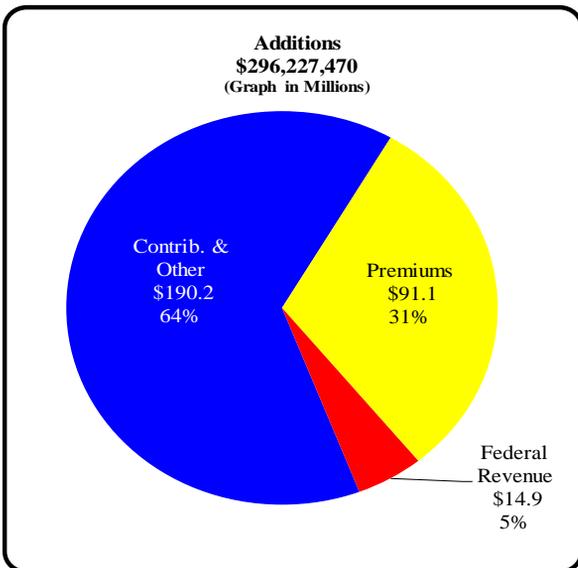
Financial Statements

First Quarter – FY 2014

TRS-Care Net Position - FY 2014 YTD and FY 2013



Additions and Deductions - FY 2014 YTD for the First Quarter Ended November 30



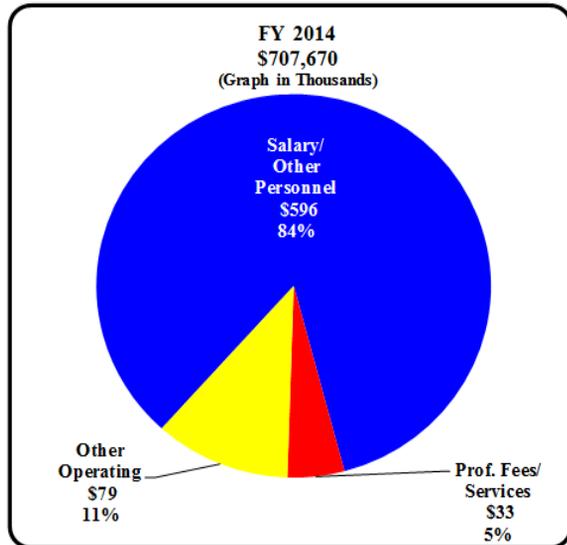
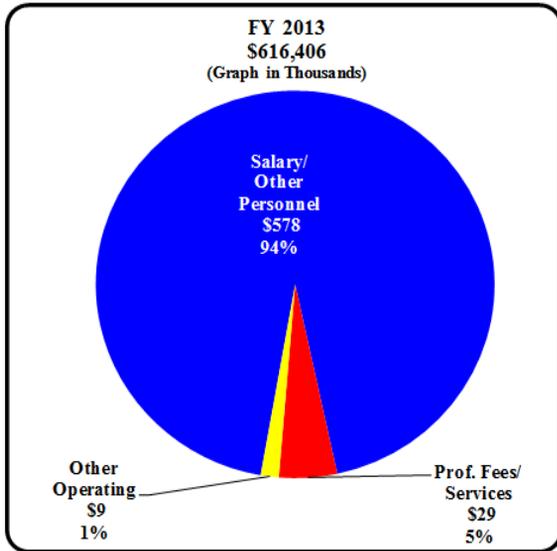
Source: Unaudited monthly financial statements

Financial Statements

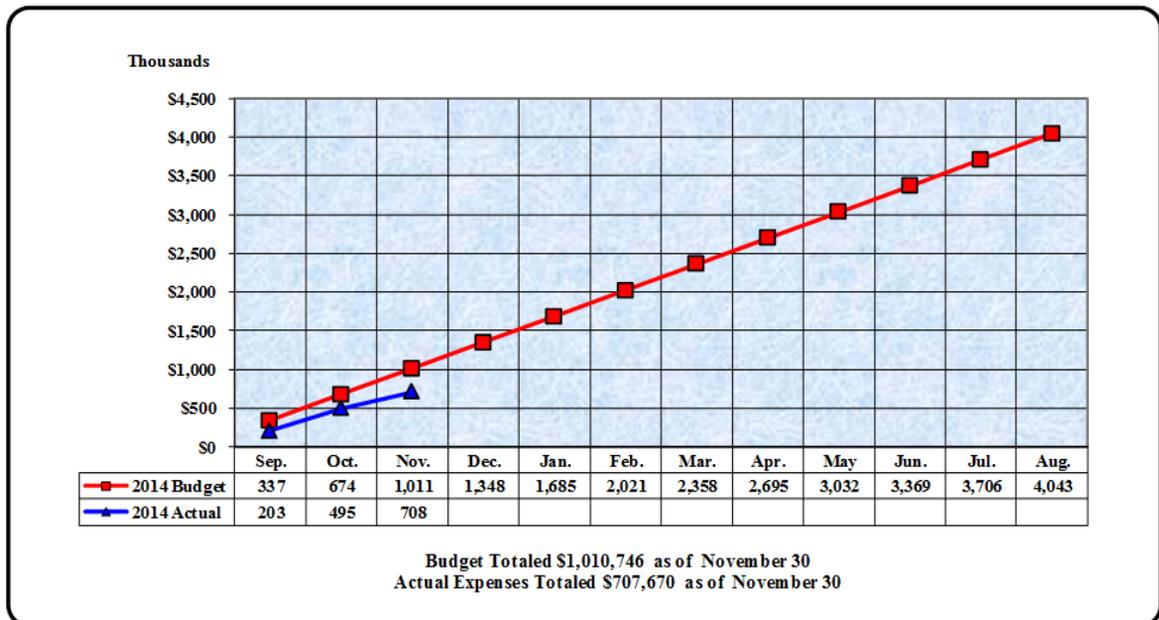
First Quarter – FY 2014

TRS-Care Administrative Expenses

YTD for the First Quarter Ended Nov 30 - FY 2013 and FY 2014



Budget to YTD Actual - FY 2014 (Excludes Encumbered Funds)



Source: Unaudited monthly financial statements

Financial Statements

First Quarter – FY 2014

TRS-Care FY 2014 Budget Basis Administrative Expenses

| | Actual YTD November 30, 2013 | Encumbered YTD November 30, 2013 | Annual Budget Amount | Remaining Budget Amount | % Expended |
|--|------------------------------------|--|----------------------------|-------------------------------|---------------|
| SALARIES AND OTHER PERSONNEL COSTS | | | | | |
| Salaries and Wages | \$ 456,620.63 | \$ - | \$ 2,009,436.00 | \$ 1,552,815.37 | 23% |
| Lump Sum Payments | | | 50,000.00 | 50,000.00 | |
| Longevity Pay | 11,420.00 | | 56,480.00 | 45,060.00 | 20% |
| Employer Retirement Contributions | 31,879.40 | | 135,921.00 | 104,041.60 | 23% |
| Employer FICA Contributions | 34,119.78 | | 152,912.00 | 118,792.22 | 22% |
| Benefit Replacement Pay | 773.37 | | 12,563.00 | 11,789.63 | 6% |
| Other Employee Benefits | | | 14,000.00 | 14,000.00 | |
| Employer Health Insurance Contributions | 60,589.10 | | 262,409.00 | 201,819.90 | 23% |
| TOTAL SALARIES AND OTHER PERSONNEL COSTS | \$ 595,402.28 | \$ - | \$ 2,693,721.00 | \$ 2,098,318.72 | 22% |
| PROFESSIONAL FEES AND SERVICES | | | | | |
| | \$ 32,952.50 | \$ 337,472.72 | \$ 1,040,750.00 | \$ 670,324.78 | 36% |
| OTHER OPERATING EXPENSES | | | | | |
| Consumable Supplies | \$ 894.61 | \$ 1,050.00 | \$ 5,200.00 | \$ 3,255.39 | 37% |
| Utilities | 484.94 | 433.33 | 5,200.00 | 4,281.73 | 18% |
| Travel In-State | 254.25 | 202.80 | 6,500.00 | 6,042.95 | 7% |
| Travel Out of State | | | 5,455.00 | 5,455.00 | |
| Rental - Building | | 20,627.75 | 82,511.00 | 61,883.25 | 25% |
| Dues, Fees and Staff Development | | | 4,175.00 | 4,175.00 | |
| Subscriptions and Reference Information | | | 570.00 | 570.00 | |
| Printing and Reproduction Services | | 7,500.00 | 35,500.00 | 28,000.00 | 21% |
| Postage, Mailing and Delivery Services | 71,829.42 | 24,734.75 | 135,800.00 | 39,235.83 | 71% |
| Miscellaneous Expenses | 5,851.97 | 2,833.32 | 20,600.00 | 11,914.71 | 42% |
| Furniture and Equipment - Expensed | | | 5,000.00 | 5,000.00 | |
| Maintenance - Buildings and Equipment | | | 2,000.00 | 2,000.00 | |
| TOTAL OTHER OPERATING EXPENSES | \$ 79,315.19 | \$ 57,381.95 | \$ 308,511.00 | \$ 171,813.86 | 44% |
| TOTAL OPERATING EXPENSES | \$ 707,669.97 | \$ 394,854.67 | \$ 4,042,982.00 | \$ 2,940,457.36 | 27% |
| Less: Employer Retirement Contributions paid on behalf of Employees | \$ (31,879.40) | \$ - | \$ (135,921.00) | \$ (104,041.60) | 23% |
| TOTAL CASH OUTLAY FOR OPERATING EXPENSES | \$ 675,790.57 | \$ 394,854.67 | \$ 3,907,061.00 | \$ 2,836,415.76 | 27% |

Source: Unaudited monthly financial statements

Financial Statements

First Quarter – FY 2014

Financial Report for the First Quarter Ended November 30, 2013 TRS-ActiveCare

To: TRS Board of Trustees
Brian Guthrie, Executive Director
Ken Welch, Deputy Director

From: Don Green, Chief Financial Officer

Date: February 13, 2014

The fund captures financial activity for the following programs:

- TRS-ActiveCare health care program for active public school employees
- Optional life and long-term care insurance for active members and retirees

Net Position:

For the quarter ended November 30, 2013, *Net Position* was (\$51.6) million, an increase of \$66.4 million over the fiscal year beginning net position of (\$118) million. *Total Revenues* were \$485.3 million. Health care premiums were \$483.5 million, COBRA premiums were \$1.8 million, investment income was \$83 thousand and optional life and long-term care administrative fees were \$34 thousand. *Total Expenses* were \$419 million including medical claims payments and processing fees of \$323 million, pharmacy claims payments and processing fees of \$56.7 million, and HMO payments of \$38.8 million.

Administrative Operations:

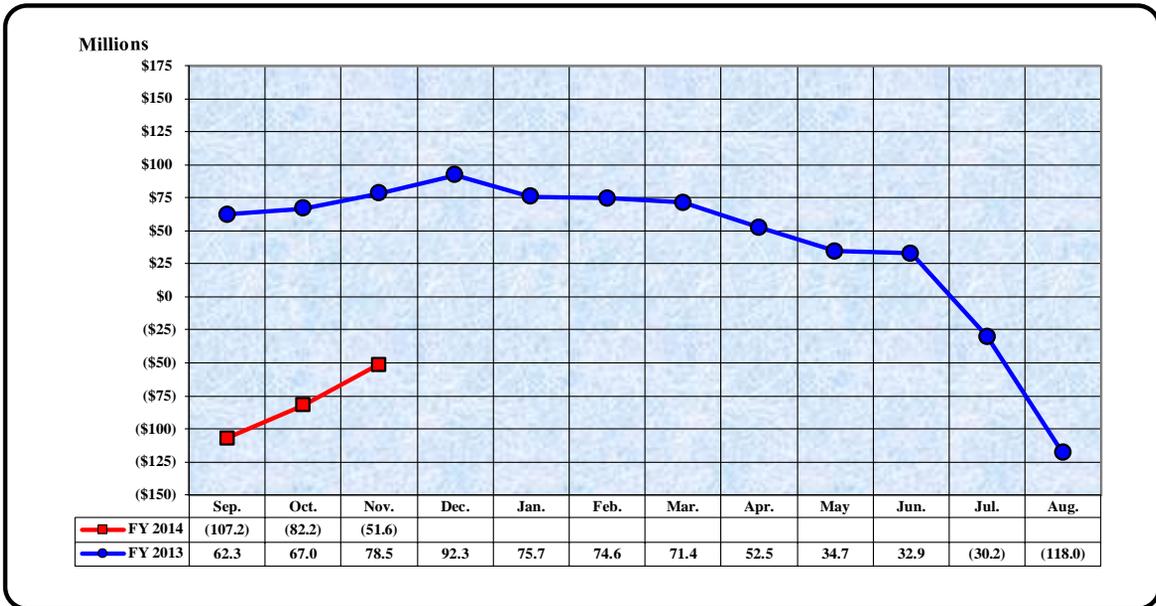
Total Administrative Expenses were \$456 thousand of which \$129 thousand was for September, \$141 thousand for October, and \$186 thousand for November. *Salaries and Other Personnel Costs* were \$390 thousand, *Professional Fees and Services* were \$63 thousand and *Other Operating Expenses* were \$3 thousand. At the end of the first quarter, 81% of the total funds budgeted were remaining.

Source: Unaudited monthly financial statements

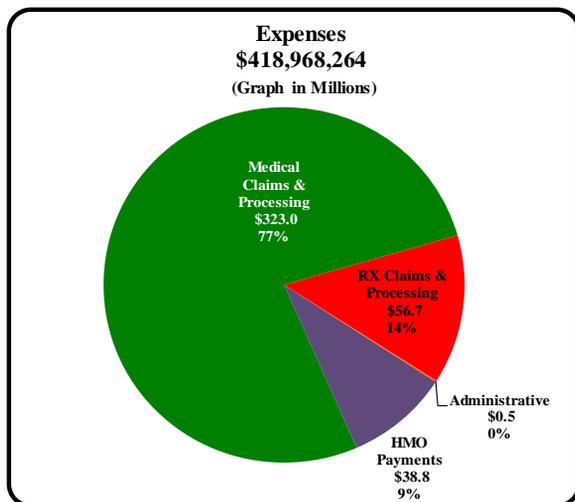
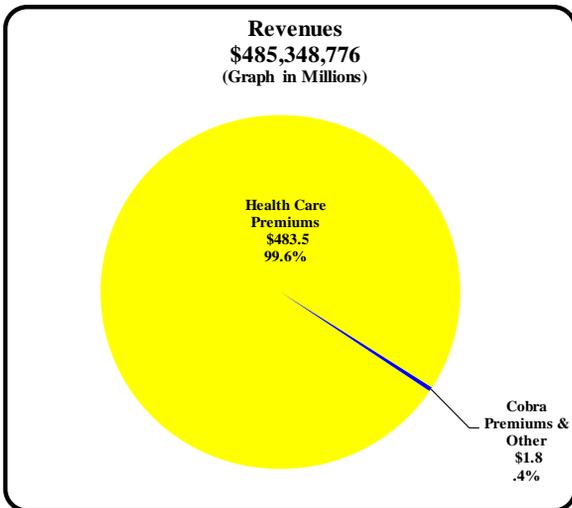
Financial Statements

First Quarter – FY 2014

TRS-ActiveCare Net Position - FY 2014 YTD and FY 2013



Revenues and Expenses - FY 2014 YTD for the First Quarter Ended November 30



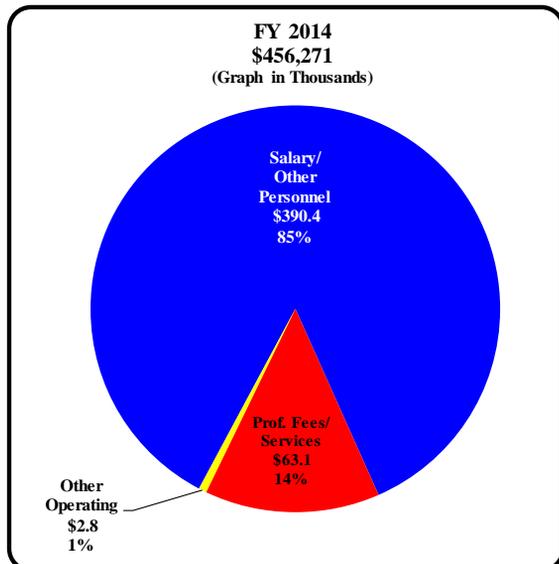
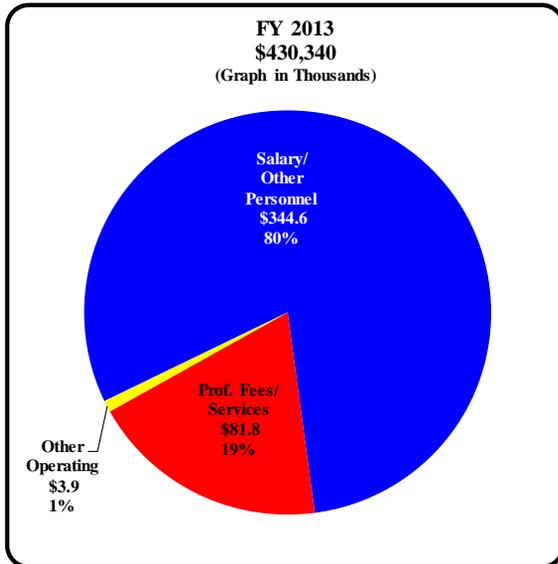
Source: Unaudited monthly financial statements

Financial Statements

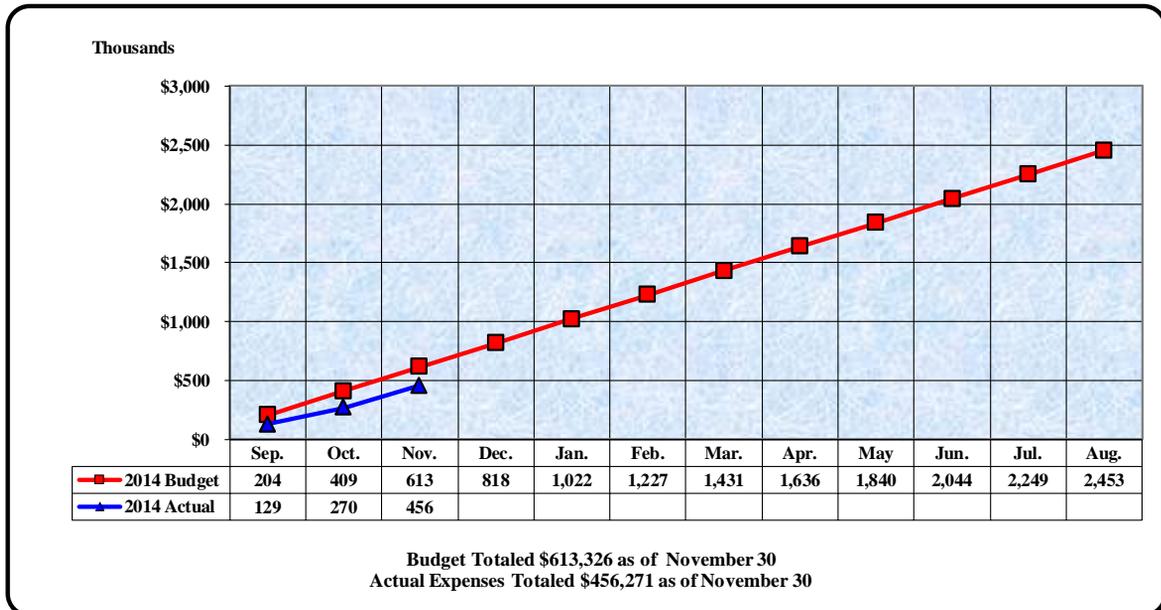
First Quarter – FY 2014

TRS-ActiveCare Administrative Expenses

YTD for the First Quarter Ended November 30 - FY 2013 and FY 2014



Budget to YTD Actual - FY 2014
(Excludes Encumbered Funds)



Source: Unaudited monthly financial statements

Financial Statements

First Quarter – FY 2014

Financial Report for the First Quarter Ended November 30, 2013 403(b) Administrative Program

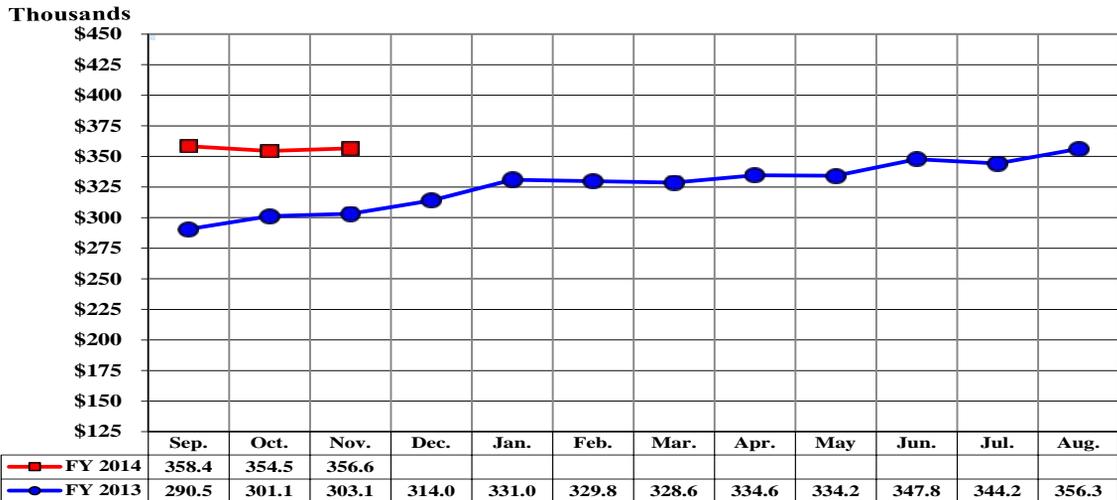
To: TRS Board of Trustees
Brian Guthrie, Executive Director
Ken Welch, Deputy Director

From: Don Green, Chief Financial Officer

Date: February 13, 2014

For the first quarter ended November 30, 2013, *Net Position* was \$357 thousand, an increase of \$1 thousand over the fiscal year beginning net position of \$356 thousand. *Total Revenues* were \$12 thousand. Product Registration Fees were \$6 thousand and Certification Fees were \$6 thousand. *Total Operating Expenses* were \$13 thousand which was *Salaries and Other Personnel Costs*. At the end of the first quarter, 74% of the total funds budgeted were remaining.

403(b) Certification Program Net Position – FY 2014 YTD and FY 2013



Source: Unaudited monthly financial statements

Tab 16

Executive Assessment Overview

Teacher Retirement System of Texas

February 13, 2014

Prepared by:
Focus Consulting Group

Keith Robinson
Managing Director



TRS Leadership Assessment Process

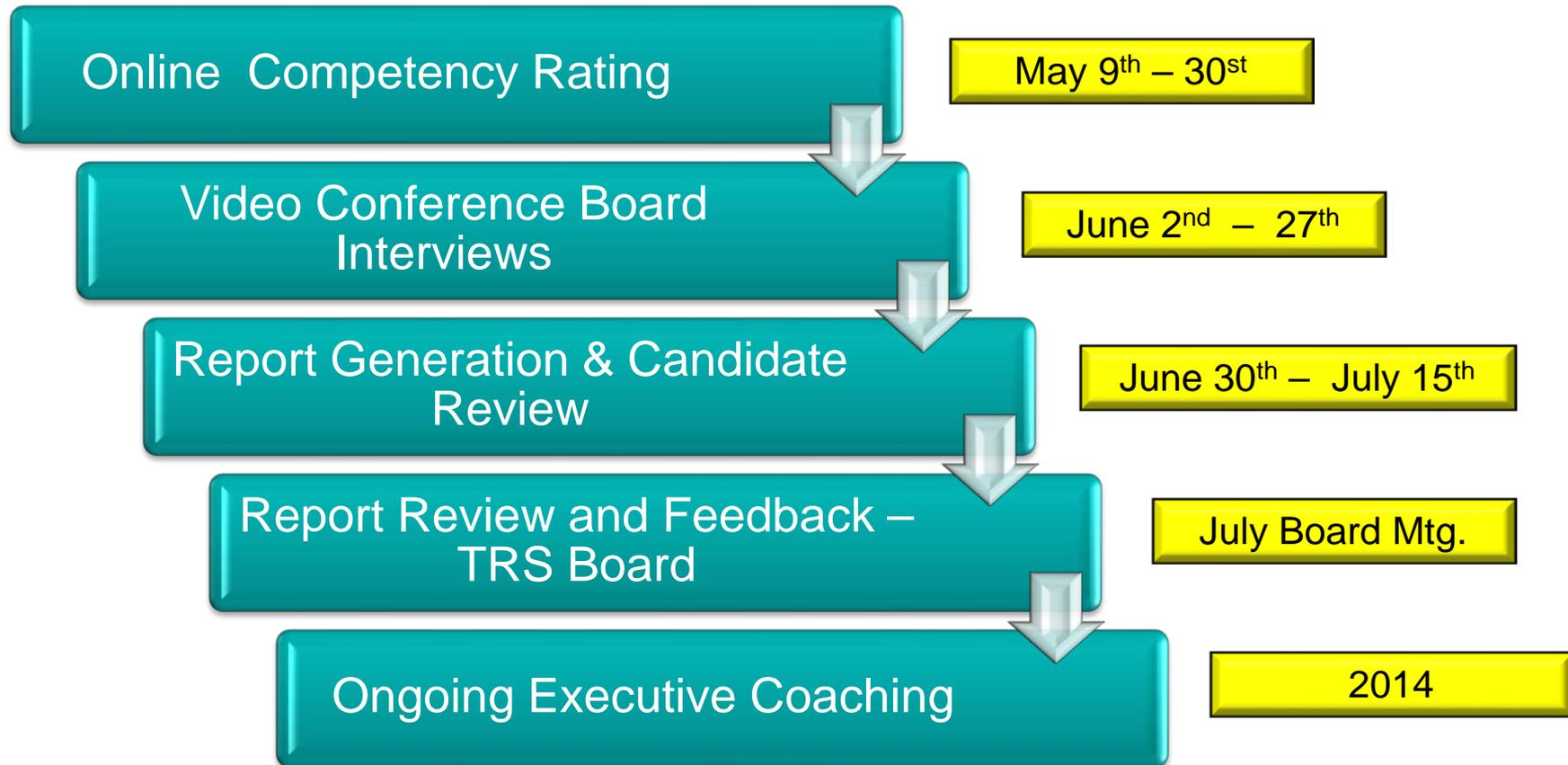
- Process was initiated with TRS in 2013

- Participants in 2014:
 - Brian Guthrie – Executive Director
 - Britt Harris – Chief Investment Officer
 - Amy Barrett – Chief Audit Officer

- Key learnings:
 - Changes will be made in competency descriptions to reflect TRS Agency specifics
 - Phone interviews with TRS Board members was a crucial step

- Key Outcomes:
 - Increased specificity on leadership strengths/gaps
 - Clearer assessment of performance
 - Executive coaching for development

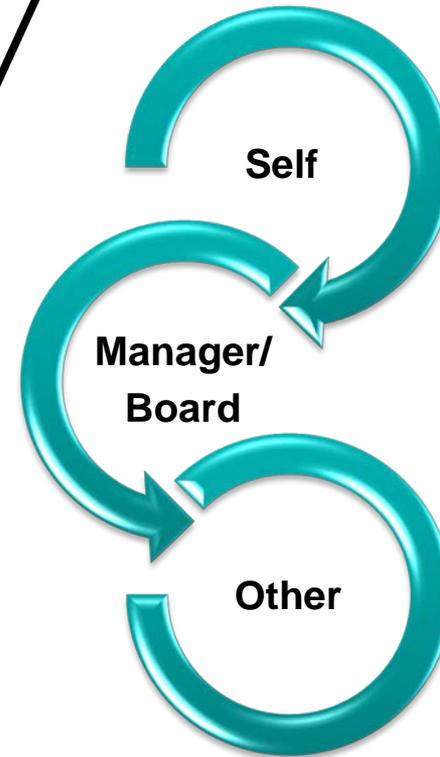
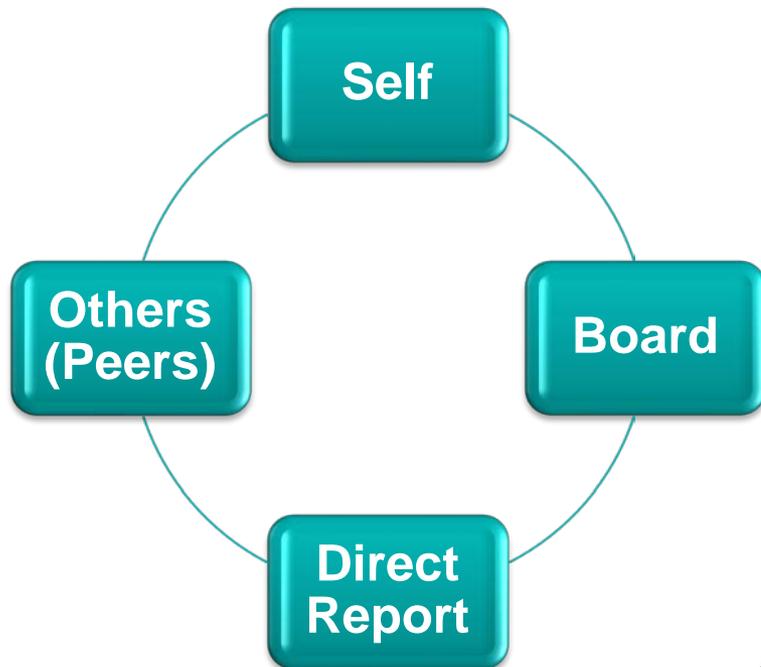
TRS Leadership Assessment Process Steps & Timeline



TRS Leadership Assessments - Input

Competency

Online 360 Degree Assessment



Contribution

Interview and Manager based

TRS Leadership Rating Scales - Input

| Scale | Competency <i>“Candidate demonstrates this behavior...”</i> | Contribution <i>“On this goal candidate...”</i> |
|--------------|---|---|
| 5 | To a very great extent | Far exceeded expectations |
| 4 | To a great extent | Exceeded expectations |
| 3 | To some extent | Met expectations |
| 2 | To a little extent | Partially met expectations |
| 1 | Not at all | Did not meet expectations |

TRS Leadership Contribution – Executive Director Input Sample

| Contribution Goal – Brian | Score |
|--|--|
| <p>Effectively lead TRS</p> <ul style="list-style-type: none"> Continue to create process improvements which will enable the agency to meet its financial goals. Positively represent TRS to all constituencies: Members, Public, Employees, Legislature, and Board of Trustees. Effectively represent TRS before legislative committees and provide useful and helpful analysis on legislation under consideration. | <p>Board: 4.38</p> <p>Self: 4.50</p> |

| Contribution Goal – Britt | Score |
|--|--|
| <p>Effectively manage investment risks for the Investment Management Division</p> <ul style="list-style-type: none"> No significant risk violations in the performance year. Maintain a transparent and high quality risk management approach as assessed by the risk committee. Monitor and manage risks with a high level of quality. No significant risk findings from audits. | <p>Board: 4.13</p> <p>Manager: 5.00</p> <p>Self: 4.00</p> |

TRS Sample Competencies:

Three Hats of Leadership – Executive Director

Leads the Agency

Broader firm wide impact

1. Client Focus
2. Servant Leadership
3. Builds Agency Talent
4. Strategic Thinking
5. Effective Decision Making
6. Drives Agency Vision

Leads the Team

Tactical team management

1. Develops Others
2. Effective Collaboration
3. Conflict Resolution
4. Provides Direction
5. Priority Setting

Leads the Self

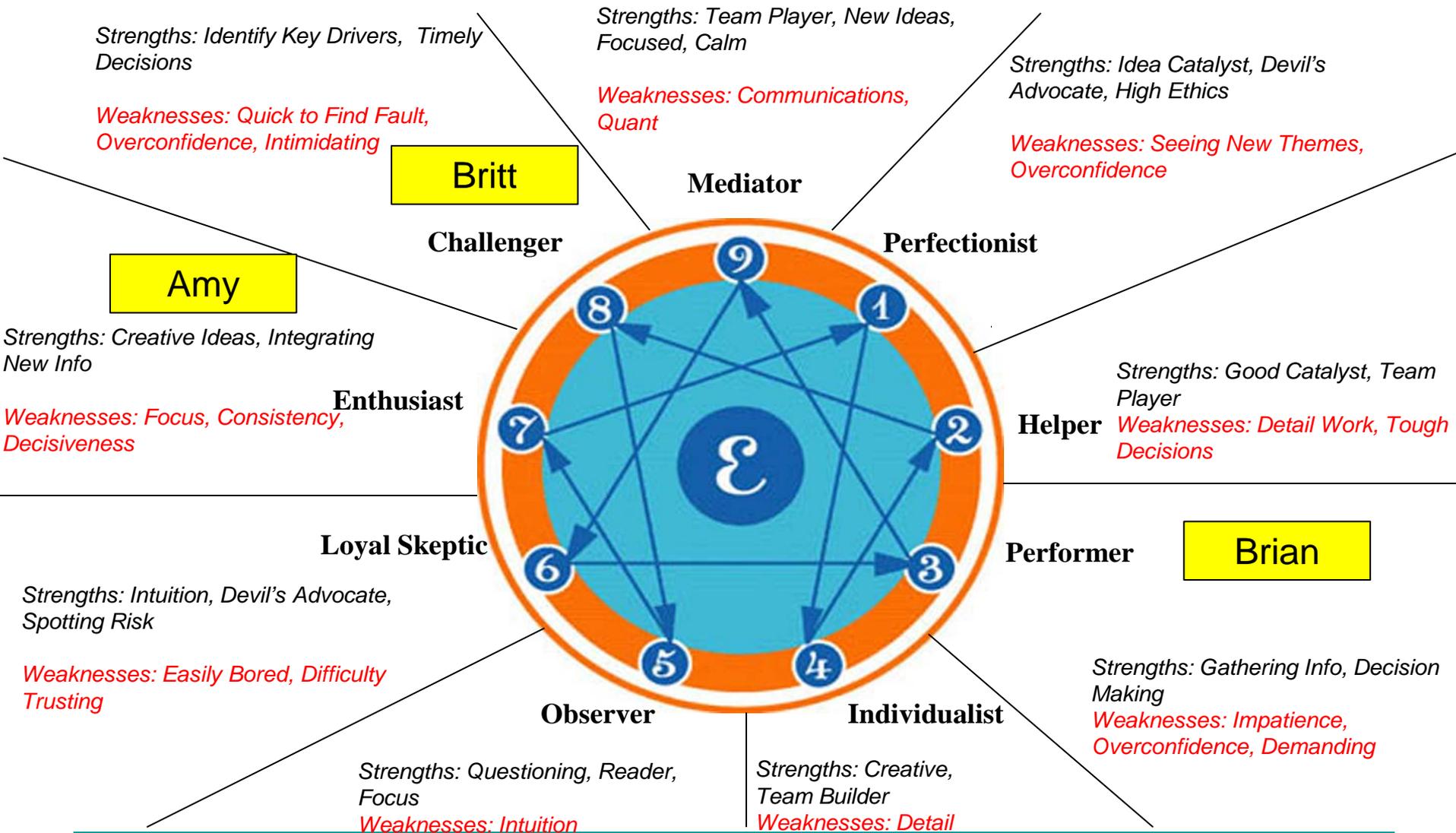
Personal effectiveness

1. Ethical and Value Centered Leadership
2. Integrity and Trust
3. Learning Agility
4. Listens Actively
5. Self Awareness

TRS Leadership Assessments – Output Sample

| Name | Competency | | | Contribution |
|-------------------------------------|-------------|-------------|--------------|-------------------|
| Brian Guthrie | Leads Self | Leads Team | Leads Agency | Performance Goals |
| Overall Avg | 4.08 | 4.18 | 4.08 | 4.08 |
| CEO/ED Peer comparison (N=11) | 3.82 | 3.50 | 3.50 | n/a |
| Self Evaluation | 4.12 | 4.60 | 4.30 | 3.83 |
| Board Evaluation | 4.20 | 4.30 | 4.23 | 4.08 |
| Direct Reports Evaluation | 4.08 | 3.92 | 3.97 | n/a |
| Other Evaluation | 3.90 | 3.90 | 3.80 | n/a |

Leadership Personality – Output Sample



Questions & Comments

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Liz Severyns

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Tab 17 A

Teacher Retirement System of Texas

**Strategic Asset Allocation (“SAA”)
Education Session**

IMD Asset Allocation Group

Hewitt EnnisKnupp (“HEK”)

Gabriel Roeder Smith and Company (“GRS”)

Dr. Keith Brown

February 2014

Agenda

I. Setting a Strategic Asset Allocation, Dr. Keith C. Brown

II. Overview of the SAA Process, HEK

- Importance of Asset Allocation
- Factors That Influence Asset Allocation Decisions
- Best Practices in Reviewing SAA

III. Review of SAA Study, TRS IMD

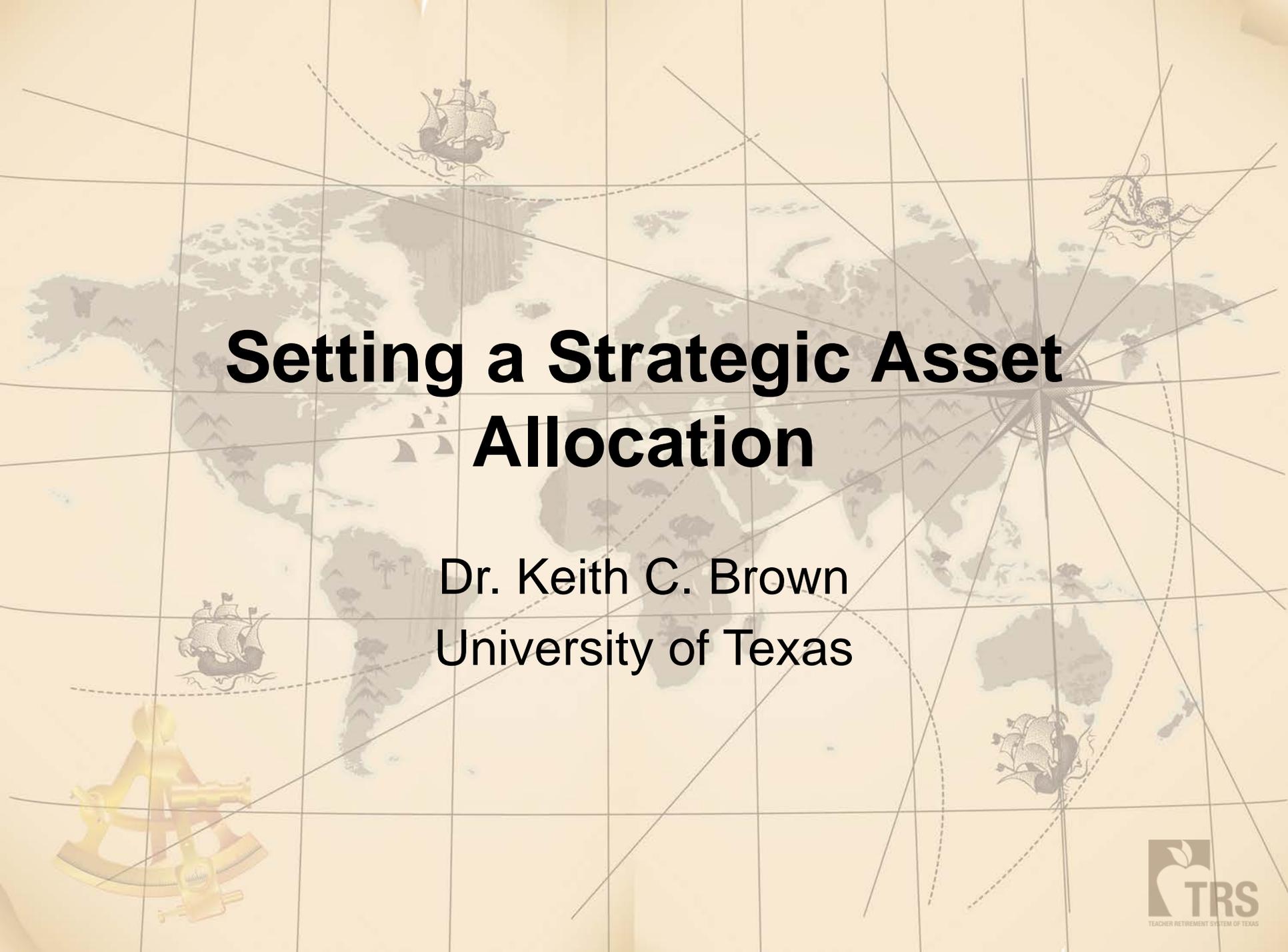
- 2014 SAA Study Major Issues to Explore
- TRS 2014 Study Process and Consistency with SAA Study Best Practices
- Long Term Goals and Obligations of the Plan
- Comparison to the 2009 SAA Study Environment

IV. TRS Risks: An Actuarial Perspective, GRS

- Current Actuarial Liability Stream
- Major Sensitivities

V. 2014 Initial Capital Market Survey Results, TRS IMD

VI. TRS Peer Comparison, TRS IMD

The background features a stylized world map with a grid of latitude and longitude lines. Several decorative elements are overlaid on the map: a sailing ship in the upper left, a compass rose on the right side, another sailing ship in the lower left, and a sextant in the bottom left corner. Dashed lines represent various navigational paths across the map.

Setting a Strategic Asset Allocation

Dr. Keith C. Brown
University of Texas

Setting a Strategic Asset Allocation: *Some Initial Thoughts*

- An **investment portfolio** should always be viewed as the **best proposed solution** to an investor's **financial problem**
 - It is impossible to develop an intelligent and prudent solution (i.e., portfolio allocation) without first understanding the nature and full complexity of the problem
 - So, this is not simply an exercise in asset management, but asset management in the context of a projected set of liabilities
 - The System's projected spending needs, in conjunction with the forecasted contribution levels, have a direct impact on how the System's asset should be invested
- As we have seen, the judgment as to how the System's financial assets should be broadly allocated amongst the permissible set of asset classes (i.e., the **strategic asset allocation**) is arguably the **most important decision** that the Board is responsible for making

Setting a Strategic Asset Allocation: *Some Initial Thoughts (cont.)*

- Setting an appropriate strategic asset allocation policy is crucial for at least two reasons:
 - The strategic allocation choice is the **primary factor** in explaining how the System's **wealth will vary** over time
 - It is also a **primary market risk control device** at the Board's disposal by insuring that the overall portfolio has achieved a proper amount of diversification in the portfolio

- As it currently configured, the System's Investment Policy Statement (IPS) requires the Board to specify **three dimensions** of the strategic asset allocation decision
 - What is the **allowable universe of asset classes** that are permitted for inclusion in the portfolio?
 - What is the **long-term normal percentage of overall Fund assets** that should be invested in each permissible asset class (i.e., the strategic asset allocation)?
 - What set of **benchmark indexes** should be designated as being "typical" (i.e., expected) of the returns associated with each permissible asset class?

Setting a Strategic Asset Allocation: Decisions to be Made

- Select Asset Class Universe

- Set Target Allocations

- Determine Asset Class Benchmarks

| Asset Class | Benchmark | Bloomberg Ticker | Minimum Range ¹ | Maximum Range ¹ | Target |
|---|---|--------------------|----------------------------|----------------------------|-------------|
| Global Equity: | | | | | |
| US Large Cap | MSCI USA Standard | GDDUUS | 13% | 23% | 18% |
| US Small Cap | MSCI USA Small Cap | GCUDUS | 0% | 7% | 2% |
| Non-US Developed | MSCI EAFE and Canada | NDDUEC | 10% | 20% | 15% |
| Emerging Markets | MSCI EM | NDUEEGF | 5% | 15% | 10% |
| Directional Hedge Funds | HFRI Fund of Funds Composite | HFRIFOF | 0% | 10% | 5% |
| <i>Total Public Equity</i> | <i>Target-weighted Blend</i> | | 45% | 55% | 50% |
| Private Equity | Customized State Street Private Equity Index – lagged one quarter ² | | 6% | 16% | 11% |
| <i>Total Global Equity</i> | <i>Target-weighted Blend</i> | | 54% | 68% | 61% |
| Stable Value: | | | | | |
| US Treasuries | Barclays Capital (BarCap) Long Treasury Index | LUTLTRUU | 0% | 20% | 13% |
| Absolute Return (Including Credit Sensitive Investments) ³ | 3 Month LIBOR + 2% | USC0TR03 (plus 2%) | 0% | 20% | 0% |
| Stable Value Hedge Funds | HFRI Fund of Funds Conservative | HFRIFOFC | 0% | 10% | 4% |
| Cash | Citigroup 90-day US Treasury | SBMMTB3 | 0% | 5% | 1% |
| <i>Total Stable Value</i> | <i>Target-weighted Blend</i> | | 13% | 23% | 18% |
| Real Return: | | | | | |
| Global Inflation Linked Bonds | BarCap US Treasury TIPS index | LBUTTRUU | 0% | 10% | 5% |
| Real Assets | NCREIF ODCE – lagged one quarter | | 8% | 18% | 13% |
| Energy and Natural Resources ⁴ | 75% Cambridge Associates Natural Resources (reweighted ⁴) / 25% quarterly Consumer Price Index – lagged one quarter | CPI (for CPI) | 0% | 8% | 3% |
| Commodities ⁴ | Goldman Sachs Commodity Index | SPGCCITR | 0% | 5% | 0% |
| <i>Total Real Return</i> | <i>Target-weighted Blend</i> | | 16% | 26% | 21% |
| TOTAL PLAN | Target-weighted Blend | | | | 100% |

Setting a Strategic Asset Allocation: *Some Initial Thoughts (cont.)*

- Ultimately, then, as the Board reviews the strategic asset allocation process and policy at TRS, it should:
 - Have a **thorough understanding of the projected liabilities** (i.e., the “problem”) confronting the System, including both forecasted expenditures and contributions
 - Have a **thorough understanding of current and forecasted capital market conditions** that define the set of possible investment portfolios
 - Consider the **investment benefits and risks** associated with a **range of possible asset class universes**—starting with the current set—that could define the TRS portfolio
 - Consider the **investment benefits and risks** associated with a **range of target allocations**—starting with the current set—for each permissible asset class
 - Consider the **set of benchmarks** that best represent the opportunity cost of investing in a particular asset class

Setting a Strategic Asset Allocation: *Some Initial Thoughts (cont.)*

- Finally, it is useful to recognize that the current approach to setting the **strategic asset allocation policy has been evolving** under the leadership of the current IMD, as well as past and present members of the Board, for several years
 - Whether the Board wants to consider this SAA review process as being one that either:
 - (i) starts from “ground zero”, or
 - (ii) affirms or modifies the current policy,

it is worth noting that many of the critical issues involved in making prudent decisions on the preceding questions are **evaluated on an on-going basis** by various parts of the organization



Teacher Retirement System of Texas

Overview of the Strategic Asset Allocation Process

February 2014

Hewitt ennisknupp

An Aon Company

Importance of Asset Allocation

- As we learned from Dr. Brown in December, the decision on asset allocation is a very important one, determining the majority of portfolio risk that will be experienced in the future.
- More specifically, Dr. Brown's presentation included the following:
 - *In an influential article published in Financial Analysts Journal in 1986, Gary Brinson, Randolph Hood, and Gilbert Beebower examined the issue of how important the initial strategic allocation decision was to an investor*
 - *In terms of return variation, they found that more than 90% (i.e., 93.6%) of that variation could be explained by the initial strategic asset allocation decision*
 - *The preceding research shows that Board's asset allocation decision is the main driver for how the portfolio produces returns over time*
 - *However...the asset allocation decision is also intended to help control the level of risk in the portfolio*
- While the Board of Trustees has delegated many investment decisions to the IMD, the decision on asset allocation is one that remains for the Board to make.
- The process employed by TRS, which we consider to be best practice, where the IMD—working in conjunction with advisors, consultants, strategic partners, and others—proposes a target allocation, which the Board may accept, with or without modifications.

Importance of Regular Reviews of Asset Allocation

- Since asset allocation is such an important decision, a thorough review of long term targets is necessary from time to time.
 - Our clients typically review asset allocation in great detail on average every 3 years (or when circumstances change)
 - Per section 1.6 of the TRS investment policy:

The Investment Division will assist the Board in engaging in an asset-liability study for the pension plan at least once every five (5) years to review asset classes, return-risk assumptions, and correlation of returns with applicable benchmarks and across asset classes.
 - Previous reviews of asset allocation took place in 2007 and 2009
 - The Investment Policy Statement, which includes the allocation targets and ranges, is reviewed annually, but major changes in allocation targets have not been common.

Factors that Influence Asset Allocation Decisions

- Factors that may influence differences in asset allocation across institutional investors include:
 - Risk tolerance (of the Board, Committees, investment staff, other constituents)
 - Current funded status; funding projections
 - Contribution rates
 - Cash outflows and inflows
 - Investment outlook (forward looking views)
 - Statutes or regulations (are any investments prohibited, what caps are in place)
 - Resources: whether a fund has the necessary resources both internal and external to properly evaluate and invest in certain assets
 - Sophistication

Best Practices in Reviewing Strategic Asset Allocation – Overview

In our experience, we would consider as best practice a review of asset allocation that followed the steps listed below.

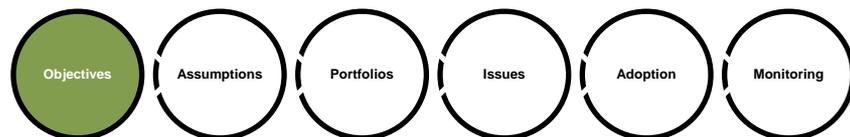
| | | | |
|-------------|---|---|---|
| Objectives | 1 | Update/Review Long-Term Objectives | <ul style="list-style-type: none"> What are long term goals? What has changed? What level of risk is tolerable? |
| Assumptions | 2 | Develop Forward Looking Capital Market Assumptions | <ul style="list-style-type: none"> Which asset classes to add or eliminate? Develop return, risk, correlation assumptions |
| Portfolios | 3 | Evaluate Alternative Portfolios/Model Results | <ul style="list-style-type: none"> Determine metrics for comparing alternatives Review benchmarks and ranges Consider practices of peers |
| Issues | 4 | Consider Other Issues | <ul style="list-style-type: none"> currency hedging Review risk budgets Incorporate investor competitive advantages |
| Adoption | 5 | Adopt a New Target Asset Allocation | <ul style="list-style-type: none"> Review current target relative to alternatives Formally adopt a new target in IPS |
| Monitoring | 6 | Implementation and Monitoring | <ul style="list-style-type: none"> Design plan for implementation of any changes Monitor compliance with new targets and ranges over time |

Step 1: Best Practices in Reviewing Strategic Asset Allocation

We have conducted reviews of investor asset allocation for many institutions and the following steps are generally indicative of a process we would consider a best in class and thorough review of asset allocation.

1) Update/Review Long-Term Objectives

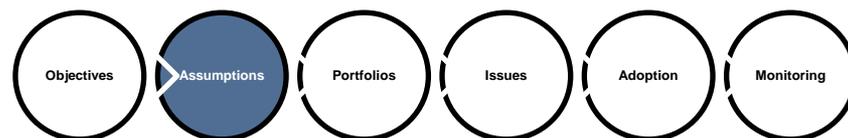
- What circumstances have changed since the last AA review?
- What are the long term goals and objectives of the plan?
- What level of risk can the investor tolerate?
- What does the liability stream look like and what are the contribution levels?
- What are the current actuarial assumptions?
- What changes in circumstances may be on the horizon?
- How might we define reward and risk of a portfolio?
 - Weigh the average outcome vs. the impact of very bad outcomes?
 - Sharpe ratio?
 - Total return?
 - Actual long-term return vs. actuarial assumed return?



Step 2: Best Practices in Reviewing Strategic Asset Allocation

2) Develop Forward Looking Capital Market Assumptions

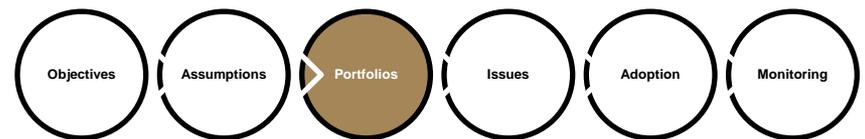
- What current asset classes should be evaluated?
- Which asset classes should be considered for addition or subtraction?
- Develop / Determine set of expected returns, risk and correlations for various asset classes
- Test reasonableness of assumptions and explore alternatives



Step 3: Best Practices in Reviewing Strategic Asset Allocation

3) Evaluate Alternative Portfolios / Model Results

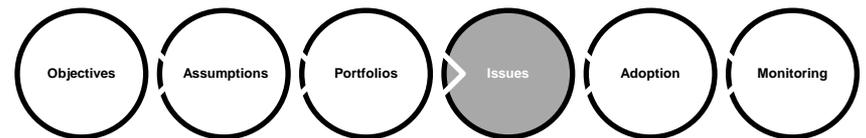
- Determine metrics for comparing alternative portfolios (risk adjusted returns, median expected return, downside risk, etc)
- Determine liquidity tolerance
- Consider alternative asset allocation targets
- Review asset class benchmarks
- Review ranges around asset class targets
- Review allocation targets and strategies used by peer investors
- Model impact of various economic scenarios on both asset portfolios and projected benefit payments
- Consider alternative portfolio construction approaches (risk based, etc)



Step 4: Best Practices in Reviewing Strategic Asset Allocation

4) Consider Other Issues

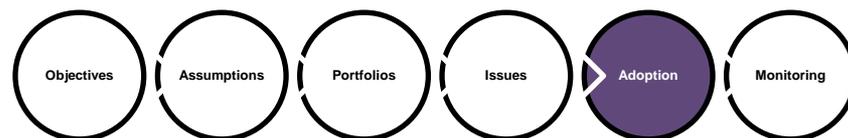
- Risk targets/budgeting
- Ability to access the asset class (investible market size, manager access issues)
- Exploit competitive advantages



Step 5: Best Practices in Reviewing Strategic Asset Allocation

5) Adopt a New Target Asset Allocation

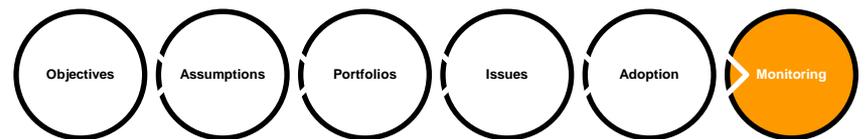
- Review current allocation target relative to suitable alternatives
- Adopt a new target allocation (or keep previous targets)
- Review plan for implementation of any changes
- Update IPS to reflect any changes in asset allocation targets, ranges, benchmarks, or risk budgets



Step 6: Best Practices in Reviewing Strategic Asset Allocation

6) Implementation and Monitoring

- Execute on plan (time horizon for implementation will vary significantly based on liquidity of asset classes involved and magnitude of changes)
- Monitor actual portfolio to ensure compliance with policy targets



Beyond Best Practice: What Is Necessary for a Successful Outcome?

- **Documentation:** Thorough documentation before, during and after the strategic asset allocation process is complete.
- **Transparency:** Internal investment teams / consultants need to provide open access to assumptions, research, models and other critical inputs.
- **Education:** Know contemporary best practices; conduct independent research; hold educational sessions throughout process.
- **Active Participation:** All key stakeholders need to actively participate: Board members; internal investment teams; the executive office; consultants.

At the end of the process the Board will need to opine on a new / modified strategic asset allocation. Following the key elements outlined in this presentation should provide the Board what it needs to make an informed, well reasoned decision.

The background features a stylized world map with a grid of latitude and longitude lines. Several sailing ships are depicted on the map, along with a large compass rose on the right side. In the bottom left corner, there is a golden sextant. The overall color scheme is a warm, light beige.

TRS 2014 SAA Study Overview

Britt Harris
Chief Investment Officer

2014 SAA Study: Major Issues To Explore

Goal of the SAA Study:

Maximize the probability of achieving 8% returns over twenty years, without an unacceptable risk of intermediate-term downside volatility

Environmental Issues to Incorporate:

- Low inflation and low interest rates
- Secular deleveraging
- Slowing economic growth and productivity
- Excessive money printing could lead to inflation
- Increased government share of GDP relative to the private sector
- Intermediate-term valuations are high (therefore expected returns are lower)
- Global geopolitical issues

2014 SAA Study: Major Issues To Explore

Investment Issues To Review

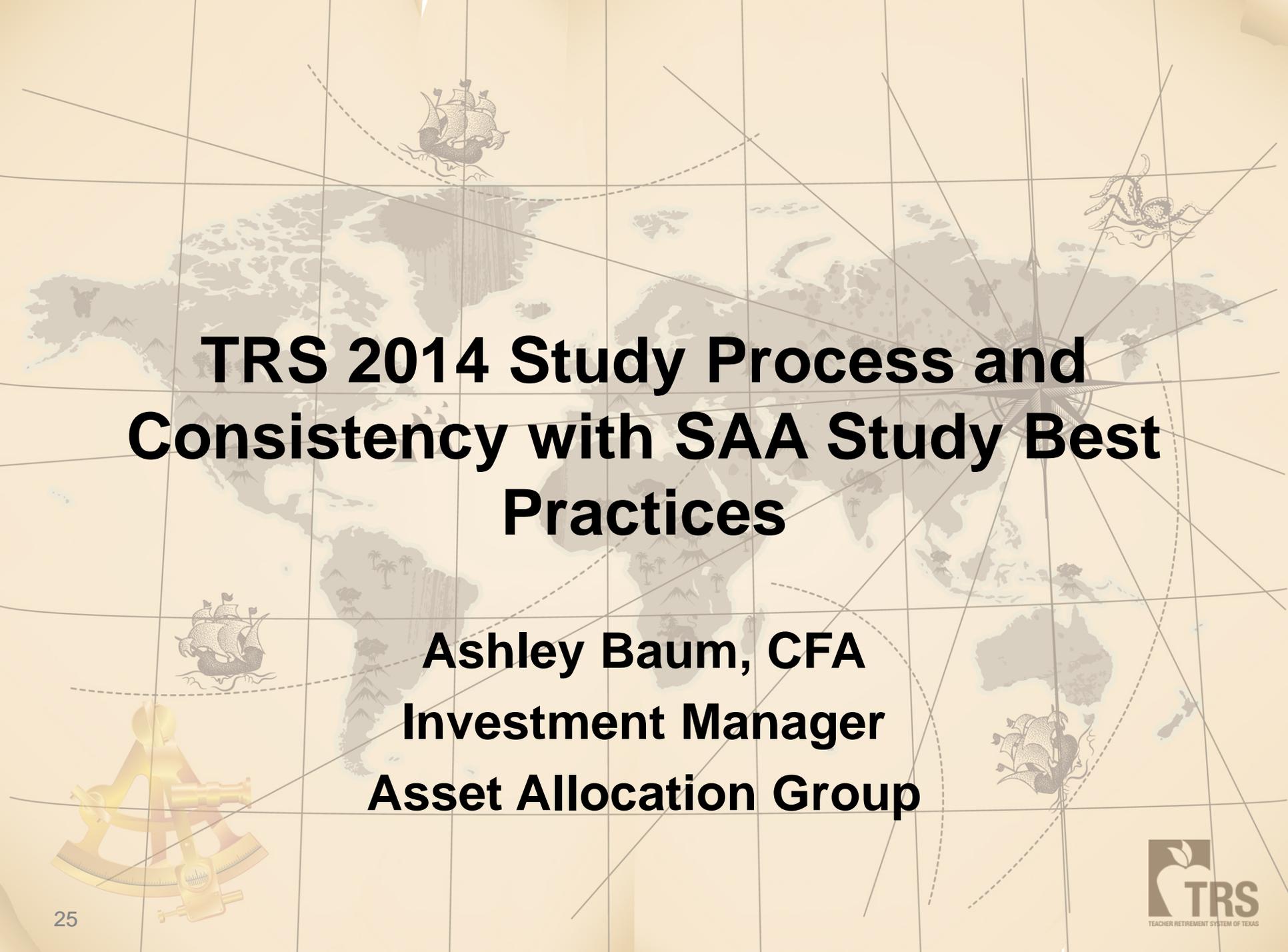
1. What is the optimal equity/debt split?
2. What is the optimal public/private split?
3. What is the role of fixed income?
 - Allocation, duration, use of credit
 - Are there useful alternatives to fixed income (hedge funds, infrastructure, etc.)?
4. What is the appropriate diversification within global public equity?
 - Allocation to Emerging Markets, etc.
5. What is the appropriate diversification within global private markets?
 - Private Equity, Real Estate, Energy and Natural Resources, etc.
6. What are the implications of liquidity?
 - Policy and price
 - Concentration
 - What assets are insufficiently liquid for a plan of our size?
7. How should we consider currency policy?
8. What is the potential role of leverage?
9. What is unacceptable downside volatility?
10. What ranges should we adopt around policy neutral positions?
11. Are our investment beliefs aligned with our time horizon?

2014 SAA Study: Major Issues To Explore

Capital market expectations are a semi-scientific process based on a series of underlying assumptions that are often imprecise and problematic.

Other Issues That Arise

- 1) What are the actual absolute and relative risks of private equity?
- 2) When, if ever, should the TRS actual results be used rather than generic market forecasts?
 - Private Equity, Real Assets, etc.
 - Should assumptions be based primarily on CAPM?
- 3) How important are short-term volatility measures relative to longer-term volatility measures?
- 4) Are there any low-probability but high impact risks that can/should be hedged?
- 5) What is the best period to use for correlations?
 - Average or stressed periods?
 - Longest period or most recent?

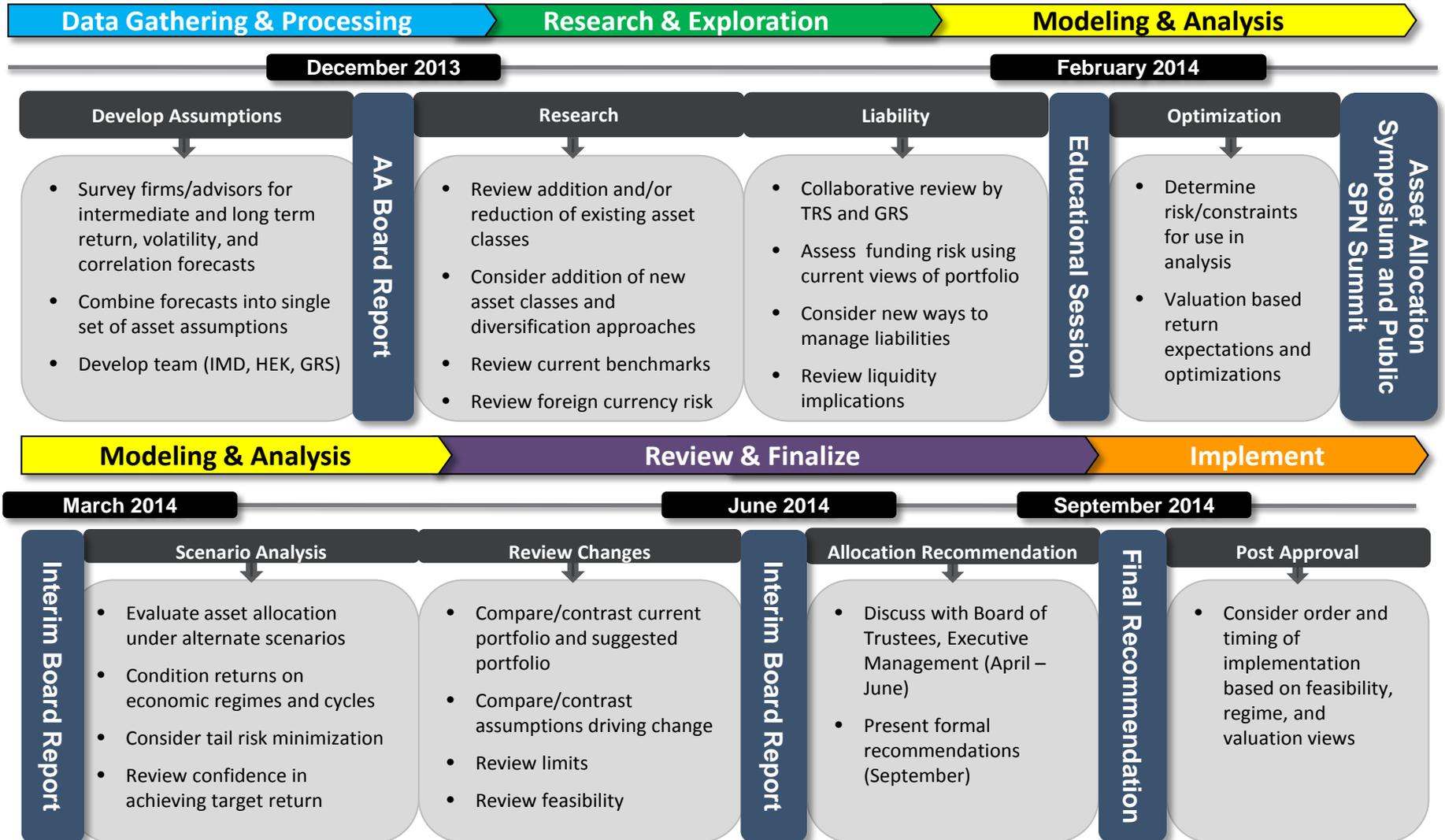
The background features a stylized world map with a grid of latitude and longitude lines. Several sailing ships are depicted in various locations, and a large compass rose is centered on the right side of the map. The overall color scheme is a warm, golden-brown hue.

TRS 2014 Study Process and Consistency with SAA Study Best Practices

**Ashley Baum, CFA
Investment Manager
Asset Allocation Group**

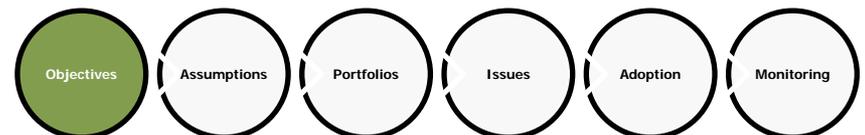
Strategic Asset Allocation

2014 SAA Process Map



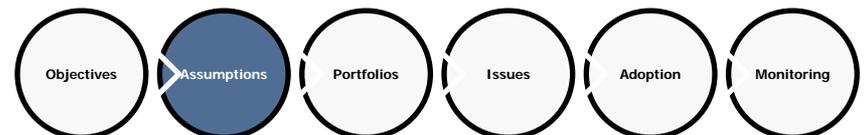
SAA Study Best Practices

| <u>1. Update/Review Long-Term Objectives</u> | <u>In Plan?</u> | <u>TRS Study Timing</u> |
|---|-----------------|--------------------------------------|
| What circumstances have changed since the last AA review? | ✓ | Today: Reviewed by IMD |
| What are the long term goals and objectives of the plan? | ✓ | Today: Set in IPS; Reviewed by IMD |
| What level of risk can the investor tolerate? | ✓ | Today: Reviewed by GRS |
| What does the liability stream look like, what are contribution levels? | ✓ | Today: Reviewed by GRS |
| What are the current actuarial assumptions? | ✓ | Today: Reviewed by GRS |
| What changes in circumstances may be on the horizon? | ✓ | Today: Reviewed by GRS |
| How might we define reward and risk of a portfolio? | ✓ | December 2013: Reviewed by Dr. Brown |



SAA Study Best Practices

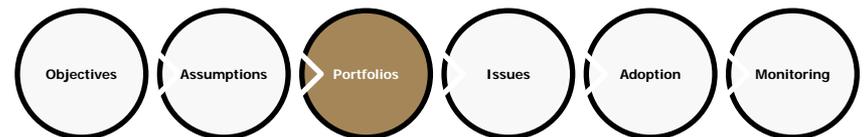
| <u>2. Develop Forward Looking Capital Market Assumptions</u> | <u>In Plan?</u> | <u>TRS Study Timing</u> |
|--|-----------------|---|
| What current asset classes should be evaluated? | ✓ | October 2013: All TRS policy asset classes with a focus on Hedge Funds, US Treasuries, Emerging Markets, Commodities, and Private Asset Classes |
| Which asset classes should be considered for addition or subtraction? | ✓ | October 2013: Considering Infrastructure, EM Debt, Credit, Mid Cap, Intl Small and Mid Cap, and Frontier Markets |
| Develop / Determine set of expected returns, risk and correlations for various asset classes | ✓ | October-February 2014: Sent to SPNs, External Consultants, Other Experts. Initial Results Today, Expecting Additional Input |
| Test reasonableness of assumptions and explore alternatives | ✓ | January-March |



SAA Study Best Practices

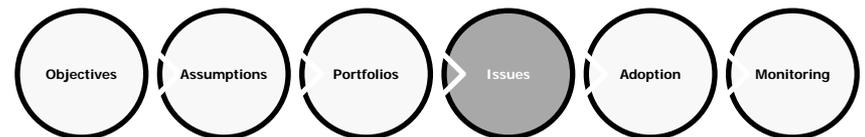
3. Evaluate Alternative Portfolios / Model Results

| | <u>In Plan?</u> | <u>TRS Study Timing</u> |
|---|-----------------|-------------------------|
| Determine metrics for comparing alternative portfolios (risk adjusted returns, median expected return, downside risk, etc.) | ✓ | February-May |
| Determine liquidity tolerance | ✓ | January-March |
| Consider alternative asset allocation targets | ✓ | May-September |
| Review asset class benchmarks | ✓ | January-May |
| Review ranges around asset class targets | ✓ | February-May |
| Review allocation targets and strategies used by peer investors | ✓ | Today: Reviewed by IMD |
| Model impact of various economic scenarios on both asset portfolios and projected benefit payments | ✓ | May-September |
| Consider alternative portfolio construction approaches (risk based, etc.) | ✓ | February-April |



SAA Study Best Practices

| <u>4. Consider Other Issues</u> | <u>In Plan?</u> | <u>TRS Study Timing</u> |
|---|-----------------|-------------------------|
| Risk targets/budgeting | ✓ | February-May |
| Ability to access the asset class (investible market size, manager access issues) | ✓ | October-March |
| Exploit competitive advantages | ✓ | February-September |



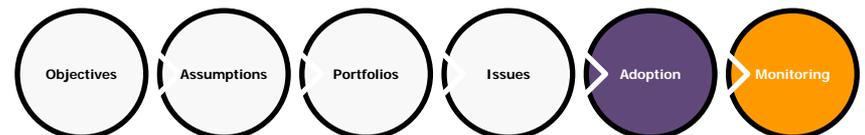
SAA Study Key Elements

5. Adopt a New Target Asset Allocation

| | <u>In Plan?</u> | <u>TRS Study Timing</u> |
|--|-----------------|-------------------------|
| Review current allocation target relative to suitable alternatives | ✓ | June-September |
| Adopt a new target allocation (or keep previous targets) | ✓ | September |
| Review plan for implementation of any changes | ✓ | September |
| Update IPS to reflect any changes in asset allocation targets, ranges, benchmarks, or risk budgets | ✓ | September |

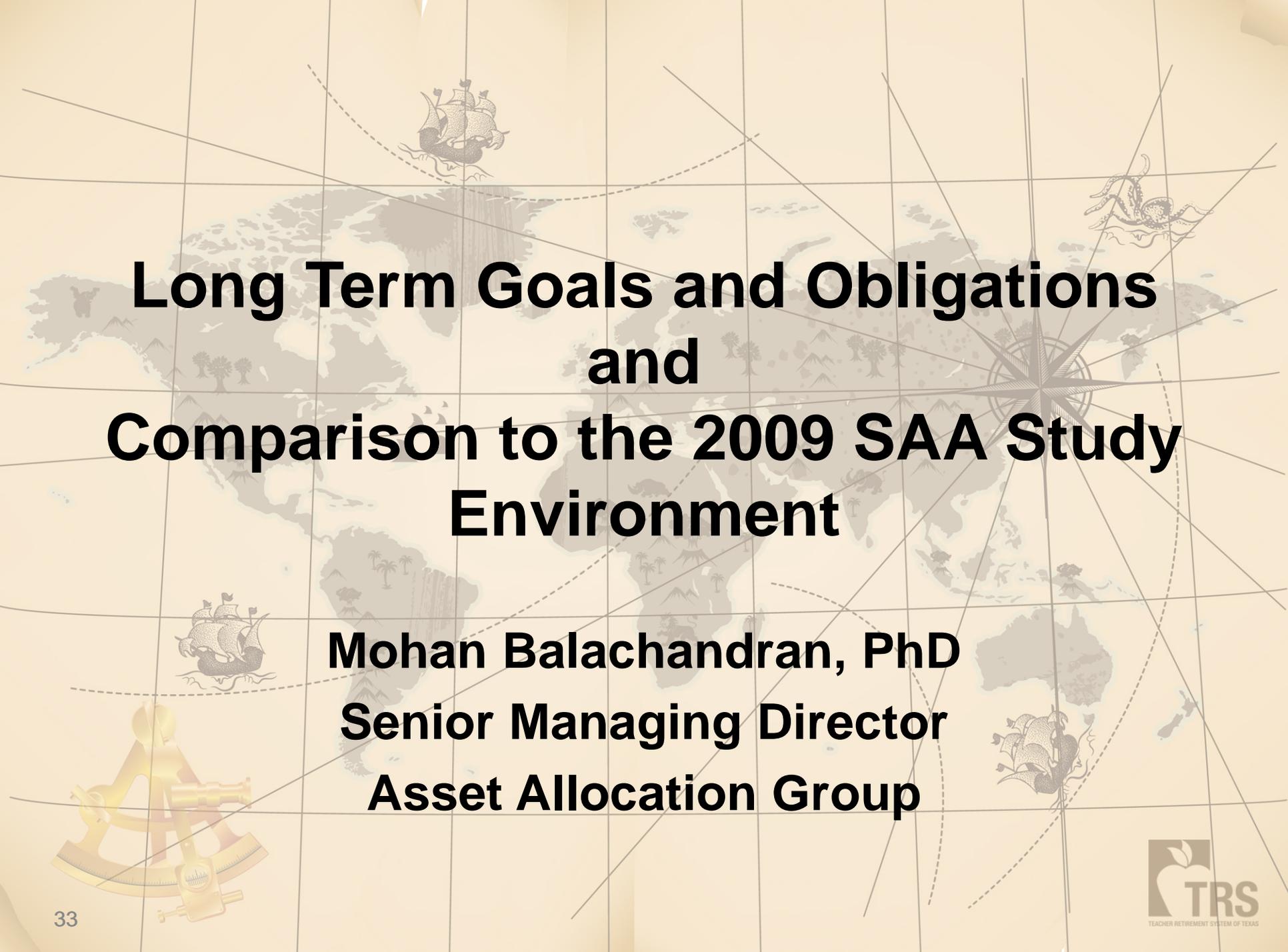
6. Implementation and Monitoring

| | <u>In Plan?</u> | <u>TRS Study Timing</u> |
|---|-----------------|-------------------------|
| Execute on plan (time horizon for implementation will vary significantly based on liquidity of asset classes involved and magnitude of changes) | ✓ | September-TBD |
| Monitor actual portfolio to ensure compliance with policy targets | ✓ | Ongoing |



SAA Study Attributes

| <u>HEK Identified Best Practice</u> | <u>In Plan?</u> | <u>How will TRS achieve this?</u> |
|--|-----------------|---|
| Documentation: Thorough documentation before, during and after the strategic asset allocation process is complete. | ✓ | TRS Project Plan, SAA Study Memos, Project Archive, and Board Materials |
| Transparency: Internal investment teams / consultants need to provide open access to assumptions, research, models and other critical inputs. | ✓ | Collaborative, regular interaction and input from Management Committee and Consultants |
| Education: Know contemporary best practices; conduct independent research; hold educational sessions throughout process. | ✓ | Review peer approaches, assigned TRS team on all topics (SAA plus IMD experts), Asset Allocation Symposium, and 4 Board presentations |
| Active Participation: All key stakeholders need to actively participate: Board members; internal investment teams; the executive office; consultants. | ✓ | Kick-off meetings plus monthly/quarterly discussions with Management, Consultants and Board |

The background features a stylized world map with a grid of latitude and longitude lines. Several sailing ships are depicted in various positions across the map, and a large compass rose is visible on the right side. The overall color scheme is a warm, golden-brown hue.

Long Term Goals and Obligations and Comparison to the 2009 SAA Study Environment

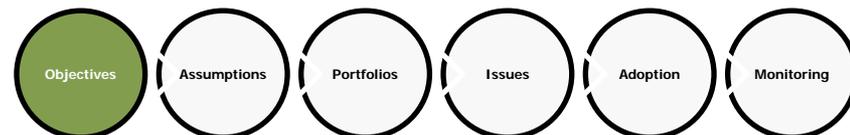
**Mohan Balachandran, PhD
Senior Managing Director
Asset Allocation Group**

Long Term Goals and Obligations of the Plan

TRS has well reasoned and clearly articulated objectives in its Statement of Investment Policy, Section 1.4 as follows:

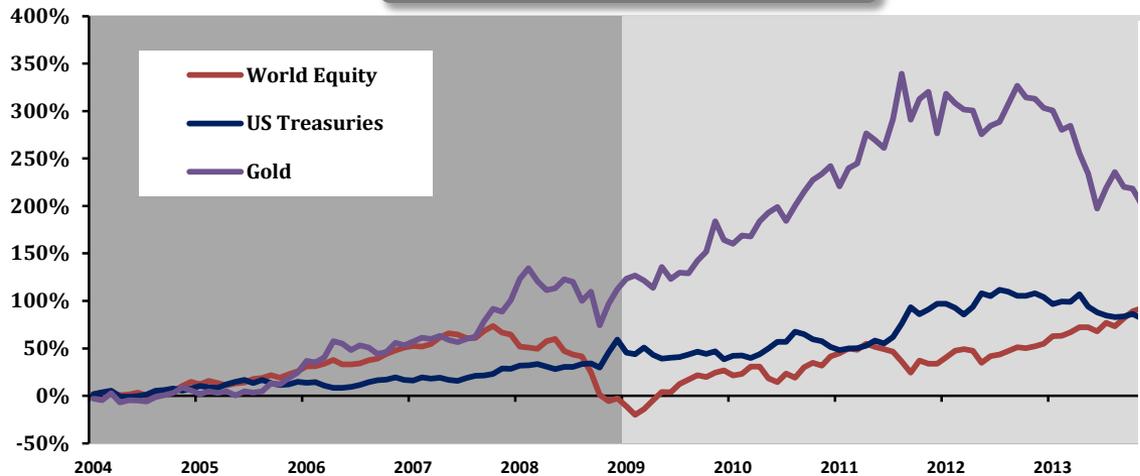
The Fund *“will be structured and managed to achieve the following objectives:*

- a. Control risk through proper diversification of asset classes and by establishing long-term risk and return expectations; and*
- b. As applicable to the pension plan, achieve a long-term rate of return that:*
 - i. Exceeds the assumed actuarial rate of return adopted by the Board;*
 - ii. Exceeds the long-term rate of inflation by an annualized 5%; and*
 - iii. Exceeds the return of a composite benchmark of the respective long-term normal asset mix weighting of the major asset classes.”*



Market Environment: 2009 vs 2014

Market Returns



| Returns ¹ | 2004-2009 | 2009-2013 | Difference | 2004-2013 |
|----------------------|-----------|-----------|------------|-----------|
| World Equity | (2.5%) | 101.4% | +103.9% | +96.3% |
| US Treasuries | 59.1% | 11.9% | (47.2%) | +78.1% |
| Gold | 112.3% | 36.2% | (76.1%) | +189.2% |
| TRS Trust | 1.7% | 12.5% | +10.8% | +7.0% |

Market Expectations

| | 10-Year Historical Return (2003-2013) | Forecasted ² 2009 Median Long-Term | Forecasted ² 2014 Median Long-Term Preliminary |
|--------------------------------|---------------------------------------|---|---|
| US Large | 7.6% | 8.1% | 7.0% |
| US Small | 9.8% | 8.6% | 7.3% |
| Non-US Dev | 7.1% | 7.2% | 7.4% |
| EM | 11.2% | 9.3% | 8.7% |
| Directional HF | 3.4% | N/A | 4.5% |
| Private Equity | 12.4% ³ | 8.3% | 9.3% |
| US Treasury | 5.9% | 3.7% | 3.0% |
| SV HF | 2.6% | 6.5% | 4.4% |
| Cash | 1.6% | 3.0% | 2.4% |
| Inflation Linked | 4.8% | 3.7% | 2.7% |
| Real Assets | 8.6% ⁴ | 7.0% | 6.1% |
| ENR | N/A | N/A | 7.7% |
| Total Trust⁵ | 7.0% | 8.7% | 8.2% |
| Inflation | 2.4% | 2.0% | 2.2% |

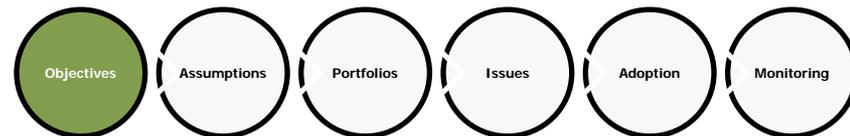
1- Source: Bloomberg and State Street Bank.

2- 2009 and 2014 Capital Market Expectations Survey conducted by TRS. Some estimates are derived from other asset class forecasts provided. See slide 45 for 2014 methodology.

3- State Street Private Equity Index from 11/30/2003 to 11/30/2013

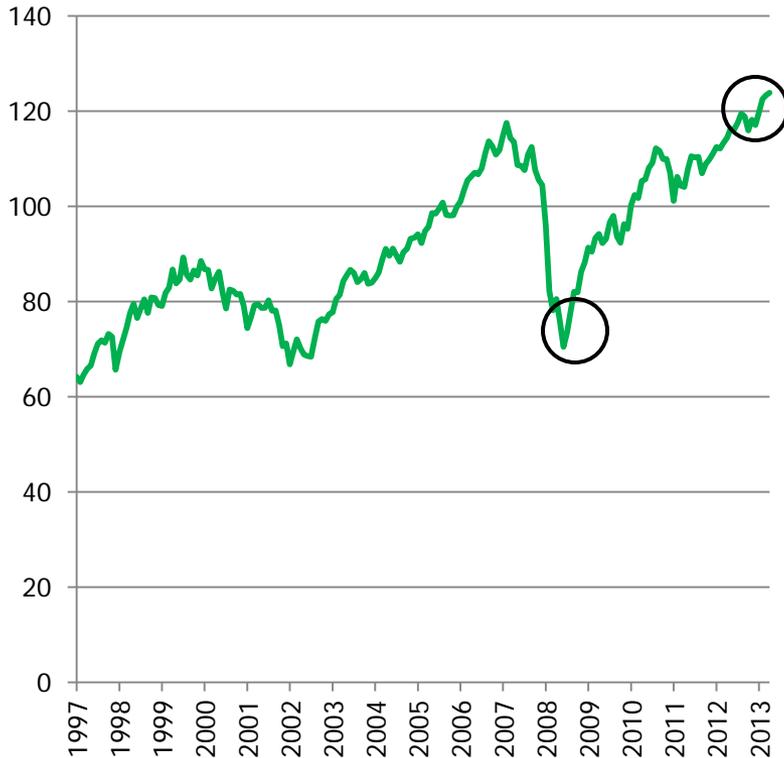
4- NCREIF ODCE Index from 12/31/2003 to 12/31/2013

5- Forecasted Total Trust returns include +100 bps of Alpha



Trust Liability: 2009 vs 2014

TRS Total Trust Value (\$ in Billions)



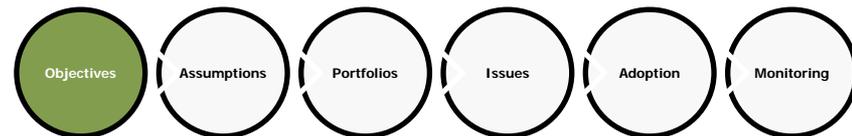
Source: GRS, TRS

1: School districts: 1.5% contribution rate will begin FY 2015 (September 1, 2014).

2: Member Contributions: Increase will be phased in over three years. Contributions will begin to increase according to the following schedule: FY 2014 6.4%, FY 2015 6.7%, FY 2016 7.2%, FY 2017 7.7%. Fiscal years begin September 1.

| Liability | Feb 2009 | Aug 2013 | Difference |
|--------------------|----------|----------|------------|
| Funded Ratio | 67.7% | 80.8% | +13.1% |
| Unfunded Liability | \$40.4B | \$28.9B | (\$14.3B) |

| Contribution Rates | Feb 2009 | Expected 2013 | Aug 2013 | Expected 2017 |
|--------------------|---------------|---------------|--------------|-------------------|
| State | 6.58% | Same | 6.8% | 6.8% |
| Member | 6.4% | Same | 6.8% | 7.7% ¹ |
| School District | 0% | 0% | 0% | 1.5% ² |
| Total | 12.98% | 12.98% | 13.6% | 15.46% |





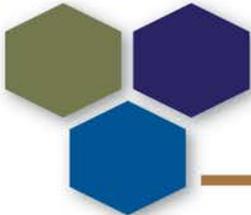
TRS Risks: An Actuarial Perspective

February 2014

Joe Newton, FSA, FCA, EA, MAAA

GRS

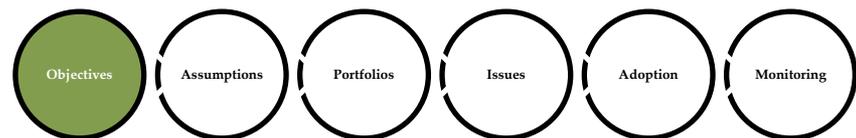
Gabriel Roeder Smith & Company
Consultants & Actuaries
www.gabrielroeder.com

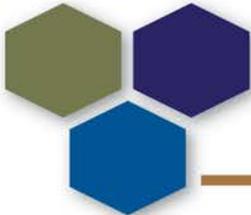


Summary

◆ Key questions to consider

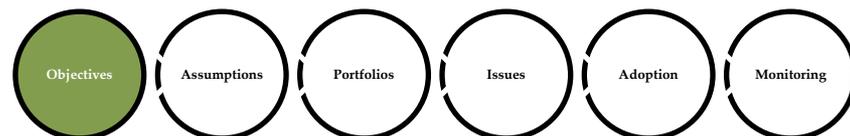
- ▶ What level of risk can the investor tolerate?
- ▶ What does the liability stream look like?
- ▶ What are the current actuarial assumptions and the sensitivity of the Trust to those assumptions?
- ▶ What changes in circumstances may be on the horizon?

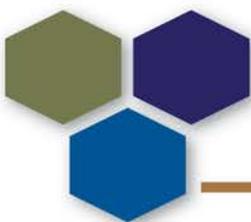




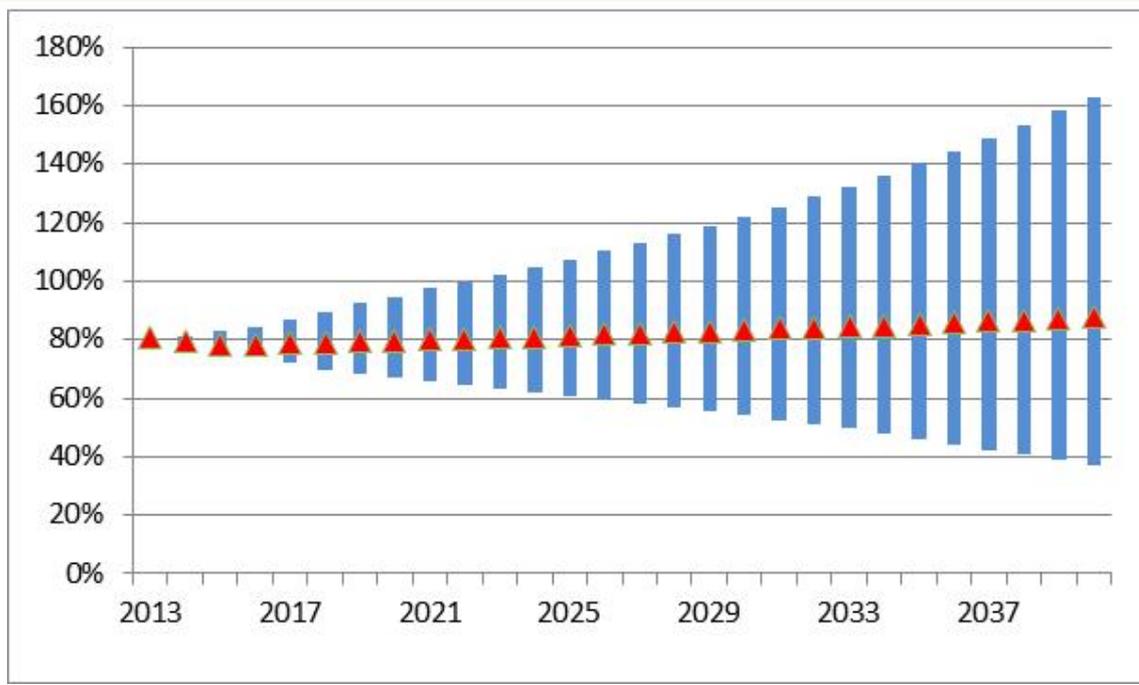
Level of Risk Relating to a Pension Plan

- ◆ Actuarially, the risk to a pension plan is not having enough money to pay benefits when due
- ◆ Can be manifested in lower incomes (contributions and investment earnings) or higher expenditures (benefits) than expected (or needed)
- ◆ The risk can take the form of a gradual underperformance compared to the assumptions/expectations
 - ▶ Not meeting return assumption over time
 - ▶ Longevity slowly outpacing current trends
 - ▶ Contributions continually being less than needed
- ◆ Or, the risk can take the form of a large, one time event
 - ▶ 2008 financial crisis
 - ▶ 9/11 impact on public safety death and disability benefits
- ◆ In some situations, time can allow for offsetting experience in the opposite direction, in others, it is truly a one time shift in the direction of the plan, with normal experience afterwards
- ◆ Amount of tolerable risk is dependent on the funded ratio, net cash flow needs, and the overall conservativeness/aggressiveness of the assumptions



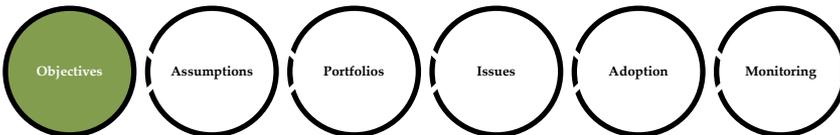


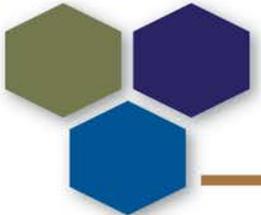
The TRS Liability Stream: Projected Funded Ratio



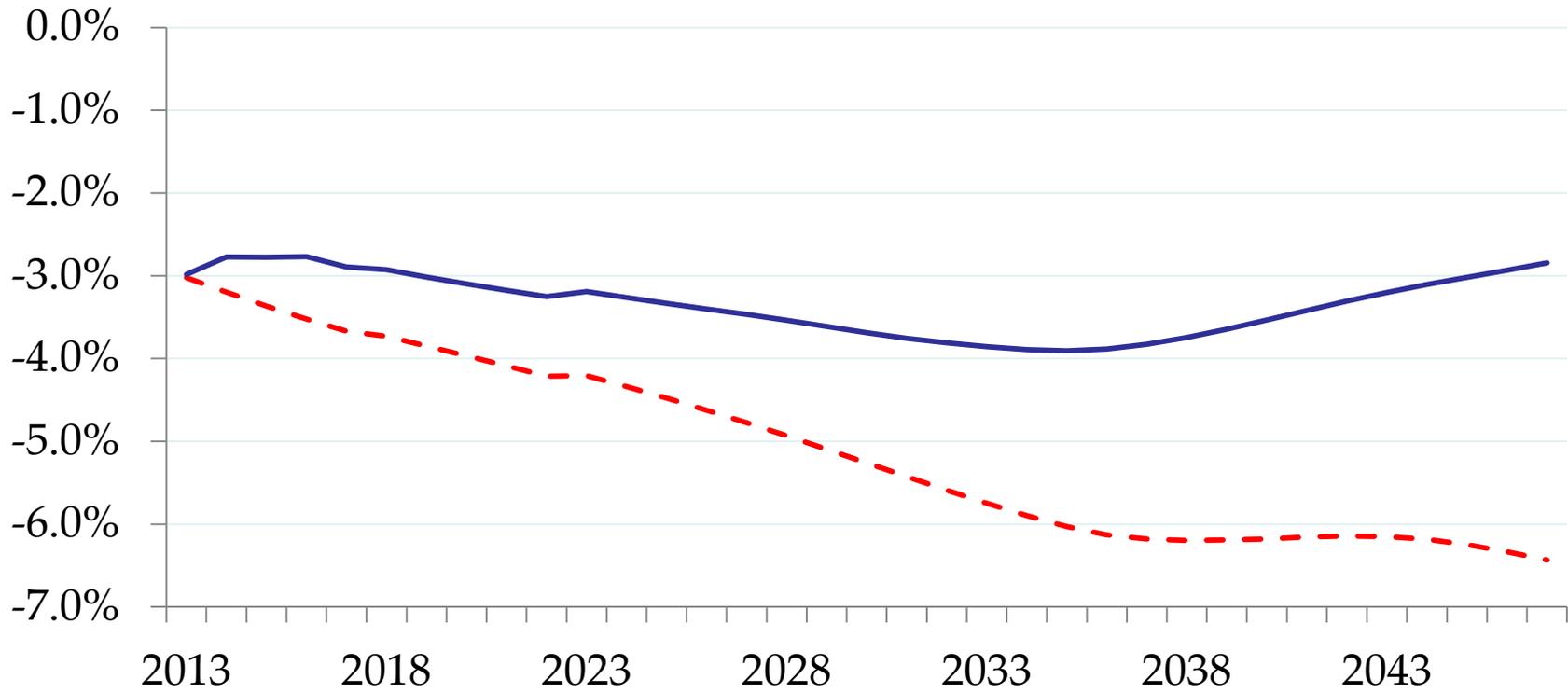
▲ Median Expectation | 25th-75th percentile of expectation

- Projections vary the actual investment return over time.
- Assumes all other assumptions exactly met
- Assumes new contribution policy, projected from market value of assets as of August 31, 2013
- Assumes constant active population and payroll grows at assumed 3.50% per year

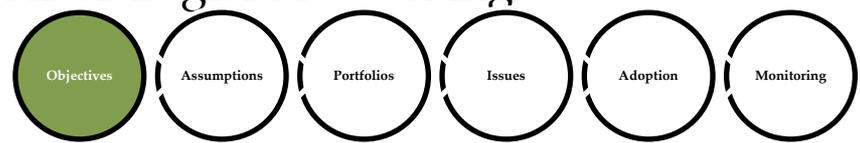


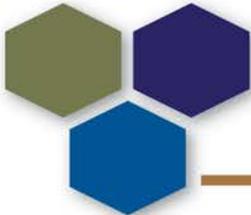


Cash Flow as a % of Assets



-- Cash Flow % - Before Legislative Changes
— Cash Flow % - After Legislative Changes



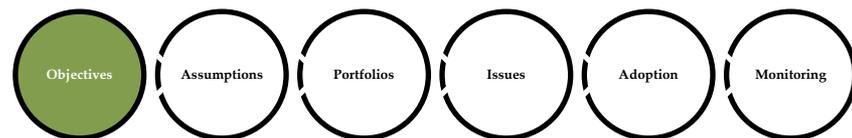


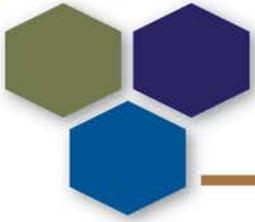
Measures of Risk Metrics

| | TRS | Relative to Peers |
|---|------|---------------------|
| UAAL/Payroll | 79% | Moderately Positive |
| Ratio of Actives to Retirees | 2.4 | Very Positive |
| Market Value of Assets/Payroll | 320% | Positive |
| Liability/Payroll | 410% | Very Positive |
| Duration of the Liability | 24 | Very Positive |
| Change in ARC with 10% drop in assets and no recovery | +2% | Positive |

On most measures of plan risk, TRS compares favorably to its peers

However, it might be easier for some peers to get a 2.0% increase in the contribution rate, so as in all of the metrics, any one does not tell the whole story

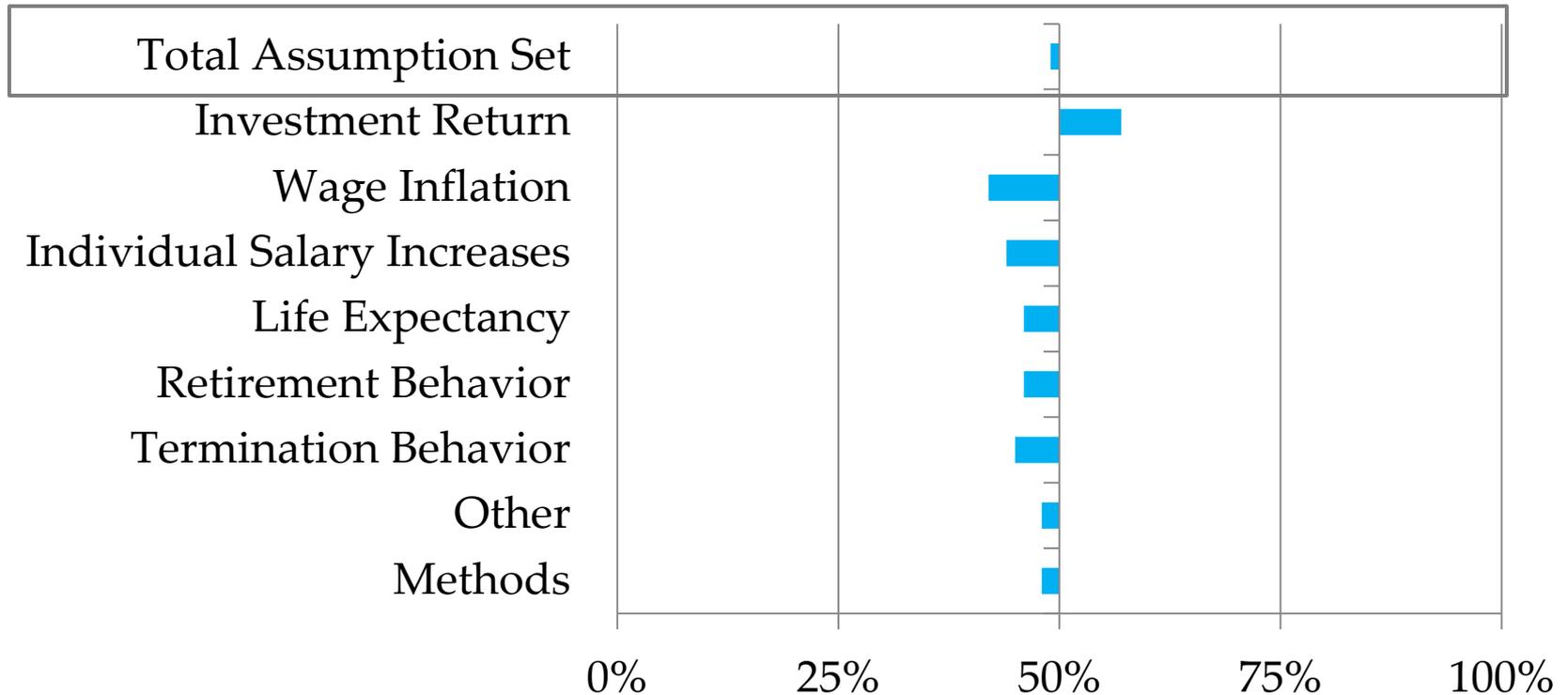




Current Assumption Set

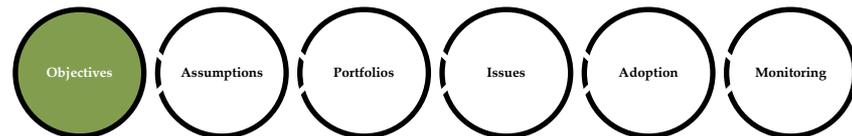
Exhibit from 2010 Experience Study

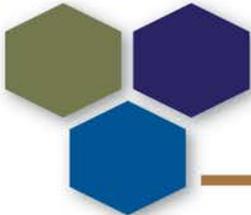
Level of Conservatism



0% equals fully conservative, 100% equals fully aggressive

50% equals a perfect fit (crystal ball)

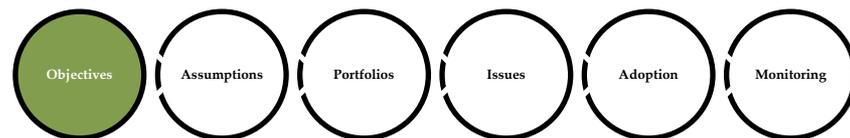


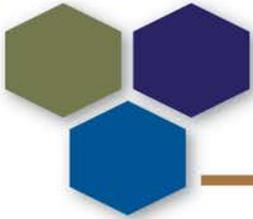


Magnitude of Demographic Risks

| | UAAL | | Expected Fully Funded Date (FF)/Exhaustion Date (E) | Change in Contribution Rate needed to meet current expectations |
|--|----------|--------|---|---|
| Current | \$33.3 B | | FF in 2051 | NA |
| Younger Retirements | \$34.8 B | +1.5 B | FF in 2059 | +0.40% |
| Less Turnover | \$33.4 B | +0.1 B | FF in 2055 | +0.20% |
| Cure Cancer (+2.5 years in life expectancy) | \$40.2 B | +6.9 B | E > 100 years | +1.60% |
| Indefinite increases in Life Expectancy based on recent trends | \$36.2 B | +2.9 B | FF in 2079 | +1.00% |
| +1% annual population growth next 20 years | N/A | | FF in 2044 | -0.50% |
| -1% annual population decrease next 20 years | N/A | | FF in 2064 | +0.50% |

Values based on projecting from the current market value of assets



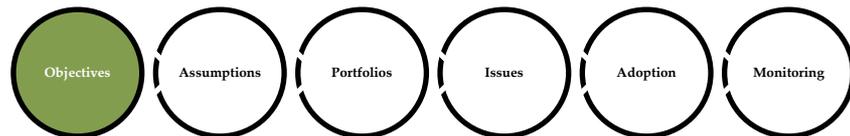


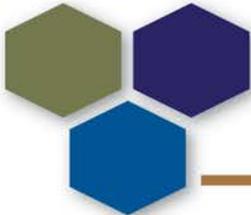
Magnitude of Economic Risks Longer Term

| | UAAL | | Expected Fully Funded Date (FF)/Exhaustion Date (E) | Change in Contribution Rate needed to meet current expectations |
|--|----------|--------|---|---|
| Current | \$33.3 B | | FF in 2051 | NA |
| + 0.50% real investment return, no change to inflation | \$24.9 B | -8.4 B | FF in 2031 | -2.0% |
| + 0.50% change in inflation | \$26.9 B | -6.4 B | FF in 2035 | -1.7% |
| - 0.50% change in inflation | \$40.2 B | +6.9 B | E ~ 2125 | +1.7% |
| - 0.50% real investment return, no change to inflation | \$42.4 B | +9.1 B | E ~ 2090 | +2.2% |

Values based on projecting from the current market value of assets

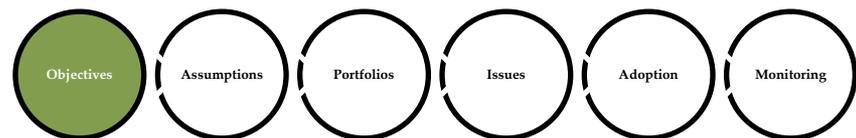
Changing the inflation assumption would impact the investment return assumption, the assumption for salary increases for individuals, and the assumption for overall payroll growth





Other Risks and Changes on the Horizon

- ◆ Accounting
- ◆ Risk free rate
- ◆ Financial Economics school of thought
- ◆ Actuarial Standards
- ◆ Political





2014 Initial Capital Market Survey Results and TRS Peer Comparison



**Mohan Balachandran, PhD
Senior Managing Director
Asset Allocation Group**

Capital Markets Expectations Survey Overview



Policy Asset Classes (13): US Large Cap, US Small Cap, Developed Market Equities, Emerging Market Equities, Private Equity, Directional Hedge Funds, US Treasuries, Cash, Stable Value Hedge Funds, US TIPS, Commodities, ENR, Real Assets

Other Asset Classes (37): Infrastructure, Private Equity Subsectors, Real Estate Subsectors, Global Bonds, Emerging Market Debt, Bank Loans, High Yield Credit, Etc.

Expected Returns

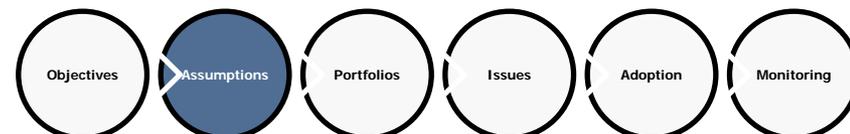
Expected Volatility

Expected Correlations

Market Expectations

Survey Highlights

- Distributed to Public Strategic Partners, Consultants, and select External Managers
- Requests assumptions for 50 different asset classes
- Estimates provided for two distinct time-horizons: Intermediate Term (5-10 years) and Long Term (10 years +)
- Results serve as input in the Portfolio Optimization process
- To date, received 12 forecasts
- In depth discussion to occur at the February Asset Allocation Symposium and Public SPN Summit



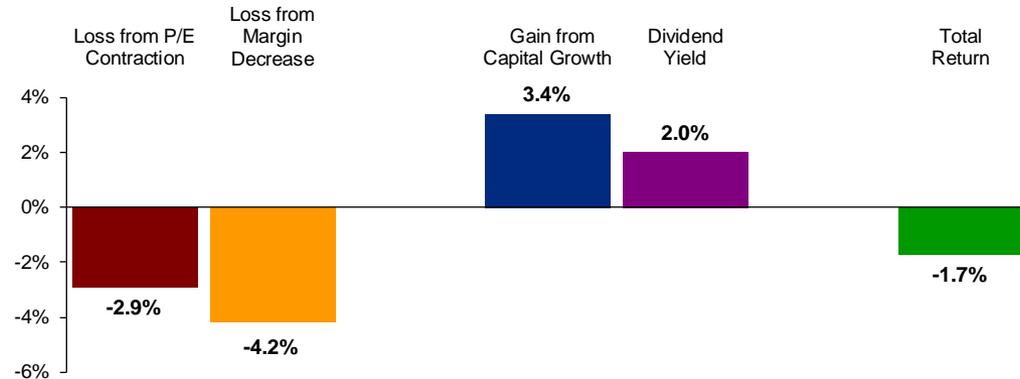
Capital Markets Survey

Methods & Outcome

Build-Up Method

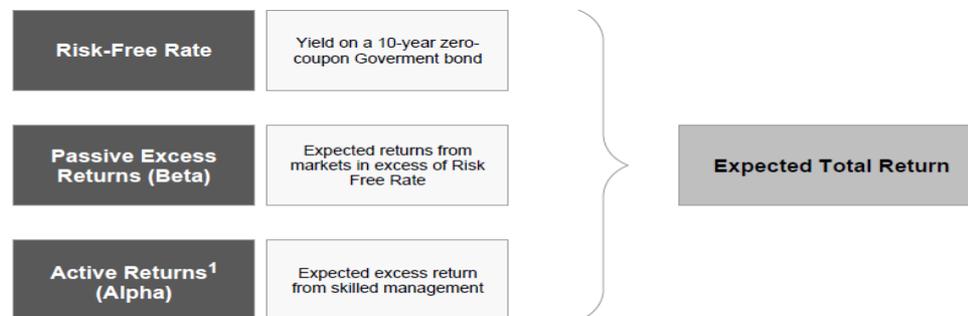
Looks at fundamental data, creating an estimate of Intrinsic Value

Expected Real Return for US Large Cap

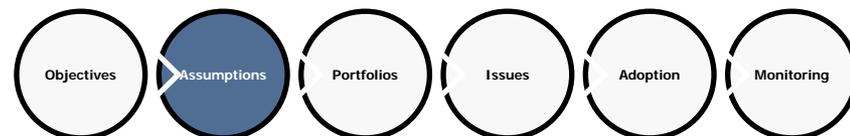


Equilibrium Method

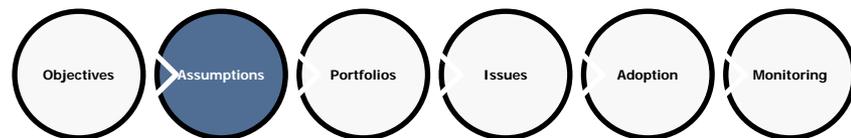
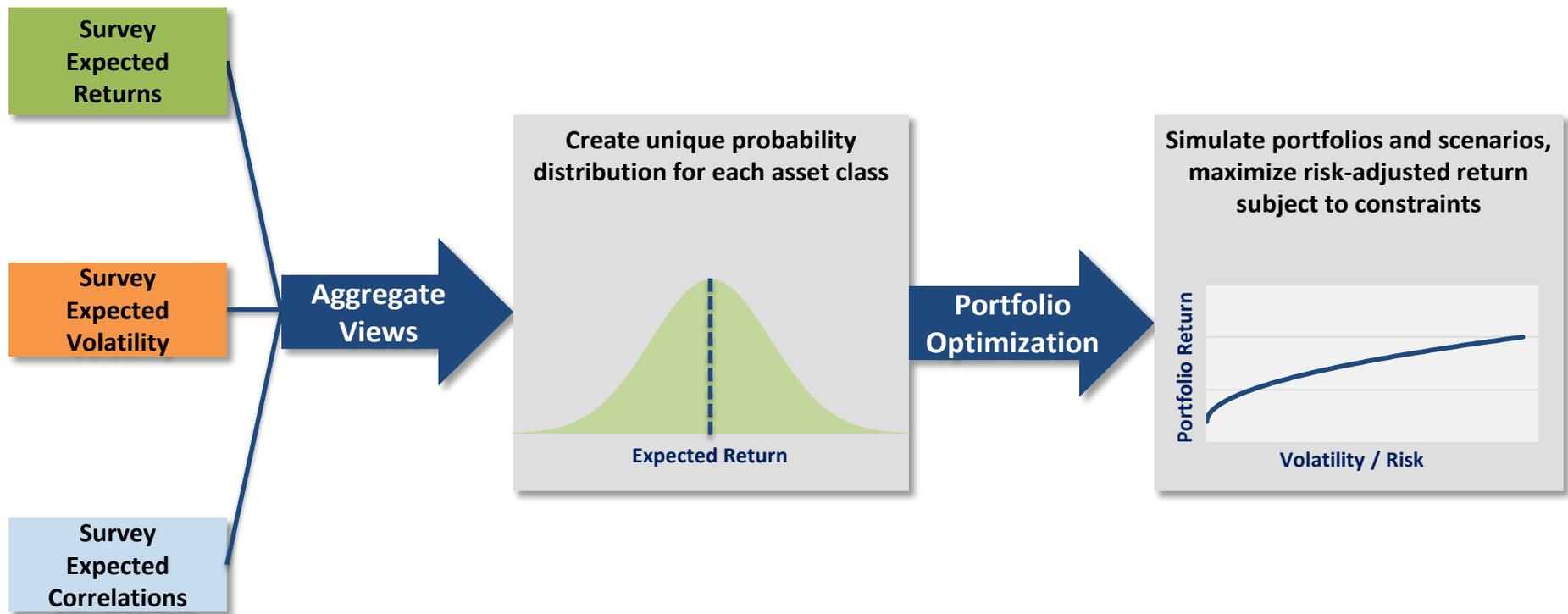
Starts with the risk-free rate and adds estimates of excess returns that investors should earn for taking specific risks



Source: GMO, Goldman Sachs. GMO assumes Long-term inflation of 2.2%.

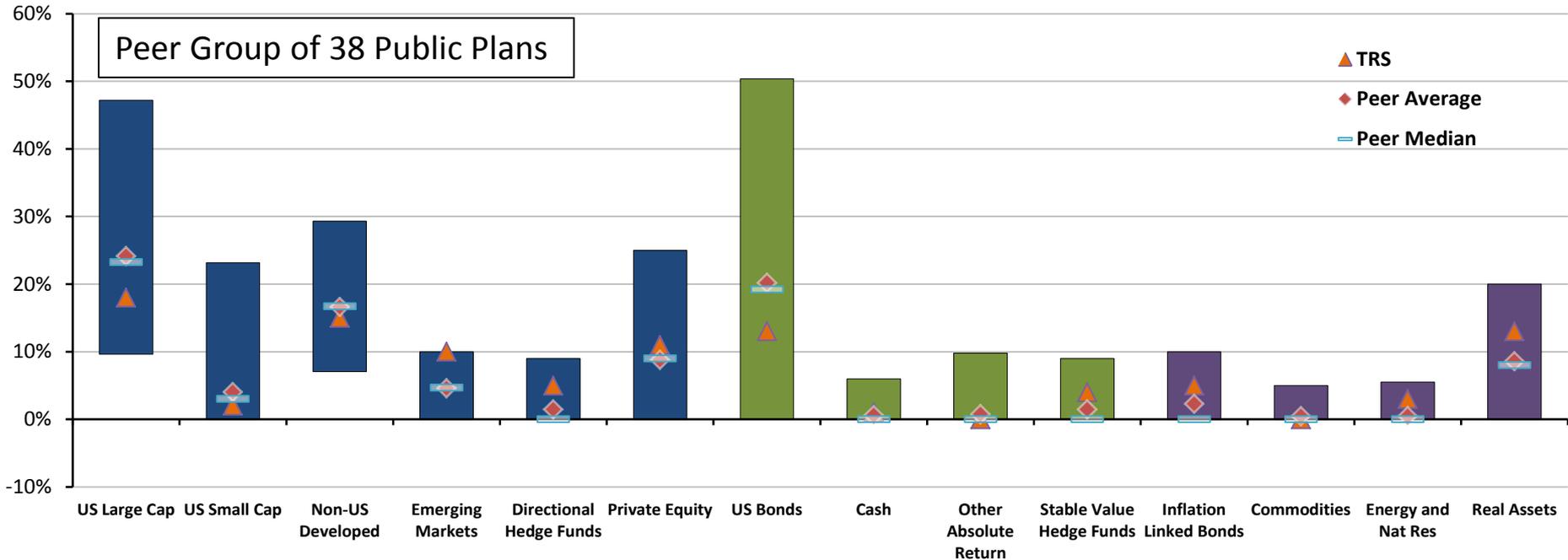


TRS Optimization Process



TRS Peers in Focus

CEM Peers Greater Than \$10 Billion



| | TRS vs Peer Allocations | | |
|---------------|-------------------------|-------------|------------------|
| | TRS | Peer Median | Relative Weights |
| Global Equity | 61% | 61% | (0.0%) |
| Stable Value | 18% | 27% | (9.1%) |
| Real Return | 21% | 12% | 9.1% |

| | Global Equity | | | | | |
|------------------|---------------|--------------|------------------|------------------|----------------|----------------|
| | US Large Cap | US Small Cap | Non-US Developed | Emerging Markets | Directional HF | Private Equity |
| | TRS | 18.0% | 2.0% | 15.0% | 10.0% | 5.0% |
| Peer Median | 23.2% | 3.0% | 16.7% | 4.7% | 0.0% | 9.0% |
| Diff from Median | (5.2%) | (1.0%) | (1.7%) | 5.3% | 5.0% | 2.0% |

| | Stable Value | | | |
|------------------|--------------|------|------------------|-----------------|
| | US Bonds | Cash | Other Abs Return | Stable Value HF |
| TRS | 13.0% | 1.0% | 0.0% | 4.0% |
| Peer Median | 19.2% | 0.0% | 0.6% | 0.0% |
| Diff from Median | (6.2%) | 1.0% | (0.6%) | 4.0% |

| | Real Return | | | |
|------------------|------------------------|-------------|--------------|-------------|
| | Inflation-Linked Bonds | Commodities | Energy & Nat | Real Assets |
| TRS | 5.0% | 0.0% | 3.0% | 13.0% |
| Peer Median | 0.0% | 0.0% | 0.0% | 8.0% |
| Diff from Median | 5.0% | 0.0% | 3.0% | 5.0% |

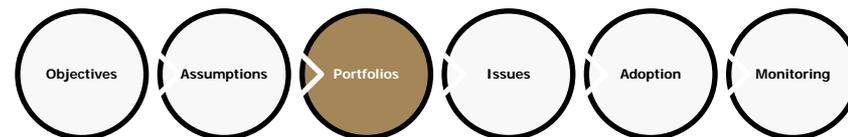
Source: CEM Benchmarking, Peer Investor Policy Statements

Allocations to Directional and Stable Value Hedge Funds approximated by dividing peer Hedge Fund portfolios 55% Directional and 45% Stable Value

Analysis assumes Peers adopt Market Cap weights for any Broad US Equity or Global Equity mandates

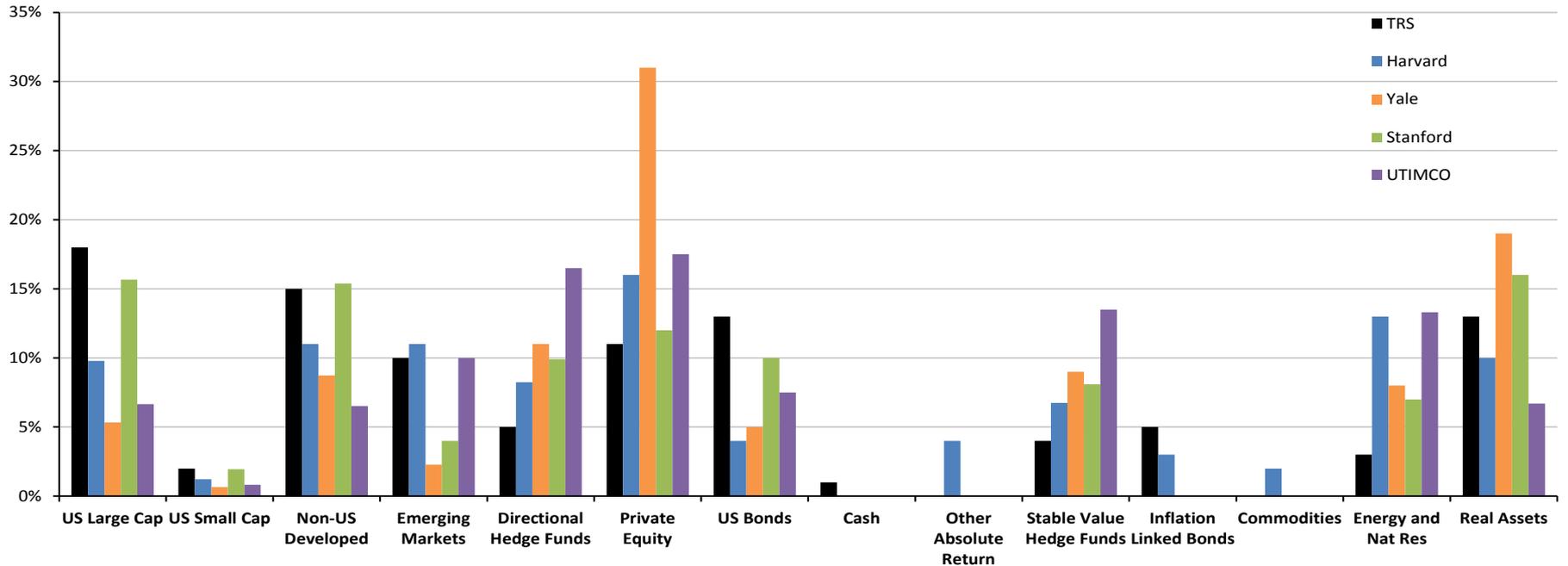
US Bonds category is a catch-all for unspecified Fixed Income exposure

51 Additional detail is available in slides 55-57 of the Appendix



TRS Peers in Focus

University Endowments



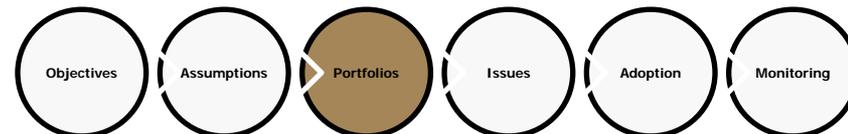
| TRS vs Peer Allocations | | | |
|-------------------------|-----|-------------|------------------|
| | TRS | Peer Median | Relative Weights |
| Global Equity | 61% | 60% | 1.2% |
| Stable Value | 18% | 15% | 3.2% |
| Real Return | 21% | 25% | (4.4%) |

| | Global Equity | | | | | |
|------------------|---------------|--------------|------------------|------------------|----------------|----------------|
| | US Large Cap | US Small Cap | Non-US Developed | Emerging Markets | Directional HF | Private Equity |
| TRS | 18.0% | 2.0% | 15.0% | 10.0% | 5.0% | 11.0% |
| Peer Median | 8.2% | 1.0% | 9.9% | 7.0% | 10.5% | 16.8% |
| Diff from Median | 9.8% | 1.0% | 5.1% | 3.0% | (5.5%) | (5.8%) |

| Stable Value | | | |
|--------------|------|------------------|-----------------|
| US Bonds | Cash | Other Abs Return | Stable Value HF |
| 13.0% | 1.0% | 0.0% | 4.0% |
| 6.3% | 0.0% | 0.0% | 8.6% |
| 6.8% | 1.0% | 0.0% | (4.6%) |

| Real Return | | | |
|------------------------|-------------|------------------------|-------------|
| Inflation-Linked Bonds | Commodities | Energy & Nat Resources | Real Assets |
| 5.0% | 0.0% | 3.0% | 13.0% |
| 0.0% | 0.0% | 10.5% | 13.0% |
| 5.0% | 0.0% | (7.5%) | 0.0% |

Source: Endowment Annual Reports and press releases
 Allocations to Directional and Stable Value Hedge Funds approximated by dividing peer Hedge Fund portfolios 55% Directional and 45% Stable Value
 Analysis assumes Peers adopt Market Cap weights for any Broad US Equity, Global Equity, or Broad Bond mandates

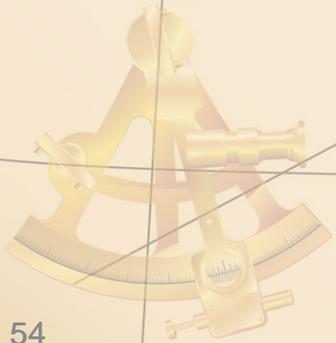


TRS Global Peers

| | Ontario Teachers | CPP: Canadian Pension Plan | OMERS: Ontario Municipal | ABP: Dutch Pension Plan | GIC: Sovereign Wealth Fund |
|------------------------------|---|----------------------------|--|---|----------------------------|
| Size | \$129.5B | \$192.8B | \$60.8B | ~\$400B | Over \$100B |
| Employee Count | 900 | 906 | Unreported | 4000 | 1200+ |
| Number of Offices | 4 | 3 | 4 | 5 | 9 |
| Private Assets (PE and RA) % | 31% No limit in Policy | 38% No limit in Policy | 47% In Policy | 17% In Policy | 20-28% In Policy |
| Direct Investment Format | Teachers Private Capital; Cadillac Fairview | CPP Professionals | Borealis Infrastructure; Oxford Properties Group; OMERS Ventures; OMERS Private Equity | APG Investments; New Holland Capital; AlInvest (now sold) | GIC Professionals |

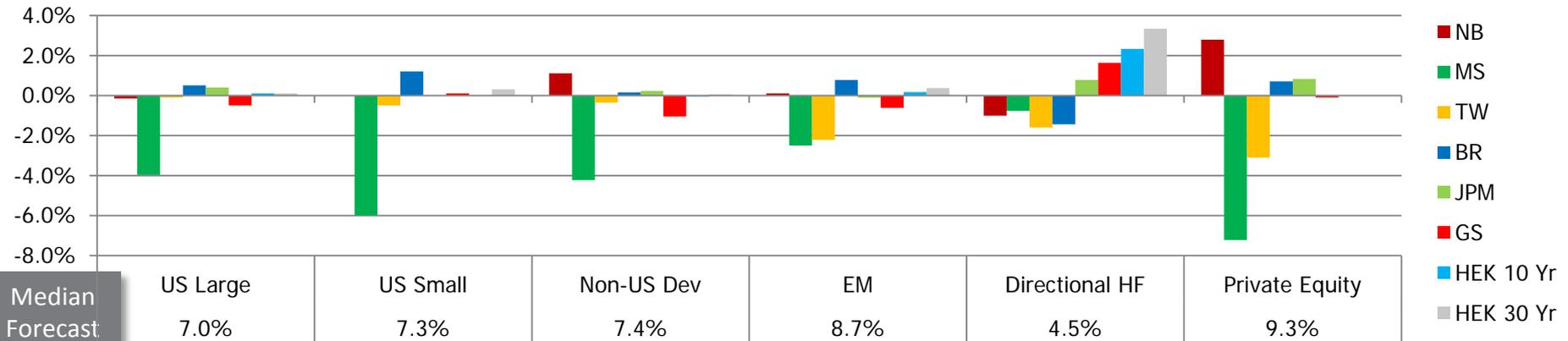


Appendix

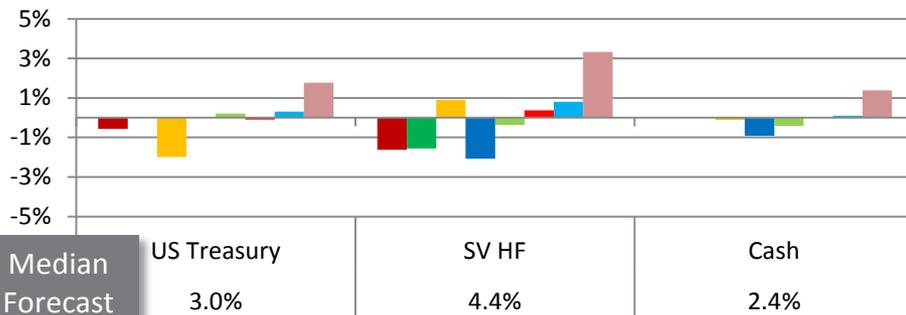


Dispersion Across Long Term Return Estimates

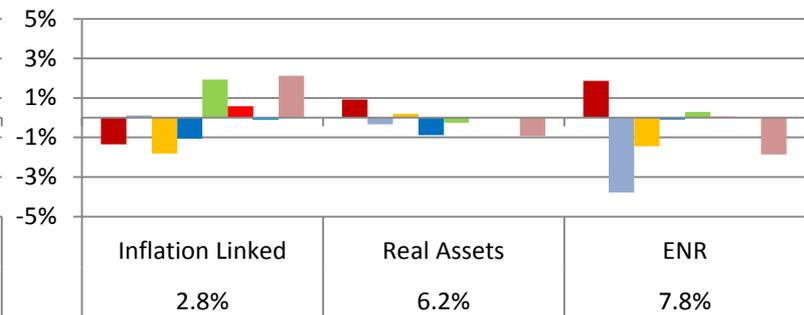
Global Equity Long Term Return



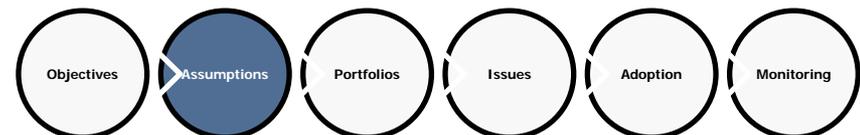
Stable Value Long Term Dispersion from Median Forecast



Real Return Long Term Dispersion from Median Forecast

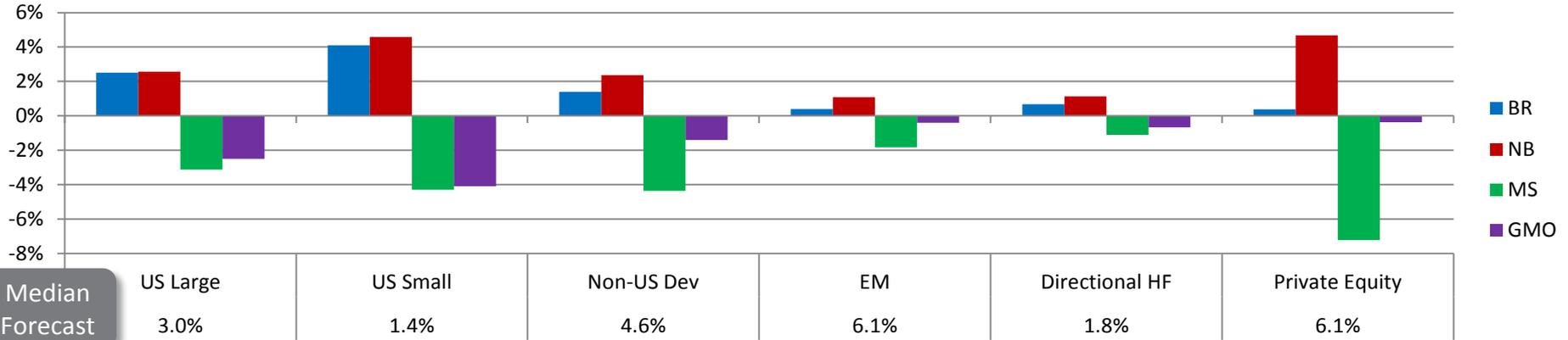


Source: Inputs using explicit and estimated values as presented on slide 45.



Dispersion Across Intermediate Term Return Estimates

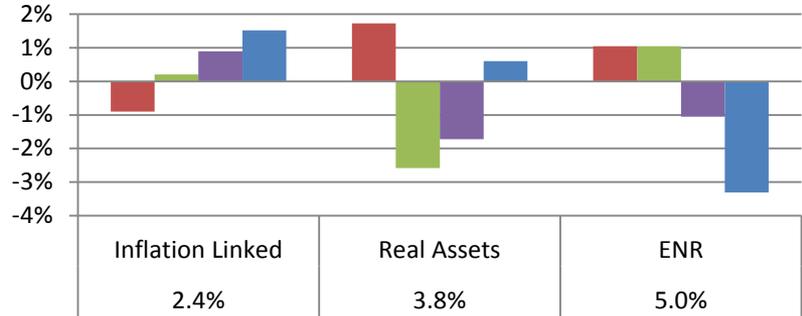
Global Equity Intermediate Dispersion from Median Return



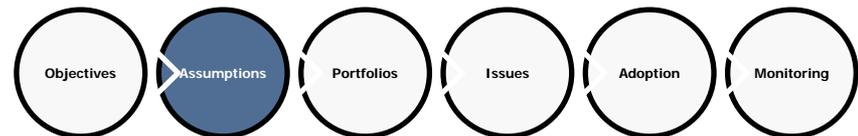
Stable Value Intermediate Dispersion from Median Return



Real Return Intermediate Dispersion from Median Return

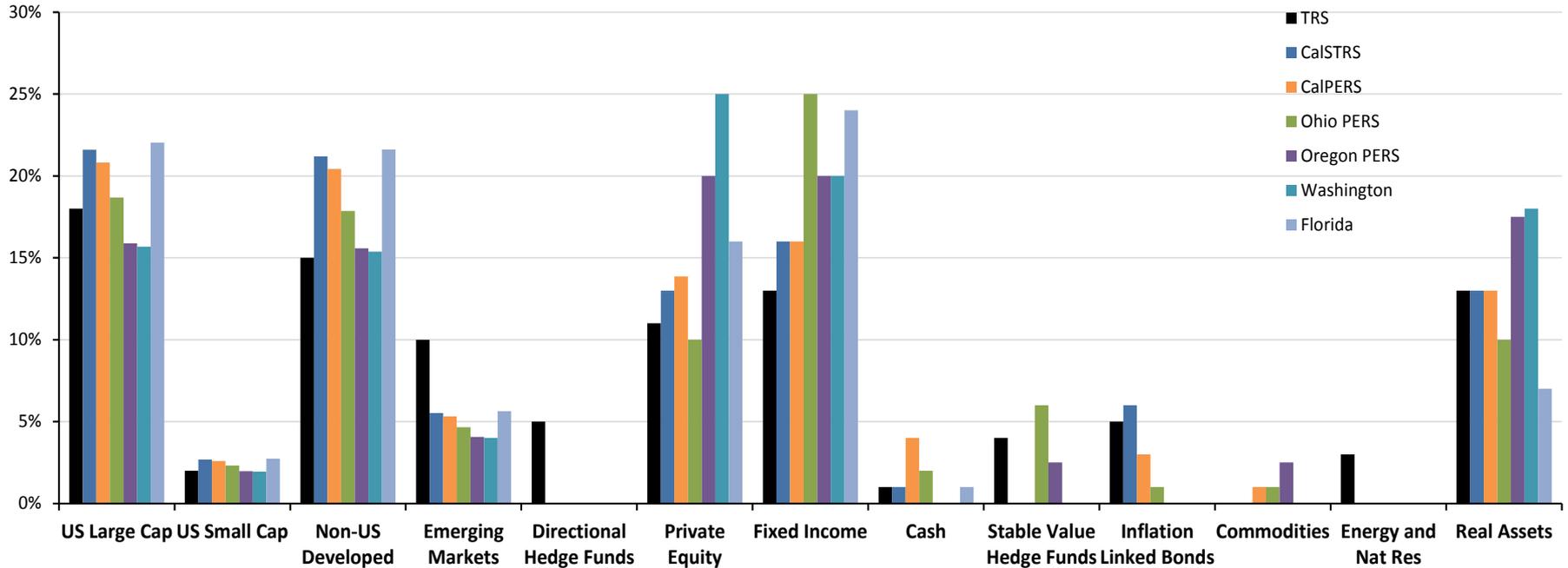


Source: Inputs using explicit and estimated values as presented on slide 46



TRS Peers in Focus

State Plan Peers



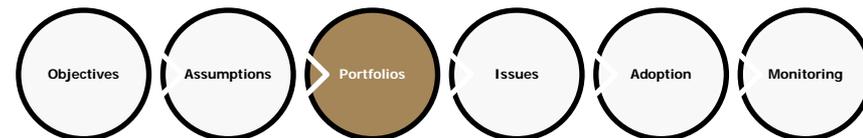
| TRS vs Peer Allocations | | | |
|-------------------------|-----|-------------|------------------|
| | TRS | Peer Median | Relative Weights |
| Global Equity | 61% | 62% | (0.7%) |
| Stable Value | 18% | 21% | (3.0%) |
| Real Return | 21% | 17% | 3.7% |

| Global Equity | | | | | | |
|------------------|--------------|--------------|------------------|------------------|----------------|----------------|
| | US Large Cap | US Small Cap | Non-US Developed | Emerging Markets | Directional HF | Private Equity |
| TRS | 18.0% | 2.0% | 15.0% | 10.0% | 5.0% | 11.0% |
| Peer Median | 19.7% | 2.5% | 19.1% | 5.0% | 0.0% | 14.9% |
| Diff from Median | (1.7%) | (0.5%) | (4.1%) | 5.0% | 5.0% | (3.9%) |

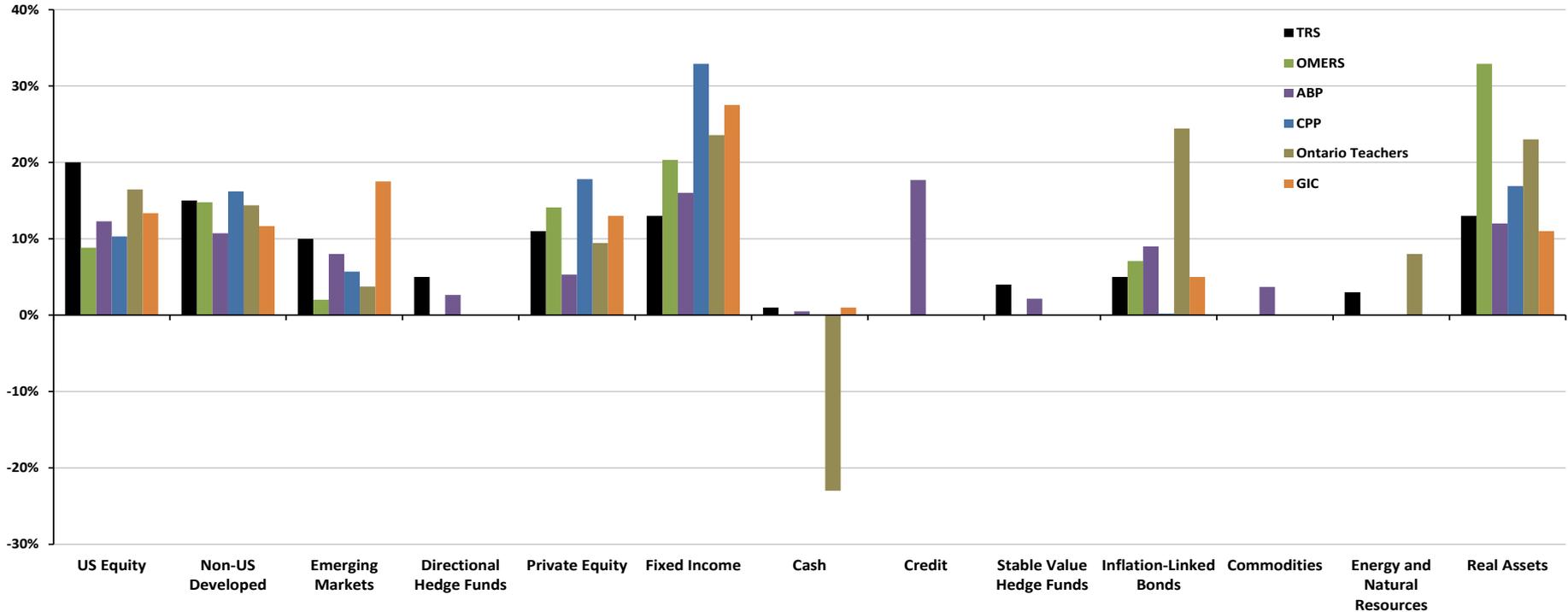
| Stable Value | | | |
|------------------|--------------|------|-----------------|
| | Fixed Income | Cash | Stable Value HF |
| TRS | 13.0% | 1.0% | 4.0% |
| Peer Median | 20.0% | 1.0% | 0.0% |
| Diff from Median | (7.0%) | 0.0% | 4.0% |

| Real Return | | | | |
|------------------|------------------------|-------------|------------------------|-------------|
| | Inflation-Linked Bonds | Commodities | Energy & Nat Resources | Real Assets |
| TRS | 5.0% | 0.0% | 3.0% | 13.0% |
| Peer Median | 0.5% | 1.0% | 0.0% | 13.0% |
| Diff from Median | 4.5% | (1.0%) | 3.0% | 0.0% |

Source: Peer Plan Investor Policy Statements
 Peer Hedge Funds' broad allocation closely matches and is attributed to Stable Value Hedge Fund as a Policy comparison
 Analysis assumes Peers adopt Market Cap weights for any Broad US Equity, Global Equity, or Broad Bond mandates



Global Peer Asset Allocation



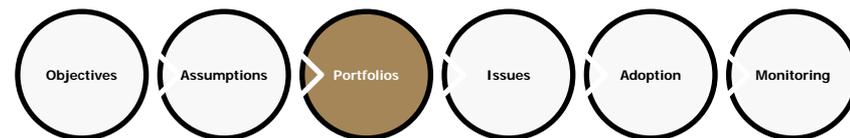
| TRS vs Peer Allocations | | | |
|-------------------------|-----|-------------|------------------|
| | TRS | Peer Median | Relative Weights |
| Global Equity | 61% | 46% | 15.4% |
| Stable Value | 18% | 30% | (12.3%) |
| Real Return | 21% | 24% | (3.1%) |

| Global Equity | | | | | |
|------------------|-----------|------------------|------------------|----------------|----------------|
| | US Equity | Non-US Developed | Emerging Markets | Directional HF | Private Equity |
| TRS | 20.0% | 15.0% | 10.0% | 5.0% | 11.0% |
| Peer Median | 13.22% | 15.5% | 6.1% | 0.0% | 14.0% |
| Diff from Median | 6.8% | (0.5%) | 3.9% | 5.0% | (3.0%) |

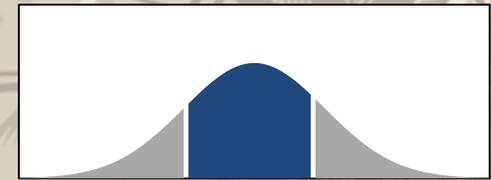
| Stable Value | | | | |
|------------------|--------------|------|--------|-----------------|
| | Fixed Income | Cash | Credit | Stable Value HF |
| TRS | 13.0% | 1.0% | 0.0% | 4.0% |
| Peer Median | 25.4% | 0.0% | 0.0% | 0.0% |
| Diff from Median | (12.4%) | 1.0% | 0.0% | 4.0% |

| Real Return | | | | |
|------------------|------------------------|-------------|------------------------|-------------|
| | Inflation-Linked Bonds | Commodities | Energy & Nat Resources | Real Assets |
| TRS | 5.0% | 0.0% | 3.0% | 13.0% |
| Peer Median | 7.6% | 0.0% | 0.0% | 18.2% |
| Diff from Median | (2.6%) | 0.0% | 3.0% | (5.2%) |

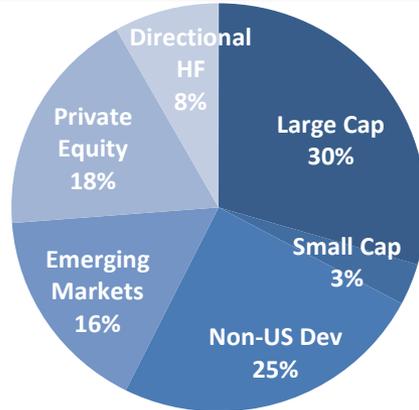
Source: Peer Plan Investor Policy Statements
 Allocations to Directional and Stable Value Hedge Funds approximated by dividing peer Hedge Fund portfolios 55% Directional and 45% Stable Value
 Analysis assumes Peers adopt Market Cap weights for any Broad US Equity, Global Equity, or Broad Bond mandates



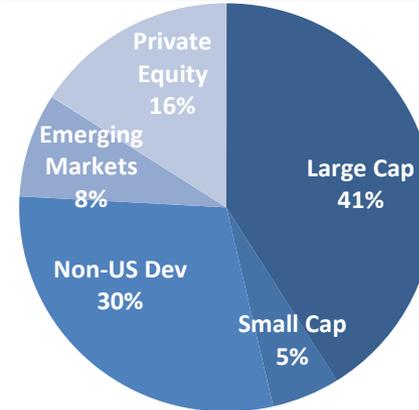
Peer Comparison Global Equity



**TRS Global Equity
Portfolio**



**CEM Peer Median Global Equity
Portfolio**



| Total TRS Global Equity Allocation (ex-Hedge Funds) | Peer Median Global Equity Allocation (ex-Hedge Funds) |
|---|---|
| 61% | 61% |

Compared to this peer group TRS Global Equity Portfolio has...

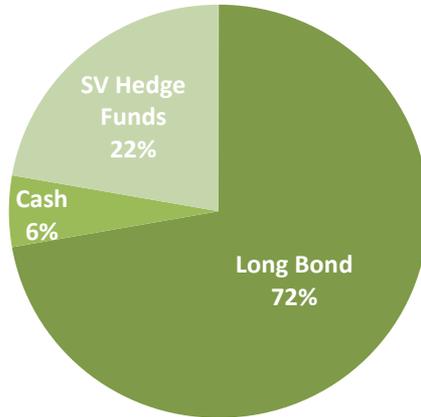
- Less exposure to US Public Markets
- More exposure to Emerging Markets and Private Markets



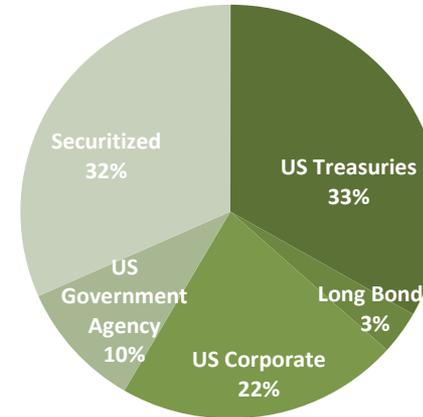
Peer Comparison Stable Value



TRS Stable Value
Portfolio



CEM Peer Median Stable Value
Portfolio



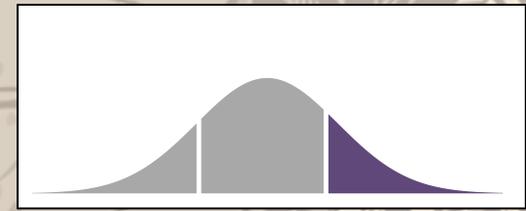
| Total TRS Stable Value Allocation (ex-Hedge Funds) | Peer Median Stable Value Allocation (ex-Hedge Funds) |
|--|--|
| 18% | 27% |

Compared to this peer group TRS Stable Value Portfolio has...

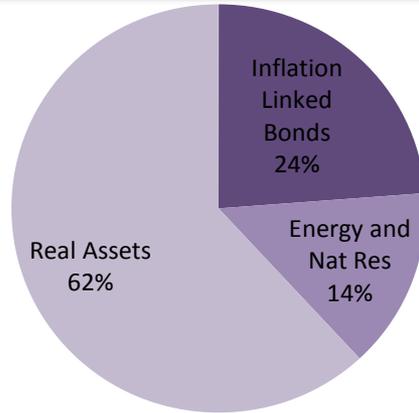
- Longer Duration
- Less Credit and Global Sovereign Risk



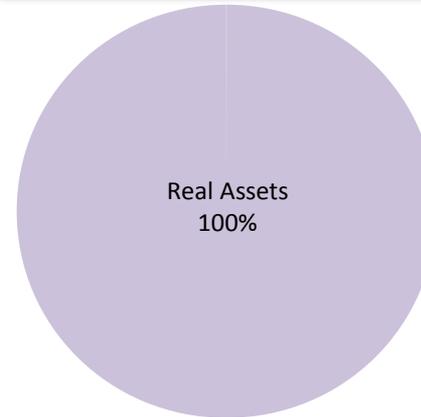
Peer Comparison Real Return



TRS Real Return Portfolio



CEM Peer Median Real Return Portfolio



| Total TRS Real Return Allocation | Peer Median Real Return Allocation |
|----------------------------------|------------------------------------|
| 21% | 12% |

Compared to this peer group TRS Real Return Portfolio has...

- Greater diversification
- Public and Private Market Exposure



OMERS

(Ontario Municipal Employees)

- Size: \$60.8 billion as of December 31, 2012
- Funded Ratio: 85.6%
- CPI-adjusted pensions
- Average Age: 50-54
- Asset Allocation adopted 2003:
 - 53% Public Markets
 - 47% Private Markets (Real Estate, Infrastructure, Private Equity)
- Returns ended December 31, 2012:
 - 1 Year: 10.0%/0.3%
 - 5 Year: 3.6%/-0.5%
 - 10 Year: 8.2% /0.9%

Highlights:

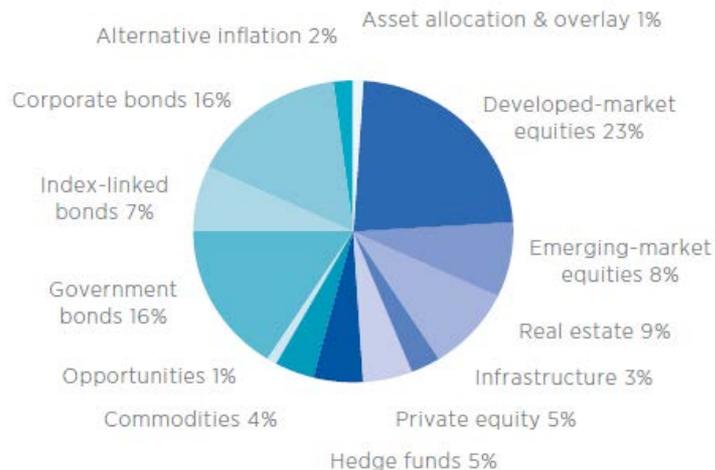
- Offices in Toronto, Calgary, New York and London
- Goal to be 95% managed internally
- Issues debt with OMERS guarantee and “AAA” rating (\$8.5 billion, ~14% of assets)
- 100% owner of Direct Investment Organizations:
 - Borealis Infrastructure
 - Oxford Properties Group (Real Estate)
 - OMERS Ventures
 - OMERS Private Equity
- Takes in outside capital
- Paid Board Members



ABP

(Managed by APG Investments)

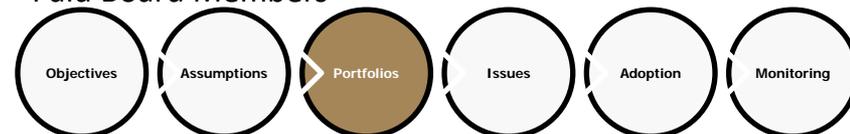
- Size: ~\$400 billion as of September 30, 2013
- Industry-wide pension fund for government and educational institutions in the Netherlands (2.8 million participants)
- Funded Ratio: 103.3%
- Pensions can be reduced based on returns/funded status (minimum required funding ratio set by regulator of 104.2%)
- Contributions: 21.3% of pensionable salary (varies yearly; set based on real return)
- Asset Allocation :



- Returns ended December 31, 2012:
 - 1 Year: 13.7%
 - 30 Year: 7.2%

Highlights:

- 4000+ employees (650 Investors)
- 5 offices (Amsterdam, Heerlen, New York, Brussels and Hong Kong)
- 80% managed internally (significant private markets capacity)
- Strategic hedge for 50 percent of the duration of the liabilities (not fully implementing given low rates)
- Considering choice of a nominal or a real pension contract (2015)
- “Prudent” real return target of 3.25%
- Exclusive Investment Organizations Owned by APG: New Holland Capital (Hedge Fund Investor). AlpInvest (with PGGM, sold to Carlyle)
- Short term borrowing used
- Paid Board Members



CPP

(Canadian Pension Plan)

- Size: \$192.8 billion as of September 30, 2013
- Participants: 18 million
- Duration: 8 years until payouts exceed contributions
- Governing legislation: the *Canada Pension Plan Investment Board Act* directs CPP to invest “...with a view to achieving a maximum rate of return, without undue risk of loss, having regard to the factors that may affect the funding of the Canada Pension Plan...”
- Contribution: 9.9% of earnings
- LT Goal: Inflation + 4%
- Reference Policy Asset Allocation Adopted 2012:
 - 10% Canadian Equities
 - 55% Global Equities
 - 30% Canadian Bonds
 - 5% Foreign Sovereign Bonds
- Returns ended March 31, 2013:
 - 1 Year: 10.1% (30 bps value-added)
 - 5 Year: 4.2%
 - 10 Year: 7.4%

Highlights:

- Offices in Toronto, Hong Kong and London
- 906 employees
- Issues debt (\$8.9 billion ~4.6% of assets) and provides guarantees
- Direct private holdings in over 39 countries
- Relationship Investments: Significant direct minority interests in companies public or about-to-be public (5-25% ownership)
- Paid Board Members



Ontario Teachers

- Size: \$129.5 billion as of December 31, 2012
- Funded Ratio: 97%
- CPI-adjusted pensions only if affordable based on plan's funded status
- Contributions: 13.1% of salary (beginning 2014)
- Benefit payments exceeded contributions by \$2 billion in 2012
- Average Member: 26 years working/31 years retired
- Asset Allocation:

- Returns ended December 31, 2012:

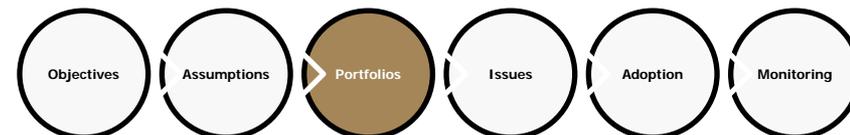
- 1 Year: 13% (2% value added)
- 4 Year: 12.9% (3.1% value added)
- 10 Year: 9.6% (2% value added)

Highlights:

- Offices in Toronto, New York, London, and Hong Kong
- 900 employees
- 23% Levered
- Known for direct investments in private equity, real estate, infrastructure and timber
 - Real Estate managed by 100% owned Cadillac Fairview
 - Infrastructure is 100% direct investment (7.5% of assets)
- Paid Board Members

Long-Term Asset Mix Policy

| Exposure | Minimum | Goal | Maximum |
|-------------------|---------|-------------|---------|
| Equities | 39% | 44% | 49% |
| Fixed Income | 36% | 48% | 56% |
| Natural Resources | 3% | 8% | 13% |
| Real Assets | 18% | 23% | 28% |
| Money Market* | -26% | -23% | -16% |
| | | 100% | |



GIC (Government of Singapore)

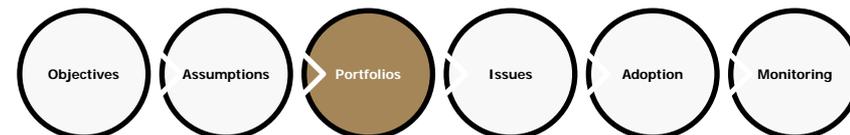
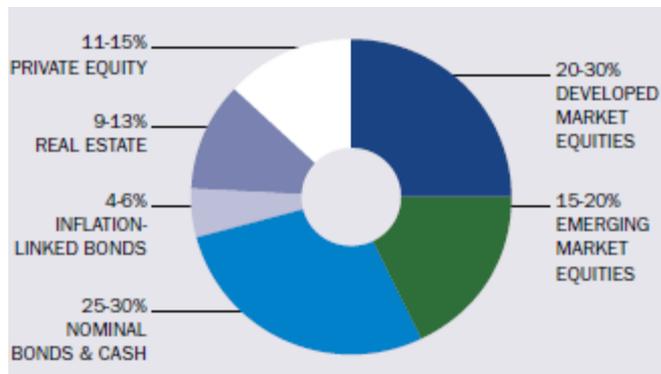
- Sovereign Wealth Fund
- Size: over \$100 billion (exact number unpublished)
- LT Goal: Preserve and enhance Singapore's foreign reserves
- Payout: up to 50% of the long-term expected real return on the net assets managed by GIC and those owned by the Monetary Authority of Singapore, can be taken into the Government's annual budget.
- Policy Portfolio Adopted 2013: Meets Risk Constraints of Government Reference Portfolio (65% World Equity/35% Credit) but aims to deliver superior long-term returns

- Returns ended March 31, 2013:

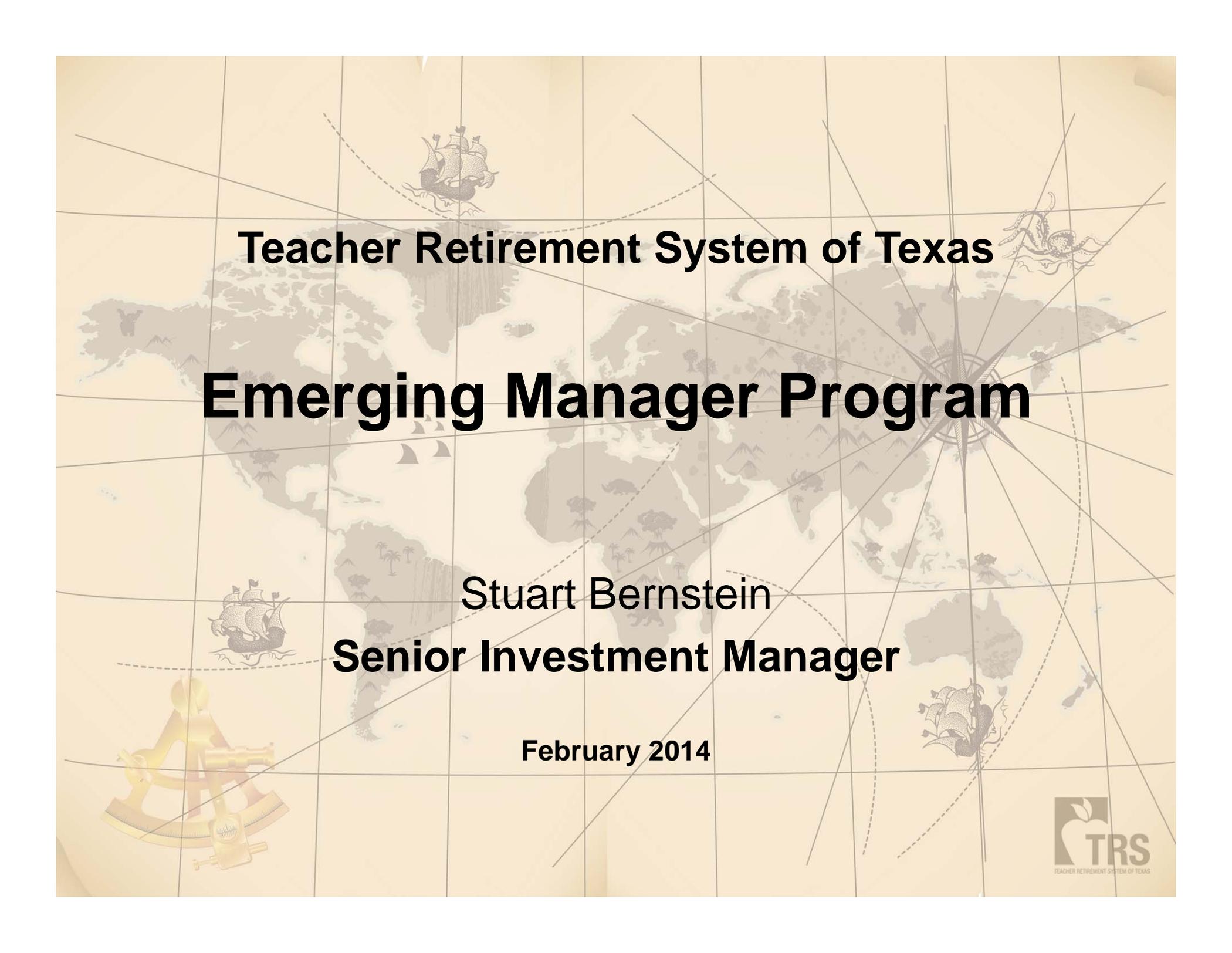
- 5 Year: 2.6%
- 10 Year: 8.8%
- 20 Year: 6.5%

Highlights:

- Focus on 20 year real rate of return
- Offices in Singapore, New York, San Francisco, London, Beijing, Mumbai, Seoul, Shanghai, and Tokyo
- 1200+ employees (50% non-Singaporean)
- Direct private holdings



Tab 17 B

The background features a stylized world map with a grid of latitude and longitude lines. A sailing ship is positioned in the upper left quadrant, an octopus in the upper right, and a compass rose on the right side. Dashed lines represent various paths or routes across the map.

Teacher Retirement System of Texas

Emerging Manager Program

Stuart Bernstein
Senior Investment Manager

February 2014

Emerging Manager Team



Andy Cronin
Associate
BBA, Texas A&M
4 years at TRS



Stuart Bernstein
Sr. Investment Manager
MBA, UT Austin
5 years at TRS



Edgar Mayorga-Cruz
Contractor
BS, UT Austin
Started January, 2014



Krista Kerr
Contractor
BS, UT Austin
1 year at TRS

Evaluators

Hewittennisknupp
An Aon Company

The Townsend Group[®]

LeadingEdge LEIA
INVESTMENT ADVISORS, LLC

ROCK CREEK

Fund of Funds

GCM GROSVENOR
Customized Fund Investment Group



Timeline - TRS Emerging Manager Portfolio

February 2014

Phase I: Fund-of-Funds

2005 – 2009

- Invested through Credit Suisse
- No full-time EM staff at TRS
- Not an area of core focus within the TRS IMD
- All investments made within the Private Equity space

Phase II: Direct Program

2010 – 2012

- Emerging Managers added to overall IMD organizational structure
- Increased collaboration with outside firms, including adding four evaluators
- Increased capabilities to include Real Assets, Hedge Funds, and Long-Only Equity managers
- Approved by the TRS Board to begin direct investments within these asset classes
- Began building the processes and procedures that drive the Emerging Manager Group

Phase III: Advanced Programs

2013 – Beyond

- Added three full-time staff members
- Continue development of advanced strategies, such as “Seeding” and an “Elevated” program
- Refine processes and procedures
- Developing better understanding of the marketplace and unique characteristics of these investments
- Initiated sponsorship of market research and best practices
- Continued growth of National Emerging Manager Conference

| | Phase I Feb 2009 | Phase II Dec 2012 | Current Jan 2014 |
|------------------|----------------------------|-----------------------------|----------------------------|
| Committed Assets | \$650 million | \$1,506 million | \$1,739 million |
| NAV | \$170 million | \$734 million | \$954 million |
| Total Funds | 30 | 101 | 128 |

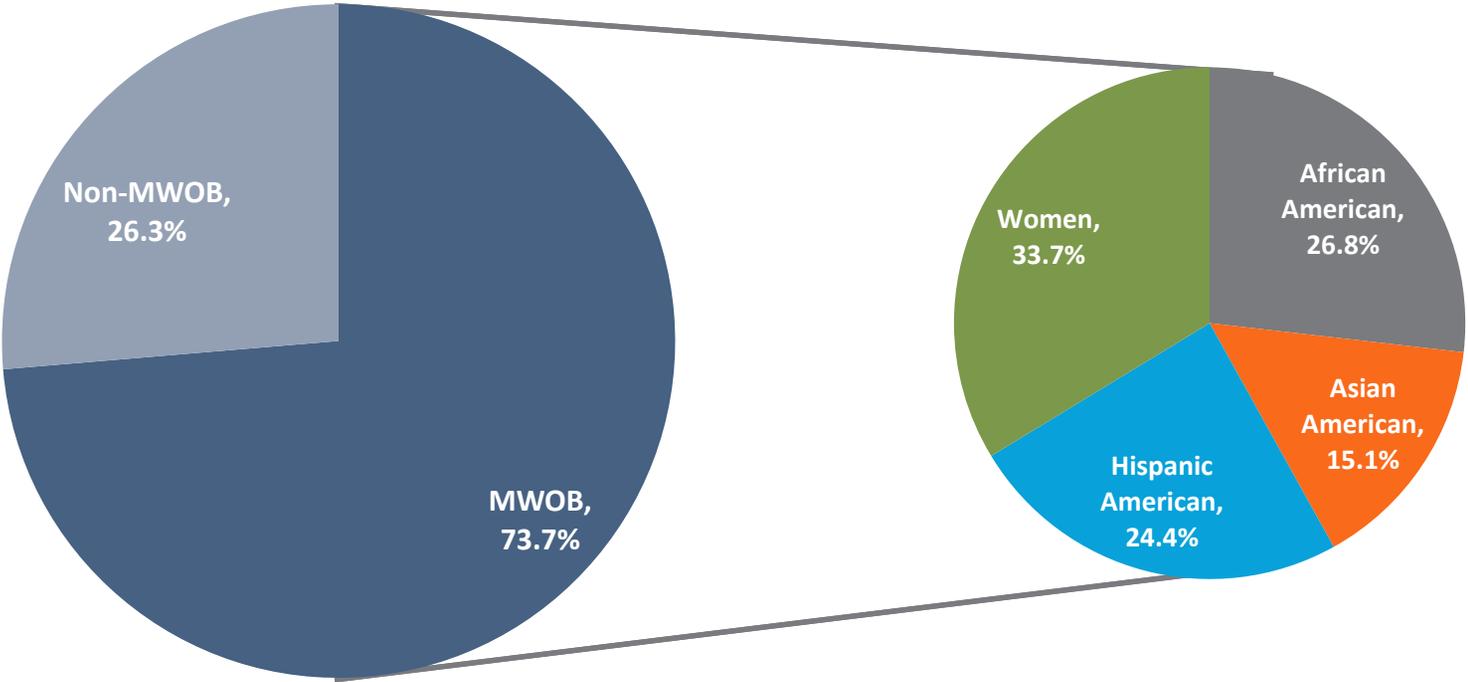
Since the market bottom in 2009, the EM Program has added 98 new funds, while commitments have grown \$1.1 billion (168% increase) and NAV has grown \$784 million (458% increase). Over this time, TRS Trust assets have grown 76%.



2013 Highlights

Direct Portfolio Commitments

- As of January 2014



4 TRS defines MWOB as Minority or Women Owned Business
This data refers only to the Direct EM Program, not all TRS investments in MWOB firms

2013 Highlights

Performance as of December 31, 2013

- Overall, performance has been improving
 - Total Emerging Manager Program had a one-year return of 15.6%
 - One-year returns by asset class:
 - Private Equity portfolio: 12.0%
 - Real Assets portfolio: 9.2%
 - Long-Oriented portfolio: 36.6%
 - Hedge Fund portfolio: 15.3%

- Direct Investment Performance
 - Private Markets beginning to come out of “J-curve”
 - Since inception IRR:
 - Total Direct Portfolio: 0.7%
 - Real Assets: 7.7%
 - Private Equity: (16.3%)

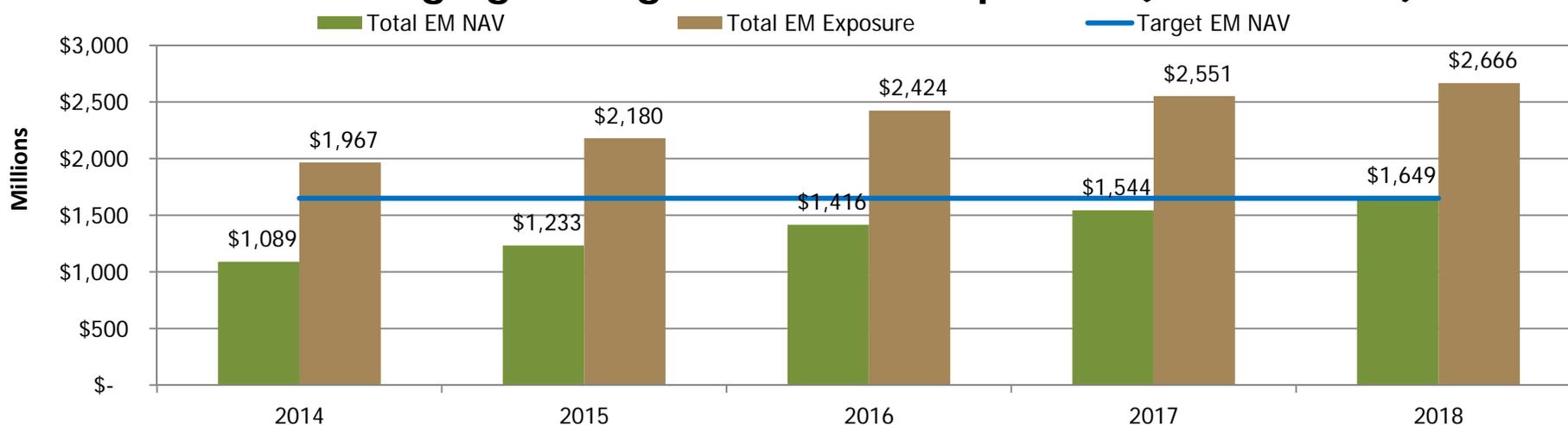
Future Commitments

- Challenges going forward
 - Need to balance manager re-ups and first time commitments
 - Focus on performance and meaningful relationships
 - Not everyone will receive add-on allocations
 - Estimated ten existing managers across private equity and real assets will be back in market in 2014

- Elevated Program – managers currently in the TRS portfolio that receive higher allocations for subsequent fundraises
 - Successful implementation of Elevated Program in first year
 - Four firms to date have participated, totaling \$155 million of commitments
 - More elevated managers planned for 2014-2015
 - Increased commitments ranging from \$20-50 million

Capital Plan

Total Emerging Managers NAV and Exposure (2014 - 2018)



| | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------|----------|------------|------------|------------|------------|
| Total EM NAV | \$ 1,089 | \$ 1,233 | \$ 1,416 | \$ 1,544 | \$ 1,649 |
| Total EM Exposure | \$ 1,967 | \$ 2,180 | \$ 2,424 | \$ 2,551 | \$ 2,666 |
| Target EM NAV | \$ 1,650 | \$ 1,650 | \$ 1,650 | \$ 1,650 | \$ 1,650 |
| PRIVATE EQUITY | | | | | |
| EM PE NAV | \$ 485.5 | \$ 520.7 | \$ 578.2 | \$ 619.0 | \$ 654.1 |
| EM PE Exposure | \$ 971.0 | \$ 1,015.3 | \$ 1,069.7 | \$ 1,114.1 | \$ 1,144.6 |
| REAL ASSETS | | | | | |
| EM RA NAV | \$ 261.0 | \$ 347.7 | \$ 449.4 | \$ 511.9 | \$ 554.6 |
| EM RA Exposure | \$ 652.6 | \$ 799.6 | \$ 966.2 | \$ 1,023.7 | \$ 1,081.5 |
| PUBLIC MARKETS | | | | | |
| EOY Public NAV | \$ 343.0 | \$ 364.9 | \$ 388.4 | \$ 413.4 | \$ 440.2 |

Based on currently proposed \$250 million annual allocation, split \$115 million to Private Equity, \$115 million to Real Assets, and \$20 million to Public Markets until 2018.

Plans for 2014 and Beyond

- Continued Growth
 - Continued development of the Emerging Manager Conference, Elevated Program, and seeding opportunities
 - Integrating and training new employee
 - Increased travel budget
- New Initiatives
 - Increase collaboration of EM programs across the country
 - Develop a comprehensive Emerging Manager database of General Partners and Limited Partners
- Evaluator Relationships
 - Continually refine and develop relationships with Evaluators
 - Consistently seek out “best of the best” capabilities

Tab 17 C

The background features a stylized world map with a grid of latitude and longitude lines. Various navigation-related icons are scattered across the map, including a sailing ship, a compass rose, a sextant, and a sea creature. The overall color scheme is a warm, golden-yellow.

Teacher Retirement System of Texas

2014 IMD Priorities

Britt Harris
Chief Investment Officer

February 2014

2017 Priorities



IMD Priorities for 2014

Return Enhancement

| <u>Priority</u> | <u>Return (\$m)</u> |
|---|---------------------|
| 1 Raise Strategic Return by 50 Basis Points | \$600 |
| 2 Become Preferred Destination for Large Attractive Investments | \$150 |
| 3 Integrate Tactical Asset Allocation Systems | \$60 |
| 4 Trolling the Trust - Selection Alpha | \$12 |
| 5 Pursue Strategic Alliance | TBD |
| Total Return Enhancement | \$822 |

Productivity Improvement

| <u>Priority</u> | <u>Hours</u> | <u>Associated Cost Savings</u> |
|--|---------------|--------------------------------|
| 1 Continue to Streamline Standard Critical Processes | 18,480 | \$1,108,800 |
| 2 Modify Email System | 14,583 | \$875,000 |
| 3 Streamline Legal Review and Approval Process | 1,700 | \$850,000 |
| 4 Streamline Expenses | -1,000 | \$660,000 |
| Total Productivity Improvement | 33,763 | \$3,493,800 |
| <i>Target</i> | <i>56,000</i> | <i>\$3,360,800</i> |
| <i>(Elimination of 20% of Least Critical Activities)</i> | | |

Tab 17 D

The background features a stylized world map with a grid of latitude and longitude lines. Various navigation-related icons are scattered across the map, including a sailing ship in the upper left, a compass rose on the right, a sextant in the lower left, and a sea monster in the lower right. The text is overlaid on this background.

Teacher Retirement System of Texas

TRS Market Backdrop

Britt Harris
Chief Investment Officer

February 2014

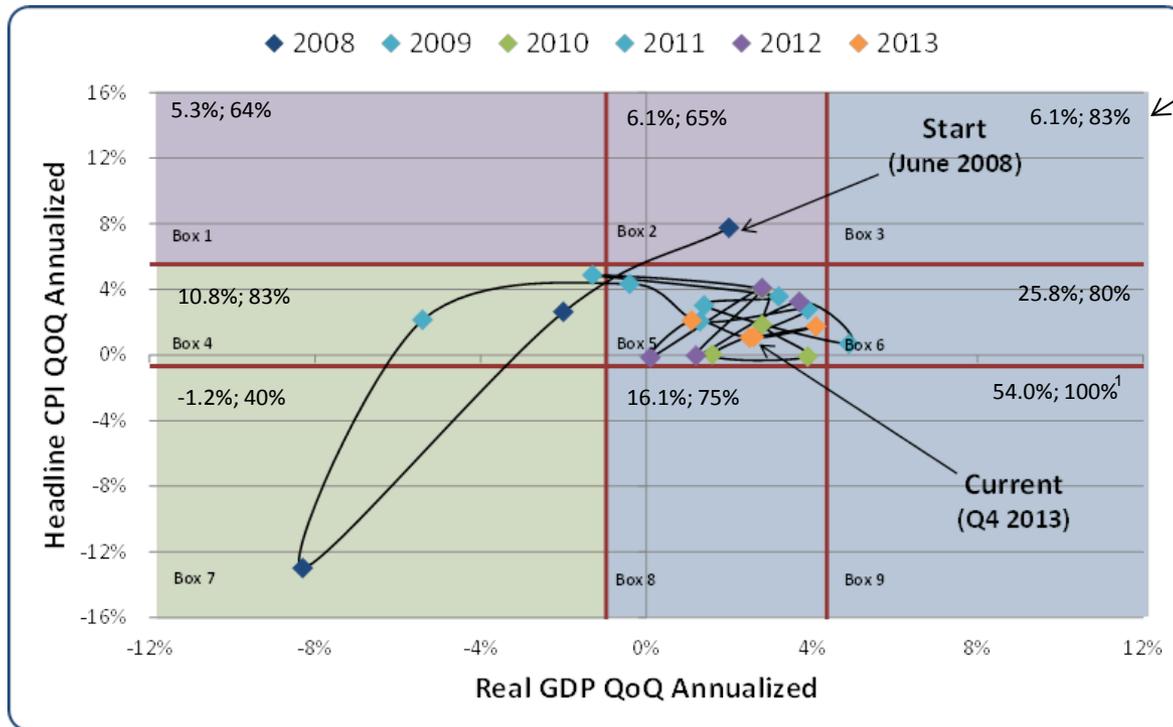
Asset Class Performance

| Cumulative Since March 2009 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 |
|-----------------------------|-----------------------|----------------------|------------------------|----------------------|-----------------------|------------------------|
| S&P 500 178.9% | S&P 500 32.4% | EM Equities 18.2% | Treasuries 29.9% | EM Equities 18.9% | EM Equities 78.5% | Treasuries 24.0% |
| EM Equities 125.8% | EAFE + C 21.0% | EAFE + C 16.4% | TIPS 13.6% | S&P 500 15.1% | EAFE + C 33.7% | TIPS (2.4%) |
| EAFE + C 121.0% | Commodities (1.2%) | S&P 500 16.0% | S&P 500 2.1% | Treasuries 9.4% | S&P 500 26.5% | S&P 500 (37.0%) |
| Commodities 41.4% | EM Equities (2.8%) | TIPS 7.0% | Commodities (1.2%) | Commodities 9.0% | Commodities 13.5% | EAFE + C (43.6%) |
| TIPS 31.9% | TIPS (8.6%) | Treasuries 3.6% | EAFE + C (12.2%) | EAFE + C 9.0% | TIPS 11.4% | Commodities (46.5%) |
| Treasuries 23.8% | Treasuries (12.7%) | Commodities 0.1% | EM Equities (18.4%) | TIPS; 6.3% | Treasuries (12.9%) | EM Equities (53.3%) |

- Developed equities had very strong returns in 2013 with the S&P 500 up 32% and EAFE + Canada up 21%
- Most other asset classes had negative returns last year:
 - Commodities underperformed primarily due to declines in precious metals
 - Emerging Markets performed poorly due to slowing growth, current account deficits, and political turmoil
 - The 10 Year Treasury Bond declined 6% as rates rose 1.27%
 - TIPS underperformed Treasuries as break-even inflation actually declined

Environmental Assessment

United States



S&P500 Annualized Return;
% of time equity return > 0%

Box 5:
11.2% S&P500 Annualized Return;
66% of time equity return > 0%

| Other Regions | Box |
|---------------|-----|
| Europe | 8 |
| Japan | 2 |
| EM ex China | 8 |
| China | 4 |

- The US ended the year in Box 5 (moderate growth, moderate inflation)
- The US did venture into Box 8 (moderate growth, low inflation) earlier in the year
- Both Box 5 and Box 8 are supportive of a positive equity environment

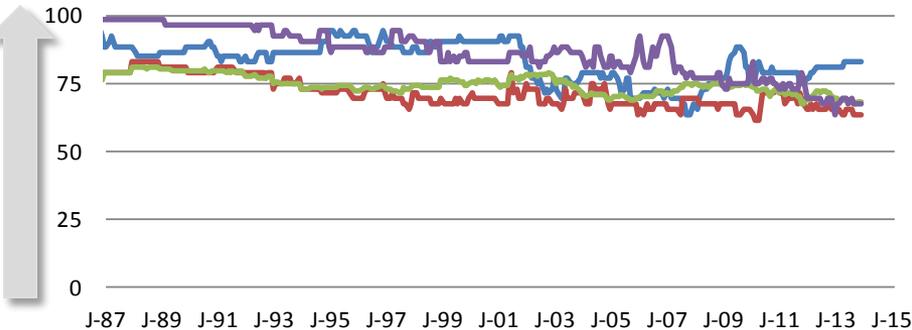
¹Only 3 quarters have occurred in Box 9 since 1965

Political Risk

Political Risk - Developed

Absolute

Most Stable

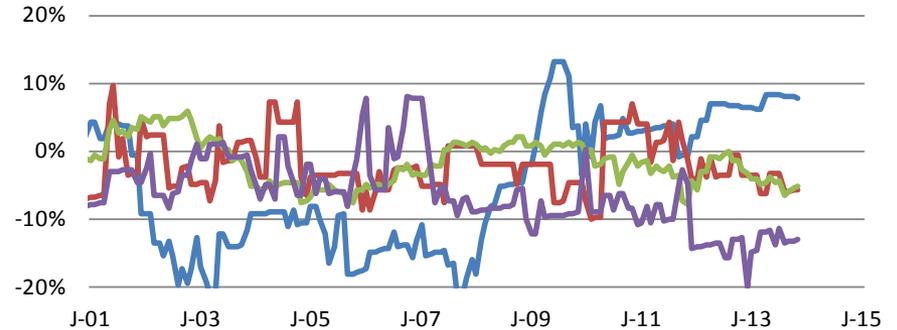


Least Stable

— US — UK — Europe — Japan

Political Risk - Developed

Relative to Trailing 10-yr Average

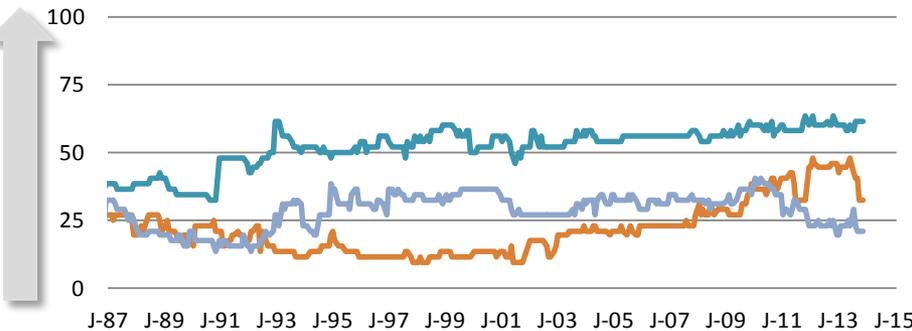


— US — UK — Europe — Japan

Political Risk - Emerging

Absolute

Most Stable

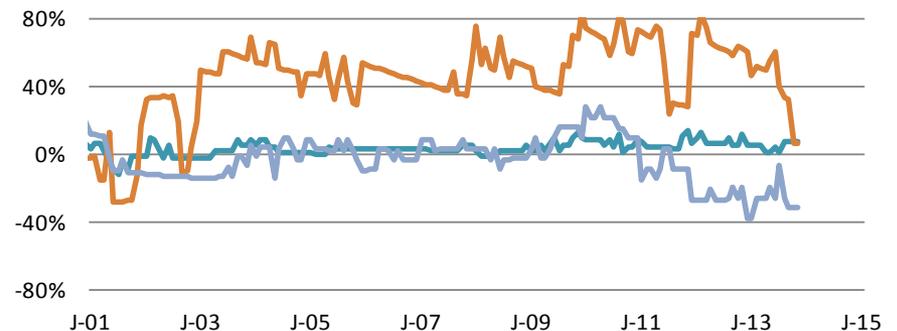


Least Stable

— China — Brazil — India

Political Risk - Emerging

Relative to Trailing 10-yr Average



— China — Brazil — India

What Markets Are Discounting: Default Risk

Cumulative Probability of Default Over the Next Five Years*

| | Current | 1Yr Ago | Change | | Current | 1Yr Ago | Change |
|---------------------------|---------|---------|--------|-----------------------------|---------|---------|--------|
| Developed World | | | | Emerging World | | | |
| Germany | 0.3% | 1.0% | -0.8% | Korea | 2.2% | 2.3% | -0.1% |
| USA | 0.4% | 0.8% | -0.4% | Poland | 5.1% | 4.5% | 0.6% |
| Japan | 0.9% | 2.9% | -2.0% | Philippines | 6% | 5% | 0.6% |
| Belgium | 1.4% | 3.1% | -1.7% | Mexico | 7% | 5% | 1.7% |
| France | 1.6% | 3.4% | -1.8% | Russia | 9% | 6% | 3.0% |
| Euroland Periphery | | | | BOP Crisis Countries | | | |
| Ireland | 5% | 11% | -5.5% | South Africa | 10% | 6% | 4.1% |
| Spain | 7% | 15% | -7.8% | Brazil | 11% | 6% | 4.7% |
| Italy | 8% | 14% | -6.5% | Indonesia | 12% | 6% | 6% |
| Portugal | 18% | 22% | -4.3% | India | 14% | 11% | 3% |
| US Corporates | | | | Turkey | | | |
| US Investment Grade | 2% | 3% | -1% | Argentina | 39% | 46% | -7% |
| US High Yield | 14% | 22% | -8% | Venezuela | 49% | 38% | 12% |

*Assumes a recovery rate of 40% and adjusts probabilities for Bridgewater Risk and Liquidity Premium estimates

Global Forecast Summary

| | Real GDP (YoY %) | | | Unemployment (%) | | | CPI (YoY %) | | | Earnings (YoY %)* | | | Fwd P/E | Trail P/E |
|----------------|------------------|----------|----------|------------------|----------|----------|-------------|----------|----------|-------------------|----------|----------|----------------------|-----------|
| | 2013 (A) | 2014 (E) | 2015 (E) | 2013 (A) | 2014 (E) | 2015 (E) | 2013 (A) | 2014 (E) | 2015 (E) | 2013 (A) | 2014 (E) | 2015 (E) | As of 12/31/2013 (A) | |
| US | 1.7 | 2.6 | 3.0 | 6.7 | 6.8 | 6.2 | 1.2 | 1.7 | 2.0 | 5.8 | 9.7 | 11.2 | 15.7 | 18.6 |
| All Euro | 1.3 | 1.4 | 1.7 | 12.1 | 10.5 | 10.2 | 0.8 | 1.4 | 1.6 | (2.8) | 15.7 | 13.9 | 13.8 | 18.6 |
| United Kingdom | 1.4 | 2.4 | 2.4 | 7.4 | 7.3 | 7.0 | 2.7 | 2.2 | 2.2 | (6.3) | 9.8 | 8.8 | 12.9 | 14.5 |
| Japan | 1.7 | 1.6 | 1.2 | 4.0 | 3.9 | 3.8 | 1.5 | 2.4 | 1.8 | 56.2 | 9.9 | 10.0 | 14.9 | 17.6 |
| All EM** | 5.6 | 5.7 | 5.7 | 5.6 | 5.1 | 5.1 | 3.9 | 4.5 | 4.3 | (1.4) | 11.8 | 10.3 | 10.1 | 12.1 |
| Russia | 1.5 | 2.4 | 2.7 | 5.4 | 5.7 | 5.6 | 6.5 | 5.4 | 5.0 | 4.2 | (2.2) | (1.7) | 4.3 | 5.2 |
| China | 7.7 | 7.5 | 7.2 | 4.0 | 4.1 | 4.1 | 2.5 | 3.1 | 3.2 | 12.5 | 9.3 | 11.7 | 9.0 | 10.0 |
| Brazil | 2.3 | 2.3 | 2.8 | 5.4 | 5.9 | 6.0 | 6.2 | 5.8 | 5.6 | (0.2) | 17.4 | 11.6 | 10.0 | 13.4 |
| Italy | (1.8) | 0.5 | 0.9 | 12.3 | 12.4 | 12.1 | 0.7 | 1.2 | 1.4 | (24.4) | 26.5 | 20.0 | 12.2 | 28.0 |
| Germany | 0.5 | 1.7 | 1.9 | 6.9 | 6.8 | 6.6 | 1.4 | 1.6 | 1.9 | (9.0) | 12.6 | 12.8 | 13.0 | 15.1 |
| France | 0.2 | 0.8 | 1.3 | 10.5 | 11.0 | 10.8 | 0.7 | 1.3 | 1.4 | (6.9) | 14.6 | 12.3 | 13.2 | 19.3 |
| Spain | (1.3) | 0.6 | 1.2 | 26.6 | 26.2 | 25.5 | 0.2 | 0.8 | 1.0 | 25.5 | 16.9 | 17.3 | 14.0 | 27.5 |
| Australia | 2.4 | 2.7 | 3.0 | 5.8 | 5.9 | 5.8 | 2.2 | 2.6 | 2.5 | 4.2 | 8.5 | 6.5 | 14.4 | 17.6 |
| Canada | 1.7 | 2.3 | 2.5 | 7.2 | 6.8 | 6.6 | 0.9 | 1.5 | 1.9 | (0.5) | 9.1 | 9.3 | 14.4 | 18.8 |
| India | 2.3 | 4.8 | 5.5 | | | | 9.9 | 9.2 | 8.0 | 2.6 | 18.1 | 15.0 | 14.6 | 17.1 |
| Mexico | 1.3 | 3.5 | 3.9 | 4.5 | 4.9 | 4.7 | 4.0 | 3.7 | 3.6 | (6.8) | 15.1 | 13.2 | 18.2 | 22.9 |

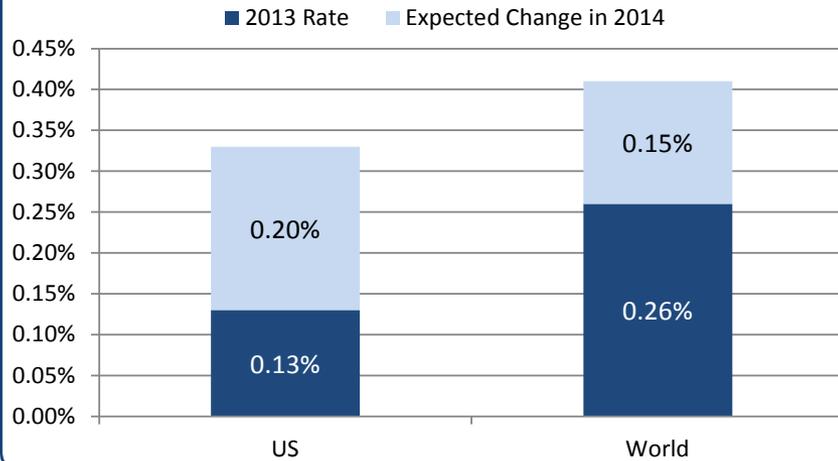
* Earnings Growth calculations use local currency. Data are IBES estimates for MSCI classifications.

** For Economic Forecasts, All EM was proxied with BRICs.

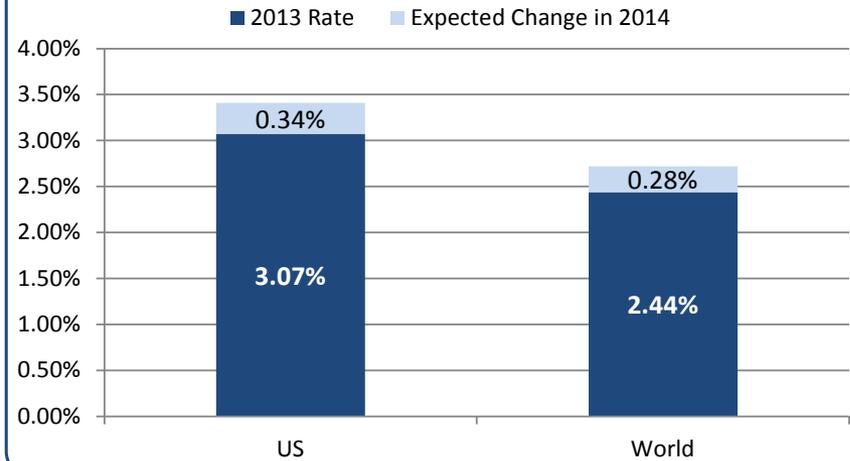
Rate Forecasts

Market Expectations

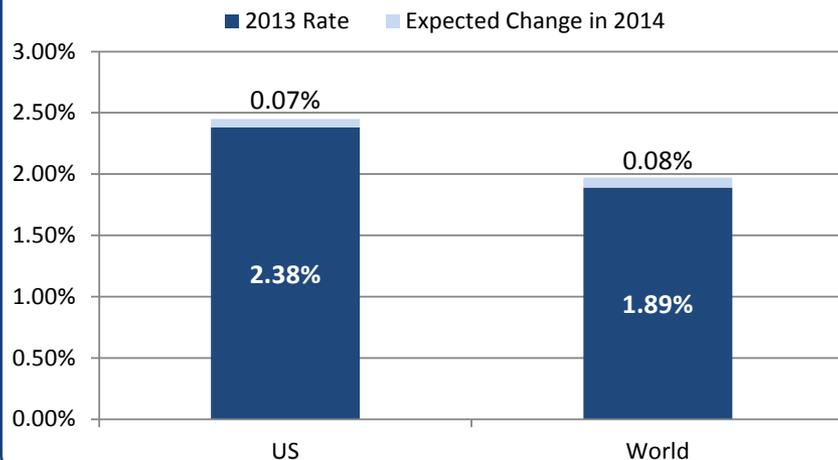
Central Bank Target Rates



10 year Yield



10 Year Breakeven Inflation



- Some tightening expected in US short-term rates with a quarter point increase in the Fed Funds rate likely by year end
- US 10 year yield expected to increase 0.34%, in line with the rest of the world
 - If yields increase, but less than expected, bonds will have a positive return
- Expectation is for inflation to remain largely unchanged in both the US and the rest of the world

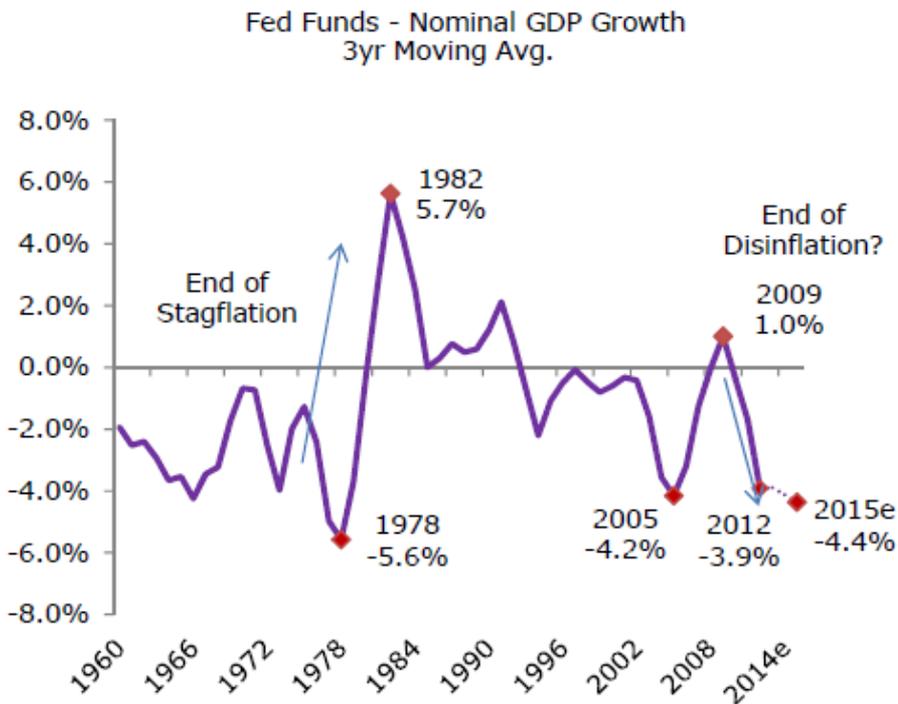
Expect Rate Hikes to Be Unusually Slow Relative to the Historical Average

| Trough Month | Peak Month | Months | Trough Rate | Peak Rate | Change (bps) | Rate of Change (bps/yr) | CPI y/y at Peak | Real Fed Rate at Peak |
|-----------------------|------------|--------|-------------|-----------|--------------|-------------------------|-----------------|-----------------------|
| Feb-83 | Aug-84 | 18 | 8.50% | 11.50% | 300 | 200 | 4.3% | 7.2% |
| Dec-86 | May-89 | 29 | 5.88% | 9.81% | 394 | 163 | 5.4% | 4.4% |
| Jan-94 | Feb-95 | 13 | 3.00% | 6.00% | 300 | 279 | 2.9% | 3.1% |
| May-99 | May-00 | 12 | 4.75% | 6.50% | 175 | 175 | 3.2% | 3.3% |
| May-04 | Jun-06 | 25 | 1.00% | 5.25% | 425 | 205 | 4.3% | 1.0% |
| Average | | 19 | 4.6% | 7.8% | 319 | 204 | 4.0% | 3.8% |
| KKR GMAA '15-'17 Est. | | ~20-24 | 0.25% | 3.00% | 275 | 150 | 2.50% | 0.5% |

Data as of December 20, 2013. Source: Federal Reserve, Bloomberg, KKR Global Macro & Asset Allocation Forecast.

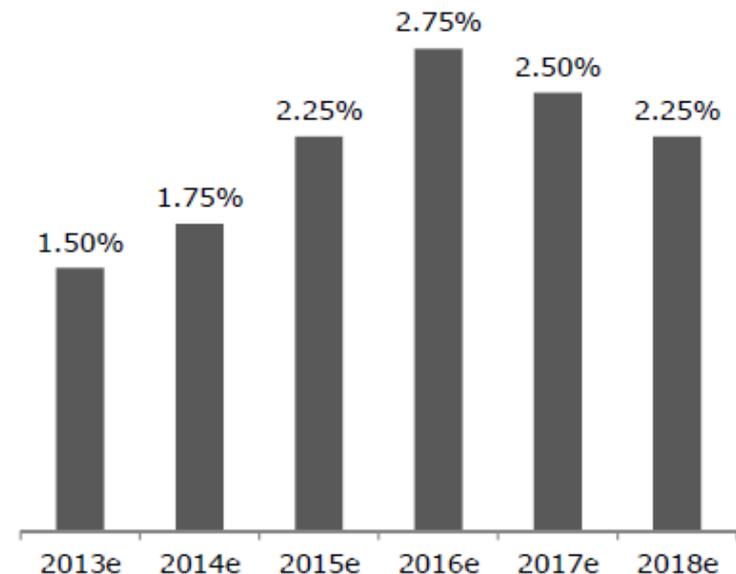
Central Bank Policy Is Directed Towards Lifting Long-term Inflation Expectations

History Shows That Pinning Fed Funds Below GDP Growth Leads to Rising Inflation Rates



Inflation Is Running Too Low Today and Will Increase As the Economy Accelerates

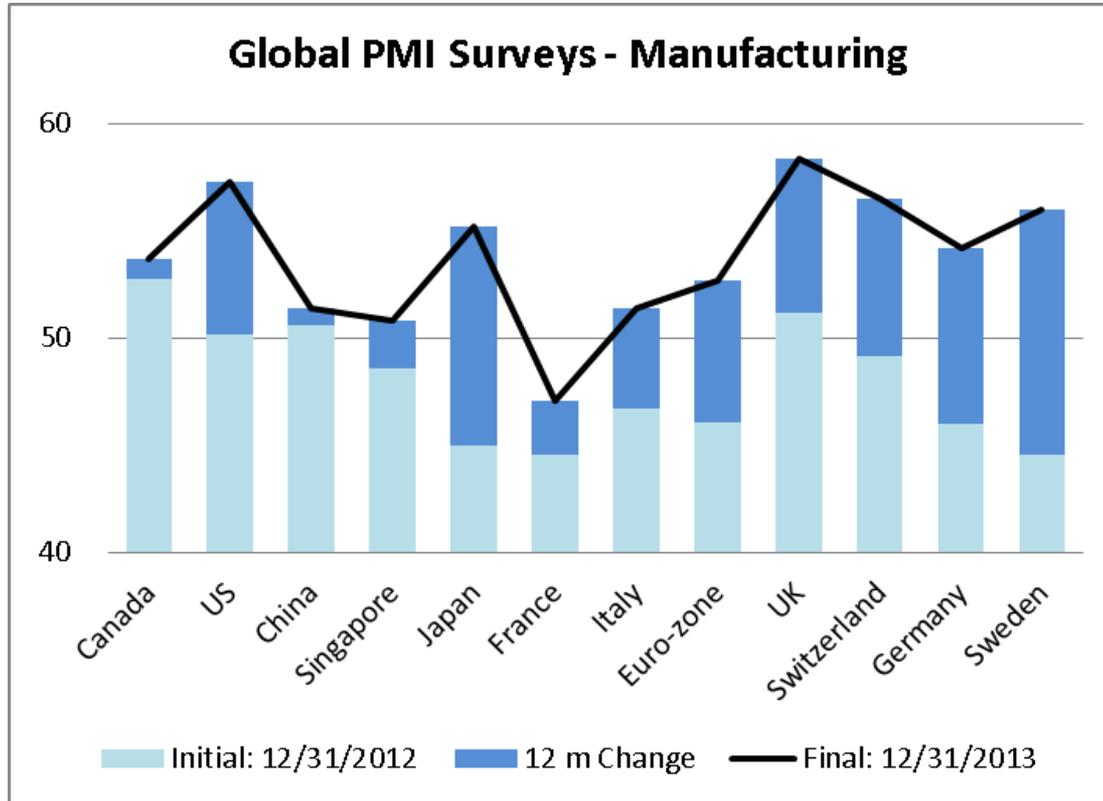
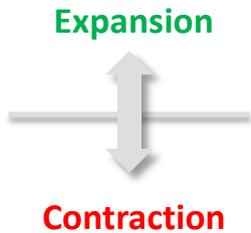
Inflation Forecasts, 2013E - 2018E



e = KKR Global Macro & Asset Allocation estimate. Our estimate assumes the Fed does not tighten until mid-2015 and that nominal GDP growth averages 4.5% annually between 2012 and 2014. Data as at May 31, 2013.

Source: KKR Global Macro & Asset Allocation Forecast as of December 31, 2013.

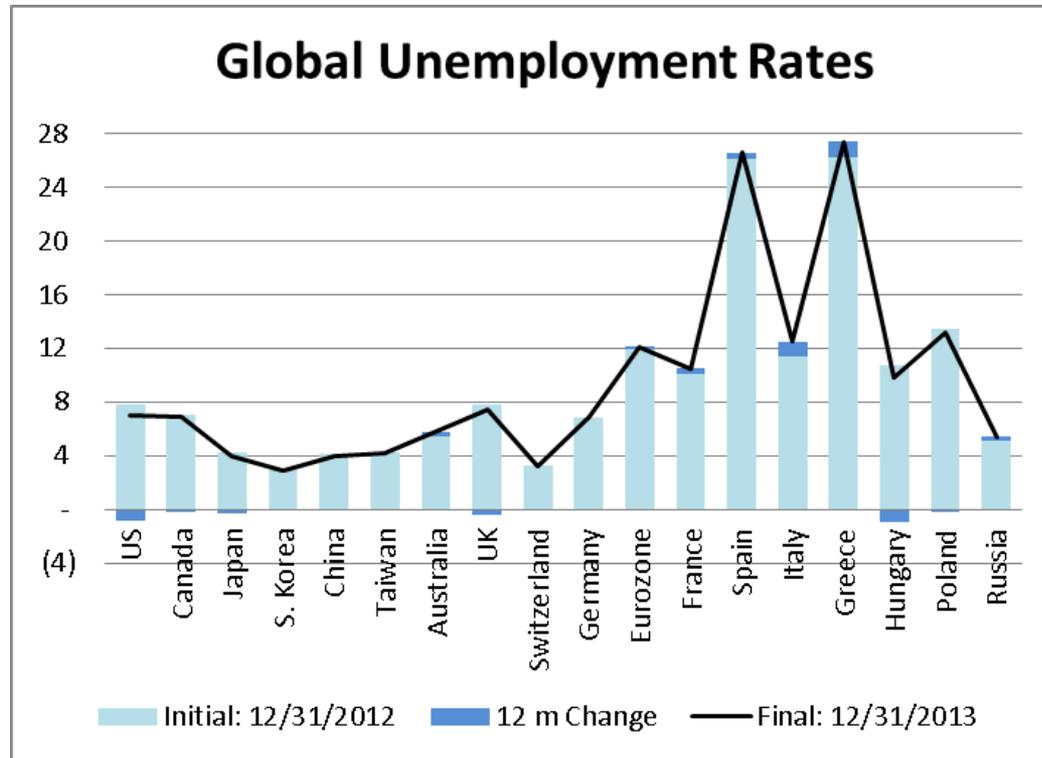
Global PMI Manufacturing Surveys – Dramatic Increase



- Most countries started 2013 in “contraction” territory (< 50). In contrast, the US and the UK started in “expansion” (> 50)
- Dramatic improvements took place globally in the second half of 2013. Japan is the standout. “Core” and “Peripheral” Europe improved
- At the start of 2014, all regions (except France) are in “expansion” territory
- These recent survey results are likely one of the key drivers of equity performance in 2013

Global Unemployment Rates

Mixed



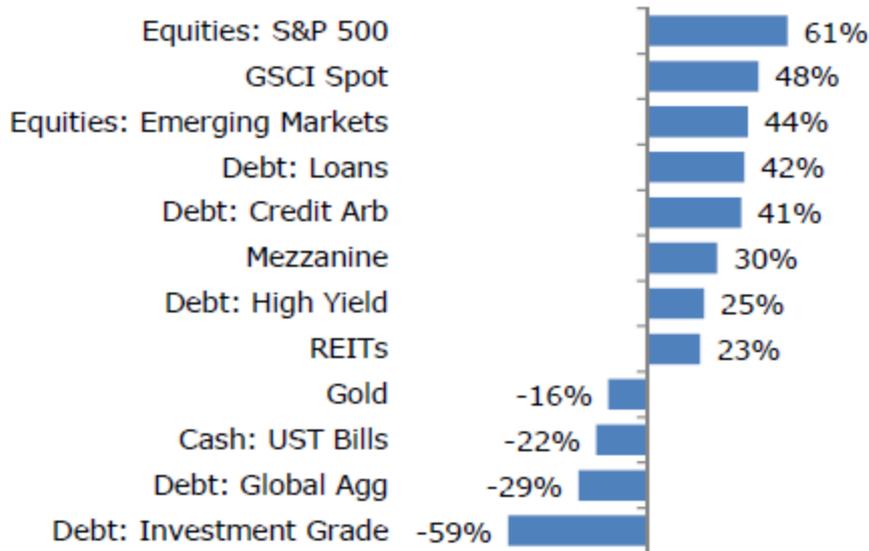
- Unemployment **fell** modestly in Canada, Japan, Poland and the UK . Greatest improvement occurred in the US and Hungary.
- Unemployment continued to **rise** in the European periphery, France, Spain, and Australia. More so in Greece and Italy.
- If 6% is a global “magic number”, considerable progress is still required for much of the Euro-zone and Eastern Europe.

Reaching an Inflection Point in the Fixed Income Cycle

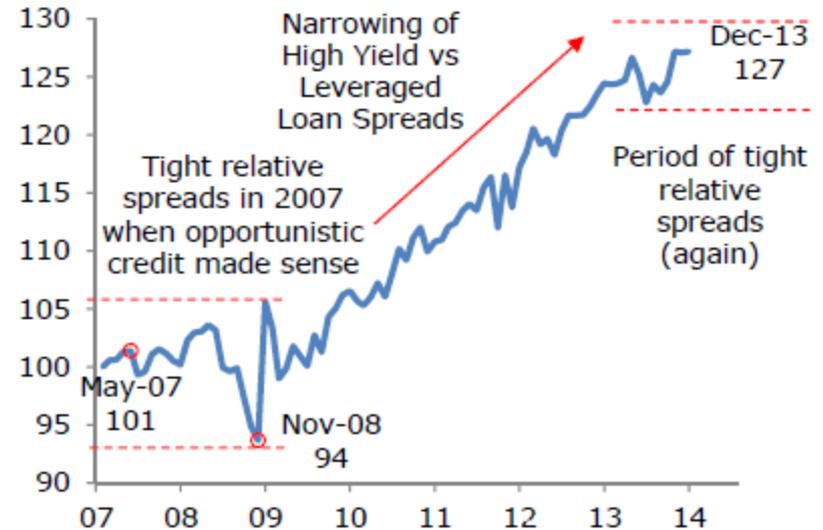
If Rates Are Rising, This Has Implications for All Asset Allocation Decisions, Particularly in Fixed Income

Asset Class Selection Matters More Today, So the Flexibility to Again Toggle Between Fixed Income Asset Classes Is Important

Correlation vs U.S. 10-Year Treasury Yields: Jan 2010-Nov 2013



US High Yield - Leveraged Loans Total Return: Indexed Jan 2007 = 100

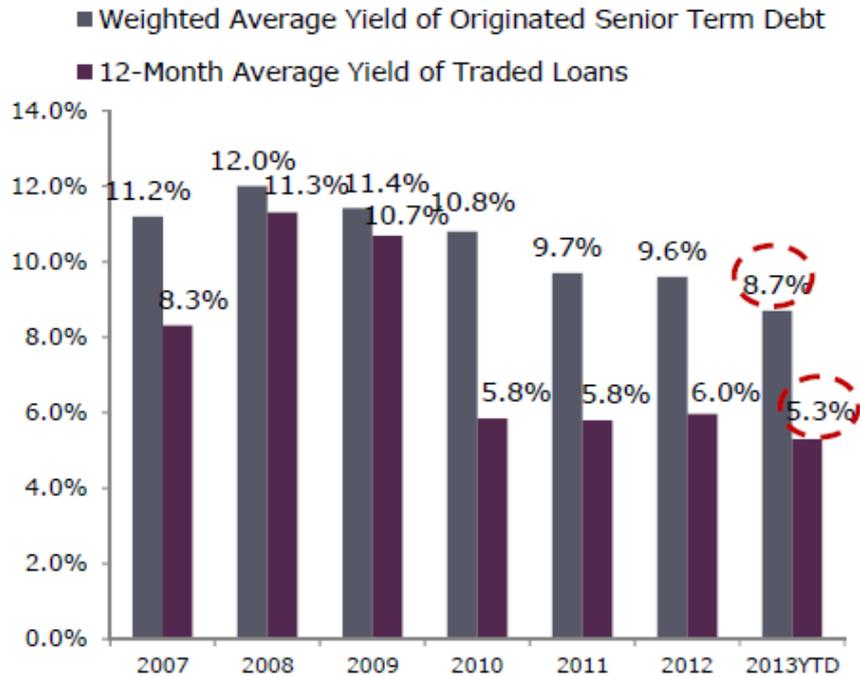


Data as at November 30, 2013. Source: Bloomberg.

Data as at December 31, 2013. Source: JPMorgan Research, Bloomberg.

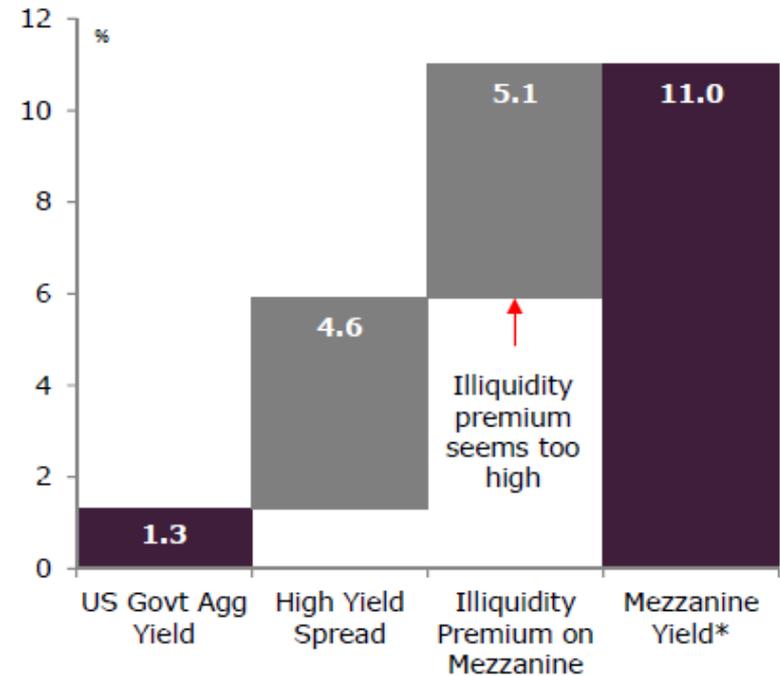
The Illiquidity Premium Is Still Sizable Enough to Generate Attractive Returns

Yield Comparisons – Originated vs. Traded Leveraged Loans



Weighted average yields of senior term debt and senior subordinated debt. Data as at September 30, 2012. Source: S&P LSTA, public company filings of Ares Capital Corporation.

Analysis Suggests That Both the Illiquidity Premium and the Default Premium Appear Outsized



*KKR Asset Management estimate. Data as at December 18, 2013. Source: Barclays US Agg Government Yield to Worst, Bloomberg, KKR Global Macro & Asset Allocation analysis.

S&P 500 Forecasts

Market Expectations

| | 2014 | | 2013 | | 2012 | |
|---------------|--------------|------------|--------------|------------|--------------|-------------|
| <u>Bank</u> | <u>Close</u> | <u>EPS</u> | <u>Close</u> | <u>EPS</u> | <u>Close</u> | <u>EPS</u> |
| BAC | 2000 | 118 | 1600 | 110 | 1350 | 104.5 |
| BMO | 1900 | 116 | 1575 | 106.3 | 1325 | 102 |
| Barclays | 1900 | 119 | 1525 | 105 | 1330 | 103 |
| Citi | 1975 | 117.5 | 1615 | 108 | 1375 | 101 |
| CSFB | 1960 | 115.9 | 1550 | 104.9 | 1340 | |
| DB | 1850 | 119 | 1500 | 108 | 1500 | 106 |
| GS | 1900 | 116 | 1575 | 107 | 1250 | 100 |
| JPM | 2075 | 120 | 1580 | 110 | 1430 | 105.9 |
| Oppenheimer | 2014 | 115 | 1585 | 108 | 1400 | 101 |
| UBS | 1950 | 116 | 1425 | 108 | 1325 | 99 |
| Wells F. | 1875 | 113.5 | 1390 | 103 | 1360 | 102 |
| Median | 1950 | 116 | 1575 | 108 | 1350 | 102 |
| High | 2075 | 120 | 1615 | 110 | 1500 | 106 |
| Low | 1850 | 113.5 | 1390 | 103 | 1250 | 99 |
| Actual | | | 1848 | 107 | 1426 | 98.3 |

- Expectation is for a 6% return in the S&P 500 for 2014
- 7% EPS growth predicted along with a slight contraction in the P/E multiple
- No one is forecasting a decline

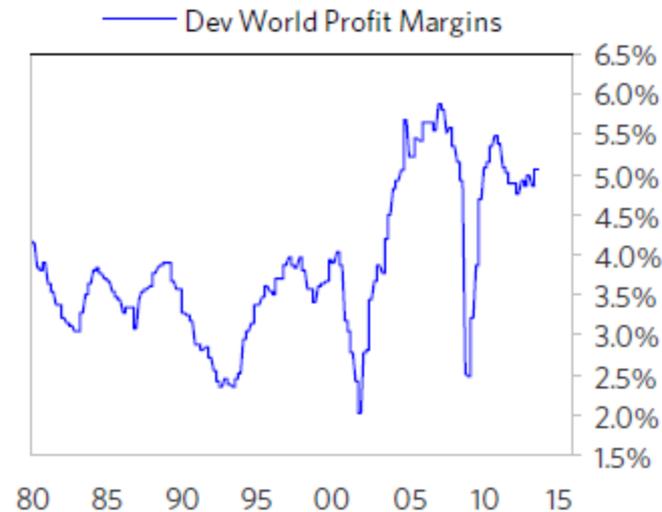
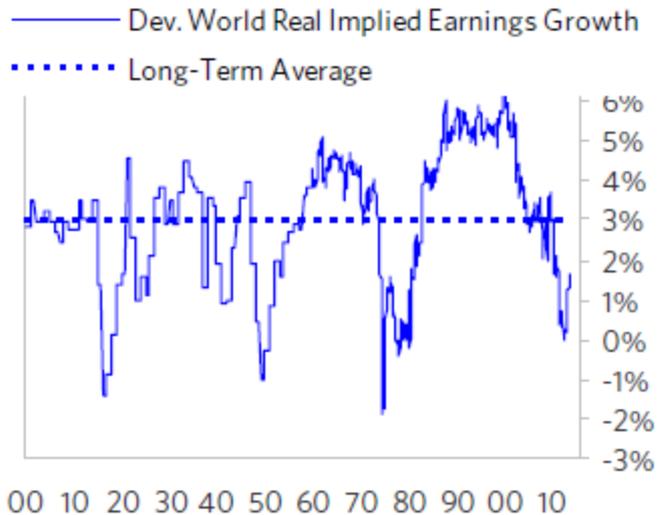
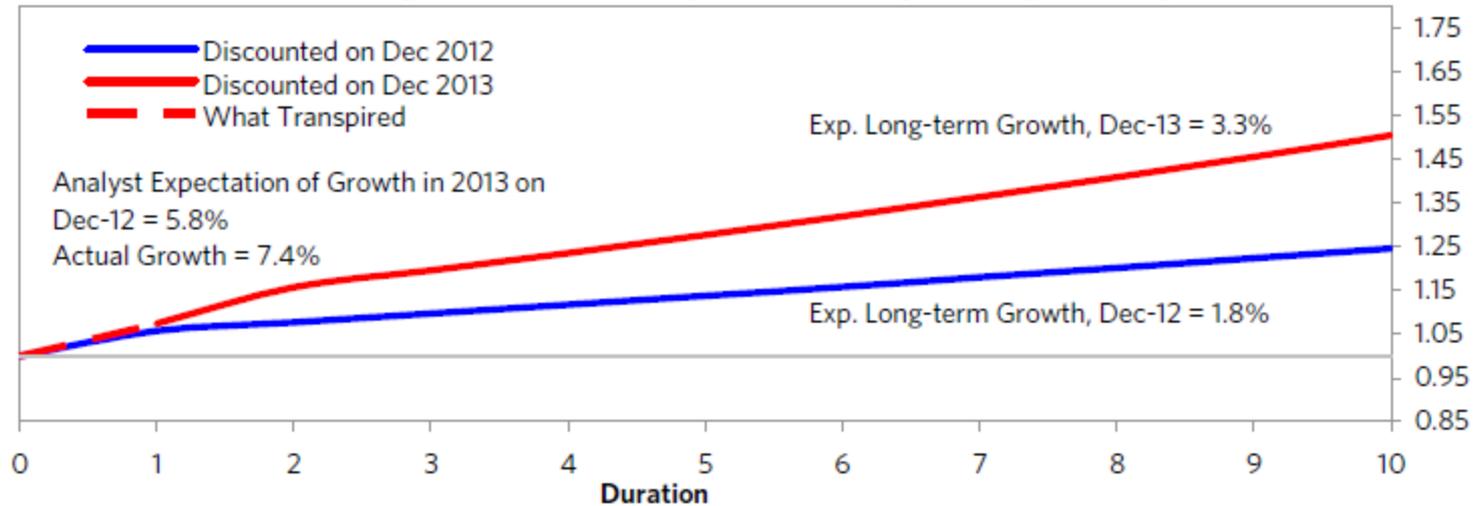
What Markets Are Discounting: Equities

Forward Pricing of Equities

| | Australia | Canada | Euroland | Japan | UK | US | World |
|--|-----------|--------|----------|-------|-------|-------|-------|
| Nominal | | | | | | | |
| Analysts' 2013 Earnings Growth Expectations, Dec-12 (Adj For Bias) | 0.4% | 6.0% | 0.1% | 30.6% | 2.0% | 4.0% | 5.8% |
| Actual Growth in 2013 | 4.2% | -1.5% | -2.7% | 56.2% | -5.9% | 4.2% | 7.4% |
| Analysts' 2014 Expectations (Adj for Bias) | 3.7% | 3.6% | 11.3% | 13.9% | 4.1% | 4.4% | 7.6% |
| Market Discounted Long-term Growth Expectations | | | | | | | |
| End of 2012 | 3.8% | 2.3% | 1.0% | 2.1% | 1.5% | 2.2% | 1.8% |
| End of 2013 | 5.1% | 3.7% | 2.5% | 1.9% | 3.5% | 4.2% | 3.3% |
| Change in Pricing | 1.3% | 1.4% | 1.5% | -0.1% | 2.0% | 2.0% | 1.5% |
| Real | | | | | | | |
| Analysts' 2013 Earnings Growth Expectations, Dec-12 (Adj For Bias) | -2.5% | 4.2% | -1.8% | 30.8% | -0.6% | 2.0% | 4.1% |
| Actual Growth in 2013 | 1.3% | -3.3% | -4.5% | 56.4% | -8.4% | 2.2% | 5.6% |
| Analysts' 2014 Expectations (Adj for Bias) | 1.1% | 2.1% | 10.2% | 11.6% | 1.7% | 2.7% | 5.9% |
| Market Discounted Long-term Real Growth Expectations | | | | | | | |
| End of 2012 | 1.2% | 0.1% | -0.7% | 1.5% | -1.0% | -0.3% | -0.2% |
| End of 2013 | 2.3% | 1.7% | 0.9% | 0.8% | 0.9% | 1.8% | 1.4% |
| Change in Pricing | 1.1% | 1.6% | 1.6% | -0.8% | 1.9% | 2.2% | 1.5% |

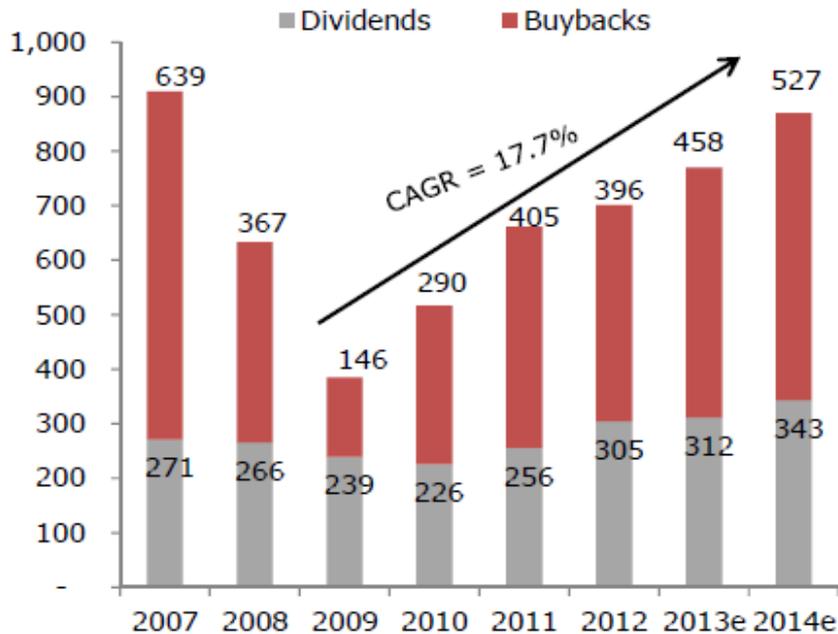
What Markets Are Discounting: Equities

Developed World Pricing of Future Operating Earnings



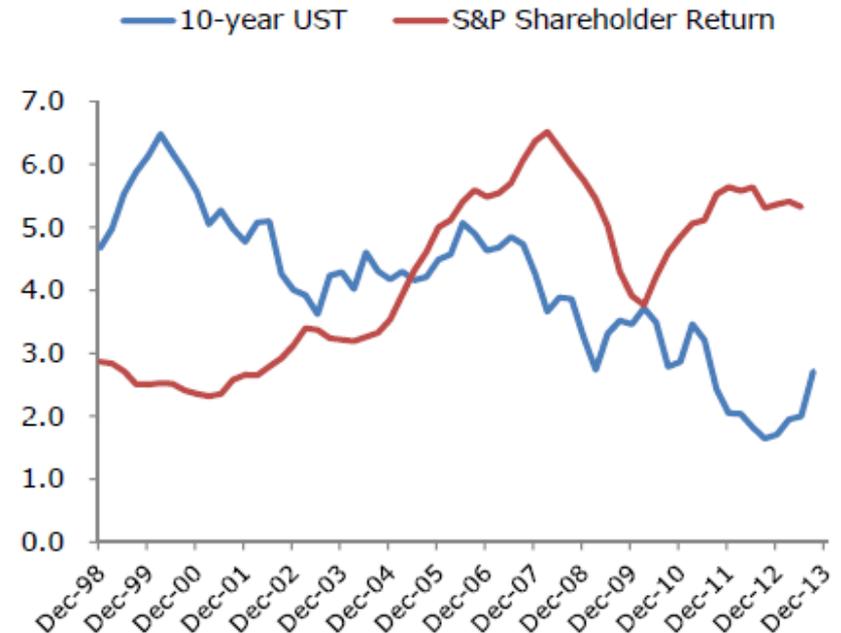
Aggressive Capital Management by Corporate America Now a Major Driver of Growth and Returns

Dividends and Buybacks Are Still Accelerating



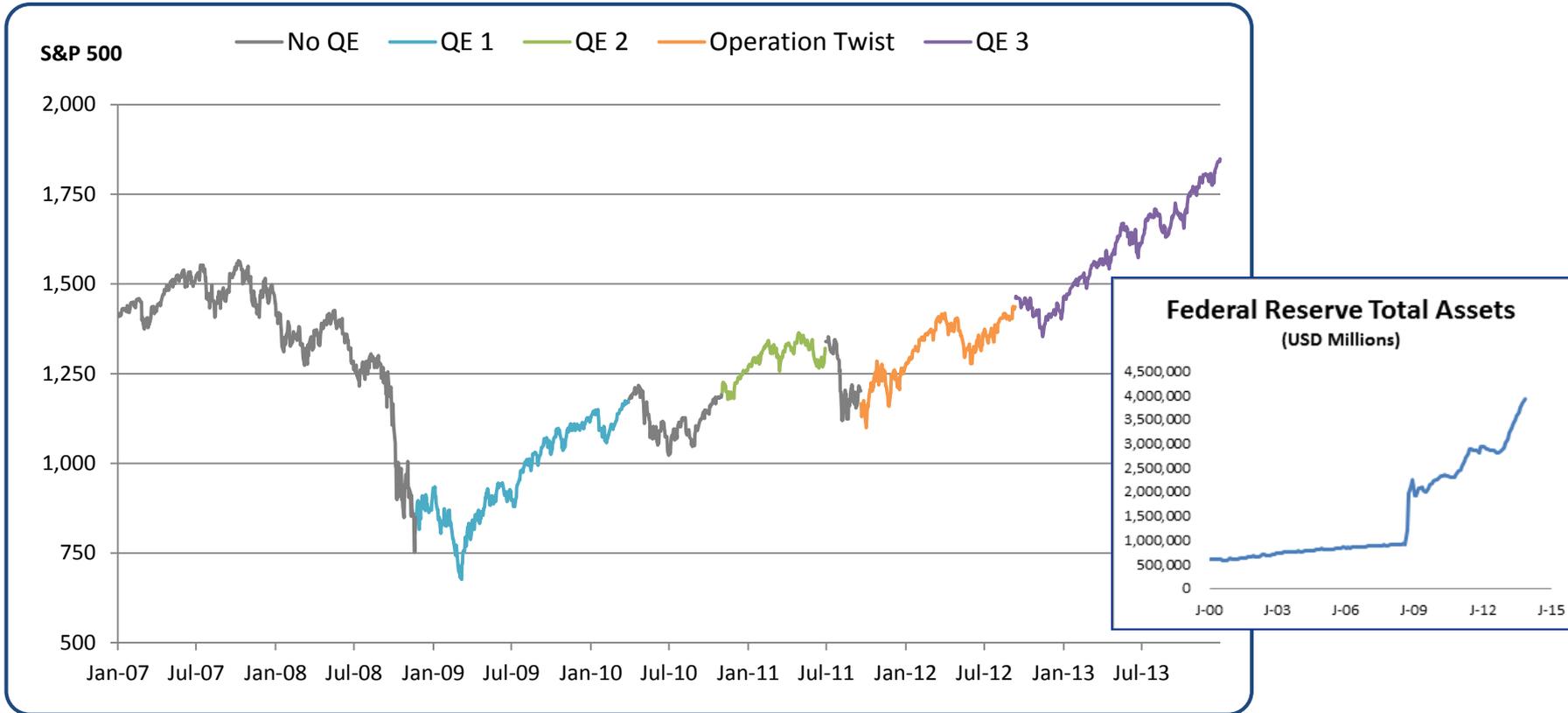
Data as at December 31, 2013. Source: Factset, ISI, Barclays.

S&P 500 Dividend and Buyback Yield Combined Now Offers Much More Yield Than 10-Year Treasury



Data as at September 30, 2013. Source: Goldman Sachs Research.

S&P500 and Quantitative Easing



- **QE 1:** November 2008; Fed to purchase \$600 billion in agency MBS, expanded to include an additional \$750 billion in agency debt and \$300 billion in Treasuries in March 2009
- **QE2:** November 2010; Fed to purchase \$600 billion of longer dated Treasuries
- **Operation Twist:** September 2011; Fed to purchase \$400 billion of longer dated Treasuries while selling shorter dated Treasuries; program expanded in June 2012 by an additional \$267 billion
- **QE3:** September 2012; Fed to purchase \$40 billion in agency MBS each month, December 2012 program expanded to include \$45 billion of longer-term Treasuries

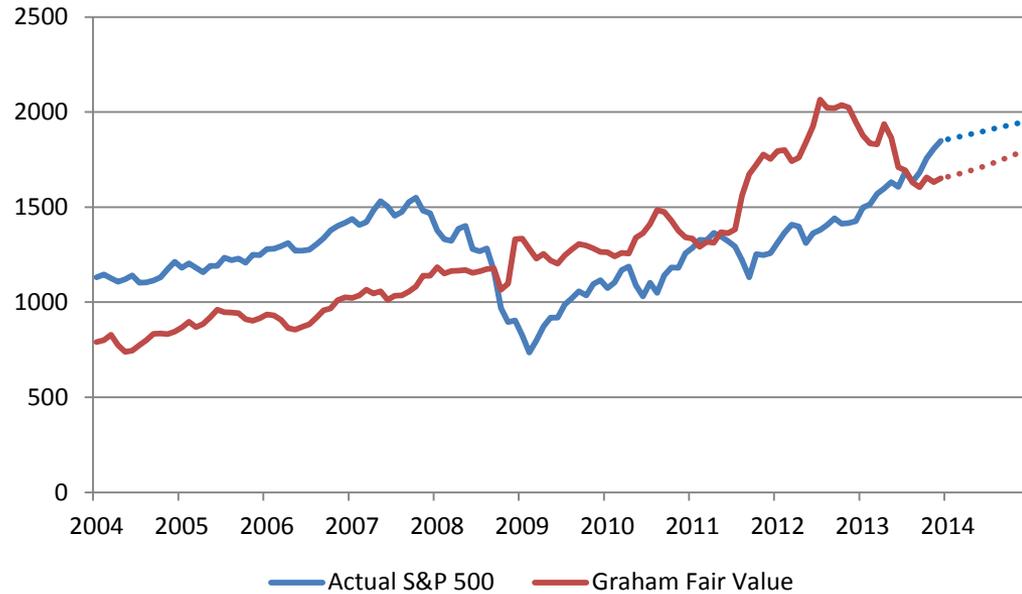
Ben Graham Intrinsic Value Model

Graham's Modified Intrinsic Value Model

$$\text{Intrinsic Value} = \frac{\text{EPS} \times (8.5 + 2g) \times 4.4}{\text{AAA Bond Yield}}$$

- where:
- EPS = Trailing 12-mo. earnings per share
 - 8.5 = Graham's estimated P/E for a company with zero EPS growth
 - g = Long-term earnings growth estimate
 - 4.4 = Adjustment factor for the average yield of high grade corporate bonds in 1962, when Graham first introduced model

- During 2013, price gains, slow earnings growth, and rising yields led to moderate overvaluation by the end of the year
- Due to expectations of strong earnings growth in 2014, the valuation gap is expected to narrow somewhat during the year



| | S&P | Fair Value | % Difference |
|-------|------|------------|--------------|
| 2013 | 1848 | 1651 | 12% |
| 2014E | 1950 | 1797 | 9% |

Note: 2014 estimates assume median S&P price and earnings forecasts and a 19bp increase in the AAA bond yield (half of Bloomberg consensus projected rise in 10 year Treasury yield)

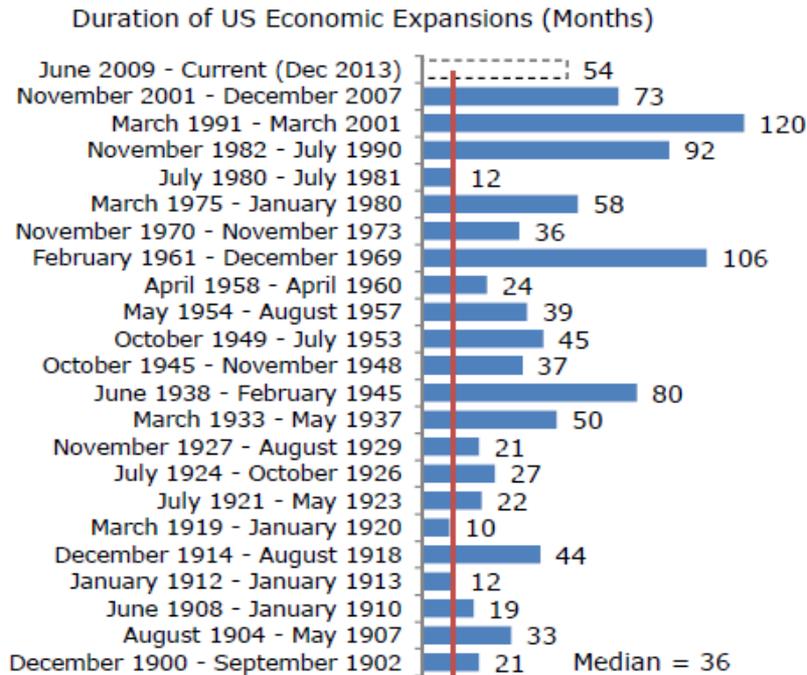
Stock Market Cycles

| US: Cycles Based on S&P 500 Stock Market Levels | | | | | | | |
|---|---------|-----------------------|----------------------------------|----------------------|-----------|-----------------------|--|
| Previous Peak | Trough | Quarters in Recession | Recovery | Quarters in Recovery | Expansion | Quarters in Expansion | Distance Past Prior Market Peak (Cum.) |
| Q2 1948 | Q2 1949 | 4 | Q4 1949 | 2 | Q4 1952 | 12 | 59% |
| Q4 1952 | Q3 1953 | 3 | Q1 1954 | 2 | Q1 1956 | 8 | 82% |
| Q1 1956 | Q4 1957 | 7 | Q3 1958 | 3 | Q4 1961 | 13 | 48% |
| Q4 1961 | Q2 1962 | 2 | Q3 1963 | 5 | Q4 1965 | 9 | 29% |
| Q4 1965 | Q3 1966 | 3 | Q3 1967 | 4 | Q4 1967 | 1 | 4% |
| Q4 1967 | Q1 1968 | 1 | Q2 1968 | 1 | Q4 1968 | 2 | 8% |
| Q4 1968 | Q2 1970 | 6 | N/A--recovered 97% of prior peak | | - | - | - |
| Q1 1971 | Q3 1971 | 2 | Q4 1971 | 1 | Q4 1972 | 4 | 18% |
| Q4 1972 | Q3 1974 | 7 | N/A--recovered 85% of prior peak | | - | - | - |
| Q2 1977 | Q1 1978 | 3 | Q3 1978 | 2 | Q3 1979 | 4 | 9% |
| Q3 1979 | Q1 1980 | 2 | Q2 1980 | 1 | Q1 1981 | 3 | 24% |
| Q1 1981 | Q2 1982 | 5 | Q4 1982 | 2 | Q2 1983 | 2 | 24% |
| Q2 1983 | Q2 1984 | 4 | Q1 1985 | 3 | Q4 1993 | 35 | 177% |
| Q4 1993 | Q2 1994 | 2 | Q1 1995 | 3 | Q1 2000 | 20 | 221% |
| Q1 2000 | Q1 2003 | 12 | Q2 2007 | 17 | Q3 2007 | 1 | 2% |
| Q3 2007 | Q1 2009 | 6 | Q2 2013 | 16 | Q3 2013 | 2 | 16% |
| Average | | 4 | | 4 | | 9 | 54% |
| Median | | 4 | | 3 | | 4 | 24% |

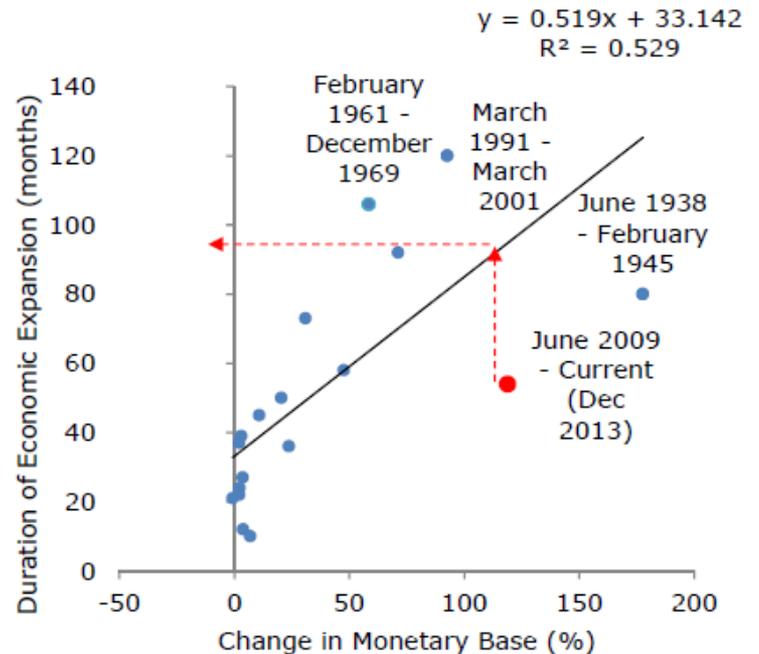
*Recession defined as 2 consecutive quarters negative stock market growth
Average, Medians and Quartiles presented include only complete cycles

The Current Economic Cycle Still Has Room to Run

We Are Now in the 54th Month of Economic Expansion



If Past Relationships Hold True, This Economic Cycle Has More Room to Run

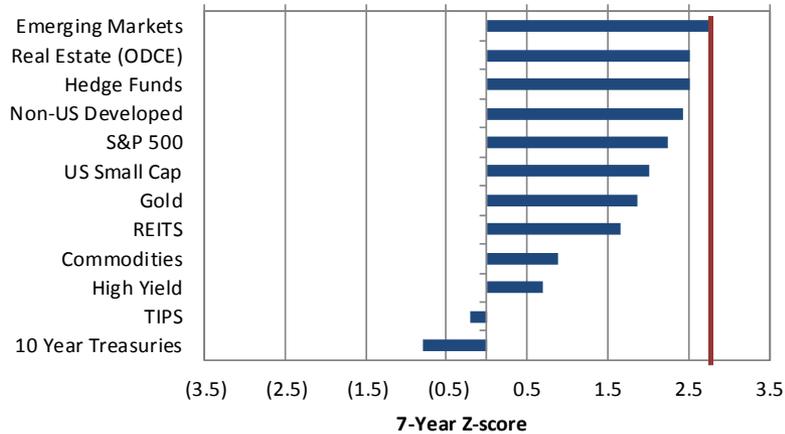


Data as at December 31, 2013. Source: National Bureau of Economic Research (NBER), KKR Global Macro & Asset Allocation analysis.

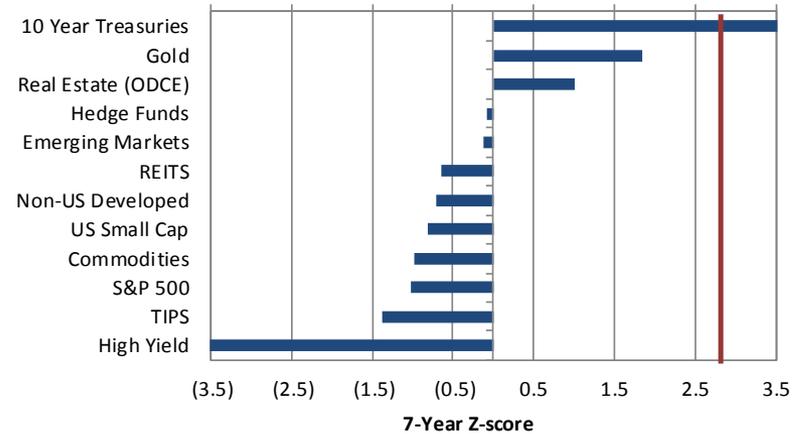
Economic expansions from 1919 to 2013. Data as at December 31, 2013. Source: Federal Reserve Bank of St. Louis, National Bureau of Economic Research, Bureau of Economic Analysis, U.S. Treasury, KKR Global Macro & Asset Allocation analysis.

Bubble Monitor

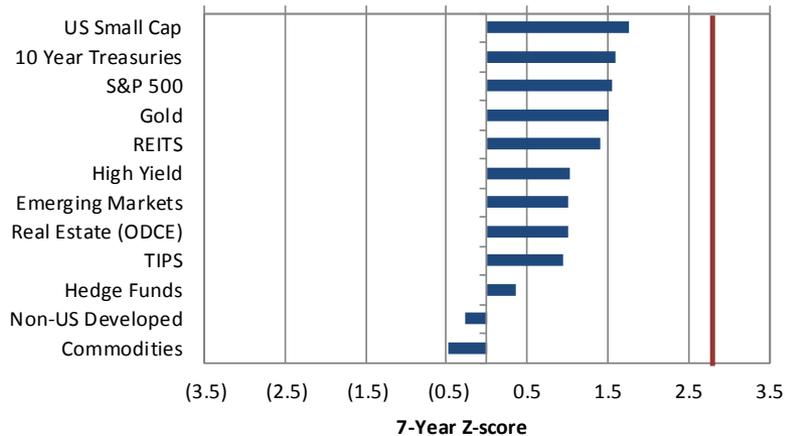
Bubble Level Monitor: June 2007



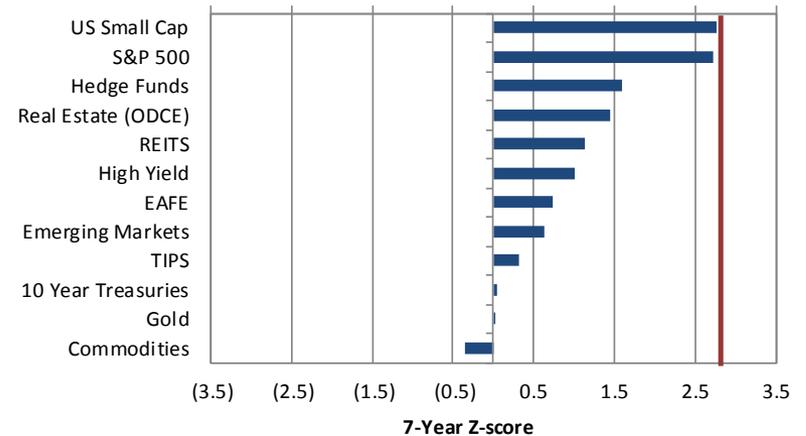
Bubble Level Monitor: December 2008



Bubble Level Monitor: December 2012



Bubble Level Monitor: December 2013

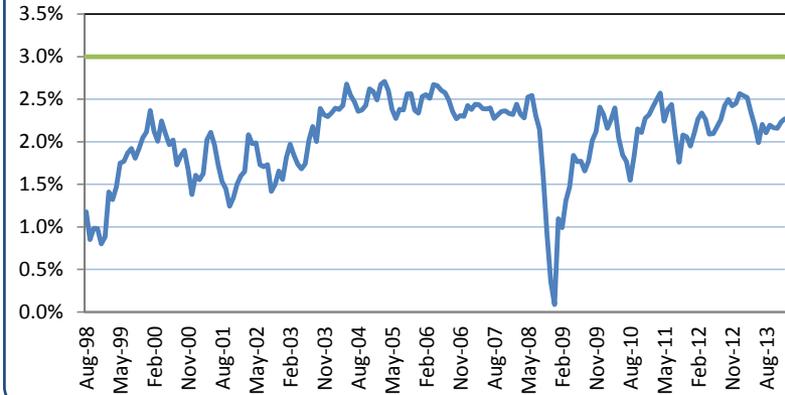


What could end this Bull Market?

BCA: US High Yield Yield > 8%



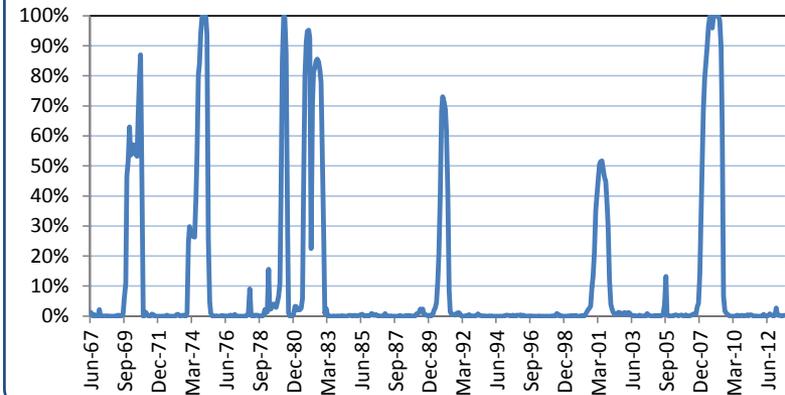
BCA: 10Y Inflation Breakeven > 3%



BCA: Interest Sens (Cons Disc) to 1yr Mov Avg

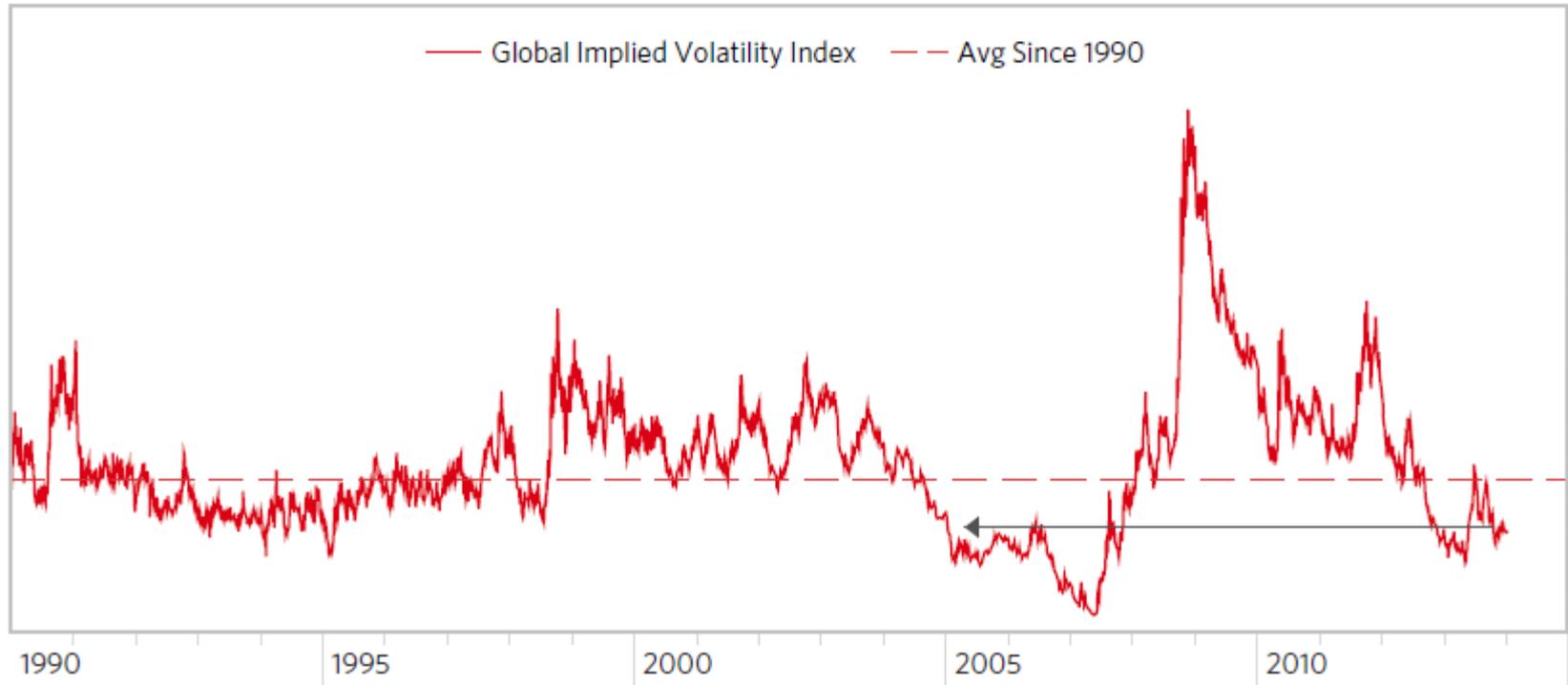


NY Fed: US Recession Probability



- The above indicators are important ones to watch to determine if the current bull market might be coming to an end

What Markets Are Discounting: Implied Volatility



Conclusions

- Entering sixth year of the recovery
- Global equity markets well past previous peaks
- Central banks have been very supportive
- Economic growth has been muted, but has improved
- Markets are generally complacent
- Cycle review
 - Ending the 30 year leveraging cycle
 - Business cycle is extended – equity market valuations are in “overshoot”

Appendix



Asset Class Performance

| | <u>2013 Return</u> | <u>Return Since Mar-09</u> | | <u>2013 Return</u> | <u>Return Since Mar-09</u> | | <u>2013 Return</u> | <u>Return Since Mar-09</u> |
|--------------------------|------------------------|------------------------------------|--|------------------------|------------------------------------|---------------------------|------------------------|------------------------------------|
| Equities (MSCI) | | | Government Bonds (All Maturities) | | | Commodities | | |
| U.S. Small Cap | 38.3% | 251.6% | Australia | 0.1% | 24.6% | S&P GSCI Commodity Index | -1.2% | 41.4% |
| U.S. Large Cap (S&P 500) | 32.4% | 178.9% | Canada | -2.3% | 15.7% | Crude Oil | 9.5% | 65.1% |
| EAFE + Canada | 21.0% | 121.0% | Germany | -2.2% | 21.2% | Natural Gas | -1.5% | 52.8% |
| Japan | 54.6% | 90.1% | Japan | 2.2% | 10.2% | Gold | -28.7% | 23.3% |
| Germany | 25.7% | 142.2% | U.K. | -4.1% | 26.9% | | | |
| Spain | 25.6% | 61.5% | U.S. | 2.7% | 15.0% | | | |
| France | 20.9% | 91.3% | U.S. Long Duration | -12.7% | 23.8% | | | |
| Australia | 20.9% | 95.5% | | | | Other | | |
| U.K. | 18.4% | 111.1% | Inflation-Linked Bonds | | | Directional Hedge Funds | 8.8% | 26.2% |
| Italy | 15.2% | 39.0% | Australia | -3.3% | 10.3% | Stable Value Hedge Funds | 7.7% | 23.5% |
| Canada | 5.6% | 114.7% | Canada | -6.7% | -3.5% | U.S. Real Estate (NAREIT) | 2.9% | 233.5% |
| Emerging Markets | -2.6% | 125.8% | Germany | -4.0% | 21.0% | EUR v. USD | 4.2% | 8.9% |
| Brazil | -16.1% | 56.5% | Japan | 4.3% | 39.7% | Yen v. USD | -21.5% | -8.1% |
| China | 3.6% | 98.5% | U.K. | 0.3% | 45.5% | EMFX v. USD | -7.5% | 3.8% |
| India | -3.8% | 112.6% | U.S. | -8.6% | 31.9% | | | |
| Russia | -0.7% | 158.1% | | | | | | |
| | | | Emerging Market Debt | | | | | |
| Corporate Bonds | | | EMBI Plus | -6.6% | 73.1% | | | |
| U.S. | -1.5% | 53.6% | | | | | | |
| Global | 0.4% | 54.3% | | | | | | |
| | | | Bond Aggregates | | | | | |
| High Yield Bonds | | | U.S. | -20.2% | 25.9% | | | |
| U.S. | 7.4% | 131.7% | Global | -2.6% | 28.1% | | | |
| Global | 7.3% | 137.7% | | | | | | |

Source: Government bonds (Citigroup); Emerging Market Debt (JPMorgan); all other bond indices (Barclays);
 Note: Individual country returns expressed in local currency

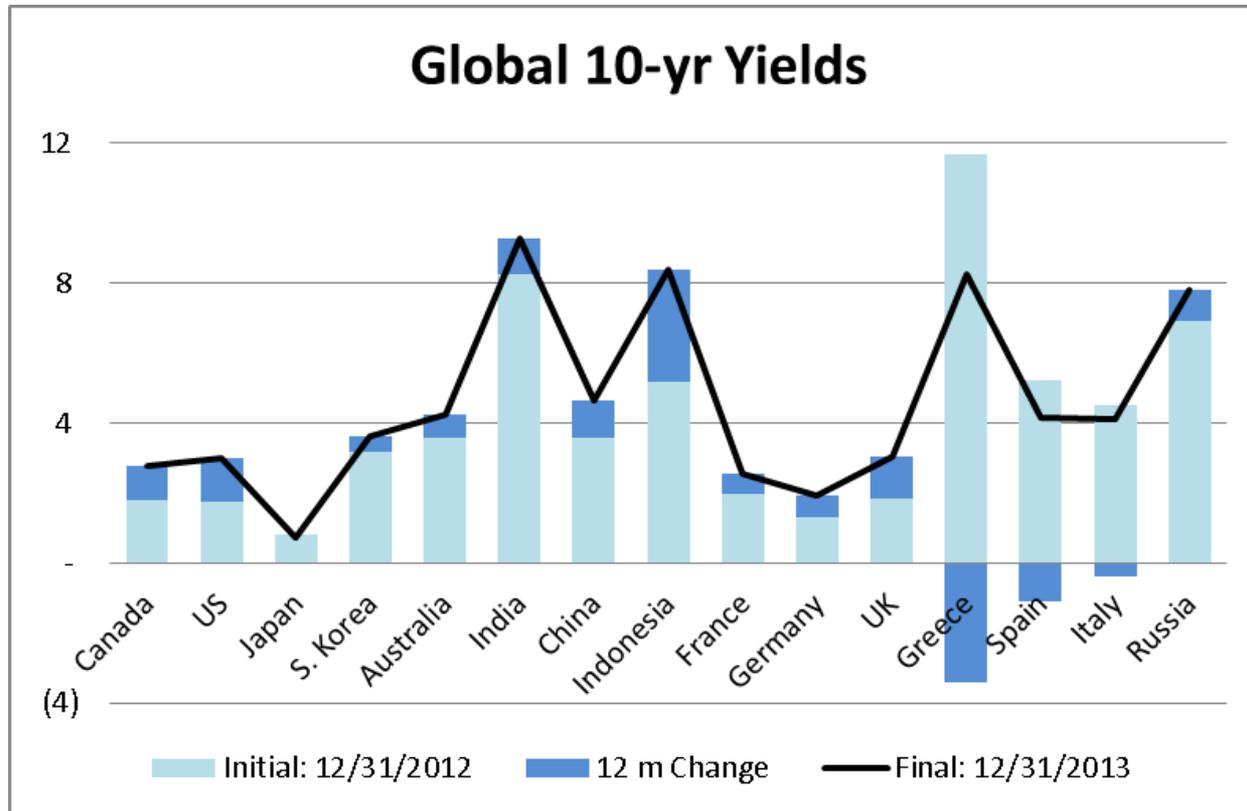
Expect Market Momentum to Be Choppy But Exceed 2013 Levels

Pulling All the Pieces Together: 2014 S&P 500 Price Target Suggests a
2000 Trading Range

| S&P 500 Earnings Per Share (\$) | S&P 500 Trailing P/E | | | | | | | |
|---------------------------------|----------------------|-------|-------|-------|-------|-------|-------|--|
| | 15.0 | 15.5 | 16.0 | 16.5 | 17.0 | 17.5 | 18.0 | |
| 108 | 1,620 | 1,674 | 1,728 | 1,782 | 1,836 | 1,890 | 1,944 | |
| 109 | 1,635 | 1,690 | 1,744 | 1,799 | 1,853 | 1,908 | 1,962 | Approximate YE 2013 Range ← |
| 110 | 1,650 | 1,705 | 1,760 | 1,815 | 1,870 | 1,925 | 1,980 | |
| 111 | 1,665 | 1,721 | 1,776 | 1,832 | 1,887 | 1,943 | 1,998 | |
| 112 | 1,680 | 1,736 | 1,792 | 1,848 | 1,904 | 1,960 | 2,016 | |
| 113 | 1,695 | 1,752 | 1,808 | 1,865 | 1,921 | 1,978 | 2,034 | |
| 114 | 1,710 | 1,767 | 1,824 | 1,881 | 1,938 | 1,995 | 2,052 | |
| 115 | 1,725 | 1,783 | 1,840 | 1,898 | 1,955 | 2,013 | 2,070 | |
| 116 | 1,740 | 1,798 | 1,856 | 1,914 | 1,972 | 2,030 | 2,088 | |
| 117 | 1,755 | 1,814 | 1,872 | 1,931 | 1,989 | 2,048 | 2,106 | |
| 118 | 1,770 | 1,829 | 1,888 | 1,947 | 2,006 | 2,065 | 2,124 | YE 2014, Assuming 9% EPS Growth and No P/E Expansion ← |
| 119 | 1,785 | 1,845 | 1,904 | 1,964 | 2,023 | 2,083 | 2,142 | |
| 120 | 1,800 | 1,860 | 1,920 | 1,980 | 2,040 | 2,100 | 2,160 | |
| 121 | 1,815 | 1,876 | 1,936 | 1,997 | 2,057 | 2,118 | 2,178 | |
| 122 | 1,830 | 1,891 | 1,952 | 2,013 | 2,074 | 2,135 | 2,196 | |
| 123 | 1,845 | 1,907 | 1,968 | 2,030 | 2,091 | 2,153 | 2,214 | |
| 124 | 1,860 | 1,922 | 1,984 | 2,046 | 2,108 | 2,170 | 2,232 | |

Global Yields

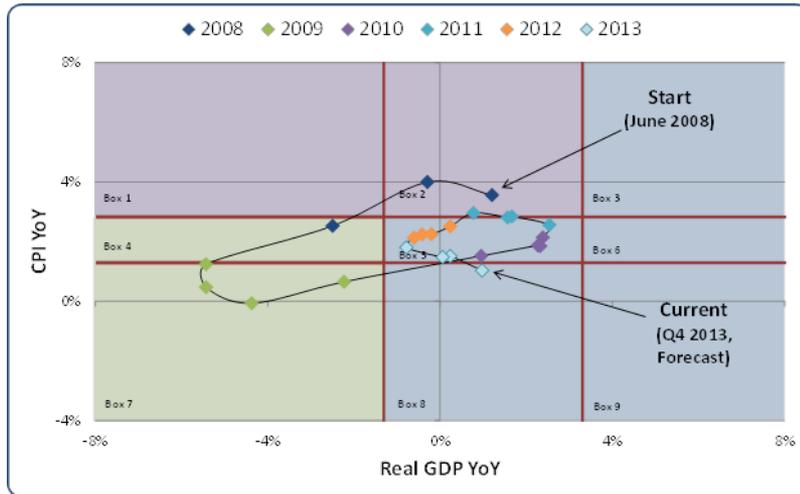
Increase



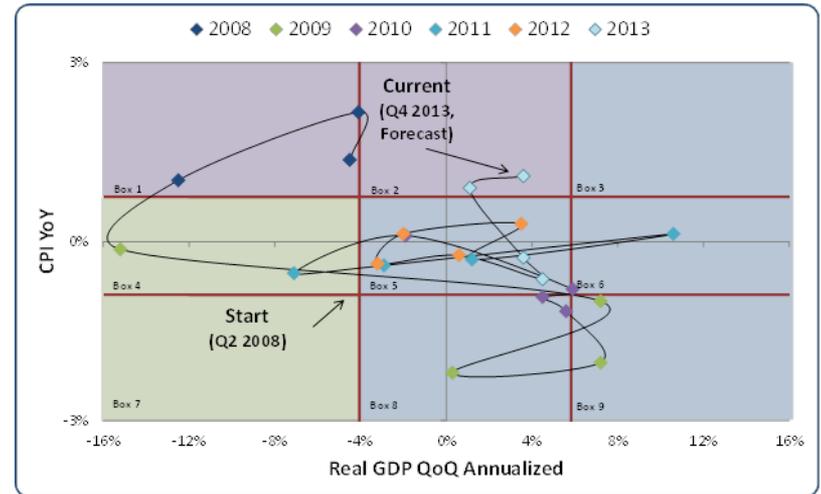
- Yields rose by 50 to 100 bps in most developed countries and in “core” Europe
- Yields fell in peripheral Europe
- Most increases in yield began in May coincident with rising PMI survey data and taper talk

Environmental Assessment (Other Regions)

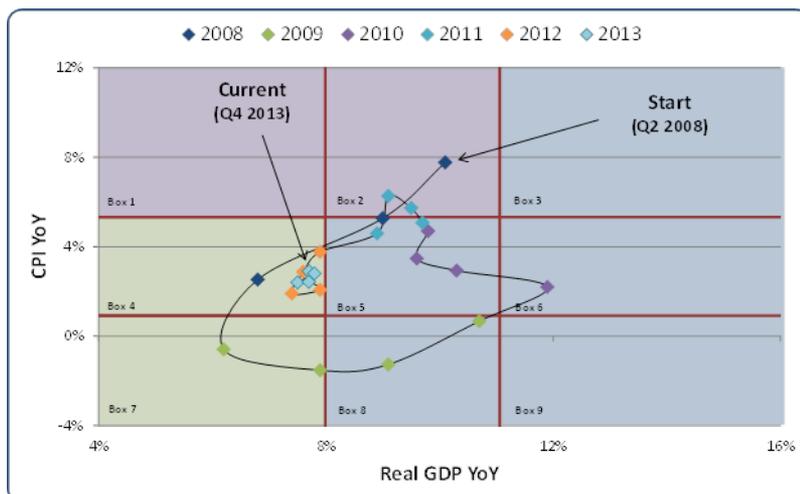
Europe (Box 8: Medium Growth, Low Inflation)



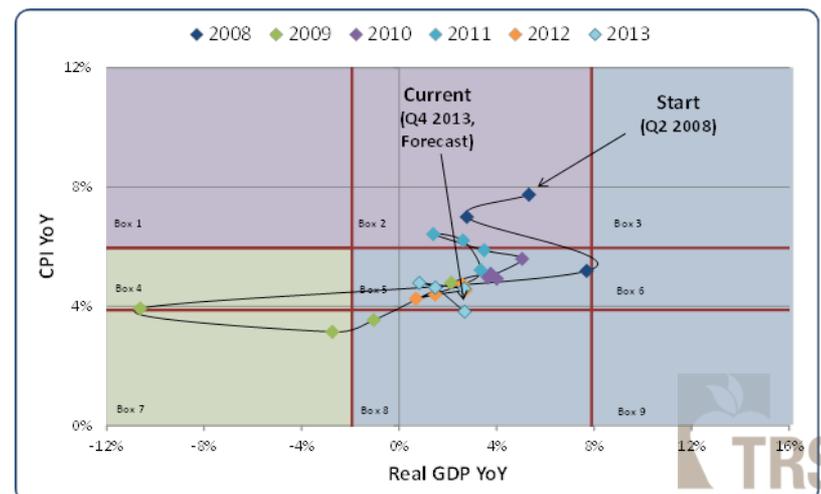
Japan (Box 2: Medium Growth, High Inflation)



China (Box 4: Low Growth, Medium inflation)



EM (Box 8: Medium Growth, Low Inflation)



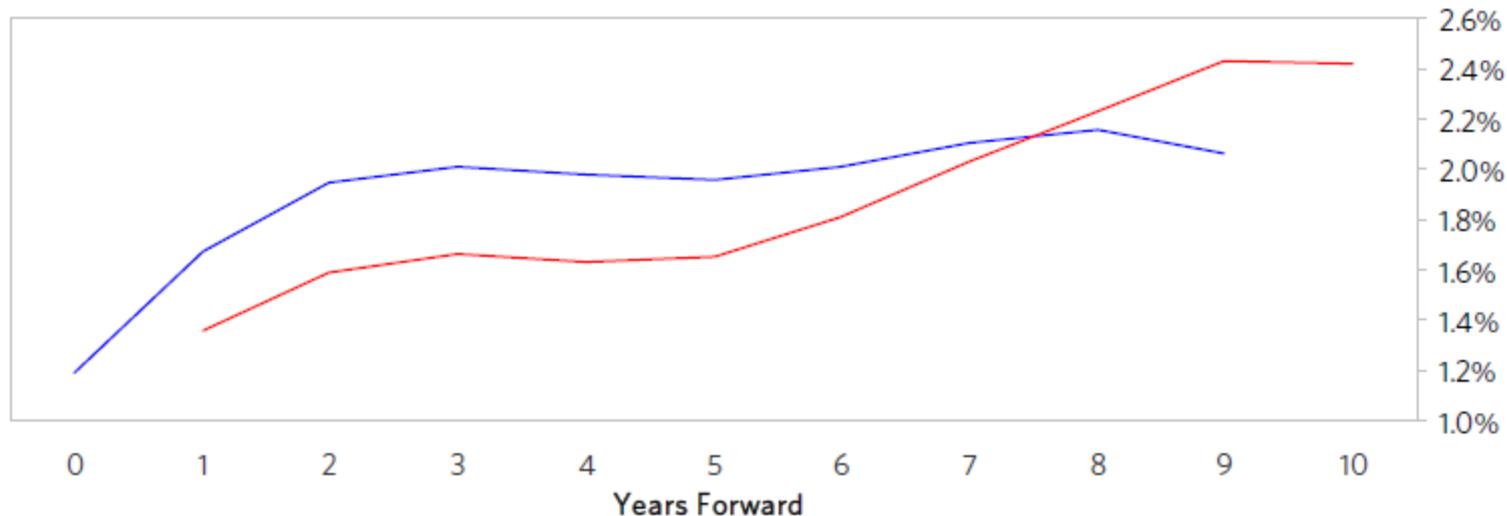
What Markets Are Discounting: Breakeven Inflation

Forward Pricing of Breakeven Inflation

| | Australia | Canada | Germany | Japan | UK | USA | World |
|--|-----------|--------|---------|--------|-------|--------|--------|
| 10 Year Breakeven Inflation Rate | | | | | | | |
| Rate in December 2012 | 2.50% | 1.98% | 1.70% | 0.44% | 2.45% | 2.40% | 1.91% |
| Expected Change for 2013 (as of December 2012) | -0.07% | -0.07% | -0.18% | -0.05% | 0.12% | 0.01% | -0.06% |
| Actual Change in 2013 | 0.00% | -0.13% | -0.20% | 0.37% | 0.12% | -0.03% | -0.02% |
| Current Rate | 2.49% | 1.86% | 1.51% | 0.80% | 2.57% | 2.38% | 1.89% |
| Expected Change in 2014 | 0.03% | -0.01% | 0.09% | -0.25% | 0.90% | 0.07% | 0.08% |
| Expected Yield in December 2014 | 2.52% | 1.85% | 1.59% | 0.55% | 3.47% | 2.45% | 1.97% |

Developed World Pricing of Future Inflation (1y BEI)

— Forward Pricing on December 2012 — Forward Pricing on December 2013



What Markets Are Discounting: Short Term Rates

Forward Pricing of Short-Term Nominal Interest Rates

| | Australia | Canada | Euroland | Japan | UK | USA | World |
|--|-----------|--------|----------|-------|-------|-------|-------|
| Central Bank Target Rate | | | | | | | |
| Rate in December 2012 | 3.00% | 1.00% | 0.07% | 0.05% | 0.50% | 0.13% | 0.25% |
| Expected Change for 2013 (as of December 2012) | -0.34% | 0.13% | 0.11% | 0.03% | 0.07% | 0.07% | 0.07% |
| Actual Change in 2013 | -0.50% | 0.00% | 0.09% | 0.00% | 0.00% | 0.00% | 0.01% |
| Current Rate | 2.50% | 1.00% | 0.16% | 0.05% | 0.50% | 0.13% | 0.26% |
| Expected Change in 2014 | 0.20% | 0.05% | 0.12% | 0.07% | 0.16% | 0.20% | 0.15% |
| Expected Rate in December 2014 | 2.70% | 1.05% | 0.28% | 0.12% | 0.66% | 0.33% | 0.41% |
| Expected Rate in December 2015 | | | | | | | |
| As of a Year Ago | 3.02% | 1.29% | 0.35% | 0.09% | 0.73% | 0.39% | 0.49% |
| Today | 3.47% | 1.70% | 0.71% | 0.17% | 1.31% | 1.06% | 0.96% |
| Change in Discounting for 2015 | 0.44% | 0.41% | 0.36% | 0.07% | 0.57% | 0.67% | 0.47% |

*European Short Rate is the 3m Overnight Indexed Swap rate

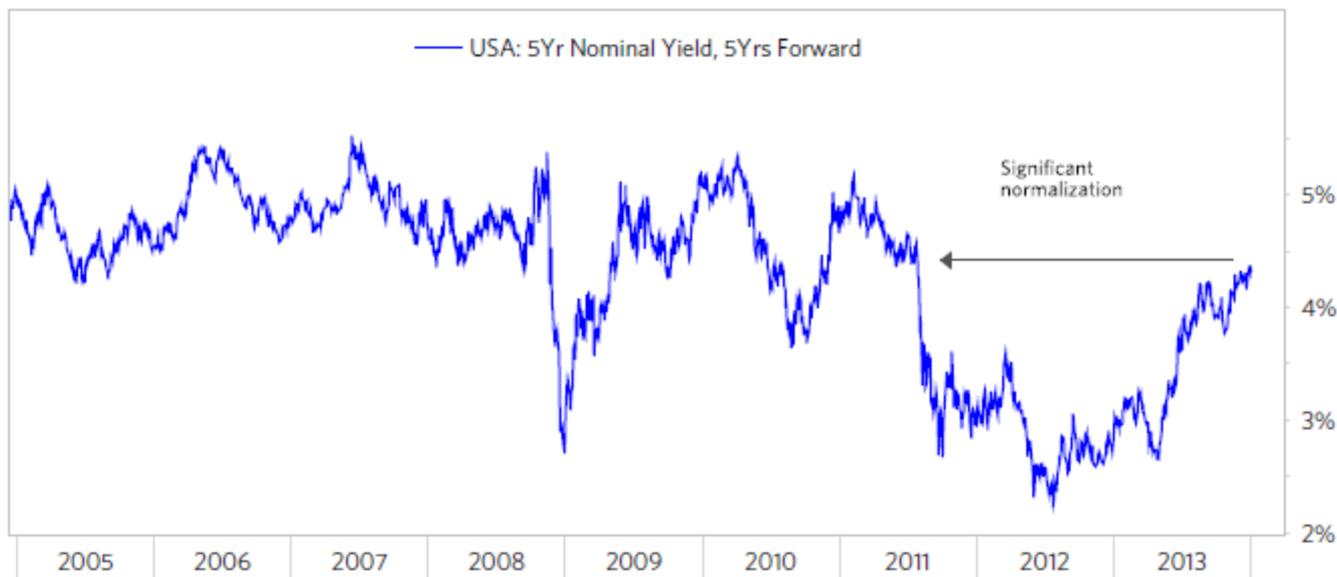
Developed World Pricing of Future Nominal Short Rates



What Markets Are Discounting: Long Term Rates

Forward Pricing of Long-Term Nominal Interest Rates

| | Australia | Canada | Germany | Japan | UK | USA | World |
|--|-----------|--------|---------|--------|-------|-------|-------|
| 10 Year Nominal Yield | | | | | | | |
| Yield in December 2012 | 3.31% | 1.81% | 1.31% | 0.80% | 1.83% | 1.57% | 1.47% |
| Expected Change for 2013 (as of December 2012) | 0.06% | 0.09% | -0.04% | 0.10% | 0.05% | 0.15% | 0.07% |
| Actual Change in 2013 | 0.98% | 0.98% | 0.64% | -0.05% | 1.21% | 1.50% | 0.97% |
| Current Yield | 4.29% | 2.79% | 1.94% | 0.74% | 3.04% | 3.07% | 2.44% |
| Expected Change in 2014 | 0.22% | 0.25% | 0.25% | 0.12% | 0.41% | 0.34% | 0.28% |
| Expected Yield in December 2014 | 4.51% | 3.05% | 2.19% | 0.86% | 3.46% | 3.41% | 2.72% |



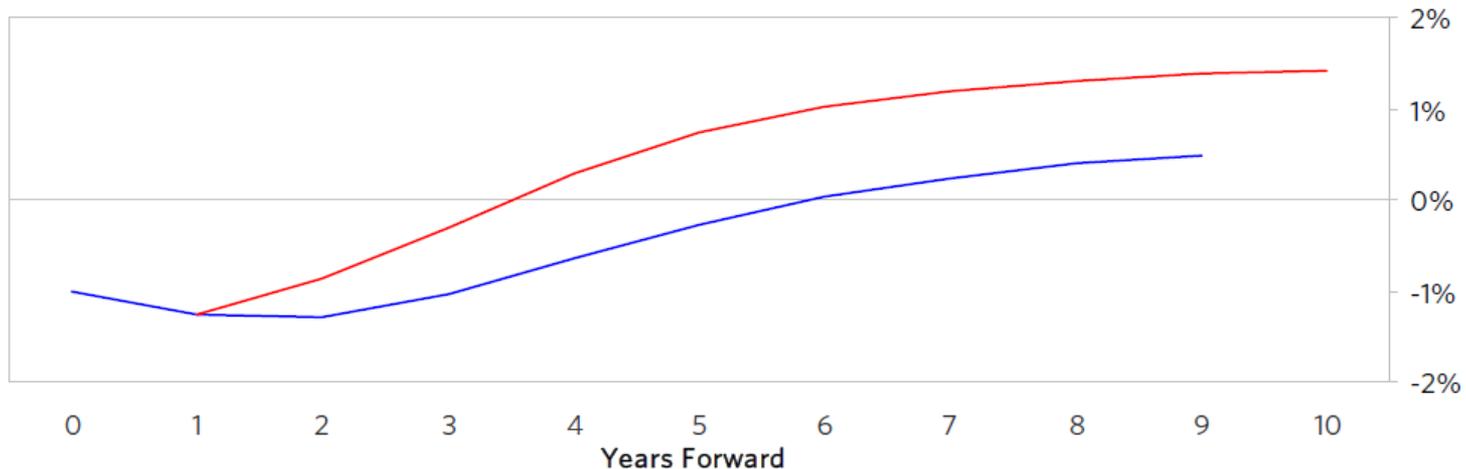
What Markets Are Discounting: Real Bond Yields

Forward Pricing of Real Bond Yields

| | Australia | Canada | Germany | Japan | UK | USA | World |
|--|-----------|--------|---------|--------|--------|--------|--------|
| 10 Year Real Yield | | | | | | | |
| Yield in December 2012 | 0.79% | -0.17% | -0.39% | 0.36% | -0.60% | -0.81% | -0.43% |
| Expected Change for 2013 (as of December 2012) | 0.13% | 0.16% | 0.15% | 0.15% | -0.07% | 0.14% | 0.13% |
| Actual Change in 2013 | 0.96% | 1.09% | 0.82% | -0.42% | 1.06% | 1.49% | 0.97% |
| Current Yield | 1.75% | 0.92% | 0.43% | -0.06% | 0.46% | 0.68% | 0.53% |
| Expected Change in 2014 | 0.24% | 0.28% | 0.17% | 0.37% | -0.48% | 0.29% | 0.21% |
| Expected Yield in December 2014 | 1.99% | 1.20% | 0.59% | 0.31% | -0.02% | 0.97% | 0.75% |

Developed World Pricing of Future Real Short Rates

— Forward Pricing on December 2012 — Forward Pricing on December 2013



What Markets Are Discounting: Emerging Market Short Rates

Forward Pricing of Nominal Short Rates

| | Non-BOP Crisis Countries | | | | | BOP Crisis Countries | | | |
|--|--------------------------|--------|--------|-------|--------|----------------------|--------|-------|--------------|
| | China | Russia | Mexico | Korea | Poland | Brazil | Turkey | India | South Africa |
| Central Bank Target Rate | | | | | | | | | |
| Yield - December 2012 | 3.0% | 8.3% | 4.5% | 2.8% | 4.3% | 7.3% | 5.8% | 8.0% | 5.0% |
| Expected Change for 2013 (as of December 2012) | -0.3% | -0.5% | 0.1% | -0.1% | -0.8% | -0.1% | 0.1% | -0.3% | -0.2% |
| Actual Change in 2013 | 0.0% | 0.0% | -1.0% | -0.3% | -1.8% | 2.8% | 3.3% | -0.3% | 0.0% |
| Current Yield | 3.0% | 8.3% | 3.5% | 2.5% | 2.5% | 10.0% | 9.1% | 7.8% | 5.0% |
| Expected Change in 2014 | -0.1% | -0.4% | 0.2% | 0.1% | 0.0% | 0.1% | 0.9% | -0.3% | 0.5% |
| Expected Yield in December 2014 | 2.9% | 7.8% | 3.7% | 2.6% | 2.5% | 10.1% | 10.0% | 7.5% | 5.5% |

Forward Pricing of Nominal Short Rates

| | Non-BOP Crisis | BOP Crisis | EM |
|--|----------------|------------|-------|
| Central Bank Target Rate | | | |
| Yield - December 2012 | 3.9% | 7.1% | 4.7% |
| Expected Change for 2013 (as of December 2012) | -0.3% | -0.2% | -0.3% |
| Actual Change in 2013 | -0.2% | 1.6% | 0.3% |
| Current Yield | 3.8% | 8.8% | 5.0% |
| Expected Change in 2014 | -0.1% | 0.1% | -0.1% |
| Expected Yield in December 2014 | 3.6% | 8.9% | 5.0% |

What Markets Are Discounting: Emerging Market Long Rates

Forward Pricing of Nominal Long Rates

| | Non-BOP Crisis Countries | | | | | BOP Crisis Countries | | | |
|--|--------------------------|--------|--------|-------|--------|----------------------|--------|-------|--------------|
| | China | Russia | Mexico | Korea | Poland | Brazil | Turkey | India | South Africa |
| Nominal Rate | | | | | | | | | |
| Yield - December 2012 | 3.6% | 7.4% | 5.3% | 2.9% | 3.4% | 8.6% | 7.1% | 6.2% | 5.8% |
| Expected Change for 2013 (as of December 2012) | -- | 0.1% | 0.3% | 0.1% | 0.0% | 0.4% | 0.5% | -0.1% | 0.4% |
| Actual Change in 2013 | 1.6% | -0.2% | 0.3% | 0.2% | 0.3% | 4.3% | 3.3% | 1.9% | 1.6% |
| Current Yield | 5.3% | 7.2% | 5.5% | 3.2% | 3.7% | 12.9% | 10.3% | 8.1% | 7.4% |
| Expected Change in 2014 | -- | 0.1% | 0.7% | 0.2% | 0.4% | 0.6% | 0.4% | -0.2% | 0.7% |
| Expected Yield in December 2014 | -- | 7.3% | 6.3% | 3.3% | 4.1% | 13.4% | 10.7% | 7.8% | 8.0% |

Forward Pricing of Nominal Long Rates

| | Non-BOP Crisis | BOP Crisis | EM |
|--|----------------|------------|------|
| Nominal Rate | | | |
| Yield - December 2012 | 4.3% | 7.3% | 5.1% |
| Expected Change for 2013 (as of December 2012) | 0.0% | 0.2% | 0.1% |
| Actual Change in 2013 | 1.1% | 3.1% | 1.6% |
| Current Yield | 5.3% | 10.5% | 6.6% |
| Expected Change in 2014 | 0.1% | 0.3% | 0.1% |
| Expected Yield in December 2014 | 2.0% | 10.8% | 6.8% |

What Markets Are Discounting: Currencies

Forward Pricing of Currency Moves

| | Australia | Canada | Euroland | Japan | UK | EM BoP Crisis Countries | Rest of EM | EM | World |
|--|--------------|--------------|------------|--------------|------------|-------------------------|------------|-------|-------|
| Nominal FX v USD | | | | | | | | | |
| Level in December 2012 | \$1.04 / A\$ | C\$1.01 / \$ | \$1.32 / € | ¥86.75 / \$ | \$1.63 / £ | -- | -- | -- | -- |
| Expected Change for 2013 (as of December 2012) | -2.7% | -1.0% | 0.1% | 0.0% | -0.4% | -6.0% | -2.8% | -3.8% | -3.0% |
| Actual Change in 2013 | -14.2% | -6.6% | 4.2% | -21.4% | 1.9% | -14.9% | -2.8% | -7.0% | -4.3% |
| Current Level | \$0.89 / A\$ | C\$0.94 / \$ | \$1.37 / € | ¥105.33 / \$ | \$1.66 / £ | -- | -- | -- | -- |
| Expected Change in 2014 | -2.4% | -1.0% | -0.1% | 0.0% | -0.4% | -8.2% | -2.2% | -4.1% | -3.2% |
| Expected Level in December 2014 | \$0.87 / A\$ | C\$0.93 / \$ | \$1.37 / € | ¥105.37 / \$ | \$1.65 / £ | -- | -- | -- | -- |
| Real FX v USD | | | | | | | | | |
| Expected Change for 2013 (as of December 2012) | -2.6% | -1.7% | 0.0% | -2.7% | 0.0% | -1.7% | -1.3% | -1.4% | -1.2% |
| Actual Change in 2013 | -13.4% | -7.0% | 3.2% | -14.3% | 3.3% | -11.6% | -2.8% | -5.2% | -5.4% |
| Expected Change in 2014 | -1.5% | -1.4% | -0.9% | -0.8% | 0.0% | -3.2% | -1.1% | -1.9% | -1.4% |

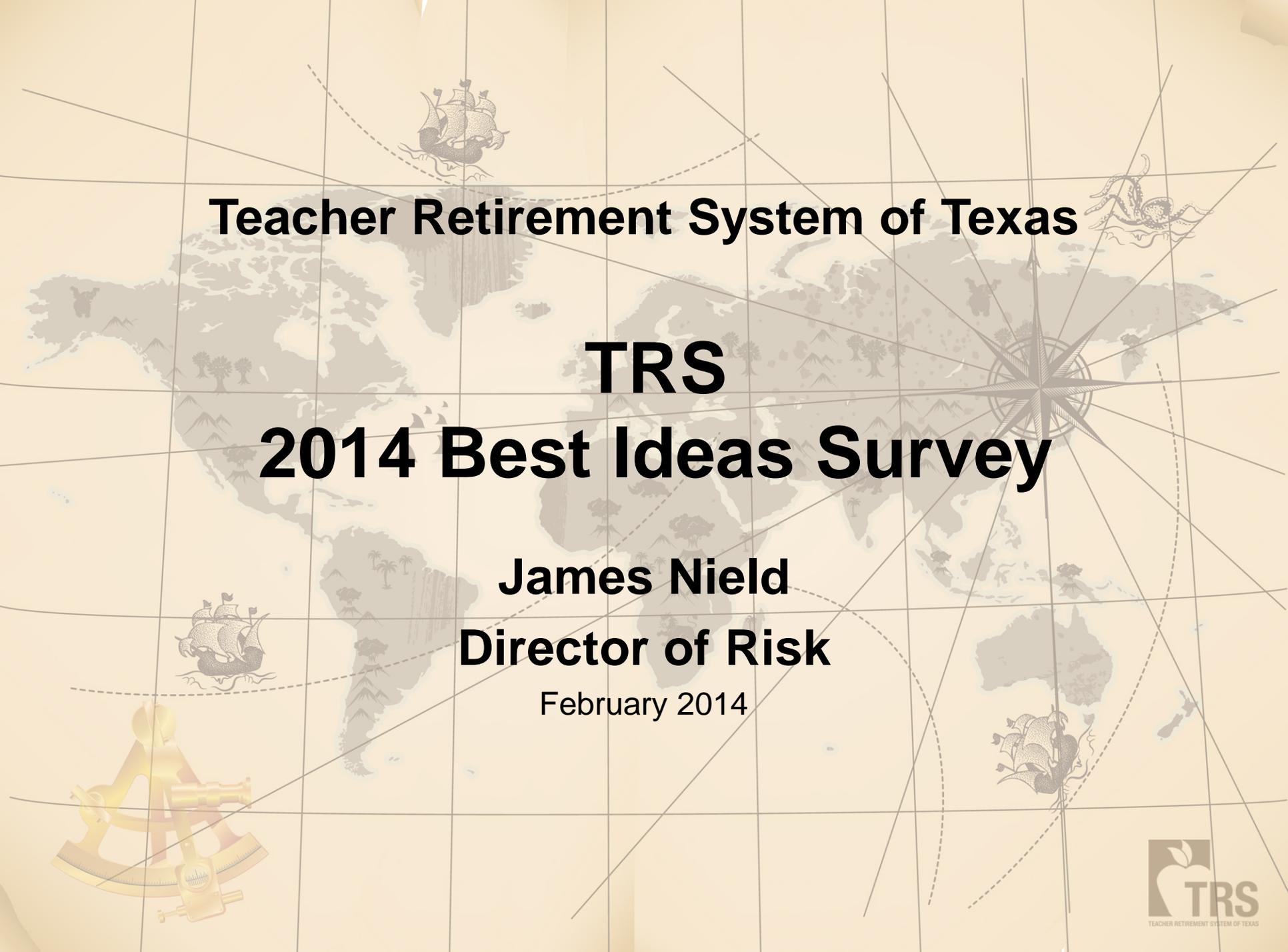
What Markets Are Discounting: Commodities

Forward Pricing of Commodities

| | Energy | | Gold | Copper | Metals | | |
|--|-------------------|---------------------|--------------------|-------------------------|-----------------------|------------------------|-----------------------|
| | Natural Gas | Brent | | | Zinc | Nickel | Aluminum |
| Price in December 2012 | (\$/MCF) \$3.4 | (\$/bbl) \$111.1 | (\$/oz) \$1,676 | (\$/tonne) \$7,912.5 | (\$/tonne) \$2,055 | (\$/tonne) \$17,008 | (\$/tonne) \$2,047 |
| Expected Change for 2013 (as of December 2012) | 17.8% | -5.7% | 0.6% | 0.7% | 2.4% | 0.6% | 2.5% |
| Actual Change in 2013 | 26.2% | -0.3% | -28.3% | -6.8% | -0.5% | -18.6% | -13.9% |
| Current Price | \$4.2 | \$110.8 | \$1,202 | \$7,373 | \$2,045 | \$13,843 | \$1,762 |
| Expected Change in 2014 | 1.9% | -4.0% | 0.3% | -0.9% | 0.8% | 0.8% | 4.1% |
| Expected Price in December 2014 | \$4.3 | \$106.3 | \$1,206 | \$7,304 | \$2,061 | \$13,958 | \$1,834 |

Forward Pricing of Commodities

| | Agricultural | | | | |
|--|-----------------------|---------------------|-------------------|----------------------|----------------------|
| | Soybeans | Live Cattle | Sugar | Corn | Wheat |
| Price in December 2012 | (\$/bushel) \$14.2 | (\$/cwt) \$129.9 | (\$/lb) \$0.20 | (\$/bushel) \$7.0 | (\$/bushel) \$7.8 |
| Expected Change for 2013 (as of December 2012) | -8.2% | 3.3% | 2.8% | -12.7% | 6.9% |
| Actual Change in 2013 | -7.5% | 3.6% | -15.9% | -39.6% | -22.2% |
| Current Price | \$13.1 | \$134.6 | \$0.16 | \$4.2 | \$6.1 |
| Expected Change in 2014 | -13.5% | -2.6% | 3.9% | 9.2% | 7.2% |
| Expected Price in December 2014 | \$11.4 | \$131.1 | \$0.17 | \$4.6 | \$6.5 |



Teacher Retirement System of Texas

TRS
2014 Best Ideas Survey

James Nield
Director of Risk

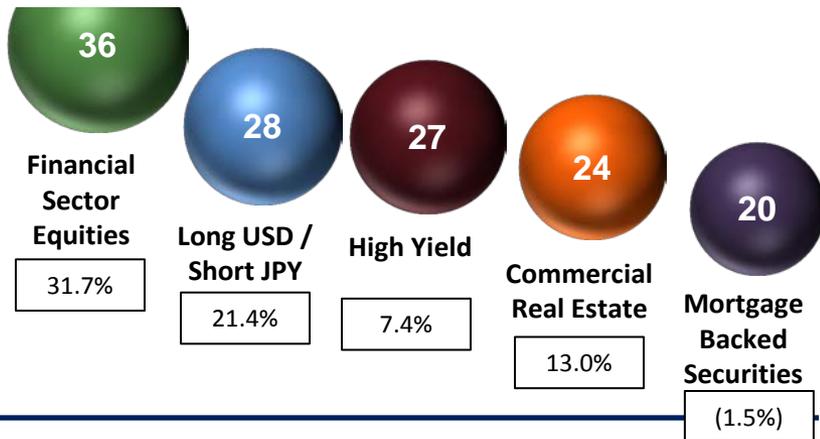
February 2014

Survey Overview

- The IMD uses its aggregate global investment network each year to survey for attractive and unattractive areas of the global marketplace
 - Seeking most and least attractive investment ideas over the next one and three years
 - Over 200 organizations are surveyed, all either already funded by TRS or on the “Premier List”
 - All asset classes are included
 - Survey was initiated in 2008 and the process has been increasingly formalized
 - Relies on separate and independent answers to the same questions
 - “The Wisdom of the Crowd”

2013 Top Five Ideas

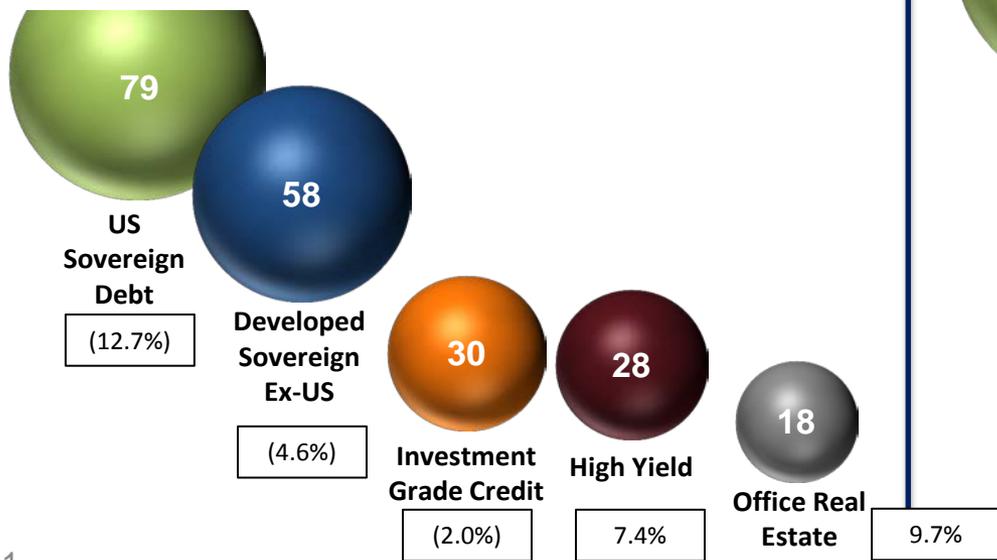
One-Year Most Attractive



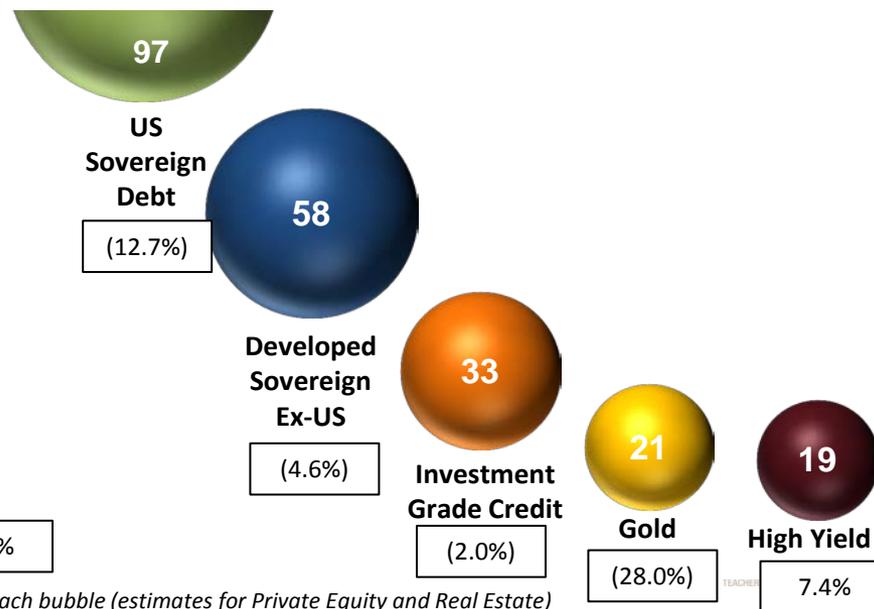
Three-Year Most Attractive



One-Year Least Attractive

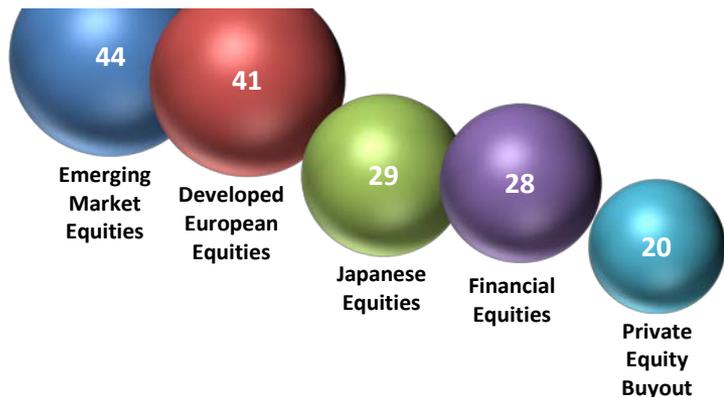


Three-Year Least Attractive

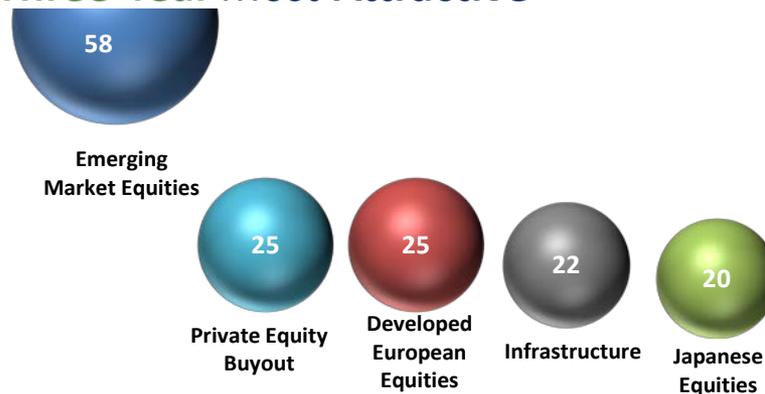


2014 Top Five Ideas

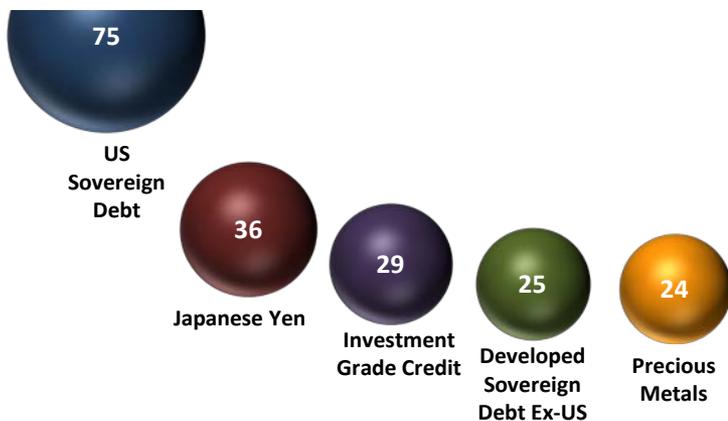
One-Year Most Attractive



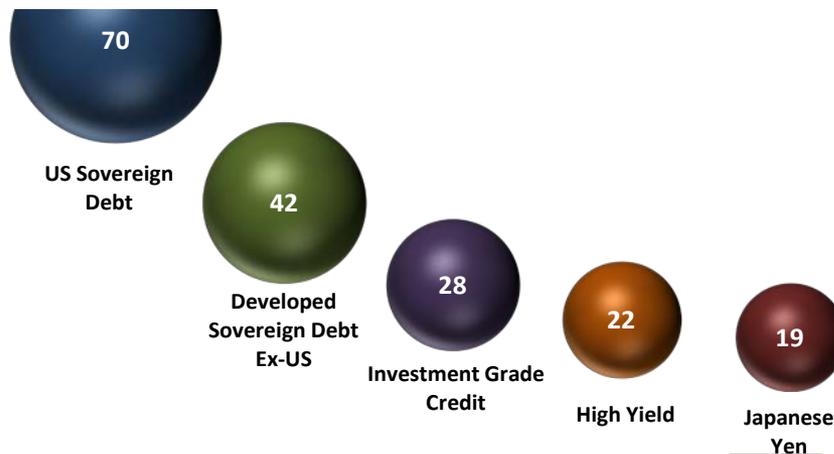
Three-Year Most Attractive



One-Year Least Attractive

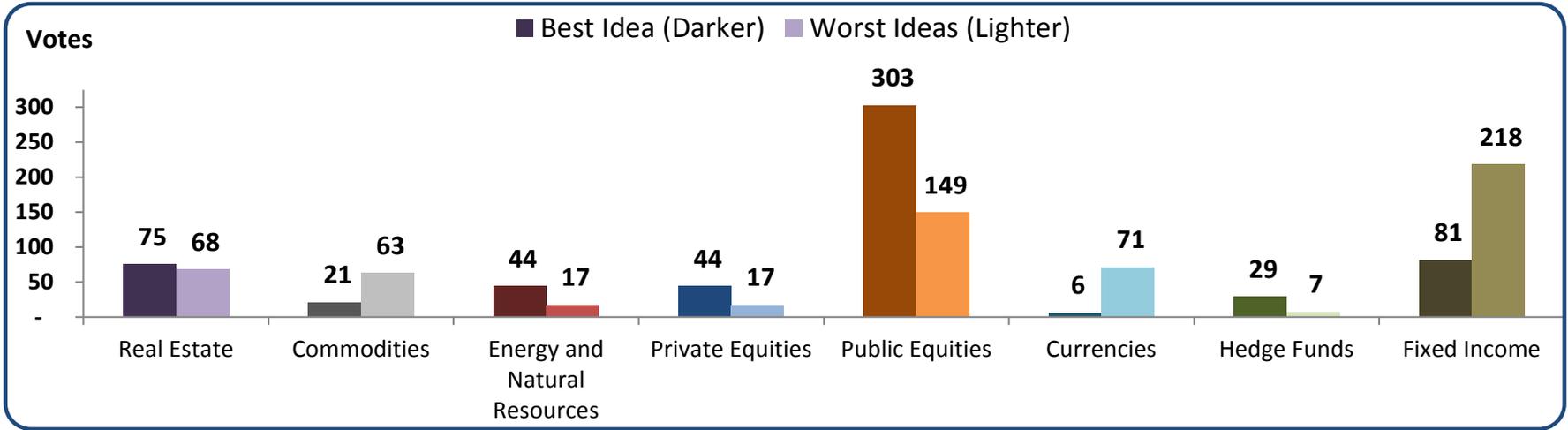


Three-Year Least Attractive

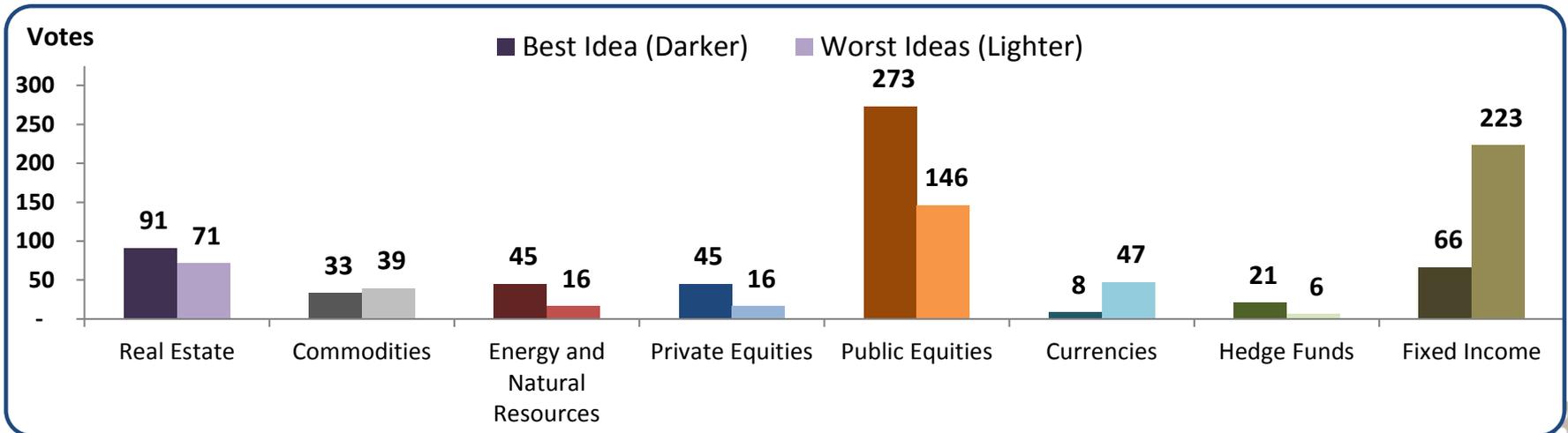


2014 Asset Sleeve Votes

One-Year View



Three-Year View





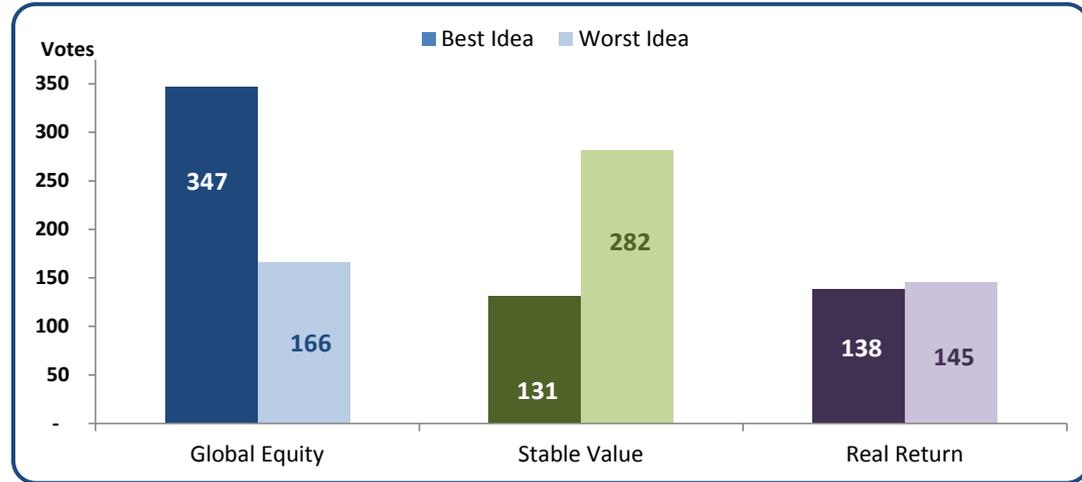
Appendix

2014 Portfolio Votes

- Percent of respondents that are bullish on a one-year basis:

| | <u>2014</u> | <u>2013</u> | <u>2012</u> |
|---------------|-------------|-------------|-------------|
| Global Equity | 68% | 66% | 52% |
| Stable Value | 32% | 33% | 50% |
| Real Return | 49% | 60% | 44% |

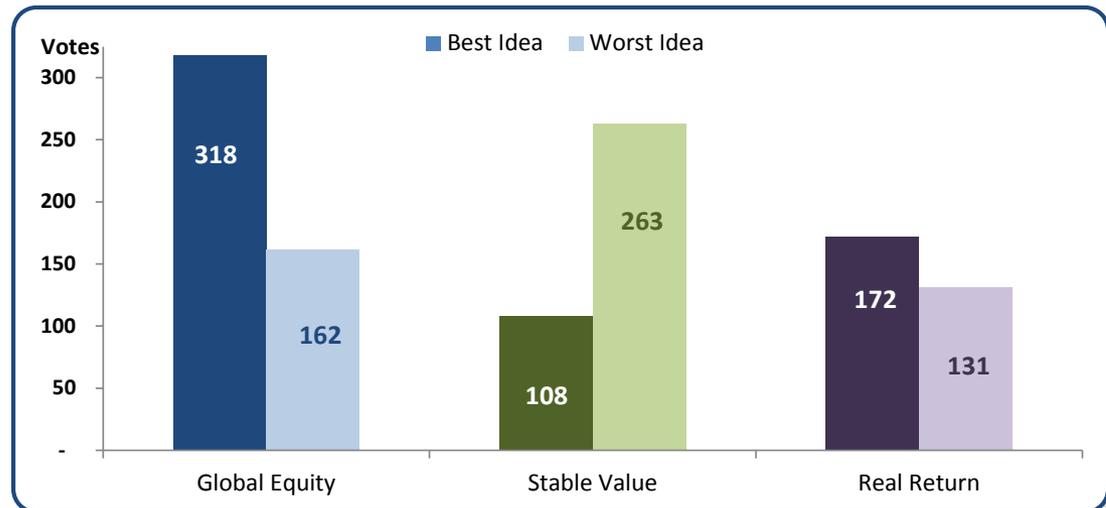
One-Year View



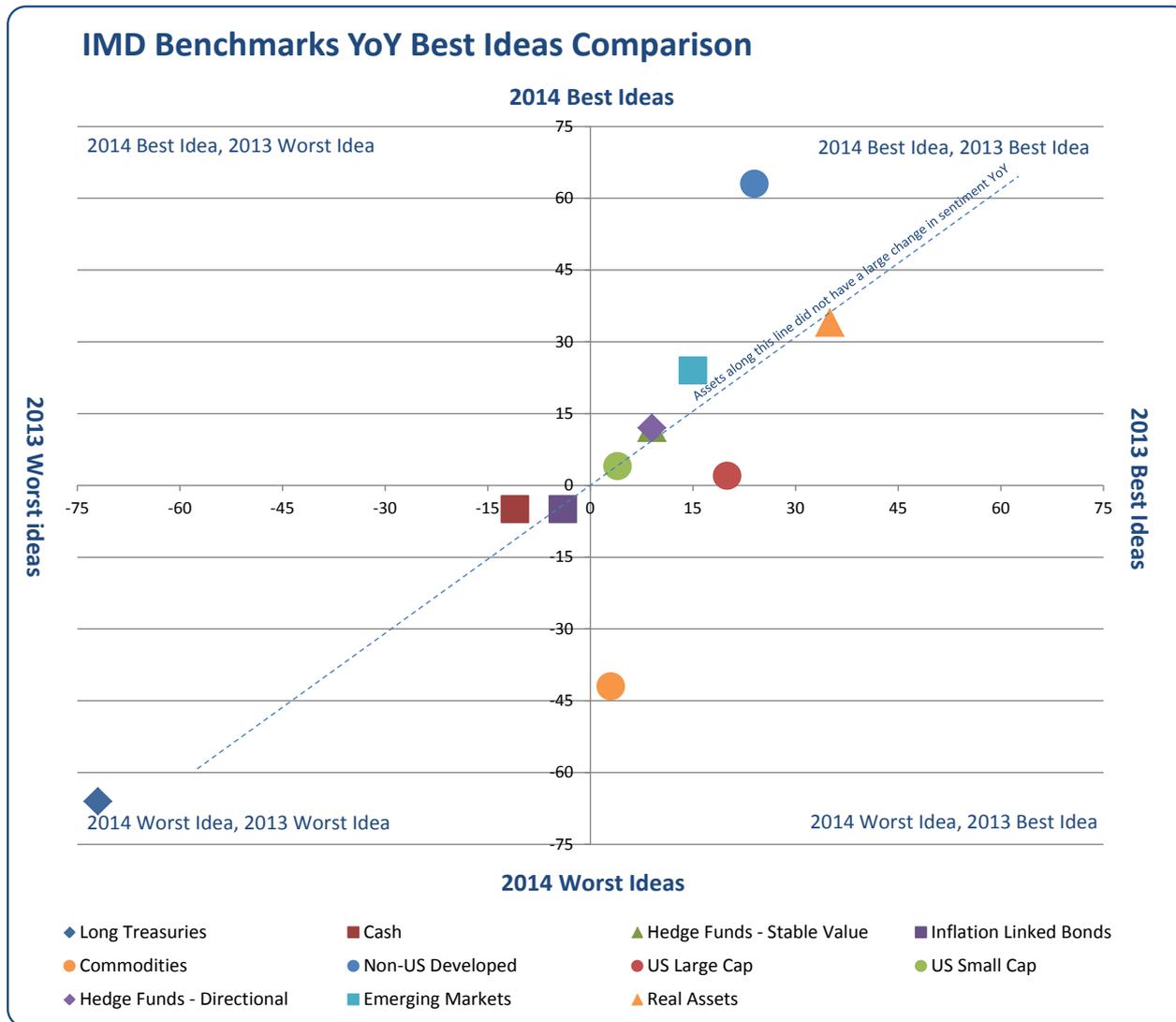
- Percent of respondents that are bullish on a three-year basis:

| | <u>2014</u> | <u>2013</u> | <u>2012</u> |
|---------------|-------------|-------------|-------------|
| Global Equity | 66% | 70% | 64% |
| Stable Value | 29% | 28% | 42% |
| Real Return | 57% | 60% | 46% |

Three-Year View



Year-Over-Year One-Year Best Ideas Comparison

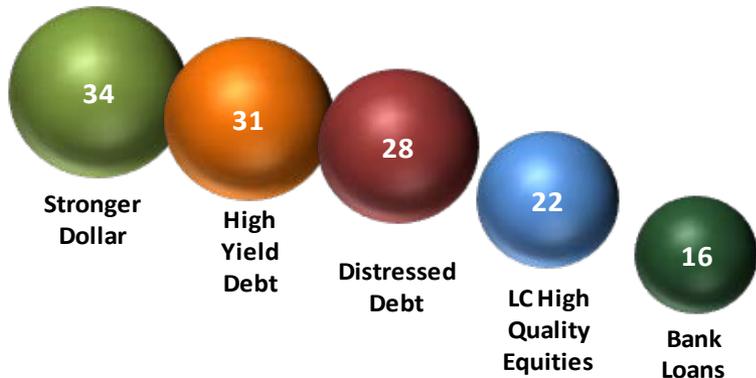


Note that each point represents the **net** number of votes for each asset

2012 Top Five Ideas

Most Attractive

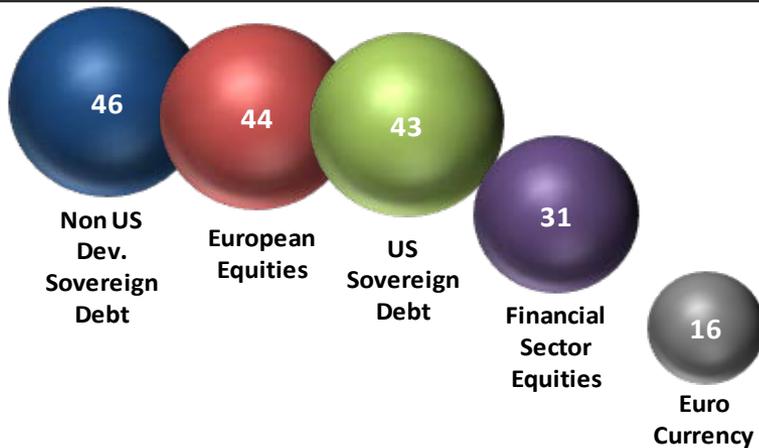
One-Year



Three-Year



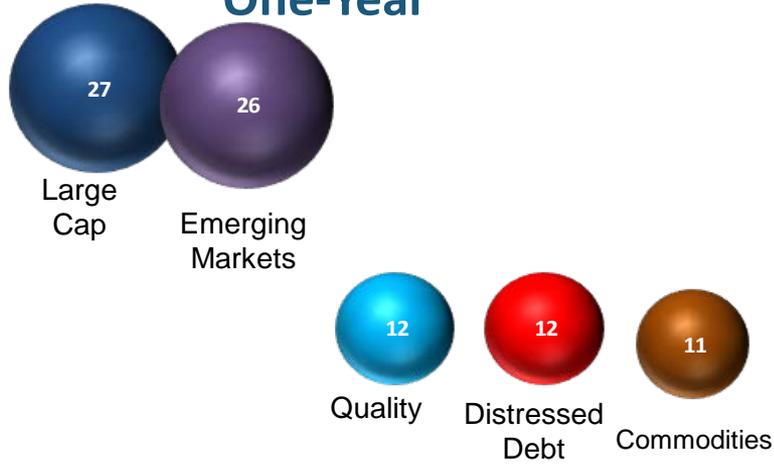
Least Attractive



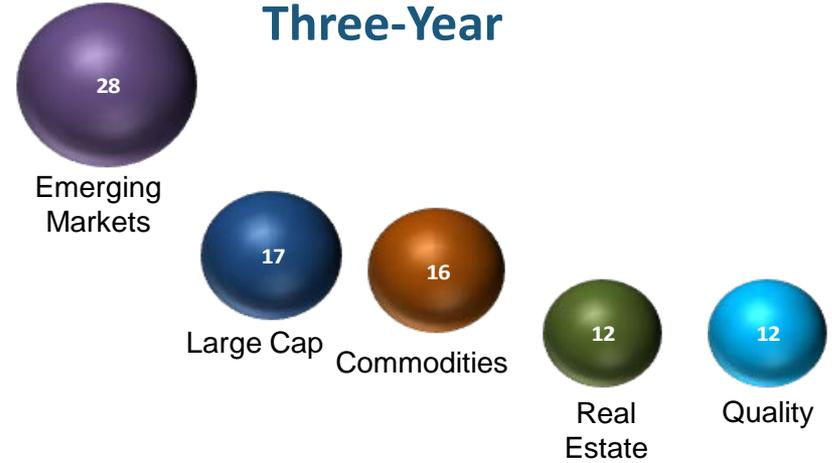
Note: Bubbles represent the total number of votes for an asset

2011 Top Five Ideas

One-Year

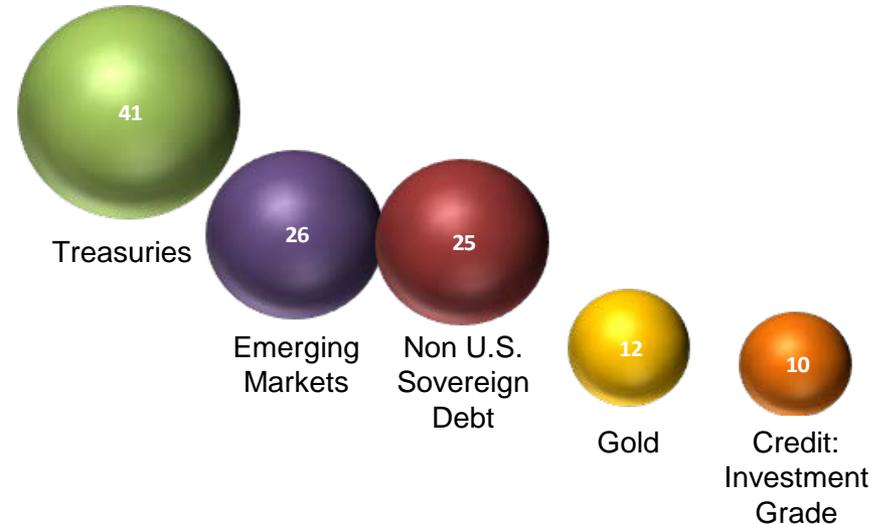
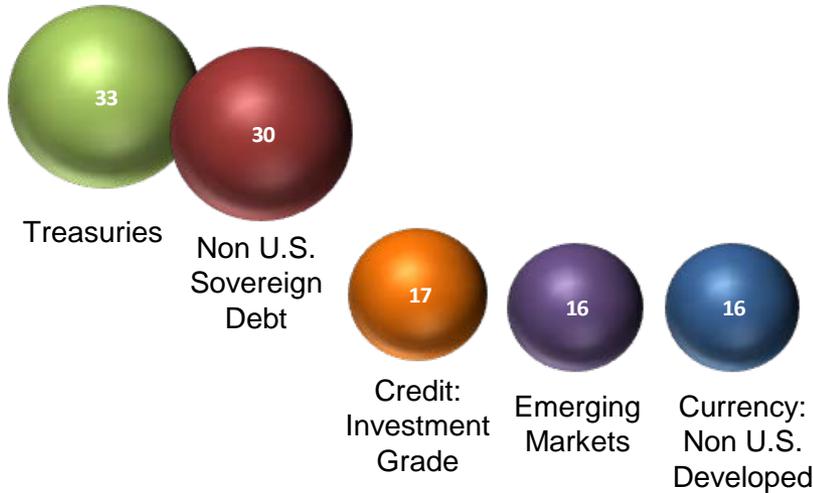


Three-Year



Most Attractive

Least Attractive



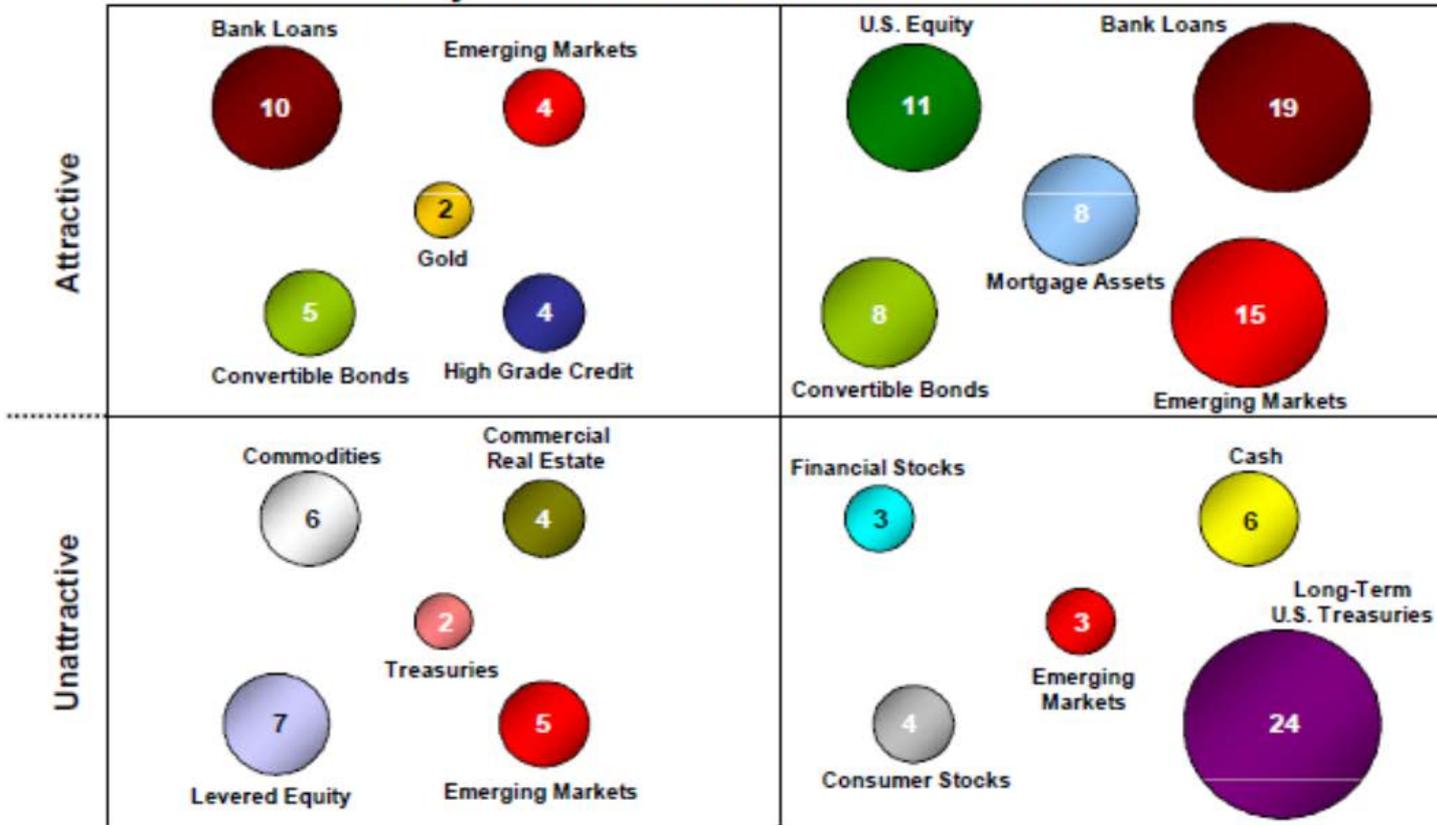
2010 Top Five Ideas

2010 Projected Attractiveness of Various Assets



2009 Top Five Ideas

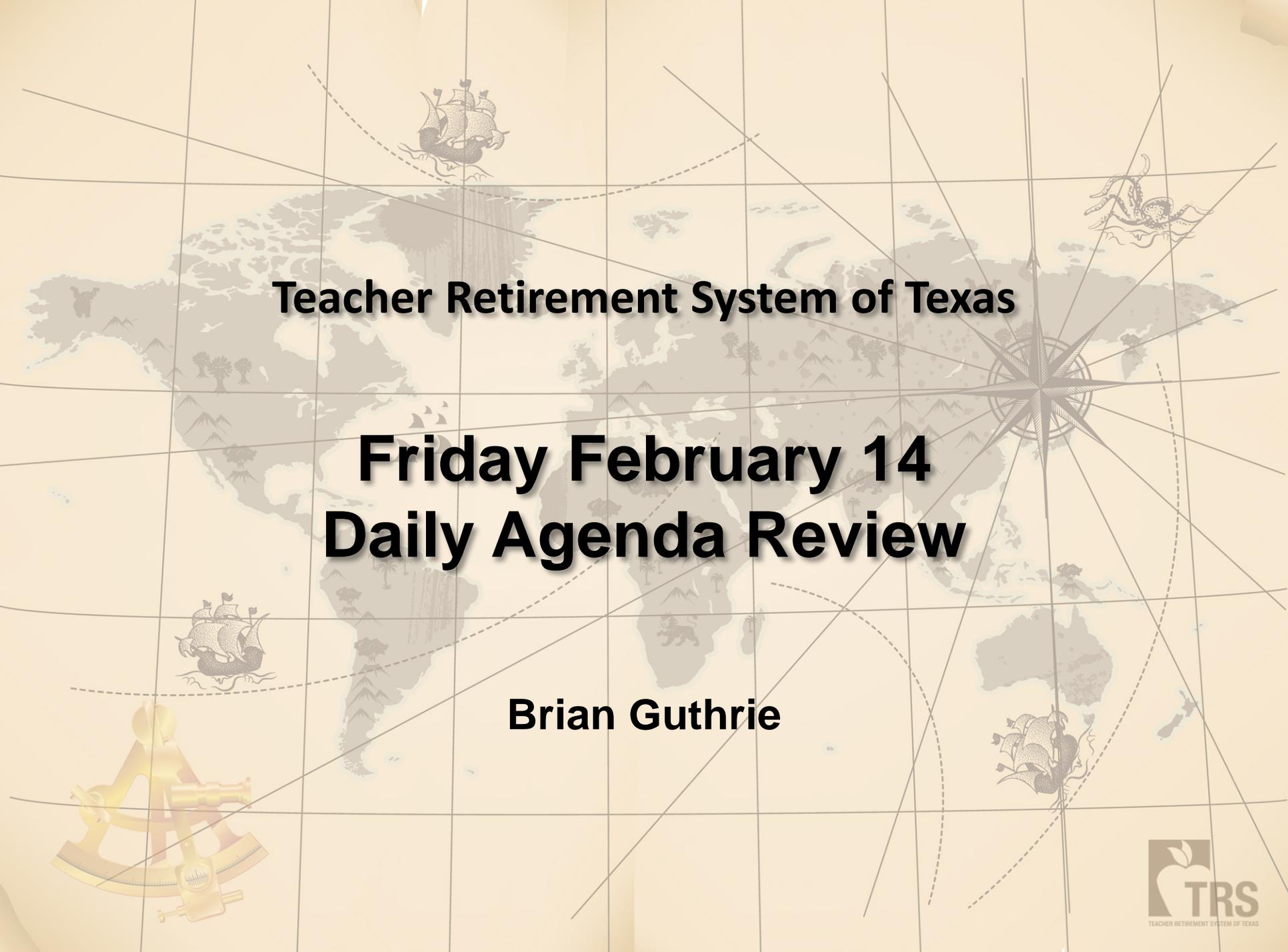
Projected Attractiveness of Various Assets



Note: Also rated Attractive over Three Years:
Private Equity (4), Infrastructure (4) and Commodities (3)

= Number of Respondents
Source: Teachers Retirement System of Texas

Tab 19

The background features a stylized world map with a grid of latitude and longitude lines. Several sailing ships are depicted on the map, along with an octopus in the upper right and a compass rose on the right side. The map is rendered in a light, faded style against a warm, yellowish-tan background.

Teacher Retirement System of Texas

**Friday February 14
Daily Agenda Review**

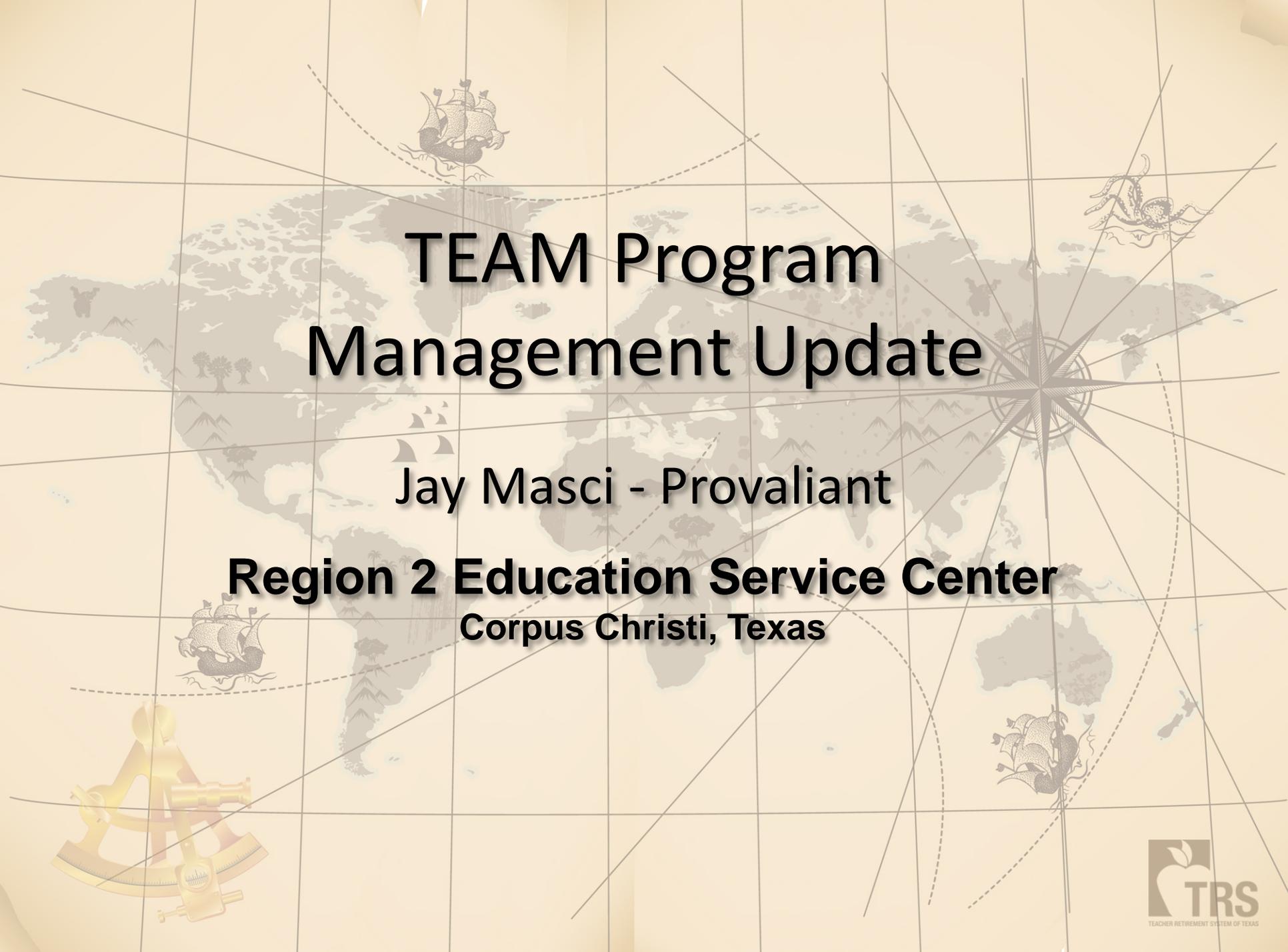
Brian Guthrie



Friday, February 14th

| Topics | Times |
|-----------------------|------------------------|
| ▪ Public Comment | 8:00 a.m. – 8:15 a.m. |
| ▪ Review Daily Agenda | 8:15 a.m. – 8:30 a.m. |
| ▪ TEAM Overview | 8:30 a.m. – 10:30 a.m. |
| ▪ Legal Training | 10:30 a.m.– Adjourn |

Tab 20

The background features a stylized world map with a grid of latitude and longitude lines. Several navigation-related icons are scattered across the map: a sailing ship in the upper left, a compass rose on the right, another sailing ship in the lower left, and a sea monster in the lower right. A golden sextant is positioned in the bottom left corner.

TEAM Program Management Update

Jay Masci - Provaliant

Region 2 Education Service Center
Corpus Christi, Texas

TEAM PROGRAM

Agenda – Part 1

- TEAM Program History
 - Detailed FSR Project History
 - Detailed LOB Project History
- Architectural History
- Budget History
- TEAM Organizational and Governance Structure

TEAM PROGRAM

Agenda – Part 2

- TEAM Program Progress
- TEAM Program Budget Summary
- TEAM Program Project Interdependencies
- TEAM Project Milestones
- TEAM Project Accomplishments
- TEAM in the Near Future

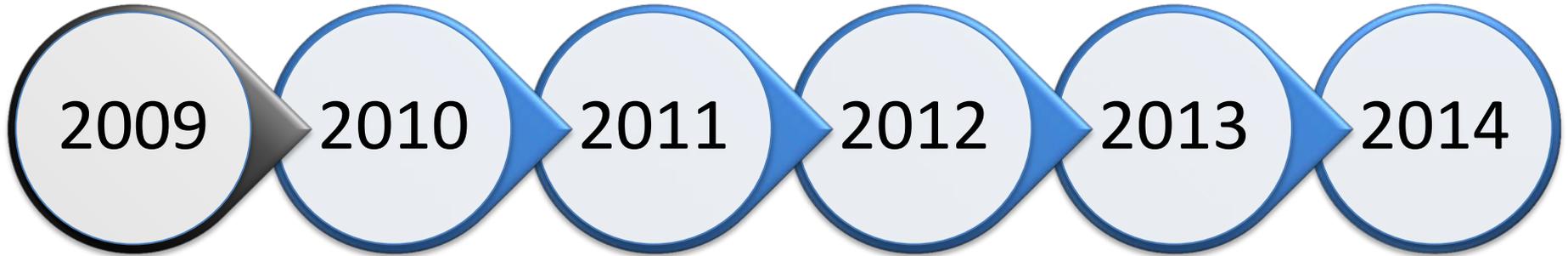
TEAM Program History

*David Cook, Adam Fambrough, Amanda Gentry, T.A. Miller,
Barbie Pearson, Jamie Pierce, Garry Sitz*



TEAM PROGRAM

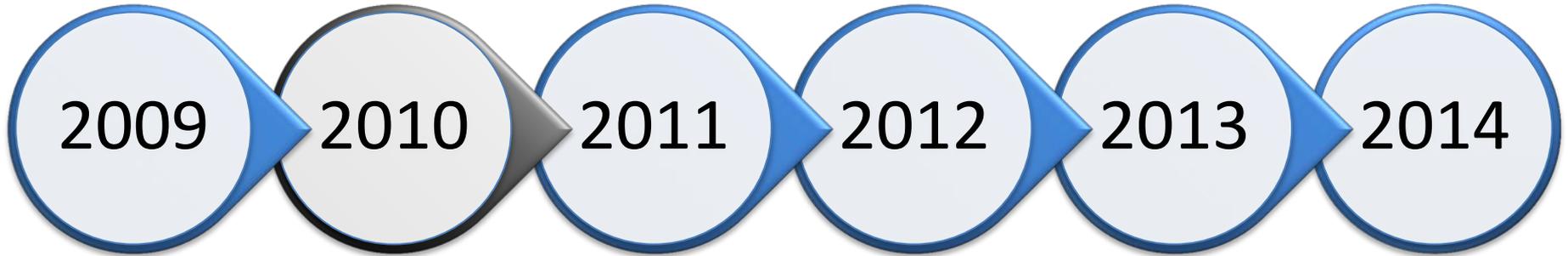
TEAM Program History



- 1 Started Next Generation (TNG) projects
- 2 Started Rules Convention
- 3 Completed Independent Assessment of the TNG projects and TRS initiatives
- 4 Highlighted the Legacy Modernization as a risk in the ERM Spotlight Report

TEAM PROGRAM

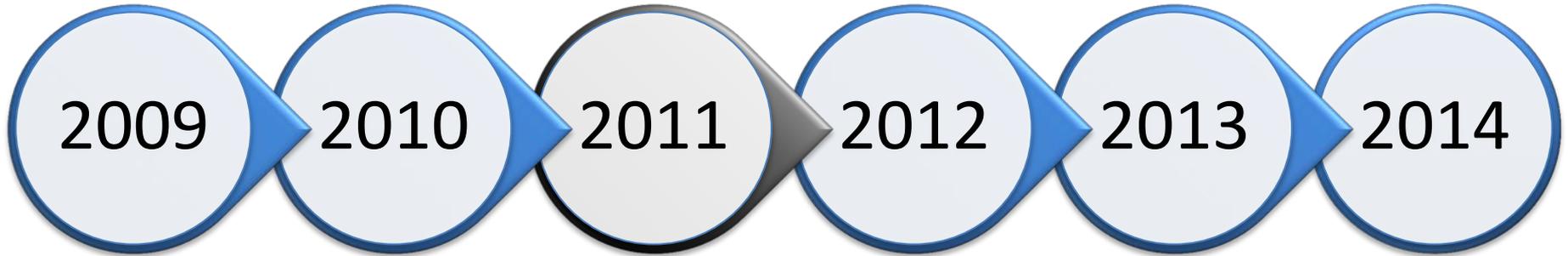
TEAM Program History



- 1 Presented the TNG and Quick Win Project Proposals at the February Board Mtg
- 2 Discussed the idea of the “Educational World Tour” at the February Board Mtg
- 3 Established the Executive Steering Committee and Core Management Team
- 4 Presented Results of the “Educational World Tour” at the Dec Board Mtg
- 5 Discussed the TRS Roadmap and introduced the TEAM Program

TEAM PROGRAM

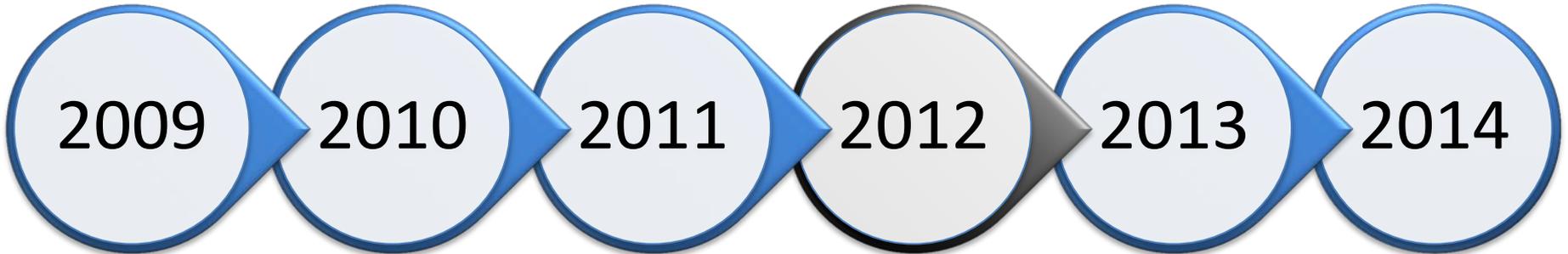
TEAM Program History



- 1 Included the “Modernize Legacy System” in the 2011 – 2014 TRS Strategic Plan
- 2 Developed the Communication Plan
- 3 Approved Staff Reallocation and Backfill Funding by the Board and Legislature
- 4 Developed the RFO for Program Oversight and Hired the Vendor (Provaliant)
- 5 Developed Business Analyst Function

TEAM PROGRAM

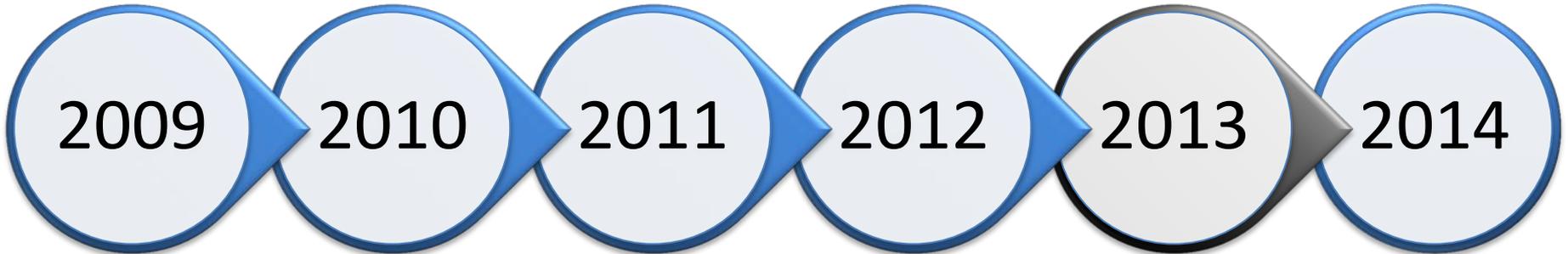
TEAM Program History



- 1 Completed DM Statement of Work (SOW) and Selected the DM Vendor (Allied)
- 2 Conducted LOB and FSR Vendor Demonstrations
- 3 Developed Requirements for FSR SOW and Commitments for LOB RFO
- 4 Completed LOB System Replacement RFO
- 5 Hired IPA Vendor (BridgePoint)

TEAM PROGRAM

TEAM Program History



- 1 Completed Business Process Mapping
- 2 Negotiated Envisioning Phase of the FSR Project and Selected FSR Vendor (CGI)
- 3 Posted LOB RFO and Selected Pension LOB Vendor (Hewlett Packard)
- 4 Approved and Implemented Staffing Plan for the TEAM Program
- 5 Reorganized PMO Office

TEAM PROGRAM

TEAM Program History



1

2014 will be covered in the second half of this presentation

TEAM PROGRAM

Detailed Financial System Replacement History

- Preliminary TNG project proposal
- Requirements gathering
- Vendor demonstrations
- Exemption request submitted to CPA
- Statement of Work (SOW) and negotiations
- Contract awarded for Envision phase
- Envision in progress

TEAM PROGRAM

Detailed Pension Line of Business History

- Provaliant has provided guidance throughout project
- Commitment Sessions – High level wants for the new system
 - Over 100 TRS staff members involved
 - 1,751 commitments in final RFO
- Request for Offer (RFO) developed and published
 - Received 4 responses
- Invited 3 vendors to visit TRS to see our current systems
- Received pricing from vendors
- Invited 2 vendors to visit TRS for Orals and Demos
- Invited 1 vendor to visit TRS for a 2 week Proof-of-Concept
- Selected Hewlett Packard (HP) as the vendor

TEAM PROGRAM

Architectural History and Vision

TNG Project Initiatives (The Next Generation - 2010)

- Upgrade Financial & Budget Systems
- eForms & Self-Service Applications
- Work Flow Automation
- Electronic Records Management
- Technical Architect, Business Analysts and Process Improvement
- Electronic Communications with Reporting Entities
- Unified Member Module

TEAM PROGRAM

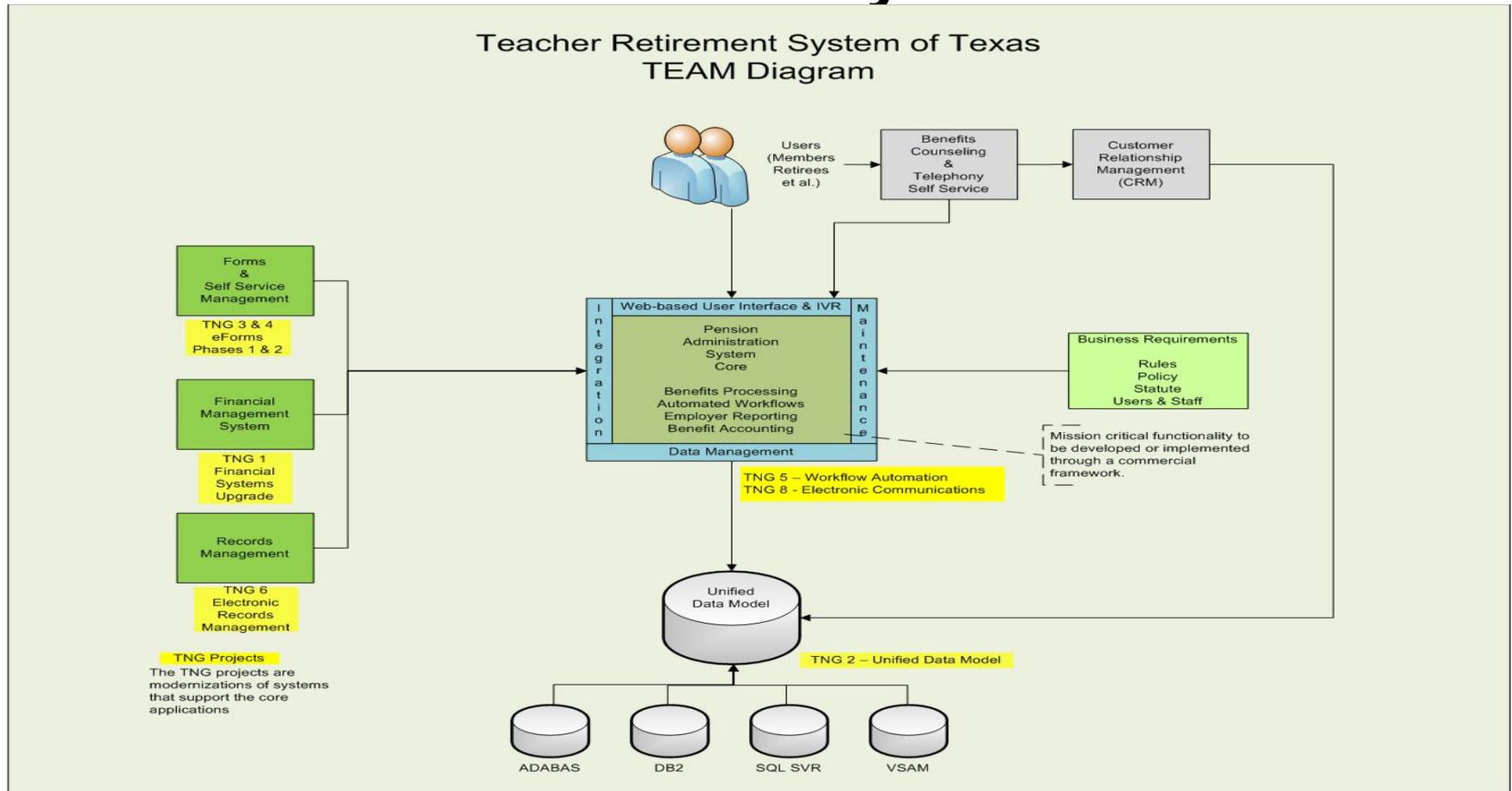
Architectural History and Vision

February 2010 TRS Board Meeting in Katy, TX

| | Financial Upgrade | Unified Member Module | eForms & Self-Service v1 | eForms & Self-Service v2 | Work Flow Auto | Electronics Records Mgmt | Technical Architect / Business Analysis | Electronic Communications with Reporting Entities |
|-----------------------------------|-------------------|-----------------------|--------------------------|--------------------------|----------------|--------------------------|---|---|
| Cost High/Low | High | High | Low | | High | Low | Low | Low |
| Resources Needed High/Low | High | High | Med | | High | Low | Low | Low |
| Impediments High/Low | Low | High | Low | | High | Low | Low | Low |
| Time Needed to Implement High/Low | 2+ Years | 5-7 Years | 6 Months | | 3+ Years | 12 Months | 1-3 months | 6 months |
| Degree of Difficulty High/Low | High | High | Med | | High | Med | High | Low |
| Priority | | | | | | | 1 | |

TEAM PROGRAM

Architectural History and Vision



TEAM PROGRAM

Architectural History and Vision

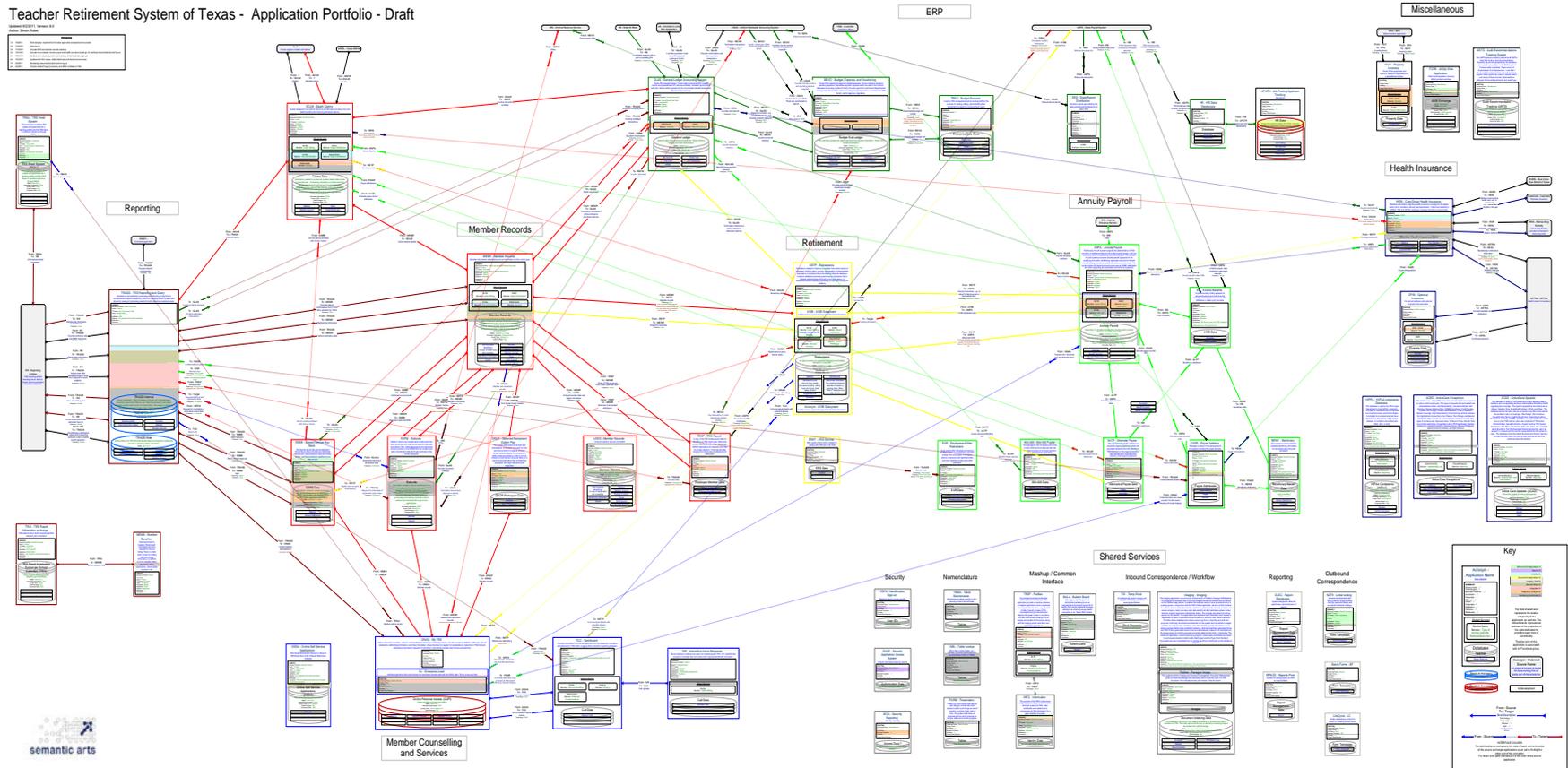
Solutions Considered

- **Build from Scratch** – build a solution from the ground up using TRS and contracted design and development staff
- **Re-Platforming** – Contract with a 3rd party technology firm to convert existing TRS application code from the current technology platform to a modern environment such as .Net or Java J2EE
- **Commercial Off The Shelf (COTS) Pension Solution** – a purchased package providing a predefined pension software solution that would be configured, not customized
- **Pension Application Framework** – a software framework, which defines the underlying code structure of the application so that it can be modified by developers to implement a customized pension application solution

TEAM PROGRAM

Architectural History and Vision

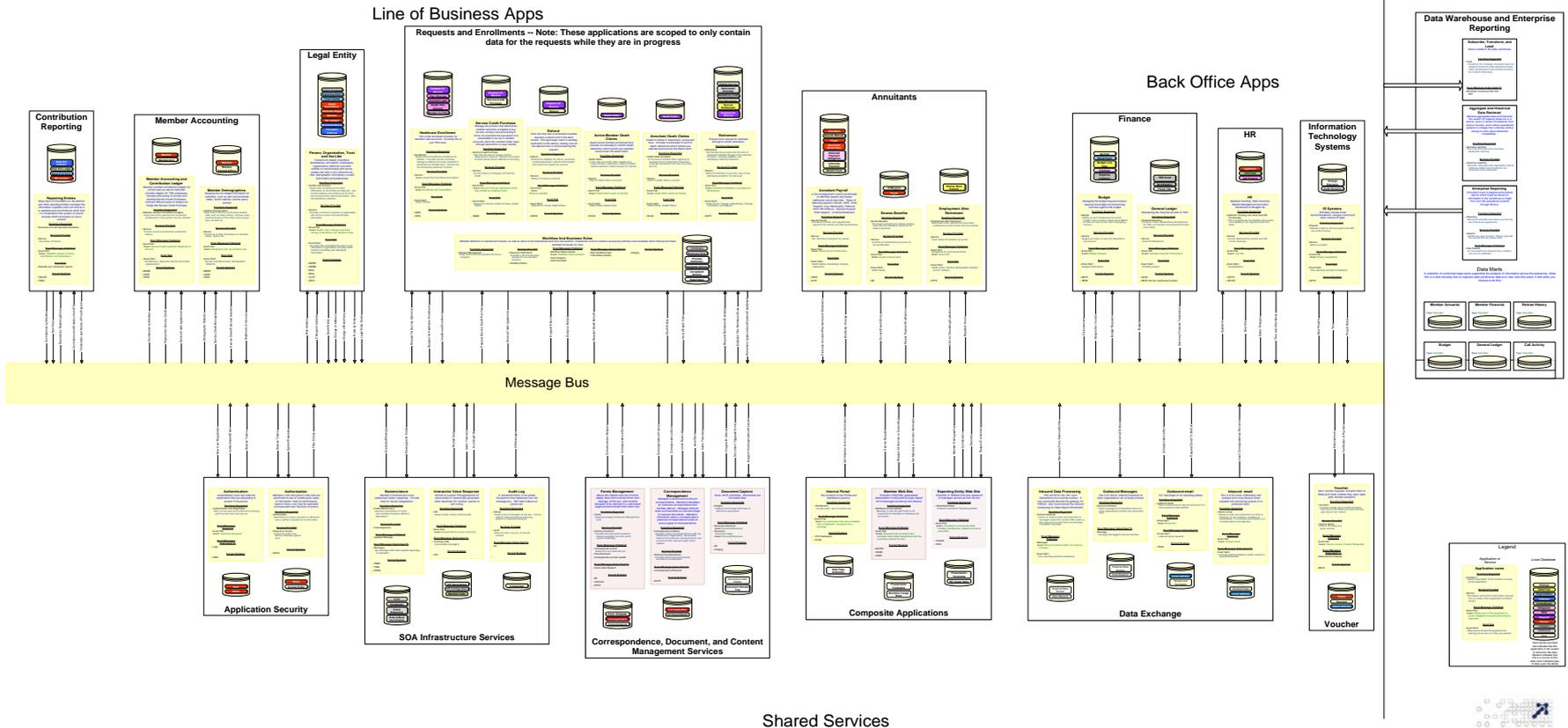
Teacher Retirement System of Texas - Application Portfolio - Draft



TEAM PROGRAM

Architectural History and Vision

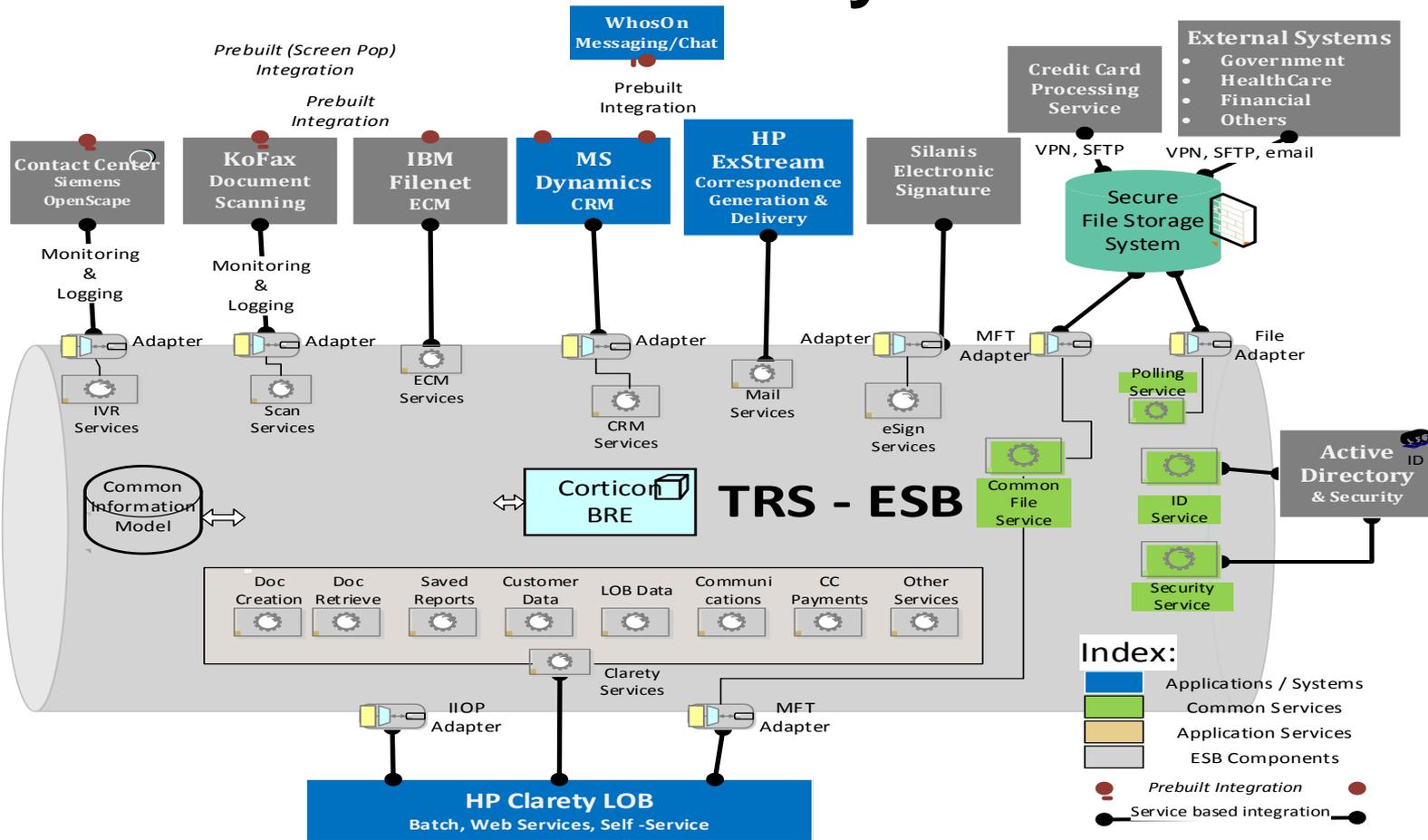
Teacher Retirement System Of Texas –
Target Application Architecture – Final
Updated: 9/7/2011, Version: 1.0



Shared Services

TEAM PROGRAM

Architectural History and Vision



TEAM PROGRAM

Architectural History and Vision

Clarity NewHORIZON Clarity Dev Env 1

File Participant Add

Save Save & Close Deactivate Delete Connect Assign Copy a Link E-mail a Link Share Follow Unfollow Run Workflow Start Dialog Run Report

Participant **Doe ANGLIN** Participants

| | | | | | |
|-----------|------------|------------|-----------------|----------------|-----|
| Full Name | Doe ANGLIN | Home Phone | 6146281856 | Business Phone | |
| RET ID | 127978 | E-mail | ANGLIN@home.com | Contact Method | Any |

Account Home Page

| | | | |
|---------------|------------------|---------------------|--------------------|
| Doe L. ANGLIN | RET ID: 127978 | Relationship: OWNER | Type: MBR |
| HPRS - Tier 1 | SSN: 000-00-0171 | Plan Status: Active | Employment: Active |

| | | | | |
|------------------------------|----------------------|---|---|-----------------------------|
| Total Service Credits | Vested Status | Normal Retirement Eligibility Date | Monthly Benefit at Normal Retirement Age | Contribution Balance |
| 23.500 years | Vested | 01/01/2017 | \$1,234.56 | \$32,785.04 |

Benefit Accounts

| Owner SSN | Owner Name | Plan Name | Type | Status |
|--|---------------|-----------|------|--------|
| <input checked="" type="radio"/> 000-00-0171 | Doe L. ANGLIN | HPRS | MBR | Active |
| <input type="radio"/> 000-00-0171 | Doe L. ANGLIN | HPDC | MBR | Active |

Status: Active Status Reason: Active Owner: Participant Owners

TEAM PROGRAM

Architectural History and Vision

Corticon Designer - ClarityRules_TXTRS/RetirementEligibility.ers - Progress Developer Studio

File Edit Navigate Search Project Run Rulesheet Window Help

*RetirementEligibility.ers

| Conditions | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------------------------------------|---|--------|--------|--------|--------|--------|--------|--------|--------|
| a member.age | - | >= 65 | - | >= 55 | - | >= 65 | >= 60 | >= 55 | - |
| b member.serviceCredit | - | >= 5 | >= 5 | >= 5 | >= 30 | >= 5 | >= 5 | >= 5 | >= 30 |
| c member.jobClsCd | - | '01' | '01' | '01' | '01' | '01' | '01' | '01' | '01' |
| d member.rtrmtTypCd | - | 'SR' |
| e member.beneStrucClcCd | - | 'SDCC' | 'SDCC' | 'SDCC' | 'SDCC' | 'SDCU' | 'SDCU' | 'SDCU' | 'SDCU' |
| f member.serviceCredit +member.age... | - | - | >= 80 | - | - | - | >= 80 | - | - |

Actions

Post Message(s)

| A | B | C | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-------------------------------------|---|---|--|--|--|--|--|--|--|--|---|
| member.isEligibleForRetirement | | | T | T | F | F | F | F | F | F | F |
| member.isEligibleForEarlyRetirement | | | F | F | T | T | T | T | T | T | T |
| member.message | | | 'Eligibility criteria of Retirement Credit greater than or equal to 5, Age greater than or equal to 65 was met.' | 'Eligibility criteria of Retirement Credit greater than or equal to 5, Age plus Service Credit greater than or equal to 80 was met.' | 'Eligibility criteria for early retirement was met.' | 'Eligibility criteria for early retirement was met.' | 'Eligibility criteria of Retirement Credit greater than or equal to 5, Age greater than or equal to 65 was met.' | 'Eligibility criteria of Retirement Credit greater than or equal to 5 and Age Greater than or equal to 60, Age plus Service Credit greater than or equal to 80 was met.' | 'Eligibility criteria for early retirement was met.' | 'Eligibility criteria for early retirement was met.' | |

Overrides

{2, 3, 4} {3, 4} {6, 7, 8, 9} {7, 8, 9}

Properties Problems Error Log Rule Messages Rule Statements

| Ref | ID | Post | Alias | Text | Rule Name | Rule |
|-----|----|------|--------|---|-----------|------|
| 1 | | Info | member | Members in Tier1 under General Service with service Credit >=5 with age >=65 are eligible for Normal Retirement | | |
| 2 | | Info | member | Members in Tier1 under General Service with service Credit >=5 and Age plus Service Credit >=80(Rule of 80) are eligible for Normal Retirement | | |
| 3 | | Info | member | Members in Tier1 Service Retirement for General Service with age >=55 and Service Credit >=5 are eligible for Early Retirement. | | |
| 4 | | Info | member | Members in Tier1 Service Retirement for General Service with Service Credit >=30 are eligible for Early Retirement. | | |
| 5 | | Info | member | Members in Tier2 Service Retirement for General Service with age >=65 and Service Credit >=5 are eligible for Normal Retirement. | | |
| 6 | | Info | member | Members in Tier2 Service Retirement for General Service with Age >=60 and service Credit >=5 and Age plus Service Credit >=80(Rule of 80) are eligible for Normal Retirement. | | |
| 7 | | Info | member | Members in Tier2 Service Retirement for General Service with age >=55 and Service Credit >=5 are eligible for Early Retirement. | | |
| 8 | | Info | member | Members in Tier2 Service Retirement for General Service with Service Credit >=30 are eligible for Early Retirement. | | |
| 9 | | Info | member | Members in Tier2 Service Retirement for General Service with Age plus Service Credit >=80(Rule of 80) are eligible for Early Retirement. | | |

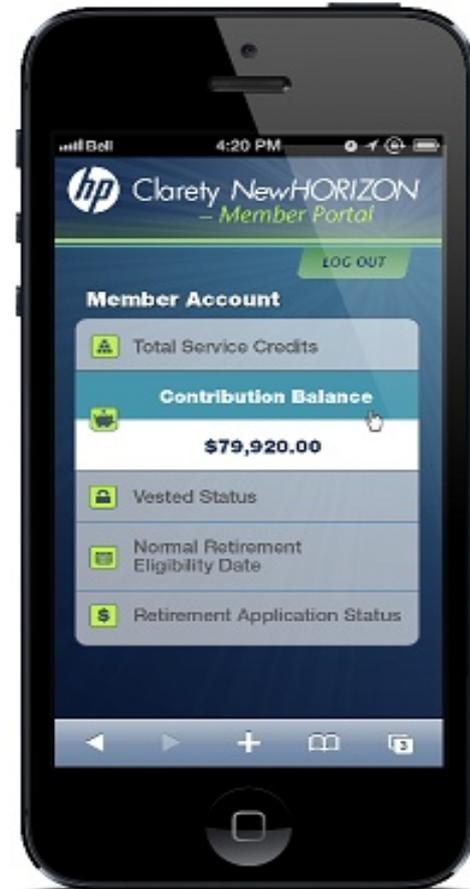
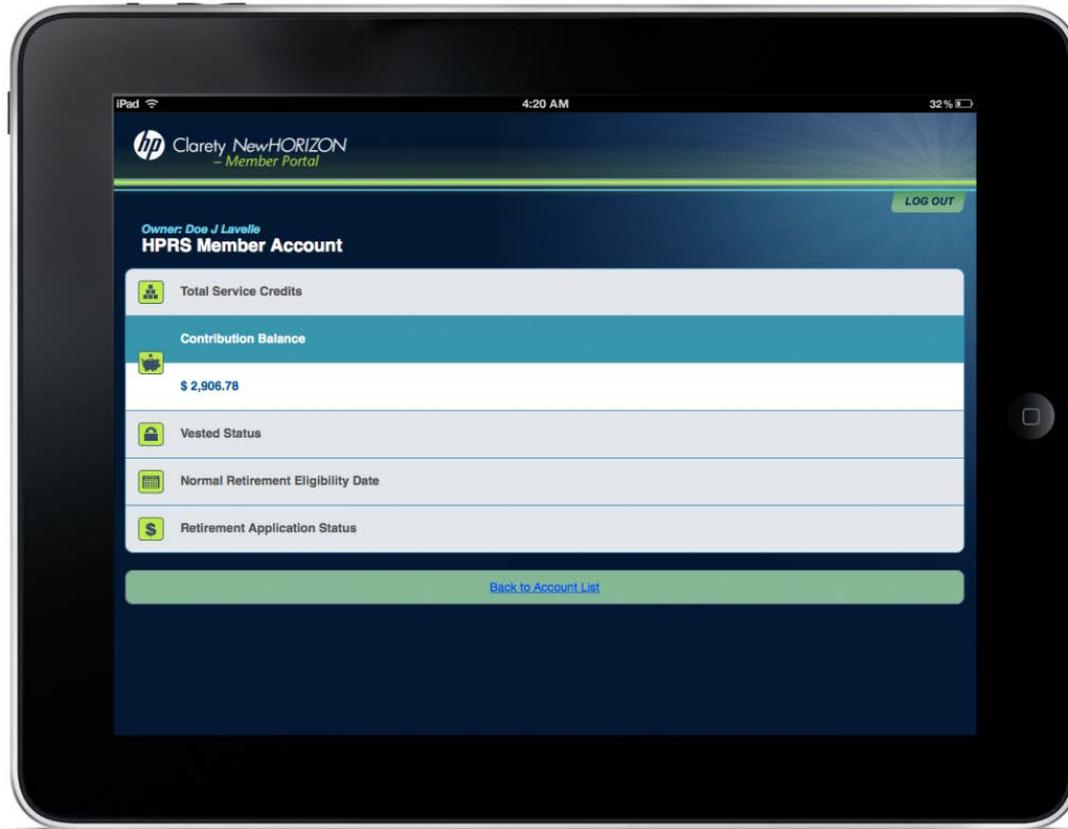
Rule Operators

- General
- Attribute Operators
- Entity/Association Operator
- Extended Operators

TEAM PROGRAM

Architectural History and Vision

- Self Service through Mobile Applications



TEAM PROGRAM

Budget History

- Year 0 - Original rough estimates approximately \$75 million, \$25 million per biennium for three bienniums
- Year 1 - After first year, estimate increased to \$80 - \$85
 - Increased cost in Data Management contract (signed)
 - Increased estimated cost in LOB contract
 - Inclusion of SOA architecture to increase future system flexibility
- Year 2 - Estimate of \$95 – 100 million
 - Increased staffing costs to include additional backfilled positions authorized in Spring 2013
 - Included contract reserve (contingency) for LOB contract (signed)
 - Increased estimated costs in FSR

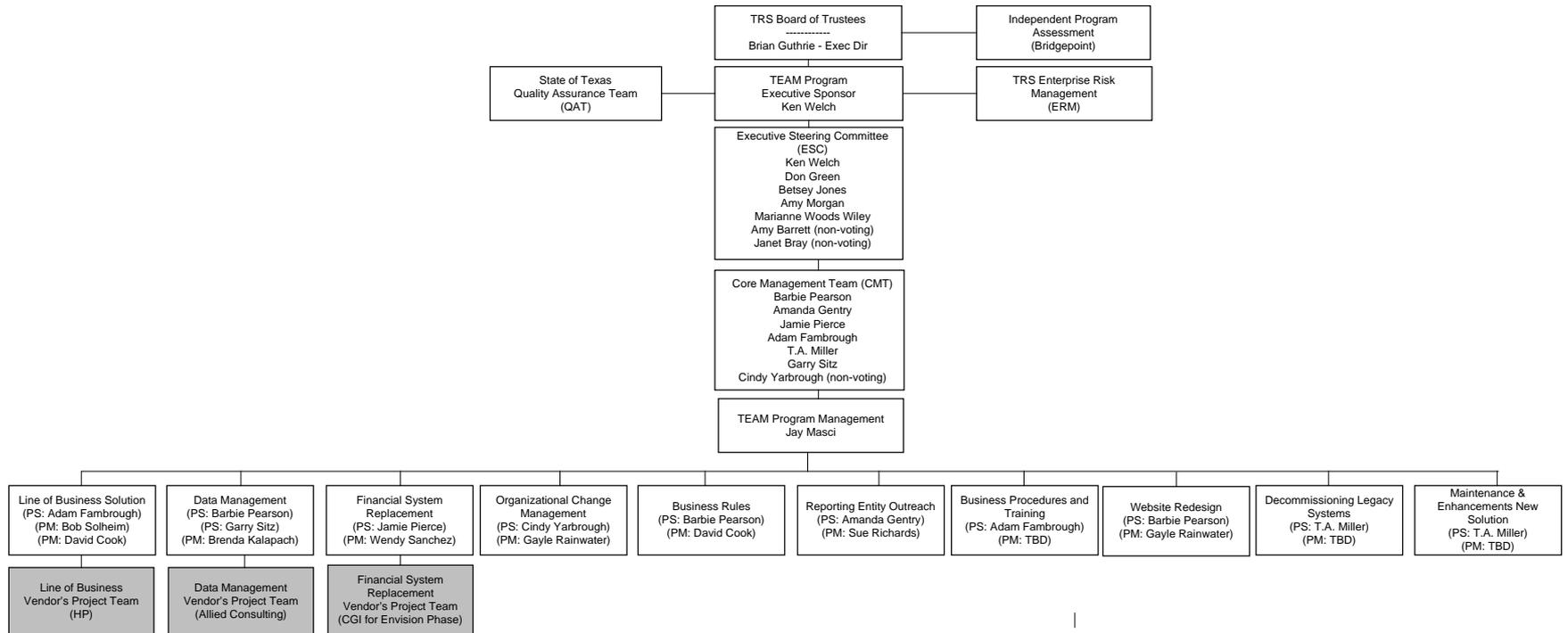
TEAM Program Structure

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Jay Masci – Provaliant, T.A. Miller, Barbie Pearson,
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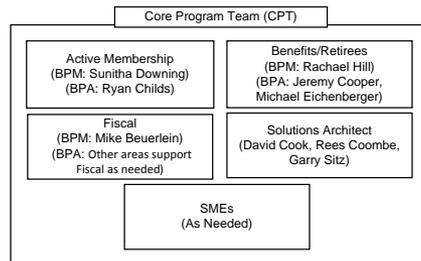


TEAM PROGRAM

TEAM Program Structure



Project Sponsor: PS
Project Manager: PM

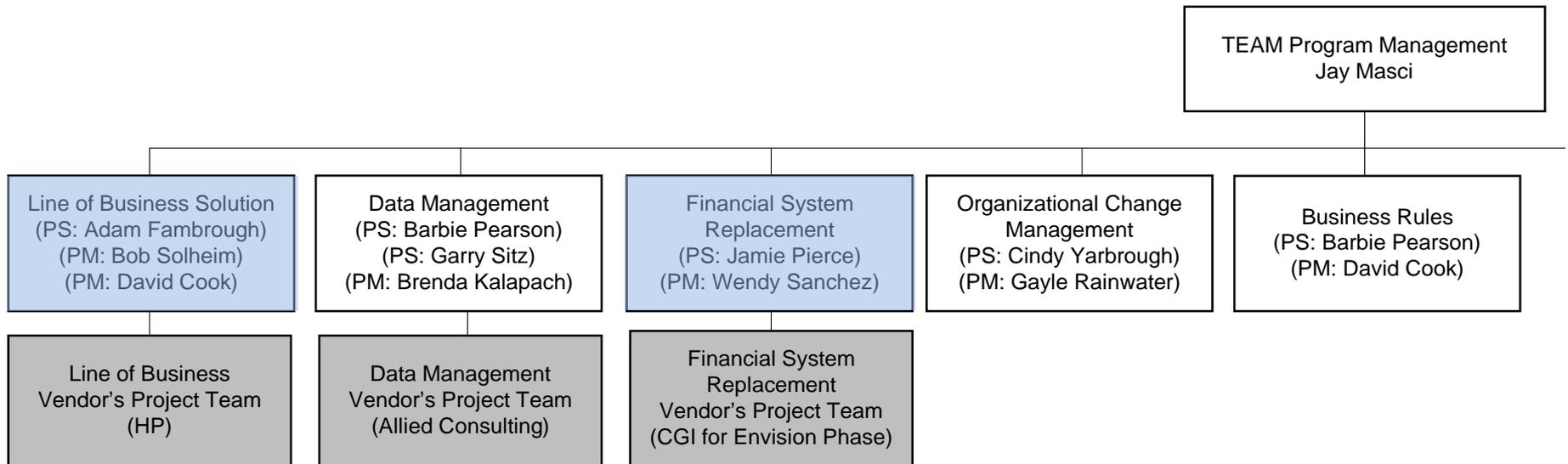


The Core Program Team (CPT) supports the entire TEAM Program.



TEAM PROGRAM

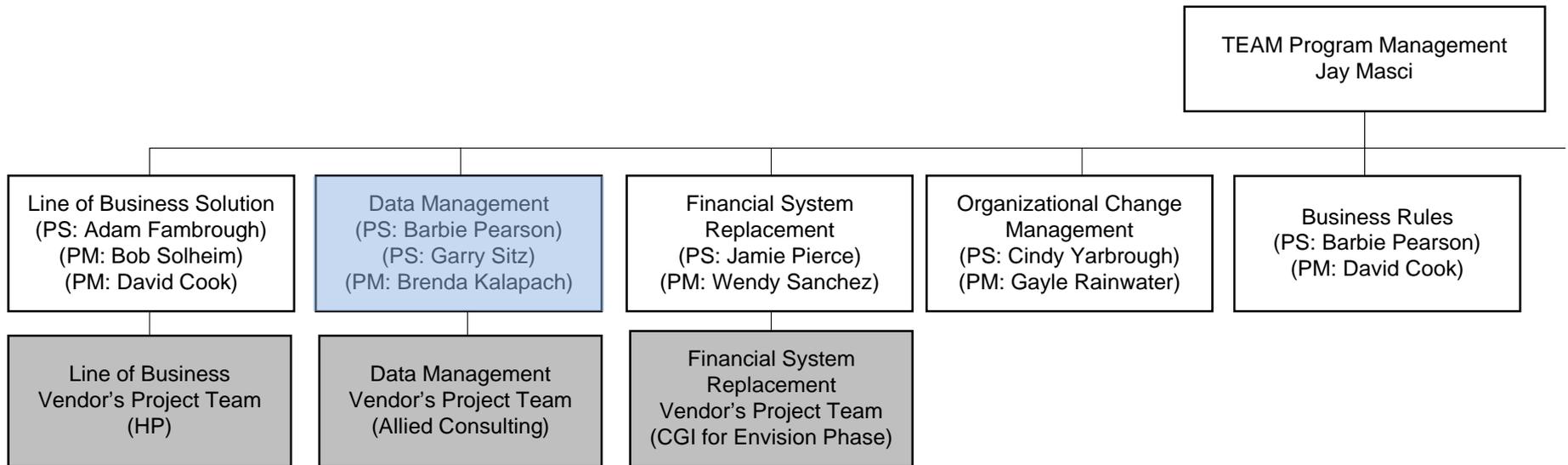
TEAM Program Organizational Structure



Project Sponsor: PS
Project Manager: PM

TEAM PROGRAM

TEAM Program Organizational Structure



Project Sponsor: PS
Project Manager: PM

TEAM PROGRAM

TEAM Program Organizational Structure

2013

TRS Employment History Data Quality Audit Report

This document outlines the information and processes used to assess TRS employment history data and produce this Data Quality Audit Report. It also provides a summary overview of the data quality as it pertains to TRS employment history data as initially reviewed by ACI/ICON.

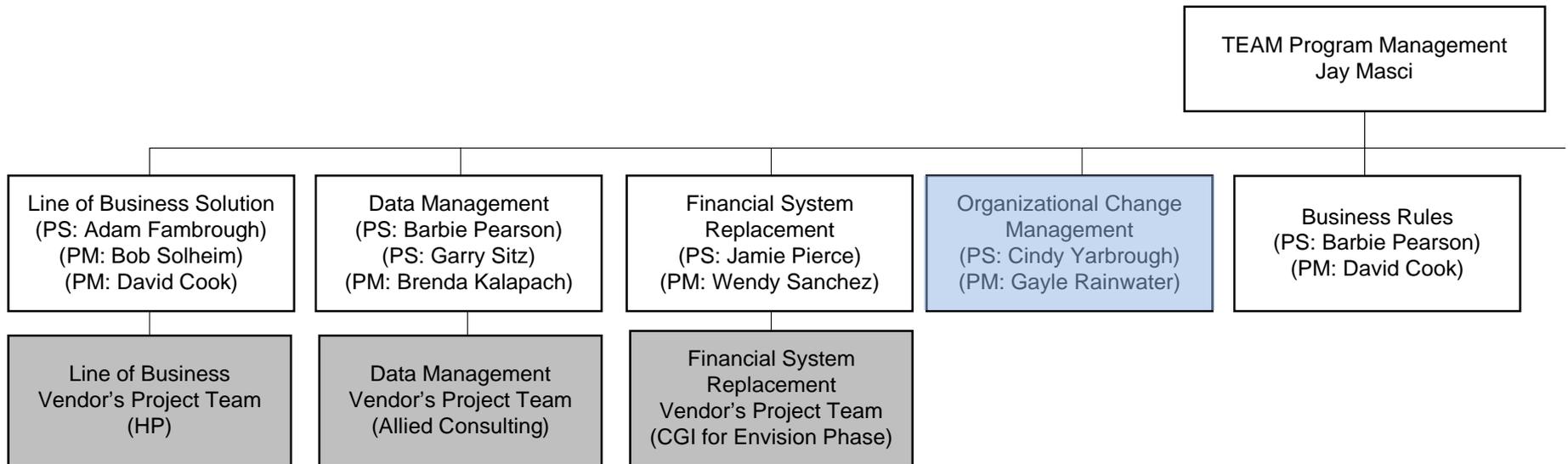
The valid "Contact Types" for TRS Reporting Entities is limited to eight (8) types. The eight (8) Contact Types/Codes are:

- 1) AC - Active Care Contact
- 2) HI - Head of Institution
- 3) IN - Insurance Contact
- 4) PC - Payroll Contact
- 5) PD - Personnel/Director
- 6) RO - Reporting Official
- 7) SO - Signing Official

| Data Quality Audit Report | | | | | |
|---------------------------|-------------|--|----------------|--------------------------|-------------------------|
| Priority | DQCP Number | DQCP Title | Original Count | Previous Count (Cycle 8) | Current Count (Cycle 9) |
| | 1.2.001 | Valid Address Type Codes - Reporting Entity | 0 | 0 | 0 |
| | 1.2.002 | Reporting Entity mailing address - address line 1 | 1 | 0 | 0 |
| | 1.2.029 | Required Reporting Entity Contact Types | 26 | 2 | 2 |
| | 1.2.030 | Reporting Entity Effective Date into TRS | 0 | 0 | 0 |
| | 1.2.031 | History of Contribution Rates for Reporting Entity | 0 | 0 | 0 |
| | 1.2.038 | Reporting Entity Tax Identification Number | 2162 | 0 | 0 |
| | 1.2.040 | TRS assigned unique ID for Reporting Entity | 0 | 0 | 0 |
| | 1.2.045 | Reporting Entity Contact's Authority Types | 0 | 0 | 0 |
| | 1.2.046 | History of Contribution Rates for State of Texas | 0 | 0 | 0 |
| | 1.2.047 | Status Types for Reporting Entity | 0 | 0 | 0 |
| | 1.2.048 | County for Reporting Entity | 786 | 0 | 0 |
| | 1.2.049 | Education Service Center (ESC) Region for Reporting Entity | 1580 | 0 | 0 |

TEAM PROGRAM

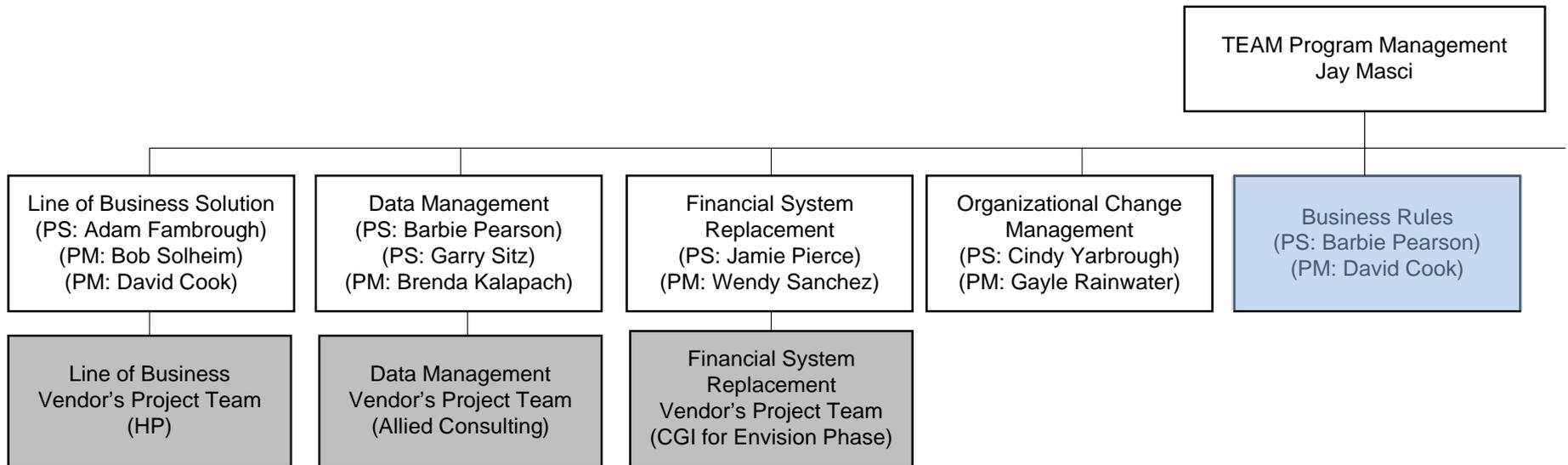
TEAM Program Organizational Structure



Project Sponsor: PS
Project Manager: PM

TEAM PROGRAM

TEAM Program Organizational Structure



Project Sponsor: PS
Project Manager: PM

TEAM PROGRAM

TEAM Program Organizational Structure

SUBCHAPTER C. ESTABLISHMENT OF MEMBERSHIP SERVICE

Sec. 823.201. CURRENT MEMBERSHIP SERVICE. (a) Membership service is credited in the retirement system for each year in which a member is an employee and for which the member renders sufficient service for credit under Section 823.002 and makes and maintains with the retirement system the deposits required by this subtitle or prior law.

(b) The board of trustees may adopt rules for the granting of membership service credit.

Acts 1981, 67th Leg., p. 1876, ch. 453, Sec. 1, eff. Sept. 1, 1981. Amended by Acts 1981, 67th Leg., 1st C.S., p. 202, ch. 18, Sec. 21, eff. Nov. 10, 1981. Renumbered from Vernon's Ann.Civ.St. Title 110B, Sec. 33.201 and amended by Acts 1989, 71st Leg., ch. 179, Sec. 1, eff. Sept. 1, 1989.

Sec. 823.203. MEMBERSHIP SERVICE FOR OPTIONAL RETIREMENT PROGRAM. A member may not establish service credit in the retirement system for any period when the member was participating in the optional retirement program under Chapter 830.

Added by Acts 1999, 76th Leg., ch. 1540, Sec. 3, eff. Sept. 1, 1999.

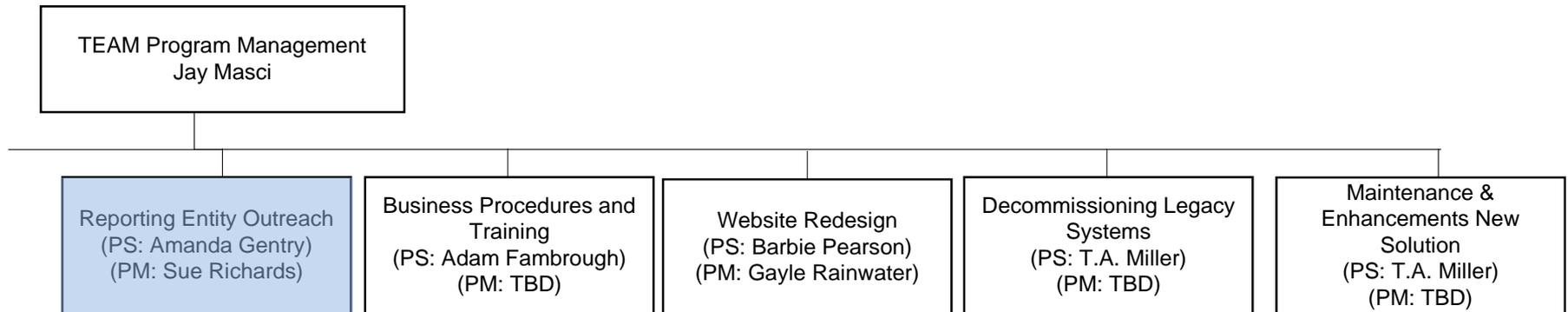
TEAM PROGRAM

TEAM Program Organizational Structure

| Business Rule: 0010 | | | |
|--|-----------------------------------|--|-----------------------------------|
| TRS Chapter Title: Creditable Service <small>(Maps to chapters in code)</small> | Writer: Perkins, Sharon | Date Created: [DateCreated] Date Approved: [DateApproved] Date Modified: [DateModified] | Version: 1 |
| SME: Firstname Lastname | | | |
| Primary Process Owner: Benefit Processing | | | |
| Rule Name: (Unique name which describes what the rule does) Establishing Membership Service Credit | | | |
| TGC Reference: | 823.201, 823.203 | | |
| TAC Reference: | [TACReference] | | |
| TRS Decision Repository Reference: | [TRSDDecisionRepos] | | |
| Summary: (Enter a paragraph describing the rule) This business rule describes the basic requirements for establishing membership service credit. | | | |
| Processes: (Processes which use this rule) Employer Reporting, Member records | | | |
| Effective Begin Date: [Date] | | | |
| Effective End Date: [Date] <small>(Begin and end dates should be left blank unless the law or rule specifies a beginning or end date; the begin date is left blank, lock and explain)</small> | | | |
| BR Cross References: BR_0002, BR_0046, BR_0005, BR_0040 | | | Display Business Rule #... |
| Explanation: TRS membership service is credited for each year that a member: (1). is an "employee" as that term is defined in law and in TRS rules on full-time service; (2). renders the amount of service required under TRS rules in a school year; and (3). makes and maintains the required deposits with TRS. | | | |
| Exceptions: As provided in 823.203, a member may not establish TRS service credit for any period when the member was participating in the Optional Retirement Program (ORP) under Ch. 830. | | | |
| Examples/Notes: See the cross-referenced business rules for more information on each of the three basic requirements. | | | |
| Rule Engine Version: <small>(This section is being added to the Rule template for future use, when we know more about Rule Engine use)</small> | | | |

TEAM PROGRAM

TEAM Program Organizational Structure



TEAM PROGRAM

TEAM Program Organizational Structure

The screenshot shows the TRS website with a header for "TEACHER RETIREMENT SYSTEM OF TEXAS". Navigation links include Site Map, Login, Contact Us, Comments, and Home. A search bar is present. The main navigation menu includes Active Members, Retirees & Beneficiaries, Employers, and General Information. The left sidebar has an "EMPLOYERS" section and a "TEAM Program Communications" section with links for Update Newsletters, Timeline, Surveys, FAQs, Reporting/Data Elements, and Contact Information. The main content area features a "TEAM Program Communications" header and "TRS Enterprise Application Modernization" sub-header. Below this is a paragraph explaining the modernization effort. On the right, there are "TEXTSIZE" controls, a "TRAQS LOGIN" button, a "TRS.TV" logo, and a "Quicklinks" button.

FAQs: TEAM Program Communication Summary

[General](#) | [Report Format](#) | [Focus Group](#) | [Training](#) | [Communication](#)

General

Why are you replacing TRAQS?

Has TRS informed software providers that the current reporting system (TRAQS) is being replaced?

When will the new reporting system be in place?

Why is TRS providing information such as "Required Data Elements" so far in advance of when changes will actually be made?

Report Format

Can Reporting Entities continue to submit reports using the same formats as today, once the new system is implemented?

Reporting/Data Elements

The following is a list of data elements that will be required in the new reporting system. Although the new system will not be launched until 2015-2016, we are providing this information at this time so that plans can be made to capture any of these data elements that are not currently in your data base.

Actual file formats will be provided at a later date. It is important to note that no changes are being made to the current report requirements.

Data Elements

[PDF](#) Demographic

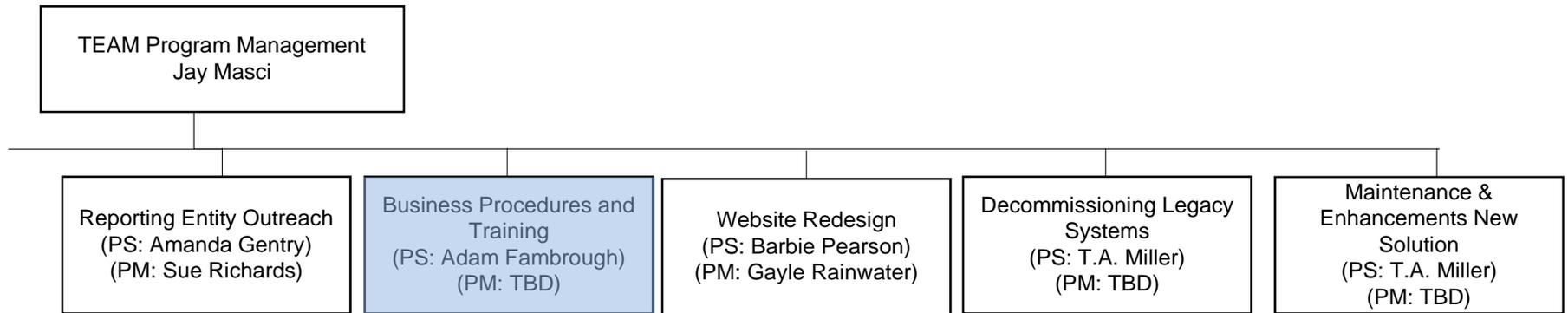
[PDF](#) Public School

[PDF](#) Higher Ed

[PDF](#) Employment After Retirement

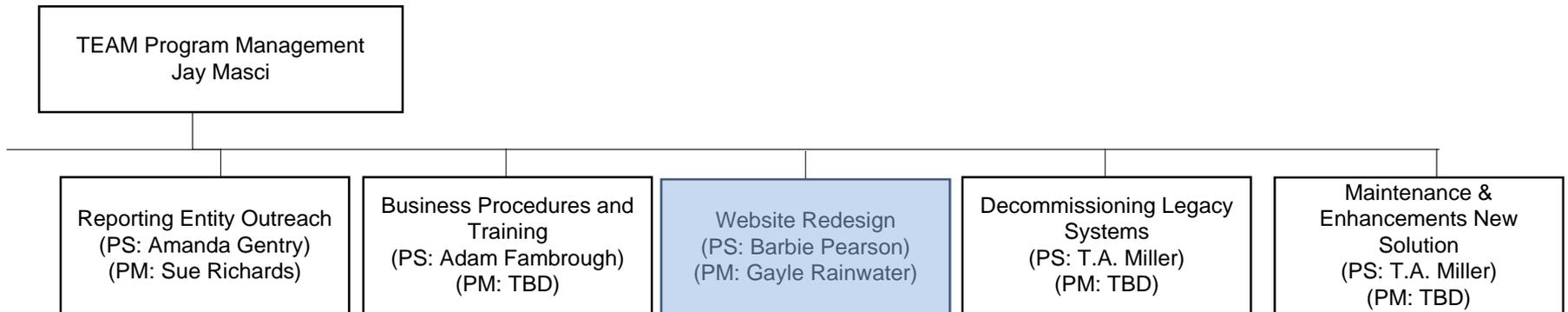
TEAM PROGRAM

TEAM Program Organizational Structure



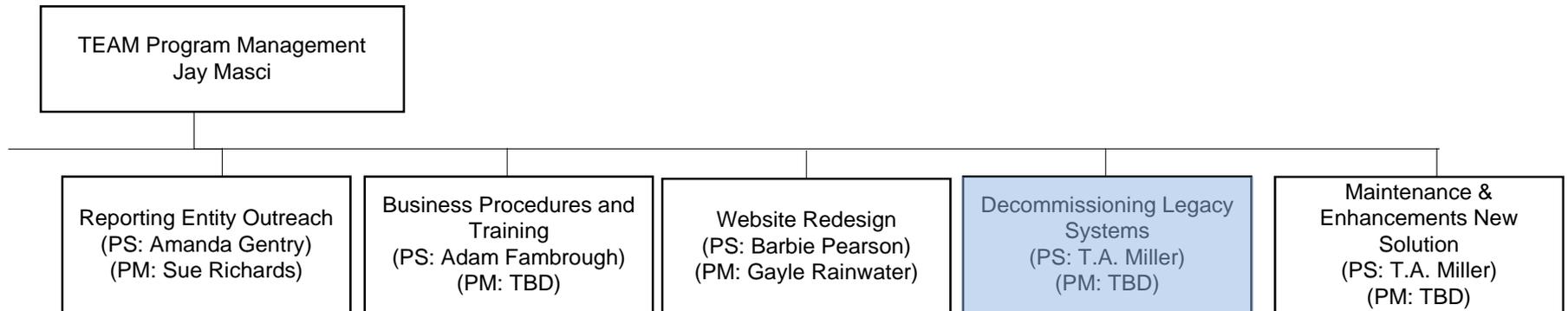
TEAM PROGRAM

TEAM Program Organizational Structure



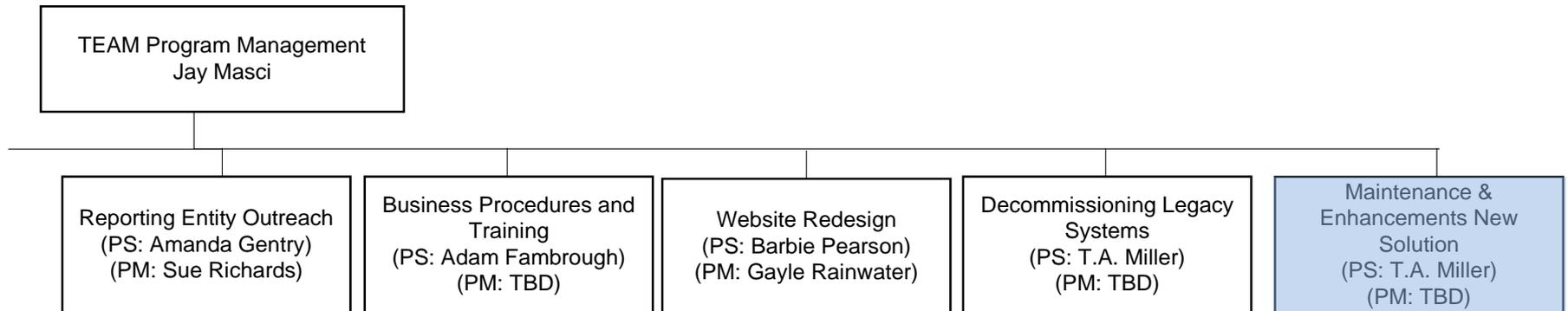
TEAM PROGRAM

TEAM Program Organizational Structure



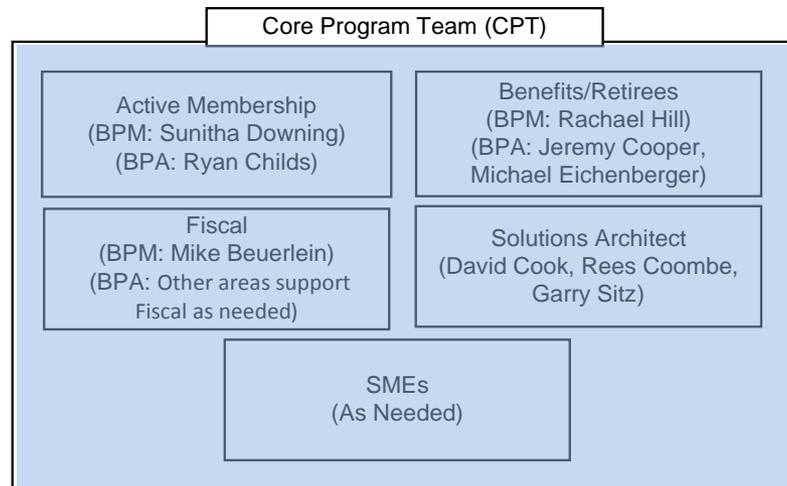
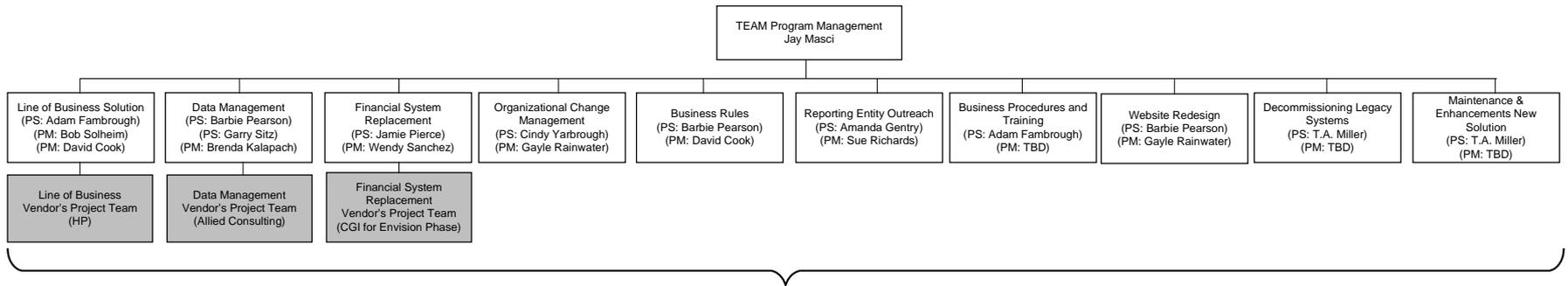
TEAM PROGRAM

TEAM Program Organizational Structure



TEAM PROGRAM

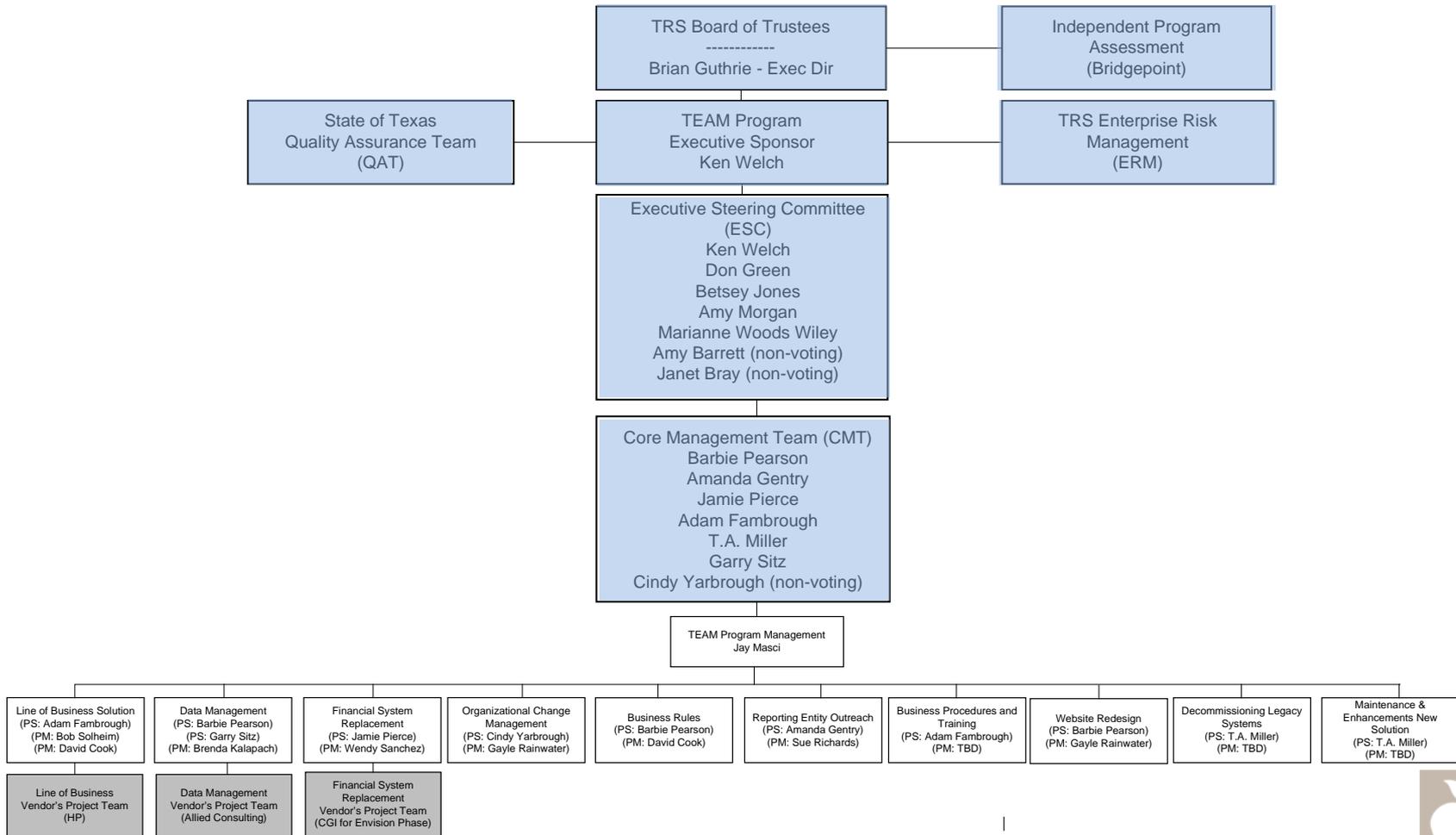
TEAM Program Organizational Structure



The Core Program Team (CPT) supports the entire TEAM Program.

TEAM PROGRAM

TEAM Program Governance Structure



TEAM PROGRAM

Tools and Processes To Assist in Controlling...

- Scope
- Schedule
- Budget

TEAM PROGRAM

TEAM Program Organization Structure - Acronyms

- Core Program Team aka CPT
- Line of Business aka LOB
- Financial System Replacement aka FSR
- Data Management aka DM
- Organizational Change Management aka OCM
- Reporting Entity Outreach aka REO

TEAM PROGRAM

Acronyms and Terms

| Acronyms & Terms | Stands For | Meaning |
|------------------|----------------------------------|--|
| Advantage | | CGI's (FSR vendor) software solution for the finance/HRIS project. TRS will call the system TRUST. |
| Artifact | | Any type of document that is submitted as a deliverable related to any project. An artifact will follow a specific template and will describe different interactions between a person and system. Examples of artifacts: Use Cases, Business Rules, Letter Specifications, Process Maps, Project Status Reports |
| BAFO | Best And Final Offer | The Best And Final Offer from a vendor in response to a Request For Offer (RFO) or Statement of Work (SOW). |
| BPA | Business Process Analyst | Individual who supports the Business Process Manager in their assigned business area and assists with tasks as assigned. |
| BPM | Business Process Manager | Individual who manages activities and resources with the coordination of the business unit managers for an assigned business process area (Active Membership, Benefits, and Fiscal) and provides day-to-day support for the TEAM Program and its projects. |
| BPT | Business Procedures and Training | This project will define business procedures and oversee user training on the new system. |
| BR | Business Rule | Rule that defines or constrains some aspect of business. The Business Rules Project consists of a team responsible for documenting all of TRS' current business rules. These rules will be used and translated into IF, THEN statements for the new Pension LOB System. |
| Clarety | | The vendor's (Hewlett Packard) computer software retirement solution for the Line of Business (LOB) Project. Clarety (pronounced "Clarity") is the system which we will use to do all of the pension administration duties at TRS (employer reporting, refunds, SSBB, retirement, healthcare, etc.). It will replace current systems like Profiles, TCC Dashboard, and mainframe sessions and others.) |

TEAM PROGRAM

Acronyms and Terms

| | | |
|----------|-------------------------------------|---|
| CME | Core Mission Employees | Employees not assigned to TEAM who ensure that TRS' Core Mission is carried out. |
| CMT | Core Management Team | Responsible for TEAM Program operations; consists of members from Benefit Processing, Benefit Counseling, Benefit Accounting, General Accounting, Human Resources, and Information Technology. |
| CPT | Core Program Team | Team that supports the entire TEAM Program and consists of Project Managers, Business Process Managers, Business Process Analysts, and Solution Architects. |
| CRM | Customer Relationship Management | Software solution (MS Dynamics) we will use to manage interactions with current and future stakeholders; uses technology to organize, automate, and synchronize customer service and technical support while supporting a 360 degree view of members. |
| DIR | Department of Information Resources | State agency that manages the Texas Project Delivery Framework TRS is using for the TEAM Program. |
| DM | Data Management | This project is responsible for preparing TRS' legacy data for migration to the LOB system. It includes three sub-projects: Data Assessment, Data Conditioning and Data Migration. |
| DQAR | Data Quality Audit Report | A report for each data level that provides the number of occurrences of data instances that do not match TRS data/business rules. This information is used to track TRS progress on data conditioning. |
| DQCP | Data Quality Check Point | A TRS business rule that lives in the data. DQCPs are used to assess (profile) the data. They are used in the Data Management Project. |
| DLS | Decommissioning Legacy System | This project will manage the deactivation of legacy systems during the staged transition to TRUST. |
| Envision | | Initial phase of the FSR project to determine if the vendor software (Advantage) can meet TRS' needs. |

TEAM PROGRAM

Acronyms and Terms

| | | |
|--------|------------------------------------|--|
| ESC | Executive Steering Committee | The ESC consists of the Executive Director, Deputy Director (who serves as the TEAM Program Executive Sponsor), Chiefs of Benefit Services, IT, Internal Audit, Health Insurance, Finance, HR Division and the vendor manager of the TEAM Program. The Core Management Team (CMT) reports to the Executive Steering Committee regarding the TEAM Program. |
| FSR | Financial System Replacement | This project will replace the current General Ledger Accounting System (GLAS) and the Budget, Expense and Vouchering System (BEVO) for financial accounting and budgeting. CGI is the vendor implementing three modules from their Advantage Solution (HRM, Financials and Performance Budgeting). |
| HRM | Human Resources Management | Part of the FSR project that includes HR, payroll, and leave functions. |
| IPA | Independent Program Assessment | A separate project within the TRS TEAM Program. The role of the IPA Service Contractor (Bridgepoint) is to provide independent oversight of the TEAM Program. |
| Legacy | | Refers to our current systems used to process member and financial transactions. A legacy system refers to older technologies, computer systems or application programs. |
| LOB | Line of Business | This project will replace TRS' Pension Line of Business systems. Within the TEAM program, the LOB refers to the new system that will replace all of our current mainframe-based pension administration systems. Some of those current systems are member records (MEMR), annuity payroll (ANPA), refund system (REFM), health insurance system, (HEIN), etc. TRS will call the new system TRUST. Hewlett Packard (HP) is the vendor implementing their Clarity Solution. |
| M & E | Maintenance and Enhancement of LOB | This project will maintain and add new functionality to Phase 1 of the LOB while Phase 2 is being implemented. All software requires maintenance and TRS will also want to add some enhancements to the Phase 1 release before the entire project is completed. |
| OCM | Organizational Change Management | This project will assist TRS with adapting to change caused by the TEAM Program. |

TEAM PROGRAM

Acronyms and Terms

| | | |
|-----|---------------------------|--|
| PM | Project Manager | Individual who works with the project team, the stakeholders, the Program Sponsor, the Core Program Team, the vendor(s) selected and the CMT to keep the project on schedule, resolve issues and mitigate risks that arise during the project. |
| QA | Quality Assurance | A group that tests system software to ensure that the system works correctly and does what it is supposed to do. |
| QAT | Quality Assurance Team | A state-wide organization that oversees the Texas Project Delivery Framework that TRS is using for TEAM. |
| QCP | Quality Check Point | Formal acceptance procedure for business users to review and approve deliverables or artifacts; the point in the process where the vendor tests the solution with the customer. |
| RE | Reporting Entities | Independent School Districts, Charter Schools, Regional Education Service Centers, and Higher Education entities who submit member enrollment, wage, and contribution information to TRS. |
| REO | Reporting Entity Outreach | This project will prepare Reporting Entities, Education Service Centers and Software Providers (collectively referred to as "REs") to use the new pension administration line of business (LOB) system. |
| RFO | Request for Offer | A solicitation for bids from vendors. |
| SA | Solutions Architect | Individual who is part of a team responsible for helping ensure the technical and systems architecture for the entire TEAM Program is sufficient to meet the needs of the business, and that future changes to TRS systems developed as part of TEAM are consistent with TRS' technical architecture and corresponding infrastructure. |
| SOW | Statement of Work | Contractual document for deliverable-based IT Services for which a Request for Offer (RFO) is not used. |

TEAM PROGRAM

Acronyms and Terms

| | | |
|-------|--|--|
| TEAM | TRS Enterprise Application Modernization | Program of related projects that will modernize TRS' legacy systems to newer technologies to allow TRS greater flexibility in providing service to TRS membership and reduce the risks of obsolete technology. |
| TRUST | TRS Unified System Technology | The name of the new system which includes the LOB & FSR/HRM systems. |
| UAT | User Acceptance Testing | This is the last phase of the software testing process and is also known as end-user testing. |
| UI | User Interface | This is where the information is displayed and interacted with by the user; it is the screen we see when we use a computer. |
| WEB | Website Redesign | This project will redesign the TRS external website. |

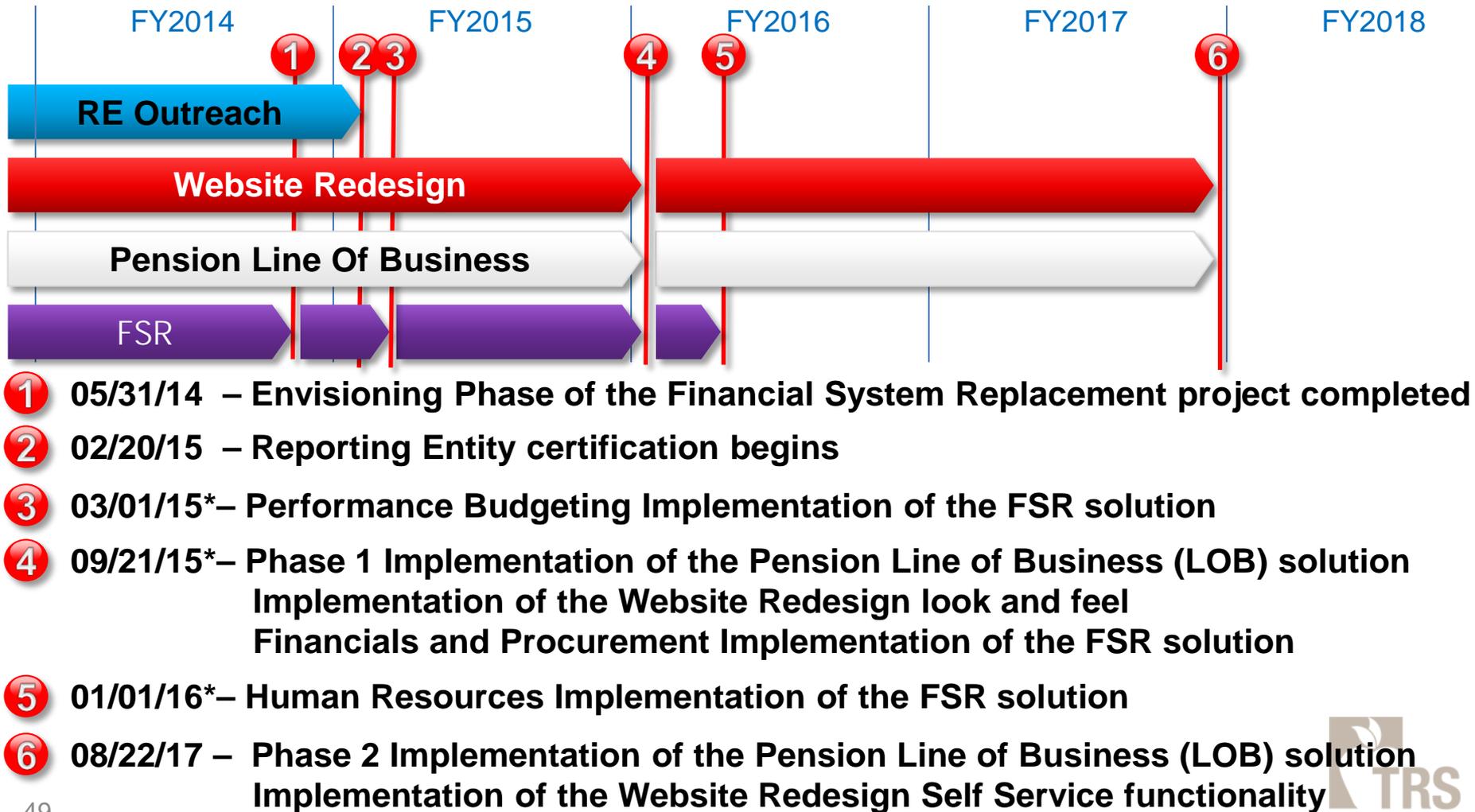
TEAM Program Progress

Jay Masci - Provaliant



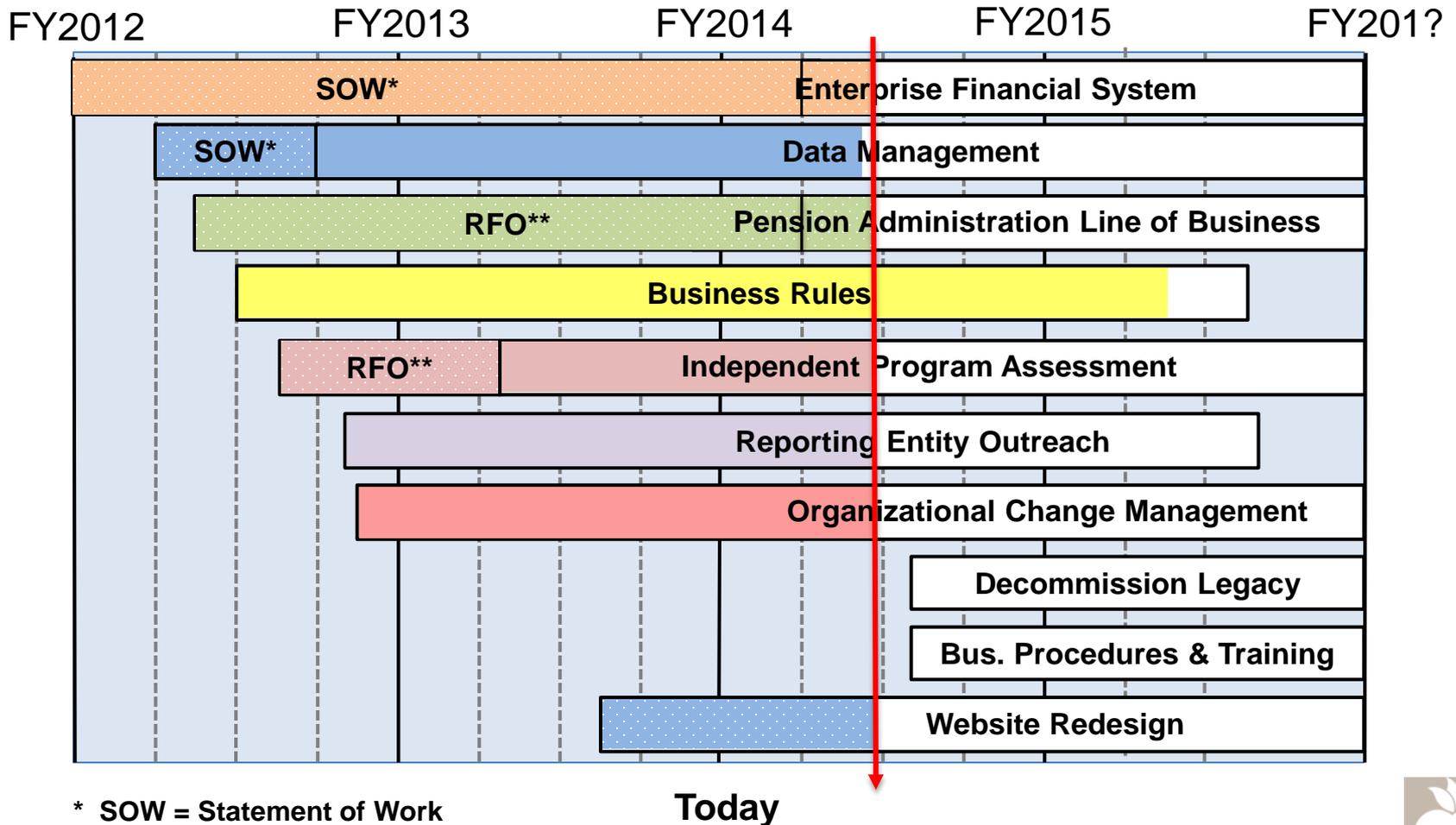
TEAM PROGRAM

TEAM Program Schedule



TEAM PROGRAM

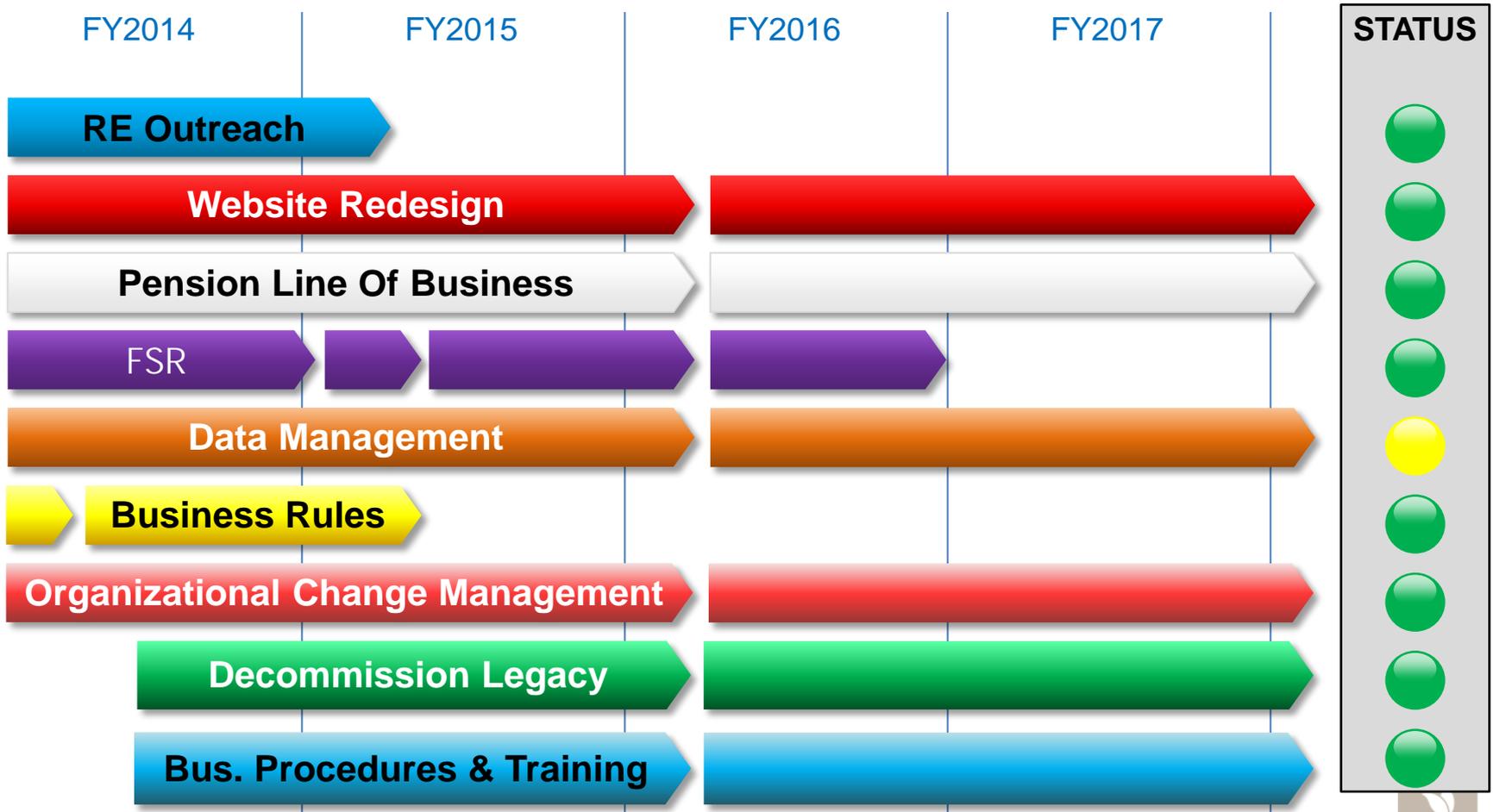
TEAM Progress as of November 22, 2013



* SOW = Statement of Work
 ** RFO = Request for Offer

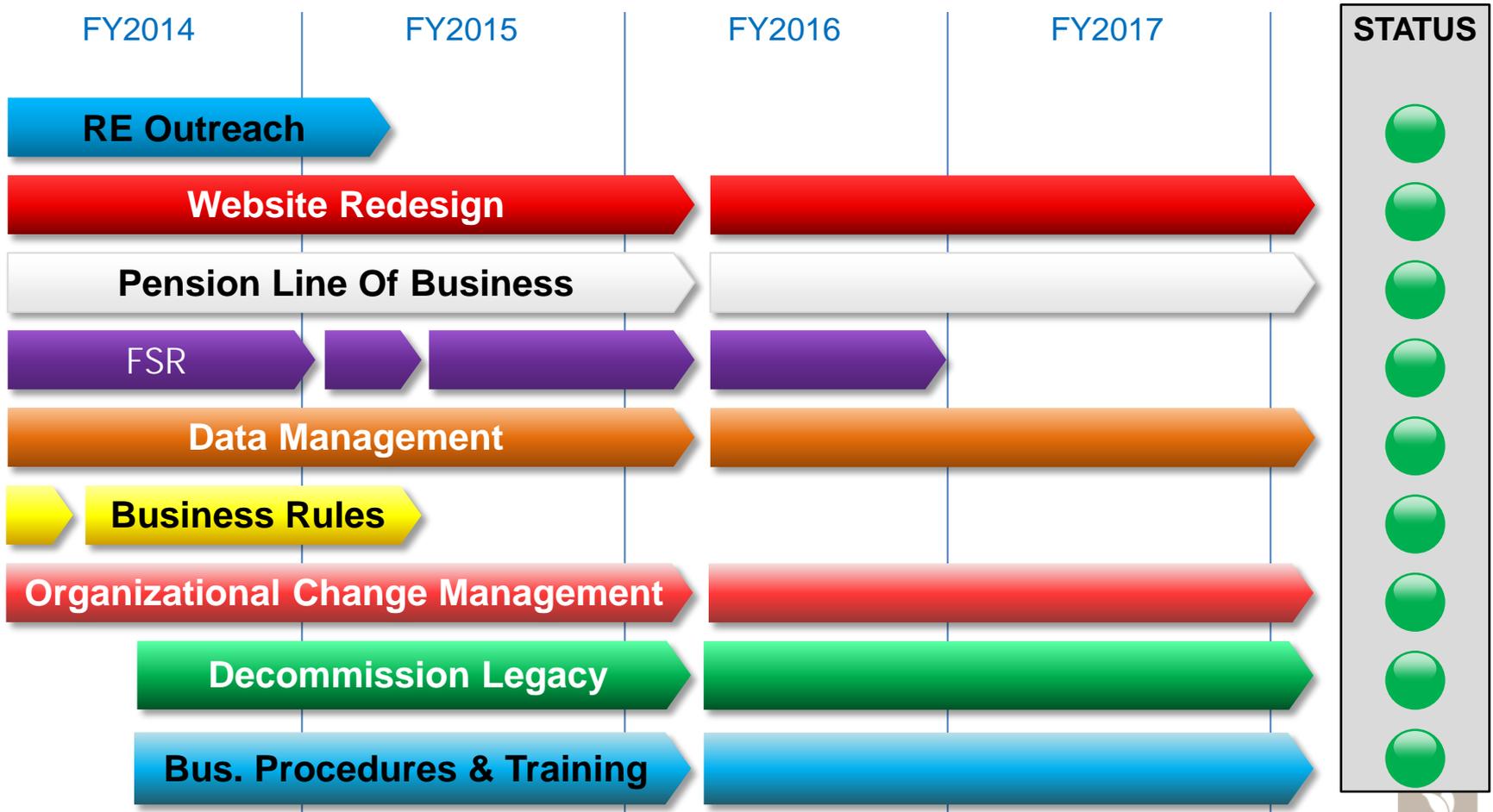
TEAM PROGRAM

TEAM Progress as of November 22, 2013



TEAM PROGRAM

TEAM Progress as of January 20, 2014



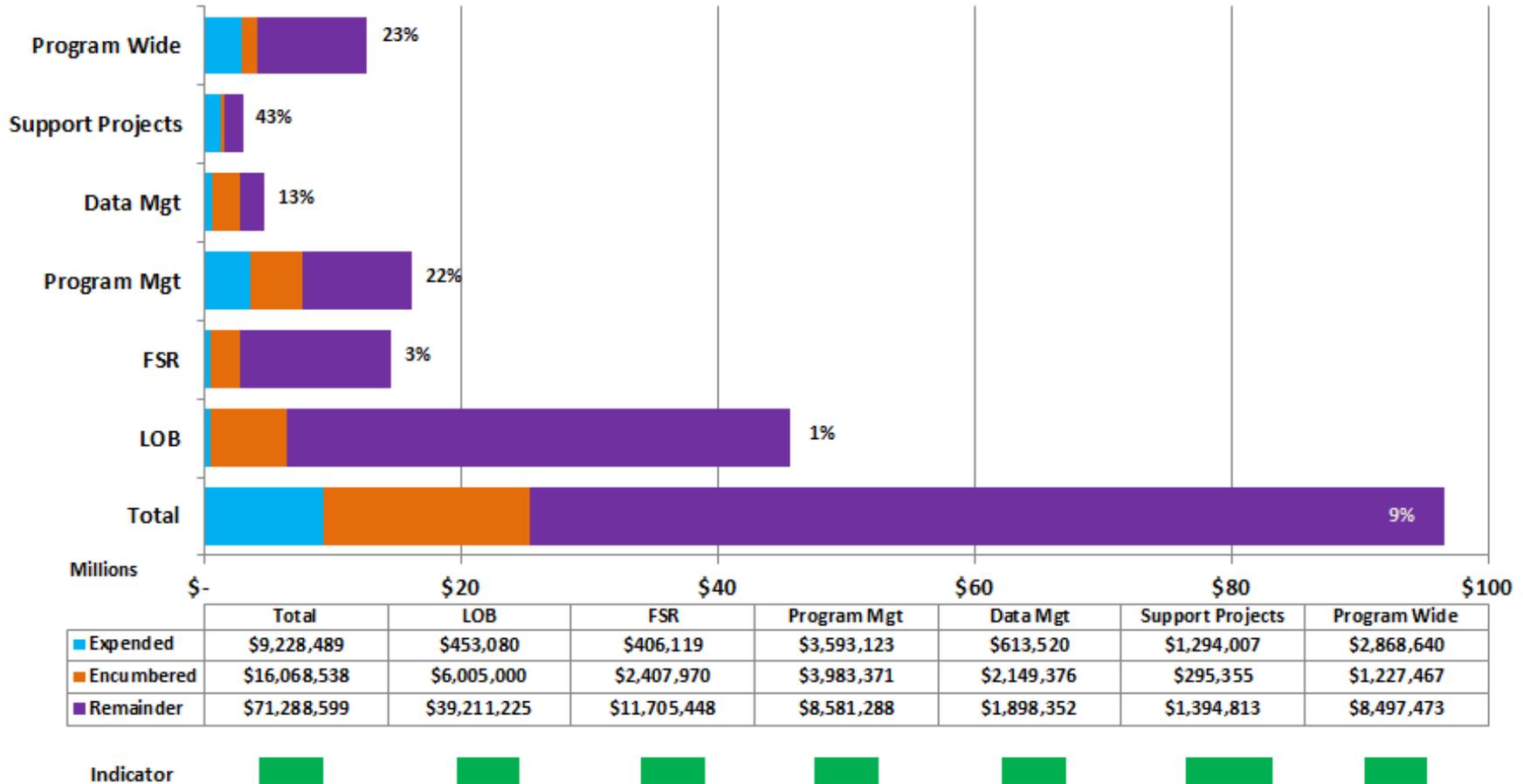
TEAM Program Budget

David Cook



TEAM PROGRAM

Program Budget by Project (% spent indicated)



Notes: Total Project cost is \$96.6 million. Does not include services or maintenance beyond 2017. FSR figure is estimate only.

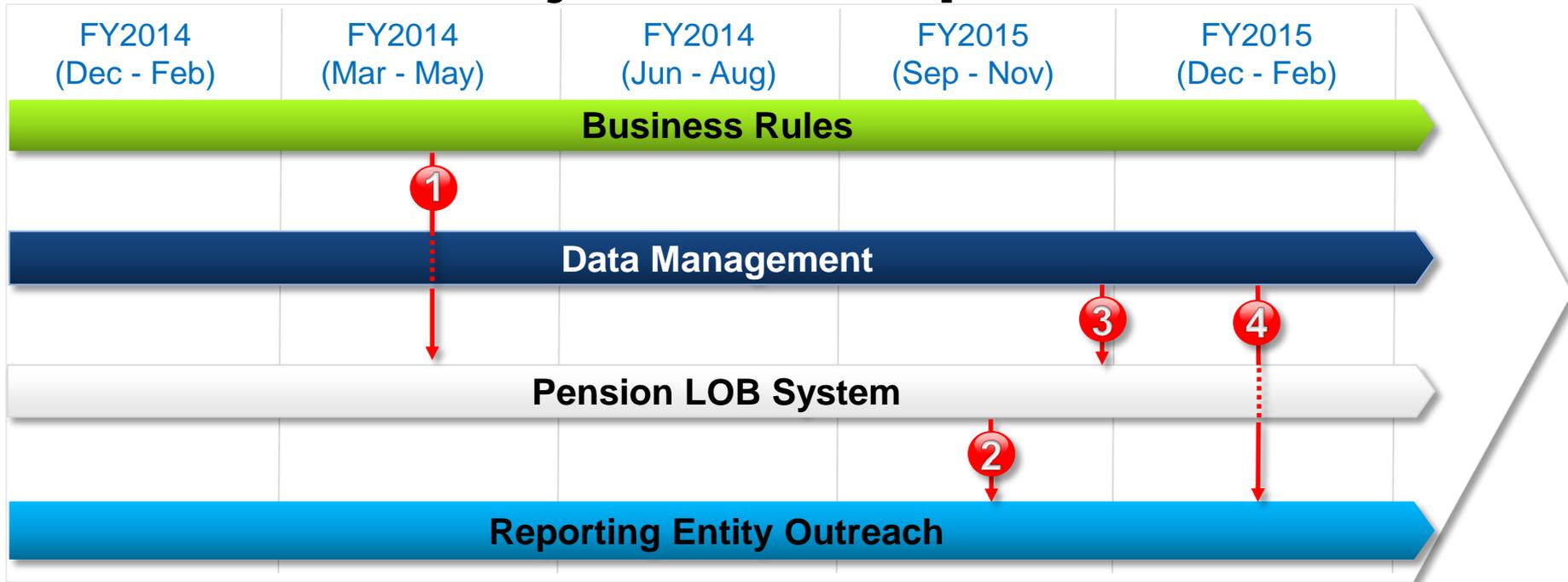
TEAM Project Interdependencies

Jay Masci - Provaliant



TEAM PROGRAM

TEAM Project Interdependencies



- 1 04/21/14 – The LOB project needs the business rules for detailed requirements
- 2 10/10/14 – The REO project needs the employer reporting file layout
- 3 11/24/14 – The LOB project needs assessed and migrated data for testing
- 4 01/12/15 – The Reporting Entity Outreach project needs assessed and migrated data for user acceptance testing

TEAM Program Management Update Milestones and Accomplishments

Barbie Pearson



TEAM PROGRAM

Milestones

| Planned Milestones (from December Board Meeting) | Planned Date | Actual Date | Status |
|---|--------------|-------------|-------------|
| Complete LOB Phase 0 | 01/31/2014 | 01/31/2014 | On Schedule |

| Upcoming Milestones | Previous Planned Date | Current Planned Date | Status |
|---|--------------------------|-------------------------|-------------|
| Website LOB Sequencing Decision Made | | 3/19/2014 | On Schedule |
| FSR Consolidated Envision Phase Completed | | 5/31/2014 | On Schedule |

TEAM PROGRAM

Accomplishments TEAM Project

1. Completed All Current Business Rules, Phase 1 and Phase 2
2. Recovered 6 week slip for the Data Management Project
3. Completed the FSR Envision Project Plan
4. Completed FSR Instructor Led Training
5. Completed Round One of the Organizational Change Management TEAM Program Huddles with Brian and Ken

TEAM PROGRAM

Accomplishments TEAM Project

6. Onboarding and provisioning of 13 CGI personnel and 20 HP personnel at TRS
7. Reviewed and updated the risk assessment for the Data Management project
8. Installed baseline Clarity environment at TRS
9. Approved a replacement business analyst for Active Membership
10. Began Core Program Team commitment review meetings with SMEs
11. Held an internal vendor Meet and Greet

TEAM Program - Looking Ahead

Jay Masci - Provaliant



TEAM PROGRAM

Upcoming Accomplishments for 2014

1. Complete cost benefit analysis on CGI Hosting the FSR solution
2. Make go/no-go decision on CGI Build/Achieve phases
3. Select a Website Redesign Vendor
4. Complete requirements gathering for LOB Phase 1
5. Finalize Electronic Signature Policy
6. Conduct an Employee Readiness Survey
7. Host all-hands meeting
8. Start Decommissioning Legacy System and Business Procedures & Training projects
9. Complete assessment of Phase 1 data

TEAM PROGRAM

Lessons Learned for the Future

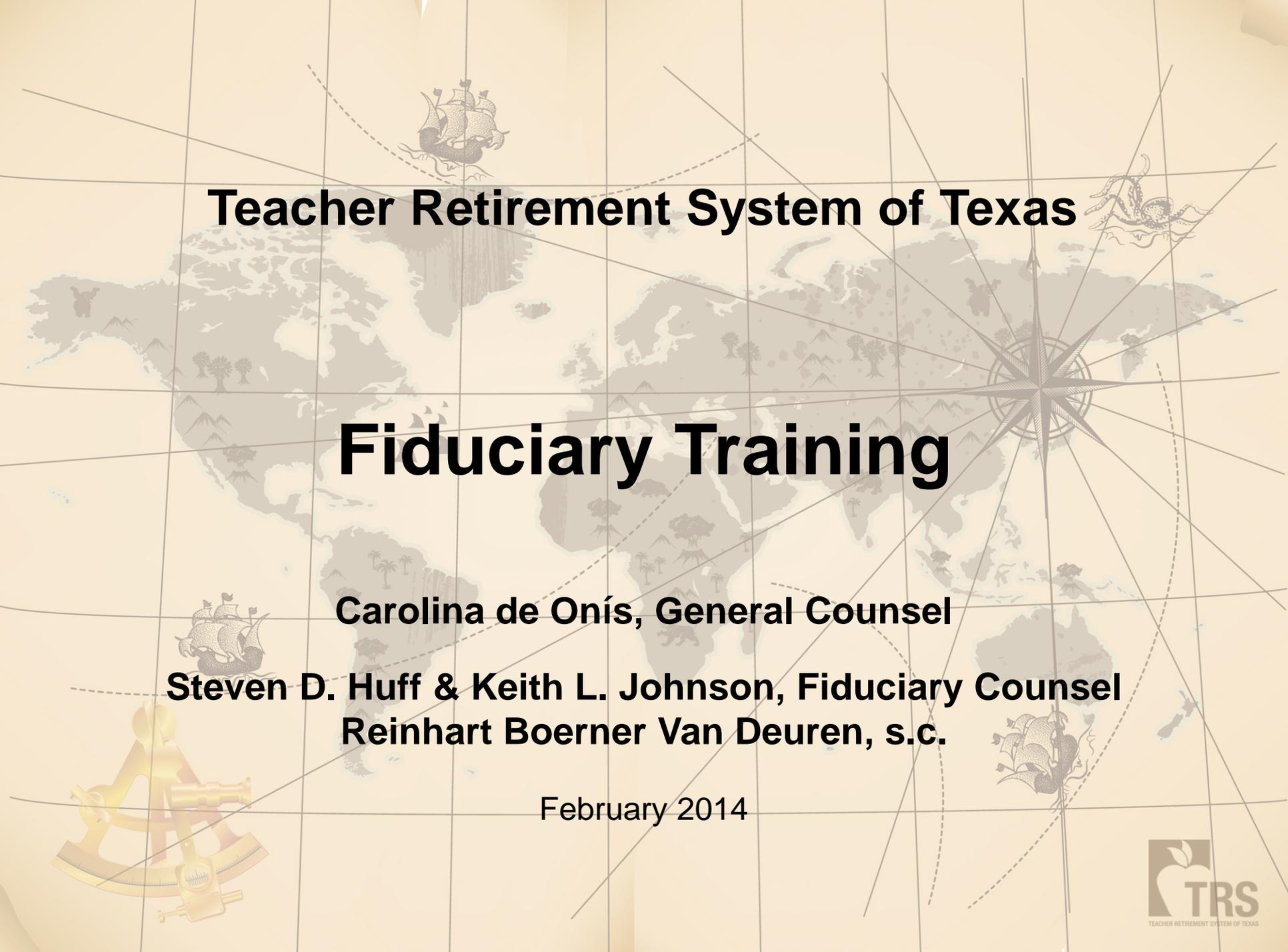
1. Very important to co-locate all of the project team
2. Pension LOB vendor should use a business process approach to requirements gathering
3. Prototyping should be required
4. There will be resistance to change so get the staff involved in requirements and testing early
5. Things will happen out of your control, be able to be flexible and adjust

TEAM PROGRAM

Typical Risks for the Execution of Pension System Replacement Programs

1. Employers aren't given sufficient time to deal with changes in reporting format
2. Not enough time is given to perform User Acceptance Testing (UAT)
3. SMEs aren't available to participate on program/project team
4. Commitments are interpreted differently by the Pension Organization and Vendor

Tab 21



Teacher Retirement System of Texas

Fiduciary Training

Carolina de Onís, General Counsel

Steven D. Huff & Keith L. Johnson, Fiduciary Counsel
Reinhart Boerner Van Deuren, s.c.

February 2014

Agenda

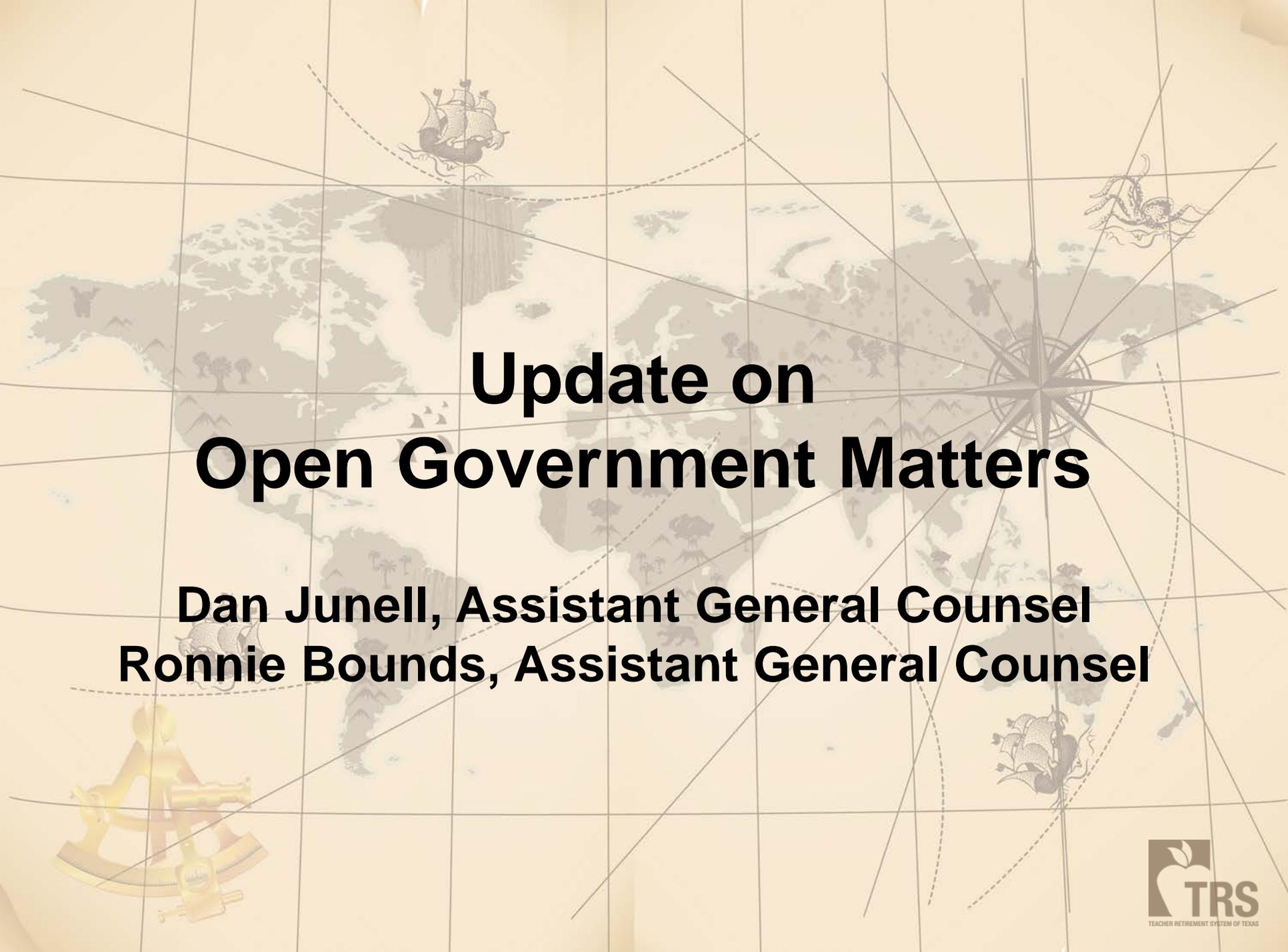
- Update on New Trustee Orientation Materials
- Open Government Team: 2013 Accomplishments
- Funston Report Highlights: Best Practices in Fund Governance
- Co-Fiduciary Issues and Liability: Examples & Questions
 - Open Government Perspective
 - Fiduciary Perspective
 - Ethics Perspective

TRUSTEE ORIENTATION MATERIALS REVAMPED

Update on New Trustee Orientation Materials

Orientation materials were revamped to:

- Be user-friendly and available in Diligent
- Highlight key concepts in bullet-point format
- Contain hyperlinked references

The background features a stylized world map with a grid of latitude and longitude lines. Overlaid on the map are several navigation-related icons: a sailing ship in the upper left, a compass rose in the center right, a sextant in the lower left, and a crab in the upper right. Dashed lines represent various navigational paths or routes across the map.

Update on Open Government Matters

**Dan Junell, Assistant General Counsel
Ronnie Bounds, Assistant General Counsel**

Governance & Open Government Team

- **Dan Junell** – Team Leader
- **Ronnie Bounds** – New Assistant General Counsel dedicated to TRS' open records requests, particularly with regard to investment-related matters
- **Carol Ellis** – Senior Legal Services Specialist who assists on all aspects of open records requests (coordinates requests, drafts responses, compiles and redacts information, supports litigation)
- **Shannon Connelly** – Legal Services Specialist who assists on all aspects of open records requests (coordinates requests, drafts responses, compiles and redacts information, supports litigation); responsible for FOIAXpress conversion and implementation
- **Lynn Lau** – Assistant Board Secretary who assists in development and delivery of board materials, reviews materials for confidentiality issues, reviews draft agendas, and posts open meetings notices with Secretary of State
- **Anna Espinosa** – A Legal Services Specialist who was reassigned to the Legal Investment Team

Open Government Initiatives

- New Open Government Attorney •
- New Open Records Processing Software •

New Open Government Attorney Contributions

Tasks

- Helps respond to investment-related open records requests
- Drafts open records contract provisions
- Provides legal counsel/briefing in complex open records litigation

Advice & Counsel

- Furnishes open records and records management advice about investment transactions
- Advises IMD about the public or confidential nature of requested information

Relations

- Continues to meet in-person with IMD directors and staff to learn more about TRS' investment program
- Assists Communications with investment-related open records requests and media inquiries

FOIAXpress Software Application

- **Acquisition**

- Procurement
- Configuration and Data Migration
- Installation and Implementation
- Training
- Software Upgrade

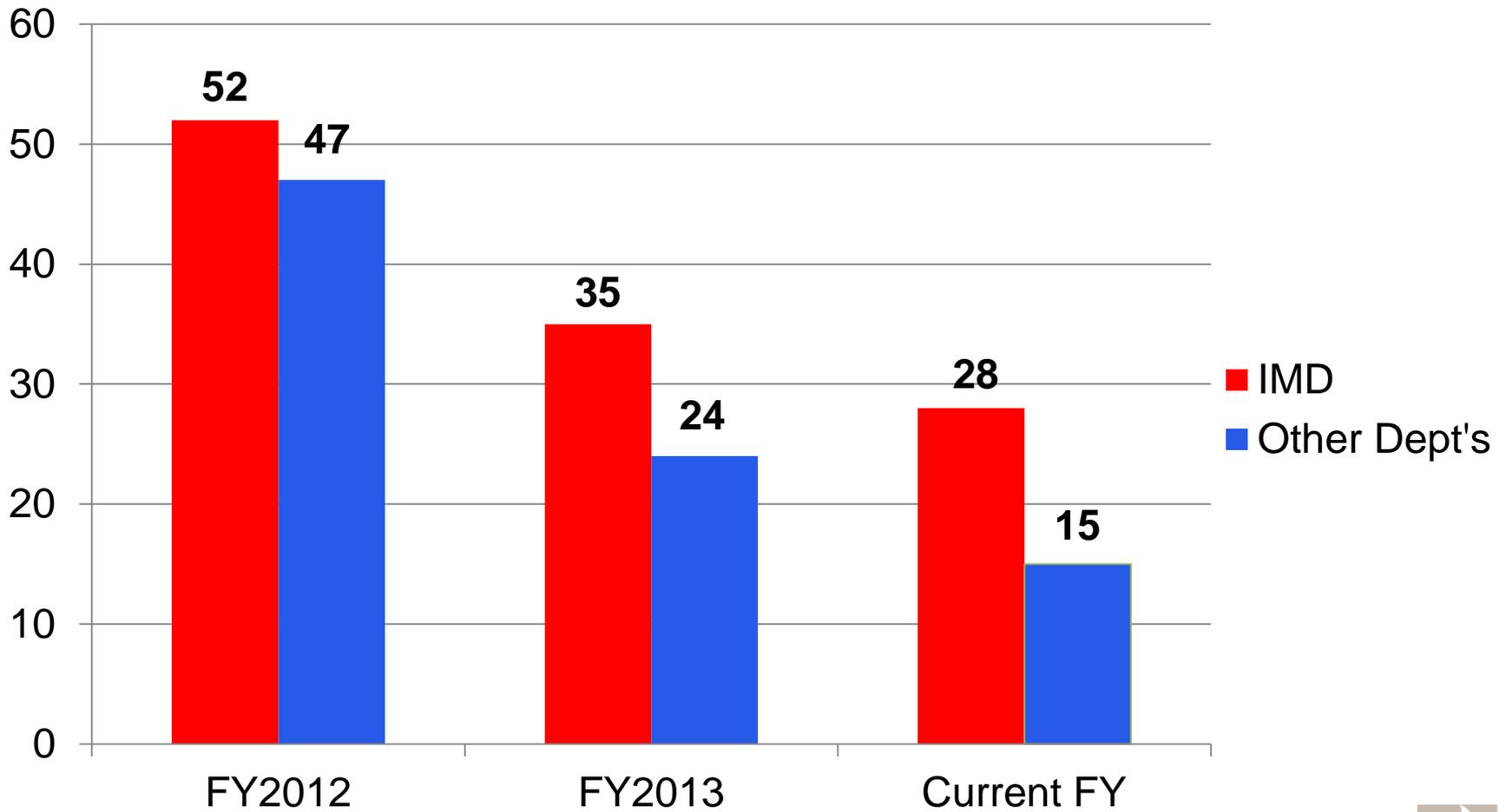
- **Benefits**

- Allows Entry & Tracking of Requests
- Facilitates Interdepartmental Coordination
- Uses Standardized Templates Developed by Staff
- Provides Enhanced Redaction Capabilities
- Calculates Fee Estimates and Generates Invoices
- Provides Reporting Capabilities

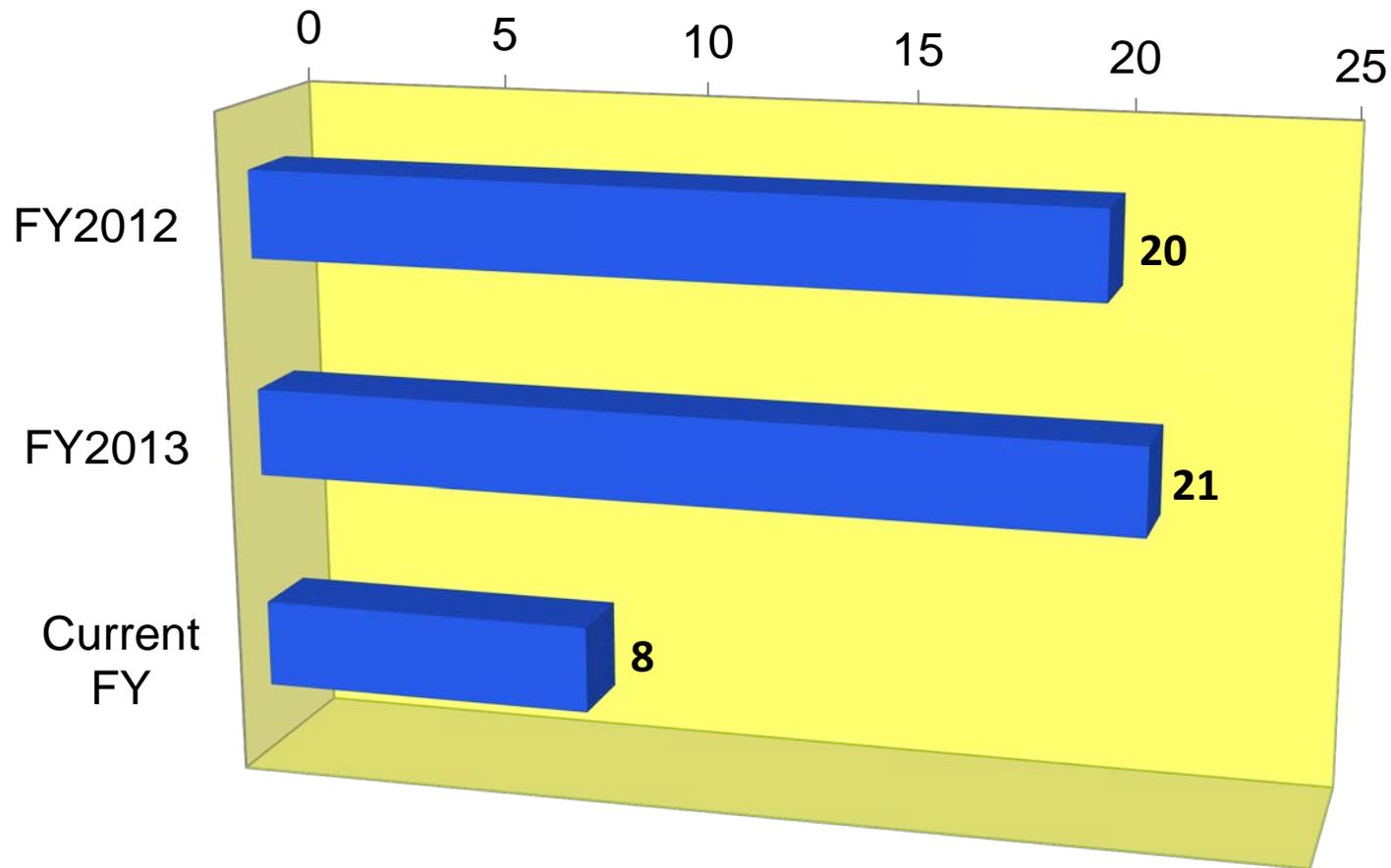
OTHER OPEN GOVERNMENT INITIATIVES

- Creation of “Super 16” Spreadsheets
 - Consists of investment information made “super public” by law
 - Developed as a result of collaboration between Executive, IMD, Communications, and Legal
 - Reduces staff time required to respond to any one request
- Open Meetings Recordkeeping Enhancements
 - Streamlining of Board and committee minutes
 - Updating of minutes database in order to facilitate data searches
 - Keeping Board-related information on TRS’ website up-to-date

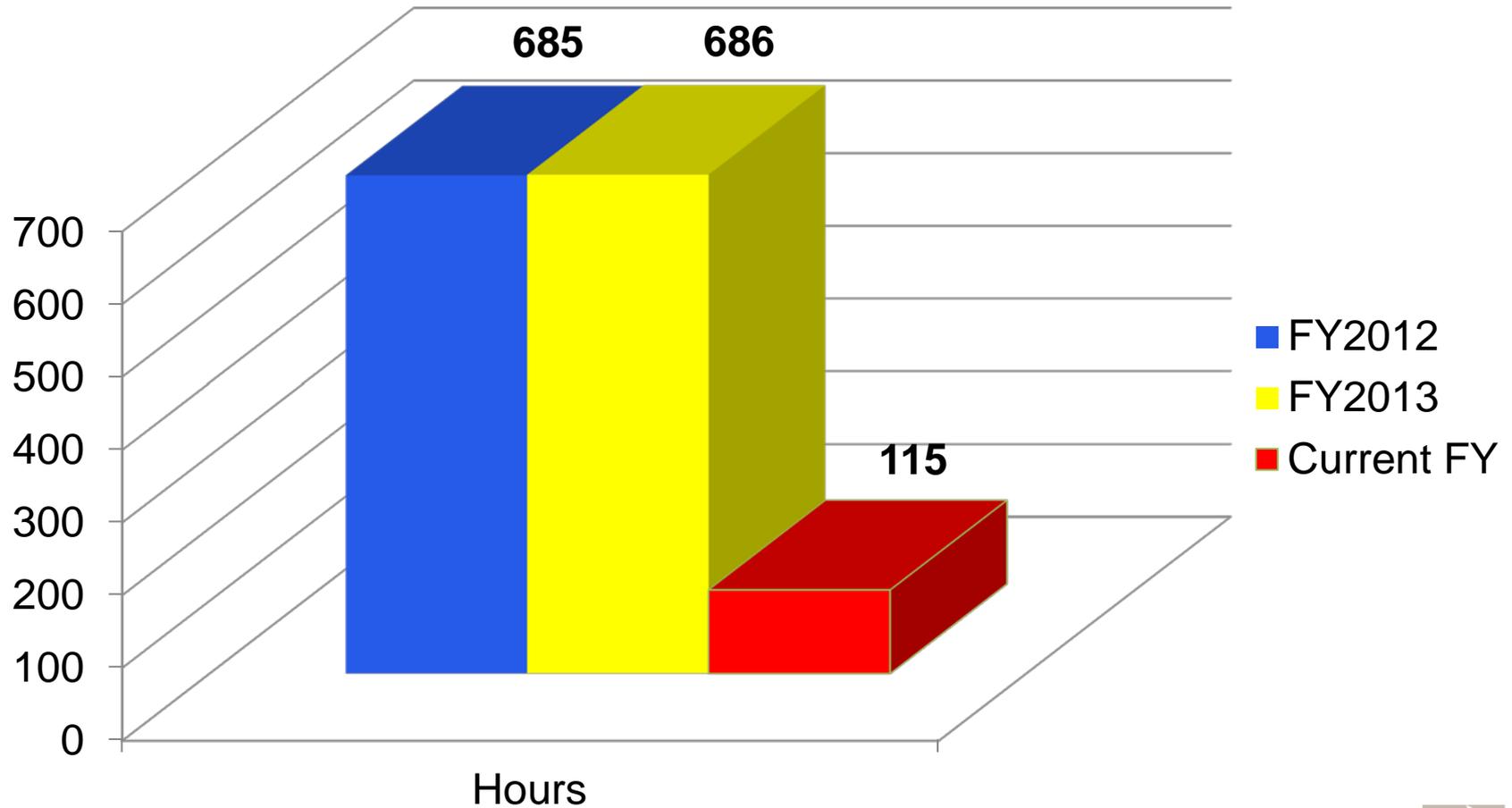
Request Volume



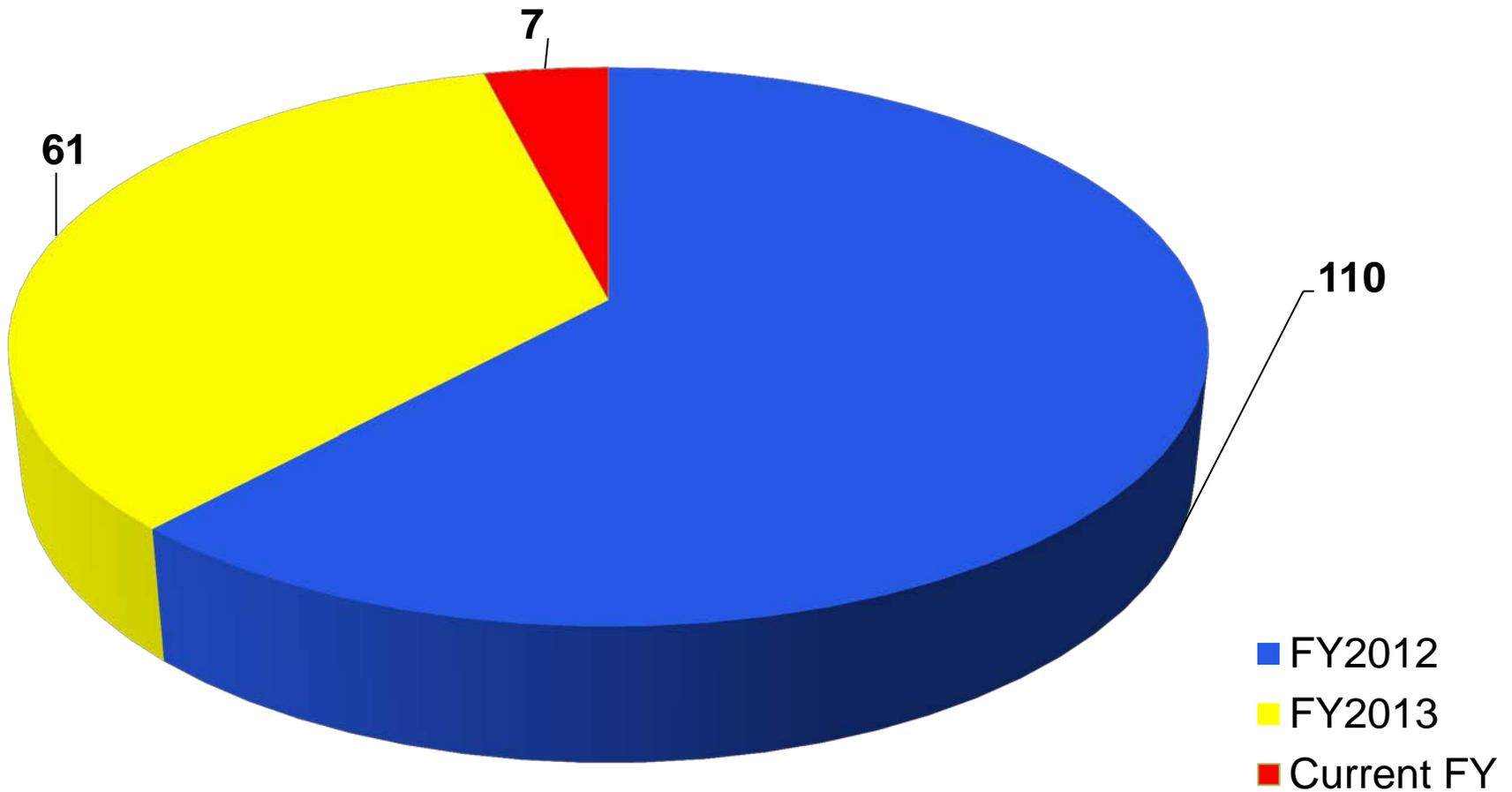
Requests Sent to the Attorney General



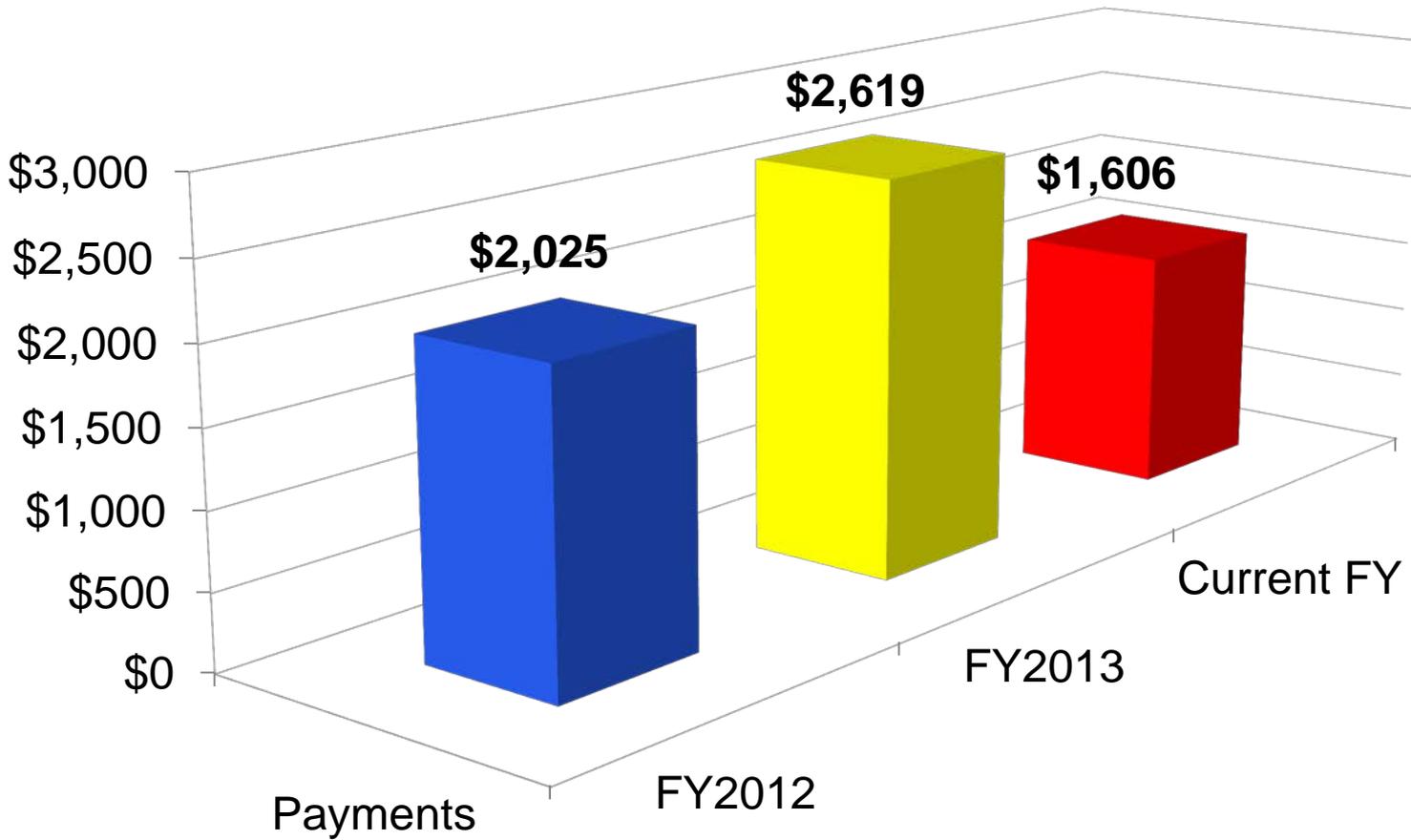
Hours Spent Preparing Briefs



Hours Spent Redacting



Payments Received



Fiduciary Training

FUNSTON REPORT HIGHLIGHTS: Best Practices in Fund Governance

Responsibilities of the Board

- Act solely in interests of beneficiaries, balancing income and capital growth needs of different generations with varying time horizons
- Set direction
- Be prudent
- Ensure effective investment operations
- Ensure enterprise and investment risks are managed
- Ensure effective compliance and control
- Obtain reasonable assurance and independent reassurance

Common Fiduciary Challenges

- Assume immediate full responsibility of fiduciary duties
- Must deal, at certain times, with high uncertainty and conflicting opinions
- Like corporate directors, Trustees are part-time but have onerous, full-time responsibilities
 - Average time commitment: max 500 hours/year for Chair; 350 hours/year for Vice-Chair; 250 hours/year for members
- Unlike corporate directors, Trustees can't choose to fill gaps in expertise by adding Board members
- Success in high-risk situations normally demands effective preparation and training

Common Fiduciary Challenges

- Short-termism, special interests, and non-economic considerations
- Ability to achieve consensus and manage conflicts
- Risk aversion versus swinging for fences
- Willingness to constructively challenge and deal with:
 - Each other
 - Experts
 - Tough issues in open meetings
 - Conventional assumptions
- Board self-assessment and training

Governance Framework

- Role of Board
- Powers reserved and delegations of authority
- Committees and charters
- Role of Board officers
- Board meetings and time commitments
- Board reports and meeting protocols

Policy Framework

- Board conduct
- Investment policies, e.g., risk appetite, return and risk objectives, asset allocation, benchmark, ethics
- Investment manager procurement
- Implementation policies: active and passive, internal and external management, rebalancing
- Review and update policies on regular basis (rather than ad hoc) with frequency depending on volatility of policy issue

Leading Practices: Role of the Board

- Consistent focus on long-term, strategic issues, and oversight and monitoring of overall operations performance
- Minimal focus on operational details given independent reasonable reassurance
- Clear priorities and accountabilities for both Board and Executive
- Clearly defined powers reserved for Board:
 - Determine mission and overall strategic and policy direction
 - Hire, evaluate, compensate and terminate ED
 - Oversee performance, risk and control
 - Delegate as appropriate
- Periodic independent fiduciary review

Leading Practices: Board Committees

- Large Fund typically has 5-6 committees, including:
 - Investment
 - Audit/Risk
 - Personnel and Compensation
 - Governance
 - Finance/Budget
- Transparent process for nomination and election of committee chairs and vice-chairs
- Well-defined responsibilities for each committee updated periodically

Leading Practices: Delegation of Authority

- ED directly reports to Board for operations:
 - Board delegates authority for development of policy and strategy proposals
 - Once approved by Board, Board delegates authority for implementation and day-to-day management of organization
- Authority and responsibility are clearly defined, contributing to effective working relationship based on mutual confidence and trust
- ED has responsibility for hiring, evaluating, compensating and terminating all executives
- Board delegates investment authority to CIO
- Subject to open meetings requirements, Board can request closed sessions on certain matters and has access to staff

Leading Practices: Board Reports

- Regular reviews of utility of Board reports to improve quality and timeliness of information
- Standard process or format for Board reporting (e.g., executive summary of issues, alternatives, pros/cons, risks of action and inaction, cost and long-term implications and recommendations)
- Use of limits to determine exception reporting with thresholds and escalation triggers to Board
- Standard process for prioritizing and answering Board member questions, including requests for additional information and reports
- Use of Board portal to facilitate information availability and drill-down capability on Board agenda items and provide general Board information on policies, meetings, minutes, etc.

Leading Practices: Independent Reassurance

- Enterprise risk function that provides independent reassurance to the Board
- Chief Compliance Officer who reports independently of CIO
- Investment accounting staff report to CFO who is independent of CIO

Leading Practices: Board Conduct and Compliance

- Board establishes behavior policies regarding:
 - Code of ethics
 - Conflicts of interest
 - External communication
 - Travel, gifts and loans
 - Confidentiality
- Authority to dismiss Board members for violations of Board policies
- Board members sign acknowledgment of fiduciary responsibility
- Mandatory disclosures with confirmation of compliance process for conflicts of interest for Board and executives
- Mandatory disclosures of personal distress (e.g., financial and legal) by Board and Executive
- Annual certifications from executives that they are conflict-free

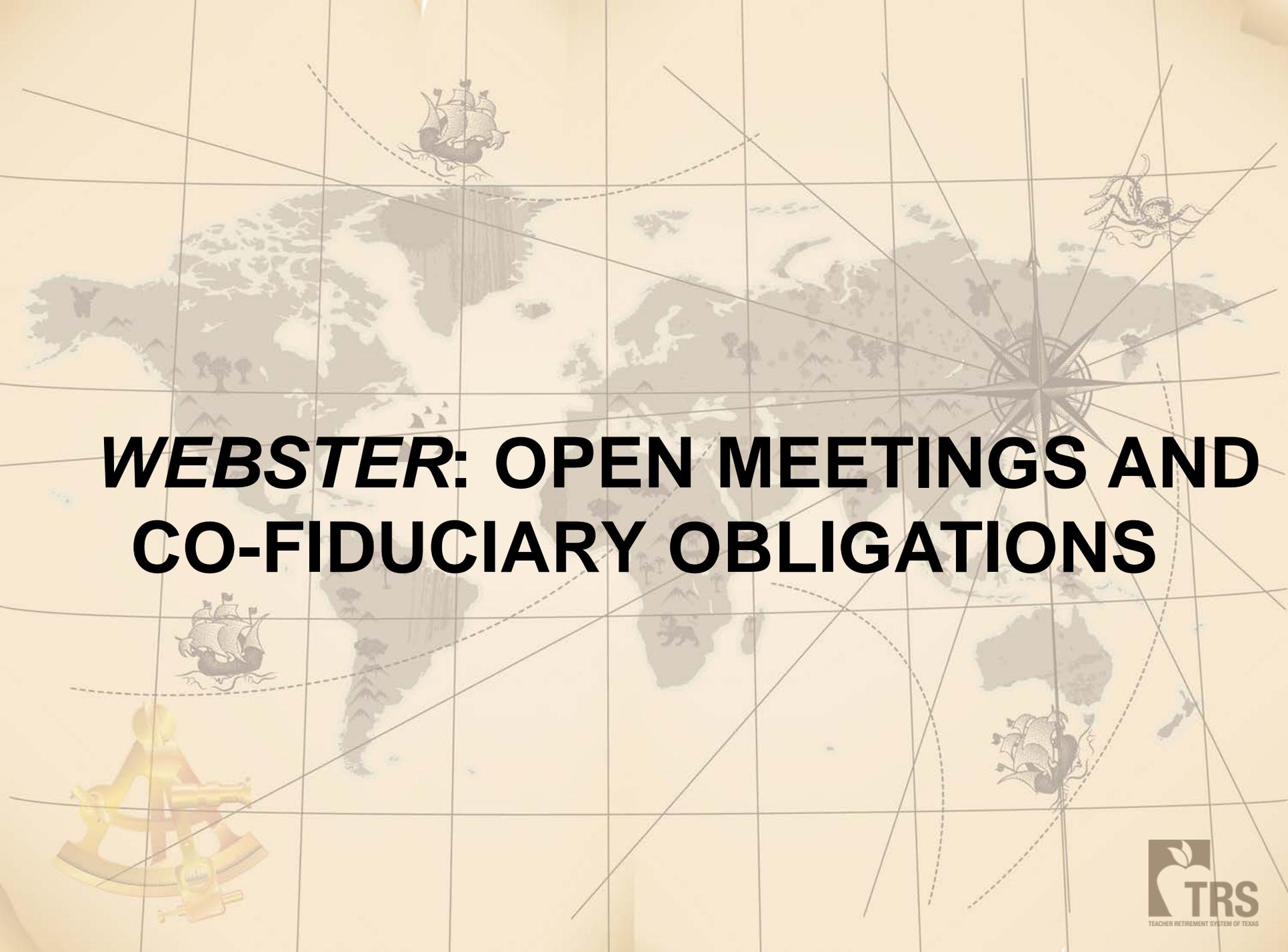
Leading Practices: Board Self-Development

- Develop Board skill set expectations for appointing authorities
- Committee and vice-chairs rotated for developmental purposes
- Annual continuing education required
- Inventory of skills/experiences
- Minimum continuing education requirements including ethics, fiduciary responsibility, investments, pensions and governance
- Continuing education plan and budget
- Training regarding fiduciary duties and responsibilities provided when new member joins Board or committee

Conclusion

Keys to Good Governance:

- Clear and Effective Governance Framework •
 - Clear and Effective Policy Framework •
- Self-Policing & Internalizing Compliance Culture •

The background features a stylized world map with a grid of latitude and longitude lines. Overlaid on the map are several nautical-themed illustrations: a sailing ship in the upper left, a compass rose in the center right, another sailing ship in the lower left, and a sextant in the bottom left corner. Dashed lines represent various sailing routes across the globe.

***WEBSTER:* OPEN MEETINGS AND CO-FIDUCIARY OBLIGATIONS**

Common-Law Principles of Open Meetings

Before the Legislature enacted the Open Meetings Act in 1969, the Texas Supreme Court stated the common-law rule that any decision by a governmental body like the Board must be taken:

- by the body as a whole
- at a properly called meeting

See Webster v. Tex. & Pac. Motor Transp. Co., 166 S.W.2d 75, 76-77 (Tex. 1942)

Common-Law Principles of Open Meetings

Webster requires that each Board member be given the opportunity to:

- be present when a decision is deliberated
- impart to other Board members the benefit of his or her experience, counsel, and judgment, and
- bring to bear upon them the weight of the member's argument on the matter to be decided

Purpose of requirements: *Ensure that the Board's decision is the composite judgment of Board as a whole*

Webster, 166 S.W.2d at 77

Fiduciary Training

Co-Fiduciary Issues and Liability: Examples and Questions

Example 1: Facts

- A Pension Board delegates investment authority over most investments to investment staff
- Trustee A accompanies staff on due diligence trips related to a potential investment in a hedge fund
- At a meeting attended only by Trustee A and the CFO of the hedge fund, Trustee A learns that the fund's CEO had twice filed for personal bankruptcy
- Trustee A does not share that information with the investment staff
- As a result, the due diligence on the investment turns out to be incomplete and the staff makes a decision to invest on incomplete information

Example 1: Questions

What could Trustee A have done?

What actions did Trustee A's fiduciary duties require Trustee A to take?

Example 1: Variations

New facts: Trustee A shared the information with Trustee B who knew that Trustee A didn't share the information with staff

- What are Trustee B's fiduciary obligations to the Pension Fund?
- What are Trustee B's obligations to other Board members?

Example 1: Variations

New facts: Trustee B assumed that Trustee A had told the investment staff the information regarding the CEO's bankruptcies. Then, the worst happens. To deal with her financial woes, the hedge fund CEO loots the fund and disappears with all the money. The Pension Fund's investment is worthless.

- What are Trustee B's obligations?
- What are the Board's obligations?

Example 2: Facts

- A Pension Fund Board has established a Personnel Committee, charged with recommending personnel policies to the Board
- Trustee C, an HR executive, is the chair of the Committee
- The Board retains ultimate authority on adoption of any recommended policies
- The Personnel Committee is considering whether to recommend a job-share policy to the Board
- Trustee C, the Board's outside advisors, and staff do not agree on whether or what type of policy the Committee should recommend to the Board
- As a result, the Committee brings three recommendations to the Board

Example 2: Questions

What are the obligations of each Trustee when considering the three recommendations?

Can a Trustee defer to Trustee C's recommendation?

Example 2: Variations

New facts: During a break in the Board meeting, Trustee D takes Trustee C aside and engages in an in-depth conversation with Trustee C about the three different recommendations. Trustee C shares a great deal of information that was not provided to the Board.

- What are Trustee D's obligations?

Example 2: Variations

New facts: During a break in the Board meeting, Trustee D takes aside all the members of the Personnel Committee, except Trustee C. They decide to support the outside advisor's recommendation when they return to the meeting.

- What are the issues?

Example 2: Variations

New facts: During the Board meeting, Trustee C begins separate text conversations with each Trustee trying to gauge whether Trustee C has the support of the Board for his recommendation.

- What are the issues?

Example 3: Facts

- A Board manages two pension plans, Plan A and Plan B
- Plan A is extremely well funded, but Plan B is not
- The two plans have different groups of participants and beneficiaries and use the same actuary
- Some actuarial reports include information on both plans
- The Board has requested options from the staff to shore up Plan B's funding
- Staff recommends that fees for professionals used by both plans, such as the actuary's fees, be paid out of Plan A's assets

Example 3: Questions

What are the Board's obligations?

What should the Board consider when thinking about the staff's recommendation?

Example 3: Variation

New facts: During a break in the Board's meeting, Trustee A approaches the Board's General Counsel and asks for legal advice on the staff's recommendation. The General Counsel advises Trustee A that the Board's fiduciary duties do not permit the Board to pay Plan B's professional fees out of Plan A's assets.

- What are Trustee A's obligations?

Example 4: Facts

- Trustees on the Board of a health plan have a variety of background experiences
- Trustee D is a new trustee, and so she defers to more experienced and knowledgeable co-trustees
- During a presentation to the Board, a plan advisor provides a report on incurred but unreported claims
- Trustee D is not familiar with the assumptions used to determine incurred but unreported claims

Example 4: Question

What are Trustee D's obligations?